# Livingston Dairy Consulting, Inc.

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

**Machado Dairy & Farming, Inc. WDID 5C54NC00198**
20180 Road 36, Tulare 93274

| | |
|---|---|
| X | Annual Report |
| X | Water Analysis Samples |
| N/A | Manure Manifest |
| N/A | Facility / Land Map |
| X | CCA Nitrogen Retrofit Report |
| | |
| | |

**GEO Tracker Confirmation #** **Date:**

# Facility Info

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

***Name of the Facility***

Dairy Name: Machado Dairy & Farming, Inc. WDID 5C54NC00198

Facility Address: 20180 Road 36, Tulare 93274

Original Operation Date: 6/15/1929

Facility APN's: x225 x020 x041 xxxx, x225 x020 x043 xxxx

RWQCB Basin Plan Designation: Tulare Lake Basin

☐ Check if any information has changed

***Owner(s)***

Owner(s) Name: Alvin, Marvin, or Joe Machado

Mailing Address: 3702 Ave. 184, Tulare, 20150 Rd. 36, Tulare, 20180 Rd. 36, Tulare

Home Phone Number: 559-686-2631

Cell Phone Number:

☐ Check if any information has changed

***Operator(s)***

Operator(s) Name: Same as owner

Mailing Address:

Home Phone Number:

Cell Phone Number:

☐ Check if any information has changed

# Herd Information

| | Milk Cows | Dry Cows | Bred Heifers (12-24 mo) | Heifers (3-12 mo) | Calves (0-3 mo) |
|---|---|---|---|---|---|
| **Open Confinement:** | - | 100 | 105 | 99 | 160 |
| **Number Under Roof** | 777 | - | - | - | - |
| **Maximum Number** | 777 | 100 | 105 | 99 | 160 |
| **Average Number** | 777 | 100 | 105 | 99 | 160 |
| **Average Live Weight (lbs)** | 1,400 | 1,450 | 950 | 630 | |

**Average Milk Production:** 68

**Predominant Milk Cow Breed:** Holstein

**Manure Generated:**

| | | | |
|---|---|---|---|
| Total manure excreted by the herd: | 2,258.83 | @40% Moisture | *ton/yr* |
| Total nitrogen from manure: | 176,049 | | *lbs* |
| | 12,028 | | *lbs* |
| | 58,594 | | *lbs* |
| Total salt from manure: | - | | *lbs* |

After Ammonia (30% loss applied)

123,234 *lbs per reporting period*

**Process Wastewater Generated:**

| | | |
|---|---|---|
| Process wastewater generated: | 11,344,200 | *gal* |
| Total nitrogen generated: | 65,204 | *lbs* |
| | 15,514 | *lbs* |
| | 83,180 | *lbs* |
| Total salt (TDS) generated: | 694,810 | *lbs* |

# List of Land Application Areas

| Field Name | APN | APN Acres | Cropable Acres | Total Harvest | Type of Waste Applied |
|---|---|---|---|---|---|
| Curti-18 | x225 x010 x012 xxxx, x225 x010 x013 xxxx, x225 x030 x003 xxxx | 56 | 39 | 2 | P.W. & D.M. |
| Triangle | x225 x020 x024 xxxx, x295 x020 x043 xxxx | 70 | 21 | 8 | N/A |
| Dickerson | x225 x020 x042 xxxx, x225 x020 x041 xxxx | 77 | 50 | 2 | P.W. & D.M. |
| House | x225 x020 x024 xxxx, x295 x020 x025 xxxx | | 26 | 1 | P.W. & D.M. |
| Johnson | x225 x020 x042 xxxx, x225 x020 x041 xxxx | | 19 | 8 | N/A |
| Pasture NW-E | x200 x140 x009 xxxx | | 160 | 2 | Dry Manure |
| 145 N | x200 x130 x001 xxxx | | 73 | 8 | N/A |
| Pool Ranch S | x200 x100 x037 xxxx | 158 | 44 | 8 | N/A |
| Silva East | x200 x100 x023 xxxx | | 75 | 8 | N/A |
| Pasture SE-W | x200 x140 x009 xxxx | | 95 | 2 | Dry Manure |
| Santos | x225 x030 x012 xxxx | 79 | 74 | 8 | N/A |
| Silva West | x200 x100 x023 xxxx | 155 | 75 | 8 | N/A |
| Cattle Lot | x200 x130 x001 xxxx | 320 | 80 | 2 | Dry Manure |
| Jacks | x200 x130 x001 xxxx | | 80 | 8 | N/A |
| Airstrip | x200 x140 x009 xxxx | 320 | 70 | 1 | Dry Manure |
| | **Total Crop Acres** | | 980.50 | | |

# List of Land Application Areas

| Field Name | APN | APN Acres | Cropable Acres | Total Harvest | Type of Waste Applied |
|---|---|---|---|---|---|
| 145 S | x200 x130 x001 xxxx | | 73 | 8 | N/A |
| Pool Ranch N | x200 x100 x037 xxxx | 158 | 32 | 2 | Dry Manure |
| Pool Ranch | x200 x100 x037 xxxx | | 75 | 2 | Dry Manure |
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| | Total Crop Acres | 179.50 | | | |

# List of Fresh Water Sources

| Source Description | Type | Subsurface (Tile) Drainage Sources |
|---|---|---|
| Dom #1 | Ground Water | No |
| Dom #2 | Ground Water | No |
| Curti Dom | Ground Water | No |
| Dickerson Dom | Ground Water | No |
| Cattle Dom | Ground Water | No |
| Santos Dom | Ground Water | No |
| Airstrip Dom | Ground Water | No |
| Johnson Dom | Ground Water | No |
| 3 | Ground Water | No |
| 4 | Ground Water | No |
| 5 | Ground Water | No |
| 6 | Ground Water | No |
| 145 | Ground Water | No |
| Cattle Lot | Ground Water | No |
| Jack's | Ground Water | No |
| Pasture NE | Ground Water | No |
| Pasture NW | Ground Water | No |
| Santos | Ground Water | No |
| Silva N | Ground Water | No |
| Silva S | Ground Water | No |
| Pool | Ground Water | No |
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| | | |
| Canal | Surface Water | No |

| (WINTER) PLANT TISSUE ANALYSIS (Recorded As Received) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Field** | **Crop** | **Moist %** | **N%** | **TP %** | **TK%** | **Salt** | **TFS** | **Sample #:** | **Date:** | **Source** |
| Curti-18 | Wheat, Silage | 63.60 | 0.71 | 0.15 | 0.58 | - | 11.60 | 5-9H49176 | 05/09/23 | Valley Tech |
| Triangle | Alfalfa | 6.90 | 2.61 | 0.25 | 1.36 | - | 9.79 | 9-14H65441 | 09/14/23 | Valley Tech |
| Dickerson | Wheat, Baled | 10.90 | 0.88 | 0.20 | 0.89 | - | 7.40 | 6-8H53062 | 06/08/23 | Valley Tech |
| House | Wheat, Silage | 74.60 | 0.33 | 0.08 | 0.38 | - | 9.82 | 5-25H51409 | 05/25/23 | Valley Tech |
| Johnson | Alfalfa | 6.90 | 2.33 | 0.26 | 1.85 | - | 12.40 | 9-14H65441 | 09/14/23 | Valley Tech |
| Pasture NW-E | Wheat, Silage | 60.50 | 0.45 | 0.13 | 0.52 | - | 9.49 | 5-23H1007 | 05/23/23 | Valley Tech |
| 145 N | Alfalfa | 6.60 | 2.82 | 0.25 | 1.47 | - | 10.10 | 9-14H65441 | 10/06/23 | Valley Tech |
| Pool Ranch S | Alfalfa | 6.90 | 2.44 | 0.28 | 1.69 | - | 10.40 | 9-14H65441 | 10/06/23 | Valley Tech |
| Silva East | Alfalfa | 6.50 | 2.49 | 0.26 | 1.64 | - | 10.00 | 9-14H65441 | 10/06/23 | Valley Tech |
| Pasture SE-W | Wheat, Silage | 57.50 | 0.66 | 0.14 | 0.59 | - | 18.90 | 5-9H49176 | 05/09/23 | Valley Tech |
| Santos | Alfalfa | 6.70 | 2.50 | 0.29 | 1.84 | - | 12.10 | 9-14H65441 | 10/06/23 | Valley Tech |
| Silva West | Alfalfa | 7.00 | 2.45 | 0.26 | 1.95 | - | 11.00 | 9-14H65441 | 10/06/23 | Valley Tech |
| Cattle Lot | Wheat, Silage | 50.60 | 0.54 | 0.15 | 0.55 | - | 8.41 | 5-25H51409 | 05/25/23 | Valley Tech |
| Jacks | Alfalfa | 5.90 | 2.55 | 0.25 | 1.74 | - | 11.40 | 9-14H65441 | 10/06/23 | Valley Tech |
| Airstrip | Oats, Hay | 6.10 | 1.35 | 0.24 | 2.28 | - | 11.40 | 6-8H53063 | 06/08/23 | Valley Tech |
| *Detectable Lim Valley Tech* | | *0.10%* | *0.05%* | *0.01%* | *0.01%* | | *0.05%* | | | |
| *Dellavalle* | | *0.001%* | *0.01%* | *0.01%* | *0.003%* | | *0.001%* | | | |
| *Detectable Limits* | | | | | | | | | | |
| *Valley Tech* | | *0.10%* | *0.05%* | *0.01%* | *0.01%* | | *0.05%* | | | |
| *Dellavalle* | | *0.001%* | *0.01%* | *0.01%* | *0.003%* | | *0.001%* | | | |

## (WINTER) PLANT TISSUE ANALYSIS (Recorded As Received)

| Field | Crop | Moist % | N% | TP % | TK% | Salt | TFS | Sample #: | Date: | Source |
|---|---|---|---|---|---|---|---|---|---|---|
| 145 S | Alfalfa | 6.90 | 2.39 | 0.26 | 1.96 | - | 10.80 | 9-14H65441 | 10/06/23 | Valley Tech |
| Pool Ranch N | Oats, Hay | 6.20 | 1.35 | 0.24 | 1.52 | - | 11.70 | 6-8H53063 | 06/08/23 | Valley Tech |
| Pool Ranch | Wheat, Silage | 54.00 | 0.49 | 0.16 | 0.69 | - | 11.20 | 5-23H1007 | 05/23/23 | Valley Tech |
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|---|---|---|---|---|---|---|
| *Detectable Lim Valley Tech* | *0.10%* | *0.05%* | *0.01%* | *0.01%* | | *0.05%* |
| *Dellavalle* | *0.001%* | *0.01%* | *0.01%* | *0.003%* | | *0.001%* |
| *Detectable Limits* | | | | | | |
| *Valley Tech* | *0.10%* | *0.05%* | *0.01%* | *0.01%* | | *0.05%* |
| *Dellavalle* | *0.001%* | *0.01%* | *0.01%* | *0.003%* | | *0.001%* |

| (SUMMER) PLANT TISSUE ANALYSIS (Recorded As Received) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Field** | **Crop** | **Moist %** | **N%** | **TP %** | **TK%** | **Salt** | **TFS** | **Sample #:** | **Date:** | **Source** |
| Curti-18 | Corn, Silage | 64.20 | 0.34 | 0.08 | 0.42 | - | 5.51 | 10-11H68941 | 10/11/23 | Valley Tech |
| Triangle | Alfalfa | - | - | - | - | - | - | See Winter | | - |
| Dickerson | Corn, Silage | 54.80 | 0.52 | 0.09 | 0.46 | - | 4.92 | 11-14H72963 | 11/14/23 | Valley Tech |
| House | S. Fallow | - | - | - | - | - | - | Fallow | | - |
| Johnson | Alfalfa | - | - | - | - | - | - | See Winter | | - |
| Pasture NW-E | Corn, Silage | 54.00 | 0.53 | 0.09 | 0.39 | - | 4.18 | 11-14H72963 | 11/14/23 | Valley Tech |
| 145 N | Alfalfa | - | - | - | - | - | - | See Winter | | - |
| Pool Ranch S | Alfalfa | - | - | - | - | - | - | See Winter | | - |
| Silva East | Alfalfa | - | - | - | - | - | - | See Winter | | - |
| Pasture SE-W | Corn, Silage | 53.40 | 0.55 | 0.09 | 0.40 | - | 4.17 | 11-14H72963 | 11/14/23 | Valley Tech |
| Santos | Alfalfa | - | - | - | - | - | - | See Winter | | - |
| Silva West | Alfalfa | - | - | - | - | - | - | See Winter | | - |
| Cattle Lot | Corn, Silage | 66.90 | 0.44 | 0.09 | 0.28 | - | 5.47 | 10-11H68941 | 10/11/23 | Valley Tech |
| Jacks | Alfalfa | - | - | - | - | - | - | See Winter | | - |
| Airstrip | S. Fallow | - | - | - | - | - | - | Fallow | | - |

| *Detectable Limits* | | | | | | |
|---|---|---|---|---|---|---|
| *Valley Tech* | *0.10%* | *0.05%* | *0.01%* | *0.01%* | | *0.05%* |
| *Dellavalle* | *0.001%* | *0.01%* | *0.01%* | *0.003%* | | *0.001%* |

| (SUMMER) PLANT TISSUE ANALYSIS (Recorded As Received) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Field** | **Crop** | **Moist %** | **N%** | **TP %** | **TK%** | **Salt** | **TFS** | **Sample #:** | **Date:** | **Source** |
| 145 S | Alfalfa | - | - | - | - | - | - | See Winter | | - |
| Pool Ranch N | Corn, Silage | 63.40 | 0.48 | 0.10 | 0.27 | - | 5.33 | 10-18H69889 | 10/18/23 | Valley Tech |
| Pool Ranch | Corn, Silage | 64.70 | 0.42 | 0.10 | 0.27 | - | 5.47 | 10-13H69889 | 10/13/23 | Valley Tech |
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| *Detectable Limits* | | | | | |
|---|---|---|---|---|---|
| *Valley Tech* | *0.10%* | *0.05%* | *0.01%* | *0.01%* | *0.05%* |
| *Dellavalle* | *0.001%* | *0.01%* | *0.01%* | *0.003%* | *0.001%* |

# Winter Crops & Harvest

| Field: | Crop | Plant Date | Harvest Date | Lab # | Moisture % | N (mg//kg) | P (mg/kg) | K (mg/kg) | Salt (mg/kg) | TFS | Reporting Basis |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Curti-18 | Wheat, Silage | 12/1/22 | 5/5/23 | 5-9H49176 | 63.60 | 0.71 | 0.15 | 0.58 | - | 11.60 | Dry Weight |
| Triangle | Alfalfa | 1/1/20 | 9/1/23 | 9-14H65441 | 6.90 | 2.61 | 0.25 | 1.36 | - | 9.79 | Dry Weight |
| Dickerson | Wheat, Baled | 12/1/22 | 6/7/23 | 6-8H53062 | 10.90 | 0.88 | 0.20 | 0.89 | - | 7.40 | Dry Weight |
| House | Wheat, Silage | 12/10/22 | 5/25/23 | 5-25H51409 | 74.60 | 0.33 | 0.08 | 0.38 | - | 9.82 | Dry Weight |
| Johnson | Alfalfa | 3/1/13 | 9/1/23 | 9-14H65441 | 6.90 | 2.33 | 0.26 | 1.85 | - | 12.40 | Dry Weight |
| Pasture NW-E | Wheat, Silage | 12/10/22 | 5/13/23 | 5-23H1007 | 60.50 | 0.45 | 0.13 | 0.52 | - | 9.49 | Dry Weight |
| 145 N | Alfalfa | 1/2/23 | 9/1/23 | 9-14H65441 | 6.60 | 2.82 | 0.25 | 1.47 | - | 10.10 | Dry Weight |
| Pool Ranch S | Alfalfa | 1/1/20 | 9/1/23 | 9-14H65441 | 6.90 | 2.44 | 0.28 | 1.69 | - | 10.40 | Dry Weight |
| Silva East | Alfalfa | 12/3/21 | 9/1/23 | 9-14H65441 | 6.50 | 2.49 | 0.26 | 1.64 | - | 10.00 | Dry Weight |
| Pasture SE-W | Wheat, Silage | 12/10/22 | 5/5/23 | 5-9H49176 | 57.50 | 0.66 | 0.14 | 0.59 | - | 18.90 | Dry Weight |
| Santos | Alfalfa | 1/1/19 | 9/1/23 | 9-14H65441 | 6.70 | 2.50 | 0.29 | 1.84 | - | 12.10 | Dry Weight |
| Silva West | Alfalfa | 1/1/20 | 9/1/23 | 9-14H65441 | 7.00 | 2.45 | 0.26 | 1.95 | - | 11.00 | Dry Weight |
| Cattle Lot | Wheat, Silage | 12/10/22 | 5/25/23 | 5-25H51409 | 50.60 | 0.54 | 0.15 | 0.55 | - | 8.41 | Dry Weight |
| Jacks | Alfalfa | 1/1/21 | 9/1/23 | 9-14H65441 | 5.90 | 2.55 | 0.25 | 1.74 | - | 11.40 | Dry Weight |
| Airstrip | Oats, Hay | 12/1/22 | 6/7/23 | 6-8H53063 | 6.10 | 1.35 | 0.24 | 2.28 | - | 11.40 | Dry Weight |

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|---|---|---|---|---|---|---|
| *Detectable L Valley Tech* | *0.10%* | *0.05%* | *0.01%* | *0.01%* | | *0.05%* |
| *Dellavalle* | *0.001%* | *0.01%* | *0.01%* | *0.003%* | | *0.001%* |

# Winter Crops & Harvest

| Field: | Crop | Plant Date | Harvest Date | Lab # | Moisture % | N (mg//kg) | P (mg/kg) | K (mg/kg) | Salt (mg/kg) | TFS | Reporting Basis |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 145 S | Alfalfa | 1/1/21 | 9/1/23 | 9-14H65441 | 6.90 | 2.39 | 0.26 | 1.96 | - | 10.80 | Dry Weight |
| Pool Ranch N | Oats, Hay | 12/15/22 | 6/7/23 | 6-8H53063 | 6.20 | 1.35 | 0.24 | 1.52 | - | 11.70 | Dry Weight |
| Pool Ranch | Wheat, Silage | 12/15/22 | 5/17/23 | 5-23H1007 | 54.00 | 0.49 | 0.16 | 0.69 | - | 11.20 | Dry Weight |
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|---|---|---|---|---|---|---|
| *Detectable L Valley Tech* | *0.10%* | *0.05%* | *0.01%* | *0.01%* | | *0.05%* |
| *Dellavalle* | *0.001%* | *0.01%* | *0.01%* | *0.003%* | | *0.001%* |

| Field: | Crop | Plant Date | Harvest Date | Lab # | Moisture % | N (mg//kg) | P (mg/kg) | K (mg/kg) | Salt (mg/kg) | TFS | Reporting Basis |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Curti-18 | Corn, Silage | 6/1/23 | 10/11/23 | 10-11H68941 | 64.20 | 0.34 | 0.08 | 0.42 | - | 5.51 | Dry Weight |
| Triangle | Alfalfa | | | See Winter | - | - | - | - | - | - | |
| Dickerson | Corn, Silage | 6/21/23 | 11/13/23 | 11-14H72963 | 54.80 | 0.52 | 0.09 | 0.46 | - | 4.92 | Dry Weight |
| House | S. Fallow | | | Fallow | - | - | - | - | - | - | |
| Johnson | Alfalfa | | | See Winter | - | - | - | - | - | - | |
| Pasture NW-E | Corn, Silage | 6/6/23 | 11/6/23 | 11-14H72963 | 54.00 | 0.53 | 0.09 | 0.39 | - | 4.18 | Dry Weight |
| 145 N | Alfalfa | | | See Winter | - | - | - | - | - | - | |
| Pool Ranch S | Alfalfa | | | See Winter | - | - | - | - | - | - | |
| Silva East | Alfalfa | | | See Winter | - | - | - | - | - | - | |
| Pasture SE-W | Corn, Silage | 6/6/23 | 11/6/23 | 11-14H72963 | 53.40 | 0.55 | 0.09 | 0.40 | - | 4.17 | Dry Weight |
| Santos | Alfalfa | | | See Winter | - | - | - | - | - | - | |
| Silva West | Alfalfa | | | See Winter | - | - | - | - | - | - | |
| Cattle Lot | Corn, Silage | 6/9/23 | 10/10/23 | 10-11H68941 | 66.90 | 0.44 | 0.09 | 0.28 | - | 5.47 | Dry Weight |
| Jacks | Alfalfa | | | See Winter | - | - | - | - | - | - | |
| Airstrip | S. Fallow | | | Fallow | - | - | - | - | - | - | |

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|---|---|---|---|---|---|
| *Detectable L Valley Tech* | *0.10%* | *0.05%* | *0.01%* | *0.01%* | *0.05%* |
| *Dellavalle* | *0.001%* | *0.01%* | *0.01%* | *0.003%* | *0.001%* |

| Field: | Crop | Plant Date | Harvest Date | Lab # | Moisture % | N (mg//kg) | P (mg/kg) | K (mg/kg) | Salt (mg/kg) | TFS | Reporting Basis |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 145 S | Alfalfa | | | See Winter | - | - | - | - | - | - | |
| Pool Ranch N | Corn, Silage | 6/21/23 | 10/13/23 | 10-18H69889 | 63.40 | 0.48 | 0.10 | 0.27 | - | 5.33 | Dry Weight |
| Pool Ranch | Corn, Silage | 6/15/23 | 10/13/23 | 10-13H69889 | 64.70 | 0.42 | 0.10 | 0.27 | - | 5.47 | Dry Weight |
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|---|---|---|---|---|---|---|
| *Detectable L Valley Tech* | *0.10%* | *0.05%* | *0.01%* | *0.01%* | | *0.05%* |
| *Dellavalle* | *0.001%* | *0.01%* | *0.01%* | *0.003%* | | *0.001%* |

# Well / Canal Analysis

General Minerals

| Well Name/Number | NO3-N (mg/L) | EC (umhos/cm) | TDS (mg/L) | NH4-N (mg/L) | TN (mg/L) | Ca (mg/L) | Mg (mg/L) | Na (mg/L) | HCO3 (mg/L) | CO3 (mg/L) | SO4 (mg/L) | Cl (mg/L) | Lab #: | Date: | LAB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dom #1 | 37.50 | 1,270 | 900 | - | 37.50 | - | - | - | - | - | - | - | VI 2340617 | 2/1/2023 | FGL Enviromental |
| Dom #2 | 37.50 | 1,260 | 860 | - | 37.50 | - | - | - | - | - | - | - | VI 2340617 | 2/1/2023 | FGL Enviromental |
| Curti Dom | 46.70 | 1,130 | 970 | - | 46.70 | - | - | - | - | - | - | - | VI 2343651 | 6/8/2023 | FGL Enviromental |
| Dickerson Dom | 26.90 | 912 | 660 | - | 26.90 | - | - | - | - | - | - | - | VI 2343651 | 6/8/2023 | FGL Enviromental |
| Cattle Dom | 10.40 | 616 | 380 | - | 10.40 | - | - | - | - | - | - | - | VI 2343651 | 6/8/2023 | FGL Enviromental |
| Santos Dom | 17.50 | 723 | 530 | - | 17.50 | - | - | - | - | - | - | - | VI 2343651 | 6/8/2023 | FGL Enviromental |
| Airstrip Dom | 13.50 | 815 | 530 | - | 14.00 | - | - | - | - | - | - | - | VI 2343651 | 6/8/2023 | FGL Enviromental |
| Johnson Dom | 17.90 | 454 | 270 | - | 17.90 | - | - | - | - | - | - | - | VI 2343651 | 6/8/2023 | FGL Enviromental |
| 3 | 44.00 | 1,210 | 930 | - | 44.00 | - | - | - | - | - | - | - | VI 2344167 | 7/7/2023 | FGL Enviromental |
| 4 | 23.40 | 699 | 480 | - | 23.40 | - | - | - | - | - | - | - | VI 2344167 | 7/7/2023 | FGL Enviromental |
| 5 | 34.10 | 974 | 730 | - | 34.10 | - | - | - | - | - | - | - | VI 2344167 | 7/7/2023 | FGL Enviromental |
| 6 | 4.20 | 357 | 230 | - | 4.20 | - | - | - | - | - | - | - | VI 2344167 | 7/7/2023 | FGL Enviromental |
| 145 | - | - | - | - | - | - | - | - | - | - | - | - | Non-Op | | |
| Cattle Lot | - | - | - | - | - | - | - | - | - | - | - | - | Non-Op | | |
| Jack's | 1.00 | 281 | 190 | - | 1.00 | - | - | - | - | - | - | - | VI 2344167 | 7/7/2023 | FGL Enviromental |
| Pasture NE | 0.01 | 337 | 240 | - | 0.01 | - | - | - | - | - | - | - | VI 2344167 | 7/7/2023 | FGL Enviromental |
| Pasture NW | - | - | - | - | - | - | - | - | - | - | - | - | Non-Op | | |
| Santos | - | - | - | - | - | - | - | - | - | - | - | - | Didn't Use | | |
| Silva N | 12.10 | 642 | 400 | - | 12.10 | - | - | - | - | - | - | - | VI 2344718 | 7/20/2023 | FGL Enviromental |
| Silva S | 0.60 | 311 | 220 | - | 0.60 | - | - | - | - | - | - | - | VI 2344718 | 7/20/2023 | FGL Enviromental |
| Pool | 0.01 | 222 | 150 | - | 0.01 | - | - | - | - | - | - | - | VI 2344718 | 7/20/2023 | FGL Enviromental |
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| Canal | 0.01 | 59 | 40 | - | 1,000.00 | - | - | - | - | - | - | - | VI 2346257 | 9/14/2023 | FGL Enviromental |
| *Detectable Limits* | | | | | | | | | | | | | | | |
| *Dellavalle* | *0.01* | *1* | *10* | *0.2* | *NR* | *0.1* | *0.1* | *0.15* | *3* | *0.9* | *0.03* | *0.03* | | | |
| *FGL Enviromental* | *0* | *0* | *0* | *0* | *0* | *0* | *0* | *0* | *0* | *0* | *0* | *0* | | | |
| *Valley Tech* | *0.1* | *1* | *NR* | *NR* | *NR* | *NR* | *NR* | *NR* | *NR* | *NR* | *NR* | *NR* | | | |

# Soil Analysis (Winter)

| Fields: | 0/1ft. NO3-N (mg/kg) | 1/2 ft. NO3-N (mg/kg) | 0/1 ft. Sol. P (mg/kg) | 0/1 ft. K (mg/kg) | 0/1 ft. EC (ds/m) | OM % | Lab # | Date | Source |
|---|---|---|---|---|---|---|---|---|---|
| Curti-18 | - | - | - | - | - | - | | | - |
| Triangle | - | - | - | - | - | - | | | - |
| Dickerson | - | - | - | - | - | - | | | - |
| House | - | - | - | - | - | - | | | - |
| Johnson | - | - | - | - | - | - | | | - |
| Pasture NW-E | - | - | - | - | - | - | | | - |
| 145 N | - | - | - | - | - | - | | | - |
| Pool Ranch S | - | - | - | - | - | - | | | - |
| Silva East | - | - | - | - | - | - | | | - |
| Pasture SE-W | - | - | - | - | - | - | | | - |
| Santos | - | - | - | - | - | - | | | - |
| Silva West | - | - | - | - | - | - | | | - |
| Cattle Lot | - | - | - | - | - | - | | | - |
| Jacks | - | - | - | - | - | - | | | - |
| Airstrip | - | - | - | - | - | - | | | - |

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|---|---|---|---|---|---|---|
| *Detectable Limits* | | | | | | |
| *Valley Tech* | *0.1* | *0.1* | | | | |
| *DellaValle* | *0.1* | *0.1* | *1.1* | *0.2* | *0.0015* | *0.0001%* |

# Soil Analysis (Winter)

| Fields: | 0/1ft. NO3-N (mg/kg) | 1/2 ft. NO3-N (mg/kg) | 0/1 ft. Sol. P (mg/kg) | 0/1 ft. K (mg/kg) | 0/1 ft. EC (ds/m) | OM % | Lab # | Date | Source |
|---|---|---|---|---|---|---|---|---|---|
| 145 S | - | - | - | - | - | - | | | - |
| Pool Ranch N | - | - | - | - | - | - | | | - |
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| *Detectable Limits* | | | | | | |
|---|---|---|---|---|---|---|
| *Valley Tech* | *0.1* | *0.1* | | | | |
| *DellaValle* | *0.1* | *0.1* | *1.1* | *0.2* | *0.0015* | *0.0001%* |

# Soil Analysis (Summer)

| Fields: | 0/1ft. NO3-N (mg/kg) | 1/2 ft. NO3-N (mg/kg) | 0/1 ft. Sol. P (mg/kg) | 0/1 ft. K (mg/kg) | 0/1 ft. EC (ds/m) | OM % | Lab # | Date | Source |
|---|---|---|---|---|---|---|---|---|---|
| Curti-18 | - | - | - | - | - | - | | | - |
| Triangle | - | - | - | - | - | - | | | - |
| Dickerson | - | - | - | - | - | - | | | - |
| House | - | - | - | - | - | - | | | - |
| Johnson | - | - | - | - | - | - | | | - |
| Pasture NW-E | - | - | - | - | - | - | | | - |
| 145 N | - | - | - | - | - | - | | | - |
| Pool Ranch S | - | - | - | - | - | - | | | - |
| Silva East | - | - | - | - | - | - | | | - |
| Pasture SE-W | - | - | - | - | - | - | | | - |
| Santos | - | - | - | - | - | - | | | - |
| Silva West | - | - | - | - | - | - | | | - |
| Cattle Lot | - | - | - | - | - | - | | | - |
| Jacks | - | - | - | - | - | - | | | - |
| Airstrip | - | - | - | - | - | - | | | - |

| *Detectable Limits* | | | | | | |
|---|---|---|---|---|---|---|
| *Valley Tech* | *0.1* | *0.1* | | | | |
| *DellaValle* | *0.1* | *0.1* | *1.1* | *0.2* | *0.0015* | *0.0001%* |

# Soil Analysis (Summer)

| Fields: | 0/1ft. NO3-N (mg/kg) | 1/2 ft. NO3-N (mg/kg) | 0/1 ft. Sol. P (mg/kg) | 0/1 ft. K (mg/kg) | 0/1 ft. EC (ds/m) | OM % | Lab # | Date | Source |
|---|---|---|---|---|---|---|---|---|---|
| 145 S | - | - | - | - | - | - | | | - |
| Pool Ranch N | - | - | - | - | - | - | | | - |
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|---|---|---|---|---|---|---|
| *Detectable Limits* | | | | | | |
| *Valley Tech* | *0.1* | *0.1* | | | | |
| *DellaValle* | *0.1* | *0.1* | *1.1* | *0.2* | *0.0015* | *0.0001%* |

# Nutrient Import & Export

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

**X** No

___ Yes, Manifest attached (Attachment D)

Total Dry Manure Exported

**Nutrient Import**

**No** Dry manure nutient imports entered

**No** Process wastewater nutrient imports entered

**No** Commerical or other nutrient imports entered

Total Process Water Exported

| Field Name | Type of Manure Applied | As Is / Dry Weight | Source |
|---|---|---|---|
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# Process Water & Manure Analysis

| Process Water | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Quarters: | NH4N (mg/L) | TKN (mg/L) | TP (mg/L) | TK (mg/L) | NO3N (mg/L) | NH3N (mg/L) | Ca (mg/L) | Mg (mg/L) | Na (mg/L) | CO3 (mg/L) | HCO3 (mg/L) | SO4 (mg/L) | CL (mg/L) | EC (ds/m) | TDS (mg/L) |
| 1 | 525.0 | 626.0 | 85.1 | 668.0 | 1.0 | - | - | - | - | - | - | - | - | 8 | 5,470 |
| 2 | 518.0 | 553.0 | 54.1 | 651.0 | 1.0 | - | - | - | - | - | - | - | - | 9 | 6,040 |
| 3 | 381.0 | 383.0 | 33.2 | 432.0 | 1.0 | - | 143.0 | 103.0 | 208.0 | 0.0 | 58.5 | 89.9 | 5.3 | 8 | 5,170 |
| 4 | 396.0 | 420.0 | 33.4 | 356.0 | 1.0 | - | - | - | - | - | - | - | - | - | 4,440 |

*Detectable Limits*

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

| | | | | Inorg N | Org N | P2O5 | K2O |
|---|---|---|---|---|---|---|---|
| Qtr | Sample #: | Sample Date: | Source | lbs / Ac in | | | |
| 1 | 3-24L44742 | 3/24/2023 | Valley Tech | 119.2 | 22.9 | 44.2 | 182.4 |
| 2 | 5-11L49500 | 5/11/2023 | Valley Tech | 117.6 | 7.9 | 28.1 | 177.8 |
| 3 | 8-17L62133 | 8/17/2023 | Valley Tech | 86.6 | 0.5 | 17.2 | 118.0 |
| 4 | 10-3L67893 | 10/16/2023 | Valley Tech | 90.0 | 5.4 | 17.3 | 97.2 |

| Description | Sample #: | Date: | As Is/ Dry Weight | Source | Material Type |
|---|---|---|---|---|---|
| Manure | 5-11M49465 | 5/11/2023 | Dry Weight | Valley Tech | Corral Solids |
| Manure | 10/--4M67872 | 10/4/2023 | Dry Weight | Valley Tech | Corral Solids |

| Dry Manure: (As Recv'd) | TN % | TP % | TK % | Ca | Mg | Na | S | CL | Salt | TFS | Moisture % |
|---|---|---|---|---|---|---|---|---|---|---|---|
| *Corral* | 1.13 | 0.25 | 1.39 | - | - | - | - | - | - | - | 39.50 |
| *Corral* | 1.21 | 0.28 | 1.20 | 2.17 | 0.55 | 0.36 | 0.31 | 0.79 | - | 29.30 | 56.90 |

*Detectable Limits*

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| *Valley Tech* | 0.01% | 0.02% | 0.02% | | | | | | | | |
| *Dellavalle* | 0.01% | 0.01% | 0.003% | 0.001% | 0.001% | 0.001% | 0.001% | 0.000% | | 0.001% | 0.001% |

# Nutrient Applications

**Field Name/Number:** Curti-18 **Acres:** 39.00

| Date | Event / Source | Dry Manure Applied (tons/ac) | Moist. % | Chem Fert total lbs | Fresh Water Applied (ac-in/ac) | Lagoon Water Applied (ac-in/ac) | Lab Sample Data | | | | | Yield | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | N (lbs/Ac) | Total P (lbs/Ac) | Total K (lbs/Ac) | Salt (Lbs/Ac) | TFS % | Expected Yield (tons/ac) | Actual Yield (tons/ac) |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| 12/1/22 | W. Planting | - | - | - | - | - | - | - | - | - | - | | - |
| 2/15/23 | 6.00 | - | - | - | 5.11 | - | 4.9 | - | - | 160 | - | | - |
| 2/15/23 | Process Water | - | - | - | - | 1.48 | 147.3 | 28.6 | 224.1 | 1,835 | - | | - |
| 3/21/23 | 6.00 | - | - | - | 5.44 | - | 5.2 | - | - | 170 | - | | - |
| 3/21/23 | Process Water | - | - | - | - | 1.57 | 156.6 | 30.4 | 238.3 | 1,951 | - | | - |
| 4/19/23 | 6.00 | - | - | - | 6.46 | - | 6.1 | - | - | 202 | - | | - |
| 5/5/23 | W. Harvest | - | - | - | - | - | (310.3) | (66.5) | (251.7) | - | 11.60 | | 21.74 |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| 5/22/23 | 6.00 | - | - | - | 6.19 | - | 5.9 | - | - | 194 | - | | - |
| 6/1/23 | S. Planting | - | - | - | - | - | - | - | - | - | - | | - |
| 6/3/23 | 6.00 | - | - | - | 6.40 | - | 6.1 | - | - | 200 | - | | - |
| 7/1/23 | 6.00 | - | - | - | 5.27 | - | 5.0 | - | - | 165 | - | | - |
| 7/1/23 | Process Water | - | - | - | - | 1.53 | 93.0 | 11.5 | 149.5 | 1,789 | - | | - |
| 7/23/23 | 6.00 | - | - | - | 6.30 | - | 6.0 | - | - | 197 | - | | - |
| 8/16/23 | 6.00 | - | - | - | 5.17 | - | 4.9 | - | - | 162 | - | | - |
| 8/16/23 | Process Water | - | - | - | - | 1.50 | 91.1 | 11.3 | 146.5 | 1,753 | - | | - |
| 9/18/23 | 6.00 | - | - | - | 6.51 | - | 6.2 | - | - | 204 | - | | - |
| 10/11/23 | S. Harvest | - | - | - | - | - | (193.1) | (45.2) | (238.3) | - | 5.51 | | 28.69 |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| **Totals:** | | 0.0 | | 0 | 52.85 | 6.08 | 35 | (30) | 268 | 8,982 | 17.11 | 0 | 50.44 |

Dry Weight
As Received

**Field Name/Number:** Curti-18 **Acres:** 39

| | Total N (lbs/ac) | Total P (lbs/ac) | Total K Lbs/ac) | Total Salts (lbs/ac) |
|---|---|---|---|---|
| Nutrients Applied | 538.3 | 81.7 | 758.3 | 8982.3 |
| Nutrients Removed at Harvest | -503.4 | -111.7 | -490.0 | 0.0 |
| Nutrient Balance | 34.9 | -30.0 | 268.3 | 8982.3 |

**Winter Nitrogen Crop App / Use Ratio:** 1.05 **Summer Nitrogen Crop App / Use Ratio:** 1.17

**Field Name/Number:** Curti-18 **Acres:** 39

**Winter Crop** **Wheat, Silage**

| Nutrient Summary : | | Applied | | N | | |
|---|---|---|---|---|---|---|
| W. Manure App. | | - | T/Ac | - | - | - |
| W. Comm Fert App. | | - | lbs/Ac | - | | |
| Process Water | Q1 | 3.1 | Ac In /Ac | 303.8 | 134.9 | 554.8 |
| | Q2 | - | Ac In /Ac | - | - | - |
| Well Water | | 17.01 | Ac In /Ac | 16.2 | | |
| Canal | | - | Ac In /Ac | - | | |
| Atm. Depos. | | Yes | | 7.0 | | |
| W. Planting | 12/1/22 | | | | | |
| W. Harvest | 5/5/23 | 21.7 | T/Ac | (310.3) | (152.2) | (302.0) |

**Summer Crop** **Corn, Silage**

| Nutrient Summary : | | Applied | | N | | |
|---|---|---|---|---|---|---|
| S. Manure App. | | - | T/Ac | - | - | - |
| S. Comm Fert App. | | - | lbs/Ac | - | - | - |
| Process Water | Q2 | - | Ac In /Ac | - | - | - |
| | Q3 | 3.0 | Ac In /Ac | 184.2 | 52.1 | 355.2 |
| | Q4 | - | Ac In /Ac | - | - | - |
| Well Water | | 35.8 | Ac In /Ac | 34.120734 | | |
| Canal | | - | Ac In /Ac | - | | |
| Atm. Depos. | | Yes | | 7.0 | | |
| S. Planting | 6/1/23 | | | | | |
| S. Harvest | 10/11/23 | 28.7 | T/Ac | (193.1) | (103.5) | (286.0) |

# Nutrient Applications

**Field Name/Number:** Triangle **Acres:** 21.00

| Date | Event / Source | Dry Manure Applied (tons/ac) | Moist. % | Chem Fert total lbs | Fresh Water Applied (ac-in/ac) | Lagoon Water Applied (ac-in/ac) | Lab Sample Data | | | | | Yield | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | N (lbs/Ac) | Total P (lbs/Ac) | Total K (lbs/Ac) | Salt (Lbs/Ac) | TFS % | Expected Yield (tons/ac) | Actual Yield (tons/ac) |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| 1/1/20 | W. Planting | - | - | - | - | - | - | - | - | - | - | | - |
| 1/20/23 | 6.00 | - | - | - | 5.20 | - | 4.9 | - | - | 163 | - | | - |
| 2/19/23 | 6.00 | - | - | - | 5.10 | - | 4.9 | - | - | 160 | - | | - |
| 4/1/23 | 6.00 | - | - | - | 5.40 | - | 5.1 | - | - | 169 | - | | - |
| 5/2/23 | 6.00 | - | - | - | 6.00 | - | 5.7 | - | - | 188 | - | | - |
| 5/30/23 | 6.00 | - | - | - | 5.60 | - | 5.3 | - | - | 175 | - | | - |
| 6/28/23 | 6.00 | - | - | - | 5.80 | - | 5.5 | - | - | 181 | - | | - |
| 8/4/23 | 6.00 | - | - | - | 5.90 | - | 5.6 | - | - | 185 | - | | - |
| 9/1/23 | W. Harvest | - | - | - | - | - | (456.8) | (44.0) | (238.2) | - | 11.60 | | 8.76 |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
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| | - | - | - | - | - | - | - | - | - | - | - | | - |
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| | - | - | - | - | - | - | - | - | - | - | - | | - |
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| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| **Totals:** | | 0.0 | | 0 | 38.98 | 0.00 | (420) | (44) | (238) | 1,220 | 11.60 | 0 | 8.76 |

**Field Name/Number:** Triangle **Acres:** 21.00

| | Total N (lbs/ac) | Total P (lbs/ac) | Total K Lbs/ac) | Total Salts (lbs/ac) |
|---|---|---|---|---|
| Nutrients Applied | 37.1 | 0.0 | 0.0 | 1219.7 |
| Nutrients Removed at Harvest | -456.8 | -19.2 | -197.7 | 0.0 |
| Nutrient Balance | -419.7 | -19.2 | -197.7 | 1219.7 |

**Winter Nitrogen Crop App / Use Ratio:** 0.10 **Summer Nitrogen Crop App / Use Ratio:** #N/A

**Field Name/Number:** Triangle **Acres:** 21

**Winter Crop** **Alfalfa**

| **Nutrient Summary :** | | **Applied** | | **N** | | |
|---|---|---|---|---|---|---|
| W. Manure App. | | - | T/Ac | - | - | - |
| W. Comm Fert App. | | - | lbs/Ac | - | | |
| Process Water | Q1 | - | Ac In /Ac | - | - | - |
| | Q2 | - | Ac In /Ac | - | - | - |
| Well Water | | 39.0 | Ac In /Ac | 37.1 | | |
| Canal | | - | Ac In /Ac | - | | |
| Atm. Depos. | | Yes | | 7.0 | | |
| W. Planting | 1/1/20 | | | | | |
| W. Harvest | 9/1/23 | 8.8 | T/Ac | (456.8) | (100.9) | (285.8) |

**Summer Crop** **Alfalfa**

| **Nutrient Summary :** | | **Applied** | | **N** | | |
|---|---|---|---|---|---|---|
| S. Manure App. | | - | T/Ac | - | - | - |
| S. Comm Fert App. | | - | lbs/Ac | - | - | - |
| Process Water | Q2 | - | Ac In /Ac | - | - | - |
| | Q3 | - | Ac In /Ac | - | - | - |
| | Q4 | - | Ac In /Ac | - | - | - |
| Well Water | | - | Ac In /Ac | - | | |
| Canal | | - | Ac In /Ac | - | | |
| Atm. Depos. | | #N/A | | #N/A | | |
| S. Planting | #N/A | | | | | |
| S. Harvest | #N/A | #N/A | T/Ac | #N/A | #N/A | #N/A |

# Nutrient Applications

**Field Name/Number:** Dickerson **Acres:** 50.00

| Date | Event / Source | Dry Manure Applied (tons/ac) | Moist. % | Chem Fert total lbs | Fresh Water Applied (ac-in/ac) | Lagoon Water Applied (ac-in/ac) | Lab Sample Data | | | | | Yield | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | N (lbs/Ac) | Total P (lbs/Ac) | Total K (lbs/Ac) | Salt (Lbs/Ac) | TFS % | Expected Yield (tons/ac) | Actual Yield (tons/ac) |
| 11/25/22 | W. Manure App. | 5.00 | - | - | - | - | 45.3 | 24.8 | 139.2 | - | - | | - |
| 12/1/22 | W. Planting | - | - | - | - | - | - | - | - | - | - | | - |
| 2/15/23 | 6.00 | - | - | - | 6.09 | - | 5.8 | - | - | 190 | - | | - |
| 3/21/23 | 6.00 | - | - | - | 6.30 | - | 6.0 | - | - | 197 | - | | - |
| 4/19/23 | 6.00 | - | - | - | 6.21 | - | 5.9 | - | - | 194 | - | | - |
| 5/22/23 | 6.00 | - | - | - | 6.38 | - | 6.1 | - | - | 200 | - | | - |
| 6/7/23 | W. Harvest | - | - | - | - | - | (74.1) | (17.2) | (74.8) | - | 11.60 | | 4.20 |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| 6/11/23 | 6.00 | - | - | - | 6.42 | - | 6.1 | - | - | 201 | - | | - |
| 6/21/23 | S. Planting | - | - | - | - | - | - | - | - | - | - | | - |
| 6/24/23 | 6.00 | - | - | - | 6.25 | - | 6.0 | - | - | 196 | - | | - |
| 7/23/23 | 6.00 | - | - | - | 5.33 | - | 5.1 | - | - | 167 | - | | - |
| 7/23/23 | Process Water | - | - | - | - | 1.54 | 153.5 | 11.6 | 151.1 | 1,809 | - | | - |
| 8/16/23 | 6.00 | - | - | - | 5.41 | - | 5.2 | - | - | 169 | - | | - |
| 8/16/23 | Process Water | - | - | - | - | 1.57 | 156.0 | 11.8 | 153.5 | 1,837 | - | | - |
| 9/18/23 | 6.00 | - | - | - | 6.34 | - | 6.0 | - | - | 198 | - | | - |
| 10/11/23 | 6.00 | - | - | - | 6.17 | - | 5.9 | - | - | 193 | - | | - |
| 11/13/23 | S. Harvest | - | - | - | - | - | (304.8) | (53.0) | (270.4) | - | 5.51 | | 29.32 |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| Totals: | | 5.0 | | 0 | 60.91 | 3.11 | 34 | (22) | 99 | 5,552 | 17.11 | 0 | 33.52 |

**Field Name/Number:** Dickerson **Acres:** 50.00

| | Total N (lbs/ac) | Total P (lbs/ac) | Total K Lbs/ac) | Total Salts (lbs/ac) |
|---|---|---|---|---|
| Nutrients Applied | 412.8 | 21.0 | 368.4 | 5551.9 |
| Nutrients Removed at Harvest | -378.9 | -30.6 | -286.5 | 0.0 |
| Nutrient Balance | 33.8 | -9.6 | 81.8 | 5551.9 |

**Winter Nitrogen Crop App / Use Ratio:** 1.03 **Summer Nitrogen Crop App / Use Ratio:** 1.15

**Field Name/Number:** Dickerson **Acres:** 50

**Winter Crop** **Wheat, Baled**

| Nutrient Summary : | | Applied | | N | | |
|---|---|---|---|---|---|---|
| W. Manure App. | | 5.0 | T/Ac | 45.3 | 56.8 | 167.0 |
| W. Comm Fert App. | | - | lbs/Ac | - | | |
| Process Water | Q1 | - | Ac In /Ac | - | - | - |
| | Q2 | - | Ac In /Ac | - | - | - |
| Well Water | | 25.0 | Ac In /Ac | 23.8 | | |
| Canal | | - | Ac In /Ac | - | | |
| Atm. Depos. | | Yes | | 7.0 | | |
| W. Planting | 12/1/22 | | | | | |
| W. Harvest | 6/7/23 | 4.2 | T/Ac | (74.1) | (39.4) | (89.8) |

**Summer Crop** **Corn, Silage**

| Nutrient Summary : | | Applied | | N | | |
|---|---|---|---|---|---|---|
| S. Manure App. | | - | T/Ac | - | - | - |
| S. Comm Fert App. | | - | lbs/Ac | - | - | - |
| Process Water | Q2 | - | Ac In /Ac | - | - | - |
| | Q3 | 3.1 | Ac In /Ac | 309.5 | 53.6 | 365.6 |
| | Q4 | - | Ac In /Ac | - | - | - |
| Well Water | | 35.9 | Ac In /Ac | 34.2 | | |
| Canal | | - | Ac In /Ac | - | | |
| Atm. Depos. | | Yes | | 7.0 | | |
| S. Planting | 6/21/23 | | | | | |
| S. Harvest | 11/13/23 | 29.3 | T/Ac | (304.8) | (121.4) | (324.4) |

# Nutrient Applications

**Field Name/Number:** House **Acres:** 26.00

| Date | Event / Source | Dry Manure Applied (tons/ac) | Moist. % | Chem Fert total lbs | Fresh Water Applied (ac-in/ac) | Lagoon Water Applied (ac-in/ac) | Lab Sample Data | | | | | Yield | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | N (lbs/Ac) | Total P (lbs/Ac) | Total K (lbs/Ac) | Salt (Lbs/Ac) | TFS % | Expected Yield (tons/ac) | Actual Yield (tons/ac) |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| 12/10/22 | W. Planting | - | - | - | - | - | - | - | - | - | - | | - |
| 2/15/23 | 6.00 | - | - | - | 5.25 | - | 5.0 | - | - | 164 | - | | - |
| 2/15/23 | Process Water | - | - | - | - | 1.52 | 151.1 | 29.3 | 230.0 | 1,884 | - | | - |
| 3/21/23 | 6.00 | - | - | - | 6.46 | - | 6.1 | - | - | 202 | - | | - |
| 4/19/23 | 6.00 | - | - | - | 6.62 | - | 6.3 | - | - | 207 | - | | - |
| 5/25/23 | W. Harvest | - | - | - | - | - | (142.1) | (35.5) | (164.2) | - | 11.60 | | 21.85 |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | S. Fallow | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| **Totals:** | | **0.0** | | **0** | **18.32** | **1.52** | **27** | **(6)** | **66** | **2,457** | **11.60** | **0** | **21.85** |

**Field Name/Number:** House **Acres:** 26.00

| | Total N (lbs/ac) | Total P (lbs/ac) | Total K Lbs/ac) | Total Salts (lbs/ac) |
|---|---|---|---|---|
| Nutrients Applied | 168.6 | 12.8 | 190.9 | 2457.0 |
| Nutrients Removed at Harvest | -142.1 | -15.5 | -136.3 | 0.0 |
| Nutrient Balance | 26.5 | -2.7 | 54.6 | 2457.0 |

**Winter Nitrogen Crop App / Use Ratio:** 1.24 **Summer Nitrogen Crop App / Use Ratio:** #N/A

**Field Name/Number:** House **Acres:** 26

**Winter Crop** **Wheat, Silage**

| **Nutrient Summary :** | | **Applied** | | **N** | | |
|---|---|---|---|---|---|---|
| W. Manure App. | | - | T/Ac | - | - | - |
| W. Comm Fert App. | | - | lbs/Ac | - | | |
| Process Water | Q1 | 1.5 | Ac In /Ac | 151.1 | 67.1 | 276.0 |
| | Q2 | - | Ac In /Ac | - | - | - |
| Well Water | | 18.3 | Ac In /Ac | 17.4 | | |
| Canal | | - | Ac In /Ac | - | | |
| Atm. Depos. | | Yes | | 7.0 | | |
| W. Planting | 12/10/22 | | | | | |
| W. Harvest | 5/25/23 | 21.8 | T/Ac | (142.1) | (81.3) | (197.1) |

**Summer Crop** **S. Fallow**

| **Nutrient Summary :** | | **Applied** | | **N** | | |
|---|---|---|---|---|---|---|
| S. Manure App. | | - | T/Ac | - | - | - |
| S. Comm Fert App. | | - | lbs/Ac | - | - | - |
| Process Water | Q2 | - | Ac In /Ac | - | - | - |
| | Q3 | - | Ac In /Ac | - | - | - |
| | Q4 | - | Ac In /Ac | - | - | - |
| Well Water | | - | Ac In /Ac | - | | |
| Canal | | - | Ac In /Ac | - | | |
| Atm. Depos. | | Yes | | 7.0 | | |
| S. Planting | #N/A | | | | | |
| S. Harvest | - | #N/A | T/Ac | #N/A | #N/A | #N/A |

# Nutrient Applications

**Field Name/Number:** Johnson **Acres:** 19.00

| Date | Event / Source | Dry Manure Applied (tons/ac) | Moist. % | Chem Fert total lbs | Fresh Water Applied (ac-in/ac) | Lagoon Water Applied (ac-in/ac) | Lab Sample Data | | | | | Yield | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | N (lbs/Ac) | Total P (lbs/Ac) | Total K (lbs/Ac) | Salt (Lbs/Ac) | TFS % | Expected Yield (tons/ac) | Actual Yield (tons/ac) |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| 3/1/13 | W. Planting | - | - | - | - | - | - | - | - | - | - | | - |
| 1/20/23 | 4.00 | - | - | - | 5.59 | - | 29.7 | - | - | 365 | - | | - |
| 2/19/23 | 4.00 | - | - | - | 5.16 | - | 27.4 | - | - | 337 | - | | - |
| 4/1/23 | 4.00 | - | - | - | 5.38 | - | 28.5 | - | - | 351 | - | | - |
| 5/2/23 | 4.00 | - | - | - | 5.49 | - | 29.1 | - | - | 358 | - | | - |
| 5/30/23 | 4.00 | - | - | - | 5.27 | - | 28.0 | - | - | 344 | - | | - |
| 6/28/23 | 4.00 | - | - | - | 5.70 | - | 30.2 | - | - | 372 | - | | - |
| 8/4/23 | 4.00 | - | - | - | 5.06 | - | 26.8 | - | - | 330 | - | | - |
| 9/1/23 | W. Harvest | - | - | - | - | - | (372.4) | (41.7) | (296.4) | - | 11.60 | | 8.00 |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| Totals: | | 0.0 | | 0 | 37.64 | 0.00 | (173) | (42) | (296) | 2,458 | 11.60 | 0 | 8.00 |

**Field Name/Number:** Johnson **Acres:** 19.00

| | Total N (lbs/ac) | Total P (lbs/ac) | Total K Lbs/ac) | Total Salts (lbs/ac) |
|---|---|---|---|---|
| Nutrients Applied | 199.7 | 0.0 | 0.0 | 2458.4 |
| Nutrients Removed at Harvest | -372.4 | -18.2 | -246.1 | 0.0 |
| Nutrient Balance | -172.7 | -18.2 | -246.1 | 2458.4 |

**Winter Nitrogen Crop App / Use Ratio:** 0.55 **Summer Nitrogen Crop App / Use Ratio:** #N/A

**Field Name/Number:** Johnson **Acres:** 19

**Winter Crop** **Alfalfa**

| **Nutrient Summary :** | | **Applied** | | **N** | | |
|---|---|---|---|---|---|---|
| W. Manure App. | | - | T/Ac | - | - | - |
| W. Comm Fert App. | | - | lbs/Ac | - | | |
| Process Water | Q1 | - | Ac In /Ac | - | - | - |
| | Q2 | - | Ac In /Ac | - | - | - |
| Well Water | | 37.6 | Ac In /Ac | 199.7 | | |
| Canal | | - | Ac In /Ac | - | | |
| Atm. Depos. | | Yes | | 7.0 | | |
| W. Planting | 3/1/13 | | | | | |
| W. Harvest | 9/1/23 | 8.0 | T/Ac | (372.4) | (95.5) | (355.7) |

**Summer Crop** **Alfalfa**

| **Nutrient Summary :** | | **Applied** | | **N** | | |
|---|---|---|---|---|---|---|
| S. Manure App. | | - | T/Ac | - | - | - |
| S. Comm Fert App. | | - | lbs/Ac | - | - | - |
| Process Water | Q2 | - | Ac In /Ac | - | - | - |
| | Q3 | - | Ac In /Ac | - | - | - |
| | Q4 | - | Ac In /Ac | - | - | - |
| Well Water | | - | Ac In /Ac | - | | |
| Canal | | - | Ac In /Ac | - | | |
| Atm. Depos. | | #N/A | | #N/A | | |
| S. Planting | #N/A | | | | | |
| S. Harvest | #N/A | #N/A | T/Ac | #N/A | #N/A | #N/A |

# Nutrient Applications

**Field Name/Number:** Pasture NW-E **Acres:** 160.00

| Date | Event / Source | Dry Manure Applied (tons/ac) | Moist. % | Chem Fert total lbs. | Fresh Water Applied (ac-in/ac) | Lagoon Water Applied (ac-in/ac) | Lab Sample Data | | | | | Yield | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | N (lbs/Ac) | Total P (lbs/Ac) | Total K (lbs/Ac) | Salt (Lbs/Ac) | TFS % | Expected Yield (tons/ac) | Actual Yield (tons/ac) |
| 2/11/23 | W. Comm Fert App. | - | - | 100 | - | - | 100.0 | - | - | - | - | | - |
| 12/10/22 | W. Planting | - | - | - | - | - | - | - | - | - | - | | - |
| 2/11/23 | Pasture NE | - | - | - | 6.21 | - | 0.0 | - | - | 203 | - | | - |
| 3/17/23 | Pasture NE | - | - | - | 6.27 | - | 0.0 | - | - | 205 | - | | - |
| 4/19/23 | Pasture NE | - | - | - | 6.23 | - | 0.0 | - | - | 203 | - | | - |
| 5/13/23 | W. Harvest | - | - | - | - | - | (194.7) | (58.6) | (227.4) | - | 11.60 | | 21.81 |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| 5/15/23 | S. Manure App. | 11.25 | - | - | - | - | 108.6 | 64.0 | 270.6 | - | - | | - |
| 7/18/23 | S. Comm Fert App. | - | - | 120 | - | - | 120.0 | - | - | - | - | | - |
| 5/19/23 | Pasture NE | - | - | - | 6.25 | - | 0.0 | - | - | 204 | - | | - |
| 6/6/23 | S. Planting | - | - | - | - | - | - | - | - | - | - | | - |
| 6/8/23 | Pasture NE | - | - | - | 6.34 | - | 0.0 | - | - | 207 | - | | - |
| 7/18/23 | Pasture NE | - | - | - | 6.28 | - | 0.0 | - | - | 205 | - | | - |
| 8/23/23 | Pasture NE | - | - | - | 6.32 | - | 0.0 | - | - | 206 | - | | - |
| 10/6/23 | Pasture NE | - | - | - | 6.30 | - | 0.0 | - | - | 206 | - | | - |
| 11/6/23 | S. Harvest | - | - | - | - | - | (300.9) | (49.3) | (217.9) | - | 5.51 | | 28.19 |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| Totals: | | 11.3 | | 220 | 50.21 | 0.00 | (167) | (44) | (175) | 1,639 | 17.11 | 0 | 50.00 |

**Field Name/Number:** Pasture NW-E **Acres:** 160.00

| | Total N (lbs/ac) | Total P (lbs/ac) | Total K Lbs/ac) | Total Salts (lbs/ac) |
|---|---|---|---|---|
| Nutrients Applied | 328.7 | 27.9 | 224.6 | 1639.4 |
| Nutrients Removed at Harvest | -495.5 | -47.1 | -369.6 | 0.0 |
| Nutrient Balance | -166.8 | -19.1 | -145.0 | 1639.4 |

**Winter Nitrogen Crop App / Use Ratio:** 1.06 **Summer Nitrogen Crop App / Use Ratio:** 1.18

**Field Name/Number:** Pasture NW-E **Acres:** 160

**Winter Crop** **Wheat, Silage**

| Nutrient Summary : | | Applied | | N | | |
|---|---|---|---|---|---|---|
| W. Manure App. | | - | T/Ac | - | - | - |
| W. Comm Fert App. | | 100.0 | lbs/Ac | 100.0 | | |
| Process Water | Q1 | - | Ac In /Ac | - | - | - |
| | Q2 | - | Ac In /Ac | - | - | - |
| Well Water | | 18.7 | Ac In /Ac | 100.0 | | |
| Canal | | - | Ac In /Ac | - | | |
| Atm. Depos. | | Yes | | 7.0 | | |
| W. Planting | 12/10/22 | | | | | |
| W. Harvest | 5/13/23 | 21.8 | T/Ac | (194.7) | (134.1) | (272.9) |

**Summer Crop** **Corn, Silage**

| Nutrient Summary : | | Applied | | N | | |
|---|---|---|---|---|---|---|
| S. Manure App. | | 11.3 | T/Ac | 108.6 | 146.6 | 324.7 |
| S. Comm Fert App. | | 120.0 | lbs/Ac | 120.0 | - | - |
| Process Water | Q2 | - | Ac In /Ac | - | - | - |
| | Q3 | - | Ac In /Ac | - | - | - |
| | Q4 | - | Ac In /Ac | - | - | - |
| Well Water | | 31.5 | Ac In /Ac | 120.1 | | |
| Canal | | - | Ac In /Ac | - | | |
| Atm. Depos. | | Yes | | 7.0 | | |
| S. Planting | 6/6/23 | | | | | |
| S. Harvest | 11/6/23 | 28.2 | T/Ac | (300.9) | (112.9) | (261.5) |

# Nutrient Applications

**Field Name/Number:** 145 N **Acres:** 72.50

| Date | Event / Source | Dry Manure Applied (tons/ac) | Moist. % | Chem Fert total lbs | Fresh Water Applied (ac-in/ac) | Lagoon Water Applied (ac-in/ac) | Lab Sample Data | | | | | Yield | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | N (lbs/Ac) | Total P (lbs/Ac) | Total K (lbs/Ac) | Salt (Lbs/Ac) | TFS % | Expected Yield (tons/ac) | Actual Yield (tons/ac) |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| 1/2/23 | W. Planting | - | - | - | - | - | - | - | - | - | - | | - |
| 1/15/23 | Jack's | - | - | - | 5.35 | - | 1.2 | - | - | 138 | - | | - |
| 2/18/23 | Jack's | - | - | - | 5.57 | - | 1.3 | - | - | 144 | - | | - |
| 3/21/23 | Jack's | - | - | - | 5.49 | - | 1.2 | - | - | 142 | - | | - |
| 4/16/23 | Jack's | - | - | - | 5.43 | - | 1.2 | - | - | 140 | - | | - |
| 5/23/23 | Jack's | - | - | - | 5.51 | - | 1.2 | - | - | 143 | - | | - |
| 6/20/23 | Jack's | - | - | - | 5.40 | - | 1.2 | - | - | 140 | - | | - |
| 7/20/23 | Jack's | - | - | - | 5.62 | - | 1.3 | - | - | 145 | - | | - |
| 8/19/23 | Jack's | - | - | - | 5.46 | - | 1.2 | - | - | 141 | - | | - |
| 9/1/23 | W. Harvest | - | - | - | - | - | (445.9) | (39.9) | (231.8) | - | 11.60 | | 7.90 |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| Totals: | | 0.0 | | 0 | 43.83 | 0.00 | (436) | (40) | (232) | 1,133 | 11.60 | 0 | 7.90 |

**Field Name/Number:** 145 N **Acres:** 72.50

| | Total N (lbs/ac) | Total P (lbs/ac) | Total K Lbs/ac) | Total Salts (lbs/ac) |
|---|---|---|---|---|
| Nutrients Applied | 9.9 | 0.0 | 0.0 | 1132.9 |
| Nutrients Removed at Harvest | -445.9 | -17.4 | -192.4 | 0.0 |
| Nutrient Balance | -435.9 | -17.4 | -192.4 | 1132.9 |

**Winter Nitrogen Crop App / Use Ratio:** 0.04 **Summer Nitrogen Crop App / Use Ratio:** #N/A

**Field Name/Number:** 145 N **Acres:** 72.5

**Winter Crop** **Alfalfa**

| **Nutrient Summary :** | | **Applied** | | **N** | | |
|---|---|---|---|---|---|---|
| W. Manure App. | | - | T/Ac | - | - | - |
| W. Comm Fert App. | | - | lbs/Ac | - | | |
| Process Water | Q1 | - | Ac In /Ac | - | - | - |
| | Q2 | - | Ac In /Ac | - | - | - |
| Well Water | | 43.8 | Ac In /Ac | 9.9 | | |
| Canal | | - | Ac In /Ac | - | | |
| Atm. Depos. | | Yes | | 7.0 | | |
| W. Planting | 1/2/23 | | | | | |
| W. Harvest | 9/1/23 | 7.9 | T/Ac | (445.9) | (91.3) | (278.1) |

**Summer Crop** **Alfalfa**

| **Nutrient Summary :** | | **Applied** | | **N** | | |
|---|---|---|---|---|---|---|
| S. Manure App. | | - | T/Ac | - | - | - |
| S. Comm Fert App. | | - | lbs/Ac | - | - | - |
| Process Water | Q2 | - | Ac In /Ac | - | - | - |
| | Q3 | - | Ac In /Ac | - | - | - |
| | Q4 | - | Ac In /Ac | - | - | - |
| Well Water | | - | Ac In /Ac | - | | |
| Canal | | - | Ac In /Ac | - | | |
| Atm. Depos. | | #N/A | | #N/A | | |
| S. Planting | #N/A | | | | | |
| S. Harvest | #N/A | #N/A | T/Ac | #N/A | #N/A | #N/A |

# Nutrient Applications

**Field Name/Number:** Pool Ranch S **Acres:** 44.00

| Date | Event / Source | Dry Manure Applied (tons/ac) | Moist. % | Chem Fert total lbs | Fresh Water Applied (ac-in/ac) | Lagoon Water Applied (ac-in/ac) | Lab Sample Data | | | | | Yield | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | N (lbs/Ac) | Total P (lbs/Ac) | Total K (lbs/Ac) | Salt (Lbs/Ac) | TFS % | Expected Yield (tons/ac) | Actual Yield (tons/ac) |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| 1/1/20 | W. Planting | - | - | - | - | - | - | - | - | - | - | | - |
| 1/15/23 | Pool | - | - | - | 5.55 | - | 0.0 | - | - | 113 | - | | - |
| 2/18/23 | Pool | - | - | - | 5.33 | - | 0.0 | - | - | 109 | - | | - |
| 3/21/23 | Pool | - | - | - | 5.46 | - | 0.0 | - | - | 111 | - | | - |
| 4/16/23 | Pool | - | - | - | 5.63 | - | 0.0 | - | - | 115 | - | | - |
| 5/23/23 | Pool | - | - | - | 5.51 | - | 0.0 | - | - | 112 | - | | - |
| 6/20/23 | Pool | - | - | - | 5.68 | - | 0.0 | - | - | 116 | - | | - |
| 7/22/23 | Pool | - | - | - | 5.59 | - | 0.0 | - | - | 114 | - | | - |
| 8/21/23 | Pool | - | - | - | 5.42 | - | 0.0 | - | - | 111 | - | | - |
| 9/1/23 | W. Harvest | - | - | - | - | - | (394.7) | (45.2) | (274.2) | - | 11.60 | | 8.09 |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| Totals: | | 0.0 | | 0 | 44.17 | 0.00 | (395) | (45) | (274) | 901 | 11.60 | 0 | 8.09 |

**Field Name/Number:** Pool Ranch S **Acres:** 44.00

| | Total N (lbs/ac) | Total P (lbs/ac) | Total K Lbs/ac) | Total Salts (lbs/ac) |
|---|---|---|---|---|
| Nutrients Applied | 0.1 | 0.0 | 0.0 | 901.5 |
| Nutrients Removed at Harvest | -394.7 | -19.7 | -227.6 | 0.0 |
| Nutrient Balance | -394.6 | -19.7 | -227.6 | 901.5 |

**Winter Nitrogen Crop App / Use Ratio:** 0.02 **Summer Nitrogen Crop App / Use Ratio:** #N/A

**Field Name/Number:** Pool Ranch S **Acres:** 44

**Winter Crop** **Alfalfa**

| Nutrient Summary : | | Applied | | N | | |
|---|---|---|---|---|---|---|
| W. Manure App. | | - | T/Ac | - | - | - |
| W. Comm Fert App. | | - | lbs/Ac | - | | |
| Process Water | Q1 | - | Ac In /Ac | - | - | - |
| | Q2 | - | Ac In /Ac | - | - | - |
| Well Water | | 44.2 | Ac In /Ac | 0.1 | | |
| Canal | | - | Ac In /Ac | - | | |
| Atm. Depos. | | Yes | | 7.0 | | |
| W. Planting | 1/1/20 | | | | | |
| W. Harvest | 9/1/23 | 8.1 | T/Ac | (394.7) | (103.5) | (329.0) |

**Summer Crop** **Alfalfa**

| Nutrient Summary : | | Applied | | N | | |
|---|---|---|---|---|---|---|
| S. Manure App. | | - | T/Ac | - | - | - |
| S. Comm Fert App. | | - | lbs/Ac | - | - | - |
| Process Water | Q2 | - | Ac In /Ac | - | - | - |
| | Q3 | - | Ac In /Ac | - | - | - |
| | Q4 | - | Ac In /Ac | - | - | - |
| Well Water | | - | Ac In /Ac | - | | |
| Canal | | - | Ac In /Ac | - | | |
| Atm. Depos. | | #N/A | | #N/A | | |
| S. Planting | #N/A | | | | | |
| S. Harvest | #N/A | #N/A | T/Ac | #N/A | #N/A | #N/A |

# Nutrient Applications

**Field Name/Number:** Silva East **Acres:** 75.00

| Date | Event / Source | Dry Manure Applied (tons/ac) | Moist. % | Chem Fert total lbs | Fresh Water Applied (ac-in/ac) | Lagoon Water Applied (ac-in/ac) | Lab Sample Data | | | | | Yield | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | N (lbs/Ac) | Total P (lbs/Ac) | Total K (lbs/Ac) | Salt (Lbs/Ac) | TFS % | Expected Yield (tons/ac) | Actual Yield (tons/ac) |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| 12/3/21 | W. Planting | - | - | - | - | - | - | - | - | - | - | | - |
| 1/15/23 | Silva S | - | - | - | 5.63 | - | 0.8 | - | - | 169 | - | | - |
| 2/15/23 | Silva S | - | - | - | 5.48 | - | 0.7 | - | - | 164 | - | | - |
| 3/19/23 | Silva S | - | - | - | 5.53 | - | 0.8 | - | - | 166 | - | | - |
| 4/16/23 | Silva S | - | - | - | 5.73 | - | 0.8 | - | - | 172 | - | | - |
| 5/23/23 | Silva S | - | - | - | 5.58 | - | 0.8 | - | - | 167 | - | | - |
| 6/20/23 | Silva S | - | - | - | 5.51 | - | 0.7 | - | - | 165 | - | | - |
| 7/20/23 | Silva S | - | - | - | 5.46 | - | 0.7 | - | - | 163 | - | | - |
| 8/15/23 | Silva S | - | - | - | 5.56 | - | 0.8 | - | - | 166 | - | | - |
| 9/1/23 | W. Harvest | - | - | - | - | - | (402.6) | (42.4) | (264.9) | - | 11.60 | | 8.09 |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| Totals: | | 0.0 | | 0 | 44.49 | 0.00 | #N/A | - | - | #N/A | 11.60 | 0 | 8.09 |

**Field Name/Number:** Silva East **Acres:** 75.00

| | Total N (lbs/ac) | Total P (lbs/ac) | Total K Lbs/ac) | Total Salts (lbs/ac) |
|---|---|---|---|---|
| Nutrients Applied | 6.1 | 0.0 | 0.0 | 1331.8 |
| Nutrients Removed at Harvest | -402.6 | -18.5 | -219.9 | 0.0 |
| Nutrient Balance | -396.5 | -18.5 | -219.9 | 1331.8 |

**Winter Nitrogen Crop App / Use Ratio:** 0.03 **Summer Nitrogen Crop App / Use Ratio:** #N/A

**Field Name/Number:** Silva East **Acres:** 75

**Winter Crop** **Alfalfa**

| **Nutrient Summary :** | | **Applied** | | **N** | | |
|---|---|---|---|---|---|---|
| W. Manure App. | | - | T/Ac | - | - | - |
| W. Comm Fert App. | | - | lbs/Ac | - | | |
| Process Water | Q1 | - | Ac In /Ac | - | - | - |
| | Q2 | - | Ac In /Ac | - | - | - |
| Well Water | | 44.5 | Ac In /Ac | 6.1 | | |
| Canal | | - | Ac In /Ac | - | | |
| Atm. Depos. | | Yes | | 7.0 | | |
| W. Planting | 12/3/21 | | | | | |
| W. Harvest | 9/1/23 | 8.1 | T/Ac | (402.6) | (97.0) | (317.8) |

**Summer Crop** **Alfalfa**

| **Nutrient Summary :** | | **Applied** | | **N** | | |
|---|---|---|---|---|---|---|
| S. Manure App. | | - | T/Ac | - | - | - |
| S. Comm Fert App. | | - | lbs/Ac | - | - | - |
| Process Water | Q2 | - | Ac In /Ac | - | - | - |
| | Q3 | - | Ac In /Ac | - | - | - |
| | Q4 | - | Ac In /Ac | - | - | - |
| Well Water | | - | Ac In /Ac | - | | |
| Canal | | - | Ac In /Ac | - | | |
| Atm. Depos. | | #N/A | | #N/A | | |
| S. Planting | #N/A | | | | | |
| S. Harvest | #N/A | #N/A | T/Ac | #N/A | #N/A | #N/A |

# Nutrient Applications

**Field Name/Number:** Pasture SE-W **Acres:** 95.00

| Date | Event / Source | Dry Manure Applied (tons/ac) | Moist. % | Chem Fert total lbs | Fresh Water Applied (ac-in/ac) | Lagoon Water Applied (ac-in/ac) | Lab Sample Data | | | | | Yield | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | N (lbs/Ac) | Total P (lbs/Ac) | Total K (lbs/Ac) | Salt (Lbs/Ac) | TFS % | Expected Yield (tons/ac) | Actual Yield (tons/ac) |
| 2/1/23 | W. Comm Fert App. | - | - | 120 | - | - | 120.0 | - | - | - | - | | - |
| 12/10/22 | W. Planting | - | - | - | - | - | - | - | - | - | - | | - |
| 2/1/23 | Pasture NE | - | - | - | 5.79 | - | 0.0 | - | - | 189 | - | | - |
| 3/5/23 | Pasture NE | - | - | - | 5.70 | - | 0.0 | - | - | 186 | - | | - |
| 4/11/23 | Pasture NE | - | - | - | 5.60 | - | 0.0 | - | - | 183 | - | | - |
| 5/5/23 | W. Harvest | - | - | - | - | - | (274.8) | (56.4) | (243.1) | - | 11.60 | | 20.73 |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| 5/10/23 | S. Manure App. | 8.42 | - | - | - | - | 81.3 | 47.9 | 202.5 | - | - | | - |
| 7/18/23 | S. Comm Fert App. | - | - | 120 | - | - | 120.0 | - | - | - | - | | - |
| 5/21/23 | Pasture NE | - | - | - | 5.86 | - | 0.0 | - | - | 191 | - | | - |
| 6/6/23 | S. Planting | - | - | - | - | - | - | - | - | - | - | | - |
| 6/8/23 | Pasture NE | - | - | - | 5.77 | - | 0.0 | - | - | 188 | - | | - |
| 7/18/23 | Pasture NE | - | - | - | 5.81 | - | 0.0 | - | - | 190 | - | | - |
| 8/21/23 | Pasture NE | - | - | - | 5.84 | - | 0.0 | - | - | 191 | - | | - |
| 10/7/23 | Pasture NE | - | - | - | 5.74 | - | 0.0 | - | - | 188 | - | | - |
| 11/6/23 | S. Harvest | - | - | - | - | - | (285.8) | (46.0) | (205.9) | - | 5.51 | | 25.99 |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| Totals: | | 8.4 | | 240 | 46.12 | 0.00 | (239) | (54) | (246) | 1,506 | 17.11 | 0 | 46.72 |

**Field Name/Number:** Pasture SE-W **Acres:** 95.00

| | Total N (lbs/ac) | Total P (lbs/ac) | Total K Lbs/ac) | Total Salts (lbs/ac) |
|---|---|---|---|---|
| Nutrients Applied | 321.4 | 20.9 | 168.1 | 1505.8 |
| Nutrients Removed at Harvest | -560.7 | -44.7 | -372.7 | 0.0 |
| Nutrient Balance | -239.2 | -23.8 | -204.6 | 1505.8 |

**Winter Nitrogen Crop App / Use Ratio:** 0.90 **Summer Nitrogen Crop App / Use Ratio:** 1.15

**Field Name/Number:** Pasture SE-W **Acres:** 95

**Winter Crop** **Wheat, Silage**

| Nutrient Summary : | | Applied | | N | | |
|---|---|---|---|---|---|---|
| W. Manure App. | | - | T/Ac | - | - | - |
| W. Comm Fert App. | | 120.0 | lbs/Ac | 120.0 | | |
| Process Water | Q1 | - | Ac In /Ac | - | - | - |
| | Q2 | - | Ac In /Ac | - | - | - |
| Well Water | | 17.1 | Ac In /Ac | 120.0 | | |
| Canal | | - | Ac In /Ac | - | | |
| Atm. Depos. | | Yes | | 7.0 | | |
| W. Planting | 12/10/22 | | | | | |
| W. Harvest | 5/5/23 | 20.7 | T/Ac | (274.8) | (129.1) | (291.7) |

**Summer Crop** **Corn, Silage**

| Nutrient Summary : | | Applied | | N | | |
|---|---|---|---|---|---|---|
| S. Manure App. | | 8.4 | T/Ac | 81.3 | 109.7 | 243.0 |
| S. Comm Fert App. | | 120.0 | lbs/Ac | 120.0 | - | - |
| Process Water | Q2 | - | Ac In /Ac | - | - | - |
| | Q3 | - | Ac In /Ac | - | - | - |
| | Q4 | - | Ac In /Ac | - | - | - |
| Well Water | | 29.0 | Ac In /Ac | 120.1 | | |
| Canal | | - | Ac In /Ac | - | | |
| Atm. Depos. | | Yes | | 7.0 | | |
| S. Planting | 6/6/23 | | | | | |
| S. Harvest | 11/6/23 | 26.0 | T/Ac | (285.8) | (105.4) | (247.1) |

# Nutrient Applications

**Field Name/Number:** Santos **Acres:** 74.00

| Date | Event / Source | Dry Manure Applied (tons/ac) | Moist. % | Chem Fert total lbs | Fresh Water Applied (ac-in/ac) | Lagoon Water Applied (ac-in/ac) | Lab Sample Data | | | | | Yield | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | N (lbs/Ac) | Total P (lbs/Ac) | Total K (lbs/Ac) | Salt (Lbs/Ac) | TFS % | Expected Yield (tons/ac) | Actual Yield (tons/ac) |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| 1/1/19 | W. Planting | - | - | - | - | - | - | - | - | - | - | | - |
| 2/18/23 | Santos | - | - | - | 5.37 | - | - | - | - | - | - | | - |
| 3/21/23 | Santos | - | - | - | 5.59 | - | - | - | - | - | - | | - |
| 4/16/23 | Santos | - | - | - | 5.45 | - | - | - | - | - | - | | - |
| 5/23/23 | Santos | - | - | - | 5.64 | - | - | - | - | - | - | | - |
| 6/20/23 | Santos | - | - | - | 5.51 | - | - | - | - | - | - | | - |
| 7/20/23 | Santos | - | - | - | 5.56 | - | - | - | - | - | - | | - |
| 8/19/23 | Santos | - | - | - | 5.67 | - | - | - | - | - | - | | - |
| 9/1/23 | W. Harvest | - | - | - | - | - | (404.8) | (46.8) | (297.6) | - | 11.60 | | 8.09 |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| Totals: | | 0.0 | | 0 | 38.80 | 0.00 | (405) | (47) | (298) | - | 11.60 | 0 | 8.09 |

**Field Name/Number:** Santos **Acres:** 74.00

| | Total N (lbs/ac) | Total P (lbs/ac) | Total K Lbs/ac) | Total Salts (lbs/ac) |
|---|---|---|---|---|
| Nutrients Applied | 0.0 | 0.0 | 0.0 | 0.0 |
| Nutrients Removed at Harvest | -404.8 | -20.4 | -247.0 | 0.0 |
| Nutrient Balance | -404.8 | -20.4 | -247.0 | 0.0 |

**Winter Nitrogen Crop App / Use Ratio:** 0.02 **Summer Nitrogen Crop App / Use Ratio:** #N/A

**Field Name/Number:** Santos **Acres:** 74

**Winter Crop** **Alfalfa**

| Nutrient Summary : | | Applied | | N | | |
|---|---|---|---|---|---|---|
| W. Manure App. | | - | T/Ac | - | - | - |
| W. Comm Fert App. | | - | lbs/Ac | - | | |
| Process Water | Q1 | - | Ac In /Ac | - | - | - |
| | Q2 | - | Ac In /Ac | - | - | - |
| Well Water | | 38.8 | Ac In /Ac | - | | |
| Canal | | - | Ac In /Ac | - | | |
| Atm. Depos. | | Yes | | 7.0 | | |
| W. Planting | 1/1/19 | | | | | |
| W. Harvest | 9/1/23 | 8.1 | T/Ac | (404.8) | (107.2) | (357.1) |

**Summer Crop** **Alfalfa**

| Nutrient Summary : | | Applied | | N | | |
|---|---|---|---|---|---|---|
| S. Manure App. | | - | T/Ac | - | - | - |
| S. Comm Fert App. | | - | lbs/Ac | - | - | - |
| Process Water | Q2 | - | Ac In /Ac | - | - | - |
| | Q3 | - | Ac In /Ac | - | - | - |
| | Q4 | - | Ac In /Ac | - | - | - |
| Well Water | | - | Ac In /Ac | - | | |
| Canal | | - | Ac In /Ac | - | | |
| Atm. Depos. | | #N/A | | #N/A | | |
| S. Planting | #N/A | | | | | |
| S. Harvest | #N/A | #N/A | T/Ac | #N/A | #N/A | #N/A |

# Nutrient Applications

**Field Name/Number:** Silva West **Acres:** 75.00

| Date | Event / Source | Dry Manure Applied (tons/ac) | Moist. % | Chem Fert total lbs | Fresh Water Applied (ac-in/ac) | Lagoon Water Applied (ac-in/ac) | Lab Sample Data | | | | | Yield | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | N (lbs/Ac) | Total P (lbs/Ac) | Total K (lbs/Ac) | Salt (Lbs/Ac) | TFS % | Expected Yield (tons/ac) | Actual Yield (tons/ac) |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| 1/1/20 | W. Planting | - | - | - | - | - | - | - | - | - | - | | - |
| 1/15/23 | Silva N | - | - | - | 5.73 | - | 15.7 | - | - | 312 | - | | - |
| 2/15/23 | Silva N | - | - | - | 5.59 | - | 15.3 | - | - | 304 | - | | - |
| 3/19/23 | Silva N | - | - | - | 5.63 | - | 15.4 | - | - | 307 | - | | - |
| 4/16/23 | Silva N | - | - | - | 5.70 | - | 15.6 | - | - | 310 | - | | - |
| 5/23/23 | Silva N | - | - | - | 5.66 | - | 15.5 | - | - | 308 | - | | - |
| 6/20/23 | Silva N | - | - | - | 5.49 | - | 15.1 | - | - | 299 | - | | - |
| 7/20/23 | Silva N | - | - | - | 5.68 | - | 15.6 | - | - | 309 | - | | - |
| 8/15/23 | Silva N | - | - | - | 5.54 | - | 15.2 | - | - | 301 | - | | - |
| 9/1/23 | W. Harvest | - | - | - | - | - | (394.0) | (41.9) | (314.6) | - | 11.60 | | 8.05 |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| Totals: | | 0.0 | | 0 | 45.01 | 0.00 | (271) | (42) | (315) | 2,450 | 11.60 | 0 | 8.05 |

**Field Name/Number:** Silva West **Acres:** 75.00

| | Total N (lbs/ac) | Total P (lbs/ac) | Total K Lbs/ac) | Total Salts (lbs/ac) |
|---|---|---|---|---|
| Nutrients Applied | 123.4 | 0.0 | 0.0 | 2449.5 |
| Nutrients Removed at Harvest | -394.0 | -18.3 | -261.1 | 0.0 |
| Nutrient Balance | -270.5 | -18.3 | -261.1 | 2449.5 |

**Winter Nitrogen Crop App / Use Ratio:** 0.33 **Summer Nitrogen Crop App / Use Ratio:** #N/A

**Field Name/Number:** Silva West **Acres:** 75

**Winter Crop** **Alfalfa**

| **Nutrient Summary :** | | **Applied** | | **N** | | |
|---|---|---|---|---|---|---|
| W. Manure App. | | - | T/Ac | - | - | - |
| W. Comm Fert App. | | - | lbs/Ac | - | | |
| Process Water | Q1 | - | Ac In /Ac | - | - | - |
| | Q2 | - | Ac In /Ac | - | - | - |
| Well Water | | 45.0 | Ac In /Ac | 123.4 | | |
| Canal | | - | Ac In /Ac | - | | |
| Atm. Depos. | | Yes | | 7.0 | | |
| W. Planting | 1/1/20 | | | | | |
| W. Harvest | 9/1/23 | 8.1 | T/Ac | (394.0) | (96.0) | (377.5) |

**Summer Crop** **Alfalfa**

| **Nutrient Summary :** | | **Applied** | | **N** | | |
|---|---|---|---|---|---|---|
| S. Manure App. | | - | T/Ac | - | - | - |
| S. Comm Fert App. | | - | lbs/Ac | - | - | - |
| Process Water | Q2 | - | Ac In /Ac | - | - | - |
| | Q3 | - | Ac In /Ac | - | - | - |
| | Q4 | - | Ac In /Ac | - | - | - |
| Well Water | | - | Ac In /Ac | - | | |
| Canal | | - | Ac In /Ac | - | | |
| Atm. Depos. | | #N/A | | #N/A | | |
| S. Planting | #N/A | | | | | |
| S. Harvest | #N/A | #N/A | T/Ac | #N/A | #N/A | #N/A |

# Nutrient Applications

**Field Name/Number:** Cattle Lot **Acres:** 80.00

| Date | Event / Source | Dry Manure Applied (tons/ac) | Moist. % | Chem Fert total lbs | Fresh Water Applied (ac-in/ac) | Lagoon Water Applied (ac-in/ac) | Lab Sample Data | | | | | Yield | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | N (lbs/Ac) | Total P (lbs/Ac) | Total K (lbs/Ac) | Salt (Lbs/Ac) | TFS % | Expected Yield (tons/ac) | Actual Yield (tons/ac) |
| 3/13/23 | W. Comm Fert App. | - | - | 100 | - | - | 100.0 | - | - | - | - | | - |
| 12/10/22 | W. Planting | - | - | - | - | - | - | - | - | - | - | | - |
| 2/10/23 | Jack's | - | - | - | 5.52 | - | 1.3 | - | - | 143 | - | | - |
| 3/13/23 | Jack's | - | - | - | 5.42 | - | 1.2 | - | - | 140 | - | | - |
| 4/26/23 | Jack's | - | - | - | 5.47 | - | 1.2 | - | - | 141 | - | | - |
| 5/25/23 | W. Harvest | - | - | - | - | - | (235.0) | (64.7) | (239.4) | - | 11.60 | | 21.83 |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| 7/8/23 | S. Comm Fert App. | - | - | 125 | - | - | 125.0 | - | - | - | - | | - |
| 5/28/23 | Jack's | - | - | - | 5.54 | - | 1.3 | - | - | 143 | - | | - |
| 6/9/23 | S. Planting | - | - | - | - | - | - | - | - | - | - | | - |
| 6/11/23 | Jack's | - | - | - | 5.44 | - | 1.2 | - | - | 141 | - | | - |
| 7/8/23 | Jack's | - | - | - | 5.49 | - | 1.2 | - | - | 142 | - | | - |
| 8/3/23 | Jack's | - | - | - | 5.62 | - | 1.3 | - | - | 145 | - | | - |
| 9/13/23 | Jack's | - | - | - | 5.57 | - | 1.3 | - | - | 144 | - | | - |
| 10/10/23 | S. Harvest | - | - | - | - | - | (244.8) | (51.2) | (157.1) | - | 5.51 | | 27.60 |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| Totals: | | 0.0 | | 225 | 44.07 | 0.00 | (245) | (116) | (396) | 1,139 | 17.11 | 0 | 49.43 |

**Field Name/Number:** Cattle Lot **Acres:** 80.00

| | Total N (lbs/ac) | Total P (lbs/ac) | Total K Lbs/ac) | Total Salts (lbs/ac) |
|---|---|---|---|---|
| Nutrients Applied | 235.0 | 0.0 | 0.0 | 1139.1 |
| Nutrients Removed at Harvest | -479.9 | -50.6 | -329.1 | 0.0 |
| Nutrient Balance | -244.9 | -50.6 | -329.1 | 1139.1 |

**Winter Nitrogen Crop App / Use Ratio:** 0.90 **Summer Nitrogen Crop App / Use Ratio:** 1.08

**Field Name/Number:** Cattle Lot **Acres:** 80

**Winter Crop** **Wheat, Silage**

| Nutrient Summary : | | Applied | | N | | |
|---|---|---|---|---|---|---|
| W. Manure App. | | - | T/Ac | - | - | - |
| W. Comm Fert App. | | 100.0 | lbs/Ac | 100.0 | | |
| Process Water | Q1 | - | Ac In /Ac | - | - | - |
| | Q2 | - | Ac In /Ac | - | - | - |
| Well Water | | 16.4 | Ac In /Ac | 103.7 | | |
| Canal | | - | Ac In /Ac | - | | |
| Atm. Depos. | | Yes | | 7.0 | | |
| W. Planting | 12/10/22 | | | | | |
| W. Harvest | 5/25/23 | 21.8 | T/Ac | (235.0) | (148.1) | (287.2) |

**Summer Crop** **Corn, Silage**

| Nutrient Summary : | | Applied | | N | | |
|---|---|---|---|---|---|---|
| S. Manure App. | | - | T/Ac | - | - | - |
| S. Comm Fert App. | | 125.0 | lbs/Ac | 125.0 | - | - |
| Process Water | Q2 | - | Ac In /Ac | - | - | - |
| | Q3 | - | Ac In /Ac | - | - | - |
| | Q4 | - | Ac In /Ac | - | - | - |
| Well Water | | 27.7 | Ac In /Ac | 131.3 | | |
| Canal | | - | Ac In /Ac | - | | |
| Atm. Depos. | | Yes | | 7.0 | | |
| S. Planting | 6/9/23 | | | | | |
| S. Harvest | 10/10/23 | 27.6 | T/Ac | (244.8) | (117.2) | (188.6) |

# Nutrient Applications

**Field Name/Number:** Jacks **Acres:** 80.00

| Date | Event / Source | Dry Manure Applied (tons/ac) | Moist. % | Chem Fert total lbs | Fresh Water Applied (ac-in/ac) | Lagoon Water Applied (ac-in/ac) | Lab Sample Data | | | | | Yield | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | N (lbs/Ac) | Total P (lbs/Ac) | Total K (lbs/Ac) | Salt (Lbs/Ac) | TFS % | Expected Yield (tons/ac) | Actual Yield (tons/ac) |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| 1/1/21 | W. Planting | - | - | - | - | - | - | - | - | - | - | | - |
| 1/15/23 | Jack's | - | - | - | 5.19 | - | 1.2 | - | - | 134 | - | | - |
| 2/18/23 | Jack's | - | - | - | 5.39 | - | 1.2 | - | - | 139 | - | | - |
| 3/21/23 | Jack's | - | - | - | 5.27 | - | 1.2 | - | - | 136 | - | | - |
| 4/16/23 | Jack's | - | - | - | 5.44 | - | 1.2 | - | - | 141 | - | | - |
| 5/23/23 | Jack's | - | - | - | 5.34 | - | 1.2 | - | - | 138 | - | | - |
| 6/20/23 | Jack's | - | - | - | 5.29 | - | 1.2 | - | - | 137 | - | | - |
| 7/20/23 | Jack's | - | - | - | 5.37 | - | 1.2 | - | - | 139 | - | | - |
| 8/19/23 | Jack's | - | - | - | 5.47 | - | 1.2 | - | - | 141 | - | | - |
| 9/1/23 | W. Harvest | - | - | - | - | - | (413.8) | (41.2) | (282.5) | - | 11.60 | | 8.11 |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| **Totals:** | | 0.0 | | 0 | 42.77 | 0.00 | (404) | (41) | (282) | 1,106 | 11.60 | 0 | 8.11 |

**Field Name/Number:** Jacks **Acres:** 80.00

| | Total N (lbs/ac) | Total P (lbs/ac) | Total K Lbs/ac) | Total Salts (lbs/ac) |
|---|---|---|---|---|
| Nutrients Applied | 9.7 | 0.0 | 0.0 | 1105.7 |
| Nutrients Removed at Harvest | -413.8 | -18.0 | -234.5 | 0.0 |
| Nutrient Balance | -404.1 | -18.0 | -234.5 | 1105.7 |

**Winter Nitrogen Crop App / Use Ratio:** 0.04 **Summer Nitrogen Crop App / Use Ratio:** #N/A

**Field Name/Number:** Jacks **Acres:** 80

**Winter Crop** **Alfalfa**

| Nutrient Summary : | | Applied | | N | | |
|---|---|---|---|---|---|---|
| W. Manure App. | | - | T/Ac | - | - | - |
| W. Comm Fert App. | | - | lbs/Ac | - | | |
| Process Water | Q1 | - | Ac In /Ac | - | - | - |
| | Q2 | - | Ac In /Ac | - | - | - |
| Well Water | | 42.8 | Ac In /Ac | 9.7 | | |
| Canal | | - | Ac In /Ac | - | | |
| Atm. Depos. | | Yes | | 7.0 | | |
| W. Planting | 1/1/21 | | | | | |
| W. Harvest | 9/1/23 | 8.1 | T/Ac | (413.8) | (94.4) | (338.9) |

**Summer Crop** **Alfalfa**

| Nutrient Summary : | | Applied | | N | | |
|---|---|---|---|---|---|---|
| S. Manure App. | | - | T/Ac | - | - | - |
| S. Comm Fert App. | | - | lbs/Ac | - | - | - |
| Process Water | Q2 | - | Ac In /Ac | - | - | - |
| | Q3 | - | Ac In /Ac | - | - | - |
| | Q4 | - | Ac In /Ac | - | - | - |
| Well Water | | - | Ac In /Ac | - | | |
| Canal | | - | Ac In /Ac | - | | |
| Atm. Depos. | | #N/A | | #N/A | | |
| S. Planting | #N/A | | | | | |
| S. Harvest | #N/A | #N/A | T/Ac | #N/A | #N/A | #N/A |

# Nutrient Applications

**Field Name/Number:** Airstrip **Acres:** 70.00

| Date | Event / Source | Dry Manure Applied (tons/ac) | Moist. % | Chem Fert total lbs | Fresh Water Applied (ac-in/ac) | Lagoon Water Applied (ac-in/ac) | Lab Sample Data | | | | | Yield | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | N (lbs/Ac) | Total P (lbs/Ac) | Total K (lbs/Ac) | Salt (Lbs/Ac) | TFS % | Expected Yield (tons/ac) | Actual Yield (tons/ac) |
| 2/27/23 | W. Comm Fert App. | - | - | 100 | - | - | 100.0 | - | - | - | - | | - |
| 12/1/22 | W. Planting | - | - | - | - | - | - | - | - | - | - | | - |
| 1/14/23 | Pasture NE | - | - | - | 5.59 | - | 0.0 | - | - | 182 | - | | - |
| 2/27/23 | Pasture NE | - | - | - | 5.33 | - | 0.0 | - | - | 174 | - | | - |
| 4/21/23 | Pasture NE | - | - | - | 5.52 | - | 0.0 | - | - | 180 | - | | - |
| 5/19/23 | Pasture NE | - | - | - | 5.40 | - | 0.0 | - | - | 176 | - | | - |
| 6/7/23 | W. Harvest | - | - | - | - | - | (175.0) | (31.6) | (295.3) | - | 11.60 | | 6.47 |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | S. Fallow | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| Totals: | | 0.0 | | 100 | 21.84 | 0.00 | (75) | (32) | (295) | 713 | 11.60 | 0 | 6.47 |

**Field Name/Number:** Airstrip **Acres:** 70.00

| | Total N (lbs/ac) | Total P (lbs/ac) | Total K Lbs/ac) | Total Salts (lbs/ac) |
|---|---|---|---|---|
| Nutrients Applied | 100.0 | 0.0 | 0.0 | 713.1 |
| Nutrients Removed at Harvest | -175.0 | -13.8 | -245.2 | 0.0 |
| Nutrient Balance | -75.0 | -13.8 | -245.2 | 713.1 |

**Winter Nitrogen Crop App / Use Ratio:** 1.18 **Summer Nitrogen Crop App / Use Ratio:** #N/A

**Field Name/Number:** Airstrip **Acres:** 70

**Winter Crop** **Oats, Hay**

| Nutrient Summary : | | Applied | | N | | |
|---|---|---|---|---|---|---|
| W. Manure App. | | - | T/Ac | - | - | - |
| W. Comm Fert App. | | 100.0 | lbs/Ac | 100.0 | | |
| Process Water | Q1 | - | Ac In /Ac | - | - | - |
| | Q2 | - | Ac In /Ac | - | - | - |
| Well Water | | 21.8 | Ac In /Ac | 100.0 | | |
| Canal | | - | Ac In /Ac | - | | |
| Atm. Depos. | | Yes | | 7.0 | | |
| W. Planting | 12/1/22 | | | | | |
| W. Harvest | 6/7/23 | 6.5 | T/Ac | (175.0) | (72.4) | (354.4) |

**Summer Crop** **S. Fallow**

| Nutrient Summary : | | Applied | | N | | |
|---|---|---|---|---|---|---|
| S. Manure App. | | - | T/Ac | - | - | - |
| S. Comm Fert App. | | - | lbs/Ac | - | - | - |
| Process Water | Q2 | - | Ac In /Ac | - | - | - |
| | Q3 | - | Ac In /Ac | - | - | - |
| | Q4 | - | Ac In /Ac | - | - | - |
| Well Water | | - | Ac In /Ac | - | | |
| Canal | | - | Ac In /Ac | - | | |
| Atm. Depos. | | Yes | | 7.0 | | |
| S. Planting | #N/A | | | | | |
| S. Harvest | - | #N/A | T/Ac | #N/A | #N/A | #N/A |

# Nutrient Applications

**Field Name/Number:** 145 S **Acres:** 72.50

| Date | Event / Source | Dry Manure Applied (tons/ac) | Moist. % | Chem Fert total lbs | Fresh Water Applied (ac-in/ac) | Lagoon Water Applied (ac-in/ac) | Lab Sample Data | | | | | Yield | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | N (lbs/Ac) | Total P (lbs/Ac) | Total K (lbs/Ac) | Salt (Lbs/Ac) | TFS % | Expected Yield (tons/ac) | Actual Yield (tons/ac) |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| 1/1/21 | W. Planting | - | - | - | - | - | - | - | - | - | - | | - |
| 1/15/23 | Jack's | - | - | - | 5.49 | - | 1.2 | - | - | 142 | - | | - |
| 2/18/23 | Jack's | - | - | - | 5.35 | - | 1.2 | - | - | 138 | - | | - |
| 3/21/23 | Jack's | - | - | - | 5.46 | - | 1.2 | - | - | 141 | - | | - |
| 4/16/23 | Jack's | - | - | - | 5.29 | - | 1.2 | - | - | 137 | - | | - |
| 5/23/23 | Jack's | - | - | - | 5.62 | - | 1.3 | - | - | 145 | - | | - |
| 6/20/23 | Jack's | - | - | - | 5.51 | - | 1.2 | - | - | 143 | - | | - |
| 7/20/23 | Jack's | - | - | - | 5.43 | - | 1.2 | - | - | 140 | - | | - |
| 8/19/23 | Jack's | - | - | - | 5.54 | - | 1.3 | - | - | 143 | - | | - |
| 9/1/23 | W. Harvest | - | - | - | - | - | (427.7) | (46.6) | (351.2) | - | 10.80 | | 8.94 |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| **Totals:** | | **0.0** | | **0** | **43.69** | **0.00** | **(418)** | **(47)** | **(351)** | **1,129** | **10.80** | **0** | **8.94** |

Dry Weight
As Received

**Field Name/Number:** 145 S **Acres:** 72.5

| | Total N (lbs/ac) | Total P (lbs/ac) | Total K Lbs/ac) | Total Salts (lbs/ac) |
|---|---|---|---|---|
| Nutrients Applied | 9.9 | 0.0 | 0.0 | 1129.4 |
| Nutrients Removed at Harvest | -427.7 | -46.6 | -351.2 | 0.0 |
| Nutrient Balance | -417.8 | -46.6 | -351.2 | 1129.4 |

**Winter Nitrogen Crop App / Use Ratio:** 0.04 **Summer Nitrogen Crop App / Use Ratio:** #N/A

**Field Name/Number:** 145 S **Acres:** 72.5

**Winter Crop** **Alfalfa**

| **Nutrient Summary :** | | **Applied** | | **N** | | |
|---|---|---|---|---|---|---|
| W. Manure App. | | - | T/Ac | - | - | - |
| W. Comm Fert App. | | - | lbs/Ac | - | | |
| Process Water | Q1 | - | Ac In /Ac | - | - | - |
| | Q2 | - | Ac In /Ac | - | - | - |
| Well Water | | 43.69 | Ac In /Ac | 9.9 | | |
| Canal | | - | Ac In /Ac | - | | |
| Atm. Depos. | | Yes | | 7.0 | | |
| W. Planting | 1/1/21 | | | | | |
| W. Harvest | 9/1/23 | 8.9 | T/Ac | (427.7) | (106.7) | (421.4) |

**Summer Crop** **Alfalfa**

| **Nutrient Summary :** | | **Applied** | | **N** | | |
|---|---|---|---|---|---|---|
| S. Manure App. | | - | T/Ac | - | - | - |
| S. Comm Fert App. | | - | lbs/Ac | - | - | - |
| Process Water | Q2 | - | Ac In /Ac | - | - | - |
| | Q3 | - | Ac In /Ac | - | - | - |
| | Q4 | - | Ac In /Ac | - | - | - |
| Well Water | | - | Ac In /Ac | 0 | | |
| Canal | | - | Ac In /Ac | - | | |
| Atm. Depos. | | #N/A | | #N/A | | |
| S. Planting | #N/A | | | | | |
| S. Harvest | #N/A | #N/A | T/Ac | #N/A | #N/A | #N/A |

# Nutrient Applications

**Field Name/Number:** Pool Ranch N **Acres:** 32.00

| Date | Event / Source | Dry Manure Applied (tons/ac) | Moist. % | Chem Fert total lbs | Fresh Water Applied (ac-in/ac) | Lagoon Water Applied (ac-in/ac) | Lab Sample Data | | | | | Yield | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | N (lbs/Ac) | Total P (lbs/Ac) | Total K (lbs/Ac) | Salt (Lbs/Ac) | TFS % | Expected Yield (tons/ac) | Actual Yield (tons/ac) |
| 3/17/23 | W. Comm Fert App. | - | - | 100 | - | - | 100.0 | - | - | - | - | | - |
| 12/15/22 | W. Planting | - | - | - | - | - | - | - | - | - | - | | - |
| 2/15/23 | Pool | - | - | - | 5.46 | - | 0.0 | - | - | 111 | - | | - |
| 3/17/23 | Pool | - | - | - | 5.28 | - | 0.0 | - | - | 108 | - | | - |
| 4/29/23 | Pool | - | - | - | 5.52 | - | 0.0 | - | - | 113 | - | | - |
| 5/23/23 | Pool | - | - | - | 5.63 | - | 0.0 | - | - | 115 | - | | - |
| 6/7/23 | W. Harvest | - | - | - | - | - | (229.6) | (41.5) | (258.3) | - | 10.80 | | 8.50 |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| 7/16/23 | S. Comm Fert App. | - | - | 120 | - | - | 120.0 | - | - | - | - | | - |
| 6/12/23 | Pool | - | - | - | 5.57 | - | 0.0 | - | - | 114 | - | | - |
| 6/21/23 | S. Planting | - | - | - | - | - | - | - | - | - | - | | - |
| 6/23/23 | Pool | - | - | - | 5.34 | - | 0.0 | - | - | 109 | - | | - |
| 7/16/23 | Pool | - | - | - | 5.69 | - | 0.0 | - | - | 116 | - | | - |
| 8/11/23 | Pool | - | - | - | 5.40 | - | 0.0 | - | - | 110 | - | | - |
| 9/10/23 | Pool | - | - | - | 5.75 | - | 0.0 | - | - | 117 | - | | - |
| 10/13/23 | S. Harvest | - | - | - | - | - | (243.6) | (48.7) | (138.6) | - | - | | 25.59 |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| Totals: | | 0.0 | | 220 | 49.65 | 0.00 | (253) | (90) | (397) | 1,013 | 10.80 | 0 | 34.09 |

**Field Name/Number:** Pool Ranch N **Acres:** 32.00

| | Total N (lbs/ac) | Total P (lbs/ac) | Total K Lbs/ac) | Total Salts (lbs/ac) |
|---|---|---|---|---|
| Nutrients Applied | 220.1 | 0.0 | 0.0 | 1013.2 |
| Nutrients Removed at Harvest | -473.2 | -39.4 | -329.5 | 0.0 |
| Nutrient Balance | -253.1 | -39.4 | -329.5 | 1013.2 |

**Winter Nitrogen Crop App / Use Ratio:** 0.90 **Summer Nitrogen Crop App / Use Ratio:** 1.01

**Field Name/Number:** Pool Ranch N **Acres:** 32

**Winter Crop** **Oats, Hay**

| Nutrient Summary : | | Applied | | N | | |
|---|---|---|---|---|---|---|
| W. Manure App. | | - | T/Ac | - | - | - |
| W. Comm Fert App. | | 100.0 | lbs/Ac | 100.0 | | |
| Process Water | Q1 | - | Ac In /Ac | - | - | - |
| | Q2 | - | Ac In /Ac | - | - | - |
| Well Water | | 21.9 | Ac In /Ac | 100.0 | | |
| Canal | | - | Ac In /Ac | - | | |
| Atm. Depos. | | Yes | | 7.0 | | |
| W. Planting | 12/15/22 | | | | | |
| W. Harvest | 6/7/23 | 8.5 | T/Ac | (229.6) | (94.9) | (310.0) |

**Summer Crop** **Corn, Silage**

| Nutrient Summary : | | Applied | | N | | |
|---|---|---|---|---|---|---|
| S. Manure App. | | - | T/Ac | - | - | - |
| S. Comm Fert App. | | 120.0 | lbs/Ac | 120.0 | - | - |
| Process Water | Q2 | - | Ac In /Ac | - | - | - |
| | Q3 | - | Ac In /Ac | - | - | - |
| | Q4 | - | Ac In /Ac | - | - | - |
| Well Water | | 27.8 | Ac In /Ac | 120.1 | | |
| Canal | | - | Ac In /Ac | - | | |
| Atm. Depos. | | Yes | | 7.0 | | |
| S. Planting | 6/21/23 | | | | | |
| S. Harvest | 10/13/23 | 25.6 | T/Ac | (243.6) | (111.5) | (166.4) |

# Nutrient Applications

**Field Name/Number:** Pool Ranch **Acres:** 75.00

| Date | Event / Source | Dry Manure Applied (tons/ac) | Moist. % | Chem Fert total lbs | Fresh Water Applied (ac-in/ac) | Lagoon Water Applied (ac-in/ac) | Lab Sample Data | | | | | Yield | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | N (lbs/Ac) | Total P (lbs/Ac) | Total K (lbs/Ac) | Salt (Lbs/Ac) | TFS % | Expected Yield (tons/ac) | Actual Yield (tons/ac) |
| 3/12/23 | W. Comm Fert App. | - | - | 100 | - | - | 100.0 | - | - | - | - | | - |
| 12/15/22 | W. Planting | - | - | - | - | - | - | - | - | - | - | | - |
| 2/11/23 | Pool | - | - | - | 5.38 | - | 0.0 | - | - | 110 | - | | - |
| 3/12/23 | Pool | - | - | - | 5.28 | - | 0.0 | - | - | 108 | - | | - |
| 4/24/23 | Pool | - | - | - | 5.46 | - | 0.0 | - | - | 111 | - | | - |
| 5/17/23 | W. Harvest | - | - | - | - | - | (212.8) | (69.6) | (296.3) | - | 10.80 | | 21.61 |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| 7/13/23 | S. Comm Fert App. | - | - | 120 | - | - | 120.0 | - | - | - | - | | - |
| 6/1/23 | Pool | - | - | - | 5.51 | - | 0.0 | - | - | 112 | - | | - |
| 6/15/23 | S. Planting | - | - | - | - | - | - | - | - | - | - | | - |
| 6/17/23 | Pool | - | - | - | 5.48 | - | 0.0 | - | - | 112 | - | | - |
| 7/13/23 | Pool | - | - | - | 5.58 | - | 0.0 | - | - | 114 | - | | - |
| 8/8/23 | Pool | - | - | - | 5.43 | - | 0.0 | - | - | 111 | - | | - |
| 9/7/23 | Pool | - | - | - | 5.63 | - | 0.0 | - | - | 115 | - | | - |
| 10/13/23 | S. Harvest | - | - | - | - | - | (235.2) | (55.4) | (152.2) | - | - | | 28.00 |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| | - | - | - | - | - | - | - | - | - | - | - | | - |
| **Totals:** | | 0.0 | | 220 | 43.77 | 0.00 | (228) | (125) | (448) | 893 | 10.80 | 0 | 49.61 |

**Field Name/Number:** Pool Ranch **Acres:** 75.00

| | Total N (lbs/ac) | Total P (lbs/ac) | Total K Lbs/ac) | Total Salts (lbs/ac) |
|---|---|---|---|---|
| Nutrients Applied | 220.1 | 0.0 | 0.0 | 893.2 |
| Nutrients Removed at Harvest | -448.0 | -54.5 | -372.3 | 0.0 |
| Nutrient Balance | -227.9 | -54.5 | -372.3 | 893.2 |

**Winter Nitrogen Crop App / Use Ratio:** 0.97 **Summer Nitrogen Crop App / Use Ratio:** 1.05

**Field Name/Number:** Pool Ranch **Acres:** 75

**Winter Crop** **Wheat, Silage**

| Nutrient Summary : | | Applied | | N | | |
|---|---|---|---|---|---|---|
| W. Manure App. | | - | T/Ac | - | - | - |
| W. Comm Fert App. | | 100.0 | lbs/Ac | 100.0 | | |
| Process Water | Q1 | - | Ac In /Ac | - | - | - |
| | Q2 | - | Ac In /Ac | - | - | - |
| Well Water | | 16.1 | Ac In /Ac | 100.0 | | |
| Canal | | - | Ac In /Ac | - | | |
| Atm. Depos. | | Yes | | 7.0 | | |
| W. Planting | 12/15/22 | | | | | |
| W. Harvest | 5/17/23 | 21.6 | T/Ac | (212.8) | (159.4) | (355.5) |

**Summer Crop** **Corn, Silage**

| Nutrient Summary : | | Applied | | N | | |
|---|---|---|---|---|---|---|
| S. Manure App. | | - | T/Ac | - | - | - |
| S. Comm Fert App. | | 120.0 | lbs/Ac | 120.0 | - | - |
| Process Water | Q2 | - | Ac In /Ac | - | - | - |
| | Q3 | - | Ac In /Ac | - | - | - |
| | Q4 | - | Ac In /Ac | - | - | - |
| Well Water | | 27.6 | Ac In /Ac | 120.1 | | |
| Canal | | - | Ac In /Ac | - | | |
| Atm. Depos. | | Yes | | 7.0 | | |
| S. Planting | 6/15/23 | | | | | |
| S. Harvest | 10/13/23 | 28.0 | T/Ac | (235.2) | (126.8) | (182.7) |

# Notes

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

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

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

_____ *(Initial)*

## Exception Reporting

**Manure , Process Water and Other Dairy Waste Discharges:**

The following is a summary of all manure and process water discharges from the production area to surface water or to land areas (land application areas or otherwise) when not in accordance with the facility's Nutrient Management Plan.

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

**Storm Water Discharges:**

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

*No, storm water discharges occurred durging the reporting period*

**Land Application Area To Surface Water Discharges:**

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

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

## Nutrient Management Plan (NMP) & Written Agreement Statement

**Nutrient Management Plan Statement:**

Was the faciltiy NMP updated in the reporting period? Yes

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

**Written Agreements:**

Are there any written agreements with third parties to receive manure or process water that are new or were revised within the repoting period? No

# Owner and/or Operator Certification

**I certify under penalty of law that all information submitted as part of this document is accurate and true. Certification signatures by a California Registered Professional have been supplied as needed in Part II. I have personally examined and am familiar with the information submitted in Parts I and II of this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.*

| | |
|---|---|
| Joe Machado | |
| **Signature of Owner of Facility** | **Signature of Operator of Facility** |
| Alvin, Marvin, or Joe Machado | Same as owner |
| Print Name | Print Name |
| 5/21/24 | |
| Date | Date |

October 4, 2023

**Lab No.** : **VI 2346257**
**Customer No.** : **4018505**

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

CANAL

## Laboratory Report

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

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

## Case Narrative

This Case Narrative pertains to the following samples:

| Sample Description | Date Sampled | Date Received | FGL Lab No. | Matrix |
|---|---|---|---|---|
| ~~Canal North~~ ~~Gk. Johnson~~ | ~~09/14/2023~~ | ~~09/14/2023~~ | ~~VI 2346257-001~~ | ~~AGW~~ |
| Canal East Lewis Creek | 09/14/2023 | 09/14/2023 | VI 2346257-002 | AGW |

**Sampling and Receipt Information:**

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

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

**Test Summary**

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

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

KD: EHB

Approved By **Kelly A. Dunnahoo, B.S.** Digitally signed by Kelly A. Dunnahoo, B.S.
Title: Laboratory Director
Date: 2023-10-05


Page 1 of 4

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CA ELAP Certification No. 2810

October 4, 2023

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

Description : Canal North
Project : W-6 Livingston

**Lab No.** : VI 2346257-001
**Customer No.** : 4018505

**Sampled On** : September 14, 2023 at 06:20
**Sampled By** : Marlene Ferreira
**Received On** : September 14, 2023 at 13:45
**Matrix** : Ag Water

## Sample Results - Inorganic

| Constituent | Result | RL | Units | Note | Dil. | DQF | Sample Preparation | | | Sample Analysis | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Date | Time | Who | Method | Date | Time | Who |
| **Dairy Analysis** | | | | | | | | | | | | | |
| Nitrogen, Total Kjeldahl | ND | 0.5 | mg/L | | 1 | UI | 09/28/2023 | 10:26 | sta | EPA 351.2 | 10/03/2023 | 22:46 | lcr |
| Nitrate Nitrogen | ND | 0.4 | mg/L | | 1 | U | 09/15/2023 | 12:00 | lfs | SM 4500-NO3 F | 09/15/2023 | 13:53 | lfs |
| Nitrogen, Total as Nitrogen | ND | 0.5 | mg/L | | 1 | UI | 09/28/2023 | 10:26 | sta | Calc. | 10/03/2023 | 22:46 | lcr |
| Nitrate + Nitrite as N | ND | 0.4 | mg/L | | 1 | U | 09/15/2023 | 12:00 | lfs | SM 4500-NO3 F | 09/15/2023 | 13:53 | lfs |
| Kjeldahl Nitrogen | ND | 0.5 | mg/L | | 1 | UI | 09/28/2023 | 10:26 | sta | EPA 351.2 | 10/03/2023 | 22:46 | lcr |
| Conductivity | 18 | 1 | umhos/cm | | 1 | I | 09/21/2023 | 11:31 | krh | SM 4500-H+B | 09/21/2023 | 15:11 | krh |
| Solids, Total Dissolved (TDS) | 50 | 20 | mg/L | | 1 | | 09/18/2023 | 15:20 | ctl | SM 2540 C | 09/19/2023 | 11:30 | ctl |

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

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


Page 2 of 4

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October 4, 2023

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

Lab No. : VI 2346257-002
Customer No. : 4018505

Sampled On : September 14, 2023 at 06:25
Sampled By : Marlene Ferreira
Received On : September 14, 2023 at 13:45
Matrix : Ag Water

Description : Canal East
Project : W-6 Livingston

## Sample Results - Inorganic

| Constituent | Result | RL | Units | Note | Dil. | DQF | Sample Preparation | | | Sample Analysis | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Date | Time | Who | Method | Date | Time | Who |
| **Dairy Analysis** | | | | | | | | | | | | | |
| Nitrogen, Total Kjeldahl | ND | 0.5 | mg/L | | 1 | UI | 09/28/2023 | 10:26 | sta | EPA 351.2 | 10/03/2023 | 22:48 | lcr |
| Nitrate Nitrogen | ND | 0.4 | mg/L | | 1 | U | 09/15/2023 | 12:00 | lfs | SM 4500-NO3 F | 09/15/2023 | 13:54 | lfs |
| Nitrogen, Total as Nitrogen | ND | 0.5 | mg/L | | 1 | UI | 09/28/2023 | 10:26 | sta | Calc. | 10/03/2023 | 22:48 | lcr |
| Nitrate + Nitrite as N | ND | 0.4 | mg/L | | 1 | U | 09/15/2023 | 12:00 | lfs | SM 4500-NO3 F | 09/15/2023 | 13:54 | lfs |
| Kjeldahl Nitrogen | ND | 0.5 | mg/L | | 1 | UI | 09/28/2023 | 10:26 | sta | EPA 351.2 | 10/03/2023 | 22:48 | lcr |
| Conductivity | 59 | 1 | umhos/cm | | 1 | I | 09/21/2023 | 11:31 | krh | SM 4500-H+B | 09/21/2023 | 16:45 | krh |
| Solids, Total Dissolved (TDS) | 40 | 20 | mg/L | | 1 | | 09/19/2023 | 11:20 | ctl | SM 2540 C | 09/20/2023 | 11:00 | ctl |

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

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


Page 3 of 4

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CA ELAP Certification No. 2810

October 4, 2023

**Livingston Dairy Consulting, Inc.**

**Lab No.** : VI 2346257
**Customer No.** : 4018505

## Quality Control - Wet Chem

| Constituent | Method | Date/ID | Type | Units | Conc. | QC Data | DQO | Note |
|---|---|---|---|---|---|---|---|---|
| **Wet Chem** | | | | | | | | |
| E. C. | 2320B | (VI 2346257-001) | Dup | umhos/cm | | 110% | 5 | 440 |
| | | (VI 2346315-001) | Dup | umhos/cm | | 10.0% | 5 | 440 |
| Solids, Total Dissolved | 2540CE | 09/18/2023:210471CTL | Blank | mg/L | | ND | <20 | |
| | | | LCS | mg/L | 991.5 | 99.6% | 90-110 | |
| | | (VI 2346273-001) | Dup | mg/L | | 4.44% | 5 | |
| | | (VI 2346273-001) | Dup | mg/L | | 1.47% | 5 | |
| | 2540CE | 09/19/2023:210493CTL | Blank | mg/L | | ND | <20 | |
| | | | LCS | mg/L | 991.5 | 101% | 90-110 | |
| | | (CC 2383155-001) | Dup | mg/L | | 0.4% | 5 | |
| | | (CC 2383155-001) | Dup | mg/L | | 2.89% | 5 | |
| Nitrogen, Total Kjeldahl | 351.2 | 09/28/2023:210923STA | Blank | mg/L | | ND | <0.5 | |
| | | | LCS | mg/L | 12.00 | 91.0% | 73-124 | |
| | | | MS | mg/L | 12.00 | 89.3% | 90-110 | 435 |
| | | (SP 2315701-001) | MSD | mg/L | 12.00 | 89.7% | 90-110 | 435 |
| | | | MSRPD | mg/L | | 0.4% | ≤20 | |
| | | | MS | mg/L | 12.00 | 89.9% | 90-110 | 435 |
| | | (SP 2315701-003) | MSD | mg/L | 12.00 | 92.8% | 90-110 | |
| | | | MSRPD | mg/L | | 3.2% | ≤20 | |
| Nitrate + Nitrite as N | 4500NO3F | 09/15/2023:210406LFS | Blank | mg/L | | ND | <0.4 | |
| | | | LCS | mg/L | 11.22 | 96.1% | 80-120 | |
| | | | MS | mg/L | 5.609 | 94.3% | 66-125 | |
| | | (CH 2377865-001) | MSD | mg/L | 5.609 | 96.9% | 66-125 | |
| | | | MSRPD | mg/L | | 1.8% | ≤30.4 | |
| Nitrate Nitrogen | 4500NO3F | 09/15/2023:210406LFS | Blank | mg/L | | ND | <0.4 | |
| | | | LCS | mg/L | 11.22 | 96.1% | 80-120 | |
| | | | MS | mg/L | 5.609 | 94.3% | 66-125 | |
| | | (CH 2377865-001) | MSD | mg/L | 5.609 | 96.9% | 66-125 | |
| | | | MSRPD | mg/L | | 1.8% | ≤30.4 | |

**Definition**

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

**Explanation**

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


Page 4 of 4

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FGL ENVIRONMENTAL AGRICULTURAL
Analytical Chemists

Special

# CHAIN OF CUSTODY

www.fglinc.com

Laboratory Copy (1 of 3)

42086:03/01/2022

TEST DESCRIPTION - See Reverse side for Container, Preservative and Sampling information

Client: **Livingston Dairy Consulting, Inc.**
Address: Livingston Dairy Consulting, Inc
1635 E. Prosperity Suite B
Tulare, CA 93274

Phone: (559)687-1440 Fax:
Contact Person: Noreen Livingston
Project Name: **W-6** Livingston
Purchase Order Number:
Quote Number: **VI 20210208-01**

Sampler(s) Marlene

Sampling Fee: _____ Pickup Fee: _____
Compositor Setup Date: ___/___/___ Time: ___/___

Lab Number: **VI** 2346257 **4-18505**

| Samp Num | Location Description | Date Sampled | Time Sampled | Method of Sampling: Composite(C) Grab(G) | Type of Sample **SEE REVERSE SIDE** | Potable(P) Non-Potable(NP) Ag Water(AgW) | Bacti Type: Other(O) System(SYS) Source(SR) Waste(W) | Bacti Reason: Routine(ROUT) Repeat(RPT) Replace(RPL) Other(O) Special(SPL) | Dairy Analysis-W-6-Conductivity,NO3-N,Total N,TDS 16oz(P) | Sampling-W-6 - Total N - Split Bottle ***VI Lab to Split for Total N*** 8oz(P)-H2SO4 |
|---|---|---|---|---|---|---|---|---|---|---|
| ~~1~~ | ~~Canal North~~ | ~~9/14~~ | ~~6:20am~~ | ~~G~~ | ~~ogw~~ | ~~NP~~ | | | 1 | 1 |
| 2 | Canal East | 9/14 | 6:25am | G | ogw | NP | | | 1 | 1 |
| 3 | | | | G | | | | | 1 | 1 |
| 4 | | | | G | | | | | 1 | 1 |
| 5 | | | | G | | | | | 1 | 1 |
| 6 | | | | G | | | | | 1 | 1 |
| 7 | | | | G | | | | | 1 | 1 |
| 8 | | | | G | | | | | 1 | 1 |
| 9 | | | | G | | | | | 1 | 1 |
| 10 | | | | G | | | | | 1 | 1 |

Remarks:

| Relinquished | Date: | Time: | Relinquished | Date: | Time: | Relinquished | Date: | Time: |
|---|---|---|---|---|---|---|---|---|
| RQ | 9/14 | 1346 | SRO | 9/14/23 | 1730 | GLS | 9/15/23 | 1145 |

| Received By: | Date: | Time: | Received By: | Date: | Time: | Received By: | Date: | Time: |
|---|---|---|---|---|---|---|---|---|
| SRO | 9/14/23 | 1346 | GLS | 9/14/23 | 1730 | MC | / | / |

R01
4.7°C
ID#TH407


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# 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 # DTC
2. Were samples received in a chilled condition? Temps R01 / 4.7°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: 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: 560126075 068

| | | | |
|---|---|---|---|
| 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): MZC

**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 com
contacts)

(4018505)
Livingston Dairy Consulting, Inc.
VI 2346257
mdc 09/14/2023 18:03:02
VI 2346257

Machado Dairy

FGL ENVIRONMENTAL AGRICULTURAL
Analytical Chemists

February 28, 2023

**Lab No.** : **VI 2340617**
**Customer No.** : **4018505**

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

## Laboratory Report

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

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

## Case Narrative

This Case Narrative pertains to the following samples:

| Sample Description | Date Sampled | Date Received | FGL Lab No. | Matrix |
|---|---|---|---|---|
| DOM 1 | 02/01/2023 | 02/01/2023 | VI 2340617-001 | DW |
| DOM 2 | 02/01/2023 | 02/01/2023 | VI 2340617-002 | DW |

**Sampling and Receipt Information:**

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

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

**Test Summary**

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

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

KD: JRD

Approved By **Kelly A. Dunnahoo, B.S.** Digitally signed by Kelly A. Dunnahoo, B.S.
Title: Laboratory Director
Date: 2023-02-28



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CA ELAP Certification No. 2810

February 28, 2023

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

Lab No. : VI 2340617-001
Customer No. : 4018505

Sampled On : February 1, 2023 at 06:10
Sampled By : Marlene & Kaylin
Received On : February 1, 2023 at 14:04
Matrix : Drinking Water

Description : DOM 1
Project : W-6 Machado Dairy

## Sample Results - Inorganic

| Constituent | Result | RL | Units | MCL/AL | Dil. | DQF | Sample Preparation | | | Sample Analysis | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Dairy Analysis** | | | | | | | Date | Time | Who | Method | Date | Time | Who |
| Nitrogen, Total Kjeldahl | ND | 0.5 | mg/L | | 1 | Ul | 02/14/2023 | 10:47 | sta | EPA 351.2 | 02/19/2023 | 21:34 | lcr |
| Nitrate Nitrogen | 37.5 | 0.8* | mg/L | 10 | 2 | | 02/02/2023 | 13:00 | lfs | SM 4500-NO3 F | 02/02/2023 | 17:19 | lfs |
| Nitrogen, Total as Nitrogen | 37.5 | 0.8 | mg/L | | 1 | l | 02/14/2023 | 10:47 | sta | EPA 351.2 | 02/19/2023 | 21:34 | lcr |
| Nitrate + Nitrite as N | 37.5 | 0.8* | mg/L | 10 | 2 | | 02/02/2023 | 13:00 | lfs | SM 4500-NO3 F | 02/02/2023 | 17:19 | lfs |
| Kjeldahl Nitrogen | ND | 0.5 | mg/L | | 1 | Ul | 02/14/2023 | 10:47 | sta | EPA 351.2 | 02/19/2023 | 21:34 | lcr |
| Conductivity | 1270 | 1 | umhos/cm | 1600[2] | 1 | | 02/15/2023 | 13:59 | sta | | 02/15/2023 | 13:59 | sta |
| Solids, Total Dissolved (TDS) | 900 | 20 | mg/L | 1000[2] | 1 | | 02/03/2023 | 11:43 | ctl | SM 2540 C | 02/06/2023 | 12:45 | ctl |

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

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


Page 2 of 4

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February 28, 2023

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

Description : DOM 2
Project : W-6 Machado Dairy

Lab No. : VI 2340617-002
Customer No. : 4018505

Sampled On : February 1, 2023 at 06:18
Sampled By : Marlene & Kaylin
Received On : February 1, 2023 at 14:04
Matrix : Drinking Water

## Sample Results - Inorganic

| Constituent | Result | RL | Units | MCL/AL | Dil. | DQF | Sample Preparation | | | Sample Analysis | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Dairy Analysis** | | | | | | | Date | Time | Who | Method | Date | Time | Who |
| Nitrogen, Total Kjeldahl | ND | 0.5 | mg/L | | 1 | Ul | 02/14/2023 | 10:47 | sta | EPA 351.2 | 02/19/2023 | 21:36 | lcr |
| Nitrate Nitrogen | 37.5 | 0.8* | mg/L | 10 | 2 | | 02/02/2023 | 13:00 | lfs | SM 4500-NO3 F | 02/02/2023 | 17:22 | lfs |
| Nitrogen, Total as Nitrogen | 37.5 | 0.8 | mg/L | | 1 | l | 02/14/2023 | 10:47 | sta | EPA 351.2 | 02/19/2023 | 21:36 | lcr |
| Nitrate + Nitrite as N | 37.5 | 0.8* | mg/L | 10 | 2 | | 02/02/2023 | 13:00 | lfs | SM 4500-NO3 F | 02/02/2023 | 17:22 | lfs |
| Kjeldahl Nitrogen | ND | 0.5 | mg/L | | 1 | Ul | 02/14/2023 | 10:47 | sta | EPA 351.2 | 02/19/2023 | 21:36 | lcr |
| Conductivity | 1260 | 1 | umhos/cm | 1600[2] | 1 | | 02/15/2023 | 13:59 | sta | | 02/15/2023 | 13:59 | sta |
| Solids, Total Dissolved (TDS) | 860 | 20 | mg/L | 1000[2] | 1 | | 02/03/2023 | 11:43 | ctl | SM 2540 C | 02/06/2023 | 12:23 | ctl |

**DQF Flags Definition:**
U Constituent results were non-detect.
l The MS/MSD did not meet QC criteria.

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


Page 3 of 4

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February 28, 2023
**Livingston Dairy Consulting, Inc.**

Lab No. : VI 2340617
Customer No. : 4018505

## Quality Control - Wet Chem

| Constituent | Method | Date/ID | Type | Units | Conc. | QC Data | DQO | Note |
|---|---|---|---|---|---|---|---|---|
| **Wet Chem** | | | | | | | | |
| E. C. | 2510B | 02/15/2023:201667STA | Blank | umhos/cm | | ND | <1 | |
| | | (VI 2340609-001) | Dup | umhos/cm | | 0.3% | 5 | |
| Solids, Total Dissolved | 2540CE | 02/03/2023:201214CTL | Blank | mg/L | | ND | <20 | |
| | | | LCS | mg/L | 990.8 | 104 % | 90-110 | |
| | | (VI 2340617-001) | Dup | mg/L | | 1.1% | 5 | |
| | | (VI 2340617-001) | Dup | mg/L | | 1.5% | 5 | |
| Nitrogen, Total Kjeldahl | 351.2 | 02/14/2023:201629STA | Blank | mg/L | | ND | <0.5 | |
| | | | LCS | mg/L | 12.00 | 88.1% | 73-124 | |
| | | | MS | mg/L | 12.00 | 62.8% | 54-136 | |
| | | (VI 2340618-001) | MSD | mg/L | 12.00 | 58.3% | 54-136 | |
| | | | MSRPD | mg/L | 12.00 | 7.6% | ≤27 | |
| | | | MS | mg/L | 12.00 | 47.0% | <Â¼ | |
| | | (VI 2340608-002) | MSD | mg/L | 12.00 | 33.6% | 54-136 | 435 |
| | | | MSRPD | mg/L | 12.00 | 34.7% | ≤27 | 435 |
| Nitrate + Nitrite as N | 4500NO3F | 02/02/2023:201191LFS | Blank | mg/L | | ND | <0.4 | |
| | | | LCS | mg/L | 11.22 | 98.2% | 80-120 | |
| | | | MS | mg/L | 5.609 | 82.3% | 66-125 | |
| | | (SP 2301542-001) | MSD | mg/L | 5.609 | 86.9% | 66-125 | |
| | | | MSRPD | mg/L | 5.609 | 1.9% | ≤30.4 | |
| Nitrate Nitrogen | 4500NO3F | 02/02/2023:201191LFS | Blank | mg/L | | ND | <0.4 | |
| | | | LCS | mg/L | 11.22 | 98.2% | 80-120 | |
| | | | MS | mg/L | 5.609 | 82.3% | 66-125 | |
| | | (SP 2301542-001) | MSD | mg/L | 5.609 | 86.9% | 66-125 | |
| | | | MSRPD | mg/L | 5.609 | 1.9% | ≤30.4 | |

**Definition**

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

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

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

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

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

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

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

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

**Explanation**

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


Page 4 of 4

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FGL ENVIRONMENTAL AGRICULTURAL
Analytical Chemists

**Special**

# CHAIN OF CUSTODY
www.fglinc.com
Laboratory Copy (1 of 3)

42086:03/01/2022

TEST DESCRIPTION - See Reverse side for Container, Preservative and Sampling information

Client: **Livingston Dairy Consulting, Inc.**
Address: Livingston Dairy Consulting, Inc
1635 E. Prosperity Suite B
Tulare, CA 93274

Phone: (559)687-1440 Fax:
Contact Person: Noreen Livingston
Project Name: W-6 Machado Dairy
Purchase Order Number:
Quote Number: VI 20210208-01
Sampler(s) Marlene & Kaylin

Sampling Fee: _____ Pickup Fee: _____
Compositor Setup Date: ___/___/___ Time: ___/___

Lab Number: VI 2340617 4-18505

Method of Sampling: Composite(C) Grab(G)
Type of Sample **SEE REVERSE SIDE**
Potable(P) Non-Potable(NP) Ag Water(AgW)
Bacti Type: Other(O) System(SYS) Source(SR) Waste(W)
Bacti Reason: Routine(ROUT) Repeat(RPT) Replace(RPL) Other(O) Special(SPL)
Dairy Analysis-W-6-Conductivity,NO3-N,Total N,TDS 16oz(P)
Sampling-W-6 - Total N - Split Bottle ***VI Lab to Split for Total N*** 8oz(P)-H2SO4

| Samp Num | Location Description | Date Sampled | Time Sampled | Method of Sampling | Type of Sample | Potable | Bacti Type | Bacti Reason | Dairy Analysis 16oz(P) | Sampling-W-6 8oz(P)-H2SO4 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | DOM 1 | 2/1 | 6:10AM | G | DN | P | | | 1 | 1 |
| 2 | DOM 2 | 2/1 | 6:18AM | G | DN | P | | | 1 | 1 |
| 3 | | | | G | | | | | 1 | 1 |
| 4 | | | | G | | | | | 1 | 1 |
| 5 | | | | G | | | | | 1 | 1 |
| 6 | | | | G | | | | | 1 | 1 |
| 7 | | | | G | | | | | 1 | 1 |
| 8 | | | | G | | | | | 1 | 1 |
| 9 | | | | G | | | | | 1 | 1 |
| 10 | | | | G | | | | | 1 | 1 |

Remarks:

| Relinquished | Date: | Time: | Relinquished | Date: | Time: | Relinquished | Date: | Time: |
|---|---|---|---|---|---|---|---|---|
| [illegible] | 2/1/23 | 2:04 | | 2/1/23 | | GLS | 2/2/23 | 1140 |

| Received By: | Date: | Time: | Received By: | Date: | Time: | Received By: | Date: | Time: |
|---|---|---|---|---|---|---|---|---|
| QA | 2/1/23 | 1400 | | 2/1 | 1700 | MC | / | / |


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Rev 4.9

# 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 # GTC
2. Were samples received in a chilled condition? Temps: 4.9 / ____ / ____ / ____ / ____
   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): VI

**Sample Receipt at SP:**

1. Were samples received in a chilled condition? Temps: 1c / ____ / ____ / ____ / ____
   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: 5587329411 945 933

| | | | | |
|---|---|---|---|---|
| 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): MDC

**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 co
contacts)

(4018505)
Livingston Dairy Consulting, Inc.
VI 2340617
mdc 02/02/2023 12:38:03
VI 2340617

July 20, 2023

**Lab No.** : **VI 2343651**
**Customer No.** : **4018505**

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

## Laboratory Report

**Introduction:** This report package contains a total of 10 pages divided into 3 sections:

| | | |
|---|---|---|
| Case Narrative | (2 pages) | : An overview of the work performed at FGL. |
| Sample Results | (6 pages) | : Results for each sample submitted. |
| Quality Control | (2 pages) | : Supporting Quality Control (QC) results. |

## Case Narrative

This Case Narrative pertains to the following samples:

| Sample Description | Date Sampled | Date Received | FGL Lab No. | Matrix |
|---|---|---|---|---|
| Curti Dom | 06/08/2023 | 06/08/2023 | VI 2343651-001 | DW |
| Dickerson Dom | 06/08/2023 | 06/08/2023 | VI 2343651-002 | DW |
| Johnson Dom | 06/08/2023 | 06/08/2023 | VI 2343651-003 | DW |
| Santos Dom | 06/08/2023 | 06/08/2023 | VI 2343651-004 | DW |
| Cattle Lot Dom | 06/08/2023 | 06/08/2023 | VI 2343651-005 | DW |
| Airstrip Dom | 06/08/2023 | 06/08/2023 | VI 2343651-006 | 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 except those as listed in the table below. 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.

### Samples Over Hold Time

| Lab No | Analyte Method | Maximum Hold Time | Actual Hold Time |
|---|---|---|---|
| VI 2343651-001 | Conductivity | 14 days | 39.3 days |
| VI 2343651-003 | Conductivity | 14 days | 39.3 days |
| VI 2343651-004 | Conductivity | 14 days | 39.2 days |
| VI 2343651-005 | Conductivity | 14 days | 39.2 days |
| VI 2343651-006 | Conductivity | 14 days | 39.2 days |

**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) |



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KD: KEH

Approved By **Kelly A. Dunnahoo, B.S.** Digitally signed by Kelly A. Dunnahoo, B.S.
Title: Laboratory Director
Date: 2023-07-21



Page 2 of 10

July 20, 2023

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

Description : Curti Dom
Project : W-6 Machado Dairy

Lab No. : VI 2343651-001
Customer No. : 4018505

Sampled On : June 8, 2023 at 08:59
Sampled By : Marlene Ferreira
Received On : June 8, 2023 at 14:34
Matrix : Drinking Water

## Sample Results - Inorganic

| Constituent | Result | RL | Units | MCL/AL | Dil. | DQF | Sample Preparation | | | Sample Analysis | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Dairy Analysis** | | | | | | | Date | Time | Who | Method | Date | Time | Who |
| Nitrogen, Total Kjeldahl | ND | 0.5 | mg/L | | 1 | Ul | 06/20/2023 | 07:26 | sta | EPA 351.2 | 06/22/2023 | 16:21 | lcr |
| Nitrate Nitrogen | 46.7 | 0.8* | mg/L | 10 | 2 | | 06/09/2023 | 16:00 | lfs | SM 4500-NO3 F | 06/09/2023 | 18:36 | lfs |
| Nitrogen, Total as Nitrogen | 46.7 | 0.8 | mg/L | | 1 | l | 06/20/2023 | 07:26 | sta | Calc. | 06/22/2023 | 16:21 | lcr |
| Nitrate + Nitrite as N | 46.7 | 0.8* | mg/L | 10 | 2 | | 06/09/2023 | 16:00 | lfs | SM 4500-NO3 F | 06/09/2023 | 18:36 | lfs |
| Kjeldahl Nitrogen | ND | 0.5 | mg/L | | 1 | Ul | 06/20/2023 | 07:26 | sta | EPA 351.2 | 06/22/2023 | 16:21 | lcr |
| Conductivity | 1130 | 1 | umhos/cm | 1600[2] | 1 | T | 07/17/2023 | 15:13 | amm | SM 4500-H+B | 07/18/2023 | 02:58 | amm |
| Solids, Total Dissolved (TDS) | 970 | 20 | mg/L | 1000[2] | 1 | | 06/12/2023 | 15:00 | ctl | SM 2540 C | 06/13/2023 | 12:00 | ctl |

**DQF Flags Definition:**
- U Constituent results were non-detect.
- l The MS/MSD did not meet QC criteria.
- T Exceeded method/regulatory-specific holding time.

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



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July 20, 2023

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

Lab No. : VI 2343651-002
Customer No. : 4018505

Sampled On : June 8, 2023 at 09:05
Sampled By : Marlene Ferreira
Received On : June 8, 2023 at 14:34
Matrix : Drinking Water

Description : Dickerson Dom
Project : W-6 Machado Dairy

## Sample Results - Inorganic

| Constituent | Result | RL | Units | MCL/AL | Dil. | DQF | Sample Preparation | | | Sample Analysis | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Date | Time | Who | Method | Date | Time | Who |
| **Dairy Analysis** | | | | | | | | | | | | | |
| Nitrogen, Total Kjeldahl | ND | 0.5 | mg/L | | 1 | Ul | 06/20/2023 | 07:26 | sta | EPA 351.2 | 06/22/2023 | 16:23 | lcr |
| Nitrate Nitrogen | 26.9 | 0.4 | mg/L | 10 | 1 | | 06/09/2023 | 16:00 | lfs | SM 4500-NO3 F | 06/09/2023 | 17:46 | lfs |
| Nitrogen, Total as Nitrogen | 26.9 | 0.5 | mg/L | | 1 | l | 06/20/2023 | 07:26 | sta | Calc. | 06/22/2023 | 16:23 | lcr |
| Nitrate + Nitrite as N | 26.9 | 0.4 | mg/L | 10 | 1 | | 06/09/2023 | 16:00 | lfs | SM 4500-NO3 F | 06/09/2023 | 17:46 | lfs |
| Kjeldahl Nitrogen | ND | 0.5 | mg/L | | 1 | Ul | 06/20/2023 | 07:26 | sta | EPA 351.2 | 06/22/2023 | 16:23 | lcr |
| Conductivity | 912 | 1 | umhos/cm | 1600[2] | 1 | | 06/20/2023 | 15:13 | amm | SM 4500-H+B | 06/20/2023 | 19:01 | amm |
| Solids, Total Dissolved (TDS) | 660 | 10 | mg/L | 1000[2] | 1 | | 06/12/2023 | 15:45 | ctl | SM 2540 C | 06/13/2023 | 12:00 | ctl |

**DQF Flags Definition:**
U Constituent results were non-detect.
l The MS/MSD did not meet QC criteria.

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


Page 4 of 10

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July 20, 2023

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

Description : Johnson Dom
Project : W-6 Machado Dairy

Lab No. : VI 2343651-003
Customer No.: 4018505

Sampled On : June 8, 2023 at 09:12
Sampled By : Marlene Ferreira
Received On : June 8, 2023 at 14:34
Matrix : Drinking Water

## Sample Results - Inorganic

| Constituent | Result | RL | Units | MCL/AL | Dil. | DQF | Sample Preparation | | | Sample Analysis | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Dairy Analysis** | | | | | | | Date | Time | Who | Method | Date | Time | Who |
| Nitrogen, Total Kjeldahl | ND | 0.5 | mg/L | | 1 | U | 06/20/2023 | 07:26 | sta | EPA 351.2 | 06/22/2023 | 17:26 | lcr |
| Nitrate Nitrogen | 17.9 | 0.4 | mg/L | 10 | 1 | | 06/09/2023 | 16:00 | lfs | SM 4500-NO3 F | 06/09/2023 | 17:48 | lfs |
| Nitrogen, Total as Nitrogen | 17.9 | 0.5 | mg/L | | 1 | | 06/20/2023 | 07:26 | sta | Calc. | 06/22/2023 | 17:26 | lcr |
| Nitrate + Nitrite as N | 17.9 | 0.4 | mg/L | 10 | 1 | | 06/09/2023 | 16:00 | lfs | SM 4500-NO3 F | 06/09/2023 | 17:48 | lfs |
| Kjeldahl Nitrogen | ND | 0.5 | mg/L | | 1 | U | 06/20/2023 | 07:26 | sta | EPA 351.2 | 06/22/2023 | 17:26 | lcr |
| Conductivity | 454 | 1 | umhos/cm | 1600[2] | 1 | T | 07/17/2023 | 15:13 | amm | SM 4500-H+B | 07/18/2023 | 03:04 | amm |
| Solids, Total Dissolved (TDS) | 270 | 20 | mg/L | 1000[2] | 1 | | 06/12/2023 | 15:00 | ctl | SM 2540 C | 06/13/2023 | 12:00 | ctl |

**DQF Flags Definition:**
U Constituent results were non-detect.
T Exceeded method/regulatory-specific holding time.

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



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July 20, 2023

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

Lab No. : VI 2343651-004
Customer No. : 4018505

Sampled On : June 8, 2023 at 09:33
Sampled By : Marlene Ferreira
Received On : June 8, 2023 at 14:34
Matrix : Drinking Water

Description : Santos Dom
Project : W-6 Machado Dairy

## Sample Results - Inorganic

| Constituent | Result | RL | Units | MCL/AL | Dil. | DQF | Sample Preparation | | | Sample Analysis | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Dairy Analysis** | | | | | | | Date | Time | Who | Method | Date | Time | Who |
| Nitrogen, Total Kjeldahl | ND | 0.5 | mg/L | | 1 | Ul | 06/20/2023 | 07:26 | sta | EPA 351.2 | 06/22/2023 | 16:26 | lcr |
| Nitrate Nitrogen | 17.5 | 0.4 | mg/L | 10 | 1 | | 06/09/2023 | 16:00 | lfs | SM 4500-NO3 F | 06/09/2023 | 17:51 | lfs |
| Nitrogen, Total as Nitrogen | 17.5 | 0.5 | mg/L | | 1 | l | 06/20/2023 | 07:26 | sta | Calc. | 06/22/2023 | 16:26 | lcr |
| Nitrate + Nitrite as N | 17.5 | 0.4 | mg/L | 10 | 1 | | 06/09/2023 | 16:00 | lfs | SM 4500-NO3 F | 06/09/2023 | 17:51 | lfs |
| Kjeldahl Nitrogen | ND | 0.5 | mg/L | | 1 | Ul | 06/20/2023 | 07:26 | sta | EPA 351.2 | 06/22/2023 | 16:26 | lcr |
| Conductivity | 723 | 1 | umhos/cm | 1600[2] | 1 | T | 07/17/2023 | 15:13 | amm | SM 4500-H+B | 07/18/2023 | 03:44 | amm |
| Solids, Total Dissolved (TDS) | 530 | 20 | mg/L | 1000[2] | 1 | | 06/13/2023 | 11:35 | ctl | SM 2540 C | 06/14/2023 | 11:10 | ctl |

**DQF Flags Definition:**
- U Constituent results were non-detect.
- l The MS/MSD did not meet QC criteria.
- T Exceeded method/regulatory-specific holding time.

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



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July 20, 2023

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

Lab No. : VI 2343651-005
Customer No. : 4018505

Sampled On : June 8, 2023 at 09:40
Sampled By : Marlene Ferreira
Received On : June 8, 2023 at 14:34
Matrix : Drinking Water

Description : Cattle Lot Dom
Project : W-6 Machado Dairy

## Sample Results - Inorganic

| Constituent | Result | RL | Units | MCL/AL | Dil. | DQF | Sample Preparation | | | Sample Analysis | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Dairy Analysis** | | | | | | | Date | Time | Who | Method | Date | Time | Who |
| Nitrogen, Total Kjeldahl | ND | 0.5 | mg/L | | 1 | UI | 06/20/2023 | 07:26 | sta | EPA 351.2 | 06/22/2023 | 16:28 | lcr |
| Nitrate Nitrogen | 10.4 | 0.4 | mg/L | 10 | 1 | | 06/09/2023 | 16:00 | lfs | SM 4500-NO3 F | 06/09/2023 | 17:53 | lfs |
| Nitrogen, Total as Nitrogen | 10.4 | 0.5 | mg/L | | 1 | I | 06/20/2023 | 07:26 | sta | Calc. | 06/22/2023 | 16:28 | lcr |
| Nitrate + Nitrite as N | 10.4 | 0.4 | mg/L | 10 | 1 | | 06/09/2023 | 16:00 | lfs | SM 4500-NO3 F | 06/09/2023 | 17:53 | lfs |
| Kjeldahl Nitrogen | ND | 0.5 | mg/L | | 1 | UI | 06/20/2023 | 07:26 | sta | EPA 351.2 | 06/22/2023 | 16:28 | lcr |
| Conductivity | 616 | 1 | umhos/cm | 1600[2] | 1 | T | 07/17/2023 | 15:13 | amm | SM 4500-H+B | 07/18/2023 | 03:33 | amm |
| Solids, Total Dissolved (TDS) | 380 | 20 | mg/L | 1000[2] | 1 | | 06/13/2023 | 11:35 | ctl | SM 2540 C | 06/14/2023 | 11:10 | ctl |

**DQF Flags Definition:**
- **U** Constituent results were non-detect.
- **I** The MS/MSD did not meet QC criteria.
- **T** Exceeded method/regulatory-specific holding time.

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


Page 7 of 10

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CA ELAP Certification No. 2810

July 20, 2023

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

Lab No. : VI 2343651-006
Customer No. : 4018505

Sampled On : June 8, 2023 at 09:46
Sampled By : Marlene Ferreira
Received On : June 8, 2023 at 14:34
Matrix : Drinking Water

Description : Airstrip Dom
Project : W-6 Machado Dairy

## Sample Results - Inorganic

| Constituent | Result | RL | Units | MCL/AL | Dil. | DQF | Sample Preparation | | | Sample Analysis | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Date | Time | Who | Method | Date | Time | Who |
| **Dairy Analysis** | | | | | | | | | | | | | |
| Nitrogen, Total Kjeldahl | ND | 0.5 | mg/L | | 1 | Ul | 06/20/2023 | 07:26 | sta | EPA 351.2 | 06/22/2023 | 16:30 | lcr |
| Nitrate Nitrogen | 13.5 | 0.4 | mg/L | 10 | 1 | | 06/09/2023 | 16:00 | lfs | SM 4500-NO3 F | 06/09/2023 | 17:56 | lfs |
| Nitrogen, Total as Nitrogen | 14.0 | 0.5 | mg/L | | 1 | l | 06/20/2023 | 07:26 | sta | Calc. | 06/22/2023 | 16:30 | lcr |
| Nitrate + Nitrite as N | 14.0 | 0.4 | mg/L | 10 | 1 | | 06/09/2023 | 16:00 | lfs | SM 4500-NO3 F | 06/09/2023 | 17:56 | lfs |
| Kjeldahl Nitrogen | ND | 0.5 | mg/L | | 1 | Ul | 06/20/2023 | 07:26 | sta | EPA 351.2 | 06/22/2023 | 16:30 | lcr |
| Conductivity | 815 | 1 | umhos/cm | 1600[2] | 1 | T | 07/17/2023 | 15:13 | amm | SM 4500-H+B | 07/18/2023 | 03:01 | amm |
| Solids, Total Dissolved (TDS) | 530 | 10 | mg/L | 1000[2] | 1 | | 06/12/2023 | 15:45 | ctl | SM 2540 C | 06/13/2023 | 12:00 | ctl |

**DQF Flags Definition:**
- U Constituent results were non-detect.
- l The MS/MSD did not meet QC criteria.
- T Exceeded method/regulatory-specific holding time.

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


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July 20, 2023
**Livingston Dairy Consulting, Inc.**

Lab No. : VI 2343651
Customer No. : 4018505

## Quality Control - Wet Chem

| Constituent | Method | Date/ID | Type | Units | Conc. | QC Data | DQO | Note |
|---|---|---|---|---|---|---|---|---|
| **Wet Chem** | | | | | | | | |
| E. C. | 2320B | (SP 2309644-001) | Dup | umhos/cm | | 0.2% | 5 | |
| | 2320B | (STK2338784-004) | Dup | umhos/cm | | 0.2% | 5 | |
| Solids, Total Dissolved | 2540CE | 06/12/2023:206427CTL | Blank | mg/L | | ND | <10 | |
| | | | LCS | mg/L | 993.7 | 97.4% | 90-110 | |
| | | (SP 2309709-001) | Dup | mg/L | | 0.5% | 12.2 | |
| | | (SP 2309709-001) | Dup | mg/L | | 1.03% | 12.2 | |
| | 2540CE | 06/12/2023:206412CTL | Blank | mg/L | | ND | <20 | |
| | | | LCS | mg/L | 993.7 | 99.7% | 90-110 | |
| | | (VI 2343651-001) | Dup | mg/L | | 1.38% | 5 | |
| | | (VI 2343651-001) | Dup | mg/L | | 0.5% | 5 | |
| | 2540CE | 06/13/2023:206468CTL | Blank | mg/L | | ND | <20 | |
| | | | LCS | mg/L | 993.7 | 101% | 90-110 | |
| | | (VI 2343660-003) | Dup | mg/L | | 0.1% | 5 | |
| | | (VI 2343660-003) | Dup | mg/L | | 1.87% | 5 | |
| Nitrogen, Total Kjeldahl | 351.2 | 06/20/2023:206750STA | Blank | mg/L | | ND | <0.5 | |
| | | | LCS | mg/L | 12.00 | 96.8% | 73-124 | |
| | | | MS | mg/L | 12.00 | 40.6% | 54-136 | 435 |
| | | (VI 2343654-001) | MSD | mg/L | 12.00 | 55.9% | 54-136 | |
| | | | MSRPD | mg/L | | 31.3% | ≤27 | 435 |
| | | | MS | mg/L | 12.00 | 28.5% | 54-136 | 435 |
| | | (VI 2343654-002) | MSD | mg/L | 12.00 | 31.3% | 54-136 | 435 |
| | | | MSRPD | mg/L | | 9.2% | ≤27 | |
| | | | Blank | mg/L | | ND | <0.5 | |
| | | | LCS | mg/L | 12.00 | 92.4% | 73-124 | |
| | | | MS | mg/L | 12.00 | 52.5% | <¼ | 406 |
| | | (VI 2343651-003) | MSD | mg/L | 12.00 | 63.1% | 54-136 | |
| | | | MSRPD | mg/L | | 18.5% | ≤27 | |
| | | | MS | mg/L | 12.00 | 87.0% | 54-136 | |
| | | (VI 2343652-001) | MSD | mg/L | 12.00 | 84.9% | 54-136 | |
| | | | MSRPD | mg/L | | 2.4% | ≤27 | |
| Nitrate + Nitrite as N | 4500NO3F | 06/09/2023:206353LFS | Blank | mg/L | | ND | <0.4 | |
| | | | LCS | mg/L | 11.22 | 98.0% | 80-120 | |
| | | | MS | mg/L | 5.609 | 103% | 66-125 | |
| | | (CH 2373842-001) | MSD | mg/L | 5.609 | 103% | 66-125 | |
| | | | MSRPD | mg/L | | 0.3% | ≤30.4 | |
| Nitrate Nitrogen | 4500NO3F | 06/09/2023:206353LFS | Blank | mg/L | | ND | <0.4 | |
| | | | LCS | mg/L | 11.22 | 98.0% | 80-120 | |
| | | | MS | mg/L | 5.609 | 103% | 66-125 | |
| | | (CH 2373842-001) | MSD | mg/L | 5.609 | 103% | 66-125 | |
| | | | MSRPD | mg/L | | 0.3% | ≤30.4 | |


Page 9 of 10

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**Definition**

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

**Explanation**

| | |
|---|---|
| 406 | : Matrix Spike (MS) not within the Acceptance Range (AR) because of high analyte concentration in the sample. Data was accepted based on the LCS or CCV recovery. |
| 435 | : Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery. |



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Analytical Chemists

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42086:04/01/2023

TEST DESCRIPTION - See Reverse side for Container, Preservative and Sampling information

Client: **Livingston Dairy Consulting, Inc.**
Address: Livingston Dairy Consulting, Inc
1635 E. Prosperity Suite B
Tulare, CA 93274

Phone: (559)687-1440 Fax:
Contact Person: Noreen Livingston
Project Name: W-6 Machado Dairy
Purchase Order Number:
Quote Number: VI 20210208-01
Sampler(s) Marlene

Sampling Fee: _____ Pickup Fee: _____
Compositor Setup Date: ___/___/___ Time: ___/___

Lab Number: VI 23436 51 4-18505

Method of Sampling: Composite(C) Grab(G)
Type of Sample: **SEE REVERSE SIDE**
Potable(P) Non-Potable(NP) Ag Water(AgW)
Bacti Type: Other(O) System(SYS) Source(SR) Waste(W)
Bacti Reason: Routine(ROUT) Repeat(RPT) Replace(RPL) Other(O) Special(SPL)

| Samp Num | Location Description | Date Sampled | Time Sampled | Method of Sampling | Type of Sample | Potable | Bacti Type | Bacti Reason | Dairy Analysis-W-6-Conductivity,NO3-N,Total N.TDS 16oz(P) | Bottles/Containers Split Fee 8oz(P)-H2SO4 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Curti Dom | 6/8 | 8:59AM | G | Dri | P | | | 1 | 1 |
| 2 | Pickerson Dom | | 9:05AM | G | | | | | 1 | 1 |
| 3 | Johnson Dom | | 9:12AM | G | | | | | 1 | 1 |
| 4 | Santos Dom | | 9:33AM | G | | | | | 1 | 1 |
| 5 | Cattle Lot Dom | | 9:40AM | G | | | | | 1 | 1 |
| 6 | Airstrip Dom | | 9:46AM | G | | | | | 1 | 1 |
| 7 | | | | G | | | | | 1 | 1 |
| 8 | | | | G | | | | | 1 | 1 |
| 9 | | | | G | | | | | 1 | 1 |
| 10 | | | | G | | | | | 1 | 1 |

Remarks:

| Relinquished | Date: | Time: | Relinquished | Date: | Time: | Relinquished | Date: | Time: |
|---|---|---|---|---|---|---|---|---|
| Marlene | 6/8/23 | 1434 | | | | GLS | 6/9/23 | 1214 |
| **Received By:** | **Date:** | **Time:** | **Received By:** | **Date:** | **Time:** | **Received By:** | **Date:** | **Time:** |
| | 6/8/23 | 1434 | | | | MC | | |


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# 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: 2.1 / 6.9 / ____ / ____ / ____

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): [illegible]

**Sample Receipt at SP:**

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

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: 559556833 836

| | | | | |
|---|---|---|---|---|
| 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): MDC

**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 cc contacts)

(4018505)
Livingston Dairy Consulting, Inc.
VI 2343651
mdc 06/09/2023 14:42:02
VI 2343651

Machado

FGL
ENVIRONMENTAL AGRICULTURAL
Analytical Chemists

July 31, 2023

**Lab No.** : **VI 2344167**
**Customer No.** : **4018505**

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

## Laboratory Report

**Introduction:** This report package contains a total of 9 pages divided into 3 sections:

| | | |
|---|---|---|
| Case Narrative | (1 page) | : An overview of the work performed at FGL. |
| Sample Results | (6 pages) | : Results for each sample submitted. |
| Quality Control | (2 pages) | : Supporting Quality Control (QC) results. |

## Case Narrative

This Case Narrative pertains to the following samples:

| Sample Description | Date Sampled | Date Received | FGL Lab No. | Matrix |
|---|---|---|---|---|
| #5 | 07/07/2023 | 07/07/2023 | VI 2344167-001 | AGW |
| #4 | 07/07/2023 | 07/07/2023 | VI 2344167-002 | AGW |
| #6 | 07/07/2023 | 07/07/2023 | VI 2344167-003 | AGW |
| #3 | 07/07/2023 | 07/07/2023 | VI 2344167-004 | AGW |
| Jacks Well | 07/07/2023 | 07/07/2023 | VI 2344167-005 | AGW |
| Pasture NE Well | 07/07/2023 | 07/07/2023 | VI 2344167-006 | AGW |

**Sampling and Receipt Information:**

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

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

**Test Summary**

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

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

KD: EHB

Approved By **Kelly A. Dunnahoo, B.S.** Digitally signed by Kelly A. Dunnahoo, B.S.
Title: Laboratory Director
Date: 2023-08-01



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July 31, 2023

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

Lab No. : VI 2344167-001
Customer No. : 4018505

Sampled On : July 7, 2023 at 06:39
Sampled By : Noreen / Marlene
Received On : July 7, 2023 at 11:39
Matrix : Ag Water

Description : #5
Project : W-6 Machado Dairy

## Sample Results - Inorganic

| Constituent | Result | RL | Units | Note | Dil. | DQF | Sample Preparation | | | Sample Analysis | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Dairy Analysis** | | | | | | | Date | Time | Who | Method | Date | Time | Who |
| Nitrogen, Total Kjeldahl | ND | 0.5 | mg/L | | 1 | U | 07/25/2023 | 10:41 | sta | EPA 351.2 | 07/28/2023 | 19:27 | lcr |
| Nitrate Nitrogen | 34.1 | 0.4 | mg/L | | 1 | | 07/14/2023 | 11:00 | lfs | SM 4500-NO3 F | 07/14/2023 | 12:08 | lfs |
| Nitrogen, Total as Nitrogen | 34.1 | 0.5 | mg/L | | 1 | | 07/25/2023 | 10:41 | sta | Calc. | 07/28/2023 | 19:27 | lcr |
| Nitrate + Nitrite as N | 34.1 | 0.4 | mg/L | | 1 | | 07/14/2023 | 11:00 | lfs | SM 4500-NO3 F | 07/14/2023 | 12:08 | lfs |
| Kjeldahl Nitrogen | ND | 0.5 | mg/L | | 1 | U | 07/25/2023 | 10:41 | sta | EPA 351.2 | 07/28/2023 | 19:27 | lcr |
| Conductivity | 974 | 1 | umhos/cm | | 1 | | 07/12/2023 | 14:47 | amm | SM 4500-H+B | 07/12/2023 | 19:34 | amm |
| Solids, Total Dissolved (TDS) | 730 | 20 | mg/L | | 1 | I | 07/11/2023 | 10:45 | ctl | SM 2540 C | 07/12/2023 | 12:00 | ctl |

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

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



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July 31, 2023

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

Lab No. : VI 2344167-002
Customer No. : 4018505

Sampled On : July 7, 2023 at 06:45
Sampled By : Noreen / Marlene
Received On : July 7, 2023 at 11:39
Matrix : Ag Water

Description : #4
Project : W-6 Machado Dairy

## Sample Results - Inorganic

| Constituent | Result | RL | Units | Note | Dil. | DQF | Sample Preparation | | | Sample Analysis | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Date | Time | Who | Method | Date | Time | Who |
| **Dairy Analysis** | | | | | | | | | | | | | |
| Nitrogen, Total Kjeldahl | ND | 0.5 | mg/L | | 1 | U | 07/25/2023 | 10:41 | sta | EPA 351.2 | 07/28/2023 | 19:29 | lcr |
| Nitrate Nitrogen | 23.4 | 0.4 | mg/L | | 1 | | 07/14/2023 | 11:00 | lfs | SM 4500-NO3 F | 07/14/2023 | 12:11 | lfs |
| Nitrogen, Total as Nitrogen | 23.4 | 0.5 | mg/L | | 1 | | 07/25/2023 | 10:41 | sta | Calc. | 07/28/2023 | 19:29 | lcr |
| Nitrate + Nitrite as N | 23.4 | 0.4 | mg/L | | 1 | | 07/14/2023 | 11:00 | lfs | SM 4500-NO3 F | 07/14/2023 | 12:11 | lfs |
| Kjeldahl Nitrogen | ND | 0.5 | mg/L | | 1 | U | 07/25/2023 | 10:41 | sta | EPA 351.2 | 07/28/2023 | 19:29 | lcr |
| Conductivity | 699 | 1 | umhos/cm | | 1 | | 07/18/2023 | 14:57 | amm | SM 4500-H+B | 07/18/2023 | 21:01 | amm |
| Solids, Total Dissolved (TDS) | 480 | 20 | mg/L | | 1 | | 07/12/2023 | 10:55 | ctl | SM 2540 C | 07/13/2023 | 11:15 | ctl |

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

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


Page 3 of 9

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July 31, 2023

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

Description : #6
Project : W-6 Machado Dairy

Lab No. : VI 2344167-003
Customer No. : 4018505

Sampled On : July 7, 2023 at 06:51
Sampled By : Noreen / Marlene
Received On : July 7, 2023 at 11:39
Matrix : Ag Water

## Sample Results - Inorganic

| Constituent | Result | RL | Units | Note | Dil. | DQF | Sample Preparation | | | Sample Analysis | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Dairy Analysis** | | | | | | | Date | Time | Who | Method | Date | Time | Who |
| Nitrogen, Total Kjeldahl | ND | 0.5 | mg/L | | 1 | U | 07/25/2023 | 10:41 | sta | EPA 351.2 | 07/28/2023 | 19:32 | lcr |
| Nitrate Nitrogen | 4.2 | 0.4 | mg/L | | 1 | | 07/14/2023 | 11:00 | lfs | SM 4500-NO3 F | 07/14/2023 | 12:13 | lfs |
| Nitrogen, Total as Nitrogen | 4.2 | 0.5 | mg/L | | 1 | | 07/25/2023 | 10:41 | sta | Calc. | 07/28/2023 | 19:32 | lcr |
| Nitrate + Nitrite as N | 4.2 | 0.4 | mg/L | | 1 | | 07/14/2023 | 11:00 | lfs | SM 4500-NO3 F | 07/14/2023 | 12:13 | lfs |
| Kjeldahl Nitrogen | ND | 0.5 | mg/L | | 1 | U | 07/25/2023 | 10:41 | sta | EPA 351.2 | 07/28/2023 | 19:32 | lcr |
| Conductivity | 357 | 1 | umhos/cm | | 1 | | 07/18/2023 | 14:57 | amm | SM 4500-H+B | 07/18/2023 | 19:42 | amm |
| Solids, Total Dissolved (TDS) | 230 | 20 | mg/L | | 1 | | 07/12/2023 | 10:55 | ctl | SM 2540 C | 07/13/2023 | 11:15 | ctl |

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

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


Page 4 of 9

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July 31, 2023

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

Description : #3
Project : W-6 Machado Dairy

Lab No. : VI 2344167-004
Customer No. : 4018505

Sampled On : July 7, 2023 at 06:59
Sampled By : Noreen / Marlene
Received On : July 7, 2023 at 11:39
Matrix : Ag Water

## Sample Results - Inorganic

| Constituent | Result | RL | Units | Note | Dil. | DQF | Sample Preparation | | | Sample Analysis | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Date | Time | Who | Method | Date | Time | Who |
| **Dairy Analysis** | | | | | | | | | | | | | |
| Nitrogen, Total Kjeldahl | ND | 0.5 | mg/L | | 1 | U | 07/25/2023 | 10:41 | sta | EPA 351.2 | 07/28/2023 | 19:34 | lcr |
| Nitrate Nitrogen | 44.0 | 0.8* | mg/L | | 2 | | 07/14/2023 | 11:00 | lfs | SM 4500-NO3 F | 07/14/2023 | 16:33 | lfs |
| Nitrogen, Total as Nitrogen | 44.0 | 0.8 | mg/L | | 1 | | 07/25/2023 | 10:41 | sta | Calc. | 07/28/2023 | 19:34 | lcr |
| Nitrate + Nitrite as N | 44.0 | 0.8* | mg/L | | 2 | | 07/14/2023 | 11:00 | lfs | SM 4500-NO3 F | 07/14/2023 | 16:33 | lfs |
| Kjeldahl Nitrogen | ND | 0.5 | mg/L | | 1 | U | 07/25/2023 | 10:41 | sta | EPA 351.2 | 07/28/2023 | 19:34 | lcr |
| Conductivity | 1210 | 1 | umhos/cm | | 1 | | 07/12/2023 | 14:47 | amm | SM 4500-H+B | 07/12/2023 | 18:41 | amm |
| Solids, Total Dissolved (TDS) | 930 | 20 | mg/L | | 1 | | 07/12/2023 | 10:55 | ctl | SM 2540 C | 07/13/2023 | 11:15 | ctl |

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

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


Page 5 of 9

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July 31, 2023

**Livingston Dairy Consulting, Inc**
1635 E. Prosperity Suite B
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Lab No. : VI 2344167-005
Customer No. : 4018505

Sampled On : July 7, 2023 at 07:04
Sampled By : Noreen / Marlene
Received On : July 7, 2023 at 11:39
Matrix : Ag Water

Description : Jacks Well
Project : W-6 Machado Dairy

## Sample Results - Inorganic

| Constituent | Result | RL | Units | Note | Dil. | DQF | Sample Preparation | | | Sample Analysis | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Dairy Analysis** | | | | | | | Date | Time | Who | Method | Date | Time | Who |
| Nitrogen, Total Kjeldahl | ND | 0.5 | mg/L | | 1 | U | 07/25/2023 | 10:41 | sta | EPA 351.2 | 07/28/2023 | 19:36 | lcr |
| Nitrate Nitrogen | 1.0 | 0.4 | mg/L | | 1 | | 07/14/2023 | 11:00 | lfs | SM 4500-NO3 F | 07/14/2023 | 12:18 | lfs |
| Nitrogen, Total as Nitrogen | 1 | 0.5 | mg/L | | 1 | | 07/25/2023 | 10:41 | sta | Calc. | 07/28/2023 | 19:36 | lcr |
| Nitrate + Nitrite as N | 1.0 | 0.4 | mg/L | | 1 | | 07/14/2023 | 11:00 | lfs | SM 4500-NO3 F | 07/14/2023 | 12:18 | lfs |
| Kjeldahl Nitrogen | ND | 0.5 | mg/L | | 1 | U | 07/25/2023 | 10:41 | sta | EPA 351.2 | 07/28/2023 | 19:36 | lcr |
| Conductivity | 281 | 1 | umhos/cm | | 1 | | 07/12/2023 | 14:47 | amm | SM 4500-H+B | 07/12/2023 | 18:32 | amm |
| Solids, Total Dissolved (TDS) | 190 | 20 | mg/L | | 1 | | 07/12/2023 | 10:55 | ctl | SM 2540 C | 07/13/2023 | 11:15 | ctl |

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

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


Page 6 of 9

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July 31, 2023

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

Lab No. : VI 2344167-006
Customer No. : 4018505

Sampled On : July 7, 2023 at 07:10
Sampled By : Noreen / Marlene
Received On : July 7, 2023 at 11:39
Matrix : Ag Water

Description : Pasture NE Well
Project : W-6 Machado Dairy

## Sample Results - Inorganic

| Constituent | Result | RL | Units | Note | Dil. | DQF | Sample Preparation | | | Sample Analysis | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Date | Time | Who | Method | Date | Time | Who |
| **Dairy Analysis** | | | | | | | | | | | | | |
| Nitrogen, Total Kjeldahl | ND | 0.5 | mg/L | | 1 | U | 07/25/2023 | 10:41 | sta | EPA 351.2 | 07/28/2023 | 19:39 | lcr |
| Nitrate Nitrogen | ND | 0.4 | mg/L | | 1 | U | 07/18/2023 | 11:00 | lfs | SM 4500-NO3 F | 07/18/2023 | 12:12 | lfs |
| Nitrogen, Total as Nitrogen | ND | 0.5 | mg/L | | 1 | U | 07/25/2023 | 10:41 | sta | Calc. | 07/28/2023 | 19:39 | lcr |
| Nitrate + Nitrite as N | 0.4 | 0.4 | mg/L | | 1 | U | 07/18/2023 | 11:00 | lfs | SM 4500-NO3 F | 07/18/2023 | 12:12 | lfs |
| Kjeldahl Nitrogen | ND | 0.5 | mg/L | | 1 | U | 07/25/2023 | 10:41 | sta | EPA 351.2 | 07/28/2023 | 19:39 | lcr |
| Conductivity | 337 | 1 | umhos/cm | | 1 | | 07/12/2023 | 14:47 | amm | SM 4500-H+B | 07/12/2023 | 16:13 | amm |
| Solids, Total Dissolved (TDS) | 240 | 20 | mg/L | | 1 | I | 07/11/2023 | 10:45 | ctl | SM 2540 C | 07/12/2023 | 12:00 | ctl |

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

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


Page 7 of 9

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July 31, 2023

**Livingston Dairy Consulting, Inc.**

Lab No. : VI 2344167
Customer No. : 4018505

## Quality Control - Wet Chem

| Constituent | Method | Date/ID | Type | Units | Conc. | QC Data | DQO | Note |
|---|---|---|---|---|---|---|---|---|
| **Wet Chem** | | | | | | | | |
| E. C. | 2320B | (SP 2311379-001) | Dup | umhos/cm | | 0.2% | 5 | |
| | | (VI 2344111-007) | Dup | umhos/cm | | 0.6% | 5 | |
| | | (VI 2344170-001) | Dup | umhos/cm | | 0.2% | 5 | |
| | 2320B | (SP 2311840-005) | Dup | umhos/cm | | 0% | 5 | |
| | | (VI 2344603-001) | Dup | umhos/cm | | 0.2% | 5 | |
| Solids, Total Dissolved | 2540CE | 07/11/2023:207527CTL | Blank | mg/L | | ND | <20 | |
| | | | LCS | mg/L | 993.7 | 98.8% | 90-110 | |
| | | (VI 2344180-001) | Dup | mg/L | | 7.98% | 5 | 440 |
| | | (VI 2344180-001) | Dup | mg/L | | 0.1% | 5 | |
| | 2540CE | 07/12/2023:207626CTL | Blank | mg/L | | ND | <20 | |
| | | | LCS | mg/L | 993.7 | 98.9% | 90-110 | |
| | | (SP 2311661-001) | Dup | mg/L | | 0.8% | 5 | |
| | | (SP 2311661-001) | Dup | mg/L | | 1.82% | 5 | |
| Nitrogen, Total Kjeldahl | 351.2 | 07/25/2023:208151STA | Blank | mg/L | | ND | <0.5 | |
| | | | LCS | mg/L | 12.00 | 96.1% | 73-124 | |
| | | | MS | mg/L | 12.00 | 95.7% | 54-136 | |
| | | (SP 2311637-004) | MSD | mg/L | 12.00 | 94.8% | 54-136 | |
| | | | MSRPD | mg/L | | 0.8% | ≤27 | |
| | | | MS | mg/L | 12.00 | 79.9% | 54-136 | |
| | | (STK2338896-006) | MSD | mg/L | 12.00 | 81.9% | 54-136 | |
| | | | MSRPD | mg/L | | 2.5% | ≤27 | |
| Nitrate + Nitrite as N | 4500NO3F | 07/14/2023:207745LFS | Blank | mg/L | | ND | <0.4 | |
| | | | LCS | mg/L | 11.22 | 101% | 80-120 | |
| | | | MS | mg/L | 5.609 | 93.6% | 66-125 | |
| | | (CH 2375111-001) | MSD | mg/L | 5.609 | 95.4% | 66-125 | |
| | | | MSRPD | mg/L | | 1.1% | ≤30.4 | |
| | 4500NO3F | 07/18/2023:207837LFS | Blank | mg/L | | ND | <0.4 | |
| | | | LCS | mg/L | 11.22 | 99.5% | 80-120 | |
| | | | MS | mg/L | 5.609 | 95.0% | 66-125 | |
| | | (STK2338896-001) | MSD | mg/L | 5.609 | 96.7% | 66-125 | |
| | | | MSRPD | mg/L | | 0.7% | ≤30.4 | |
| Nitrate Nitrogen | 4500NO3F | 07/14/2023:207745LFS | Blank | mg/L | | ND | <0.4 | |
| | | | LCS | mg/L | 11.22 | 101% | 80-120 | |
| | | | MS | mg/L | 5.609 | 93.6% | 66-125 | |
| | | (CH 2375111-001) | MSD | mg/L | 5.609 | 95.4% | 66-125 | |
| | | | MSRPD | mg/L | | 1.1% | ≤30.4 | |
| | 4500NO3F | 07/18/2023:207837LFS | Blank | mg/L | | ND | <0.4 | |
| | | | LCS | mg/L | 11.22 | 99.5% | 80-120 | |
| | | | MS | mg/L | 5.609 | 95.0% | 66-125 | |
| | | (STK2338896-001) | MSD | mg/L | 5.609 | 96.7% | 66-125 | |
| | | | MSRPD | mg/L | | 0.7% | ≤30.4 | |


Page 8 of 9

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**Definition**

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

**Explanation**

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



Page 9 of 9

FGL ENVIRONMENTAL AGRICULTURAL
Analytical Chemists

**Special**

# CHAIN OF CUSTODY
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Laboratory Copy (1 of 2)

42086:04/01/2023

TEST DESCRIPTION - See Reverse side for Container, Preservative and Sampling information

Client: **Livingston Dairy Consulting, Inc.**
Address: Livingston Dairy Consulting, Inc
1635 E. Prosperity Suite B
Tulare, CA 93274

Phone: (559)687-1440 Fax:
Contact Person: Noreen Livingston
Project Name: W-6 Machado Dairy
Purchase Order Number:
Quote Number: VI 20210208-01
Sampler(s) Noreen & Marlene

Sampling Fee: _____ Pickup Fee: _____
Compositor Setup Date: ___/___/___ Time: ___/___

Lab Number: VI 2344167 4-18505

Method of Sampling: Composite(C) Grab(G)
Type of Sample **SEE REVERSE SIDE**
Potable(P) Non-Potable(NP) Ag Water(AgW)
Bacti Type: Other(O) System(SYS) Source(SR) Waste(W)
Bacti Reason: Other(O) Routine(ROUT) Special(SPL) Repeat(RPT) Replace(RPL)
Dairy Analysis-W-6-Conductivity,NO3-N,Total N,TDS 16oz(P)
Bottles/Containers Split Fee 8oz(P)-H2SO4

| Samp Num | Location Description | Date Sampled | Time Sampled | Method of Sampling | Type of Sample | Potable | Bacti Type | Bacti Reason | Dairy Analysis-W-6-Conductivity,NO3-N,Total N,TDS 16oz(P) | Bottles/Containers Split Fee 8oz(P)-H2SO4 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | #5 | 7/7 | 6:39AM | G | AgW | NP | | | 1 | 1 |
| 2 | #4 | ↓ | 6:45AM | G | ↓ | ↓ | | | 1 | 1 |
| 3 | #6 | ↓ | 6:51AM | G | ↓ | ↓ | | | 1 | 1 |
| 4 | #3 | ↓ | 6:59AM | G | ↓ | ↓ | | | 1 | 1 |
| 5 | Jacks Well | ↓ | 7:04AM | G | ↓ | ↓ | | | 1 | 1 |
| 6 | Pasture NE Well | ↓ | 7:10AM | G | ↓ | ↓ | | | 1 | 1 |
| 7 | | | | G | | | | | 1 | 1 |
| 8 | | | | G | | | | | 1 | 1 |
| 9 | | | | G | | | | | 1 | 1 |
| 10 | | | | G | | | | | 1 | 1 |

Remarks:

| Relinquished | Date: | Time: | Relinquished | Date: | Time: | Relinquished | Date: | Time: |
|---|---|---|---|---|---|---|---|---|
| [signature] | 7/7/23 | 1139 | SRO | 7/7/23 | 1730 | GLS | 7/8/23 | 1330 |
| **Received By:** | **Date:** | **Time:** | **Received By:** | **Date:** | **Time:** | **Received By:** | **Date:** | **Time:** |
| SRO | 7/7/23 | 1139 | GLS | 7/7/23 | 1730 | [signature] | ↓ | ↓ |

RO1 5.9


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# 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: R01 / 5.9 / ____ / ____ / ____
   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: 1 / ____ / ____ / ____ / ____
   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:
   559726694 / 85

| | | | | |
|---|---|---|---|---|
| 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): CDA

**Discrepancy Documentation:**

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

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

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

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

(4018505)
Livingston Dairy Consulting, Inc.
VI 2344167
mdc 07/07/2023 12:56:40
VI 2344167
2344167

Machado

FGL ENVIRONMENTAL AGRICULTURAL
Analytical Chemists

August 18, 2023

**Lab No.** : **VI 2344718**
**Customer No.** : **4018505**

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

## Laboratory Report

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

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

## Case Narrative

This Case Narrative pertains to the following samples:

| Sample Description | Date Sampled | Date Received | FGL Lab No. | Matrix |
|---|---|---|---|---|
| Silva N | 07/20/2023 | 07/20/2023 | VI 2344718-001 | AGW |
| Silva S | 07/20/2023 | 07/20/2023 | VI 2344718-002 | AGW |
| Pool Ranch | 07/20/2023 | 07/20/2023 | VI 2344718-003 | AGW |

**Sampling and Receipt Information:**

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

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

**Test Summary**

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

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

KD: EHB

Approved By **Kelly A. Dunnahoo, B.S.** Digitally signed by Kelly A. Dunnahoo, B.S.
Title: Laboratory Director
Date: 2023-08-18



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August 18, 2023

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

Description : Silva N
Project : W-6 Machado Dairy

**Lab No.** : VI 2344718-001
**Customer No.** : 4018505

**Sampled On** : July 20, 2023 at 06:19
**Sampled By** : Marlene & Noreen
**Received On** : July 20, 2023 at 10:32
**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 | 08/10/2023 | 14:22 | sta | EPA 351.2 | 08/16/2023 | 22:20 | lcr |
| Nitrate Nitrogen | 12.1 | 0.4 | mg/L | | 1 | | 07/21/2023 | 13:00 | lfs | SM 4500-NO3 F | 07/21/2023 | 17:12 | lfs |
| Nitrogen, Total as Nitrogen | 12.1 | 0.5 | mg/L | | 1 | | 08/10/2023 | 14:22 | sta | Calc. | 08/16/2023 | 22:20 | lcr |
| Nitrate + Nitrite as N | 12.1 | 0.4 | mg/L | | 1 | | 07/21/2023 | 13:00 | lfs | SM 4500-NO3 F | 07/21/2023 | 17:12 | lfs |
| Kjeldahl Nitrogen | ND | 0.5 | mg/L | | 1 | U | 08/10/2023 | 14:22 | sta | EPA 351.2 | 08/16/2023 | 22:20 | lcr |
| Conductivity | 642 | 1 | umhos/cm | | 1 | | 07/31/2023 | 14:51 | amm | SM 4500-H+B | 07/31/2023 | 19:43 | amm |
| Solids, Total Dissolved (TDS) | 400 | 20 | mg/L | | 1 | | 07/25/2023 | 12:30 | ctl | SM 2540 C | 07/26/2023 | 11:30 | ctl |

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

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



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August 18, 2023

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

Description : Silva S
Project : W-6 Machado Dairy

Lab No. : VI 2344718-002
Customer No. : 4018505

Sampled On : July 20, 2023 at 06:25
Sampled By : Marlene & Noreen
Received On : July 20, 2023 at 10:32
Matrix : Ag Water

## Sample Results - Inorganic

| Constituent | Result | RL | Units | Note | Dil. | DQF | Sample Preparation | | | Sample Analysis | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Date | Time | Who | Method | Date | Time | Who |
| **Dairy Analysis** | | | | | | | | | | | | | |
| Nitrogen, Total Kjeldahl | ND | 0.5 | mg/L | | 1 | U | 08/10/2023 | 14:22 | sta | EPA 351.2 | 08/12/2023 | 15:56 | lcr |
| Nitrate Nitrogen | 0.6 | 0.4 | mg/L | | 1 | | 07/21/2023 | 13:00 | lfs | SM 4500-NO3 F | 07/21/2023 | 17:15 | lfs |
| Nitrogen, Total as Nitrogen | 0.6 | 0.5 | mg/L | | 1 | | 08/10/2023 | 14:22 | sta | Calc. | 08/12/2023 | 15:56 | lcr |
| Nitrate + Nitrite as N | 0.6 | 0.4 | mg/L | | 1 | | 07/21/2023 | 13:00 | lfs | SM 4500-NO3 F | 07/21/2023 | 17:15 | lfs |
| Kjeldahl Nitrogen | ND | 0.5 | mg/L | | 1 | U | 08/10/2023 | 14:22 | sta | EPA 351.2 | 08/12/2023 | 15:56 | lcr |
| Conductivity | 311 | 1 | umhos/cm | | 1 | | 07/31/2023 | 17:05 | amm | SM 4500-H+B | 07/31/2023 | 20:04 | amm |
| Solids, Total Dissolved (TDS) | 220 | 20 | mg/L | | 1 | | 07/24/2023 | 12:50 | ctl | SM 2540 C | 07/25/2023 | 10:50 | ctl |

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

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


Page 3 of 5

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August 18, 2023

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

Lab No. : VI 2344718-003
Customer No. : 4018505

Sampled On : July 20, 2023 at 06:31
Sampled By : Marlene & Noreen
Received On : July 20, 2023 at 10:32
Matrix : Ag Water

Description : Pool Ranch
Project : W-6 Machado Dairy

## Sample Results - Inorganic

| Constituent | Result | RL | Units | Note | Dil. | DQF | Sample Preparation | | | Sample Analysis | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Dairy Analysis** | | | | | | | Date | Time | Who | Method | Date | Time | Who |
| Nitrogen, Total Kjeldahl | ND | 0.5 | mg/L | | 1 | U | 08/10/2023 | 14:22 | sta | EPA 351.2 | 08/12/2023 | 15:58 | lcr |
| Nitrate Nitrogen | ND | 0.4 | mg/L | | 1 | U | 07/21/2023 | 13:00 | lfs | SM 4500-NO3 F | 07/21/2023 | 17:17 | lfs |
| Nitrogen, Total as Nitrogen | ND | 0.5 | mg/L | | 1 | U | 08/10/2023 | 14:22 | sta | Calc. | 08/12/2023 | 15:58 | lcr |
| Nitrate + Nitrite as N | ND | 0.4 | mg/L | | 1 | U | 07/21/2023 | 13:00 | lfs | SM 4500-NO3 F | 07/21/2023 | 17:17 | lfs |
| Kjeldahl Nitrogen | ND | 0.5 | mg/L | | 1 | U | 08/10/2023 | 14:22 | sta | EPA 351.2 | 08/12/2023 | 15:58 | lcr |
| Conductivity | 222 | 1 | umhos/cm | | 1 | | 07/31/2023 | 21:43 | amm | SM 4500-H+B | 08/01/2023 | 00:50 | amm |
| Solids, Total Dissolved (TDS) | 150 | 20 | mg/L | | 1 | | 07/25/2023 | 12:30 | ctl | SM 2540 C | 07/26/2023 | 11:30 | ctl |

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

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


Page 4 of 5

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August 18, 2023
**Livingston Dairy Consulting, Inc.**

**Lab No.** : VI 2344718
**Customer No.** : 4018505

## Quality Control - Wet Chem

| Constituent | Method | Date/ID | Type | Units | Conc. | QC Data | DQO | Note |
|---|---|---|---|---|---|---|---|---|
| **Wet Chem** | | | | | | | | |
| E. C. | 2320B | (VI 2344636-006) | Dup | umhos/cm | | 0% | 5 | |
| | | (VI 2344710-008) | Dup | umhos/cm | | 0.3% | 5 | |
| | | (VI 2344724-001) | Dup | umhos/cm | | 0.1% | 5 | |
| Solids, Total Dissolved | 2540CE | 07/24/2023:208076CTL | Blank | mg/L | | ND | <20 | |
| | | | LCS | mg/L | 991.5 | 98.4 % | 90-110 | |
| | | (SP 2312486-005) | Dup | mg/L | | 2.1% | 5 | |
| | | (SP 2312486-005) | Dup | mg/L | | 1.5% | 5 | |
| | 2540CE | 07/25/2023:208161CTL | Blank | mg/L | | ND | <20 | |
| | | | LCS | mg/L | 991.5 | 98.9% | 90-110 | |
| | | (SP 2312499-001) | Dup | mg/L | | 2.23% | 5 | |
| | | (SP 2312499-001) | Dup | mg/L | | 0.3% | 5 | |
| | | | Blank | mg/L | | ND | <20 | |
| | | | LCS | mg/L | 991.5 | 97.0% | 90-110 | |
| | | (VI 2344710-002) | Dup | mg/L | | 1.67% | 5 | |
| | | (VI 2344710-002) | Dup | mg/L | | 0.8% | 5 | |
| Nitrogen, Total Kjeldahl | 351.2 | 08/10/2023:208886STA | Blank | mg/L | | ND | <0.5 | |
| | | | LCS | mg/L | 12.00 | 88.3% | 73-124 | |
| | | | MS | mg/L | 12.00 | 91.6% | 54-136 | |
| | | (VI 2344744-001) | MSD | mg/L | 12.00 | 92.6% | 54-136 | |
| | | | MSRPD | mg/L | | 1.1% | ≤27 | |
| | | | MS | mg/L | 12.00 | 88.1% | 54-136 | |
| | | (VI 2344744-003) | MSD | mg/L | 12.00 | 88.0% | 54-136 | |
| | | | MSRPD | mg/L | | 0.1% | ≤27 | |
| | | | Blank | mg/L | | ND | <0.5 | |
| | | | LCS | mg/L | 12.00 | 93.8% | 73-124 | |
| | | | MS | mg/L | 12.00 | 87.6% | 54-136 | |
| | | (VI 2344757-001) | MSD | mg/L | 12.00 | 84.9% | 54-136 | |
| | | | MSRPD | mg/L | | 1.6% | ≤27 | |
| | | | MS | mg/L | 12.00 | 84.4% | 54-136 | |
| | | (CC 2382422-001) | MSD | mg/L | 12.00 | 92.5% | 54-136 | |
| | | | MSRPD | mg/L | | 3.3% | ≤27 | |
| Nitrate + Nitrite as N | 4500NO3F | 07/21/2023:208010LFS | Blank | mg/L | | ND | <0.4 | |
| | | | LCS | mg/L | 11.22 | 95.6% | 80-120 | |
| | | | MS | mg/L | 5.609 | 95.1% | 66-125 | |
| | | (CH 2375625-001) | MSD | mg/L | 5.609 | 98.1% | 66-125 | |
| | | | MSRPD | mg/L | | 3.1% | ≤30.4 | |
| Nitrate Nitrogen | 4500NO3F | 07/21/2023:208010LFS | Blank | mg/L | | ND | <0.4 | |
| | | | LCS | mg/L | 11.22 | 95.6% | 80-120 | |
| | | | MS | mg/L | 5.609 | 95.1% | 66-125 | |
| | | (CH 2375625-001) | MSD | mg/L | 5.609 | 98.1% | 66-125 | |
| | | | MSRPD | mg/L | | 3.1% | ≤30.4 | |

**Definition**

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


Page 5 of 5

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FGL ENVIRONMENTAL AGRICULTURAL
Analytical Chemists

**Special**

# CHAIN OF CUSTODY
www.fglinc.com

Laboratory Copy (1 of 3)

Client: **Livingston Dairy Consulting, Inc.**
Address: Livingston Dairy Consulting, Inc
1635 E. Prosperity Suite B
Tulare, CA 93274

Phone: (559)687-1440 Fax:
Contact Person: Noreen Livingston
Project Name: W-6 Machado Dairy
Purchase Order Number:
Quote Number: VI 20210208-01

Sampler(s) Marlene & Noreen

Sampling Fee: _____ Pickup Fee: _____
Compositor Setup Date: ___/___/___ Time: ___/___

Lab Number: VI 2344718 4-18505

42086:03/01/2022

TEST DESCRIPTION - See Reverse side for Container, Preservative and Sampling information

| Samp Num | Location Description | Date Sampled | Time Sampled | Method of Sampling: Composite(C) Grab(G) | Type of Sample **SEE REVERSE SIDE** | Potable(P) Non-Potable(NP) Ag Water(AgW) | Bacti Type: Other(O) System(SYS) Source(SR) Waste(W) | Bacti Reason: Routine(ROUT) Repeat(RPT) Replace(RPL) Other(O) Special(SPL) | Dairy Analysis-W-6-Conductivity,NO3-N,Total N,TDS 16oz(P) | Sampling-W-6 - Total N - Split Bottle ***VI Lab to Split for Total N*** 8oz(P)-H2SO4 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Silva N | 7/20 | 6:19AM | G | AgW | NP | | | 1 | 1 |
| 2 | Silva S | ↓ | 6:25AM | G | ↓ | ↓ | | | 1 | 1 |
| 3 | Pool Ranch | ↓ | 6:31AM | G | ↓ | ↓ | | | 1 | 1 |
| 4 | | | | G | | | | | 1 | 1 |
| 5 | | | | G | | | | | 1 | 1 |
| 6 | | | | G | | | | | 1 | 1 |
| 7 | | | | G | | | | | 1 | 1 |
| 8 | | | | G | | | | | 1 | 1 |
| 9 | | | | G | | | | | 1 | 1 |
| 10 | | | | G | | | | | 1 | 1 |

Remarks:

| Relinquished | Date: | Time: | Relinquished | Date: | Time: | Relinquished | Date: | Time: |
|---|---|---|---|---|---|---|---|---|
| [signature] | 7/20/23 | 10:32 | SRO | 7/20/23 | 1730 | GLS | 7/21/23 | 1120 |
| **Received By:** | **Date:** | **Time:** | **Received By:** | **Date:** | **Time:** | **Received By:** | **Date:** | **Time:** |
| SRO | 7/20/23 | 1032 | GLS | 7/20/23 | 1730 | YMC | / | / |


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R01
8.5°C

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# 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: R01 / 8.5C / ____ / ____ / ____
   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: 1C / ____ / ____ / ____ / ____
   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: 549803345 3297 3542 3359

| | | | |
|---|---|---|---|
| 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): MX

**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 c
contacts)

(4018505)
Livingston Dairy Consulting, Inc.
VI 2344718
iv 07/20/2023 14:26:09
VI 2344718

# Livingston Dairy Consulting, Inc.

FIELD ACTIVITY REPORT

**Facility Name:**
Machado Dairy & Farming, Inc
20180 Rd. 36, Tulare
Tulare County

***2023***

**Sample Collection Equipment:**
**Bottle Container**

**Sample Container:** (Circle one)
**Bottle Container: 8 fl oz 16 fl oz 32 fl oz**

**Sample Collection Location:** (Circle one)
**Discharge Pipe** **Spigot/Faucet**

**Sample Collection Method:** (Circle one) *All Samples are labeled with the facility name, date, contents, location and description ** Please see the Sample and Anylsis Plan for more detailed descriptions.

**Well:** **Sample taken at the Discharge Pipe, Spigot or Faucet using a sample container provided by laboratory**

**Sample Type:**

| Date | Well Name | Time | PH | Temp | Ammonium |
|---|---|---|---|---|---|
| 2/1 | DOM 1 | 6:10 | 6.5 | 64 | Ø |
| | DOM 2 | 6:18 | 6.5 | 65 | Ø |
| 6/8 | Curti DOM | 8:59 | 7 | 67 | Ø |
| | Dickerson | 9:05 | 6.5 | 68 | Ø |
| | Johnson | 9:12 | 7 | 67 | Ø |
| | Santos DOM | 9:33 | 7 | 68 | Ø |
| | Cattle Lot DOM | 9:40 | 6 | 67 | Ø |
| | Airstrip | 9:46 | 7 | 69 | Ø |
| 7/7 | #5 | 6:39 | 7 | 66 | Ø |
| | #4 | 6:45 | 6.5 | 67 | Ø |
| | #6 | 6:51 | 6 | 65 | Ø |
| | #3 | 6:59 | 7 | 66 | Ø |
| | Jacks well | 7:04 | 7 | 64 | Ø |
| | Pasture NE well | 7:10 | 6.5 | 67 | Ø |
| 7/20 | Silva N | 6:19 | 7 | 65 | Ø |
| | Silva S | 6:25 | 6 | 64 | Ø |
| | Pool Well | 6:31 | 6.5 | 65 | Ø |
| | | | | | |
| | | | | | |

**Sample Preservation Method:** (Circle one) **Ice Chest** **Refrigerator** **Ice Pack**

Livingston Dairy Contuling, Inc. 2020

# Livingston Dairy Consulting, Inc.

1635 E. Prosperity Ave. Ste. B
Tulare, CA 93274
559-687-1440

Sunday, April 14, 2024

Re: 2023 NMP
Machado Dairy & Farming, Inc. WDID 5C54NC00198
20180 Road 36, Tulare 93274

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

***2023 Whole Farm Nitrogen Balance**

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

***Ranges for the Whole Farm Nitrogen Balance**

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

***Nutrient Management Plan/ Nutrient Budget Certification**

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

Butch Brazil
Certified Crop Advisor #35629

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