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: Alvaro Machado Dairy

Physical address of dairy:

5230 9th Ave AVE	Hanford	Kings	93230
Number and Street	City	County	Zip Code

Street and nearest cross street (if no address):

Date facility was originally placed in operation: 01/25/1986

Regional Water Quality Control Board Basin Plan designation: Tulare Basin

County Assessor Parcel Number(s) for dairy facility:

X014-X010-X057-XXXX

B. OPERATORS

Machado, Alvin

Operator name: Machado, Alvin

Telephone no.: (559) 582-4248 Landline (559) 904-2111 Cellular

5230 9th AVE	Hanford	CA	93230
Mailing Address Number and Street	City	State	Zip Code

This operator is responsible for paying permit fees.

C. OWNERS

Machado, Alvin

Legal owner name: Machado, Alvin

Telephone no.: (559) 582-4248 Landline (559) 904-2111 Cellular

5230 9th AVE	Hanford	CA	93230
Mailing Address Number and Street	City	State	Zip Code

This owner is responsible for paying permit fees.

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	0	290	295	145	0
Number under roof	865	130	0	0	0	0
Maximum number	875	150	300	305	160	0
Average number	865	130	290	295	145	0
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: 30,974.45 *tons per reporting period*

Total nitrogen from manure: 383,391.33 *lbs per reporting period* After ammonia losses (30% loss applied): 268,373.93 *lbs per reporting period*

Total phosphorus from manure: 63,383.86 *lbs per reporting period*

Total potassium from manure: 168,497.01 *lbs per reporting period*

Total salt from manure: 437,178.75 *lbs per reporting period*

C. PROCESS WASTEWATER GENERATED

Process wastewater generated: 34,065,903 *gallons*

Total nitrogen generated: 83,010.39 *lbs*

Total phosphorus generated: 17,373.75 *lbs*

Total potassium generated: 239,077.96 *lbs*

Total salt generated: 947,739.13 *lbs*

	34,065,903	*gallons applied*
+	0	*gallons exported*
-	0	*gallons imported*
=	34,065,903	*gallons generated*

D. FRESH WATER SOURCES

Source Description	Type
#1 Alvaro Well	Ground water
#1 Dairy Well	Ground water
#2 Alvin Well	Ground water
#2 Bezzara Well	Ground water
#3 West Lake Well	Ground water

Source Description	Type
#4 Camara Well	Ground water
IW 1	Ground water
Peoples Ditch Hanford	Surface 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

No solid nutrient exports entered.

No liquid nutrient exports entered.

APPLICATION AREA

A. LIST OF LAND APPLICATION AREAS

Field name	Controlled acres	Cropable acres	Total harvests	Type of waste applied	Parcel number
1	35	35	2	process wastewater	X014-X010-X057-XXXX X014-X010-X066-XXXX
3	32	32	2	process wastewater	X014-X010-X034-XXXX
4	35	35	2	process wastewater	X014-X010-X034-XXXX
5	30	30	2	process wastewater	X014-X070-X008-XXXX
6	30	30	2	process wastewater	X014-X070-X053-XXXX
7	16	16	2	process wastewater	X014-X070-X046-XXXX
Totals for areas that were used for application	178	178	12		
Totals for areas that were not used for application					
Land application area totals	178	178	12		

B. CROPS AND HARVESTS

1

Field name: 1

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

Crop: Wheat, silage, soft dough Acres planted: 35 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 (%)
05/03/2023	725.00 *ton*	Dry-weight		68.4	13,000.00	2,800.00	9,400.00		8.94

	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	20.71	170.19	36.66	123.06	1,170.37

1

06/12/2023: Corn, silage

Crop: Corn, silage Acres planted: 35 Plant date: 06/12/2023

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
09/15/2023	1,030.00 *ton*	Dry-weight		71.8	12,800.00	2,800.00	17,700.00		6.61

	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	29.43	212.45	46.47	293.78	1,097.11

3

Field name: 3

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

Crop: Wheat, silage, soft dough Acres planted: 32 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 (%)
05/03/2023	730.00 *ton*	Dry-weight		68.9	12,800.00	2,900.00	8,600.00		8.47

	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	22.81	181.62	41.15	122.03	1,201.84

06/12/2023: Corn, silage

Crop: Corn, silage Acres planted: 32 Plant date: 06/12/2023

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
09/15/2023	975.00 *ton*	Dry-weight		72.2	13,400.00	2,800.00	16,700.00		5.96

	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	30.47	227.00	47.43	282.91	1,009.66

4

Field name: 4

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

Crop: Wheat, silage, soft dough Acres planted: 35 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 (%)
05/03/2023	710.00 *ton*	Dry-weight		68.2	13,100.00	2,900.00	8,600.00		8.68

	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	20.29	169.01	37.41	110.95	1,119.87

06/13/2023: Corn, silage

Crop: Corn, silage Acres planted: 35 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 (%)
09/15/2023	1,000.00 *ton*	Dry-weight		71.7	12,100.00	2,800.00	17,400.00		5.83

	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	28.57	195.67	45.28	281.38	942.79

5

Field name: 5

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

Crop: Wheat, silage, soft dough Acres planted: 30 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 (%)
05/03/2023	675.00 *ton*	Dry-weight		68.3	12,100.00	3,000.00	13,900.00		8.20

	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	22.50	172.61	42.80	198.28	1,169.73

5

06/13/2023: Corn, silage

Crop: Corn, silage Acres planted: 30 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 (%)
09/15/2023	900.00 *ton*	Dry-weight		72.1	12,100.00	2,900.00	18,200.00		6.50

	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	30.00	202.55	48.55	304.67	1,088.10

6

Field name: 6

11/16/2022: Wheat, silage, soft dough

Crop: Wheat, silage, soft dough Acres planted: 30 Plant date: 11/16/2022

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
05/03/2023	630.00 *ton*	Dry-weight		67.9	13,400.00	3,000.00	14,300.00		9.24

	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	21.00	180.66	40.45	192.79	1,245.74

06/14/2023: Corn, silage

Crop: Corn, silage Acres planted: 30 Plant date: 06/14/2023

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
09/15/2023	910.00 *ton*	Dry-weight		71.3	12,400.00	3,000.00	18,600.00		6.99

	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	30.33	215.90	52.23	323.85	1,217.05

7

Field name: 7

11/16/2022: Wheat, silage, soft dough

Crop: Wheat, silage, soft dough Acres planted: 16 Plant date: 11/16/2022

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
05/03/2023	325.00 *ton*	Dry-weight		69.9	13,100.00	3,100.00	15,200.00		9.23

	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	20.31	160.19	37.91	185.87	1,128.66

06/14/2023: Corn, silage

Crop: Corn, silage Acres planted: 16 Plant date: 06/14/2023

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
09/15/2023	465.00 *ton*	Dry-weight		70.0	11,500.00	2,400.00	15,400.00		5.94

	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	29.06	200.53	41.85	268.54	1,035.79

NUTRIENT BUDGET

A. LAND APPLICATIONS

1 - 11/14/2022: Wheat, silage, soft dough

Field name: 1

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
10/16/2022	Pipeline	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	131.48	14.90	119.84	1,200.30	800,355.00 *gal*
Peoples Ditch Hanford	Surface water	0.61	0.00	0.00	49.18	5,156,882.00 *gal*
Application event totals		132.09	14.90	119.84	1,249.49	

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following
02/15/2023	Pipeline	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	46.77	4.05	129.85	728.81	570,284.00 *gal*
Peoples Ditch Hanford	Surface water	0.62	0.00	0.00	49.66	5,207,095.00 *gal*
Application event totals		47.40	4.05	129.85	778.47	

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following
03/10/2023	Pipeline	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	33.82	2.93	93.89	526.98	412,355.00 *gal*
Peoples Ditch Hanford	Surface water	0.54	0.00	0.00	43.51	4,561,704.00 *gal*
Application event totals		34.36	2.93	93.89	570.49	

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following
04/05/2023	Pipeline	No precipitation	No precipitation	No precipitation

Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Peoples Ditch Hanford	Surface water	0.60	0.00	0.00	47.94	5,026,953.00 *gal*
Application event totals		0.60	0.00	0.00	47.94	

1 - 06/12/2023: Corn, silage

1 - 06/12/2023: Corn, silage

Field name: 1

Crop: Corn, silage Plant date: 06/12/2023

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following
05/25/2023	Pipeline	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	65.07	19.93	248.43	692.06	1,240,426.00 *gal*
Peoples Ditch Hanford	Surface water	0.64	0.00	0.00	51.57	5,407,024.00 *gal*
Application event totals		65.71	19.93	248.43	743.63	

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following
06/28/2023	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	52.33	16.03	199.80	556.59	997,604.00 *gal*
Peoples Ditch Hanford	Surface water	0.71	0.00	0.00	56.55	5,928,953.00 *gal*
Application event totals		53.04	16.03	199.80	613.13	

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following
07/12/2023	Surface (irrigation)	No precipitation	No precipitation	No precipitation

Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Lagoon	Process wastewater	52.48	16.08	200.37	558.16	1,000,426.00 *gal*
Peoples Ditch Hanford	Surface water	0.68	0.00	0.00	54.48	5,712,059.00 *gal*
Application event totals		53.16	16.08	200.37	612.64	

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following
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	70.57	21.62	269.45	750.62	1,345,391.00 *gal*
Peoples Ditch Hanford	Surface water	0.65	0.00	0.00	52.00	5,452,201.00 *gal*
Application event totals		71.22	21.62	269.45	802.62	

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following
08/20/2023	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
Peoples Ditch Hanford	Surface water	0.74	0.00	0.00	59.05	6,191,917.00 *gal*
Application event totals		0.74	0.00	0.00	59.05	

3 - 11/14/2022: Wheat, silage, soft dough

Field name: 3

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
10/23/2022	Pipeline	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	107.97	12.24	98.41	985.66	600,896.00 *gal*
Peoples Ditch Hanford	Surface water	0.62	0.00	0.00	49.77	4,771,370.00 *gal*
Application event totals		108.59	12.24	98.41	1,035.43	

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following
02/10/2023	Pipeline	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	79.12	6.85	219.66	1,232.86	882,006.00 *gal*
Peoples Ditch Hanford	Surface water	0.53	0.00	0.00	42.25	4,050,701.00 *gal*
Application event totals		79.65	6.85	219.66	1,275.11	

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following
03/05/2023	Pipeline	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	40.43	3.50	112.24	629.94	450,672.00 *gal*
Peoples Ditch Hanford	Surface water	0.53	0.00	0.00	42.30	4,055,149.00 *gal*
Application event totals		40.96	3.50	112.24	672.24	

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following
04/03/2023	Pipeline	No precipitation	No precipitation	No precipitation

Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Peoples Ditch Hanford	Surface water	0.46	0.00	0.00	36.70	3,518,259.00 *gal*
Application event totals		0.46	0.00	0.00	36.70	

3 - 06/12/2023: Corn, silage

Field name: 3

Crop: Corn, silage Plant date: 06/12/2023

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following

3 - 06/12/2023: Corn, silage

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following
05/24/2023	Pipeline	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	69.20	21.20	264.21	736.01	1,206,120.00 *gal*
Peoples Ditch Hanford	Surface water	0.66	0.00	0.00	52.70	5,052,038.00 *gal*
Application event totals		69.86	21.20	264.21	788.71	

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
Peoples Ditch Hanford	Surface water	0.70	0.00	0.00	55.76	5,345,376.00 *gal*
Application event totals		0.70	0.00	0.00	55.76	

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following
07/11/2023	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
Lagoon	Process wastewater	74.78	22.91	285.51	795.34	1,303,344.00 *gal*
Peoples Ditch Hanford	Surface water	0.67	0.00	0.00	53.49	5,128,259.00 *gal*
Application event totals		75.44	22.91	285.51	848.83	

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	64.81	19.85	247.44	689.29	1,129,565.00 *gal*
Peoples Ditch Hanford	Surface water	0.68	0.00	0.00	54.30	5,205,149.00 *gal*
Application event totals		65.48	19.85	247.44	743.59	

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following
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	50.42	15.45	192.53	536.33	878,896.00 *gal*
Peoples Ditch Hanford	Surface water	0.71	0.00	0.00	56.52	5,418,259.00 *gal*
Application event totals		51.13	15.45	192.53	592.85	

4 - 11/15/2022: Wheat, silage, soft dough

4 - 11/15/2022: Wheat, silage, soft dough

Field name: 4

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
10/22/2022	Pipeline	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	124.90	14.16	113.84	1,140.21	760,284.00 *gal*
Peoples Ditch Hanford	Surface water	0.62	0.00	0.00	49.85	5,226,952.00 *gal*
Application event totals		125.52	14.16	113.84	1,190.06	

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following
02/03/2023	Pipeline	No precipitation	No precipitation	No precipitation

Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Peoples Ditch Hanford	Surface water	0.61	0.00	0.00	48.75	5,112,059.00 *gal*
Application event totals		0.61	0.00	0.00	48.75	

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following
03/01/2023	Pipeline	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	84.93	7.36	235.77	1,323.30	1,035,461.00 *gal*
Peoples Ditch Hanford	Surface water	0.62	0.00	0.00	49.80	5,221,917.00 *gal*
Application event totals		85.55	7.36	235.77	1,373.10	

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following
04/02/2023	Pipeline	No precipitation	No precipitation	No precipitation

Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Peoples Ditch Hanford	Surface water	0.49	0.00	0.00	39.17	4,106,598.00 *gal*
Application event totals		0.49	0.00	0.00	39.17	

4 - 06/13/2023: Corn, silage

Field name: 4

Crop: Corn, silage Plant date: 06/13/2023

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following

4 - 06/13/2023: Corn, silage

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	49.85	15.27	190.34	530.22	950,355.00 *gal*
Peoples Ditch Hanford	Surface water	0.70	0.00	0.00	55.67	5,837,023.00 *gal*
Application event totals		50.55	15.27	190.34	585.89	

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following
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
Lagoon	Process wastewater	54.84	16.80	209.37	583.25	1,045,390.00 *gal*
Peoples Ditch Hanford	Surface water	0.66	0.00	0.00	52.62	5,516,882.00 *gal*
Application event totals		55.49	16.80	209.37	635.86	

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following
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
Lagoon	Process wastewater	64.80	19.85	247.42	689.25	1,235,391.00 *gal*
Peoples Ditch Hanford	Surface water	0.69	0.00	0.00	55.38	5,807,024.00 *gal*
Application event totals		65.49	19.85	247.42	744.64	

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following
07/28/2023	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	64.02	19.61	244.43	680.90	1,220,426.00 *gal*
Peoples Ditch Hanford	Surface water	0.66	0.00	0.00	52.57	5,512,059.00 *gal*
Application event totals		64.67	19.61	244.43	733.47	

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following
08/20/2023	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
Peoples Ditch Hanford	Surface water	0.70	0.00	0.00	56.19	5,892,130.00 *gal*
Application event totals		0.70	0.00	0.00	56.19	

5 - 11/15/2022: Wheat, silage, soft dough

5 - 11/15/2022: Wheat, silage, soft dough

Field name: 5

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
10/19/2022	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	106.57	12.08	97.14	972.90	556,049.00 *gal*
Peoples Ditch Hanford	Surface water	0.69	0.00	0.00	55.46	4,984,622.00 *gal*
Application event totals		107.26	12.08	97.14	1,028.36	

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following
02/08/2023	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	68.52	5.94	190.22	1,067.61	716,049.00 *gal*
Peoples Ditch Hanford	Surface water	0.66	0.00	0.00	52.87	4,751,704.00 *gal*
Application event totals		69.18	5.94	190.22	1,120.48	

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following
03/08/2023	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	53.19	4.61	147.66	828.74	555,836.00 *gal*
Peoples Ditch Hanford	Surface water	0.69	0.00	0.00	55.19	4,960,245.00 *gal*
Application event totals		53.88	4.61	147.66	883.93	

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
Peoples Ditch Hanford	Surface water	0.66	0.00	0.00	52.93	4,757,327.00 *gal*
Application event totals		0.66	0.00	0.00	52.93	

5 - 06/13/2023: Corn, silage

Field name: 5

Crop: Corn, silage Plant date: 06/13/2023

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following

5 - 06/13/2023: Corn, silage

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following
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
Lagoon	Process wastewater	50.24	15.39	191.82	534.36	820,942.00 *gal*
Peoples Ditch Hanford	Surface water	0.71	0.00	0.00	56.73	5,098,786.00 *gal*
Application event totals		50.95	15.39	191.82	591.09	

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following
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	52.34	16.03	199.83	556.67	855,213.00 *gal*
Peoples Ditch Hanford	Surface water	0.75	0.00	0.00	59.86	5,380,245.00 *gal*
Application event totals		53.08	16.03	199.83	616.53	

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following
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	49.76	15.24	190.00	529.28	813,131.00 *gal*
Peoples Ditch Hanford	Surface water	0.66	0.00	0.00	52.89	4,753,163.00 *gal*
Application event totals		50.42	15.24	190.00	582.16	

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following
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
Lagoon	Process wastewater	60.50	18.53	230.99	643.48	988,590.00 *gal*
Peoples Ditch Hanford	Surface water	0.70	0.00	0.00	55.86	5,020,458.00 *gal*
Application event totals		61.20	18.53	230.99	699.34	

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following
08/20/2023	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
Lagoon	Process wastewater	35.33	10.82	134.89	375.77	577,295.00 *gal*
Peoples Ditch Hanford	Surface water	0.68	0.00	0.00	54.38	4,887,327.00 *gal*
Application event totals		36.01	10.82	134.89	430.15	

6 - 11/16/2022: Wheat, silage, soft dough

6 - 11/16/2022: Wheat, silage, soft dough

Field name: 6

Crop: Wheat, silage, soft dough Plant date: 11/16/2022

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following
10/25/2022	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	96.03	10.89	87.53	876.67	501,049.00 *gal*
Peoples Ditch Hanford	Surface water	0.68	0.00	0.00	54.47	4,895,868.00 *gal*
Application event totals		96.71	10.89	87.53	931.14	

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following
02/05/2023	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	71.79	6.22	199.29	1,118.55	750,213.00 *gal*
Peoples Ditch Hanford	Surface water	0.69	0.00	0.00	55.14	4,956,081.00 *gal*
Application event totals		72.48	6.22	199.29	1,173.69	

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
Lagoon	Process wastewater	61.12	5.29	169.68	952.37	638,754.00 *gal*
Peoples Ditch Hanford	Surface water	0.68	0.00	0.00	54.35	4,884,409.00 *gal*
Application event totals		61.80	5.29	169.68	1,006.71	

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following
04/09/2023	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
Peoples Ditch Hanford	Surface water	0.65	0.00	0.00	51.89	4,663,163.00 *gal*
Application event totals		0.65	0.00	0.00	51.89	

6 - 06/14/2023: Corn, silage

Field name: 6

Crop: Corn, silage Plant date: 06/14/2023

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following

6 - 06/14/2023: Corn, silage

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following
05/23/2023	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	50.03	15.33	191.02	532.12	817,508.00 *gal*
Peoples Ditch Hanford	Surface water	0.69	0.00	0.00	55.14	4,955,868.00 *gal*
Application event totals		50.72	15.33	191.02	587.27	

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following
06/28/2023	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
Peoples Ditch Hanford	Surface water	0.70	0.00	0.00	56.16	5,047,753.00 *gal*
Application event totals		0.70	0.00	0.00	56.16	

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following
07/11/2023	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
Lagoon	Process wastewater	64.81	19.85	247.44	689.29	1,058,967.00 *gal*
Peoples Ditch Hanford	Surface water	0.70	0.00	0.00	56.24	5,054,409.00 *gal*
Application event totals		65.51	19.85	247.44	745.53	

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following
07/28/2023	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	59.73	18.30	228.06	635.32	976,049.00 *gal*
Peoples Ditch Hanford	Surface water	0.66	0.00	0.00	53.01	4,764,409.00 *gal*
Application event totals		60.39	18.30	228.06	688.33	

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following
08/16/2023	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	70.92	21.73	270.80	754.38	1,158,967.00 *gal*
Peoples Ditch Hanford	Surface water	0.67	0.00	0.00	53.23	4,784,409.00 *gal*
Application event totals		71.59	21.73	270.80	807.62	

7 - 11/16/2022: Wheat, silage, soft dough

7 - 11/16/2022: Wheat, silage, soft dough

Field name: 7

Crop: Wheat, silage, soft dough Plant date: 11/16/2022

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following
10/20/2022	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	88.08	9.98	80.29	804.14	245,117.00 *gal*
Peoples Ditch Hanford	Surface water	0.72	0.00	0.00	57.23	2,743,243.00 *gal*
Application event totals		88.80	9.98	80.29	861.37	

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following
02/07/2023	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
Lagoon	Process wastewater	74.92	6.49	207.98	1,167.31	417,558.00 *gal*
Peoples Ditch Hanford	Surface water	0.67	0.00	0.00	53.38	2,558,795.00 *gal*
Application event totals		75.58	6.49	207.98	1,220.70	

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following
03/07/2023	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
Lagoon	Process wastewater	45.00	3.90	124.94	701.23	250,836.00 *gal*
Peoples Ditch Hanford	Surface water	0.65	0.00	0.00	52.27	2,505,685.00 *gal*
Application event totals		45.66	3.90	124.94	753.51	

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following
04/12/2023	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
Peoples Ditch Hanford	Surface water	0.60	0.00	0.00	48.11	2,306,019.00 *gal*
Application event totals		0.60	0.00	0.00	48.11	

7 - 06/14/2023: Corn, silage

Field name: 7

Crop: Corn, silage Plant date: 06/14/2023

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following

7 - 06/14/2023: Corn, silage

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	50.50	15.47	192.82	537.14	440,117.00 *gal*
Peoples Ditch Hanford	Surface water	0.63	0.00	0.00	50.26	2,409,130.00 *gal*
Application event totals		51.13	15.47	192.82	587.40	

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following
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
Lagoon	Process wastewater	52.37	16.05	199.98	557.07	456,448.00 *gal*
Peoples Ditch Hanford	Surface water	0.77	0.00	0.00	61.81	2,962,574.00 *gal*
Application event totals		53.15	16.05	199.98	618.88	

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following
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
Lagoon	Process wastewater	51.14	15.67	195.25	543.92	445,672.00 *gal*
Peoples Ditch Hanford	Surface water	0.63	0.00	0.00	50.61	2,425,685.00 *gal*
Application event totals		51.77	15.67	195.25	594.53	

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following
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
Lagoon	Process wastewater	57.64	17.66	220.08	613.08	502,338.00 *gal*
Peoples Ditch Hanford	Surface water	0.72	0.00	0.00	57.50	2,756,019.00 *gal*
Application event totals		58.36	17.66	220.08	670.58	

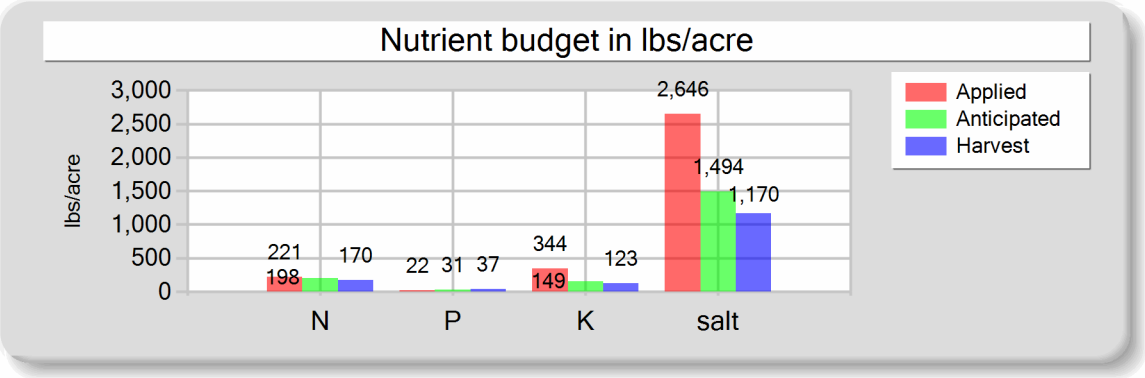
Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following
08/18/2023	Surface (irrigation)	No precipitation	No precipitation	No precipitation

Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Lagoon	Process wastewater	52.50	16.08	200.46	558.43	457,558.00 *gal*
Peoples Ditch Hanford	Surface water	0.72	0.00	0.00	57.84	2,772,240.00 *gal*
Application event totals		53.22	16.08	200.46	616.27	

B. NUTRIENT BUDGET

1 - 11/14/2022: Wheat, silage, soft dough

Field name: 1 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	212.08	21.89	343.59	2,456.10
Fresh water	2.38	0.00	0.00	190.29
Atmospheric deposition	7.00	0.00	0.00	0.00
Total nutrients applied	221.45	21.89	343.59	2,646.39
Anticipated crop nutrient removal	198.00	30.60	149.40	1,494.00
Actual crop nutrient removal	170.19	36.66	123.06	1,170.37
Nutrient balance	51.27	-14.77	220.53	1,476.01
Applied to removed ratio	1.30	0.60	2.79	2.26

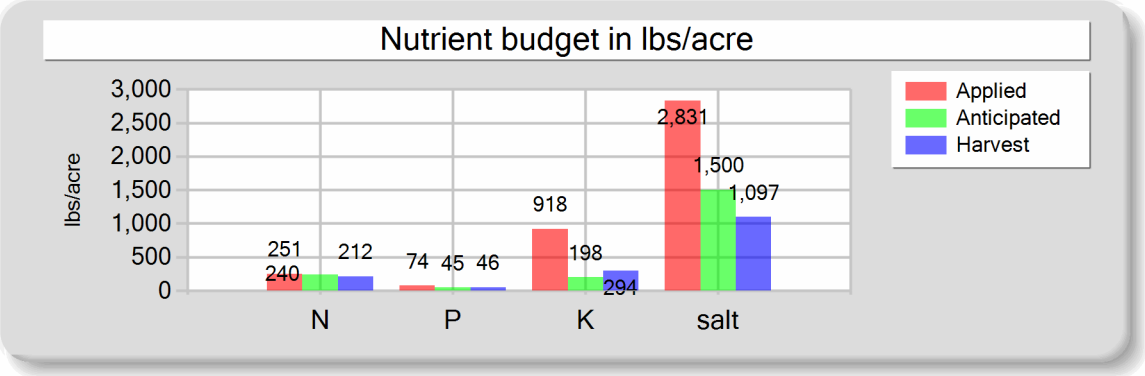
Fresh water applied	
19,952,634.00	*gallons*
734.79	*acre-inches*
20.99	*inches/acre*

Process wastewater applied	
1,782,994.00	*gallons*
65.66	*acre-inches*
1.88	*inches/acre*

Total harvests for the crop	
1	*harvests*

1 - 06/12/2023: Corn, silage

Field name: 1 Crop: Corn, silage Plant date: 06/12/2023



	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	240.44	73.66	918.05	2,557.43
Fresh water	3.42	0.00	0.00	273.64
Atmospheric deposition	7.00	0.00	0.00	0.00
Total nutrients applied	250.86	73.66	918.05	2,831.07
Anticipated crop nutrient removal	240.00	45.00	198.00	1,500.00
Actual crop nutrient removal	212.45	46.47	293.78	1,097.11
Nutrient balance	38.41	27.19	624.27	1,733.97
Applied to removed ratio	1.18	1.59	3.12	2.58

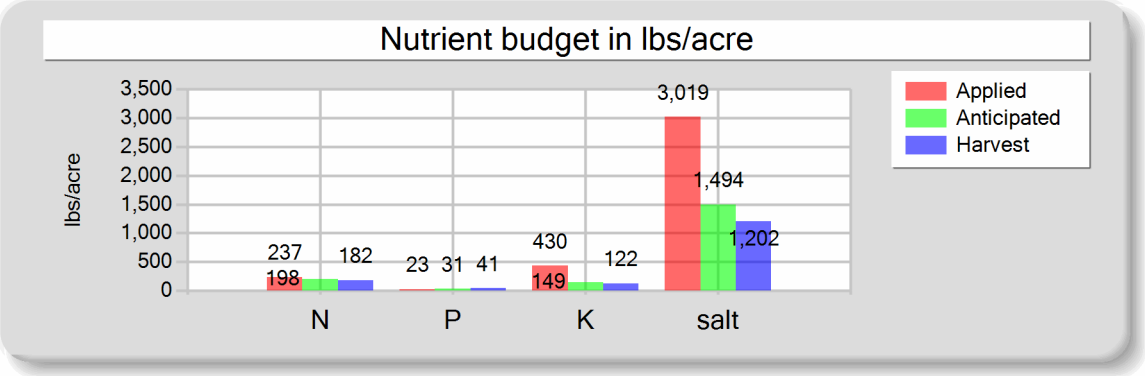
Fresh water applied	
28,692,154.00	*gallons*
1,056.63	*acre-inches*
30.19	*inches/acre*

Process wastewater applied	
4,583,847.00	*gallons*
168.81	*acre-inches*
4.82	*inches/acre*

Total harvests for the crop	
1	*harvests*

3 - 11/14/2022: Wheat, silage, soft dough

Field name: 3 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	227.52	22.60	430.31	2,848.46
Fresh water	2.14	0.00	0.00	171.03
Atmospheric deposition	7.00	0.00	0.00	0.00
Total nutrients applied	236.66	22.60	430.31	3,019.48
Anticipated crop nutrient removal	198.00	30.60	149.40	1,494.00
Actual crop nutrient removal	181.62	41.15	122.03	1,201.84
Nutrient balance	55.03	-18.55	308.28	1,817.64
Applied to removed ratio	1.30	0.55	3.53	2.51

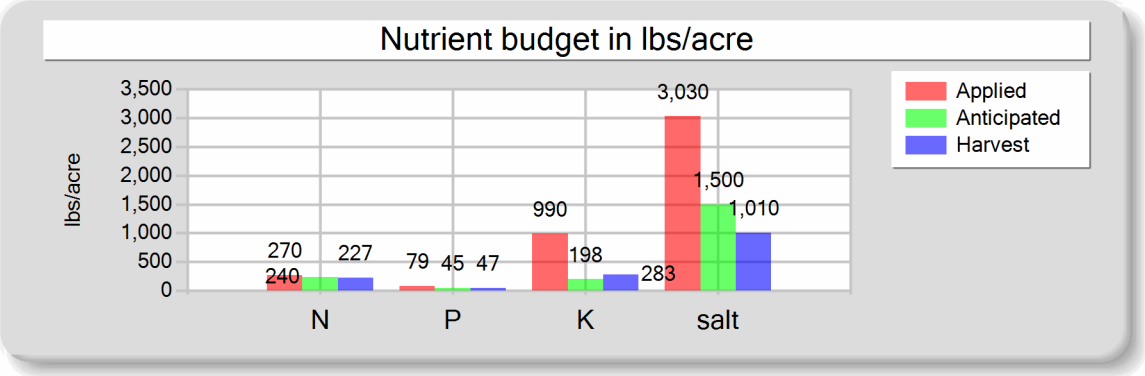
Fresh water applied	
16,395,479.00	*gallons*
603.79	*acre-inches*
18.87	*inches/acre*

Process wastewater applied	
1,933,574.00	*gallons*
71.21	*acre-inches*
2.23	*inches/acre*

Total harvests for the crop	
1	*harvests*

3 - 06/12/2023: Corn, silage

Field name: 3 Crop: Corn, silage Plant date: 06/12/2023



	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	259.20	79.41	989.68	2,756.96
Fresh water	3.41	0.00	0.00	272.77
Atmospheric deposition	7.00	0.00	0.00	0.00
Total nutrients applied	269.61	79.41	989.68	3,029.73
Anticipated crop nutrient removal	240.00	45.00	198.00	1,500.00
Actual crop nutrient removal	227.00	47.43	282.91	1,009.66
Nutrient balance	42.61	31.98	706.77	2,020.07
Applied to removed ratio	1.19	1.67	3.50	3.00

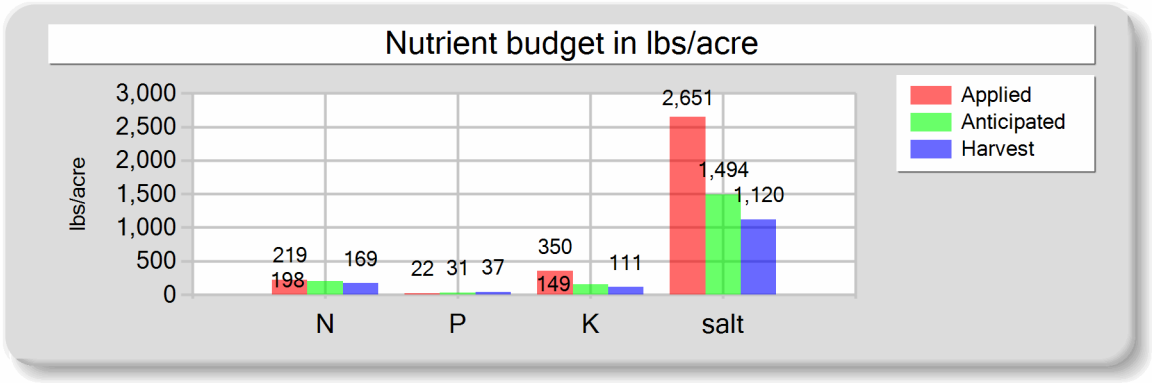
Fresh water applied	
26,149,081.00	*gallons*
962.98	*acre-inches*
30.09	*inches/acre*

Process wastewater applied	
4,517,925.00	*gallons*
166.38	*acre-inches*
5.20	*inches/acre*

Total harvests for the crop	
1	*harvests*

4 - 11/15/2022: Wheat, silage, soft dough

Field name: 4 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	209.83	21.51	349.61	2,463.51
Fresh water	2.34	0.00	0.00	187.57
Atmospheric deposition	7.00	0.00	0.00	0.00
Total nutrients applied	219.17	21.51	349.61	2,651.08
Anticipated crop nutrient removal	198.00	30.60	149.40	1,494.00
Actual crop nutrient removal	169.01	37.41	110.95	1,119.87
Nutrient balance	50.16	-15.90	238.66	1,531.21
Applied to removed ratio	1.30	0.58	3.15	2.37

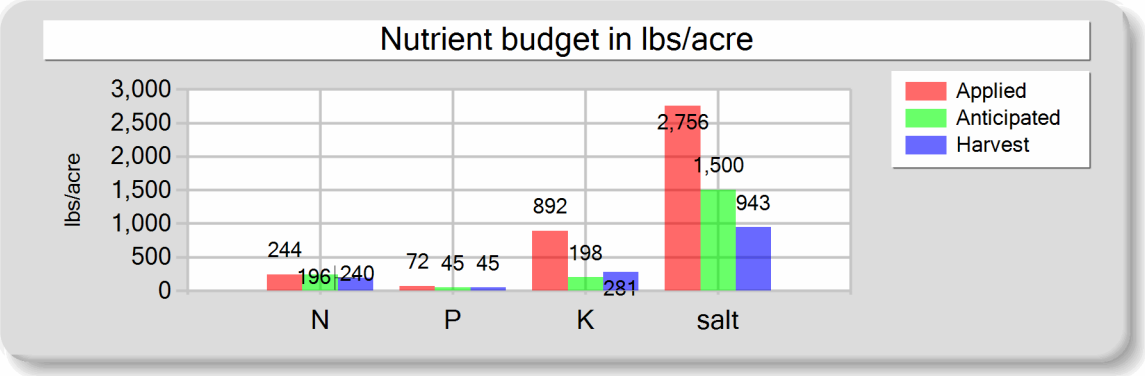
Fresh water applied	
19,667,526.00	*gallons*
724.29	*acre-inches*
20.69	*inches/acre*

Process wastewater applied	
1,795,745.00	*gallons*
66.13	*acre-inches*
1.89	*inches/acre*

Total harvests for the crop	
1	*harvests*

4 - 06/13/2023: Corn, silage

Field name: 4 Crop: Corn, silage Plant date: 06/13/2023



	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	233.50	71.54	891.56	2,483.63
Fresh water	3.41	0.00	0.00	272.43
Atmospheric deposition	7.00	0.00	0.00	0.00
Total nutrients applied	243.91	71.54	891.56	2,756.06
Anticipated crop nutrient removal	240.00	45.00	198.00	1,500.00
Actual crop nutrient removal	195.67	45.28	281.38	942.79
Nutrient balance	48.23	26.26	610.18	1,813.26
Applied to removed ratio	1.25	1.58	3.17	2.92

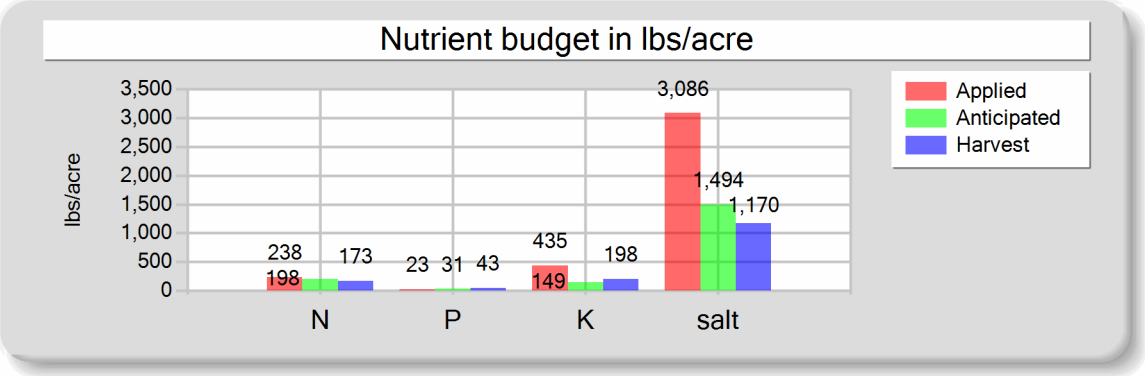
Fresh water applied	
28,565,118.00	*gallons*
1,051.96	*acre-inches*
30.06	*inches/acre*

Process wastewater applied	
4,451,562.00	*gallons*
163.94	*acre-inches*
4.68	*inches/acre*

Total harvests for the crop	
1	*harvests*

5 - 11/15/2022: Wheat, silage, soft dough

Field name: 5 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	228.28	22.62	435.01	2,869.25
Fresh water	2.71	0.00	0.00	216.46
Atmospheric deposition	7.00	0.00	0.00	0.00
Total nutrients applied	237.98	22.62	435.01	3,085.70
Anticipated crop nutrient removal	198.00	30.60	149.40	1,494.00
Actual crop nutrient removal	172.61	42.80	198.28	1,169.73
Nutrient balance	65.38	-20.17	236.73	1,915.97
Applied to removed ratio	1.38	0.53	2.19	2.64

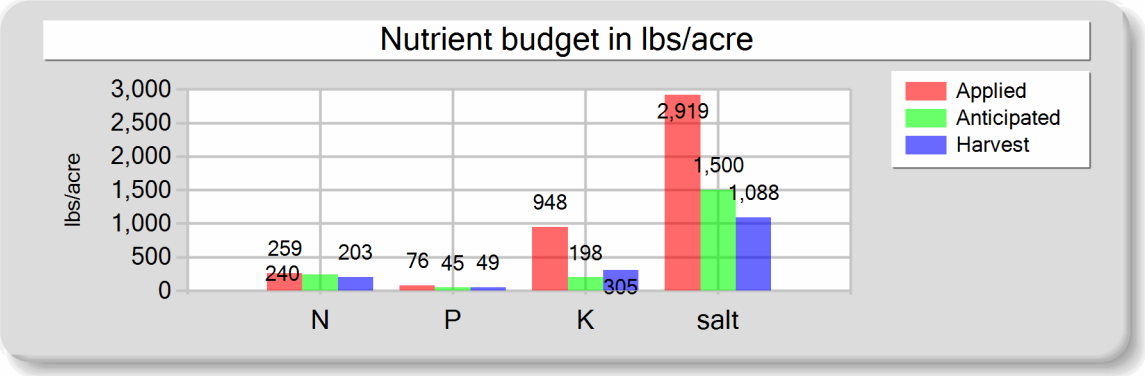
Fresh water applied	
19,453,898.00	*gallons*
716.42	*acre-inches*
23.88	*inches/acre*

Process wastewater applied	
1,827,934.00	*gallons*
67.32	*acre-inches*
2.24	*inches/acre*

Total harvests for the crop	
1	*harvests*

5 - 06/13/2023: Corn, silage

Field name: 5 Crop: Corn, silage Plant date: 06/13/2023



	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	248.16	76.03	947.53	2,639.55
Fresh water	3.50	0.00	0.00	279.72
Atmospheric deposition	7.00	0.00	0.00	0.00
Total nutrients applied	258.66	76.03	947.53	2,919.28
Anticipated crop nutrient removal	240.00	45.00	198.00	1,500.00
Actual crop nutrient removal	202.55	48.55	304.67	1,088.10
Nutrient balance	56.11	27.48	642.86	1,831.18
Applied to removed ratio	1.28	1.57	3.11	2.68

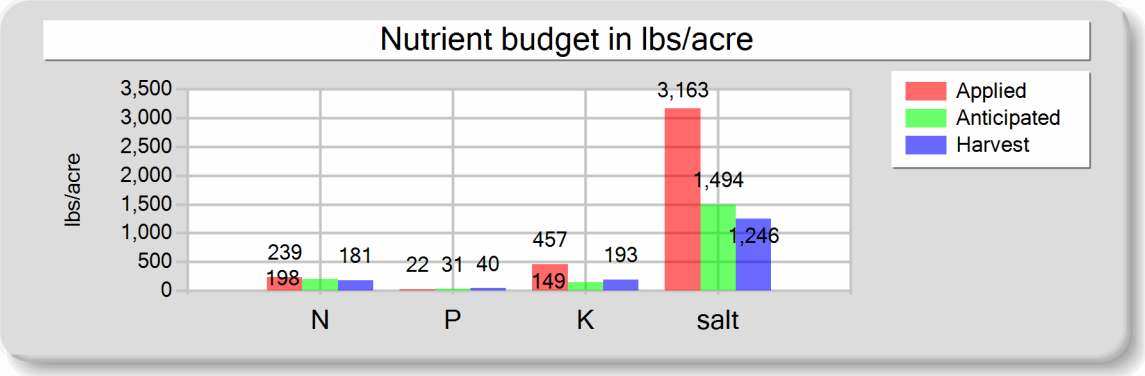
Fresh water applied	
25,139,979.00	*gallons*
925.82	*acre-inches*
30.86	*inches/acre*

Process wastewater applied	
4,055,171.00	*gallons*
149.34	*acre-inches*
4.98	*inches/acre*

Total harvests for the crop	
1	*harvests*

6 - 11/16/2022: Wheat, silage, soft dough

Field name: 6 Crop: Wheat, silage, soft dough Plant date: 11/16/2022



	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	228.94	22.40	456.51	2,947.58
Fresh water	2.70	0.00	0.00	215.85
Atmospheric deposition	7.00	0.00	0.00	0.00
Total nutrients applied	238.64	22.40	456.51	3,163.43
Anticipated crop nutrient removal	198.00	30.60	149.40	1,494.00
Actual crop nutrient removal	180.66	40.45	192.79	1,245.74
Nutrient balance	57.98	-18.05	263.71	1,917.70
Applied to removed ratio	1.32	0.55	2.37	2.54

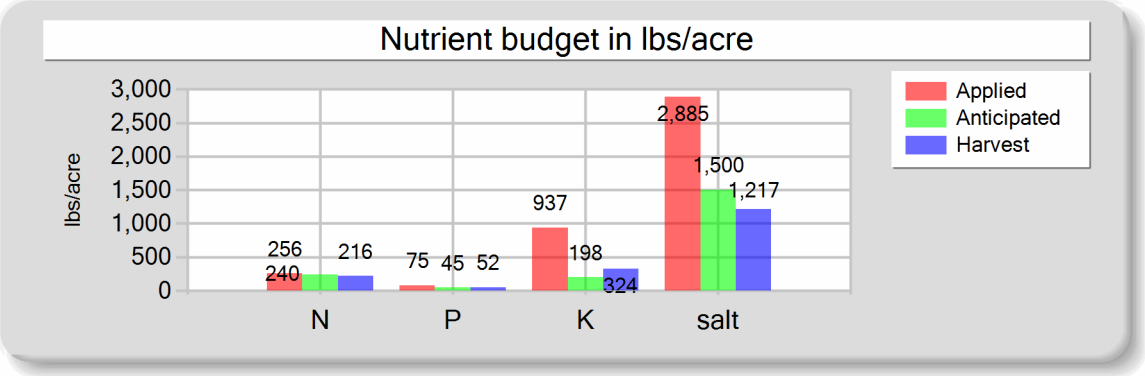
Fresh water applied	
19,399,521.00	*gallons*
714.42	*acre-inches*
23.81	*inches/acre*

Process wastewater applied	
1,890,016.00	*gallons*
69.60	*acre-inches*
2.32	*inches/acre*

Total harvests for the crop	
1	*harvests*

6 - 06/14/2023: Corn, silage

Field name: 6 Crop: Corn, silage Plant date: 06/14/2023



	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Total salt (lbs/acre)
Existing soil nutrient content	0.00	0.00	0.00	0.00
Plowdown credit	0.00	0.00	0.00	0.00
Commercial fertilizer / Other	0.00	0.00	0.00	0.00
Dry manure	0.00	0.00	0.00	0.00
Process wastewater	245.49	75.21	937.32	2,611.12
Fresh water	3.42	0.00	0.00	273.79
Atmospheric deposition	7.00	0.00	0.00	0.00
Total nutrients applied	255.91	75.21	937.32	2,884.91
Anticipated crop nutrient removal	240.00	45.00	198.00	1,500.00
Actual crop nutrient removal	215.90	52.23	323.85	1,217.05
Nutrient balance	40.01	22.98	613.47	1,667.86
Applied to removed ratio	1.19	1.44	2.89	2.37

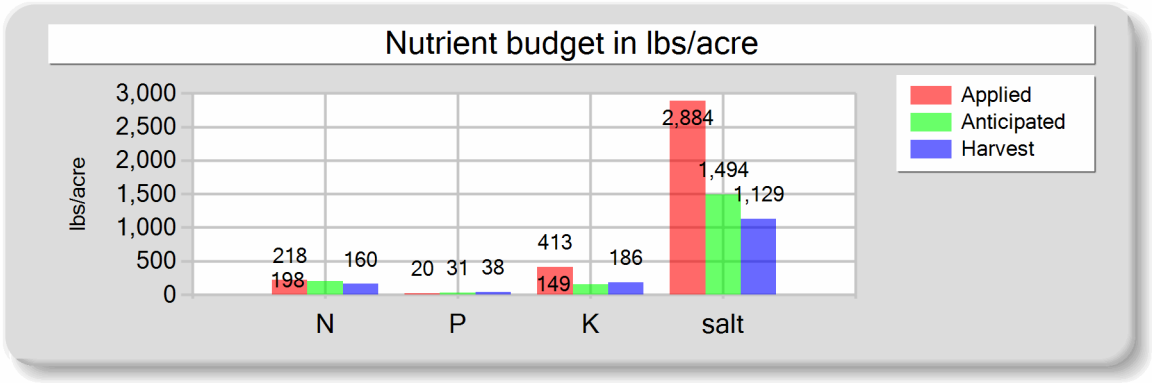
Fresh water applied	
24,606,848.00	*gallons*
906.19	*acre-inches*
30.21	*inches/acre*

Process wastewater applied	
4,011,491.00	*gallons*
147.73	*acre-inches*
4.92	*inches/acre*

Total harvests for the crop	
1	*harvests*

7 - 11/16/2022: Wheat, silage, soft dough

Field name: 7 Crop: Wheat, silage, soft dough Plant date: 11/16/2022



	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	208.01	20.37	413.21	2,672.68
Fresh water	2.64	0.00	0.00	211.00
Atmospheric deposition	7.00	0.00	0.00	0.00
Total nutrients applied	217.64	20.37	413.21	2,883.68
Anticipated crop nutrient removal	198.00	30.60	149.40	1,494.00
Actual crop nutrient removal	160.19	37.91	185.87	1,128.66
Nutrient balance	57.46	-17.53	227.34	1,755.03
Applied to removed ratio	1.36	0.54	2.22	2.55

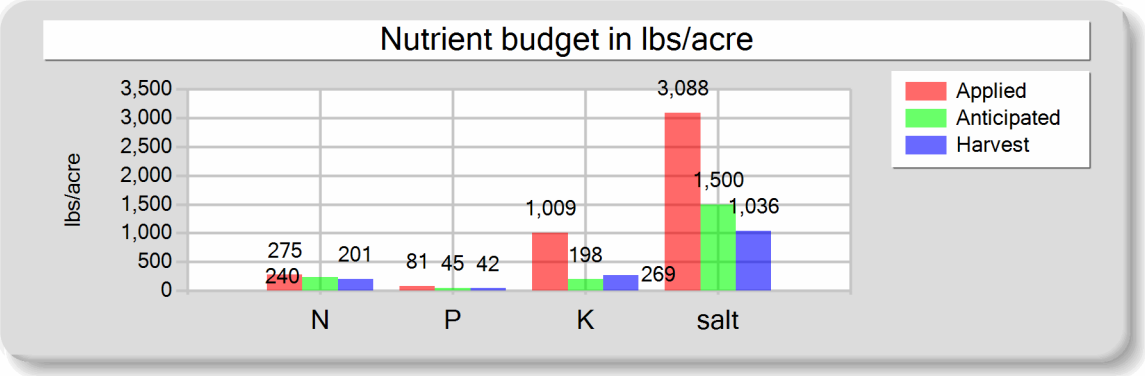
Fresh water applied	
10,113,742.00	*gallons*
372.45	*acre-inches*
23.28	*inches/acre*

Process wastewater applied	
913,511.00	*gallons*
33.64	*acre-inches*
2.10	*inches/acre*

Total harvests for the crop	
1	*harvests*

7 - 06/14/2023: Corn, silage

Field name: 7 Crop: Corn, silage Plant date: 06/14/2023



	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Total salt (lbs/acre)
Existing soil nutrient content	0.00	0.00	0.00	0.00
Plowdown credit	0.00	0.00	0.00	0.00
Commercial fertilizer / Other	0.00	0.00	0.00	0.00
Dry manure	0.00	0.00	0.00	0.00
Process wastewater	264.16	80.93	1,008.59	2,809.65
Fresh water	3.48	0.00	0.00	278.01
Atmospheric deposition	7.00	0.00	0.00	0.00
Total nutrients applied	274.63	80.93	1,008.59	3,087.66
Anticipated crop nutrient removal	240.00	45.00	198.00	1,500.00
Actual crop nutrient removal	200.53	41.85	268.54	1,035.79
Nutrient balance	74.10	39.08	740.06	2,051.87
Applied to removed ratio	1.37	1.93	3.76	2.98

Fresh water applied	
13,325,648.00	*gallons*
490.74	*acre-inches*
30.67	*inches/acre*

Process wastewater applied	
2,302,133.00	*gallons*
84.78	*acre-inches*
5.30	*inches/acre*

Total harvests for the crop	
1	*harvests*

NUTRIENT ANALYSES

A. MANURE ANALYSES

Manure

Sample and source description: Manure

Sample date: 11/15/2022 Material type: Corral solids Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 31.4 %

	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	11,500.00	5,600.00	24,600.00							
DL	100.00	200.00	200.00							

Manure

Sample and source description: Manure

Sample date: 05/03/2023 Material type: Corral solids Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 18.3 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Calcium (mg/kg)	Magnesium (mg/kg)	Sodium (mg/kg)	Sulfur (mg/kg)	Chloride (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	7,700.00	2,800.00	8,400.00							
DL	100.00	200.00	200.00							

Manure

Sample and source description: Manure

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

Moisture: 11.7 %

	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	7,000.00	4,100.00	13,100.00							
DL	100.00	200.00	200.00							

B. PROCESS WASTEWATER ANALYSES

Lagoon

Sample and source description: Lagoon

Sample date: 11/15/2022 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	689.00	428.00	0.00	0.00	78.10	628.00								9,470.00	6,290
DL	10.00	2.00	2.00	2.00	0.20	0.50								100.00	10

Lagoon

Sample and source description: Lagoon

Sample date: 02/22/2023 Material type: Process wastewater Source of analysis: Lab analysis pH: 7.80

	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	342.00	315.00		2.00	29.80	955.00								8,070.00	5,360
DL	10.00	2.00		0.10	0.20	0.50								100.00	10

Lagoon

Sample and source description: Lagoon

Sample date: 05/03/2023 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	220.00	210.00		0.00	67.40	840.00								3,530.00	2,340
DL	10.00	2.00		2.00	0.20	0.50								100.00	10

Lagoon

Sample and source description: Lagoon

Sample 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	135.00	83.70			32.90	176.00								1,910.00	1,270
DL	10.00	2.00			0.20	0.50								100.00	10

Lagoon

Sample and source description: Lagoon

Sample date: 11/08/2023 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	119.00	76.80			34.20	134.00								1,740.00	1,160
DL	10.00	2.00			0.20	0.50								100.00	10

C. FRESH WATER ANALYSES

#1 Alvaro Well

#1 Alvaro Well

Sample description: #1 Alvaro Well

Sample date: 03/22/2023 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	10.50	0.00	10.50	33.00	6.00	9.00	140.00	0.00	7.30	15.00	381.00	230
DL	0.20	0.20	0.20	1.00	1.00	1.00	10.00	10.00	0.17	1.00	1.00	20

#2 Alvin Well

#2 Alvin Well

Sample description: #2 Alvin Well

Sample date: 03/22/2023 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	12.10	0.00	12.10	41.00	7.00	10.00	130.00	0.00	8.00	16.00	394.00	240
DL	0.20	0.20	0.20	1.00	1.00	1.00	10.00	10.00	0.17	1.00	1.00	20

Peoples Ditch Hanford

Peoples Ditch Hanford

Canal

Sample description: Canal

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	0.50	0.00	0.40								31.00	40
DL	0.50	0.50	0.20								1.00	20

D. SOIL ANALYSES

No soil analyses entered.

E. PLANT TISSUE ANALYSES

1 - 11/14/2022: Wheat, silage, soft dough

Field #1

Sample and source description: Field #1

Sample date: 05/03/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 68.4 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	13,000.00	2,800.00	9,400.00		8.94
DL	500.00	200.00	200.00		0.05

1 - 06/12/2023: Corn, silage

1 - 06/12/2023: Corn, silage

Field #1

Sample and source description: Field #1

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

Moisture: 71.8 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	12,800.00	2,800.00	17,700.00		6.61
DL	500.00	200.00	200.00		0.05

3 - 11/14/2022: Wheat, silage, soft dough

Field #3

Sample and source description: Field #3

Sample date: 05/03/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 68.9 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	12,800.00	2,900.00	8,600.00		8.47
DL	500.00	200.00	200.00		0.05

3 - 06/12/2023: Corn, silage

Field #3

Sample and source description: Field #3

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

Moisture: 72.2 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	13,400.00	2,800.00	16,700.00		5.96
DL	500.00	200.00	200.00		0.05

4 - 11/15/2022: Wheat, silage, soft dough

Field #4

Sample and source description: Field #4

Sample date: 05/03/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 68.2 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	13,100.00	2,900.00	8,600.00		8.68
DL	500.00	200.00	200.00		0.05

4 - 06/13/2023: Corn, silage

Field #4

Sample and source description: Field #4

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

Moisture: 71.7 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	12,100.00	2,800.00	17,400.00		5.83
DL	500.00	200.00	200.00		0.05

5 - 11/15/2022: Wheat, silage, soft dough

Field #5

Sample and source description: Field #5

Sample date: 05/03/2023 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	12,100.00	3,000.00	13,900.00		8.20
DL	500.00	200.00	200.00		0.05

5 - 06/13/2023: Corn, silage

Field #5

Sample and source description: Field #5

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

Moisture: 72.1 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	12,100.00	2,900.00	18,200.00		6.50
DL	500.00	200.00	200.00		0.05

6 - 11/16/2022: Wheat, silage, soft dough

Field #6

Sample and source description: Field #6

Sample date: 05/03/2023 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	13,400.00	3,000.00	14,300.00		9.24
DL	500.00	200.00	200.00		0.05

6 - 06/14/2023: Corn, silage

Field #6

Sample and source description: Field #6

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

Moisture: 71.3 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	12,400.00	3,000.00	18,600.00		6.99
DL	500.00	200.00	200.00		0.05

7 - 11/16/2022: Wheat, silage, soft dough

Field #7

Sample and source description: Field #7

Sample date: 05/03/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 69.9 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	13,100.00	3,100.00	15,200.00		9.23
DL	500.00	200.00	200.00		0.05

7 - 06/14/2023: Corn, silage

Field #7

Sample and source description: Field #7

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

Moisture: 70.0 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	11,500.00	2,400.00	15,400.00		5.94
DL	500.00	200.00	200.00		0.05

F. SUBSURFACE (TILE) DRAINAGE ANALYSES

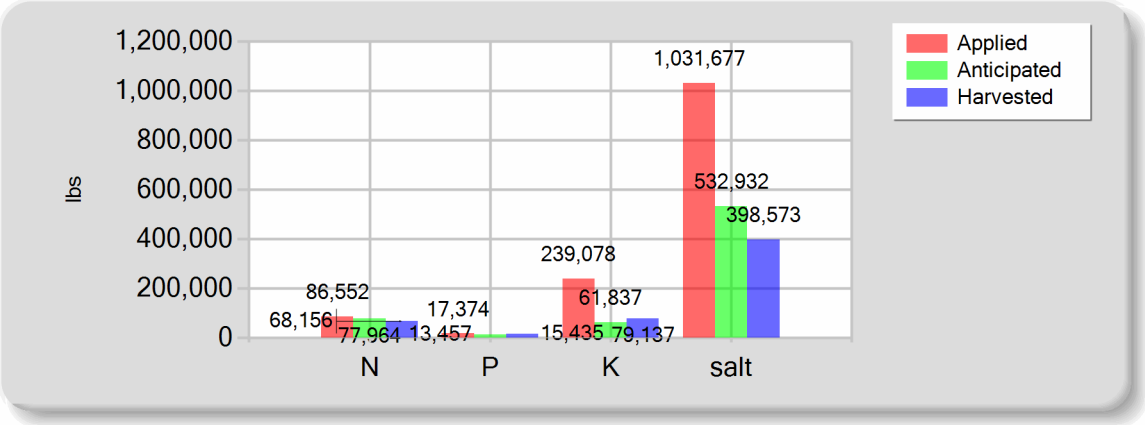
No subsurface (tile) drainage analyses entered.

NUTRIENT APPLICATIONS, POTENTIAL REMOVAL, AND BALANCE

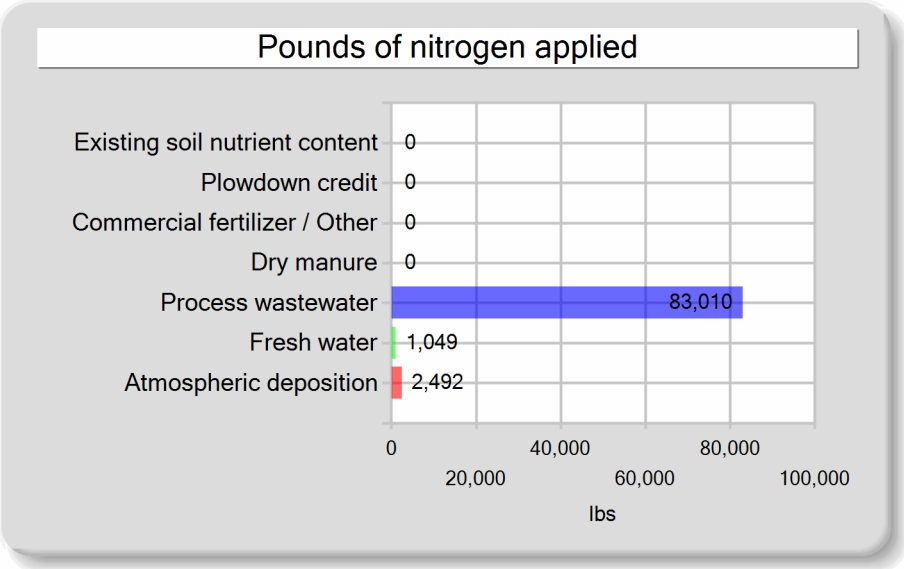
A. SUMMARY OF NUTRIENT APPLICATIONS, POTENTIAL REMOVAL, AND BALANCE

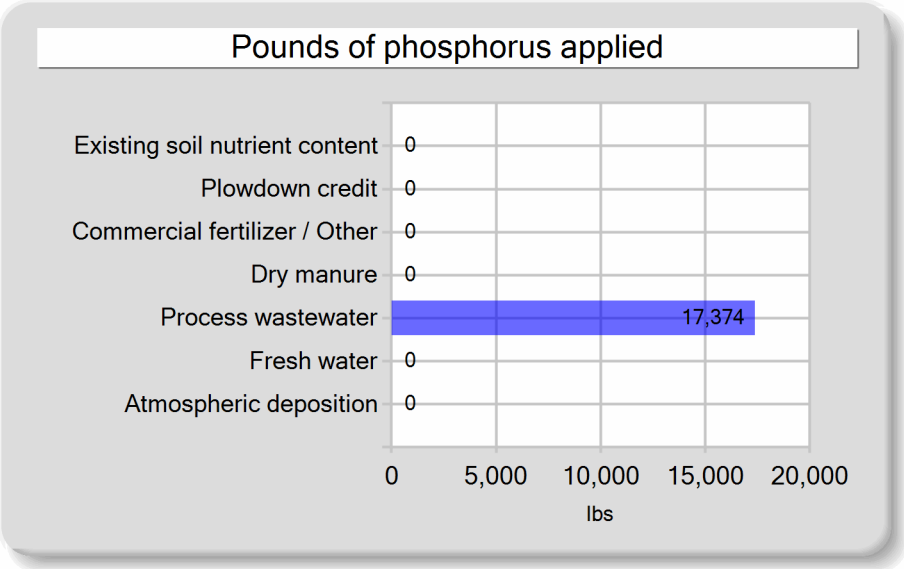
	Total N (lbs)	Total P (lbs)	Total K (lbs)	Total salt (lbs)
Existing soil nutrient content	0.00	0.00	0.00	0.00
Plowdown credit	0.00	0.00	0.00	0.00
Commercial fertilizer / Other	0.00	0.00	0.00	0.00
Dry manure	0.00	0.00	0.00	0.00
Process wastewater	83,010.39	17,373.75	239,077.96	947,739.13
Fresh water	1,049.22	0.00	0.00	83,937.89
Atmospheric deposition	2,492.00	0.00	0.00	0.00
Total nutrients applied	86,551.61	17,373.75	239,077.96	1,031,677.02
Anticipated crop nutrient removal	77,964.00	13,456.80	61,837.20	532,932.00
Actual crop nutrient removal	68,155.63	15,435.26	79,137.49	398,572.81
Nutrient balance	18,395.98	1,938.49	159,940.47	633,104.21
Applied to removed ratio	1.27	1.13	3.02	2.59

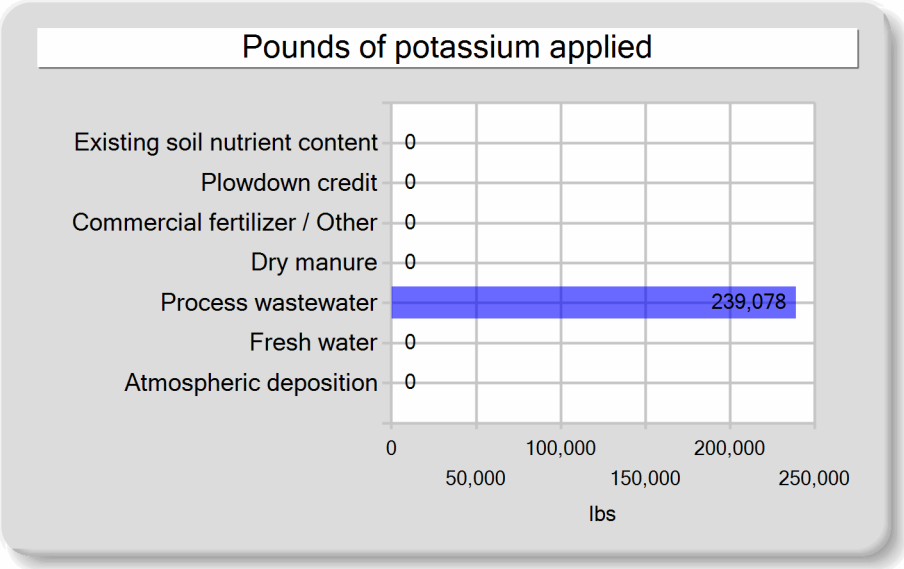
B. POUNDS OF NUTRIENT APPLIED VS. CROP REMOVAL

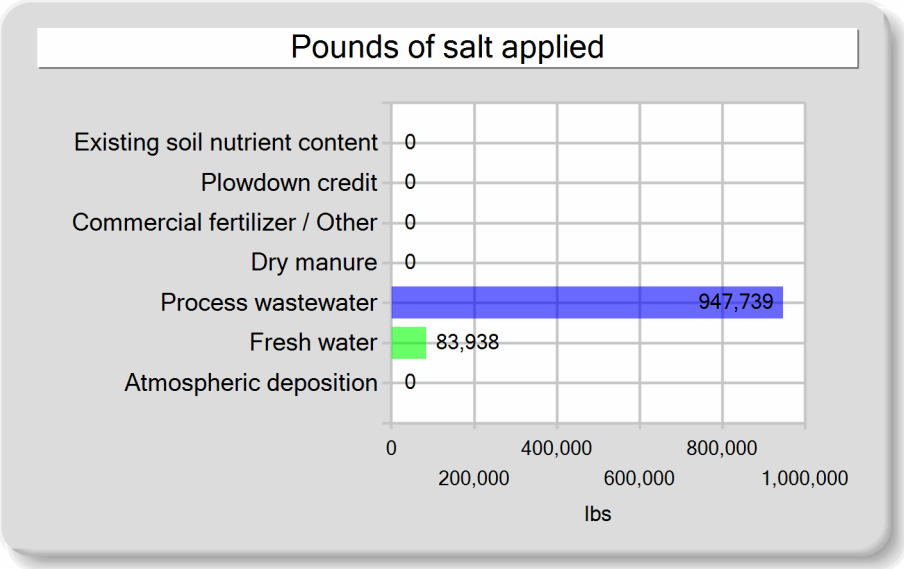


C. POUNDS OF NUTRIENT APPLIED BY MATERIAL TYPE









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

ADDITIONAL NOTES

A. NOTES

Wells #2 Bezzara Well, #4 Camara Well, #1 Dairy Well, IW1, and #3 West Lake Well were unable to sample in 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
Alvin Machado	SAME AS OWNER
PRINT OR TYPE NAME	PRINT OR TYPE NAME
6/14/24	
DATE	DATE

Annual Report - General Order No. R5-2007-0035
Reporting period 01/01/2023 to 12/31/2023.

ATTACHMENTS

A. REQUIRED ATTACHMENTS

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

Annual Dairy Facility Assessment

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

Manure/Process Wastewater Tracking Manifests

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

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.

April 12, 2023

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

Lab No. : **VI 2341716**
Customer No. : **4019696**
Reference : **2738**

Laboratory Report

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

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

Case Narrative

This Case Narrative pertains to the following samples:

Sample Description	Date Sampled	Date Received	FGL Lab No.	Matrix
#1 Alvaro Well	03/22/2023	03/22/2023	VI 2341716-001	DW
#2 Alvin Well	03/22/2023	03/22/2023	VI 2341716-002	DW

Sampling and Receipt Information:

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

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

Test Summary	
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: 2023-04-12

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April 12, 2023

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

Description : #1 Alvaro Well
Project : Alvaro Machado

Lab No. : VI 2341716-001
Customer No. : 4019696
Reference : 2738
Sampled On : March 22, 2023 at 09:05
Sampled By : Geremy
Received On : March 22, 2023 at 15:32
Matrix : Drinking Water

Sample Results - Inorganic

Constituent	Result	RL	Units	MCL/AL	Dil.	DQF	Sample Preparation			Sample Analysis			
Dairy Analysis							Date	Time	Who	Method	Date	Time	Who
Alkalinity (as CaCO3)	110	10	mg/L		1		03/26/2023	21:28	amm	SM 4500-H+B	03/27/2023	04:25	amm
Bicarbonate	140	10	mg/L		1		03/26/2023	21:28	amm	SM 4500-H+B	03/27/2023	04:25	amm
Carbonate	ND	10	mg/L		1	U	03/26/2023	21:28	amm	SM 4500-H+B	03/27/2023	04:25	amm
Hydroxide	ND	10	mg/L		1	U	03/26/2023	21:28	amm	SM 4500-H+B	03/27/2023	04:25	amm
Chloride	15	1	mg/L	500[2]	1		03/23/2023	15:10	ldm	EPA 300.0	03/24/2023	05:05	ldm
Nitrate Nitrogen	10.5	0.1	mg/L	10	1		03/23/2023	15:10	ldm	EPA 300.0	03/24/2023	05:05	ldm
Conductivity	381	1	umhos/cm	1600[2]	1		03/26/2023	21:28	amm	SM 4500-H+B	03/27/2023	04:25	amm
Sulfate Sulfur	7.30	0.17	mg/L		1		03/23/2023	15:10	ldm	EPA 300.0	03/24/2023	05:05	ldm
Solids, Total Dissolved (TDS)	230	20	mg/L	1000[2]	1		03/24/2023	10:10	ctl	SM 2540 C	03/27/2023	11:15	ctl
Calcium	33	1	mg/L		1		03/27/2023	02:12	ejc	EPA 200.7	03/28/2023	10:57	ac
Magnesium	6	1	mg/L		1		03/27/2023	02:12	ejc	EPA 200.7	03/28/2023	10:57	ac
Potassium	2	1	mg/L		1		03/27/2023	02:12	ejc	EPA 200.7	03/28/2023	10:57	ac
Sodium	9	1	mg/L		1		03/27/2023	02:12	ejc	EPA 200.7	03/28/2023	10:57	ac

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

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

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April 12, 2023

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

Description : #2 Alvin Well
Project : Alvaro Machado

Lab No. : VI 2341716-002
Customer No. : 4019696
Reference : 2738
Sampled On : March 22, 2023 at 09:20
Sampled By : Geremy
Received On : March 22, 2023 at 15:32
Matrix : Drinking Water

Sample Results - Inorganic

Constituent	Result	RL	Units	MCL/AL	Dil.	DQF	Sample Preparation			Sample Analysis			
Dairy Analysis							Date	Time	Who	Method	Date	Time	Who
Alkalinity (as CaCO3)	100	10	mg/L		1	I	03/28/2023	15:46	amm	SM 4500-H+B	03/28/2023	20:49	amm
Bicarbonate	130	10	mg/L		1	I	03/28/2023	15:46	amm	SM 4500-H+B	03/28/2023	20:49	amm
Carbonate	ND	10	mg/L		1	U	03/28/2023	15:46	amm	SM 4500-H+B	03/28/2023	20:49	amm
Hydroxide	ND	10	mg/L		1	U	03/28/2023	15:46	amm	SM 4500-H+B	03/28/2023	20:49	amm
Chloride	16	1	mg/L	500[2]	1		03/23/2023	15:10	ldm	EPA 300.0	03/24/2023	02:39	ldm
Nitrate Nitrogen	12.1	0.1	mg/L	10	1		03/23/2023	15:10	ldm	EPA 300.0	03/24/2023	02:39	ldm
Conductivity	394	1	umhos/cm	1600[2]	1		03/28/2023	15:46	amm	SM 4500-H+B	03/28/2023	20:49	amm
Sulfate Sulfur	8.00	0.17	mg/L		1		03/23/2023	15:10	ldm	EPA 300.0	03/24/2023	02:39	ldm
Solids, Total Dissolved (TDS)	240	20	mg/L	1000[2]	1		03/27/2023	10:45	ctl	SM 2540 C	03/28/2023	11:30	ctl
Calcium	41	1	mg/L		1		03/27/2023	02:12	ejc	EPA 200.7	03/28/2023	11:11	ac
Magnesium	7	1	mg/L		1		03/27/2023	02:12	ejc	EPA 200.7	03/28/2023	11:11	ac
Potassium	2	1	mg/L		1		03/27/2023	02:12	ejc	EPA 200.7	03/28/2023	11:11	ac
Sodium	10	1	mg/L		1		03/27/2023	02:12	ejc	EPA 200.7	03/28/2023	11:11	ac

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

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

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April 12, 2023

Sentry Ag Service

Lab No. : VI 2341716
Customer No. : 4019696

Quality Control - Metals

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Metals								
Calcium	200.7	03/27/2023:203196EJC	Blank	mg/L		ND	<1	
			LCS	mg/L	12.00	101 %	85-115	
			MS	mg/L	12.00	128 %	<¼	
		(CH 2371927-006)	MSD	mg/L	12.00	143 %	<¼	
			MSRPD	mg/L	0.8000	1.5%	≤20.0	
			MS	mg/L	12.00	115 %	75-125	
		(STK2333629-005)	MSD	mg/L	12.00	110 %	75-125	
			MSRPD	mg/L	0.8000	1.8%	≤20.0	
Magnesium	200.7	03/27/2023:203196EJC	Blank	mg/L		ND	<1	
			LCS	mg/L	12.00	102 %	85-115	
			MS	mg/L	12.00	113 %	75-125	
		(CH 2371927-006)	MSD	mg/L	12.00	122 %	75-125	
			MSRPD	mg/L	0.8000	1.7%	≤20	
			MS	mg/L	12.00	112 %	75-125	
		(STK2333629-005)	MSD	mg/L	12.00	110 %	75-125	
			MSRPD	mg/L	0.8000	0.7%	≤20	
Potassium	200.7	03/27/2023:203196EJC	Blank	mg/L		ND	<1	
			LCS	mg/L	12.00	100 %	85-115	
			MS	mg/L	12.00	110 %	75-125	
		(CH 2371927-006)	MSD	mg/L	12.00	112 %	75-125	
			MSRPD	mg/L	0.8000	1.9%	≤20.0	
			MS	mg/L	12.00	117 %	75-125	
		(STK2333629-005)	MSD	mg/L	12.00	112 %	75-125	
			MSRPD	mg/L	0.8000	1.8%	≤20.0	
Sodium	200.7	03/27/2023:203196EJC	Blank	mg/L		ND	<1	
			LCS	mg/L	12.00	100 %	85-115	
			MS	mg/L	12.00	129 %	<¼	
		(CH 2371927-006)	MSD	mg/L	12.00	141 %	<¼	
			MSRPD	mg/L	0.8000	1.5%	≤20.0	
			MS	mg/L	12.00	159 %	<¼	
		(STK2333629-005)	MSD	mg/L	12.00	104 %	75-125	
			MSRPD	mg/L	0.8000	2.5%	≤20.0	

Definition

<¼ : High Sample Background - Spike concentration was less than one forth of the sample concentration.
Blank : Method Blank - Prepared to verify that the preparation process is not contributing contamination to the samples.
DQO : Data Quality Objective - This is the criteria against which the quality control data is compared.
LCS : Laboratory Control Standard/Sample - Prepared to verify that the preparation process is not affecting analyte recovery.
MS : Matrix Spikes - A random sample is spiked with a known amount of analyte. The recoveries are an indication of how that sample matrix affects analyte recovery.
MSD : Matrix Spike Duplicate of MS/MSD pair - A random sample duplicate is spiked with a known amount of analyted. The recoveries are an indication of how that sample matrix affects analyte recovery.
MSRPD : MS/MSD Relative Percent Difference (RPD) - The MS relative percent difference is an indication of precision for the preparation and analysis.
ND : Non-detect - Result was below the DQO listed for the analyte.

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April 12, 2023

Sentry Ag Service

Lab No. : VI 2341716
Customer No. : 4019696

Quality Control - Wet Chem

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Wet Chem								
Alkalinity (as CaCO3)	2320B	03/26/2023:203195AMM	ND	mg/L		0.3%	10	
	2320B	(SP 2304407-001)	Dup	mg/L		27.2%	10	440
Bicarbonate	2320B	(VI 2341743-003)	Dup	mg/L		0.4%	10	
	2320B	(SP 2304407-001)	Dup	mg/L		27.1%	10	440
E. C.	2320B	(VI 2341743-003)	Dup	umhos/cm		0.2%	5	
	2320B	(SP 2304407-001)	Dup	umhos/cm		0.4%	5	
Solids, Total Dissolved	2540CE	03/24/2023:203161CTL	Blank	mg/L		ND	<20	
			LCS	mg/L	991.1	98.2%	90-110	
		(CH 2371714-002)	Dup	mg/L		3.33%	5	
		(CH 2371714-002)	Dup	mg/L		1.85%	5	
	2540CE	03/27/2023:203230CTL	Blank	mg/L		ND	<20	
			LCS	mg/L	991.1	100%	90-110	
		(CC 2380862-002)	Dup	mg/L		1%	5	
		(CC 2380862-002)	Dup	mg/L		1.55%	5	
Chloride	300.0	03/23/2023:203252LDM	Blank	mg/L		ND	<1	
			LCS	mg/L	25.00	105 %	90-110	
			MS	mg/L	50.00	104 %	85-121	
		(CC 2380855-002)	MSD	mg/L	50.00	99.5 %	85-121	
			MSRPD	mg/L	10.00	4.0%	≤19	
			MS	mg/L	50.00	105 %	85-121	
		(CC 2380855-001)	MSD	mg/L	50.00	101 %	85-121	
			MSRPD	mg/L	10.00	3.8%	≤19	
Nitrate Nitrogen	300.0	03/23/2023:203252LDM	Blank	mg/L		ND	<0.4	
			LCS	mg/L	20.00	103 %	90-110	
			MS	mg/L	40.00	104 %	85-119	
		(CC 2380855-002)	MSD	mg/L	40.00	99.8 %	85-119	
			MSRPD	mg/L	10.00	4.4%	≤19	
			MS	mg/L	40.00	105 %	85-119	
		(CC 2380855-001)	MSD	mg/L	40.00	101 %	85-119	
			MSRPD	mg/L	10.00	4.3%	≤19	
Sulfate Sulfur	300.0	03/23/2023:203252LDM	Blank	mg/L		ND	<0.5	
			LCS	mg/L	50.00	105 %	90-110	
			MS	mg/L	100.0	105 %	82-124	
		(CC 2380855-002)	MSD	mg/L	100.0	101 %	82-124	
			MSRPD	mg/L	10.00	4.3%	≤23	
			MS	mg/L	100.0	106 %	82-124	
		(CC 2380855-001)	MSD	mg/L	100.0	102 %	82-124	
			MSRPD	mg/L	10.00	4.2%	≤23	

Definition

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

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

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

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

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

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

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

Page 5 of 6

Explanation

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

Page 6 of 6

Laboratory Analysis Work Order

2738

2341716

SITE NAME: Alvaro Machado **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, NO_3N (Dom)
W2 EC, NO_3N, TDS, TN (Irr) 807 3.6
W3 NH_4-N (Ammonium)
(W4) EC, NO_3N, Ca, Mg, Na, HCO_3, CO_3, SO_4S, Cl, TDS (Dom, GM)
W5 EC, NO_3N, TDS, TN, Ca, Mg, Na, HCO_3, CO_3, SO_4S, Cl (Irr, GM)
W6 NO_3N, NO_2 (Dom ILRP, Annually)
W7 Ca, Mg, Na, K, HCO_3, CO_3, SO_4, Cl + Lab Filtering (GWM)
W8 Other: _____

Plant Tissue

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

Process Waste Water (lagoon)

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

Manure

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

Soil

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

	Sample ID	Description	Analysis	Date/Time	Sampled by	SAS USE ONLY: FIELD TESTS NH_3N *	pH	Temp
1	#1 Alvaro Well	Domestic well	W4	3/22/23 9:05	Geremy	—		
2	#2 Alvin Well	Domestic well	W4	3/22/23 9:20	"	—		
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 sampes, please note below.

NOTES:

CHAIN OF CUSTODY RECORDING

	Signature	Company	Received Date & Time	Relinquished Date & Time
1st	Geremy DeRuth	SAS		3/22/23 3:32 pm
2nd		FGL	3/22/23 1532	
3rd				3/22/23 1730
4th			3/22/23 1730	

LABORATORY USE ONLY
Logged In By: _____ **Total Samples:** _____ **Laboratory No.:** _____

OLS 3/23/23
MC 1255

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: 1.3 / ____ / ____ / ____ / ____
   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): ____

Sample Receipt at SP:

1. Were samples received in a chilled condition? Temps: 2C / ____ / ____ / ____ / ____
   Acceptable is above freezing to 6 C. If many packages are received at one time check for tests/H.T.'s/rushes/
2. Shipping tracking numbers: 559052018 022 259

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? [Exception: Oil & Grease, VOA and CrVI verified in lab]	Yes	No	N/A	FGL
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): MJC

Discrepancy Documentation:

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

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

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

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

(4019696)
Sentry Ag Service
VI 2341716
iv 03/23/2023 08:58:05
VI 2341716

August 11, 2023

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

Lab No. : **VI 2344656**
Customer No. : **4019696**
Reference : **3058**

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
People's Ditch - Hanford	07/18/2023	07/18/2023	VI 2344656-001	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

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TEL: (559)734-9473
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CA ELAP Certification No. 2810

August 11, 2023

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

Description : People's Ditch - Hanford
Project : People's Ditch - Hanford

Lab No. : VI 2344656-001
Customer No. : 4019696
Reference : 3058
Sampled On : July 18, 2023 at 12:45
Sampled By : Geremy
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	ND	0.5	mg/L		1	U	08/08/2023	08:55	sta	EPA 351.2	08/10/2023	17:11	lcr
Nitrate Nitrogen	ND	0.4	mg/L		1	U	07/19/2023	12:15	lfs	SM 4500-NO3 F	07/19/2023	13:53	lfs
Nitrogen, Total as Nitrogen	ND	0.5	mg/L		1	U	08/08/2023	08:55	sta	Calc.	08/10/2023	17:11	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	13:53	lfs
Kjeldahl Nitrogen	ND	0.5	mg/L		1	U	08/08/2023	08:55	sta	EPA 351.2	08/10/2023	17:11	lcr
Conductivity	31	1	umhos/cm		1		07/31/2023	14:51	amm	SM 4500-H+B	07/31/2023	17:48	amm
Solids, Total Dissolved (TDS)	40	20	mg/L		1		07/20/2023	16:15	ctl	SM 2540 C	07/21/2023	11:10	ctl

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

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

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August 11, 2023

Sentry Ag Service

Lab No. : VI 2344656
Customer No. : 4019696

Quality Control - Wet Chem

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Wet Chem								
E. C.	2320B	(VI 2344788-008)	Dup	umhos/cm		0.1%	5	
Solids, Total Dissolved	2540CE	07/20/2023:207946CTL	Blank	mg/L		ND	<20	
			LCS	mg/L	993.7	102%	90-110	
		(STK2339578-001)	Dup	mg/L		0.4%	5	
		(STK2339578-001)	Dup	mg/L		1.98%	5	
Nitrogen, Total Kjeldahl	351.2	08/08/2023:208707STA	Blank	mg/L		ND	<0.5	
			LCS	mg/L	12.00	91.3%	73-124	
			MS	mg/L	12.00	85.5%	54-136	
		(VI 2344654-002)	MSD	mg/L	12.00	85.3%	54-136	
			MSRPD	mg/L		0.3%	≤27	
			MS	mg/L	12.00	82.8%	54-136	
		(VI 2344644-003)	MSD	mg/L	12.00	82.5%	54-136	
			MSRPD	mg/L		0.3%	≤27	
Nitrate + Nitrite as N	4500NO3F	07/19/2023:207926LFS	Blank	mg/L		ND	<0.4	
			LCS	mg/L	11.22	97.7%	80-120	
			MS	mg/L	5.609	90.8%	66-125	
		(SP 2312214-001)	MSD	mg/L	5.609	92.7%	66-125	
			MSRPD	mg/L		1.0%	≤30.4	
Nitrate Nitrogen	4500NO3F	07/19/2023:207926LFS	Blank	mg/L		ND	<0.4	
			LCS	mg/L	11.22	97.7%	80-120	
			MS	mg/L	5.609	90.8%	66-125	
		(SP 2312214-001)	MSD	mg/L	5.609	92.7%	66-125	
			MSRPD	mg/L		1.0%	≤30.4	

Definition

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

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

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

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

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

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

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

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

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CA ELAP Certification No. 2810

2344656

Laboratory Analysis Work Order

3058

SITE NAME: People's Ditch - Hanford

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

Plant Tissue

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

Process Waste Water (lagoon)

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

Manure

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

Soil

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

	Sample ID	Description	Analysis	Date/Time	Sampled by	SAS USE ONLY: FIELD TESTS NH_3N *	pH	Temp
1	People's Ditch - Hanford	Canal	W2	7/18/23 12:45	Geremy	—		
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 sampes, please note below.

NOTES:

CHAIN OF CUSTODY RECORDING

	Signature	Company	Received Date & Time	Relinquished Date & Time
1st	[signature]	SAS		7/18/23 3:47 pm
2nd	SRO	FGL	7/18/23 1517	
3rd	SRO	FGL		7/18/23 1730
4th		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: RO1 / 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? [Exception: Oil & Grease, VOA and CrVI verified in lab]	(Yes)	No	N/A	FGL
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): MXC

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

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

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

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