# Livestock Groundwater Monitoring Results Review

**Geologic Services Section, DWEE**
**Spring 2026**

**Facility**: Blackshirt Feeders **IIS:** 118647
**Legal**: Parts of sections 26, 27 and 35, of T2N, R42W **County**: Dundy **NRD**: Upper Republican

**Wells**

**Well registered:** Yes **Wells surveyed:** Yes **Date Drilled:** 3/18/25-3/24/25
**Site map with wells located:** Yes **Map with Graphic Scale:** Yes
**Well placed as in plan:** Yes **Lat/Long:** Yes
**Well drilling company:** GSI Engineering Northern Division, LLC.

| Well # | Up/ Down | Reg. No. | Well Depth | Screen Length | DTW | SWL in Screen | Lat | Long | Sand | Bentonite | Cement |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-1 | Up | G-202469B | 117 | 20 | 101.9 | Yes | 40.11283333 | -102.04040278 | 117-95 | 95-0 | |
| MW-2 | Down | G-202469C | 73 | 20 | 61 | Yes | 40.09875833 | -102.03733611 | 73-51 | 51-0 | |
| MW-3 | Down | G-202469D | 71 | 20 | 62 | Yes | 40.09819444 | -102.02895278 | 71-49 | 49-0 | |
| MW-4 | Down | G-202469E | 73 | 20 | 62 | Yes | 40.09561667 | -102.02687778 | 73-51 | 51-0 | |
| MW-5 | Down | G-202469A | 72 | 20 | 64 | Yes | 40.09554722 | -102.02128611 | 72-50 | 50-0 | |

**Water Quality Results**

**Sampling company/person/license #:** Settje Agri-Services, Clint Maaske, #101567
**Report received date:** 5/27/2026
**Results received within 45 days:** Yes **Purging (volume and stabilization):** Yes
**Name of lab:** Ward Laboratories **Blank:** Yes **Duplicate:** Yes
**Lab Method:** Nitrate: 353.2 Ammonia: 350.1 Chloride: 325.1
**Chain of custody form:** Yes **Samples to laboratory within holding time:** Yes
**Flow Direction:** South to southeast




6/30/2026, 11:48:33 AM

1:16,369

0 0.1 0.2 0.4 mi

G-202496A and G-202496E
Located just south of map extent

20260065959

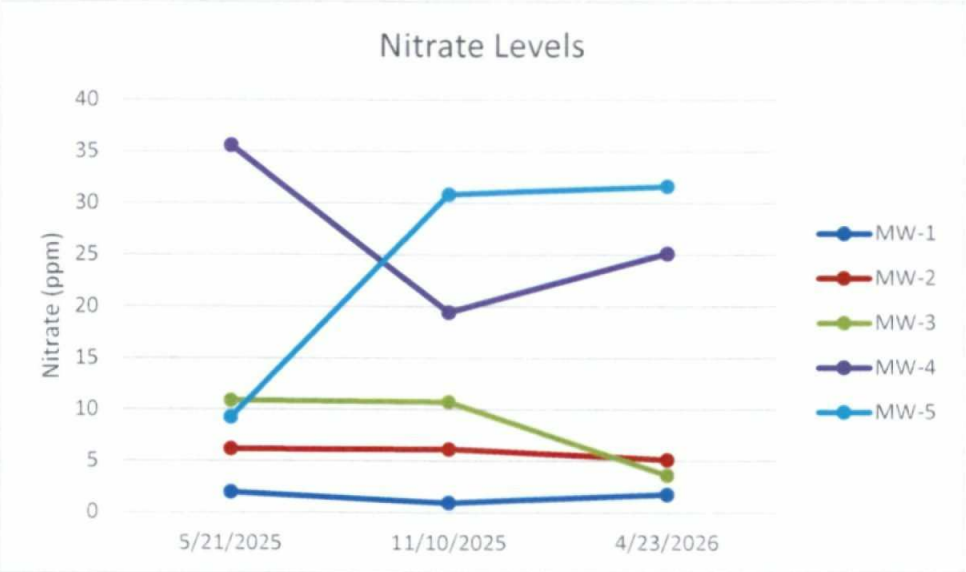
| Well | Date | GW elev | Nitrate | Ammonia | Chloride | Conductivity |
|---|---|---|---|---|---|---|
| MW-1 | 5/21/2025 | 3441.15 | 2 | <0.1 | 4 | 323 |
| MW-1 | 11/10/2025 | 3440.79 | 0.9 | 0.1 | 6 | 388 |
| MW-1 | 4/23/2026 | 3441.1 | 1.7 | 0.2 | 6 | 353 |

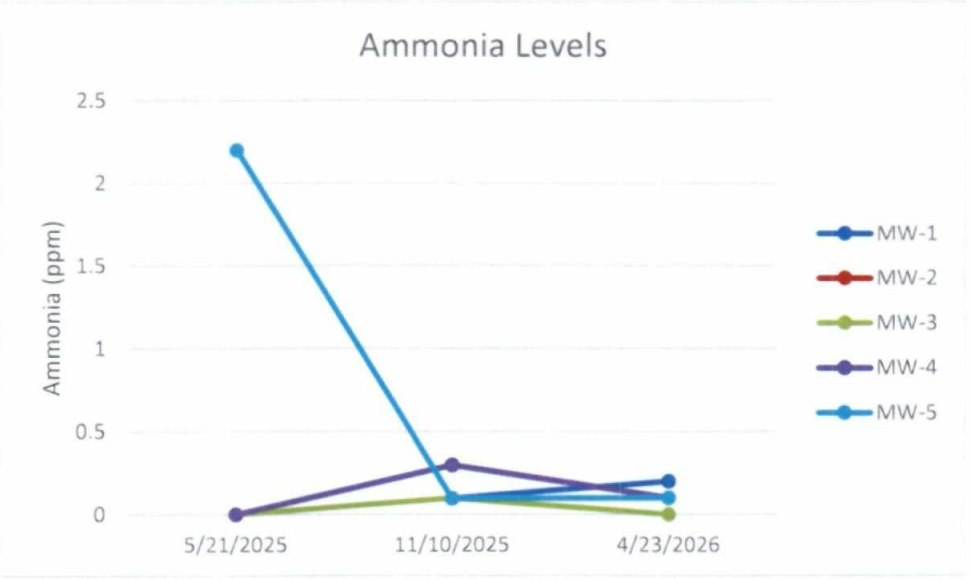
| Well | Date | GW elev | Nitrate | Ammonia | Chloride | Conductivity |
|---|---|---|---|---|---|---|
| MW-2 | 5/21/2025 | 3429.43 | 6.2 | <0.1 | 3 | 328 |
| MW-2 | 11/10/2025 | 3428.63 | 6.1 | 0.1 | 3 | 376 |
| MW-2 | 4/23/2026 | 3428.32 | 5.1 | 0.1 | 4 | 357 |

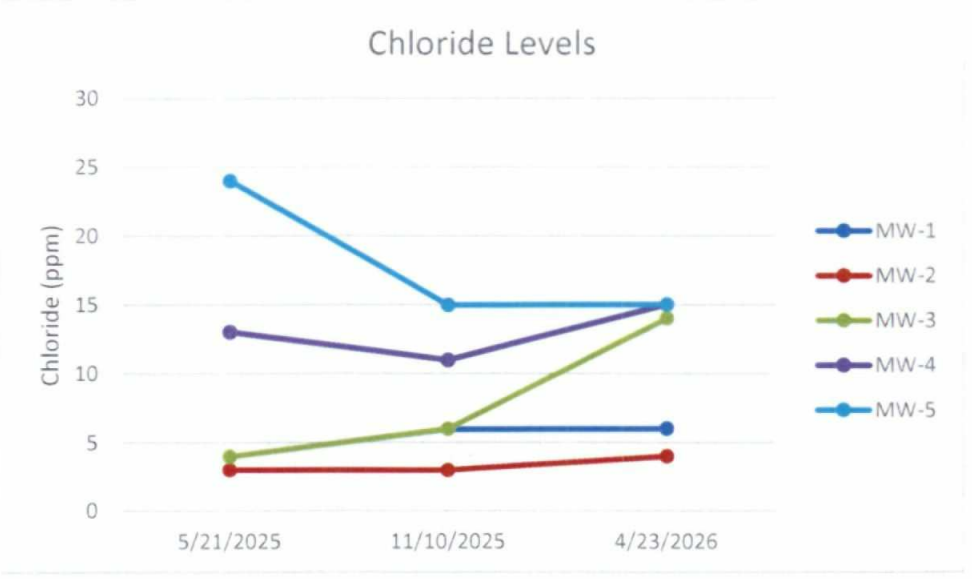
| Well | Date | GW elev | Nitrate | Ammonia | Chloride | Conductivity |
|---|---|---|---|---|---|---|
| MW-3 | 5/21/2025 | 3429.34 | 10.9 | <0.1 | 4 | 386 |
| MW-3 | 11/10/2025 | 3430.06 | 10.7 | 0.1 | 6 | 477 |
| MW-3 | 4/23/2026 | 3429.4 | 3.6 | <0.1 | 14 | 517 |

| Well | Date | GW elev | Nitrate | Ammonia | Chloride | Conductivity |
|---|---|---|---|---|---|---|
| MW-4 | 5/21/2025 | 3421.39 | 35.6 | <0.1 | 13 | 595 |
| MW-4 | 11/10/2025 | 3421.73 | 19.4 | 0.3 | 11 | 709 |
| MW-4 | 4/23/2026 | 3421.21 | 25.1 | 0.1 | 15 | 752 |

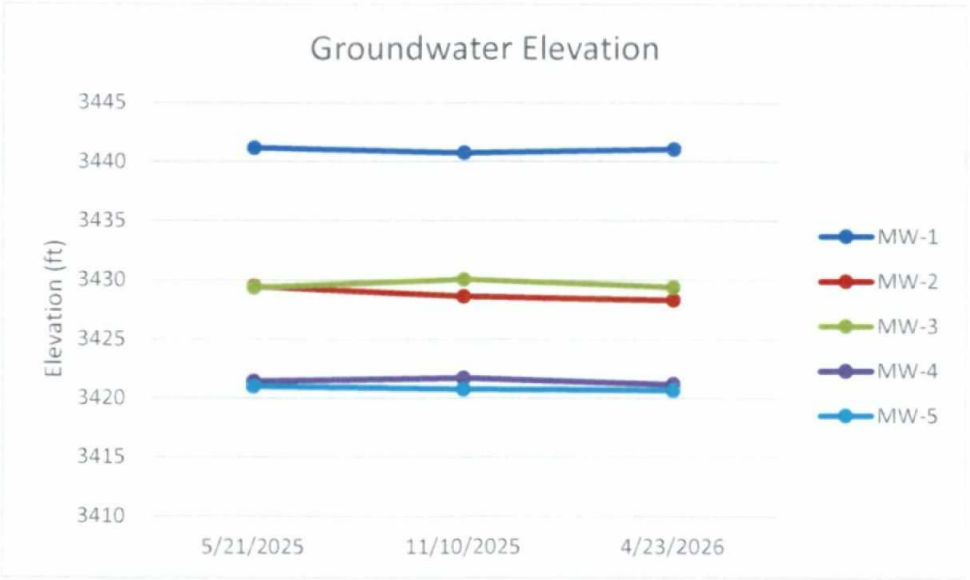
| Well | Date | GW elev | Nitrate | Ammonia | Chloride | Conductivity |
|---|---|---|---|---|---|---|
| MW-5 | 5/21/2025 | 3420.98 | 9.3 | 2.2 | 24 | 422 |
| MW-5 | 11/10/2025 | 3420.79 | 30.8 | 0.1 | 15 | 603 |
| MW-5 | 4/23/2026 | 3420.7 | 31.6 | 0.1 | 15 | 672 |




Ammonia Levels
Ammonia (ppm)
2.5
2
1.5
1
0.5
0
5/21/2025
11/10/2025
4/23/2026
MW-1
MW-2
MW-3
MW-4
MW-5


Chloride Levels
Chloride (ppm)
30
25
20
15
10
5
0
5/21/2025
11/10/2025
4/23/2026
MW-1
MW-2
MW-3
MW-4
MW-5


Conductivity Levels
Conductivity (µmhos)
800
700
600
500
400
300
200
100
0
5/21/2025
11/10/2025
4/23/2026
MW-1
MW-2
MW-3
MW-4
MW-5




**Discussion**

Nitrate levels are slightly increasing in MW-5 but consistent otherwise. Ammonia levels are low and consistent in all wells. Chloride levels are consistent. Conductivity levels are consistent. Groundwater levels are consistent.

Groundwater use in the area is typical for a rural setting; there are multiple irrigation wells in the area and a few production wells as well. There is one registered domestic well located on the site property. Due to the proximity to the Colorado/Nebraska border there are potential wells located on the Colorado side that are not noted here or on the site map.

**Reviewer's Signature** Caelum Hubl **Date** 6/30/2026

Caelum Hubl