

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:** Avalon Dairy Farms

Physical address of dairy:

27125 Pond RD
Number and StreetWasco
CityKern
County93280
Zip Code

Street and nearest cross street (if no address): _____

Date facility was originally placed in operation: 11/13/2001Regional Water Quality Control Board Basin Plan designation: Tulare Basin

County Assessor Parcel Number(s) for dairy facility:

X047-X330-XX01-XXXX**B. OPERATORS**

Avalon Dairy Farms, LLC

Operator name: Avalon Dairy Farms, LLC

Telephone no.:

(562) 927-5511

Landline

Cellular

27125 Grand AVELong BeachCA90815

Mailing Address Number and Street

City

State

Zip Code

This operator is responsible for paying permit fees.**C. OWNERS**

Avalon Dairy Farms, LLC

Legal owner name: Avalon Dairy Farms, LLC

Telephone no.:

(562) 927-5511

Landline

Cellular

27125 Grand AVELong BeachCA90815

Mailing Address Number and Street

City

State

Zip Code

This owner is responsible for paying permit fees.

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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	0	285	410	1,440	1,290	650
Number under roof	2,965	0	0	0	0	0
Maximum number	3,170	365	440	1,465	1,340	700
Average number	2,965	285	410	1,440	1,290	650
Avg live weight (lbs)	1,400	1,450	1,000	750		

Predominant milk cow breed: Holstein

Average milk production: 75 pounds per cow per day

B. MANURE GENERATED

Total manure excreted by the herd: 106,854.62 tons per reporting period

Total nitrogen from manure: 1,343,861.86 lbs per reporting period

After ammonia losses (30% loss applied): 940,703.30 lbs per reporting period

Total phosphorus from manure: 216,115.92 lbs per reporting period

Total potassium from manure: 577,564.88 lbs per reporting period

Total salt from manure: 1,461,606.00 lbs per reporting period

C. PROCESS WASTEWATER GENERATED

Process wastewater generated: 78,798,391 gallons

Total nitrogen generated: 293,186.68 lbs

Total phosphorus generated: 50,145.95 lbs

Total potassium generated: 301,528.36 lbs

Total salt generated: 2,631,141.14 lbs

78,798,391 gallons applied
+ 0 gallons exported
- 0 gallons imported
= 78,798,391 gallons generated

D. FRESH WATER SOURCES

Source Description	Type
1	Ground water
1 (old)	Ground water
12	Ground water
13	Ground water
16	Ground water

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Source Description	Type
18	Ground water
2	Ground water
2 (old)	Ground water
5	Ground water
6	Ground water
7	Ground water
E11 Dom	Ground water
East Barn Well	Ground water
Semi Tropic ID	Surface water
VL 1 Dom	Ground water
W7	Ground water
West Barn Well	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 (%)
12/31/2023	Corral solids	9,370.72 ton	Dry-weight	23.7		22,500.00	8,400.00	25,400.00		0.00

No liquid nutrient exports entered.

Material type	Total N (lbs)	Total P (lbs)	Total K (lbs)	Total salt (lbs)
Dry manure	321,743.67	120,117.64	363,212.86	0.00
Process wastewater	0.00	0.00	0.00	0.00
Total exports for all materials	321,743.67	120,117.64	363,212.86	0.00

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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
A1	73	73	1	process wastewater	X047-X330-XX01-XXXX
A2	36	36	1	process wastewater	X047-X330-XX01-XXXX
A3	44	44	2	both	X047-X330-XX01-XXXX
E1	75	75	1	process wastewater	X047-X320-XX06-XXXX X047-X320-XX07-XXXX
E10	93	93	2	both	X047-X320-XX13-XXXX
E11	80	80	2	process wastewater	X047-X320-XX10-XXXX
E4	75	75	2	both	X047-X320-XX06-XXXX X047-X320-XX08-XXXX
E7	20	20	2	process wastewater	X047-X320-XX14-XXXX
E8	40	40	2	process wastewater	X047-X320-XX12-XXXX
E9	73	73	1	none	X047-X320-XX11-XXXX
VL1	70	70	1	none	X047-X320-XX04-XXXX X047-X320-XX05-XXXX
VL2	75	75	1	none	X047-X320-XX05-XXXX
VL3	73	73	2	both	X047-X320-XX05-XXXX
VL4	72	72	2	both	X047-X320-XX05-XXXX
W2	63	63	2	process wastewater	X046-X140-XX05-XXXX X046-X140-XX06-XXXX
W3	87	87	2	both	X046-X140-XX05-XXXX X046-X140-XX06-XXXX
W4	49	49	1	none	X046-X210-XX11-XXXX
W5	53	53	1	none	X046-X210-XX11-XXXX
Totals for areas that were used for application	831	831	23		
Totals for areas that were not used for application	320	320	5		
Land application area totals	1,151	1,151	28		

B. CROPS AND HARVESTS

A1
Field name: <u>A1</u>

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A1

11/12/2022: Wheat, silage, soft dough

Crop: Wheat, silage, soft doughAcres planted: 73 Plant date: 11/12/2022

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
05/14/2023	1,333.00 ton	Dry-weight		67.5	18,200.00	3,500.00	17,200.00		9.68

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	18.00	198.00	30.60	149.40	1,494.00
Total actual harvest content	18.26	216.02	41.54	204.15	1,148.94

A2

Field name: A2

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

Crop: Wheat, silage, soft doughAcres planted: 36 Plant date: 11/11/2022

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
05/13/2023	664.00 ton	Dry-weight		68.0	17,700.00	3,800.00	18,000.00		9.88

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	18.00	198.00	30.60	149.40	1,494.00
Total actual harvest content	18.44	208.94	44.86	212.48	1,166.28

A3

Field name: A3

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A3

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

Crop: Wheat, silage, soft dough Acres planted: 44 Plant date: 11/11/2022

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
05/13/2023	829.00 ton	Dry-weight		67.9	18,000.00	3,700.00	15,800.00		10.10

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	18.00	198.00	30.60	149.40	1,494.00
Total actual harvest content	18.84	217.73	44.75	191.11	1,221.68

05/28/2023: Sorghum-Sudangrass, forage

Crop: Sorghum-Sudangrass, forage Acres planted: 44 Plant date: 05/28/2023

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
11/05/2023	859.00 ton	Dry-weight		76.3	19,800.00	4,200.00	31,500.00		13.80

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	22.00	158.40	30.80	301.40	1,320.00
Total actual harvest content	19.52	183.22	38.87	291.49	1,277.02

E1

Field name: E1

06/15/2023: Corn, silage

Crop: Corn, silage Acres planted: 75 Plant date: 06/15/2023

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	2,261.00 ton	Dry-weight		67.2	12,700.00	2,000.00	14,000.00		5.74

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	30.00	240.00	45.00	198.00	1,500.00
Total actual harvest content	30.15	251.16	39.55	276.87	1,135.15

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E10

Field name: E10

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

Crop: Wheat, silage, soft dough Acres planted: 93 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 (%)
05/12/2023	1,688.00 <i>ton</i>	Dry-weight		63.8	16,500.00	2,600.00	12,200.00		8.14

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	18.00	198.00	30.60	149.40	1,494.00
Total actual harvest content	18.15	216.83	34.17	160.32	1,069.68

06/08/2023: Corn, silage

Crop: Corn, silage Acres planted: 93 Plant date: 06/08/2023

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
09/21/2023	2,809.00 <i>ton</i>	Dry-weight		72.5	14,900.00	2,800.00	13,700.00		6.06

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	30.00	240.00	45.00	198.00	1,500.00
Total actual harvest content	30.20	247.52	46.51	227.59	1,006.71

E11

Field name: E11

11/14/2022: Wheat, silage, soft dough

Crop: Wheat, silage, soft dough Acres planted: 80 Plant date: 11/14/2022

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
05/11/2023	1,458.00 <i>ton</i>	Dry-weight		68.6	15,700.00	2,400.00	9,100.00		7.15

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	18.00	198.00	30.60	149.40	1,494.00
Total actual harvest content	18.23	179.69	27.47	104.15	818.34

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E11

06/10/2023: Corn, silage

Crop: Corn, silage Acres planted: 80 Plant date: 06/10/2023

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
09/04/2023	2,421.00 ton	Dry-weight		69.1	14,800.00	2,700.00	11,500.00		5.29

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	30.00	240.00	45.00	198.00	1,500.00
Total actual harvest content	30.26	276.79	50.50	215.08	989.35

E4

Field name: E4

11/18/2022: Wheat, silage, soft dough

Crop: Wheat, silage, soft dough Acres planted: 75 Plant date: 11/18/2022

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
05/12/2023	1,394.00 ton	Dry-weight		69.3	17,800.00	2,300.00	9,300.00		6.78

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	18.00	198.00	30.60	149.40	1,494.00
Total actual harvest content	18.59	203.14	26.25	106.13	773.75

06/07/2023: Corn, silage

Crop: Corn, silage Acres planted: 75 Plant date: 06/07/2023

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
09/04/2023	2,261.00 ton	Dry-weight		67.1	11,600.00	2,900.00	11,000.00		5.04

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	30.00	240.00	45.00	198.00	1,500.00
Total actual harvest content	30.15	230.10	57.53	218.20	999.76

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E7

Field name: E7

11/14/2022: Wheat, silage, soft dough

Crop: Wheat, silage, soft dough Acres planted: 20 Plant date: 11/14/2022

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
05/12/2023	374.00 ton	Dry-weight		60.8	15,500.00	2,300.00	10,900.00		6.76

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	18.00	198.00	30.60	149.40	1,494.00
Total actual harvest content	18.70	227.24	33.72	159.80	991.07

06/05/2023: Corn, silage

Crop: Corn, silage Acres planted: 20 Plant date: 06/05/2023

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
09/10/2023	611.00 ton	Dry-weight		70.3	13,100.00	2,300.00	12,200.00		6.13

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	30.00	240.00	45.00	198.00	1,500.00
Total actual harvest content	30.55	237.72	41.74	221.39	1,112.39

E8

Field name: E8

11/13/2022: Wheat, silage, soft dough

Crop: Wheat, silage, soft dough Acres planted: 40 Plant date: 11/13/2022

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
05/11/2023	733.00 ton	Dry-weight		68.3	16,500.00	2,400.00	8,500.00		6.45

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	18.00	198.00	30.60	149.40	1,494.00
Total actual harvest content	18.33	191.70	27.88	98.75	749.36

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E8

06/10/2023: Corn, silage

Crop: Corn, silage Acres planted: 40 Plant date: 06/10/2023

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
09/10/2023	1,211.00 ton	Dry-weight		64.2	11,300.00	2,400.00	12,500.00		6.30

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	30.00	240.00	45.00	198.00	1,500.00
Total actual harvest content	30.28	244.95	52.02	270.96	1,365.64

E9

Field name: E9

11/23/2018: Alfalfa, hay

Crop: Alfalfa, hay Acres planted: 73 Plant date: 11/23/2018

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
11/07/2023	589.00 ton	Dry-weight		10.6	36,100.00	2,800.00	22,800.00		18.80

	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	1,600.00
Total actual harvest content	8.07	520.80	40.39	328.92	2,712.18

VL1

Field name: VL1

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VL1

03/01/2023: Alfalfa, hay

Crop: Alfalfa, hay Acres planted: 70 Plant date: 03/01/2023

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
11/07/2023	579.00 ton	Dry-weight		10.8	37,000.00	3,100.00	20,800.00		22.10

	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	1,600.00
Total actual harvest content	8.27	545.98	45.74	306.93	3,261.13

VL2

Field name: VL2

03/01/2023: Alfalfa, hay

Crop: Alfalfa, hay Acres planted: 75 Plant date: 03/01/2023

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
11/07/2023	619.00 ton	Dry-weight		10.6	38,100.00	3,000.00	24,600.00		15.30

	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	1,600.00
Total actual harvest content	8.25	562.24	44.27	363.02	2,257.81

VL3

Field name: VL3

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VL3

11/10/2022: Wheat, silage, soft dough

Crop: Wheat, silage, soft dough Acres planted: 73 Plant date: 11/10/2022

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
05/14/2023	1,327.00 ton	Dry-weight		65.1	16,600.00	3,600.00	17,500.00		9.89

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	18.00	198.00	30.60	149.40	1,494.00
Total actual harvest content	18.18	210.63	45.68	222.05	1,254.87

06/11/2023: Corn, silage

Crop: Corn, silage Acres planted: 73 Plant date: 06/11/2023

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
09/28/2023	2,184.00 ton	Dry-weight		65.4	11,800.00	2,400.00	14,000.00		6.22

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	30.00	240.00	45.00	198.00	1,500.00
Total actual harvest content	29.92	244.30	49.69	289.84	1,287.73

VL4

Field name: VL4

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

Crop: Wheat, silage, soft dough Acres planted: 72 Plant date: 11/11/2022

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
05/14/2023	1,320.00 ton	Dry-weight		65.8	18,000.00	3,500.00	16,500.00		9.55

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	18.00	198.00	30.60	149.40	1,494.00
Total actual harvest content	18.33	225.72	43.89	206.91	1,197.57

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VL4

06/09/2023: Corn, silage

Crop: Corn, silage

Acres planted: 72 Plant date: 06/09/2023

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
10/14/2023	2,173.00 ton	Dry-weight		71.4	14,500.00	2,700.00	14,500.00		6.02

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	30.00	240.00	45.00	198.00	1,500.00
Total actual harvest content	30.18	250.32	46.61	250.32	1,039.25

W2

Field name: W2

11/12/2022: Wheat, silage, soft dough

Crop: Wheat, silage, soft dough

Acres planted: 63 Plant date: 11/12/2022

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
05/15/2023	1,151.00 ton	Dry-weight		69.4	18,600.00	4,600.00	28,500.00		12.60

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	18.00	198.00	30.60	149.40	1,494.00
Total actual harvest content	18.27	207.97	51.43	318.66	1,408.82

06/07/2023: Corn, silage

Crop: Corn, silage

Acres planted: 63 Plant date: 06/07/2023

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
09/27/2023	1,899.00 ton	Dry-weight		71.9	14,800.00	2,600.00	14,000.00		6.19

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	30.00	240.00	45.00	198.00	1,500.00
Total actual harvest content	30.14	250.72	44.04	237.16	1,048.60

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W3

Field name: W3

11/17/2022: Wheat, silage, soft dough

Crop: Wheat, silage, soft dough Acres planted: 87 Plant date: 11/17/2022

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
05/15/2023	1,575.00 ton	Dry-weight		64.0	17,100.00	3,600.00	15,100.00		9.63

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	18.00	198.00	30.60	149.40	1,494.00
Total actual harvest content	18.10	222.89	46.92	196.82	1,255.22

06/13/2023: Corn, silage

Crop: Corn, silage Acres planted: 87 Plant date: 06/13/2023

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
09/09/2023	2,625.00 ton	Dry-weight		68.7	13,100.00	2,200.00	11,200.00		5.21

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	30.00	240.00	45.00	198.00	1,500.00
Total actual harvest content	30.17	247.43	41.55	211.54	984.06

W4

Field name: W4

11/09/2018: Alfalfa, hay

Crop: Alfalfa, hay Acres planted: 49 Plant date: 11/09/2018

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
11/07/2023	407.00 ton	Dry-weight		10.1	40,300.00	3,000.00	24,200.00		19.40

	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	1,600.00
Total actual harvest content	8.31	601.86	44.80	361.41	2,897.28

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W5

Field name: W5

11/01/2021: Alfalfa, hay

Crop: Alfalfa, hay Acres planted: 53 Plant date: 11/01/2021

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
11/07/2023	444.00 ton	Dry-weight		10.3	37,400.00	3,000.00	24,000.00		16.20

	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	1,600.00
Total actual harvest content	8.38	562.08	45.09	360.70	2,434.69

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NUTRIENT BUDGET

A. LAND APPLICATIONS

A1 - 11/12/2022: Wheat, silage, soft dough

Field name: A1

Crop: Wheat, silage, soft dough

Plant date: 11/12/2022

Application date	Application method	Precipitation 24 hours prior		Precipitation during application			Precipitation 24 hours following
11/13/2022	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
Lagoon		Process wastewater	88.20	9.40	81.99	1,051.77	1,811,144.00 <i>gal</i>
1 (old)		Ground water	1.58	0.00	0.00	203.98	8,110,654.00 <i>gal</i>
Application event totals			89.78	9.40	81.99	1,255.75	
01/10/2023	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
Lagoon		Process wastewater	71.82	7.65	66.76	856.48	1,474,852.00 <i>gal</i>
1 (old)		Ground water	1.54	0.00	0.00	199.02	7,913,559.00 <i>gal</i>
Application event totals			73.36	7.65	66.76	1,055.50	
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
Lagoon		Process wastewater	72.75	7.75	67.63	867.57	1,493,951.00 <i>gal</i>
1 (old)		Ground water	1.65	0.00	0.00	214.06	8,511,449.00 <i>gal</i>
Application event totals			74.41	7.75	67.63	1,081.63	

A2 - 11/11/2022: Wheat, silage, soft dough

Field name: A2

Crop: Wheat, silage, soft dough

Plant date: 11/11/2022

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following
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A2 - 11/11/2022: Wheat, silage, soft dough

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
11/12/2022	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
Lagoon	Process wastewater	79.67	8.49	74.06	950.08	806,815.00 <i>gal</i>
1 (old)	Ground water	1.59	0.00	0.00	206.04	4,040,224.00 <i>gal</i>
Application event totals		81.26	8.49	74.06	1,156.12	
01/13/2023	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
Lagoon	Process wastewater	74.45	7.93	69.21	887.83	753,951.00 <i>gal</i>
1 (old)	Ground water	1.57	0.00	0.00	202.98	3,980,258.00 <i>gal</i>
Application event totals		76.02	7.93	69.21	1,090.81	
02/25/2023	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
Lagoon	Process wastewater	59.73	6.37	55.52	712.23	604,831.00 <i>gal</i>
1 (old)	Ground water	1.43	0.00	0.00	185.64	3,640,154.00 <i>gal</i>
Application event totals		61.16	6.37	55.52	897.87	

A3 - 11/11/2022: Wheat, silage, soft dough

Field name: A3

Crop: Wheat, silage, soft dough

Plant date: 11/11/2022

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
11/12/2022	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
Lagoon	Process wastewater	97.76	10.42	90.87	1,165.74	1,209,945.00 <i>gal</i>
1 (old)	Ground water	1.47	0.00	0.00	189.84	4,549,843.00 <i>gal</i>
Application event totals		99.22	10.42	90.87	1,355.59	

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A3 - 11/11/2022: Wheat, silage, soft dough

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
01/16/2023	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
Lagoon	Process wastewater	77.06	8.21	71.64	918.98	953,821.00 <i>gal</i>
1 (old)	Ground water	1.70	0.00	0.00	219.91	5,270,495.00 <i>gal</i>
Application event totals		78.76	8.21	71.64	1,138.89	
02/19/2023	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
Lagoon	Process wastewater	73.00	7.78	67.86	870.53	903,541.00 <i>gal</i>
1 (old)	Ground water	1.64	0.00	0.00	212.61	5,095,456.00 <i>gal</i>
Application event totals		74.64	7.78	67.86	1,083.14	

A3 - 05/28/2023: Sorghum-Sudangrass, forage

Field name: A3

Crop: Sorghum-Sudangrass, forage Plant date: 05/28/2023

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following			
05/14/2023	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	168.23	70.03	234.84	871.06	225.00 <i>ton</i>
Application event totals			168.23	70.03	234.84	871.06	
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
1 (old)		Ground water	2.21	0.00	0.00	285.46	6,841,559.00 <i>gal</i>
Application event totals			2.21	0.00	0.00	285.46	

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A3 - 05/28/2023: Sorghum-Sudangrass, forage

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
06/29/2023	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
Lagoon	Process wastewater	27.09	3.91	30.47	134.37	291,554.00 <i>gal</i>
1 (old)	Ground water	6.51	0.00	0.00	677.49	6,869,519.00 <i>gal</i>
Application event totals		33.61	3.91	30.47	811.86	
07/29/2023	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
1 (old)	Ground water	2.12	0.00	0.00	273.74	6,560,547.00 <i>gal</i>
Application event totals		2.12	0.00	0.00	273.74	
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
Lagoon	Process wastewater	25.89	15.50	29.03	214.26	385,568.00 <i>gal</i>
1 (old)	Ground water	2.20	0.00	0.00	284.15	6,810,159.00 <i>gal</i>
Application event totals		28.08	15.50	29.03	498.41	
09/29/2023	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
Semi Tropic ID	Surface water	0.74	0.00	0.00	160.49	6,509,321.00 <i>gal</i>
Application event totals		0.74	0.00	0.00	160.49	

E1 - 06/15/2023: Corn, silage

Field name: E1

Crop: Corn, silage Plant date: 06/15/2023

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following
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E1 - 06/15/2023: Corn, silage

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
06/01/2023	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
Lagoon	Process wastewater	79.37	11.47	89.25	393.59	1,455,697.00 <i>gal</i>
Semi Tropic ID	Surface water	0.79	0.00	0.00	171.64	11,866,485.00 <i>gal</i>
Application event totals		80.16	11.47	89.25	565.23	
07/01/2023	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
Semi Tropic ID	Surface water	0.77	0.00	0.00	166.46	11,507,885.00 <i>gal</i>
Application event totals		0.77	0.00	0.00	166.46	
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
Lagoon	Process wastewater	101.29	14.64	113.90	502.33	1,857,882.00 <i>gal</i>
Semi Tropic ID	Surface water	0.74	0.00	0.00	160.05	11,064,834.00 <i>gal</i>
Application event totals		102.03	14.64	113.90	662.38	
08/01/2023	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
Semi Tropic ID	Surface water	0.76	0.00	0.00	164.16	11,348,882.00 <i>gal</i>
Application event totals		0.76	0.00	0.00	164.16	
08/17/2023	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
Lagoon	Process wastewater	80.58	48.26	90.37	666.98	2,045,886.00 <i>gal</i>
Semi Tropic ID	Surface water	0.73	0.00	0.00	158.70	10,971,554.00 <i>gal</i>
Application event totals		81.32	48.26	90.37	825.68	

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E1 - 06/15/2023: Corn, silage

Application date	Application method		Precipitation 24 hours prior	Precipitation during application			Precipitation 24 hours following
09/02/2023	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
Semi Tropic ID		Surface water	0.83	0.00	0.00	180.35	12,467,994.00 <i>gal</i>
Application event totals			0.83	0.00	0.00	180.35	
09/21/2023	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
Semi Tropic ID		Surface water	0.84	0.00	0.00	181.47	12,545,882.00 <i>gal</i>
Application event totals			0.84	0.00	0.00	181.47	

E10 - 11/15/2022: Wheat, silage, soft dough

Field name: E10

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			
11/16/2022	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
Lagoon		Process wastewater	76.37	8.14	70.99	910.70	1,997,881.00 <i>gal</i>
Semi Tropic ID		Surface water	0.49	0.00	0.00	105.32	9,028,664.00 <i>gal</i>
Application event totals			76.86	8.14	70.99	1,016.02	
01/19/2023	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
Lagoon		Process wastewater	91.57	9.76	85.12	1,091.92	2,395,441.00 <i>gal</i>
Semi Tropic ID		Surface water	0.67	0.00	0.00	146.13	12,527,109.00 <i>gal</i>
Application event totals			92.24	9.76	85.12	1,238.05	

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E10 - 11/15/2022: Wheat, silage, soft dough

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
02/14/2023	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
Lagoon	Process wastewater	71.35	13.48	78.13	632.97	1,574,559.00 <i>gal</i>
Semi Tropic ID	Surface water	0.72	0.00	0.00	155.54	13,333,449.00 <i>gal</i>
Application event totals		72.07	13.48	78.13	788.50	

E10 - 06/08/2023: Corn, silage

Field name: E10

Crop: Corn, silage

Plant date: 06/08/2023

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
05/14/2023	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	141.50	58.90	197.53	2,628.90	400.00 <i>ton</i>
Application event totals		141.50	58.90	197.53	2,628.90	
05/22/2023	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
Semi Tropic ID	Surface water	0.78	0.00	0.00	169.46	14,526,881.00 <i>gal</i>
Application event totals		0.78	0.00	0.00	169.46	
06/20/2023	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
Semi Tropic ID	Surface water	0.74	0.00	0.00	161.36	13,833,159.00 <i>gal</i>
Application event totals		0.74	0.00	0.00	161.36	

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E10 - 06/08/2023: Corn, silage

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
07/08/2023	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
Lagoon	Process wastewater	62.50	9.03	70.28	309.97	1,421,559.00 <i>gal</i>
Semi Tropic ID	Surface water	0.77	0.00	0.00	165.83	14,215,946.00 <i>gal</i>
Application event totals		63.27	9.03	70.28	475.80	
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
Semi Tropic ID	Surface water	0.78	0.00	0.00	168.28	14,425,881.00 <i>gal</i>
Application event totals		0.78	0.00	0.00	168.28	
08/12/2023	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
Semi Tropic ID	Surface water	0.78	0.00	0.00	168.24	14,422,482.00 <i>gal</i>
Application event totals		0.78	0.00	0.00	168.24	
08/24/2023	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
Lagoon	Process wastewater	61.18	36.64	68.61	506.34	1,925,880.00 <i>gal</i>
Semi Tropic ID	Surface water	0.78	0.00	0.00	168.35	14,431,667.00 <i>gal</i>
Application event totals		61.95	36.64	68.61	674.68	
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
Semi Tropic ID	Surface water	0.78	0.00	0.00	168.27	14,424,990.00 <i>gal</i>
Application event totals		0.78	0.00	0.00	168.27	

E11 - 11/14/2022: Wheat, silage, soft dough

Field name: E11

Crop: Wheat, silage, soft dough

Plant date: 11/14/2022

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E11 - 11/14/2022: Wheat, silage, soft dough

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
11/15/2022	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
Lagoon	Process wastewater	97.77	10.42	90.89	1,165.91	2,200,214.00 <i>gal</i>
Semi Tropic ID	Surface water	0.69	0.00	0.00	150.50	11,098,446.00 <i>gal</i>
Application event totals		98.47	10.42	90.89	1,316.41	
01/21/2023	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
Lagoon	Process wastewater	85.14	9.07	79.15	1,015.30	1,915,997.00 <i>gal</i>
Semi Tropic ID	Surface water	0.69	0.00	0.00	150.38	11,089,337.00 <i>gal</i>
Application event totals		85.84	9.07	79.15	1,165.68	
02/22/2023	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
Semi Tropic ID	Surface water	0.63	0.00	0.00	136.98	10,101,227.00 <i>gal</i>
Application event totals		0.63	0.00	0.00	136.98	

E11 - 06/10/2023: Corn, silage

Field name: E11

Crop: Corn, silage

Plant date: 06/10/2023

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
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
Lagoon	Process wastewater	105.92	15.30	119.11	525.29	2,072,336.00 <i>gal</i>
Semi Tropic ID	Surface water	0.66	0.00	0.00	143.22	10,561,225.00 <i>gal</i>
Application event totals		106.58	15.30	119.11	668.51	

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E11 - 06/10/2023: Corn, silage

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
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
Semi Tropic ID	Surface water	0.70	0.00	0.00	152.57	11,251,226.00 <i>gal</i>
Application event totals		0.70	0.00	0.00	152.57	
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
Lagoon	Process wastewater	95.57	13.81	107.47	473.95	1,869,778.00 <i>gal</i>
Semi Tropic ID	Surface water	0.70	0.00	0.00	152.54	11,248,993.00 <i>gal</i>
Application event totals		96.27	13.81	107.47	626.49	
07/19/2023	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
Semi Tropic ID	Surface water	0.71	0.00	0.00	153.88	11,347,882.00 <i>gal</i>
Application event totals		0.71	0.00	0.00	153.88	
07/29/2023	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
Lagoon	Process wastewater	94.37	56.51	105.83	781.05	2,555,479.00 <i>gal</i>
Semi Tropic ID	Surface water	0.66	0.00	0.00	143.40	10,574,559.00 <i>gal</i>
Application event totals		95.03	56.51	105.83	924.44	
08/11/2023	Surface (irrigation)	No precipitation	No precipitation	No precipitation		
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Semi Tropic ID	Surface water	0.69	0.00	0.00	148.83	10,975,441.00 <i>gal</i>
Application event totals		0.69	0.00	0.00	148.83	
08/21/2023	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
Semi Tropic ID	Surface water	0.66	0.00	0.00	143.33	10,569,558.00 <i>gal</i>
Application event totals		0.66	0.00	0.00	143.33	

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E4 - 11/18/2022: Wheat, silage, soft dough

Field name: E4

Crop: Wheat, silage, soft dough

Plant date: 11/18/2022

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
11/19/2022	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
Lagoon	Process wastewater	78.66	8.38	73.12	938.03	1,659,548.00 gal
Semi Tropic ID	Surface water	0.63	0.00	0.00	137.58	9,511,257.00 gal
Application event totals		79.30	8.38	73.12	1,075.61	
01/18/2023	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
Lagoon	Process wastewater	64.05	6.83	59.54	763.77	1,351,249.00 gal
Semi Tropic ID	Surface water	0.66	0.00	0.00	143.33	9,908,753.00 gal
Application event totals		64.71	6.83	59.54	907.10	
02/19/2023	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
Lagoon	Process wastewater	73.31	13.85	80.28	650.34	1,304,661.00 gal
Semi Tropic ID	Surface water	0.69	0.00	0.00	148.96	10,298,519.00 gal
Application event totals		74.00	13.85	80.28	799.31	

E4 - 06/07/2023: Corn, silage

Field name: E4

Crop: Corn, silage

Plant date: 06/07/2023

Application date	Application method	Precipitation 24 hours prior	Precipitation during application			Precipitation 24 hours following	
05/14/2023	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	175.46	73.03	244.93	3,259.84	400.00 <i>ton</i>
Application event totals			175.46	73.03	244.93	3,259.84	

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E4 - 06/07/2023: Corn, silage

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
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
Semi Tropic ID	Surface water	0.69	0.00	0.00	148.82	10,288,654.00 <i>gal</i>
Application event totals		0.69	0.00	0.00	148.82	
06/19/2023	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
Semi Tropic ID	Surface water	0.71	0.00	0.00	153.10	10,584,679.00 <i>gal</i>
Application event totals		0.71	0.00	0.00	153.10	
07/02/2023	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
Lagoon	Process wastewater	72.49	10.47	81.51	359.48	1,329,548.00 <i>gal</i>
Semi Tropic ID	Surface water	0.71	0.00	0.00	153.03	10,579,667.00 <i>gal</i>
Application event totals		73.19	10.47	81.51	512.51	
07/16/2023	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
Semi Tropic ID	Surface water	0.71	0.00	0.00	153.98	10,645,498.00 <i>gal</i>
Application event totals		0.71	0.00	0.00	153.98	
07/30/2023	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
Semi Tropic ID	Surface water	0.72	0.00	0.00	155.71	10,764,991.00 <i>gal</i>
Application event totals		0.72	0.00	0.00	155.71	
08/11/2023	Surface (irrigation)	No precipitation	No precipitation	No precipitation		
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Semi Tropic ID	Surface water	0.73	0.00	0.00	158.56	10,961,831.00 <i>gal</i>
Application event totals		0.73	0.00	0.00	158.56	

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E4 - 06/07/2023: Corn, silage

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
08/24/2023	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
Semi Tropic ID	Surface water	0.68	0.00	0.00	147.60	10,203,915.00 <i>gal</i>
Application event totals		0.68	0.00	0.00	147.60	

E7 - 11/14/2022: Wheat, silage, soft dough

Field name: E7

Crop: Wheat, silage, soft dough

Plant date: 11/14/2022

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
11/15/2022	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
Lagoon	Process wastewater	88.42	9.42	82.19	1,054.40	497,446.00 <i>gal</i>
Semi Tropic ID	Surface water	0.57	0.00	0.00	123.92	2,284,598.00 <i>gal</i>
Application event totals		88.99	9.42	82.19	1,178.32	
01/17/2023	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
Lagoon	Process wastewater	43.63	4.65	40.56	520.30	245,466.00 <i>gal</i>
Semi Tropic ID	Surface water	0.61	0.00	0.00	132.27	2,438,469.00 <i>gal</i>
Application event totals		44.24	4.65	40.56	652.57	
02/25/2023	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
Lagoon	Process wastewater	139.98	26.44	153.29	1,241.84	664,339.00 <i>gal</i>
Semi Tropic ID	Surface water	0.56	0.00	0.00	121.34	2,236,915.00 <i>gal</i>
Application event totals		140.54	26.44	153.29	1,363.17	

E7 - 06/05/2023: Corn, silage

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E7 - 06/05/2023: Corn, silage

Field name: E7

Crop: Corn, silage

Plant date: 06/05/2023

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
05/24/2023	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
Lagoon	Process wastewater	87.10	12.58	97.94	431.92	425,993.00 <i>gal</i>
Semi Tropic ID	Surface water	0.69	0.00	0.00	149.43	2,754,889.00 <i>gal</i>
Application event totals		87.79	12.58	97.94	581.35	
06/17/2023	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
Semi Tropic ID	Surface water	0.70	0.00	0.00	152.73	2,815,669.00 <i>gal</i>
Application event totals		0.70	0.00	0.00	152.73	
07/02/2023	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
Lagoon	Process wastewater	100.04	14.46	112.50	496.14	489,331.00 <i>gal</i>
Semi Tropic ID	Surface water	0.72	0.00	0.00	155.67	2,869,882.00 <i>gal</i>
Application event totals		100.76	14.46	112.50	651.81	
07/17/2023	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
Semi Tropic ID	Surface water	0.69	0.00	0.00	150.24	2,769,774.00 <i>gal</i>
Application event totals		0.69	0.00	0.00	150.24	
08/02/2023	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
Lagoon	Process wastewater	82.53	49.43	92.56	683.12	558,773.00 <i>gal</i>
Semi Tropic ID	Surface water	0.71	0.00	0.00	154.15	2,841,889.00 <i>gal</i>
Application event totals		83.25	49.43	92.56	837.27	

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E7 - 06/05/2023: Corn, silage

Application date	Application method		Precipitation 24 hours prior		Precipitation during application		Precipitation 24 hours following	
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
Semi Tropic ID			Surface water	0.70	0.00	0.00	152.73	2,815,774.00 <i>gal</i>
Application event totals				0.70	0.00	0.00	152.73	
08/28/2023	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
Semi Tropic ID			Surface water	0.70	0.00	0.00	151.98	2,801,779.00 <i>gal</i>
Application event totals				0.70	0.00	0.00	151.98	

E8 - 11/13/2022: Wheat, silage, soft dough

Field name: E8

Crop: Wheat, silage, soft dough

Plant date: 11/13/2022

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
11/14/2022	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
Lagoon	Process wastewater	76.86	8.19	71.44	916.51	864,779.00 <i>gal</i>
Semi Tropic ID	Surface water	0.63	0.00	0.00	136.11	5,018,522.00 <i>gal</i>
Application event totals		77.48	8.19	71.44	1,052.61	
01/22/2023	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
Lagoon	Process wastewater	83.99	8.95	78.07	1,001.52	944,997.00 <i>gal</i>
Semi Tropic ID	Surface water	0.61	0.00	0.00	132.88	4,899,564.00 <i>gal</i>
Application event totals		84.60	8.95	78.07	1,134.40	

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E8 - 11/13/2022: Wheat, silage, soft dough

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
02/19/2023	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
Lagoon	Process wastewater	63.52	12.00	69.55	563.48	602,887.00 <i>gal</i>
Semi Tropic ID	Surface water	0.52	0.00	0.00	113.64	4,190,248.00 <i>gal</i>
Application event totals		64.04	12.00	69.55	677.13	

E8 - 06/10/2023: Corn, silage

Field name: E8

Crop: Corn, silage

Plant date: 06/10/2023

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
05/28/2023	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
Lagoon	Process wastewater	87.94	12.71	98.88	436.10	860,225.00 <i>gal</i>
Semi Tropic ID	Surface water	0.70	0.00	0.00	151.60	5,589,665.00 <i>gal</i>
Application event totals		88.64	12.71	98.88	587.70	
06/22/2023	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
Semi Tropic ID	Surface water	0.70	0.00	0.00	152.28	5,614,669.00 <i>gal</i>
Application event totals		0.70	0.00	0.00	152.28	
07/05/2023	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
Lagoon	Process wastewater	95.22	13.76	107.07	472.21	931,456.00 <i>gal</i>
Semi Tropic ID	Surface water	0.69	0.00	0.00	149.57	5,514,996.00 <i>gal</i>
Application event totals		95.91	13.76	107.07	621.78	

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E8 - 06/10/2023: Corn, silage

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
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
Semi Tropic ID	Surface water	0.69	0.00	0.00	149.81	5,523,669.00 <i>gal</i>
Application event totals		0.69	0.00	0.00	149.81	
07/29/2023	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
Lagoon	Process wastewater	78.55	47.04	88.09	650.12	1,063,557.00 <i>gal</i>
Semi Tropic ID	Surface water	0.69	0.00	0.00	149.81	5,523,667.00 <i>gal</i>
Application event totals		79.24	47.04	88.09	799.93	
08/11/2023	Surface (irrigation)	No precipitation	No precipitation	No precipitation		
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Semi Tropic ID	Surface water	0.71	0.00	0.00	153.15	5,646,882.00 <i>gal</i>
Application event totals		0.71	0.00	0.00	153.15	
08/24/2023	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
Semi Tropic ID	Surface water	0.70	0.00	0.00	152.74	5,631,778.00 <i>gal</i>
Application event totals		0.70	0.00	0.00	152.74	

E9 - 11/23/2018: Alfalfa, hay

Field name: E9

Crop: Alfalfa, hay

Plant date: 11/23/2018

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
03/09/2023	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
Semi Tropic ID	Surface water	0.75	0.00	0.00	163.34	10,991,228.00 <i>gal</i>
Application event totals		0.75	0.00	0.00	163.34	

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E9 - 11/23/2018: Alfalfa, hay

Application date	Application method	Precipitation 24 hours prior	Precipitation during application			Precipitation 24 hours following	
04/10/2023	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
Semi Tropic ID		Surface water	0.77	0.00	0.00	166.38	11,195,753.00 <i>gal</i>
Application event totals			0.77	0.00	0.00	166.38	
05/11/2023	Surface (irrigation)	No precipitation	No precipitation			No precipitation	
Source description		Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Semi Tropic ID		Surface water	0.77	0.00	0.00	166.36	11,194,556.00 <i>gal</i>
Application event totals			0.77	0.00	0.00	166.36	
06/12/2023	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
Semi Tropic ID		Surface water	0.77	0.00	0.00	166.36	11,194,561.00 <i>gal</i>
Application event totals			0.77	0.00	0.00	166.36	
07/13/2023	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
Semi Tropic ID		Surface water	0.77	0.00	0.00	166.33	11,192,456.00 <i>gal</i>
Application event totals			0.77	0.00	0.00	166.33	
08/14/2023	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
Semi Tropic ID		Surface water	0.77	0.00	0.00	167.81	11,292,334.00 <i>gal</i>
Application event totals			0.77	0.00	0.00	167.81	
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
Semi Tropic ID		Surface water	0.77	0.00	0.00	166.38	11,195,664.00 <i>gal</i>
Application event totals			0.77	0.00	0.00	166.38	

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E9 - 11/23/2018: Alfalfa, hay

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
10/16/2023	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
Semi Tropic ID	Surface water	0.77	0.00	0.00	166.32	11,191,556.00 <i>gal</i>
Application event totals		0.77	0.00	0.00	166.32	

VL1 - 03/01/2023: Alfalfa, hay

Field name: VL1

Crop: Alfalfa, hay

Plant date: 03/01/2023

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
03/05/2023	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
Semi Tropic ID	Surface water	0.83	0.00	0.00	179.69	11,594,224.00 <i>gal</i>
Application event totals		0.83	0.00	0.00	179.69	
04/05/2023	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
Semi Tropic ID	Surface water	0.84	0.00	0.00	181.28	11,696,882.00 <i>gal</i>
Application event totals		0.84	0.00	0.00	181.28	
05/06/2023	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
Semi Tropic ID	Surface water	0.82	0.00	0.00	178.09	11,491,224.00 <i>gal</i>
Application event totals		0.82	0.00	0.00	178.09	
06/07/2023	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
Semi Tropic ID	Surface water	0.78	0.00	0.00	168.86	10,895,664.00 <i>gal</i>
Application event totals		0.78	0.00	0.00	168.86	

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VL1 - 03/01/2023: Alfalfa, hay

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
07/07/2023	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
Semi Tropic ID	Surface water	0.80	0.00	0.00	174.35	11,249,887.00 <i>gal</i>
Application event totals		0.80	0.00	0.00	174.35	
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
Semi Tropic ID	Surface water	0.81	0.00	0.00	174.97	11,289,664.00 <i>gal</i>
Application event totals		0.81	0.00	0.00	174.97	
09/09/2023	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
Semi Tropic ID	Surface water	0.82	0.00	0.00	178.20	11,498,559.00 <i>gal</i>
Application event totals		0.82	0.00	0.00	178.20	
10/10/2023	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
Semi Tropic ID	Surface water	0.82	0.00	0.00	177.91	11,479,664.00 <i>gal</i>
Application event totals		0.82	0.00	0.00	177.91	

VL2 - 03/01/2023: Alfalfa, hay

Field name: VL2

Crop: Alfalfa, hay

Plant date: 03/01/2023

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following
03/04/2023	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
Semi Tropic ID	Surface water	0.70	0.00	0.00	152.20	10,522,357.00 <i>gal</i>
Application event totals		0.70	0.00	0.00	152.20	

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VL2 - 03/01/2023: Alfalfa, hay

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
04/05/2023	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
Semi Tropic ID	Surface water	0.71	0.00	0.00	153.70	10,625,649.00 <i>gal</i>
Application event totals		0.71	0.00	0.00	153.70	
05/06/2023	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
Semi Tropic ID	Surface water	0.70	0.00	0.00	150.80	10,425,671.00 <i>gal</i>
Application event totals		0.70	0.00	0.00	150.80	
06/07/2023	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
Semi Tropic ID	Surface water	0.68	0.00	0.00	147.82	10,219,564.00 <i>gal</i>
Application event totals		0.68	0.00	0.00	147.82	
07/08/2023	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
Semi Tropic ID	Surface water	0.70	0.00	0.00	151.30	10,459,887.00 <i>gal</i>
Application event totals		0.70	0.00	0.00	151.30	
08/09/2023	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
Semi Tropic ID	Surface water	0.69	0.00	0.00	149.52	10,336,775.00 <i>gal</i>
Application event totals		0.69	0.00	0.00	149.52	
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
Semi Tropic ID	Surface water	0.72	0.00	0.00	156.07	10,789,664.00 <i>gal</i>
Application event totals		0.72	0.00	0.00	156.07	

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VL2 - 03/01/2023: Alfalfa, hay

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)	Amount
Semi Tropic ID		Surface water	0.70	0.00	0.00	151.26	10,456,889.00 <i>gal</i>
Application event totals			0.70	0.00	0.00	151.26	

VL3 - 11/10/2022: Wheat, silage, soft dough

Field name: VL3

Crop: Wheat, silage, soft dough

Plant date: 11/10/2022

Application date	Application method		Precipitation 24 hours prior	Precipitation during application			Precipitation 24 hours following
11/12/2022	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
Lagoon		Process wastewater	77.45	8.25	71.99	923.55	1,590,354.00 <i>gal</i>
Semi Tropic ID		Surface water	0.62	0.00	0.00	133.62	8,991,255.00 <i>gal</i>
Application event totals			78.06	8.25	71.99	1,057.17	
01/09/2023	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
Lagoon		Process wastewater	76.44	8.15	71.06	911.59	1,569,753.00 <i>gal</i>
Semi Tropic ID		Surface water	0.62	0.00	0.00	133.65	8,993,455.00 <i>gal</i>
Application event totals			77.06	8.15	71.06	1,045.24	
02/17/2023	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
Lagoon		Process wastewater	79.32	14.98	86.86	703.67	1,373,995.00 <i>gal</i>
Semi Tropic ID		Surface water	0.64	0.00	0.00	139.55	9,390,221.00 <i>gal</i>
Application event totals			79.96	14.98	86.86	843.21	

VL3 - 06/11/2023: Corn, silage

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VL3 - 06/11/2023: Corn, silage

Field name: VL3

Crop: Corn, silage

Plant date: 06/11/2023

Application date	Application method	Precipitation 24 hours prior	Precipitation during application			Precipitation 24 hours following	
05/21/2023	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
Manure		Corral solids	157.73	65.66	220.19	2,930.51	350.00 <i>ton</i>
Application event totals			157.73	65.66	220.19	2,930.51	
05/24/2023	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
Semi Tropic ID		Surface water	0.66	0.00	0.00	142.58	9,594,556.00 <i>gal</i>
Application event totals			0.66	0.00	0.00	142.58	
06/23/2023	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
Lagoon		Process wastewater	56.64	8.18	63.70	280.91	1,011,258.00 <i>gal</i>
Semi Tropic ID		Surface water	0.66	0.00	0.00	144.01	9,690,224.00 <i>gal</i>
Application event totals			57.31	8.18	63.70	424.92	
07/05/2023	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
Semi Tropic ID		Surface water	0.66	0.00	0.00	142.52	9,590,445.00 <i>gal</i>
Application event totals			0.66	0.00	0.00	142.52	
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
Semi Tropic ID		Surface water	0.65	0.00	0.00	141.13	9,496,554.00 <i>gal</i>
Application event totals			0.65	0.00	0.00	141.13	

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VL3 - 06/11/2023: Corn, silage

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
07/29/2023	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
Lagoon	Process wastewater	52.10	7.53	58.58	258.37	930,100.00 <i>gal</i>
Semi Tropic ID	Surface water	0.67	0.00	0.00	145.51	9,791,334.00 <i>gal</i>
Application event totals		52.77	7.53	58.58	403.88	
08/12/2023	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
Semi Tropic ID	Surface water	0.66	0.00	0.00	142.50	9,588,951.00 <i>gal</i>
Application event totals		0.66	0.00	0.00	142.50	
08/24/2023	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
Semi Tropic ID	Surface water	0.65	0.00	0.00	141.12	9,495,944.00 <i>gal</i>
Application event totals		0.65	0.00	0.00	141.12	
09/13/2023	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
Semi Tropic ID	Surface water	0.72	0.00	0.00	155.85	10,486,991.00 <i>gal</i>
Application event totals		0.72	0.00	0.00	155.85	

VL4 - 11/11/2022: Wheat, silage, soft dough

Field name: VL4

Crop: Wheat, silage, soft dough

Plant date: 11/11/2022

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following
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VL4 - 11/11/2022: Wheat, silage, soft dough

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
11/12/2022	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
Lagoon	Process wastewater	76.88	8.19	71.46	916.73	1,556,987.00 <i>gal</i>
Semi Tropic ID	Surface water	0.59	0.00	0.00	128.46	8,525,664.00 <i>gal</i>
Application event totals		77.47	8.19	71.46	1,045.19	
01/12/2023	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
Lagoon	Process wastewater	88.61	9.44	82.37	1,056.62	1,794,568.00 <i>gal</i>
Semi Tropic ID	Surface water	0.60	0.00	0.00	130.03	8,630,119.00 <i>gal</i>
Application event totals		89.21	9.44	82.37	1,186.65	
02/17/2023	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
Lagoon	Process wastewater	71.44	7.61	66.41	851.97	1,446,987.00 <i>gal</i>
Semi Tropic ID	Surface water	0.59	0.00	0.00	126.91	8,422,547.00 <i>gal</i>
Application event totals		72.03	7.61	66.41	978.87	

VL4 - 06/09/2023: Corn, silage

Field name: VL4

Crop: Corn, silage

Plant date: 06/09/2023

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following			
05/20/2023	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	169.06	70.37	236.00	3,140.99	370.00 <i>ton</i>
Application event totals			169.06	70.37	236.00	3,140.99	

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VL4 - 06/09/2023: Corn, silage

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
05/30/2023	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
Semi Tropic ID	Surface water	0.66	0.00	0.00	142.10	9,431,224.00 <i>gal</i>
Application event totals		0.66	0.00	0.00	142.10	
06/20/2023	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
Semi Tropic ID	Surface water	0.66	0.00	0.00	142.32	9,445,660.00 <i>gal</i>
Application event totals		0.66	0.00	0.00	142.32	
07/02/2023	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
Lagoon	Process wastewater	96.35	13.43	104.53	460.98	1,636,753.00 <i>gal</i>
Semi Tropic ID	Surface water	0.66	0.00	0.00	143.03	9,492,497.00 <i>gal</i>
Application event totals		97.01	13.43	104.53	604.01	
07/15/2023	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
Semi Tropic ID	Surface water	0.66	0.00	0.00	143.44	9,519,730.00 <i>gal</i>
Application event totals		0.66	0.00	0.00	143.44	
08/03/2023	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
Semi Tropic ID	Surface water	0.66	0.00	0.00	143.01	9,491,547.00 <i>gal</i>
Application event totals		0.66	0.00	0.00	143.01	
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
Semi Tropic ID	Surface water	0.67	0.00	0.00	144.89	9,615,870.00 <i>gal</i>
Application event totals		0.67	0.00	0.00	144.89	

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VL4 - 06/09/2023: 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
Semi Tropic ID		Surface water	5.56	0.00	0.00	577.96	9,589,645.00 <i>gal</i>
Application event totals			5.56	0.00	0.00	577.96	
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
Semi Tropic ID		Surface water	0.65	0.00	0.00	141.92	9,418,773.00 <i>gal</i>
Application event totals			0.65	0.00	0.00	141.92	

W2 - 11/12/2022: Wheat, silage, soft dough

Field name: W2

Crop: Wheat, silage, soft dough

Plant date: 11/12/2022

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following			
11/13/2022	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
Lagoon		Process wastewater	80.39	8.57	74.72	958.58	1,424,559.00 <i>gal</i>
Semi Tropic ID		Surface water	0.66	0.00	0.00	142.80	8,292,554.00 <i>gal</i>
Application event totals			81.04	8.57	74.72	1,101.38	
01/16/2023	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
Lagoon		Process wastewater	71.04	7.57	66.04	847.17	1,258,993.00 <i>gal</i>
Semi Tropic ID		Surface water	0.68	0.00	0.00	146.29	8,495,449.00 <i>gal</i>
Application event totals			71.72	7.57	66.04	993.46	

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W2 - 11/12/2022: Wheat, silage, soft dough

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
02/21/2023	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
Lagoon	Process wastewater	85.56	16.16	93.69	758.98	1,278,994.00 <i>gal</i>
Semi Tropic ID	Surface water	0.68	0.00	0.00	148.00	8,594,551.00 <i>gal</i>
Application event totals		86.24	16.16	93.69	906.98	

W2 - 06/07/2023: Corn, silage

Field name: W2

Crop: Corn, silage

Plant date: 06/07/2023

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
05/25/2023	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
Lagoon	Process wastewater	94.69	13.68	106.48	469.58	1,458,883.00 <i>gal</i>
Semi Tropic ID	Surface water	0.67	0.00	0.00	145.63	8,456,882.00 <i>gal</i>
Application event totals		95.36	13.68	106.48	615.21	
06/19/2023	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
Semi Tropic ID	Surface water	0.67	0.00	0.00	146.00	8,478,559.00 <i>gal</i>
Application event totals		0.67	0.00	0.00	146.00	
06/30/2023	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
Lagoon	Process wastewater	96.56	13.95	108.59	478.88	1,487,776.00 <i>gal</i>
Semi Tropic ID	Surface water	0.67	0.00	0.00	146.19	8,489,668.00 <i>gal</i>
Application event totals		97.24	13.95	108.59	625.07	

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W2 - 06/07/2023: Corn, silage

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
07/14/2023	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
Semi Tropic ID	Surface water	0.67	0.00	0.00	145.26	8,435,554.00 <i>gal</i>
Application event totals		0.67	0.00	0.00	145.26	
07/30/2023	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
Lagoon	Process wastewater	96.68	13.97	108.72	479.46	1,489,559.00 <i>gal</i>
Semi Tropic ID	Surface water	0.67	0.00	0.00	145.63	8,456,995.00 <i>gal</i>
Application event totals		97.35	13.97	108.72	625.09	
08/13/2023	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
Semi Tropic ID	Surface water	0.67	0.00	0.00	145.57	8,453,338.00 <i>gal</i>
Application event totals		0.67	0.00	0.00	145.57	
08/27/2023	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
Semi Tropic ID	Surface water	0.67	0.00	0.00	145.47	8,447,885.00 <i>gal</i>
Application event totals		0.67	0.00	0.00	145.47	
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
Semi Tropic ID	Surface water	0.75	0.00	0.00	162.85	9,456,882.00 <i>gal</i>
Application event totals		0.75	0.00	0.00	162.85	

W3 - 11/17/2022: Wheat, silage, soft dough

Field name: W3

Crop: Wheat, silage, soft dough

Plant date: 11/17/2022

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following
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Reporting period 01/01/2023 to 12/31/2023.

W3 - 11/17/2022: Wheat, silage, soft dough

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
11/18/2022	Subsurface (irrigation)	No precipitation	No precipitation	No precipitation		
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Lagoon	Process wastewater	81.68	8.70	75.93	974.04	1,998,963.00 <i>gal</i>
Semi Tropic ID	Surface water	0.60	0.00	0.00	130.15	10,437,551.00 <i>gal</i>
Application event totals		82.28	8.70	75.93	1,104.19	
01/14/2023	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
Lagoon	Process wastewater	77.70	8.28	72.23	926.62	1,901,654.00 <i>gal</i>
Semi Tropic ID	Surface water	0.59	0.00	0.00	127.69	10,240,119.00 <i>gal</i>
Application event totals		78.29	8.28	72.23	1,054.31	
02/17/2023	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
Lagoon	Process wastewater	76.63	14.48	83.91	679.80	1,581,951.00 <i>gal</i>
Semi Tropic ID	Surface water	0.58	0.00	0.00	126.39	10,135,880.00 <i>gal</i>
Application event totals		77.21	14.48	83.91	806.19	

W3 - 06/13/2023: Corn, silage

Field name: W3

Crop: Corn, silage

Plant date: 06/13/2023

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following			
05/17/2023	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	158.82	66.11	221.71	2,950.72	420.00 <i>ton</i>
Application event totals			158.82	66.11	221.71	2,950.72	

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W3 - 06/13/2023: Corn, silage

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
06/03/2023	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
Semi Tropic ID	Surface water	0.73	0.00	0.00	157.63	12,641,224.00 <i>gal</i>
Application event totals		0.73	0.00	0.00	157.63	
06/25/2023	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
Lagoon	Process wastewater	49.63	7.17	55.81	246.13	1,055,951.00 <i>gal</i>
Semi Tropic ID	Surface water	0.73	0.00	0.00	157.58	12,636,881.00 <i>gal</i>
Application event totals		50.36	7.17	55.81	403.70	
07/09/2023	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
Semi Tropic ID	Surface water	0.73	0.00	0.00	157.56	12,635,557.00 <i>gal</i>
Application event totals		0.73	0.00	0.00	157.56	
07/19/2023	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
Lagoon	Process wastewater	55.34	8.00	62.23	274.47	1,177,536.00 <i>gal</i>
Semi Tropic ID	Surface water	0.73	0.00	0.00	157.67	12,644,549.00 <i>gal</i>
Application event totals		56.07	8.00	62.23	432.14	
08/01/2023	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
Semi Tropic ID	Surface water	0.73	0.00	0.00	157.56	12,635,559.00 <i>gal</i>
Application event totals		0.73	0.00	0.00	157.56	
08/12/2023	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
Semi Tropic ID	Surface water	0.73	0.00	0.00	157.61	12,639,664.00 <i>gal</i>
Application event totals		0.73	0.00	0.00	157.61	

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W3 - 06/13/2023: Corn, silage

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following
08/24/2023	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
Semi Tropic ID	Surface water	0.73	0.00	0.00	157.53	12,633,581.00 <i>gal</i>
Application event totals		0.73	0.00	0.00	157.53	

W4 - 11/09/2018: Alfalfa, hay

Field name: W4

Crop: Alfalfa, hay

Plant date: 11/09/2018

Application date	Application method	Precipitation 24 hours prior		Precipitation during application			Precipitation 24 hours following	
03/05/2023	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	
Semi Tropic ID		Surface water	0.77	0.00	0.00	167.16	7,550,229.00 <i>gal</i>	
Application event totals			0.77	0.00	0.00	167.16		
04/06/2023	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	
Semi Tropic ID		Surface water	0.75	0.00	0.00	162.85	7,355,467.00 <i>gal</i>	
Application event totals			0.75	0.00	0.00	162.85		
05/07/2023	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	
Semi Tropic ID		Surface water	0.76	0.00	0.00	165.04	7,454,667.00 <i>gal</i>	
Application event totals			0.76	0.00	0.00	165.04		
06/08/2023	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	
Semi Tropic ID		Surface water	0.79	0.00	0.00	171.58	7,749,887.00 <i>gal</i>	
Application event totals			0.79	0.00	0.00	171.58		

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W4 - 11/09/2018: Alfalfa, hay

Application date	Application method		Precipitation 24 hours prior		Precipitation during application		Precipitation 24 hours following	
07/09/2023	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
Semi Tropic ID			Surface water	0.77	0.00	0.00	167.19	7,551,667.00 <i>gal</i>
Application event totals				0.77	0.00	0.00	167.19	
08/10/2023	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
Semi Tropic ID			Surface water	0.78	0.00	0.00	169.36	7,649,669.00 <i>gal</i>
Application event totals				0.78	0.00	0.00	169.36	
09/11/2023	Surface (irrigation)		No precipitation		No precipitation		No precipitation	
Source description			Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Semi Tropic ID			Surface water	0.78	0.00	0.00	169.40	7,651,224.00 <i>gal</i>
Application event totals				0.78	0.00	0.00	169.40	
10/12/2023	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
Semi Tropic ID			Surface water	0.79	0.00	0.00	171.52	7,746,991.00 <i>gal</i>
Application event totals				0.79	0.00	0.00	171.52	

W5 - 11/01/2021: Alfalfa, hay

Field name: W5

Crop: Alfalfa, hay

Plant date: 11/01/2021

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following
03/06/2023	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
Semi Tropic ID	Surface water	0.76	0.00	0.00	165.60	8,090,224.00 <i>gal</i>
Application event totals		0.76	0.00	0.00	165.60	

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W5 - 11/01/2021: Alfalfa, hay

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following		
04/07/2023	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
Semi Tropic ID	Surface water	0.76	0.00	0.00	165.62	8,091,229.00 <i>gal</i>
Application event totals		0.76	0.00	0.00	165.62	
05/08/2023	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
Semi Tropic ID	Surface water	0.76	0.00	0.00	165.60	8,090,554.00 <i>gal</i>
Application event totals		0.76	0.00	0.00	165.60	
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
Semi Tropic ID	Surface water	0.76	0.00	0.00	165.65	8,092,557.00 <i>gal</i>
Application event totals		0.76	0.00	0.00	165.65	
07/10/2023	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
Semi Tropic ID	Surface water	0.76	0.00	0.00	164.87	8,054,886.00 <i>gal</i>
Application event totals		0.76	0.00	0.00	164.87	
08/11/2023	Surface (irrigation)	No precipitation	No precipitation	No precipitation		
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Semi Tropic ID	Surface water	0.76	0.00	0.00	164.87	8,054,668.00 <i>gal</i>
Application event totals		0.76	0.00	0.00	164.87	
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
Semi Tropic ID	Surface water	0.76	0.00	0.00	165.69	8,094,668.00 <i>gal</i>
Application event totals		0.76	0.00	0.00	165.69	

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W5 - 11/01/2021: Alfalfa, hay

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following
10/13/2023	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
Semi Tropic ID	Surface water	0.76	0.00	0.00	165.71	8,095,668.00 <i>gal</i>
Application event totals		0.76	0.00	0.00	165.71	

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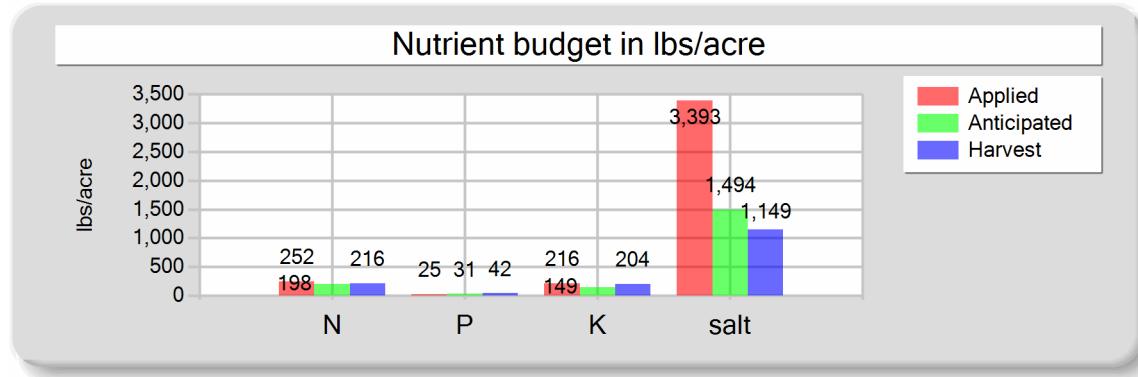
B. NUTRIENT BUDGET

A1 - 11/12/2022: Wheat, silage, soft dough

Field name: A1

Crop: Wheat, silage, soft dough

Plant date: 11/12/2022



	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	24,535,662.00 <i>gallons</i>
Plowdown credit	0.00	0.00	0.00	0.00	903.56 <i>acre-inches</i>
Commercial fertilizer / Other	0.00	0.00	0.00	0.00	12.38 <i>inches/acre</i>
Dry manure	0.00	0.00	0.00	0.00	
Process wastewater	232.77	24.81	216.38	2,775.81	Process wastewater applied
Fresh water	4.77	0.00	0.00	617.06	4,779,947.00 <i>gallons</i>
Atmospheric deposition	14.00	0.00	0.00	0.00	176.03 <i>acre-inches</i>
Total nutrients applied	251.54	24.81	216.38	3,392.87	2.41 <i>inches/acre</i>
Anticipated crop nutrient removal	198.00	30.60	149.40	1,494.00	
Actual crop nutrient removal	216.02	41.54	204.15	1,148.94	Total harvests for the crop
Nutrient balance	35.52	-16.73	12.23	2,243.93	1 <i>harvests</i>
Applied to removed ratio	1.16	0.60	1.06	2.95	

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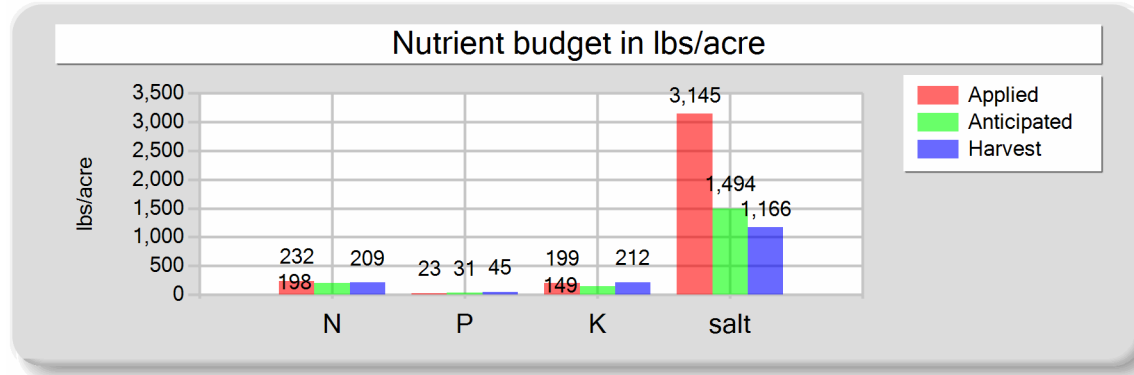
Reporting period 01/01/2023 to 12/31/2023.

A2 - 11/11/2022: Wheat, silage, soft dough

Field name: A2

Crop: Wheat, silage, soft dough

Plant date: 11/11/2022



	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	213.85	22.79	198.79	2,550.15
Fresh water	4.60	0.00	0.00	594.66
Atmospheric deposition	14.00	0.00	0.00	0.00
Total nutrients applied	232.45	22.79	198.79	3,144.81
Anticipated crop nutrient removal	198.00	30.60	149.40	1,494.00
Actual crop nutrient removal	208.94	44.86	212.48	1,166.28
Nutrient balance	23.51	-22.07	-13.69	1,978.53
Applied to removed ratio	1.11	0.51	0.94	2.70

Fresh water applied
11,660,636.00 <i>gallons</i>
429.42 <i>acre-inches</i>
11.93 <i>inches/acre</i>

Process wastewater applied
2,165,597.00 <i>gallons</i>
79.75 <i>acre-inches</i>
2.22 <i>inches/acre</i>

Total harvests for the crop
1 <i>harvests</i>

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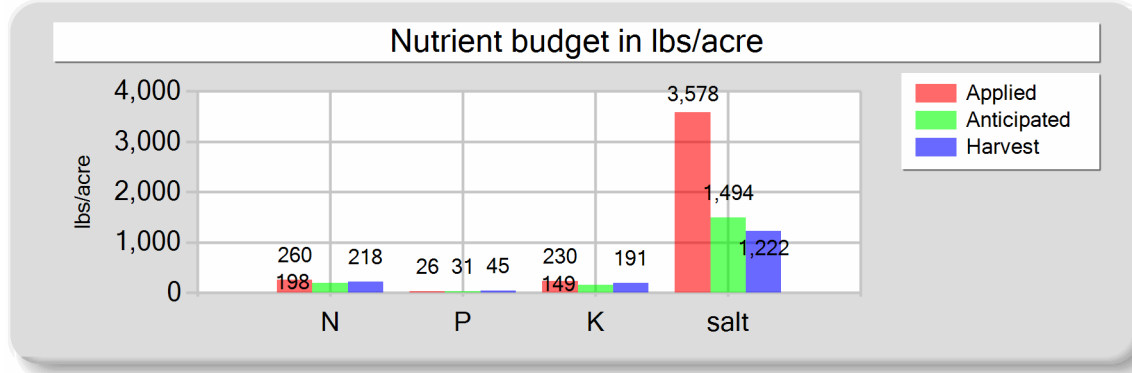
Reporting period 01/01/2023 to 12/31/2023.

A3 - 11/11/2022: Wheat, silage, soft dough

Field name: A3

Crop: Wheat, silage, soft dough

Plant date: 11/11/2022



	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	247.82	26.41	230.37	2,955.25
Fresh water	4.81	0.00	0.00	622.36
Atmospheric deposition	7.00	0.00	0.00	0.00
Total nutrients applied	259.63	26.41	230.37	3,577.61
Anticipated crop nutrient removal	198.00	30.60	149.40	1,494.00
Actual crop nutrient removal	217.73	44.75	191.11	1,221.68
Nutrient balance	41.91	-18.34	39.26	2,355.93
Applied to removed ratio	1.19	0.59	1.21	2.93

Fresh water applied
14,915,794.00 <i>gallons</i>
549.30 <i>acre-inches</i>
12.48 <i>inches/acre</i>

Process wastewater applied
3,067,307.00 <i>gallons</i>
112.96 <i>acre-inches</i>
2.57 <i>inches/acre</i>

Total harvests for the crop
1 <i>harvests</i>

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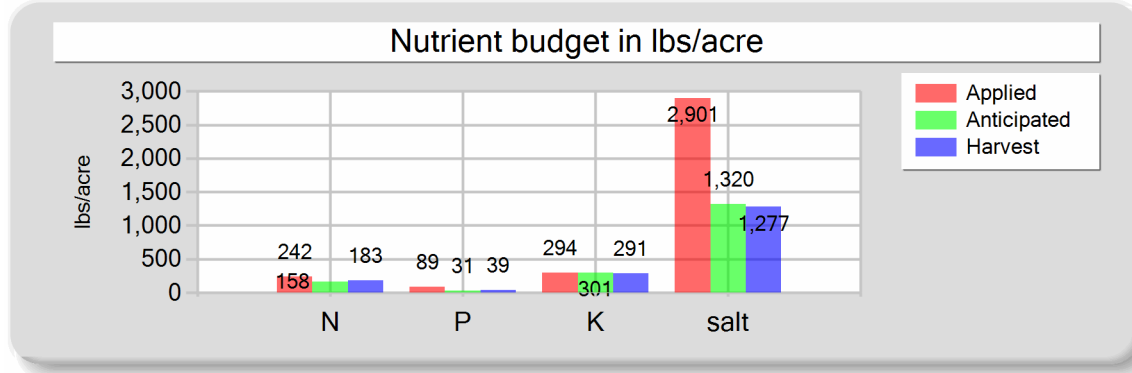
Reporting period 01/01/2023 to 12/31/2023.

A3 - 05/28/2023: Sorghum-Sudangrass, forage

Field name: A3

Crop: Sorghum-Sudangrass, forage

Plant date: 05/28/2023



	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	168.23	70.03	234.84	871.06
Process wastewater	52.98	19.42	59.50	348.63
Fresh water	13.77	0.00	0.00	1,681.34
Atmospheric deposition	7.00	0.00	0.00	0.00
Total nutrients applied	241.99	89.44	294.34	2,901.03
Anticipated crop nutrient removal	158.40	30.80	301.40	1,320.00
Actual crop nutrient removal	183.22	38.87	291.49	1,277.02
Nutrient balance	58.76	50.58	2.85	1,624.00
Applied to removed ratio	1.32	2.30	1.01	2.27

Fresh water applied
33,591,105.00 <i>gallons</i>
1,237.05 <i>acre-inches</i>
28.11 <i>inches/acre</i>

Process wastewater applied
677,122.00 <i>gallons</i>
24.94 <i>acre-inches</i>
0.57 <i>inches/acre</i>

Total harvests for the crop
1 <i>harvests</i>

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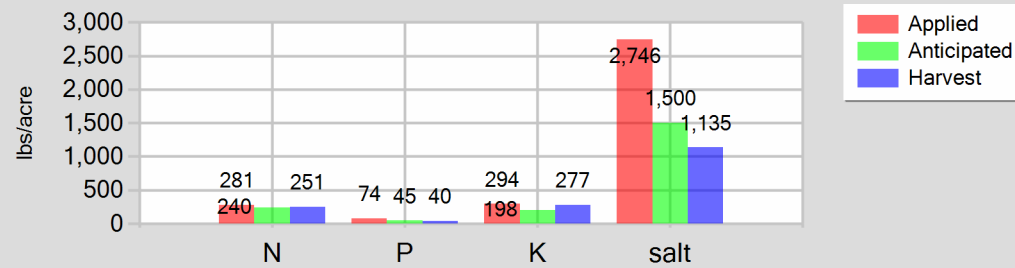
E1 - 06/15/2023: Corn, silage

Field name: E1

Crop: Corn, silage

Plant date: 06/15/2023

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	261.24	74.36	293.52	1,562.90
Fresh water	5.46	0.00	0.00	1,182.83
Atmospheric deposition	14.00	0.00	0.00	0.00
Total nutrients applied	280.70	74.36	293.52	2,745.73
Anticipated crop nutrient removal	240.00	45.00	198.00	1,500.00
Actual crop nutrient removal	251.16	39.55	276.87	1,135.15
Nutrient balance	29.54	34.81	16.65	1,610.57
Applied to removed ratio	1.12	1.88	1.06	2.42

Fresh water applied
81,773,516.00 <i>gallons</i>
3,011.44 <i>acre-inches</i>
40.15 <i>inches/acre</i>
Process wastewater applied
5,359,465.00 <i>gallons</i>
197.37 <i>acre-inches</i>
2.63 <i>inches/acre</i>
Total harvests for the crop
1 <i>harvests</i>

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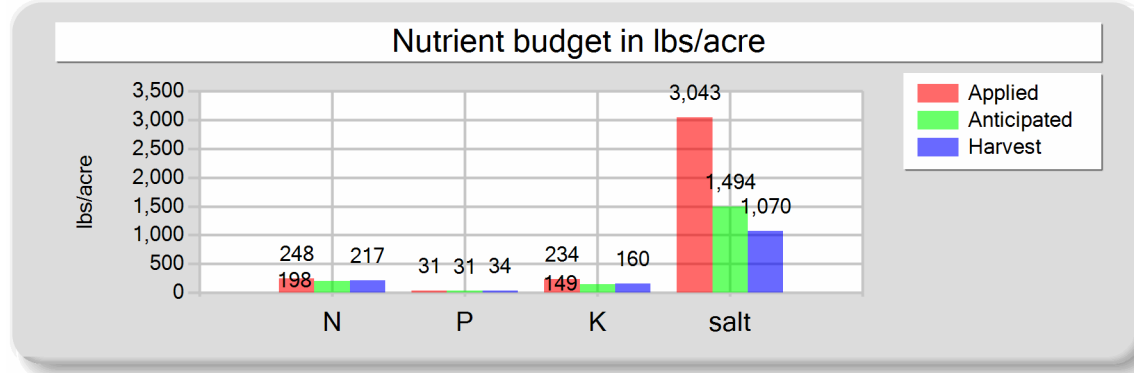
Reporting period 01/01/2023 to 12/31/2023.

E10 - 11/15/2022: Wheat, silage, soft dough

Field name: E10

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	0.00	0.00	0.00	0.00
Dry manure	0.00	0.00	0.00	0.00
Process wastewater	239.29	31.38	234.24	2,635.59
Fresh water	1.88	0.00	0.00	406.98
Atmospheric deposition	7.00	0.00	0.00	0.00
Total nutrients applied	248.17	31.38	234.24	3,042.58
Anticipated crop nutrient removal	198.00	30.60	149.40	1,494.00
Actual crop nutrient removal	216.83	34.17	160.32	1,069.68
Nutrient balance	31.34	-2.79	73.92	1,972.90
Applied to removed ratio	1.14	0.92	1.46	2.84

Fresh water applied
34,889,222.00 <i>gallons</i>
1,284.85 <i>acre-inches</i>
13.82 <i>inches/acre</i>

Process wastewater applied
5,967,881.00 <i>gallons</i>
219.78 <i>acre-inches</i>
2.36 <i>inches/acre</i>

Total harvests for the crop
1 <i>harvests</i>

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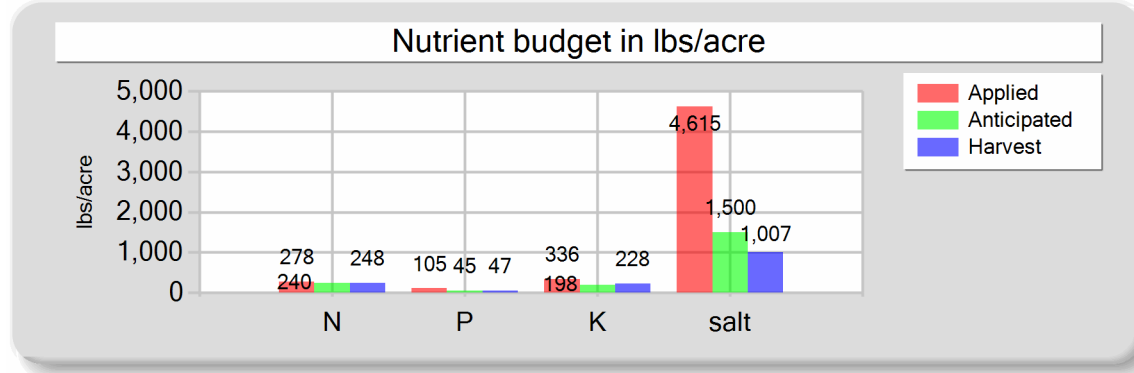
Reporting period 01/01/2023 to 12/31/2023.

E10 - 06/08/2023: Corn, silage

Field name: E10

Crop: Corn, silage

Plant date: 06/08/2023



	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	141.50	58.90	197.53	2,628.90
Process wastewater	123.68	45.67	138.89	816.30
Fresh water	5.40	0.00	0.00	1,169.78
Atmospheric deposition	7.00	0.00	0.00	0.00
Total nutrients applied	277.58	104.57	336.42	4,614.99
Anticipated crop nutrient removal	240.00	45.00	198.00	1,500.00
Actual crop nutrient removal	247.52	46.51	227.59	1,006.71
Nutrient balance	30.05	58.05	108.83	3,608.28
Applied to removed ratio	1.12	2.25	1.48	4.58

Fresh water applied
100,281,006.00 <i>gallons</i>
3,693.01 <i>acre-inches</i>
39.71 <i>inches/acre</i>

Process wastewater applied
3,347,439.00 <i>gallons</i>
123.27 <i>acre-inches</i>
1.33 <i>inches/acre</i>

Total harvests for the crop
1 <i>harvests</i>

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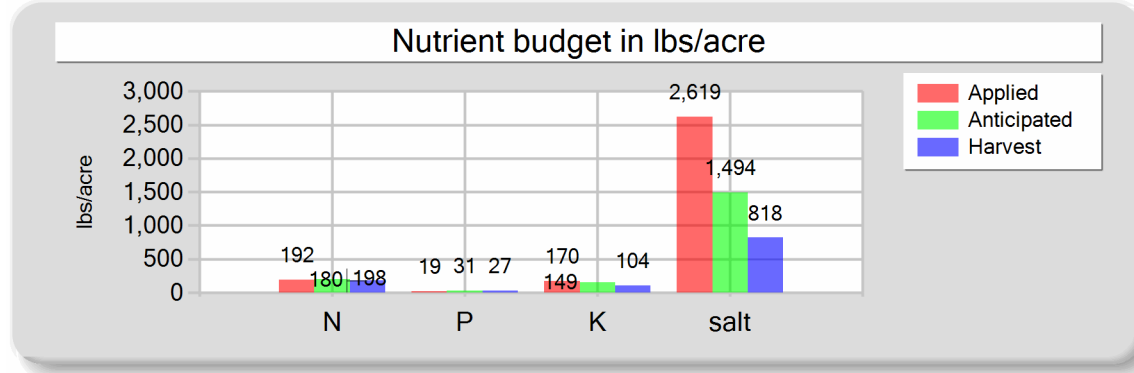
Reporting period 01/01/2023 to 12/31/2023.

E11 - 11/14/2022: Wheat, silage, soft dough

Field name: E11

Crop: Wheat, silage, soft dough

Plant date: 11/14/2022



	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	32,289,010.00 <i>gallons</i>
Plowdown credit	0.00	0.00	0.00	0.00	1,189.09 <i>acre-inches</i>
Commercial fertilizer / Other	0.00	0.00	0.00	0.00	14.86 <i>inches/acre</i>
Dry manure	0.00	0.00	0.00	0.00	
Process wastewater	182.91	19.49	170.03	2,181.21	Process wastewater applied
Fresh water	2.02	0.00	0.00	437.86	4,116,211.00 <i>gallons</i>
Atmospheric deposition	7.00	0.00	0.00	0.00	151.59 <i>acre-inches</i>
Total nutrients applied	191.93	19.49	170.03	2,619.07	1.89 <i>inches/acre</i>
Anticipated crop nutrient removal	198.00	30.60	149.40	1,494.00	
Actual crop nutrient removal	179.69	27.47	104.15	818.34	Total harvests for the crop
Nutrient balance	12.24	-7.98	65.88	1,800.73	1 <i>harvests</i>
Applied to removed ratio	1.07	0.71	1.63	3.20	

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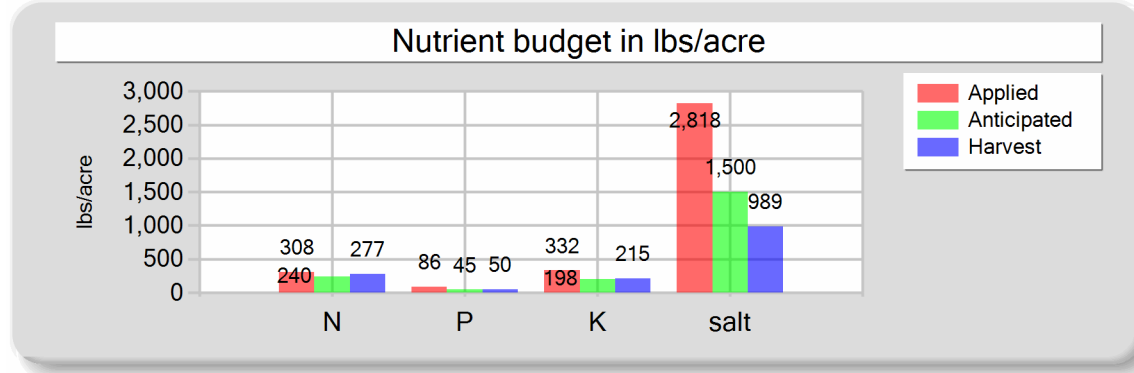
Reporting period 01/01/2023 to 12/31/2023.

E11 - 06/10/2023: Corn, silage

Field name: E11

Crop: Corn, silage

Plant date: 06/10/2023



	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	295.86	85.63	332.41	1,780.29
Fresh water	4.79	0.00	0.00	1,037.78
Atmospheric deposition	7.00	0.00	0.00	0.00
Total nutrients applied	307.65	85.63	332.41	2,818.07
Anticipated crop nutrient removal	240.00	45.00	198.00	1,500.00
Actual crop nutrient removal	276.79	50.50	215.08	989.35
Nutrient balance	30.86	35.13	117.33	1,828.72
Applied to removed ratio	1.11	1.70	1.55	2.85

Fresh water applied
76,528,884.00 <i>gallons</i>
2,818.30 <i>acre-inches</i>
35.23 <i>inches/acre</i>

Process wastewater applied
6,497,593.00 <i>gallons</i>
239.28 <i>acre-inches</i>
2.99 <i>inches/acre</i>

Total harvests for the crop
1 <i>harvests</i>

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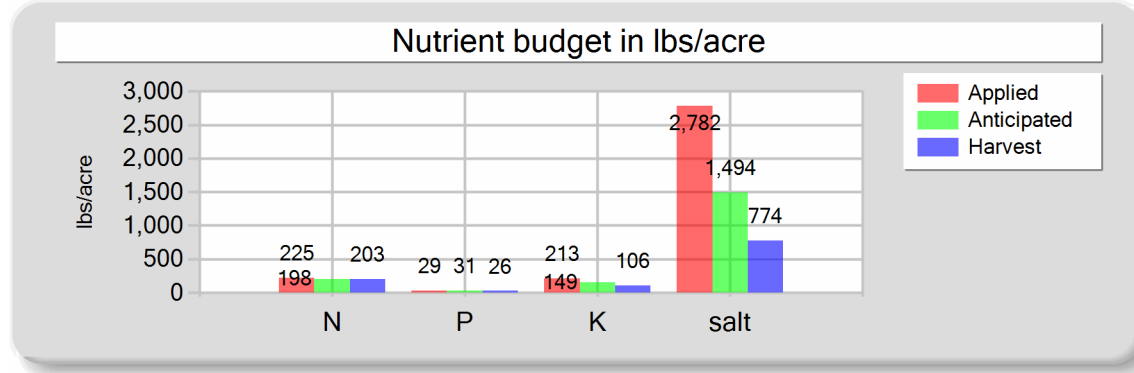
Reporting period 01/01/2023 to 12/31/2023.

E4 - 11/18/2022: Wheat, silage, soft dough

Field name: E4

Crop: Wheat, silage, soft dough

Plant date: 11/18/2022



	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	29,718,529.00 <i>gallons</i>
Plowdown credit	0.00	0.00	0.00	0.00	1,094.43 <i>acre-inches</i>
Commercial fertilizer / Other	0.00	0.00	0.00	0.00	14.59 <i>inches/acre</i>
Dry manure	0.00	0.00	0.00	0.00	
Process wastewater	216.02	29.06	212.94	2,352.15	Process wastewater applied
Fresh water	1.98	0.00	0.00	429.87	4,315,458.00 <i>gallons</i>
Atmospheric deposition	7.00	0.00	0.00	0.00	158.92 <i>acre-inches</i>
Total nutrients applied	225.00	29.06	212.94	2,782.02	2.12 <i>inches/acre</i>
Anticipated crop nutrient removal	198.00	30.60	149.40	1,494.00	
Actual crop nutrient removal	203.14	26.25	106.13	773.75	Total harvests for the crop
Nutrient balance	21.87	2.81	106.80	2,008.27	1 <i>harvests</i>
Applied to removed ratio	1.11	1.11	2.01	3.60	

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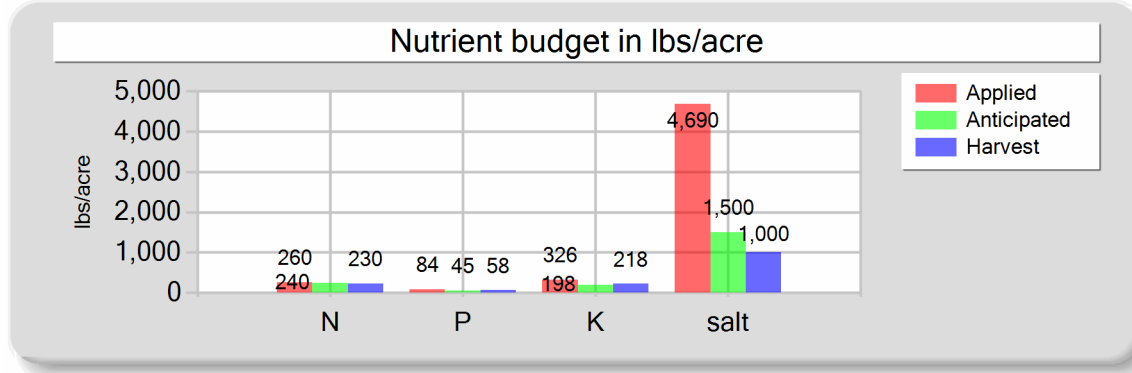
Reporting period 01/01/2023 to 12/31/2023.

E4 - 06/07/2023: Corn, silage

Field name: E4

Crop: Corn, silage

Plant date: 06/07/2023



	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	175.46	73.03	244.93	3,259.84
Process wastewater	72.49	10.47	81.51	359.48
Fresh water	4.94	0.00	0.00	1,070.81
Atmospheric deposition	7.00	0.00	0.00	0.00
Total nutrients applied	259.89	83.51	326.45	4,690.13
Anticipated crop nutrient removal	240.00	45.00	198.00	1,500.00
Actual crop nutrient removal	230.10	57.53	218.20	999.76
Nutrient balance	29.79	25.98	108.24	3,690.37
Applied to removed ratio	1.13	1.45	1.50	4.69

Fresh water applied
74,029,235.00 gallons
2,726.24 acre-inches
36.35 inches/acre

Process wastewater applied
1,329,548.00 gallons
48.96 acre-inches
0.65 inches/acre

Total harvests for the crop
1 harvests

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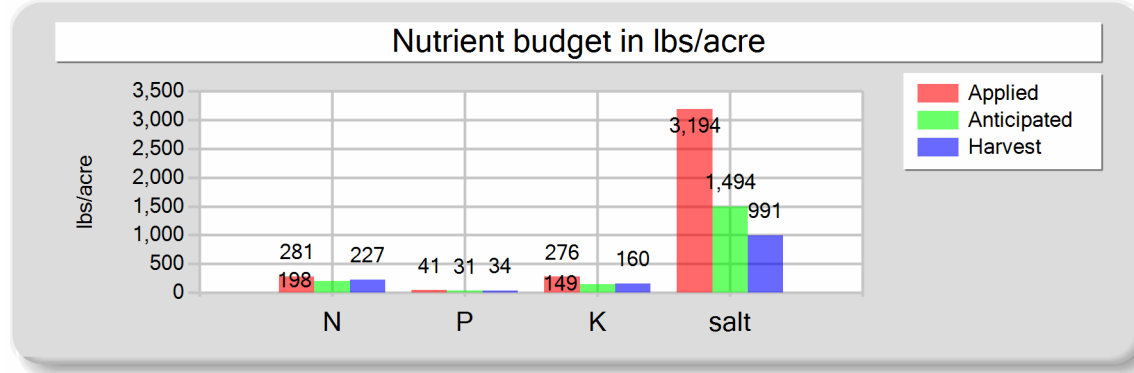
Reporting period 01/01/2023 to 12/31/2023.

E7 - 11/14/2022: Wheat, silage, soft dough

Field name: E7

Crop: Wheat, silage, soft dough

Plant date: 11/14/2022



	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	272.04	40.52	276.04	2,816.53
Fresh water	1.74	0.00	0.00	377.53
Atmospheric deposition	7.00	0.00	0.00	0.00
Total nutrients applied	280.78	40.52	276.04	3,194.06
Anticipated crop nutrient removal	198.00	30.60	149.40	1,494.00
Actual crop nutrient removal	227.24	33.72	159.80	991.07
Nutrient balance	53.54	6.80	116.24	2,202.99
Applied to removed ratio	1.24	1.20	1.73	3.22

Fresh water applied
6,959,982.00 <i>gallons</i>
256.31 <i>acre-inches</i>
12.82 <i>inches/acre</i>

Process wastewater applied
1,407,251.00 <i>gallons</i>
51.82 <i>acre-inches</i>
2.59 <i>inches/acre</i>

Total harvests for the crop
1 <i>harvests</i>

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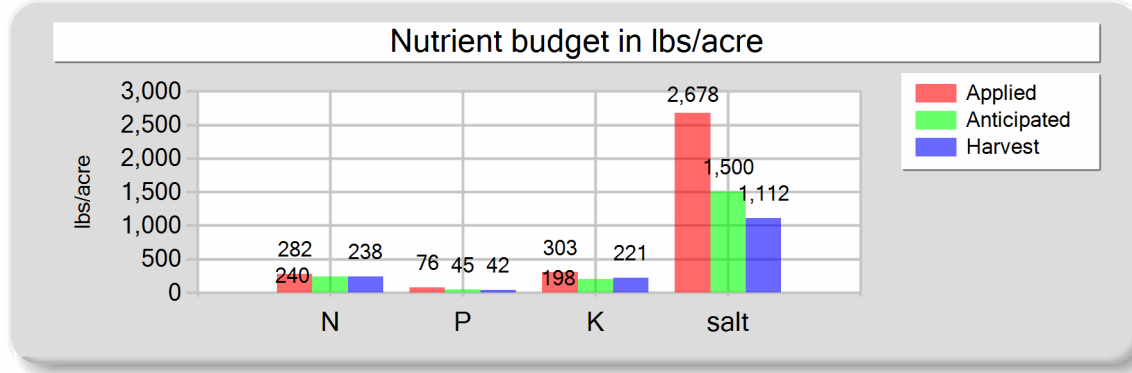
Reporting period 01/01/2023 to 12/31/2023.

E7 - 06/05/2023: Corn, silage

Field name: E7

Crop: Corn, silage

Plant date: 06/05/2023



	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	269.67	76.47	303.00	1,611.19
Fresh water	4.92	0.00	0.00	1,066.93
Atmospheric deposition	7.00	0.00	0.00	0.00
Total nutrients applied	281.60	76.47	303.00	2,678.12
Anticipated crop nutrient removal	240.00	45.00	198.00	1,500.00
Actual crop nutrient removal	237.72	41.74	221.39	1,112.39
Nutrient balance	43.88	34.73	81.61	1,565.73
Applied to removed ratio	1.18	1.83	1.37	2.41

Fresh water applied
19,669,656.00 <i>gallons</i>
724.37 <i>acre-inches</i>
36.22 <i>inches/acre</i>

Process wastewater applied
1,474,097.00 <i>gallons</i>
54.29 <i>acre-inches</i>
2.71 <i>inches/acre</i>

Total harvests for the crop
1 <i>harvests</i>

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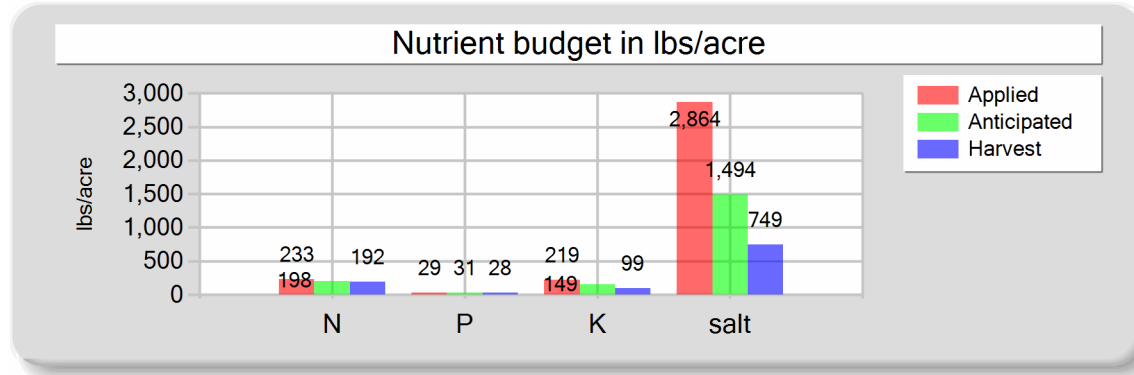
Reporting period 01/01/2023 to 12/31/2023.

E8 - 11/13/2022: Wheat, silage, soft dough

Field name: E8

Crop: Wheat, silage, soft dough

Plant date: 11/13/2022



	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	224.36	29.14	219.07	2,481.51
Fresh water	1.77	0.00	0.00	382.64
Atmospheric deposition	7.00	0.00	0.00	0.00
Total nutrients applied	233.13	29.14	219.07	2,864.15
Anticipated crop nutrient removal	198.00	30.60	149.40	1,494.00
Actual crop nutrient removal	191.70	27.88	98.75	749.36
Nutrient balance	41.43	1.26	120.32	2,114.78
Applied to removed ratio	1.22	1.05	2.22	3.82

Fresh water applied
14,108,334.00 <i>gallons</i>
519.56 <i>acre-inches</i>
12.99 <i>inches/acre</i>

Process wastewater applied
2,412,663.00 <i>gallons</i>
88.85 <i>acre-inches</i>
2.22 <i>inches/acre</i>

Total harvests for the crop
1 <i>harvests</i>

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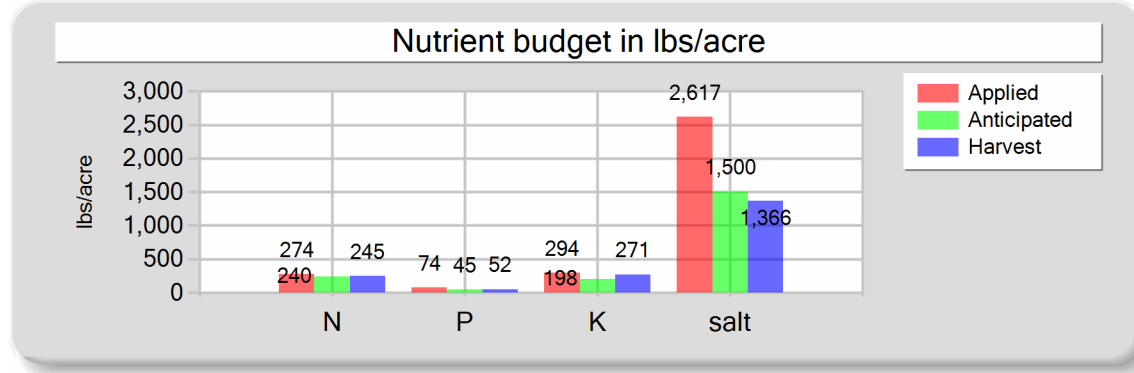
Reporting period 01/01/2023 to 12/31/2023.

E8 - 06/10/2023: Corn, silage

Field name: E8

Crop: Corn, silage

Plant date: 06/10/2023



	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	261.70	73.50	294.05	1,558.43
Fresh water	4.89	0.00	0.00	1,058.96
Atmospheric deposition	7.00	0.00	0.00	0.00
Total nutrients applied	273.59	73.50	294.05	2,617.39
Anticipated crop nutrient removal	240.00	45.00	198.00	1,500.00
Actual crop nutrient removal	244.95	52.02	270.96	1,365.64
Nutrient balance	28.64	21.48	23.08	1,251.74
Applied to removed ratio	1.12	1.41	1.09	1.92

Fresh water applied
39,045,326.00 <i>gallons</i>
1,437.91 <i>acre-inches</i>
35.95 <i>inches/acre</i>

Process wastewater applied
2,855,238.00 <i>gallons</i>
105.15 <i>acre-inches</i>
2.63 <i>inches/acre</i>

Total harvests for the crop
1 <i>harvests</i>

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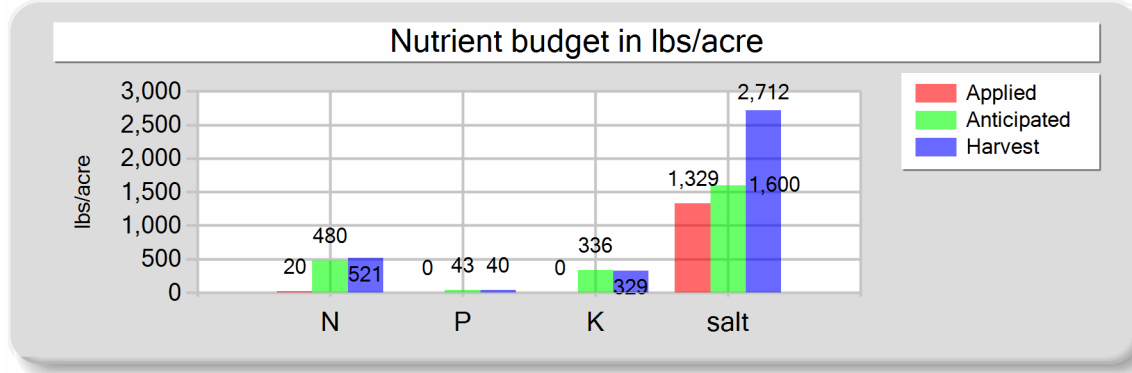
Reporting period 01/01/2023 to 12/31/2023.

E9 - 11/23/2018: Alfalfa, hay

Field name: E9

Crop: Alfalfa, hay

Plant date: 11/23/2018



	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	6.14	0.00	0.00	1,329.28
Atmospheric deposition	14.00	0.00	0.00	0.00
Total nutrients applied	20.14	0.00	0.00	1,329.28
Anticipated crop nutrient removal	480.00	43.20	336.00	1,600.00
Actual crop nutrient removal	520.80	40.39	328.92	2,712.18
Nutrient balance	-500.66	-40.39	-328.92	-1,382.89
Applied to removed ratio	0.04	0.00	0.00	0.49

Fresh water applied
89,448,108.00 <i>gallons</i>
3,294.07 <i>acre-inches</i>
45.12 <i>inches/acre</i>

Process wastewater applied
0.00 <i>gallons</i>
0.00 <i>acre-inches</i>
0.00 <i>inches/acre</i>

Total harvests for the crop
1 <i>harvests</i>

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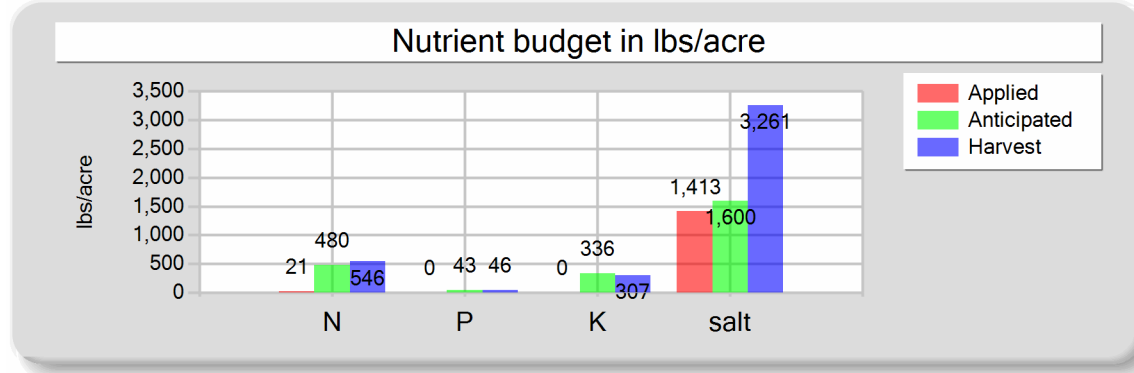
Reporting period 01/01/2023 to 12/31/2023.

VL1 - 03/01/2023: Alfalfa, hay

Field name: VL1

Crop: Alfalfa, hay

Plant date: 03/01/2023



	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	91,195,768.00 <i>gallons</i>
Plowdown credit	0.00	0.00	0.00	0.00	3,358.43 <i>acre-inches</i>
Commercial fertilizer / Other	0.00	0.00	0.00	0.00	47.98 <i>inches/acre</i>
Dry manure	0.00	0.00	0.00	0.00	
Process wastewater	0.00	0.00	0.00	0.00	
Fresh water	6.52	0.00	0.00	1,413.34	
Atmospheric deposition	14.00	0.00	0.00	0.00	
Total nutrients applied	20.52	0.00	0.00	1,413.34	
Anticipated crop nutrient removal	480.00	43.20	336.00	1,600.00	
Actual crop nutrient removal	545.98	45.74	306.93	3,261.13	
Nutrient balance	-525.46	-45.74	-306.93	-1,847.79	
Applied to removed ratio	0.04	0.00	0.00	0.43	
					Process wastewater applied
					0.00 <i>gallons</i>
					0.00 <i>acre-inches</i>
					0.00 <i>inches/acre</i>
					Total harvests for the crop
					1 <i>harvests</i>

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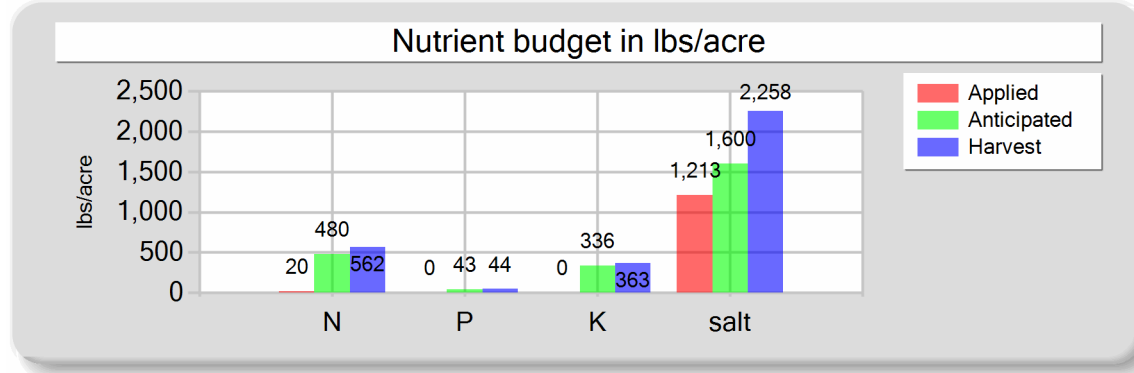
Reporting period 01/01/2023 to 12/31/2023.

VL2 - 03/01/2023: Alfalfa, hay

Field name: VL2

Crop: Alfalfa, hay

Plant date: 03/01/2023



	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	83,836,456.00 <i>gallons</i>
Plowdown credit	0.00	0.00	0.00	0.00	3,087.41 <i>acre-inches</i>
Commercial fertilizer / Other	0.00	0.00	0.00	0.00	41.17 <i>inches/acre</i>
Dry manure	0.00	0.00	0.00	0.00	
Process wastewater	0.00	0.00	0.00	0.00	
Fresh water	5.60	0.00	0.00	1,212.67	
Atmospheric deposition	14.00	0.00	0.00	0.00	
Total nutrients applied	19.60	0.00	0.00	1,212.67	
Anticipated crop nutrient removal	480.00	43.20	336.00	1,600.00	
Actual crop nutrient removal	562.24	44.27	363.02	2,257.81	
Nutrient balance	-542.64	-44.27	-363.02	-1,045.15	
Applied to removed ratio	0.03	0.00	0.00	0.54	
					Process wastewater applied
					0.00 <i>gallons</i>
					0.00 <i>acre-inches</i>
					0.00 <i>inches/acre</i>
					Total harvests for the crop
					1 <i>harvests</i>

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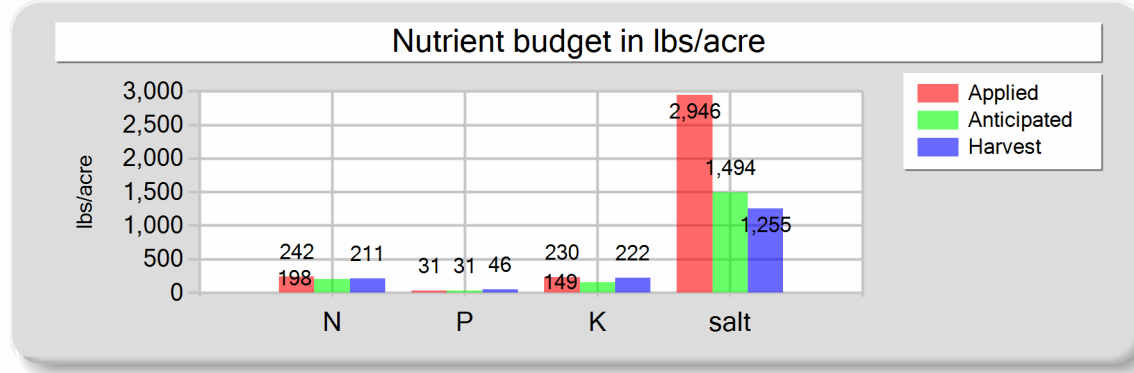
Reporting period 01/01/2023 to 12/31/2023.

VL3 - 11/10/2022: Wheat, silage, soft dough

Field name: VL3

Crop: Wheat, silage, soft dough

Plant date: 11/10/2022



	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	233.21	31.38	229.91	2,538.81
Fresh water	1.88	0.00	0.00	406.82
Atmospheric deposition	7.00	0.00	0.00	0.00
Total nutrients applied	242.09	31.38	229.91	2,945.62
Anticipated crop nutrient removal	198.00	30.60	149.40	1,494.00
Actual crop nutrient removal	210.63	45.68	222.05	1,254.87
Nutrient balance	31.46	-14.29	7.87	1,690.75
Applied to removed ratio	1.15	0.69	1.04	2.35

Fresh water applied
27,374,931.00 gallons
1,008.13 acre-inches
13.81 inches/acre

Process wastewater applied
4,534,102.00 gallons
166.98 acre-inches
2.29 inches/acre

Total harvests for the crop
1 harvests

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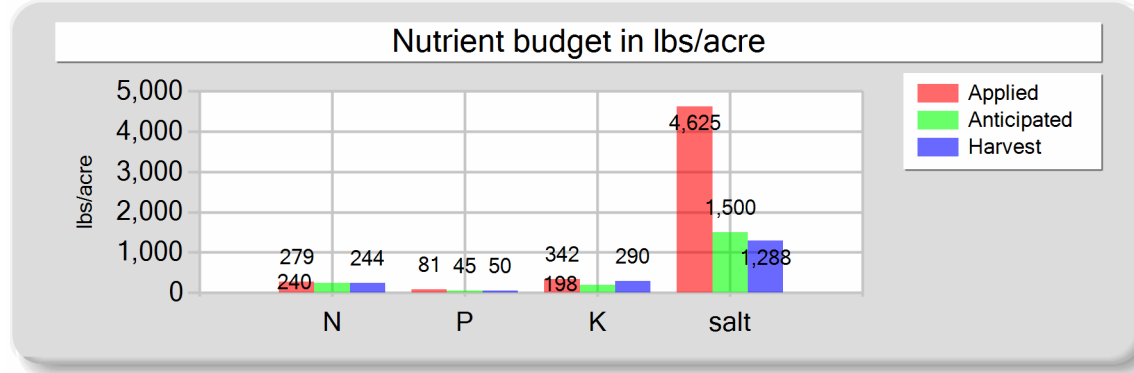
Reporting period 01/01/2023 to 12/31/2023.

VL3 - 06/11/2023: Corn, silage

Field name: VL3

Crop: Corn, silage

Plant date: 06/11/2023



	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	157.73	65.66	220.19	2,930.51
Process wastewater	108.74	15.71	122.28	539.28
Fresh water	5.33	0.00	0.00	1,155.22
Atmospheric deposition	7.00	0.00	0.00	0.00
Total nutrients applied	278.81	81.37	342.47	4,625.00
Anticipated crop nutrient removal	240.00	45.00	198.00	1,500.00
Actual crop nutrient removal	244.30	49.69	289.84	1,287.73
Nutrient balance	34.51	31.68	52.63	3,337.27
Applied to removed ratio	1.14	1.64	1.18	3.59

Fresh water applied
77,734,999.00 gallons
2,862.72 acre-inches
39.22 inches/acre

Process wastewater applied
1,941,358.00 gallons
71.49 acre-inches
0.98 inches/acre

Total harvests for the crop
1 harvests

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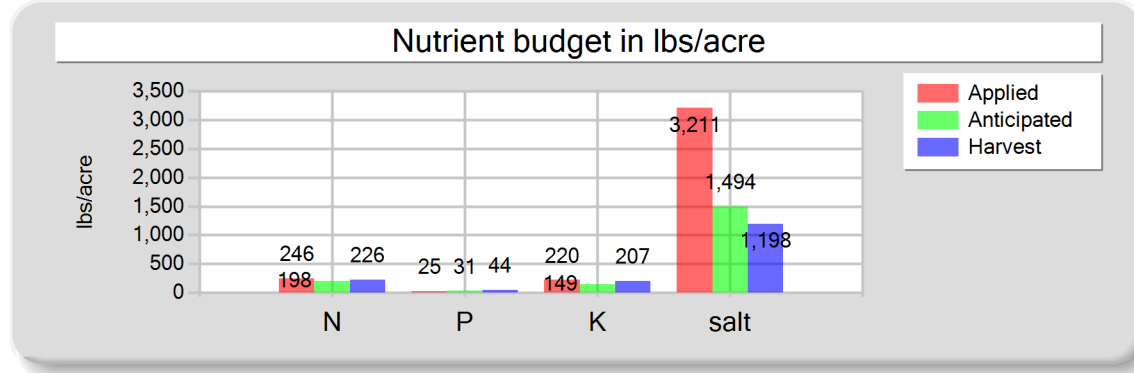
Reporting period 01/01/2023 to 12/31/2023.

VL4 - 11/11/2022: Wheat, silage, soft dough

Field name: VL4

Crop: Wheat, silage, soft dough

Plant date: 11/11/2022



	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	236.93	25.25	220.24	2,825.31
Fresh water	1.78	0.00	0.00	385.40
Atmospheric deposition	7.00	0.00	0.00	0.00
Total nutrients applied	245.70	25.25	220.24	3,210.71
Anticipated crop nutrient removal	198.00	30.60	149.40	1,494.00
Actual crop nutrient removal	225.72	43.89	206.91	1,197.57
Nutrient balance	19.98	-18.64	13.33	2,013.14
Applied to removed ratio	1.09	0.58	1.06	2.68

Fresh water applied
25,578,330.00 gallons
941.96 acre-inches
13.08 inches/acre

Process wastewater applied
4,798,542.00 gallons
176.71 acre-inches
2.45 inches/acre

Total harvests for the crop
1 harvests

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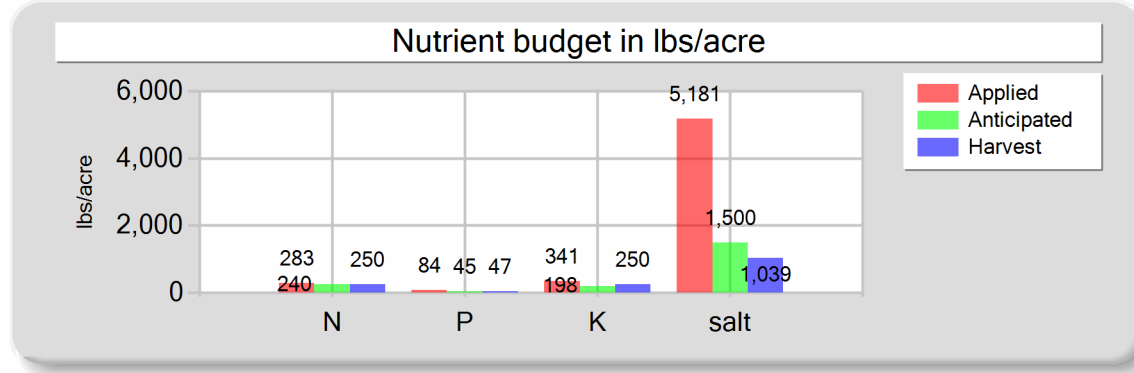
Reporting period 01/01/2023 to 12/31/2023.

VL4 - 06/09/2023: Corn, silage

Field name: VL4

Crop: Corn, silage

Plant date: 06/09/2023



	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	169.06	70.37	236.00	3,140.99
Process wastewater	96.35	13.43	104.53	460.98
Fresh water	10.18	0.00	0.00	1,578.67
Atmospheric deposition	7.00	0.00	0.00	0.00
Total nutrients applied	282.59	83.80	340.53	5,180.64
Anticipated crop nutrient removal	240.00	45.00	198.00	1,500.00
Actual crop nutrient removal	250.32	46.61	250.32	1,039.25
Nutrient balance	32.27	37.19	90.21	4,141.39
Applied to removed ratio	1.13	1.80	1.36	4.98

Fresh water applied
76,004,946.00 <i>gallons</i>
2,799.00 <i>acre-inches</i>
38.88 <i>inches/acre</i>

Process wastewater applied
1,636,753.00 <i>gallons</i>
60.28 <i>acre-inches</i>
0.84 <i>inches/acre</i>

Total harvests for the crop
1 <i>harvests</i>

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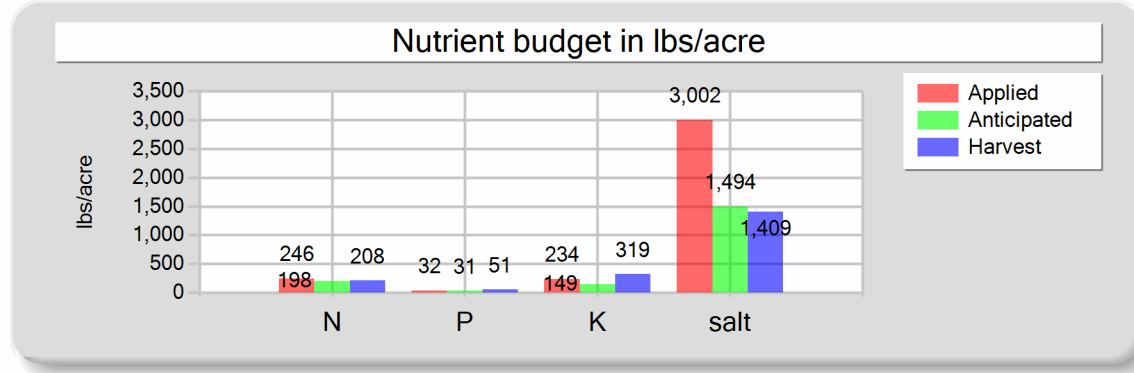
Reporting period 01/01/2023 to 12/31/2023.

W2 - 11/12/2022: Wheat, silage, soft dough

Field name: W2

Crop: Wheat, silage, soft dough

Plant date: 11/12/2022



	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	25,382,554.00 <i>gallons</i>
Plowdown credit	0.00	0.00	0.00	0.00	934.75 <i>acre-inches</i>
Commercial fertilizer / Other	0.00	0.00	0.00	0.00	14.84 <i>inches/acre</i>
Dry manure	0.00	0.00	0.00	0.00	
Process wastewater	236.98	32.30	234.45	2,564.74	Process wastewater applied
Fresh water	2.02	0.00	0.00	437.08	3,962,546.00 <i>gallons</i>
Atmospheric deposition	7.00	0.00	0.00	0.00	145.93 <i>acre-inches</i>
Total nutrients applied	246.00	32.30	234.45	3,001.82	2.32 <i>inches/acre</i>
Anticipated crop nutrient removal	198.00	30.60	149.40	1,494.00	
Actual crop nutrient removal	207.97	51.43	318.66	1,408.82	Total harvests for the crop
Nutrient balance	38.03	-19.13	-84.21	1,593.00	1 <i>harvests</i>
Applied to removed ratio	1.18	0.63	0.74	2.13	

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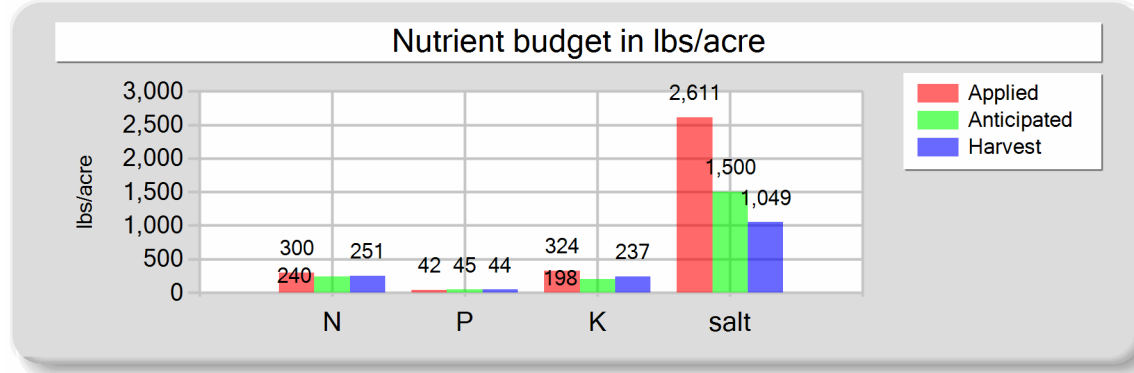
Reporting period 01/01/2023 to 12/31/2023.

W2 - 06/07/2023: Corn, silage

Field name: W2

Crop: Corn, silage

Plant date: 06/07/2023



	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	287.94	41.60	323.78	1,427.92
Fresh water	5.46	0.00	0.00	1,182.59
Atmospheric deposition	7.00	0.00	0.00	0.00
Total nutrients applied	300.39	41.60	323.78	2,610.51
Anticipated crop nutrient removal	240.00	45.00	198.00	1,500.00
Actual crop nutrient removal	250.72	44.04	237.16	1,048.60
Nutrient balance	49.68	-2.44	86.62	1,561.91
Applied to removed ratio	1.20	0.94	1.37	2.49

Fresh water applied
68,675,763.00 <i>gallons</i>
2,529.09 <i>acre-inches</i>
40.14 <i>inches/acre</i>

Process wastewater applied
4,436,218.00 <i>gallons</i>
163.37 <i>acre-inches</i>
2.59 <i>inches/acre</i>

Total harvests for the crop
1 <i>harvests</i>

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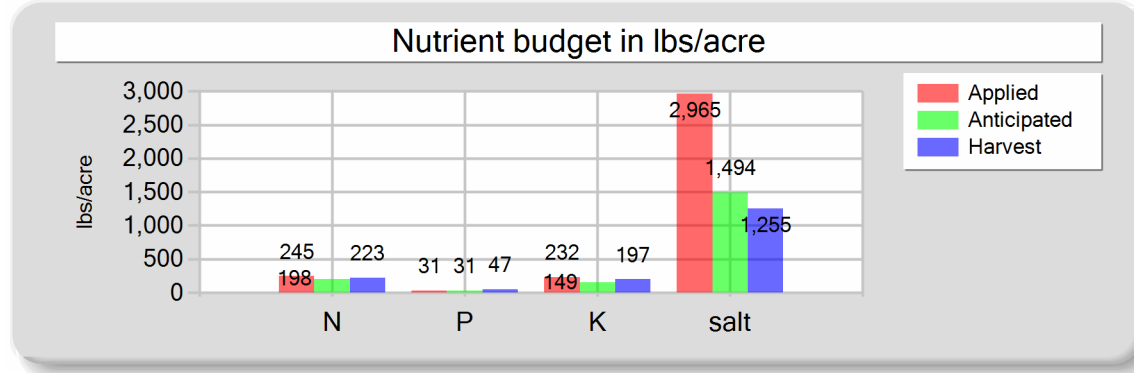
Reporting period 01/01/2023 to 12/31/2023.

W3 - 11/17/2022: Wheat, silage, soft dough

Field name: W3

Crop: Wheat, silage, soft dough

Plant date: 11/17/2022



	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	30,813,550.00 <i>gallons</i>
Plowdown credit	0.00	0.00	0.00	0.00	1,134.76 <i>acre-inches</i>
Commercial fertilizer / Other	0.00	0.00	0.00	0.00	13.04 <i>inches/acre</i>
Dry manure	0.00	0.00	0.00	0.00	
Process wastewater	236.01	31.46	232.07	2,580.45	Process wastewater applied
Fresh water	1.77	0.00	0.00	384.23	5,482,568.00 <i>gallons</i>
Atmospheric deposition	7.00	0.00	0.00	0.00	201.90 <i>acre-inches</i>
Total nutrients applied	244.79	31.46	232.07	2,964.68	2.32 <i>inches/acre</i>
Anticipated crop nutrient removal	198.00	30.60	149.40	1,494.00	
Actual crop nutrient removal	222.89	46.92	196.82	1,255.22	Total harvests for the crop
Nutrient balance	21.90	-15.46	35.25	1,709.46	1 <i>harvests</i>
Applied to removed ratio	1.10	0.67	1.18	2.36	

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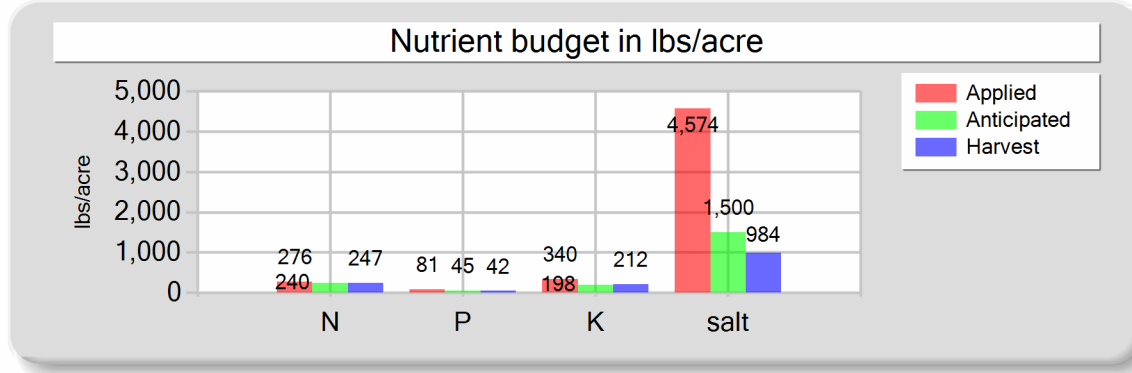
Reporting period 01/01/2023 to 12/31/2023.

W3 - 06/13/2023: Corn, silage

Field name: W3

Crop: Corn, silage

Plant date: 06/13/2023



	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	88,467,015.00 <i>gallons</i>
Plowdown credit	0.00	0.00	0.00	0.00	3,257.94 <i>acre-inches</i>
Commercial fertilizer / Other	0.00	0.00	0.00	0.00	37.45 <i>inches/acre</i>
Dry manure	158.82	66.11	221.71	2,950.72	
Process wastewater	104.98	15.17	118.04	520.59	
Fresh water	5.09	0.00	0.00	1,103.14	
Atmospheric deposition	7.00	0.00	0.00	0.00	
Total nutrients applied	275.89	81.28	339.75	4,574.45	
Anticipated crop nutrient removal	240.00	45.00	198.00	1,500.00	
Actual crop nutrient removal	247.43	41.55	211.54	984.06	
Nutrient balance	28.46	39.72	128.21	3,590.39	
Applied to removed ratio	1.12	1.96	1.61	4.65	
					Process wastewater applied
					2,233,487.00 <i>gallons</i>
					82.25 <i>acre-inches</i>
					0.95 <i>inches/acre</i>
					Total harvests for the crop
					1 <i>harvests</i>

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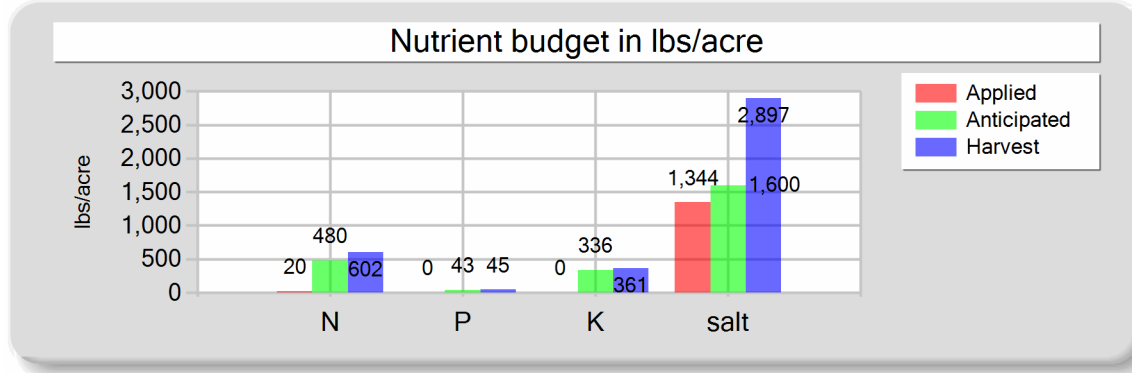
Reporting period 01/01/2023 to 12/31/2023.

W4 - 11/09/2018: Alfalfa, hay

Field name: W4

Crop: Alfalfa, hay

Plant date: 11/09/2018



	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	60,709,801.00 <i>gallons</i>
Plowdown credit	0.00	0.00	0.00	0.00	2,235.74 <i>acre-inches</i>
Commercial fertilizer / Other	0.00	0.00	0.00	0.00	45.63 <i>inches/acre</i>
Dry manure	0.00	0.00	0.00	0.00	
Process wastewater	0.00	0.00	0.00	0.00	
Fresh water	6.20	0.00	0.00	1,344.10	
Atmospheric deposition	14.00	0.00	0.00	0.00	
Total nutrients applied	20.20	0.00	0.00	1,344.10	
Anticipated crop nutrient removal	480.00	43.20	336.00	1,600.00	
Actual crop nutrient removal	601.86	44.80	361.41	2,897.28	
Nutrient balance	-581.65	-44.80	-361.41	-1,553.17	
Applied to removed ratio	0.03	0.00	0.00	0.46	
					Process wastewater applied
					0.00 <i>gallons</i>
					0.00 <i>acre-inches</i>
					0.00 <i>inches/acre</i>
					Total harvests for the crop
					1 <i>harvests</i>

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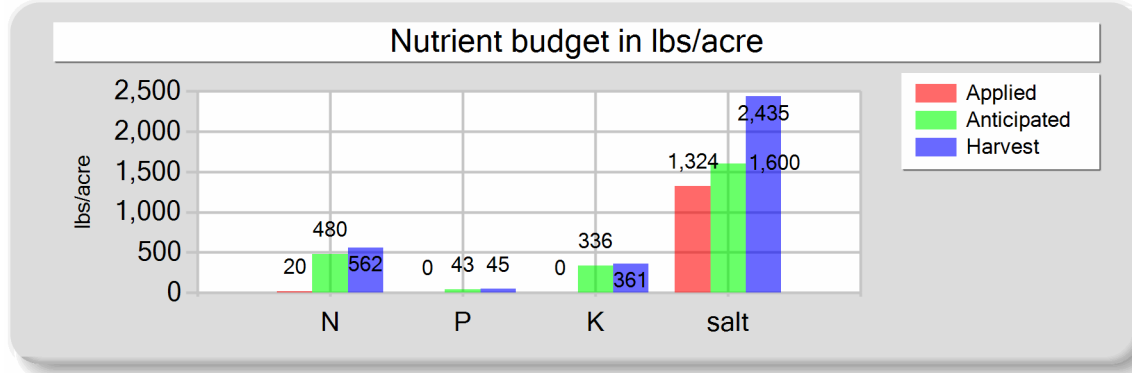
Reporting period 01/01/2023 to 12/31/2023.

W5 - 11/01/2021: Alfalfa, hay

Field name: W5

Crop: Alfalfa, hay

Plant date: 11/01/2021



	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	6.11	0.00	0.00	1,323.61
Atmospheric deposition	14.00	0.00	0.00	0.00
Total nutrients applied	20.11	0.00	0.00	1,323.61
Anticipated crop nutrient removal	480.00	43.20	336.00	1,600.00
Actual crop nutrient removal	562.08	45.09	360.70	2,434.69
Nutrient balance	-541.97	-45.09	-360.70	-1,111.09
Applied to removed ratio	0.04	0.00	0.00	0.54

Fresh water applied
64,664,454.00 <i>gallons</i>
2,381.37 <i>acre-inches</i>
44.93 <i>inches/acre</i>

Process wastewater applied
0.00 <i>gallons</i>
0.00 <i>acre-inches</i>
0.00 <i>inches/acre</i>

Total harvests for the crop
1 <i>harvests</i>

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NUTRIENT ANALYSES

A. MANURE ANALYSES

Manure

Sample and source description: Manure

Sample date: 05/01/2023 Material type: Corral solids Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 16.5 %

	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	19,700.00	8,200.00	27,500.00							
DL	100.00	200.00	200.00							

Manure

Sample and source description: Manure

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

Moisture: 23.7 %

	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	22,500.00	8,400.00	25,400.00							
DL	100.00	200.00	200.00							

B. PROCESS WASTEWATER ANALYSES

Lagoon

Sample and source description: Lagoon

Sample date: 11/18/2022 Material type: Process wastewater Source of analysis: Lab analysis pH: _____

	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	426.00	343.00	0.00	0.00	45.40	396.00								7,650.00	5,080
DL	10.00	2.00	0.10	0.10	0.20	0.50								100.00	10

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Lagoon

Sample and source description: LagoonSample date: 02/21/2023 Material type: Process wastewater Source of analysis: Lab analysis pH: 7.30

	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	505.00	337.00	0.00	0.00	95.40	553.00								6,750.00	4,480
DL	10.00	2.00	0.10	0.10	0.20	0.50								100.00	10

Lagoon

Sample and source description: LagoonSample date: 05/01/2023 Material type: Process wastewater Source of analysis: Lab analysis pH: _____

	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	490.00	466.00	0.00	0.00	70.80	551.00								3,660.00	2,430
DL	10.00	2.00	0.10	0.10	0.20	0.50								100.00	10

Lagoon

Sample and source description: LagoonSample date: 08/02/2023 Material type: Process wastewater Source of analysis: Lab analysis pH: _____

	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	354.00	304.00	0.00	0.00	212.00	397.00								4,410.00	2,930
DL	10.00	2.00	0.10	0.10	0.20	0.50								100.00	10

Lagoon

Sample and source description: LagoonSample date: 11/10/2023 Material type: Process wastewater Source of analysis: Lab analysis pH: _____

	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	478.00	473.00	0.00	0.00	37.00	422.00								6,830.00	4,540
DL	10.00	2.00	1.00	1.00	0.20	0.50								100.00	10

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C. FRESH WATER ANALYSES

1 (old)

Irrigation Well

Sample description: Irrigation Well

Sample date: 08/31/2023 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	1.70	0.00	1.70								393.00	220
DL	0.50	0.10	0.40								1.00	20

Semi Tropic ID

Canal Water (Semi Tropic)

Sample description: Canal Water (Semi Tropic)

Sample date: 07/18/2023 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	0.60	0.00	0.60								204.00	130
DL	0.50	0.10	0.20								1.00	20

West Barn Well

Domestic Well

Sample description: Domestic Well

Sample date: 11/30/2023 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	6.60	0.00	6.60	45.00	0.00	124.00	30.00	0.00	62.20	140.00	941.00	740
DL	0.10	0.10	0.10	1.00	1.00	1.00	10.00	10.00	0.17	2.00	1.00	20

D. SOIL ANALYSES

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

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

No soil analyses entered.

E. PLANT TISSUE ANALYSES

A1 - 11/12/2022: Wheat, silage, soft dough

WheatSample and source description: WheatSample date: 05/14/2023 Source of analysis: Lab analysis Method of reporting: Dry-weightMoisture: 67.5 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	18,200.00	3,500.00	17,200.00		9.68
DL	500.00	200.00	200.00		0.05

A2 - 11/11/2022: Wheat, silage, soft dough

WheatSample and source description: WheatSample date: 05/13/2023 Source of analysis: Lab analysis Method of reporting: Dry-weightMoisture: 68.0 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	17,700.00	3,800.00	18,000.00		9.88
DL	500.00	200.00	200.00		0.05

A3 - 11/11/2022: Wheat, silage, soft dough

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

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

A3 - 11/11/2022: Wheat, silage, soft dough

Wheat

Sample and source description: Wheat

Sample date: 05/13/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 67.9 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	18,000.00	3,700.00	15,800.00		10.10
DL	500.00	200.00	200.00		0.05

A3 - 05/28/2023: Sorghum-Sudangrass, forage

Sordan

Sample and source description: Sordan

Sample date: 11/05/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 76.3 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	19,800.00	4,200.00	31,500.00		13.80
DL	500.00	200.00	200.00		0.05

E1 - 06/15/2023: Corn, silage

Corn

Sample and source description: Corn

Sample date: 10/04/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 67.2 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	12,700.00	2,000.00	14,000.00		5.74
DL	500.00	200.00	200.00		0.05

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

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

E10 - 11/15/2022: Wheat, silage, soft dough

WheatSample and source description: WheatSample date: 05/12/2023 Source of analysis: Lab analysis Method of reporting: Dry-weightMoisture: 63.8 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	16,500.00	2,600.00	12,200.00		8.14
DL	500.00	200.00	200.00		0.05

E10 - 06/08/2023: Corn, silage

CornSample and source description: CornSample date: 09/21/2023 Source of analysis: Lab analysis Method of reporting: Dry-weightMoisture: 72.5 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	14,900.00	2,800.00	13,700.00		6.06
DL	500.00	200.00	200.00		0.05

E11 - 11/14/2022: Wheat, silage, soft dough

WheatSample and source description: WheatSample date: 05/11/2023 Source of analysis: Lab analysis Method of reporting: Dry-weightMoisture: 68.6 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	15,700.00	2,400.00	9,100.00		7.15
DL	500.00	200.00	200.00		0.05

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

E11 - 06/10/2023: Corn, silage

Corn

Sample and source description: Corn

Sample date: 09/04/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 69.1 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	14,800.00	2,700.00	11,500.00		5.29
DL	500.00	200.00	200.00		0.05

E4 - 11/18/2022: Wheat, silage, soft dough

Wheat

Sample and source description: Wheat

Sample date: 05/12/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 69.3 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	17,800.00	2,300.00	9,300.00		6.78
DL	500.00	200.00	200.00		0.05

E4 - 06/07/2023: Corn, silage

Corn

Sample and source description: Corn

Sample date: 09/04/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 67.1 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	11,600.00	2,900.00	11,000.00		5.04
DL	500.00	200.00	200.00		0.05

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

E7 - 11/14/2022: Wheat, silage, soft dough

Wheat

Sample and source description: Wheat

Sample date: 05/12/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 60.8 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	15,500.00	2,300.00	10,900.00		6.76
DL	500.00	200.00	200.00		0.05

E7 - 06/05/2023: Corn, silage

Corn

Sample and source description: Corn

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

Moisture: 70.3 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	13,100.00	2,300.00	12,200.00		6.13
DL	500.00	200.00	200.00		0.05

E8 - 11/13/2022: Wheat, silage, soft dough

Wheat

Sample and source description: Wheat

Sample date: 05/11/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 68.3 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	16,500.00	2,400.00	8,500.00		6.45
DL	500.00	200.00	200.00		0.05

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

E8 - 06/10/2023: Corn, silage

CornSample and source description: CornSample date: 09/10/2023 Source of analysis: Lab analysis Method of reporting: Dry-weightMoisture: 64.2 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	11,300.00	2,400.00	12,500.00		6.30
DL	500.00	200.00	200.00		0.05

E9 - 11/23/2018: Alfalfa, hay

AlfalfaSample and source description: AlfalfaSample date: 11/07/2023 Source of analysis: Lab analysis Method of reporting: Dry-weightMoisture: 10.6 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	36,100.00	2,800.00	22,800.00		18.80
DL	500.00	200.00	200.00		0.05

VL1 - 03/01/2023: Alfalfa, hay

AlfalfaSample and source description: AlfalfaSample date: 11/07/2023 Source of analysis: Lab analysis Method of reporting: Dry-weightMoisture: 10.8 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	37,000.00	3,100.00	20,800.00		22.10
DL	500.00	200.00	200.00		0.05

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

VL2 - 03/01/2023: Alfalfa, hay

AlfalfaSample and source description: AlfalfaSample date: 11/07/2023 Source of analysis: Lab analysis Method of reporting: Dry-weightMoisture: 10.6 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	38,100.00	3,000.00	24,600.00		15.30
DL	500.00	200.00	200.00		0.05

VL3 - 11/10/2022: Wheat, silage, soft dough

WheatSample and source description: WheatSample date: 05/14/2023 Source of analysis: Lab analysis Method of reporting: Dry-weightMoisture: 65.1 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	16,600.00	3,600.00	17,500.00		9.89
DL	500.00	200.00	200.00		0.05

VL3 - 06/11/2023: Corn, silage

CornSample and source description: CornSample date: 09/28/2023 Source of analysis: Lab analysis Method of reporting: Dry-weightMoisture: 65.4 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	11,800.00	2,400.00	14,000.00		6.22
DL	500.00	200.00	200.00		0.05

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

VL4 - 11/11/2022: Wheat, silage, soft dough

Wheat

Sample and source description: Wheat

Sample date: 05/14/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 65.8 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	18,000.00	3,500.00	16,500.00		9.55
DL	500.00	200.00	200.00		0.05

VL4 - 06/09/2023: Corn, silage

Corn

Sample and source description: Corn

Sample date: 10/14/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 71.4 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	14,500.00	2,700.00	14,500.00		6.02
DL	500.00	200.00	200.00		0.05

W2 - 11/12/2022: Wheat, silage, soft dough

Wheat

Sample and source description: Wheat

Sample date: 05/15/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 69.4 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	18,600.00	4,600.00	28,500.00		12.60
DL	500.00	200.00	200.00		0.05

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

W2 - 06/07/2023: Corn, silage

Corn

Sample and source description: Corn

Sample date: 09/27/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 71.9 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	14,800.00	2,600.00	14,000.00		6.19
DL	500.00	200.00	200.00		0.05

W3 - 11/17/2022: Wheat, silage, soft dough

Wheat

Sample and source description: Wheat

Sample date: 05/15/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 64.0 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	17,100.00	3,600.00	15,100.00		9.63
DL	500.00	200.00	200.00		0.05

W3 - 06/13/2023: Corn, silage

Corn

Sample and source description: Corn

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

Moisture: 68.7 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	13,100.00	2,200.00	11,200.00		5.21
DL	500.00	200.00	200.00		0.05

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

W4 - 11/09/2018: Alfalfa, hay

AlfalfaSample and source description: AlfalfaSample date: 11/07/2023 Source of analysis: Lab analysis Method of reporting: Dry-weightMoisture: 10.1 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	40,300.00	3,000.00	24,200.00		19.40
DL	500.00	200.00	200.00		0.05

W5 - 11/01/2021: Alfalfa, hay

AlfalfaSample and source description: AlfalfaSample date: 11/07/2023 Source of analysis: Lab analysis Method of reporting: Dry-weightMoisture: 10.3 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	37,400.00	3,000.00	24,000.00		16.20
DL	500.00	200.00	200.00		0.05

F. SUBSURFACE (TILE) DRAINAGE ANALYSES*No subsurface (tile) drainage analyses entered.*

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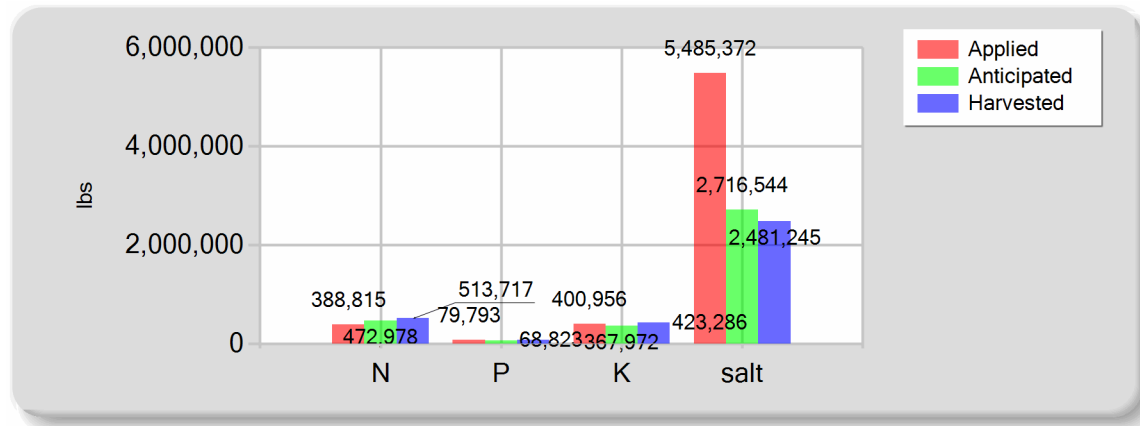
Reporting period 01/01/2023 to 12/31/2023.

NUTRIENT APPLICATIONS, POTENTIAL REMOVAL, AND BALANCE

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

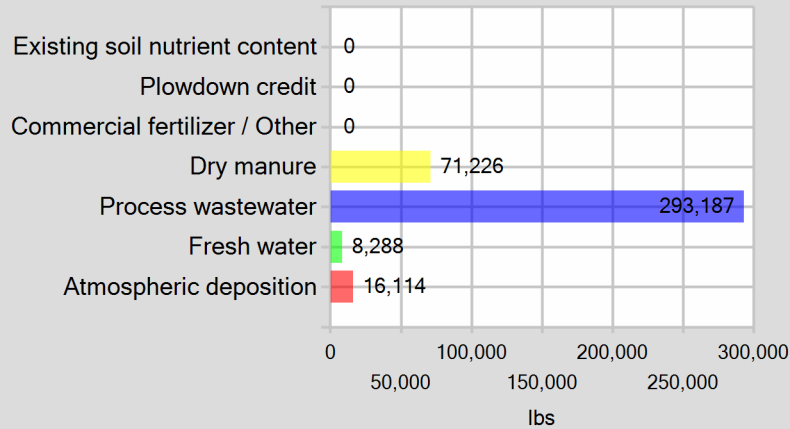
	Total N (lbs)	Total P (lbs)	Total K (lbs)	Total salt (lbs)
Existing soil nutrient content	0.00	0.00	0.00	0.00
Plowdown credit	0.00	0.00	0.00	0.00
Commercial fertilizer / Other	0.00	0.00	0.00	0.00
Dry manure	71,226.34	29,647.51	99,427.63	1,224,093.30
Process wastewater	293,186.68	50,145.95	301,528.36	2,631,141.14
Fresh water	8,288.31	0.00	0.00	1,630,137.34
Atmospheric deposition	16,114.00	0.00	0.00	0.00
Total nutrients applied	388,815.32	79,793.46	400,955.99	5,485,371.78
Anticipated crop nutrient removal	472,977.60	68,822.80	367,972.00	2,716,544.00
Actual crop nutrient removal	513,716.74	77,268.75	423,285.71	2,481,245.36
Nutrient balance	-124,901.42	2,524.72	-22,329.72	3,004,126.42
Applied to removed ratio	0.76	1.03	0.95	2.21

B. POUNDS OF NUTRIENT APPLIED VS. CROP REMOVAL

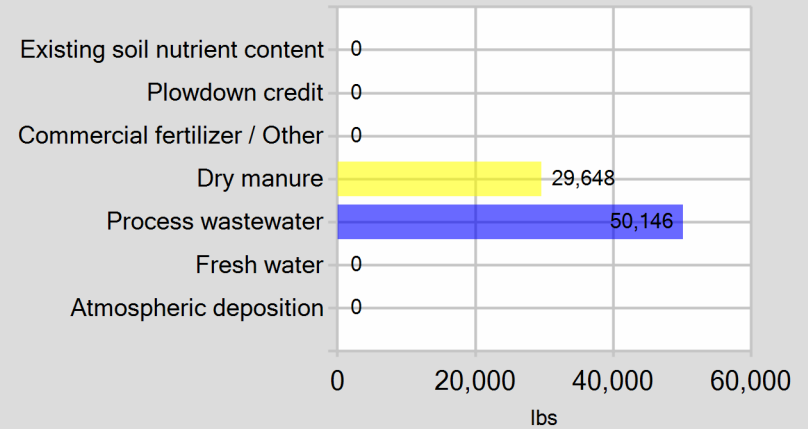


C. POUNDS OF NUTRIENT APPLIED BY MATERIAL TYPE

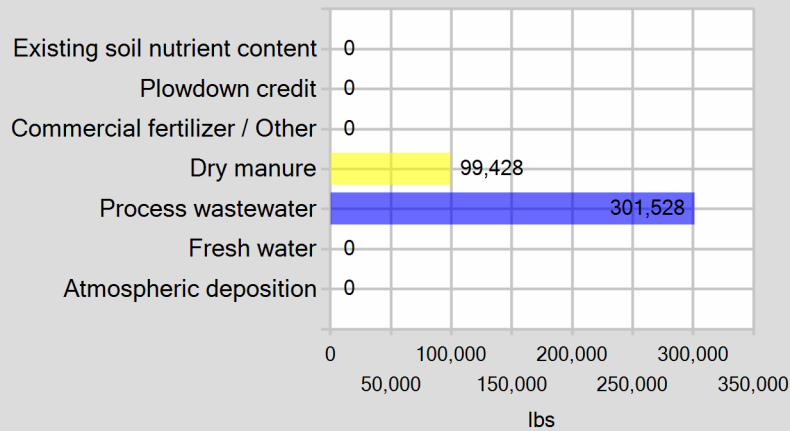
Pounds of nitrogen applied



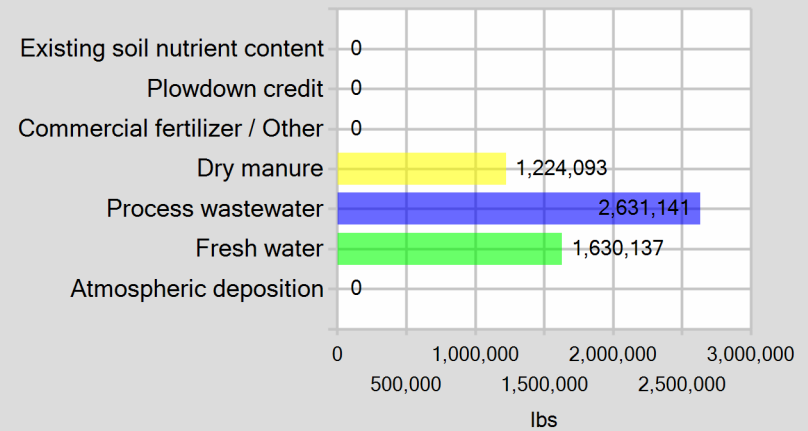
Pounds of phosphorus applied



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? Yes

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? No

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

ADDITIONAL NOTES

A. NOTES

~Wells 1, 2, 2(old), 5, 6, 7, 12, 13, 16, 18, W7, East Barn Well, E11 Dom, and VL1 Dom were Out of Service in 2023.

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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

SIGNATURE OF OPERATOR OF FACILITY

Avalon Dairy Farms, LLC

SAME AS OWNER

PRINT OR TYPE NAME

PRINT OR TYPE NAME

DATE

DATE

6/11/24

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.

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.

ATTACHMENT D

Manure/Process Wastewater Tracking Manifest For Existing Milk Cow Dairies

Instructions:

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

Operator Information:

Name of Operator: _____

Name of Dairy Facility: AVALON DAIRY

Facility Address: 27225 POND RD WAXO 97240
Number and Street City Zip Code

Contact Person Name and Phone Number: _____ 562-231-4503
Name Phone Number

Manure/Process Wastewater Hauler Information:

Name of Hauling Company/Person: BRIDGEMAN AC SERVICES INC.

Address of Hauling Company /Person: P.O. Box 20845 PLAZA 93390
Number and Street City Zip Code

Contact Person: FRANK AMINEM 661-978-9321
Name Phone Number

Destination Information:

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

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

AG NOW 944-1300 AG NOW PLAZA 93211 661-462-4669
Name Number and Street City Zip Code Phone Number

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

Number and Street City Zip Code Assessor's Parcel Number

Dates Hauled: 10/13 - 12/31/23

Amount Hauled:

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

Manure: 9370.24 Tons or Cubic Yards (indicate which units used)

Manure Solids Content (if amount reported in tons): 73%

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

Method used to determine amount of manure: DM

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

Process Wastewater: _____ Gallons

Method used to determine volume of process wastewater: _____

Written Agreement:

Does the Operator have a written agreement (in compliance with Land Application Specification C.2 of Waste Discharge Requirements General Order No. R5-2007-0035) with any party that receives process wastewater from the Operator for its own use? (please check one)

☐ Yes ☐ No

If the answer is no, the Operator agrees to have such a written agreement with any such party for any process wastewater transferred after **31 December 2007** to such party.

_____ (Operator shall provide initials here to acknowledge this requirement).

Certification:

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

Operator's Signature: _____

Date: 6/11/24

Hauler's Signature: _____

Date: 6/14/24

September 22, 2023

Sentry Ag Services
 Attn: Monique Baldiviez
 P.O. Box 7750
 Visalia, CA 93290

Lab No. : VI 2345836
Customer No. : 4019696
Reference : 3142

Laboratory Report

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

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

Case Narrative

This Case Narrative pertains to the following samples:

Sample Description	Date Sampled	Date Received	FGL Lab No.	Matrix
1 Old	08/31/2023	08/31/2023	VI 2345836-001	AGW

Sampling and Receipt Information:

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

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

Test Summary

EPA 351.2	Preparation and analysis performed by FGL-Santa Paula (FGL-SP ELAP# 1573)
SM 2510 B	Preparation and analysis performed by FGL-Santa Paula (FGL-SP ELAP# 1573)
SM 2540 C	Preparation and analysis performed by FGL-Santa Paula (FGL-SP ELAP# 1573)
SM 4500-NO3 F	Preparation and analysis performed by FGL-Santa Paula (FGL-SP ELAP# 1573)

Discussion of Analytical Results:

VI 2345836-1 The nitrite-N result used to calculate nitrate-N was performed past holding time.

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

KD: EHB

Approved By **Kelly A. Dunnahoo, B.S.**



Digitally signed by Kelly A. Dunnahoo, B.S.
 Title: Laboratory Director
 Date: 2023-09-22

September 22, 2023

Sentry Ag Services

Attn: Monique Baldiviez
 P.O. Box 7750
 Visalia, CA 93290

Description : 1 Old
 Project : Avalon

Lab No. : VI 2345836-001
 Customer No. : 4019696
 Reference : 3142
 Sampled On : August 31, 2023 at 09:40
 Sampled By : Klay
 Received On : August 31, 2023 at 15:17
 Matrix : Ag Water

Sample Results - Inorganic

Constituent	Result	RL	Units	Note	Dil.	DQF	Sample Preparation			Sample Analysis			
Dairy Analysis							Date	Time	Who	Method	Date	Time	Who
Nitrogen, Total Kjeldahl	ND	0.5	mg/L		1	UI	09/12/2023	09:41	sta	EPA 351.2	09/13/2023	17:44	lcr
Nitrate Nitrogen	1.7	0.4	mg/L		1		09/15/2023	13:00	lfs	SM 4500-NO3 F	09/15/2023	16:34	lfs
Nitrogen, Total as Nitrogen	1.7	0.5	mg/L		1	1	09/12/2023	09:41	sta	Calc.	09/13/2023	17:44	lcr
Nitrate + Nitrite as N	1.7	0.4	mg/L		1		09/15/2023	13:00	lfs	SM 4500-NO3 F	09/15/2023	16:34	lfs
Kjeldahl Nitrogen	ND	0.5	mg/L		1	UI	09/12/2023	09:41	sta	EPA 351.2	09/13/2023	17:44	lcr
Conductivity	393	1	umhos/cm		1		09/15/2023	13:21	krh	SM 2510 B	09/15/2023	13:45	krh
Solids, Total Dissolved (TDS)	220	20	mg/L		1		09/05/2023	12:45	ctl	SM 2540 C	09/06/2023	11:00	ctl

DQF Flags Definition:

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

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

Corporate Offices & Laboratory

853 Corporation Street
 Santa Paula, CA 93060
 TEL: (805)392-2000
 Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
 CA ELAP Certification No. 1573

Office & Laboratory

2500 Stagecoach Road
 Stockton, CA 95215
 TEL: (209)942-0182
 FAX: (209)942-0423
 CA ELAP Certification No. 1563

Office & Laboratory

563 E. Lindo Avenue
 Chico, CA 95926
 TEL: (530)343-5818
 FAX: (530)343-3807
 CA ELAP Certification No. 2670

Office & Laboratory

3442 Empresa Drive, Suite D
 San Luis Obispo, CA 93401
 TEL: (805)783-2940
 FAX: (805)783-2912
 CA ELAP Certification No. 2775

Office & Laboratory

9415 W. Goshen Avenue
 Visalia, CA 93291
 TEL: (559)734-9473
 FAX: (559)734-8435
 CA ELAP Certification No. 2810

September 22, 2023
Sentry Ag Service

Lab No. : VI 2345836
Customer No. : 4019696

Quality Control - Wet Chem

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Wet Chem								
E. C.	2510B	09/15/2023:210398KRH (VI 2345861-001)	Blank Dup	umhos/cm umhos/cm		ND 0.2%	<1 5	
Solids, Total Dissolved	2540CE	09/05/2023:209936CTL (CH 2377291-007) (CH 2377291-007)	Blank LCS Dup Dup	mg/L mg/L mg/L mg/L	991.5	ND 97.1% 0.6% 0.2%	<20 90-110 5 5	
Nitrogen, Total Kjeldahl	351.2	09/12/2023:210201STA (CH 2377291-007) (CH 2377291-009)	Blank LCS MS MSD MSRPD MS MSD MSRPD	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	12.00 12.00 12.00	ND 93.2% 88.4% 88.0% 0.4% 91.8% 85.4% 6.3%	<0.5 73-124 90-110 90-110 ≤20 90-110 90-110 ≤20	435 435
Nitrate + Nitrite as N	4500NO3F	09/15/2023:210406LFS (STK2352536-001)	Blank LCS MS MSD MSRPD	mg/L mg/L mg/L mg/L mg/L	11.22 5.609 5.609	ND 95.0% 93.0% 92.3% 0.8%	<0.4 80-120 66-125 66-125 ≤30.4	
Nitrate Nitrogen	4500NO3F	09/15/2023:210406LFS (STK2352536-001)	Blank LCS MS MSD MSRPD	mg/L mg/L mg/L mg/L mg/L	11.22 5.609 5.609	ND 95.0% 93.0% 92.3% 0.8%	<0.4 80-120 66-125 66-125 ≤30.4	

Definition

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

Explanation

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



Laboratory Analysis Work Order

3142

SITE NAME:

Avalon

2345836

LABORATORY: VT

FGL 4-19696

Billing:

Sentry Ag Services, LLC

P.O. Box 7750, Visalia, CA 93290

Authorized Copy Release to:

labs@sentryagservices.com

ANALYSIS TO BE COMPLETED

Irrigation/Ground Water (ELAP Standards)

- W1 EC, NO₃N (Dom)
W2 EC, NO₃N, TDS, TN (Irr)
W3 NH₄-N (Ammonium)
W4 EC, NO₃N, Ca, Mg, Na, HCO₃, CO₃, SO₄S, Cl, TDS (Dom, GM)
W5 EC, NO₃N, TDS, TN, Ca, Mg, Na, HCO₃, CO₃, SO₄S, Cl (Irr, GM)
W6 NO₃N, NO₂ (Dom ILRP, Annually)
W7 Ca, Mg, Na, K, HCO₃, CO₃, SO₄, Cl + Lab Filtering (GWM)
W8 Other: _____

Plant Tissue

- P1 TN, NO₃N, PO₄P, K (Mid Season - Wheat)
P2 TN, P, K (Mid-season - Corn)
P3 TN, TP, TK, Ash, %M (At Harvest)
P4 TN, %M
P5 % Moisture
P6 NIR
P7 Other: _____

Process Waste Water (lagoon)

- L1 EC, NH₄N, TKN, TP, TK, TDS (Quarterly)
L2 EC, NO₃N, NH₄N, TKN, TP, TK, TDS, pH (Annually)
L3 Ca, Mg, Na, HCO₃, CO₃, SO₄S, Cl (Biennially)
L4 Other: _____

Manure

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

Soil

- S1 SP%, pH, EC, Ca, Mg, Na, K, ESP, LP, B, NO₃N, PO₄P, K-AA, Zn, Mn, Fe, Cu, SO₄S
S2 S1 + CEC, CaCO₃, OM, C:N, TN
S3 NO₃N, NH₄N
S4 Other: _____

	Sample ID	Description	Analysis	Date/Time	Sampled by	SAS USE ONLY: FIELD TESTS		
						NH ₃ N *	pH	Temp
1	1 old	Irr. Well	W2	8/31/23 9:40	Klay	—		
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								

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

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

NOTES:

CHAIN OF CUSTODY RECORDING

	Signature	Company	Received Date & Time	Relinquished Date & Time
1 st	<u>[Signature]</u>	SAS		8/31/23 15:17
2 nd	SRO	FGL	8-31-23 1517	
3 rd	SRO	FGL		8-31-23 1730
4 th		GILS	8-31-23 1730	

LABORATORY USE ONLY

Logged In By:

GILS
CDA

9/1/23
1235

Total Samples: _____

Laboratory No.: _____

-R01
5.7°C

ID# 10 TH407

CH VI

- ID# T71407

- 560050773 / 66

- re

August 11, 2023

Sentry Ag Services
 Attn: Monique Baldiviez
 P.O. Box 7750
 Visalia, CA 93290

Lab No. : VI 2344660
Customer No. : 4019696
Reference : 3057

Laboratory Report

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

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

Case Narrative

This Case Narrative pertains to the following samples:

Sample Description	Date Sampled	Date Received	FGL Lab No.	Matrix
Semi Tropic ID	07/18/2023	07/18/2023	VI 2344660-001	AGW

Sampling and Receipt Information:

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

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

Test Summary

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

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

KD: EHB

Approved By **Kelly A. Dunnahoo, B.S.**



Digitally signed by Kelly A. Dunnahoo, B.S.
 Title: Laboratory Director
 Date: 2023-08-14

August 11, 2023

Sentry Ag Services

Attn: Monique Baldiviez
 P.O. Box 7750
 Visalia, CA 93290

Description : Semi Tropic ID
 Project : Semi Tropic ID

Lab No. : VI 2344660-001
 Customer No. : 4019696
 Reference : 3057
 Sampled On : July 18, 2023 at 08:30
 Sampled By : Klay
 Received On : July 18, 2023 at 15:17
 Matrix : Ag Water

Sample Results - Inorganic

Constituent	Result	RL	Units	Note	Dil.	DQF	Sample Preparation			Sample Analysis			
Dairy Analysis							Date	Time	Who	Method	Date	Time	Who
Nitrogen, Total Kjeldahl	0.6	0.5	mg/L		1		08/08/2023	08:55	sta	EPA 351.2	08/10/2023	17:40	lcr
Nitrate Nitrogen	ND	0.4	mg/L		1	U	07/19/2023	12:15	lfs	SM 4500-NO3 F	07/19/2023	15:06	lfs
Nitrogen, Total as Nitrogen	0.6	0.5	mg/L		1		08/08/2023	08:55	sta	Calc.	08/10/2023	17:40	lcr
Nitrate + Nitrite as N	ND	0.4	mg/L		1	U	07/19/2023	12:15	lfs	SM 4500-NO3 F	07/19/2023	15:06	lfs
Kjeldahl Nitrogen	0.6	0.5	mg/L		1		08/08/2023	08:55	sta	EPA 351.2	08/10/2023	17:40	lcr
Conductivity	204	1	umhos/cm		1		07/31/2023	17:05	amm	SM 4500-H+B	07/31/2023	20:34	amm
Solids, Total Dissolved (TDS)	130	20	mg/L		1		07/21/2023	09:30	ctl	SM 2540 C	07/24/2023	11:00	ctl

DQF Flags Definition:

U Constituent results were non-detect.

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

Corporate Offices & Laboratory

853 Corporation Street
 Santa Paula, CA 93060
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 CA ELAP Certification No. 1563

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 FAX: (530)343-3807
 CA ELAP Certification No. 2670

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 FAX: (805)783-2912
 CA ELAP Certification No. 2775

Office & Laboratory

9415 W. Goshen Avenue
 Visalia, CA 93291
 TEL: (559)734-9473
 FAX: (559)734-8435
 CA ELAP Certification No. 2810

August 11, 2023
Sentry Ag Service

Lab No. : VI 2344660
Customer No. : 4019696

Quality Control - Wet Chem

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Wet Chem								
E. C.	2320B	(VI 2344710-008)	Dup	umhos/cm		0.3%	5	
Solids, Total Dissolved	2540CE	07/21/2023:207986CTL (SP 2312256-003) (SP 2312256-003)	Blank	mg/L	991.5	ND	<20	
			LCS	mg/L		101%	90-110	
			Dup	mg/L		0.2%	5	
			Dup	mg/L		3.10%	5	
Nitrogen, Total Kjeldahl	351.2	08/08/2023:208707STA (VI 2344654-002) (VI 2344644-003)	Blank	mg/L	12.00	ND	<0.5	
			LCS	mg/L		91.3%	73-124	
			MS	mg/L		85.5%	54-136	
			MSD	mg/L		85.3%	54-136	
			MSRPD	mg/L		0.3%	≤27	
			MS	mg/L		82.8%	54-136	
			MSD	mg/L		82.5%	54-136	
			MSRPD	mg/L		0.3%	≤27	
Nitrate + Nitrite as N	4500NO3F	07/19/2023:207926LFS (STK2339515-001)	Blank	mg/L	11.22	ND	<0.4	
			LCS	mg/L		97.8%	80-120	
			MS	mg/L		91.9%	66-125	
			MSD	mg/L		94.5%	66-125	
			MSRPD	mg/L		1.2%	≤30.4	
Nitrate Nitrogen	4500NO3F	07/19/2023:207926LFS (STK2339515-001)	Blank	mg/L	11.22	ND	<0.4	
			LCS	mg/L		97.8%	80-120	
			MS	mg/L		91.9%	66-125	
			MSD	mg/L		94.5%	66-125	
			MSRPD	mg/L		1.2%	≤30.4	

Definition

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



2344660

Laboratory Analysis Work Order

3057

SITE NAME: Semi Tropic IDLABORATORY: VT | FGL 4-19696Billing: Sentry Ag Services, LLC
P.O. Box 7750, Visalia, CA 93290Authorized Copy Release to:
labs@sentryagservices.com

ANALYSIS TO BE COMPLETED

Irrigation/Ground Water (ELAP Standards)

- W1 EC, NO₃N (Dom)
W2 EC, NO₃N, TDS, TN (Irr)
W3 NH₄-N (Ammonium)
W4 EC, NO₃N, Ca, Mg, Na, HCO₃, CO₃, SO₄S, Cl, TDS (Dom, GM)
W5 EC, NO₃N, TDS, TN, Ca, Mg, Na, HCO₃, CO₃, SO₄S, Cl (Irr, GM)
W6 NO₃N, NO₂ (Dom ILRP, Annually)
W7 Ca, Mg, Na, K, HCO₃, CO₃, SO₄, Cl + Lab Filtering (GWM)
W8 Other: _____

Plant Tissue

- P1 TN, NO₃N, PO₄P, K (Mid Season - Wheat)
P2 TN, P, K (Mid-season - Corn)
P3 TN, TP, TK, Ash, %M (At Harvest)
P4 TN, %M
P5 % Moisture
P6 NIR
P7 Other: _____

Process Waste Water (lagoon)

- L1 EC, NH₄N, TKN, TP, TK, TDS (Quarterly)
L2 EC, NO₃N, NH₄N, TKN, TP, TK, TDS, pH (Annually)
L3 Ca, Mg, Na, HCO₃, CO₃, SO₄S, Cl (Biennially)
L4 Other: _____

Manure

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

Soil

- S1 SP%, pH, EC, Ca, Mg, Na, K, ESP, LP, B, NO₃N, PO₄P, K-AA, Zn, Mn, Fe, Cu, SO₄S
S2 S1 + CEC, CaCO₃, OM, C:N, TN
S3 NO₃N, NH₄N
S4 Other: _____

	Sample ID	Description	Analysis	Date/Time	Sampled by	SAS USE ONLY: FIELD TESTS		
						NH ₃ N *	pH	Temp
1	Semi Tropic ID	Canal H ₂ O	W1	7/18/23 8:30	Klay	-		
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								

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

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

NOTES:

CHAIN OF CUSTODY RECORDING

	Signature	Company	Received Date & Time	Relinquished Date & Time
1 st	Klay	JAS		7/18/23 15:17
2 nd	SRD	FGL	7/18/23 1517	
3 rd	SRD	FGL		7/18/23 1730
4 th		GLS	7/18/23 1730	

LABORATORY USE ONLY

Logged In By: _____ Total Samples: _____ Laboratory No.: _____

ROI GLS 7/19/23
5.3°C MC 1100

Inter-Laboratory Condition Upon Receipt (Attach to COC)

Sample Receipt at: STK CC

CH VI

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

2. Were samples received in a chilled condition? Temps: 201 / 5.3°C / / /
Surface water SWTR bact samples: A sample that has a temperature upon receipt of >10° C, whether iced or not, should be flagged unless the time since sample collection has been less than two hours.

3. Do the number of bottles received agree with the COC? ☒ Yes No N/A

4. Were samples received intact? (i.e. no broken bottles, leaks etc.) ☒ Yes No

5. VOAs checked for Headspace? Yes No ☒ N/A

6. Were sample custody seals intact? Yes No ☒ N/A

7. If required, was sample split for pH analysis? Yes No ☒ N/A

8. Were all analyses within holding times at time of receipt? ☒ Yes No

9. Verify sample date, time and sampler name ☒ Yes No

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

Sample Receipt Review completed by (initials): SRO

Sample Receipt at SP:

1. Were samples received in a chilled condition? Temps: 3C / / / /

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

2. Shipping tracking numbers: 559787246
6815

3. Do the number of bottles received agree with the COC? ☒ Yes No N/A

4. Were samples received intact? (i.e. no broken bottles, leaks etc.) ☒ Yes No

5. Were sample custody seals intact? Yes No ☒ N/A

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

Sample Verification, Labeling and Distribution:

1. Were all requested analyses understood and acceptable? ☒ Yes No

2. Did bottle labels correspond with the client's ID's? ☒ Yes No

3. Were all bottles requiring sample preservation properly preserved? ☒ Yes No N/A FGL
[Exception: Oil & Grease, VOA and CrVI verified in lab]

4. VOAs checked for Headspace? Yes No ☒ N/A

5. Have rush or project due dates been checked and accepted? Yes No ☒ N/A

6. Were all analyses within holding times at time of receipt? ☒ Yes No

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

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

Discrepancy Documentation:

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

1. Person Contacted: _____ Phone Number: _____

Initiated By: _____ Date: _____

Problem: _____

Resolution: _____

2. Person Contacted: _____ Phone Number: _____

Initiated By: _____

Problem: _____

Resolution: _____

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

(4019696)
Sentry Ag Service
VI 2344660

iv 07/19/2023 08:11:16



VI 2344660

December 13, 2023

Sentry Ag Services
 Attn: Monique Baldiviez
 P.O. Box 7750
 Visalia, CA 93290

Lab No. : VI 2348028
Customer No. : 4019696
Reference : 3443

Laboratory Report

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

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

Case Narrative

This Case Narrative pertains to the following samples:

Sample Description	Date Sampled	Date Received	FGL Lab No.	Matrix
West Barn Well	11/30/2023	11/30/2023	VI 2348028-001	DW

Sampling and Receipt Information:

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

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

Test Summary

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

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

KD: JRD

Approved By **Kelly A. Dunnahoo, B.S.**



Digitally signed by Kelly A. Dunnahoo, B.S.
 Title: Laboratory Director
 Date: 2023-12-14

December 13, 2023

Sentry Ag Services

Attn: Monique Baldiviez

P.O. Box 7750

Visalia, CA 93290

Description : West Barn Well

Project : Avalon

Lab No. : VI 2348028-001

Customer No. : 4019696

Reference : 3443

Sampled On : November 30, 2023 at 09:50

Sampled By : Klay

Received On : November 30, 2023 at 13:40

Matrix : Drinking Water

Sample Results - Inorganic

Constituent	Result	RL	Units	MCL/AL	Dil.	DQF	Sample Preparation			Sample Analysis			
Dairy Analysis							Date	Time	Who	Method	Date	Time	Who
Alkalinity (as CaCO ₃)	30	10	mg/L		1		12/03/2023	15:56	amm	SM 4500-H+B	12/04/2023	05:09	amm
Bicarbonate	30	10	mg/L		1		12/03/2023	15:56	amm	SM 4500-H+B	12/04/2023	05:09	amm
Carbonate	ND	10	mg/L		1	U	12/03/2023	15:56	amm	SM 4500-H+B	12/04/2023	05:09	amm
Hydroxide	ND	10	mg/L		1	U	12/03/2023	15:56	amm	SM 4500-H+B	12/04/2023	05:09	amm
Chloride	140	2*	mg/L	500 ²	2		12/01/2023	16:32	ldm	EPA 300.0	12/02/2023	12:36	ldm
Nitrate Nitrogen	6.6	0.1	mg/L	10	1		12/01/2023	16:32	ldm	EPA 300.0	12/01/2023	17:40	ldm
Conductivity	941	1	umhos/cm	1600 ²	1		12/03/2023	15:56	amm	SM 4500-H+B	12/04/2023	05:09	amm
Sulfate Sulfur	62.2	0.17	mg/L		1		12/01/2023	16:32	ldm	EPA 300.0	12/01/2023	17:40	ldm
Solids, Total Dissolved (TDS)	740	20	mg/L	1000 ²	1		12/04/2023	10:45	ctl	SM 2540 C	12/05/2023	11:00	ctl
Calcium	45	1	mg/L		1		12/02/2023	08:13	ejc	EPA 200.7	12/05/2023	15:48	ac
Magnesium	ND	1	mg/L		1	UI	12/02/2023	08:13	ejc	EPA 200.7	12/05/2023	15:48	ac
Potassium	ND	1	mg/L		1	U	12/02/2023	08:13	ejc	EPA 200.7	12/05/2023	15:48	ac
Sodium	124	1	mg/L		1		12/02/2023	08:13	ejc	EPA 200.7	12/05/2023	15:48	ac

DQF Flags Definition:

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

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

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

Corporate Offices & Laboratory

853 Corporation Street
 Santa Paula, CA 93060
 TEL: (805)392-2000
 Env FAX: (805)525-4172 / Ag FAX: (805)392-2063
 CA ELAP Certification No. 1573

Office & Laboratory

2500 Stagecoach Road
 Stockton, CA 95215
 TEL: (209)942-0182
 FAX: (209)942-0423
 CA ELAP Certification No. 1563

Office & Laboratory

563 E. Lindo Avenue
 Chico, CA 95926
 TEL: (530)343-5818
 FAX: (530)343-3807
 CA ELAP Certification No. 2670

Office & Laboratory

3442 Empresa Drive, Suite D
 San Luis Obispo, CA 93401
 TEL: (805)783-2940
 FAX: (805)783-2912
 CA ELAP Certification No. 2775

Office & Laboratory

9415 W. Goshen Avenue
 Visalia, CA 93291
 TEL: (559)734-9473
 FAX: (559)734-8435
 CA ELAP Certification No. 2810

December 13, 2023
Sentry Ag Service

Lab No. : VI 2348028
Customer No. : 4019696

Quality Control - Metals

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Metals								
Calcium	200.7	12/02/2023:213621EJC (SP 2319783-001) (CH 2379819-006)	Blank	mg/L		ND	<1	
			LCS	mg/L	12.00	90.1%	85-115	
			MS	mg/L	12.00	80.7%	75-125	
			MSD	mg/L	12.00	57.1%	<1/4	
			MSRPD	mg/L		2.5%	≤20.0	
			MS	mg/L	12.00	90.6%	75-125	
			MSD	mg/L	12.00	27.0%	<1/4	
			MSRPD	mg/L		7.8%	≤20.0	
Magnesium	200.7	12/02/2023:213621EJC (SP 2319783-001) (CH 2379819-006)	Blank	mg/L		ND	<1	
			LCS	mg/L	12.00	93.9%	85-115	
			MS	mg/L	12.00	89.8%	75-125	
			MSD	mg/L	12.00	89.0%	75-125	
			MSRPD	mg/L		0.3%	≤20	
			MS	mg/L	12.00	91.4%	75-125	
			MSD	mg/L	12.00	57.8%	75-125	435
			MSRPD	mg/L		7.8%	≤20	
Potassium	200.7	12/02/2023:213621EJC (SP 2319783-001) (CH 2379819-006)	Blank	mg/L		ND	<1	
			LCS	mg/L	12.00	89.9%	85-115	
			MS	mg/L	12.00	93.5%	75-125	
			MSD	mg/L	12.00	98.4%	75-125	
			MSRPD	mg/L		4.4%	≤20.0	
			MS	mg/L	12.00	98.3%	75-125	
			MSD	mg/L	12.00	92.5%	75-125	
			MSRPD	mg/L		5.8%	≤20.0	
Sodium	200.7	12/02/2023:213621EJC (SP 2319783-001) (CH 2379819-006)	Blank	mg/L		ND	<1	
			LCS	mg/L	12.00	90.0%	85-115	
			MS	mg/L	12.00	85.7%	75-125	
			MSD	mg/L	12.00	77.5%	75-125	
			MSRPD	mg/L		1.8%	≤20.0	
			MS	mg/L	12.00	84.0%	75-125	
			MSD	mg/L	12.00	28.6%	<1/4	
			MSRPD	mg/L		7.5%	≤20.0	

Definition

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

Explanation

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

Quality Control - Wet Chem

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Wet Chem								
Alkalinity (as CaCO ₃)	2320B	12/03/2023:213630AMM	ND	mg/L		1.42%	10	435
Bicarbonate	2320B	(VI 2347991-001)	Dup	mg/L		1.25%	10	
E. C.	2320B	(VI 2347991-001)	Dup	umhos/cm		0.9%	5	
Solids, Total Dissolved	2540CE	12/04/2023:213647CTL	Blank	mg/L		ND	<20	
		(SP 2319811-001)	LCS	mg/L	991.5	100%	90-110	
		(SP 2319811-001)	Dup	mg/L		0.5%	5	
		(SP 2319811-001)	Dup	mg/L		3.84%	5	
Chloride	300.0	12/01/2023:213676LDM	Blank	mg/L		ND	<1	
			LCS	mg/L	25.00	105%	90-110	
			MS	mg/L	50.00	105%	67-117	
			(CH 2379092-005)	MSD	mg/L	104%	67-117	
			MSRPD	mg/L		0.8%	≤7	
			MS	mg/L	50.00	107%	67-117	
			(SP 2319540-001)	MSD	mg/L	106%	67-117	
			MSRPD	mg/L		0.3%	≤7	
Nitrate Nitrogen	300.0	12/01/2023:213676LDM	Blank	mg/L		ND	<0.4	
			LCS	mg/L	20.00	104%	90-110	
			MS	mg/L	40.00	105%	86-112	
			(CH 2379092-005)	MSD	mg/L	104%	86-112	
			MSRPD	mg/L		1.1%	≤7	
			MS	mg/L	40.00	106%	86-112	
			(SP 2319540-001)	MSD	mg/L	106%	86-112	
			MSRPD	mg/L		0.4%	≤7	
Sulfate Sulfur	300.0	12/01/2023:213676LDM	Blank	mg/L		ND	<0.5	
			LCS	mg/L	50.00	105%	90-110	
			MS	mg/L	100.0	103%	18-165	
			(CH 2379092-005)	MSD	mg/L	102%	18-165	
			MSRPD	mg/L		0.7%	≤7	
			MS	mg/L	100.0	107%	18-165	
			(SP 2319540-001)	MSD	mg/L	107%	18-165	
			MSRPD	mg/L		0.2%	≤7	

Definition

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

Explanation

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



Laboratory Analysis Work Order

2348028

3443

SITE NAME: Avalon

LABORATORY: VT | FGL 4-19696

Billing: Sentry Ag Services, LLC
P.O. Box 7750, Visalia, CA 93290

Authorized Copy Release to:
labs@sentryagservices.com

ANALYSIS TO BE COMPLETED

Irrigation/Ground Water (ELAP Standards)

- W1 EC, NO₃N (Dom)
W2 EC, NO₃N, TDS, TN (Irr)
W3 NH₄-N (Ammonium)
W4 EC, NO₃N, Ca, Mg, Na, HCO₃, CO₃, SO₄S, Cl, TDS (Dom, GM)
W5 EC, NO₃N, TDS, TN, Ca, Mg, Na, HCO₃, CO₃, SO₄S, Cl (Irr, GM)
W6 NO₃N, NO₂ (Dom ILRP, Annually)
W7 Ca, Mg, Na, K, HCO₃, CO₃, SO₄, Cl + Lab Filtering (GWM)
W8 Other: _____

901 540 TDS 11/30/23

Process Waste Water (lagoon)

- L1 EC, NH₄N, TKN, TP, TK, TDS (Quarterly)
L2 EC, NO₃N, NH₄N, TKN, TP, TK, TDS, pH (Annually)
L3 Ca, Mg, Na, HCO₃, CO₃, SO₄S, Cl (Biennially)
L4 Other: _____

Manure

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

Plant Tissue

- P1 TN, NO₃N, PO₄P, K (Mid Season - Wheat)
P2 TN, P, K (Mid-season - Corn)
P3 TN, TP, TK, Ash, %M (At Harvest)
P4 TN, %M
P5 % Moisture
P6 NIR
P7 Other: _____

Soil

- S1 SP%, pH, EC, Ca, Mg, Na, K, ESP, LP, B, NO₃N, PO₄P, K-AA, Zn, Mn, Fe, Cu, SO₄S
S2 S1 + CEC, CaCO₃, OM, C:N, TN
S3 NO₃N, NH₄N
S4 Other: _____

	Sample ID	Description	Analysis	Date/Time	Sampled by	SAS USE ONLY: FIELD TESTS		
						NH ₃ N*	pH	Temp
1	West Barn Well	Dom. Well	W4	11/30/23 9:50	Klay	—		
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								

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

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

NOTES:

CHAIN OF CUSTODY RECORDING

	Signature	Company	Received Date & Time	Relinquished Date & Time
1 st	Klay	SAS	11/30/23 1340	11/30/23 13:40
2 nd	[Signature]	FA	11/30/23 1730	11/30/23 17:30
3 rd	[Signature]	J	11/30/23 1730	
4 th	[Signature]			

LABORATORY USE ONLY

Logged In By: GLS 12/1/23 Total Samples: _____ Laboratory No.: _____

CDA

1143

Inter-Laboratory Condition Upon Receipt (Attach to COC)

Sample Receipt at: CC CH STK VI

1. Number of ice chests/packages received: 1 Shipping tracking #(s): OTC

2. Temp IR Gun ID #: 4107

3. Were samples received on ice? ☒ Yes ☐ No Temps: 5.4/c / / /
Surface water SWTR bact samples: A sample that has a temperature upon receipt of $>10^{\circ}\text{C}$, whether iced or not, should be flagged unless the time since sample collection has been less than two hours.

4. Do the number of bottles received agree with the COC? ☒ Yes ☐ No ☐ N/A

5. Were samples received intact? (i.e. no broken bottles, leaks etc.) ☒ Yes ☐ No

6. VOAs checked for Headspace? ☐ Yes ☐ No ☒ N/A

7. Were all analyses within holding times at time of receipt? ☒ Yes ☐ No

8. Verify sample date, time and sampler name ☒ Yes ☐ No

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

Sample Receipt Review completed by (initials): DT

Sample Receipt at SP:

1. Number of ice chests/packages received: 2 Shipping tracking #(s): 560553707 / 15

2. Temp IR Gun ID #: 263

3. Were samples received on ice? ☒ Yes ☐ No Temps: 2 / 31 / /
Acceptable is above freezing to 6°C . If many packages are received at one time check for tests/H.T.'s/rushes/

4. Do the number of bottles received agree with the COC? ☒ Yes ☐ No ☐ N/A

5. Were samples received intact? (i.e. no broken bottles, leaks etc.) ☒ Yes ☐ No

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

Sample Verification, Labeling and Distribution:

1. Were all requested analyses understood and acceptable? ☒ Yes ☐ No

2. Did bottle labels correspond with the client's ID's? ☒ Yes ☐ No

3. Were all bottles requiring sample preservation properly preserved? ☒ Yes ☐ No ☐ N/A FGL
[Exception: Oil & Grease, VOA and CrVI verified in lab]

4. VOAs checked for Headspace? ☐ Yes ☐ No ☒ N/A

5. Have rush or project due dates been checked and accepted? ☐ Yes ☐ No ☒ N/A

6. Were all analyses within holding times at time of receipt? ☒ Yes ☐ No

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

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

Discrepancy Documentation:

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

1. Person Contacted: _____ Phone Number: _____

Initiated By: _____ Date: _____

Problem: _____

Resolution: _____

2. Person Contacted: _____ Phone Number: _____

Initiated By: _____ Date: _____

Problem: _____

Resolution: _____