



# Oregon

Kate Brown, Governor

Department of Environmental Quality  
Eastern Region Bend Office  
475 NE Bellevue Drive, Suite 110  
Bend, OR 97701  
(541) 388-6146  
FAX (541) 388-8283  
TTY 711

March 31, 2022

Mr. Neal Flyg  
Lamb Weston, Inc.  
78153 Westland Rd  
Hermiston, OR 97838

Re: Pre-Enforcement Notice  
Lamb Weston, Inc.  
**2022-PEN-6829**  
File 48780, WPCF 101326  
Umatilla County

Dear Mr. Flyg:

You are receiving this letter because you are listed as the legal contact person in DEQ's database for Lamb Weston, Inc., (LWI) which operates an industrial wastewater treatment and land application program in accordance with Water Pollution Control Facility (WPCF) Permit #101326.

In preparation for permit renewal, DEQ conducted a groundwater review of Lamb Weston, Inc. land application areas. Based on DEQ's review, we have documented the following violations of the assigned permit and Oregon environmental law.

## VIOLATIONS:

- 1) Oregon Revised Statute (ORS) 468B.025 (1)(a) states that no person shall cause pollution of waters of the state or place or cause to be placed any wastes in a location where such wastes are likely to escape or be carried into the waters of the state by any means.
  - a) After reviewing LWI's groundwater data (review enclosed as addendum) DEQ has determined that LWI land application facility operations are causing pollution of groundwater, which is a water of the state at both the North Farm and Madison Farm, land application areas. This conclusion is based on water level contour maps in combination with water quality data that shows increased nitrate concentrations in downgradient wells in violation of OAR Chapter 340, Division 40. The combination of this data indicate practices at the site are contributing nitrate in groundwater that is leaving the sites above acceptable levels.

Per Schedule A, Condition 7 of LWI's WPCF permit, all permitted wastes must be managed to prevent a violation of DEQ's Groundwater Quality Protection Rules (OAR 340-040). Causing pollution of waters of the state is a Class 1 violation per OAR 340-012-0055(1)(a).

Class I violations are the most serious violations; Class III violations are the least serious.

DEQ regulates the disposal of industrial wastewater and waste solids to ensure that waste constituents are either treated or land applied beneficially to prevent groundwater and environmental contamination, as well as protecting public health. Improperly operated systems can create conditions that fail to protect these goals.

Compliance with your permit is required by Oregon Revised Statute 468B.025(2). The noted violations above also occurred within the Lower Umatilla Basin Groundwater Management Area, which is designated due to nitrate-nitrogen groundwater concentrations above acceptable limits.

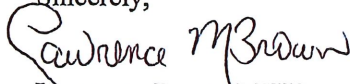
**Corrective Actions Requested**

- 1) Within 45 days from receipt of this letter, DEQ requests that LWI identify and document to DEQ additional management practices that will be implemented immediately at the land application areas to improve groundwater quality.
- 2) Within 90 days from receipt of this letter, DEQ requests that LWI provide for DEQ approval, a proposed scope of work for a Remedial Investigation and Feasibility Study (RI/FS), as outlined in OAR 340-040-0040 (1). Per rule, the RI/FS shall include but is not limited to, characterization of pollution, characterization of the facility, and an endangerment assessment. DEQ expects LWI to enact remedial measures to counteract any endangerment as quickly as possible.

Because the violations (North Farm and Madison Farm LWI sites) cited above caused significant environmental harm or posed the risk of significant environmental harm, the matter is being referred to the Department's Office of Compliance and Enforcement for formal enforcement action. Formal enforcement action may result in assessment of civil penalties and/or a Department order. A formal enforcement action may include a civil penalty assessment for each day of violation.

If you believe any of the facts in this Pre-enforcement notice are in error, you may provide information to me at the address shown at the top of this letter or by email. DEQ will consider new information you submit and take appropriate action. Should you have any questions about the content of this letter or would like follow-up technical assistance, please contact me at 541-633-2025 or [Larry.BROWN@deq.oregon.gov](mailto:Larry.BROWN@deq.oregon.gov).

Sincerely,



Lawrence Brown REHS

*Registered Environmental Health Specialist*

Water Quality - Eastern Region, Land Application Program

cc: Kayla Boylan, ConAgra Lamb Weston Inc. Environmental Manager  
Jeff Hunter, Perkins Coie LLP  
Shannon Davis, DEQ Eastern Region Administrator  
Jeff Bachman, DEQ Office of Compliance and Enforcement

Appendix: "Groundwater Review: A review of groundwater data and water level elevations at Lamb Weston North Farm and Madison Ranch Land Application Sites through August 2021"

---

State of Oregon  
Department of Environmental Quality

Memorandum

To: Larry Brown, DEQ Eastern Region, Bend

Date: January 19, 2022

cc: DEQ File

From: Rick Hill, R.G., DEQ Eastern Region, Pendleton

Subject: **Groundwater Review:** A review of groundwater data and water level elevations at Lamb Weston North Farm and Madison Ranch Land Application Sites through August 2021

---

Lamb Weston installed additional monitoring wells in 2017 and 2018 to augment their monitoring well network. The additional monitoring wells provide a much better picture of groundwater movement at both sites. I utilized the new wells to look at groundwater movement and compared that to groundwater concentration to look at groundwater contaminants related to the land application activities at the two land application farms.

The addition of the new wells at the North Farm shows a clear groundwater mound beneath the site. Prior to the addition of data from monitoring wells MW-NF14, MW-NF15, MW-NF16, MW-NF17 and MW-NF18; the well with the highest nitrate concentrations and groundwater elevation was MW-NF12. With MW-NF12 having the highest elevation it appeared that groundwater was flowing to the south at that point. However, with the new wells, MW-NF16 and MW-NF17 are at a higher elevation and the data now show groundwater flowing from the two new wells towards MW-NF12. The highest groundwater elevation observed at the site is at monitoring well MW-NF17. I contoured the August 2021 water level data for all the shallow wells at the site and a digitized version is attached (Figure 1). The contours show an obvious groundwater mound, which means groundwater is flowing away from the high point in all directions. The monitoring wells around the perimeter of the site have increasing nitrate trends, except for MW-NF11. The perimeter monitoring wells have recent nitrate concentrations ranging from 36.0 mg/l at MW-NF18 to 78.5 mg/l at MW-NF12. All the perimeter wells indicate excessive groundwater contamination is migrating off the site in all directions (Figure 2). The only perimeter well with a decreasing trend is MW-NF11. The trends are apparent in Figure 3, which illustrates the lowest trend lines for the perimeter wells. Water level contours on Figure 1 show groundwater is migrating off site in all directions. This indicates that the source of nitrate at all perimeter wells is coming from the site. Since nearly all the site perimeter wells are increasing this further suggests ongoing practices at the site are contributing to the nitrate migrating off the site at the North Farm. The nitrate concentrations in groundwater migrating off the site range between 36 and 79

mg/l. These levels are more than three to seven times higher than MCL of 10 mg/l. This indicates the land application practices are severely impacting groundwater beneath the land application sites at the North Farm.

The additional monitoring wells at the Lamb Weston Madison Ranch site also helped refine the direction of groundwater flow. I contoured the August groundwater data using water level information from all Madison Ranch wells and augmented that August water levels from nearby Simplot wells MW-36, MW-42, MW-43, MW-44, and MW-60 (Figure 4). In general, groundwater flow at the Madison Ranch site is flowing north-northeast down the Butter Creek flood plain and in the upland areas the flow appears to follow topography in a radial pattern with flow to the northeast into the Butter Creek flood plain along the eastern side of the upland, more north in the central portion of the upland and northwest along the western side of the farm (Figure 4). Based on these flow directions there are at least seven downgradient wells along the northern and northeastern boundary of the Madison Ranch application site. Downgradient monitoring wells along these boundaries include monitoring wells MW-MR3, MW-MR4A, MW-MR5, MW-MR6, MW-MR9, MW-MR18, MW-MR-19, and MW-MR20. In the last couple of years, five of these eight well have exceeded the maximum contaminant level (MCL) of 10 mg/l for nitrate. Monitoring well MW-MR6 is along the southeastern edge of the site about 1.5 miles north-northwest of the upgradient monitoring well MW-MR17/12. While this well has not been designated a downgradient compliance well in the past, the water level contours indicate groundwater is leaving the site at that location. Monitoring well MR6 has the second highest concentrations on the site with the most recent nitrate concentration of 26.7 mg/l.

The closer you are to Butter Creek, the faster moving and likely greater volume of groundwater will be flushing through the system. The further you move away from Butter Creek and into the uplands, the deeper it is to groundwater and likely slower it is traveling. It is unlikely that groundwater will migrate out of the flood plain and into the uplands. It is more likely that groundwater migrates out of the uplands and into the Butter Creek flood plain and other drainages to the north and west of the uplands. Therefore, there is likely a different background concentration along Butter Creek than there is in the upland areas.

There is only one monitoring well that fits the definition of a background well at the site. To be considered a background the well, it must be hydraulically upgradient and unaffected by the site practices. The only monitoring well that fits both criteria is MW-MR17. This well is in the Butter Creek flood plain and is likely a good background well for the flood plain. Monitoring well MW-MR17 was installed as a replacement for MW-MR12 after it was damaged. Monitoring wells MW-MR2 and MW-MR8 are in the uplands and are generally upgradient of the uplands at MW-MR2 and upland into Butter Creek at MW-MR8. Both of these wells have the potential to be impacted by site practices, but MW-MR2 does not appear to show any impacts and MW-MR8 may have minor impacts. Monitoring well MW-MR8 is near the bottom of a drainage in the upland



that likely flows into the flood plain area along Butter Creek. Concentrations at monitoring well MW-MR8 are somewhat similar to those at MW-MR17/12, but do not have as much scatter. Monitoring well MW-MR2 is in the upland area near the western side of the site. Groundwater flow in this area is likely draining to the north and this appears to be a reasonable upgradient well for wells on the northwest side of the site.

The water quality at MW-MR2 has very little nitrate present throughout the years and can likely be used as a surrogate background well. Monitoring well MW-MR2 is likely representative of background water quality for the western portion of the uplands. Three monitoring wells that are generally downgradient of MW-MR2 include MW-MR3, MW-MR7, and MW-MR9. All three of these wells have nitrate concentrations that climbed to levels that are significantly higher than MW-MR2 and have significant increasing trends. Monitoring well MW-MR7 is an interior well in the uplands that started with concentrations similar to those seen in MW-MR2 but has shown a dramatic and steady increase since land application began in the uplands. Monitoring well MW-MR3 is in a drainage a little farther to the west and nitrate concentrations started a little higher than those from MW-MR2, but there is a clear and significant upward trend. Monitoring well MW-MR3 has shown a steady increase and in recent years has exceeded the MCL for nitrate. Lamb Weston recently transferred the circles closest to MW-MR3 to the Port of Morrow, but the upward trends and exceedance of the nitrate MCL occurred while this area was still in Lamb Weston's monitoring program. Monitoring well MW-MR9 also shows an overall increasing trend and like MW-MR7 started out with concentrations similar to those seen at MW-MR2 (Figure 5).

Monitoring well MR8 is in a drainage on the south eastern side of the uplands. Based on its location down near the bottom of a drainage that feeds into Butter Creek, it should likely be representative of some of the upper part of the Butter Creek flood plain groundwater. Nitrate concentrations in samples from MR8 have been steadily increasing at approximately 0.16 mg/l since 1996. The nitrate trend at MW-MR8 is similar to MW-MR17, with a little less variation. The current concentrations at MR8 are approximately 7 mg/l.

Monitoring wells that are downgradient of MW-MR17/12 and MW-MR8 include monitoring wells along the north and east sides of the site such as MW-MR4A, MW-MR5, MW-MR6, MW-MR18, MW-MR19, and MW-MR20 (Figure 6). Four of these six wells (MW-MR5, MW-MR6, MW-MR18 and MW-MR19) have exceeded the MCL of 10 mg/l for nitrate at least once in the last 2 years. The other two downgradient wells MW-MR4A and MW-MR20 have not exceeded the nitrate-nitrogen MCL of 10 mg/l. Monitoring wells MW-MR4A and MW-MR20 are close the High Line Canal and Butter Creek, respectively and are likely being diluted from low concentration surface water. These are the only downgradient wells with concentrations less than the upgradient wells. All Madison downgradient wells in the Butter Creek Flood Plain area have increasing nitrate trends, except for monitoring well MW-MR18. Even though MW-MR18 does not have an increasing trend, nitrate concentrations in samples from this well are consistently

above the MCL for nitrate. Monitoring wells MW-MR5, MW-MR6, MW-MR18 and MW-MR19 consistently have higher concentrations than either of the upgradient wells. This indicates practices at the facility are contributing nitrate to the groundwater at the site. Moreover, nitrate contaminated groundwater appears to be leaving the site at MW-MR5, MW-MR6, MW-MR18 and MW-MR19 at levels more than the background or the MCL for nitrate.

The monitoring well with the highest nitrate concentration at the site is interior well MW-MR15. Concentrations at this well have been steadily increasing since it was installed in 2007 and recently exceeded 30 mg/l (Figure 7). This is at least three times any observed background concentrations. The data indicate that practices on the land application site are impacting groundwater at excessive levels.

Both the North Farm and Madison Ranch land application areas show significant nitrate groundwater contamination. This conclusion is based on the water level contour maps, which show groundwater flow, in combination with the water quality data that shows increased nitrate concentrations in downgradient wells. The combination of these data indicate practices at the site are contributing nitrate in groundwater that is leaving the sites above acceptable levels.

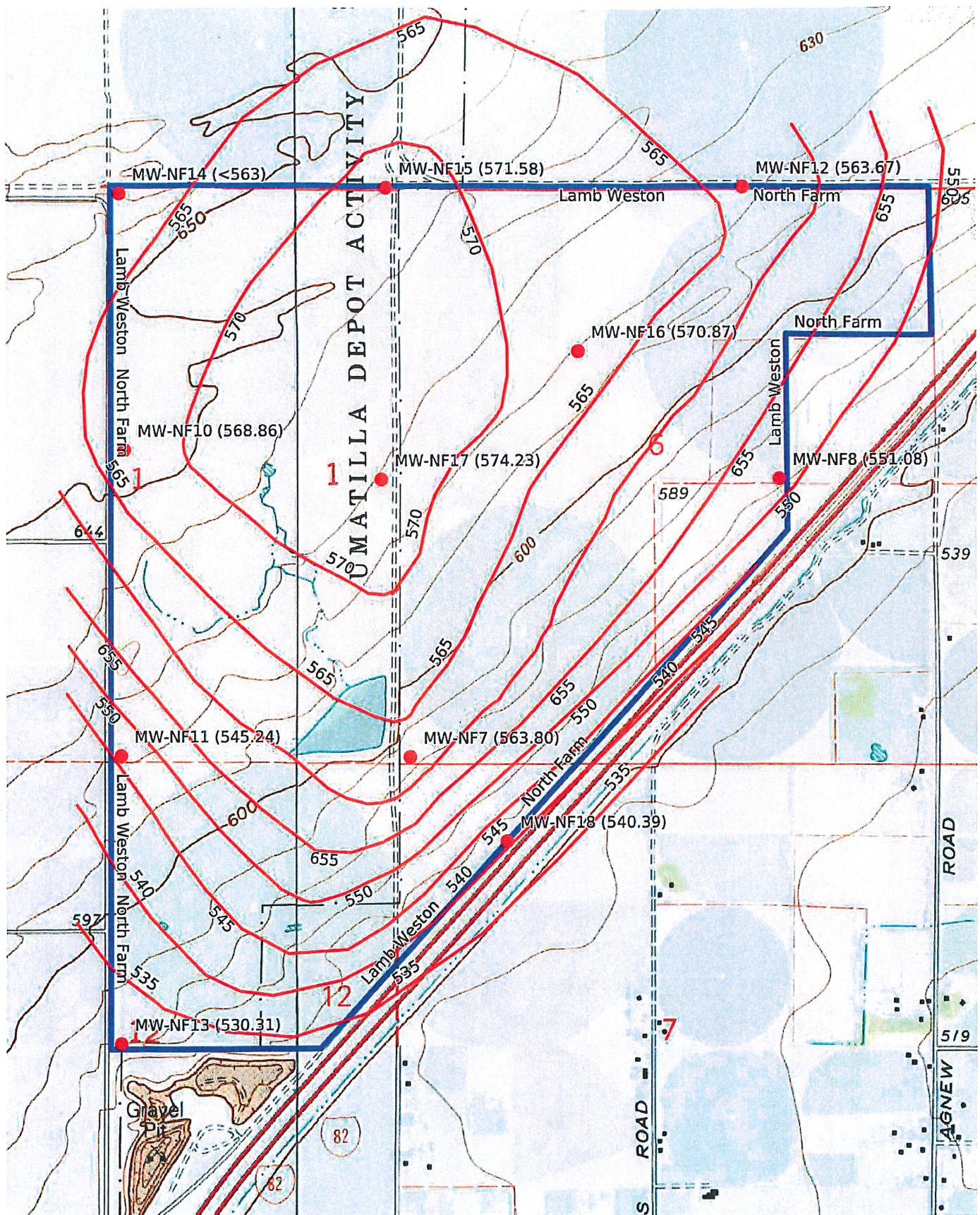
Most of the downgradient monitoring wells are showing significant groundwater impacts and are unable to meet background or MCL concentrations for nitrate at these sites. The sites are, therefore, past being able to establish concentration limits as required by 340-040-0030 (a) or (b). Therefore, in accordance with 340-040-0040 (1), I recommend Lamb Weston enter a Remedial Investigation and Feasibility Study to restore the aquifer to levels of nitrate less than the MCL of 10 mg/l.

Please feel free to email me at [rick.hill@deq.state.or.us](mailto:rick.hill@deq.state.or.us) or call me on my temporary cell phone (971) 263-1120 with any questions about my recommendations.

Attachments:

- Figure 1: LW North Farm Water Level Contours—August 2021
- Figure 2: Lamb Weston North Farm Shallow Downgradient Perimeter Well NO3 LW
- Figure 3: Lamb Weston North Farm Shallow NO3 Lowess Trends
- Figure 4: LW Madison Water Level Contours—August 2021
- Figure 5: Lamb Weston Madison Ranch Western Upland Wells Downgradient of MR2
- Figure 6: Lamb Weston Madison Ranch Downgradient Wells Near Butter Creek
- Figure 7: Lamb Weston Madison Ranch MR15 NO3 Concentrations





LW NF August 2021 WL Elevation      0.5      1.0      1.5 km  
 WGS84  
 UTM Zone 11T  
  
 Scale 1:14672      1 inch = 1223 feet



Figure 1.



Figure 2  
 LambWeston North Farm Shallow  
 Downgradient Perimeter Well NO<sub>3</sub>

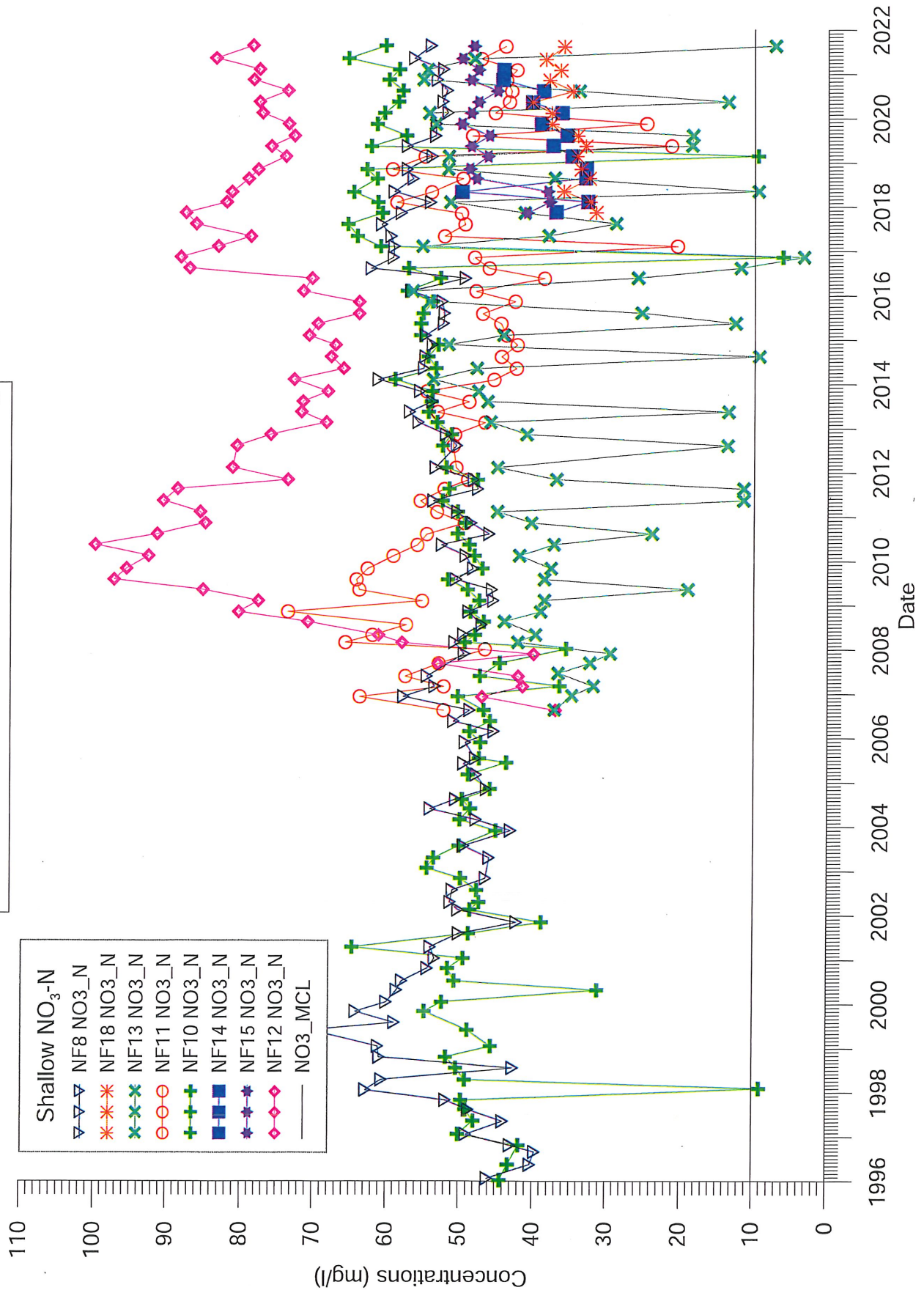
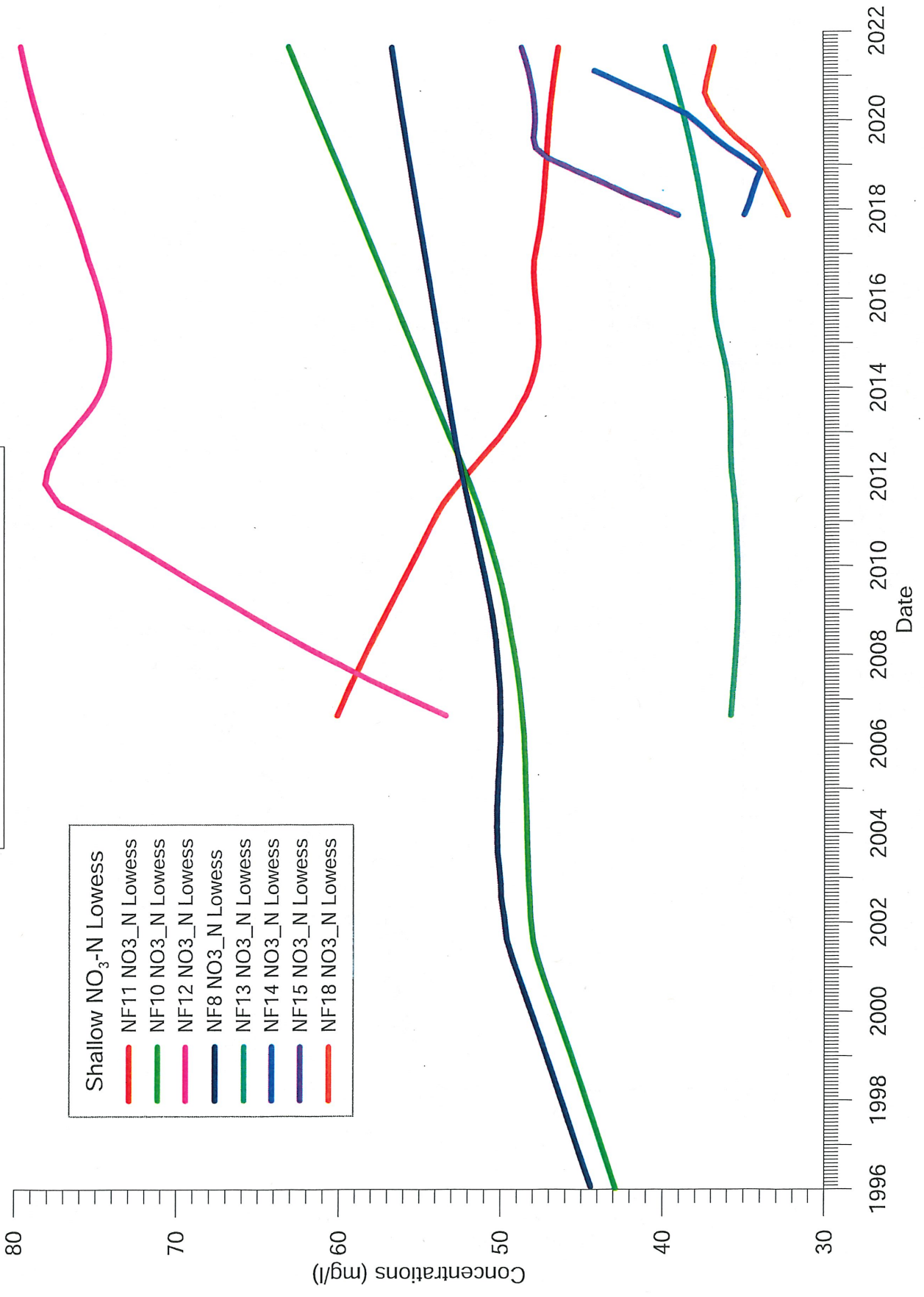
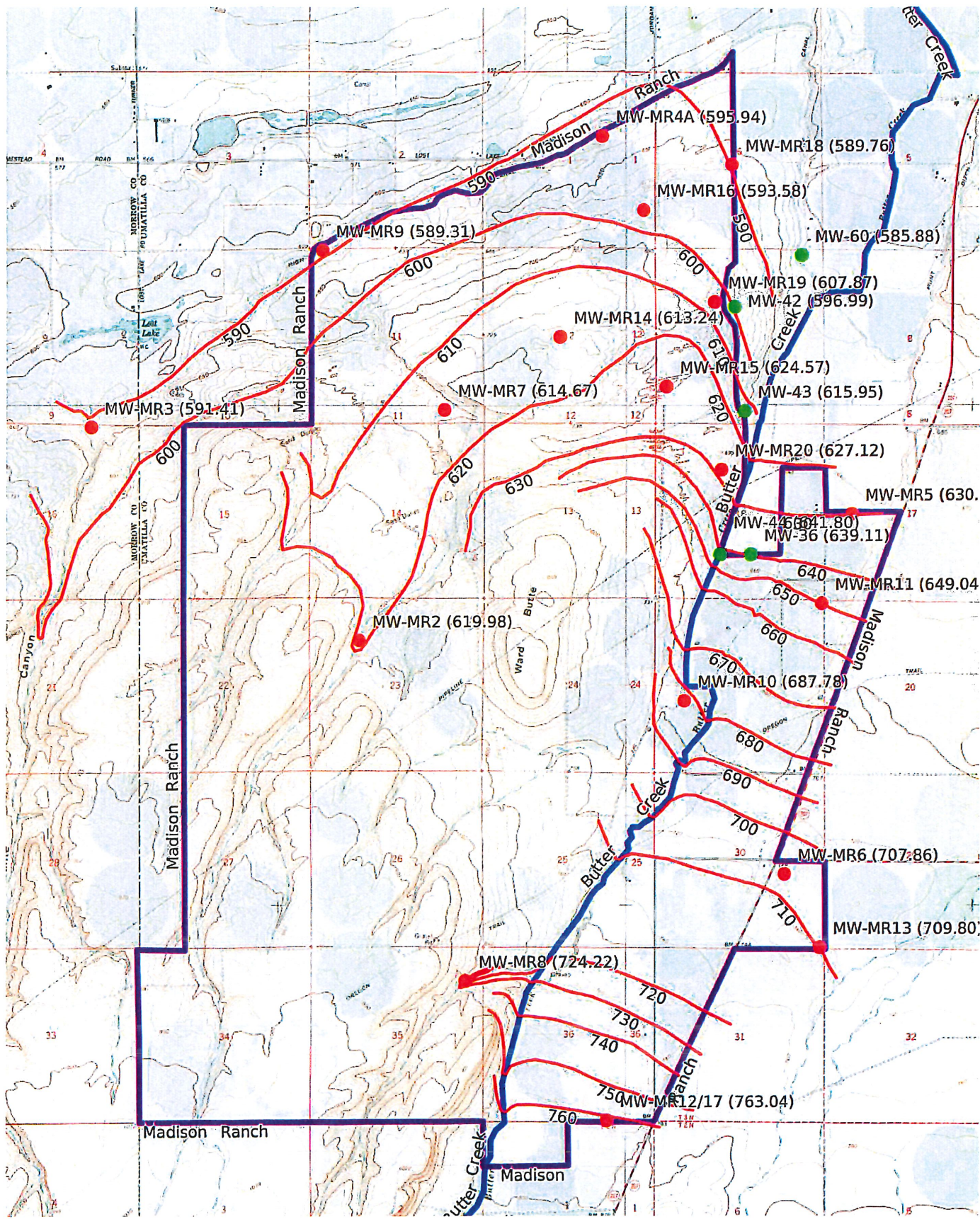


Figure 3  
 LambWeston North Farm  
 Shallow NO<sub>3</sub> Lowess Trends







LWMadison WL Contours Aug 2021 1 2 3 4 5 km

WGS84  
UTM Zone 11T



Scale 1:47689 1 inch = 3974 feet

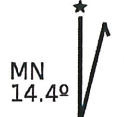


Figure 4.



Figure 5  
 Lamb Weston Madison Ranch  
 Western Upland Wells Downgradient of MR2

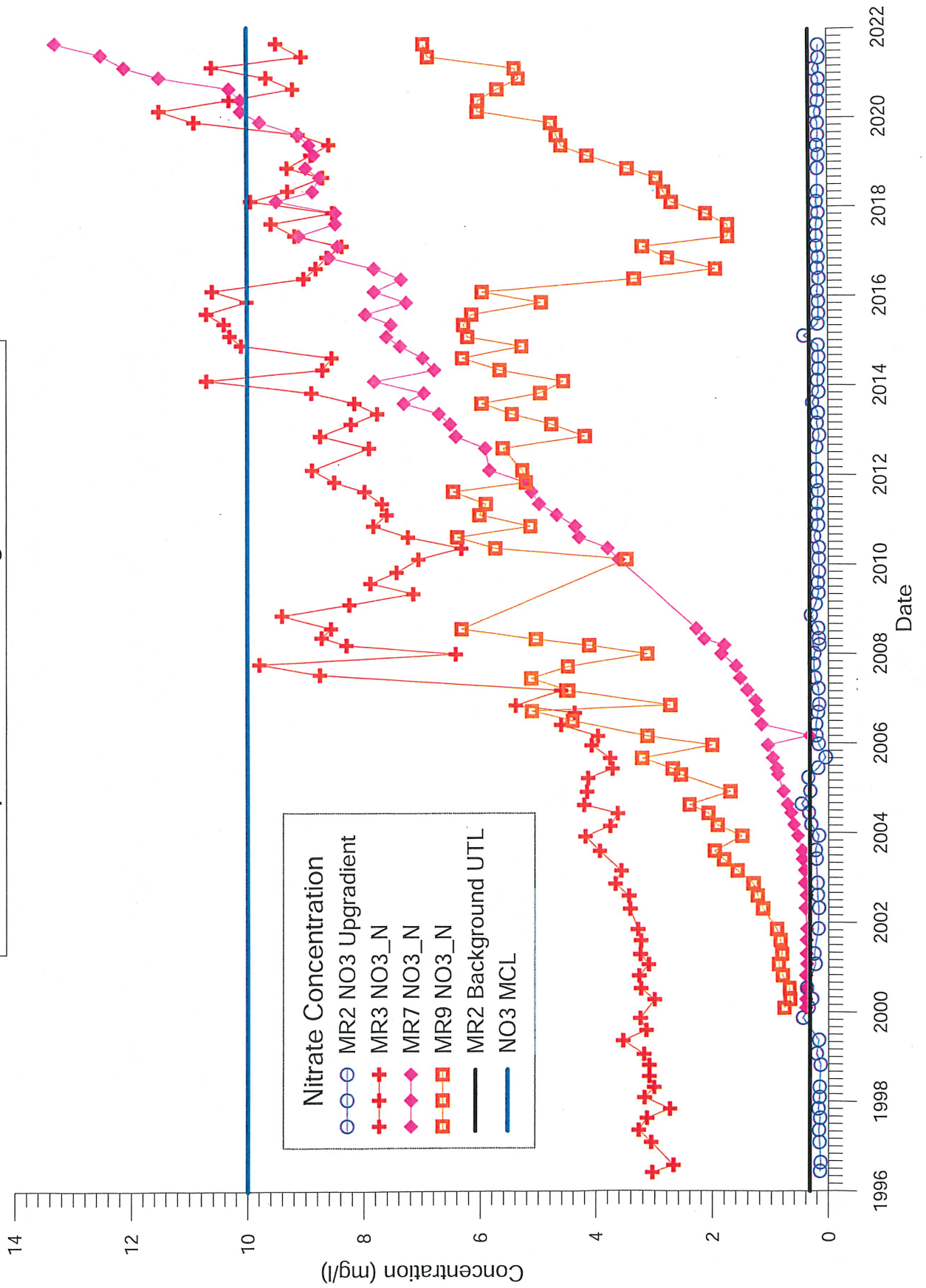


Figure 6  
 Lamb Weston Madison Ranch  
 Downgradient Wells Near Butter Creek

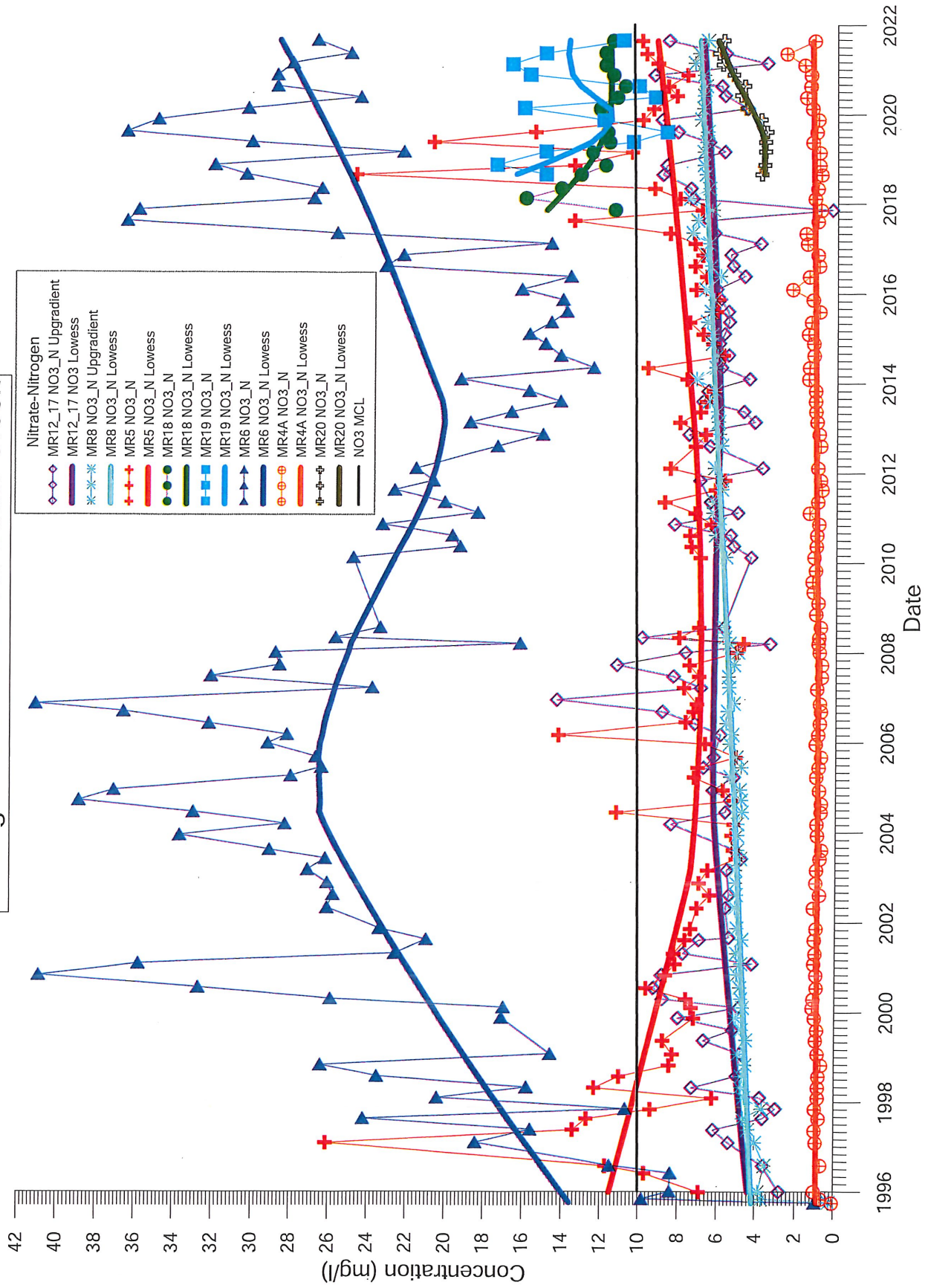


Figure 7  
Lamb Weston Madison Ranch  
MR15 NO<sub>3</sub> Concentrations

