



DEPARTMENT OF
ECOLOGY
State of Washington

Appendices for:

**ConAgra Foods Lamb Weston Inc.
Pasco, Washington**

Hydrogeologic Assessment

July 2015

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Appendices for:
ConAgra Foods Lamb Weston Inc.
Pasco, Washington

Hydrogeologic Assessment

by

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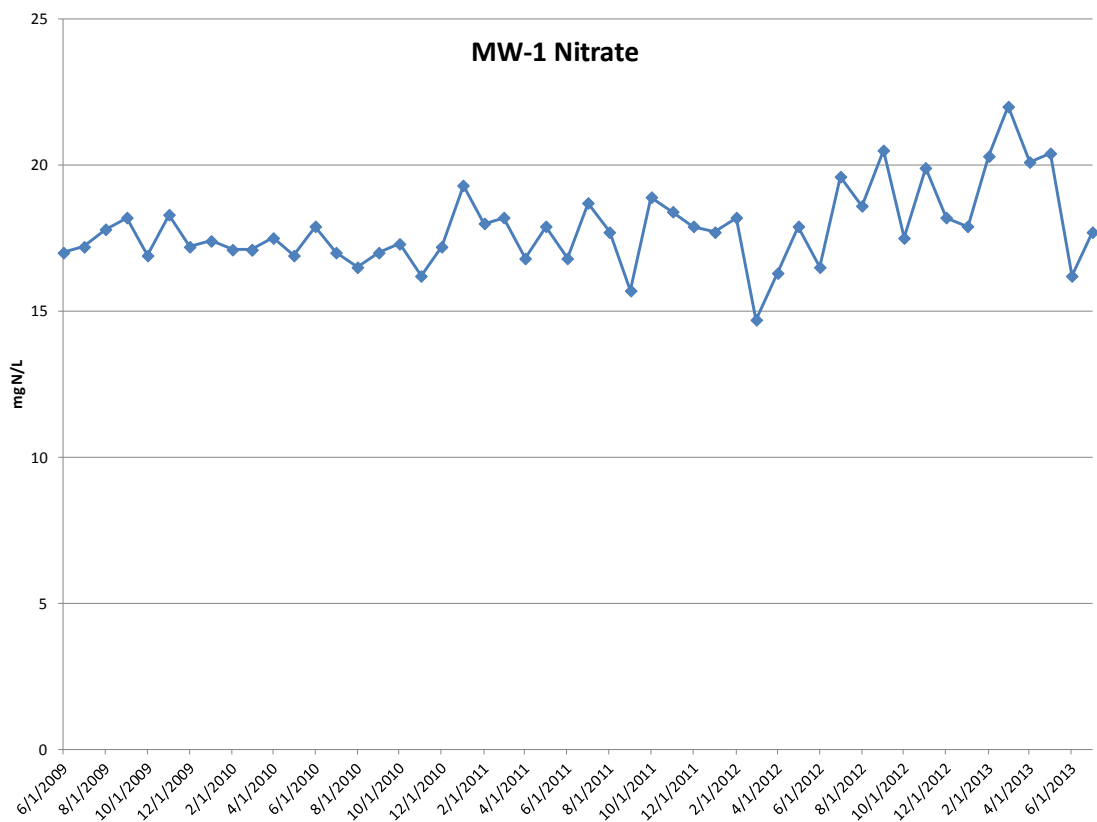
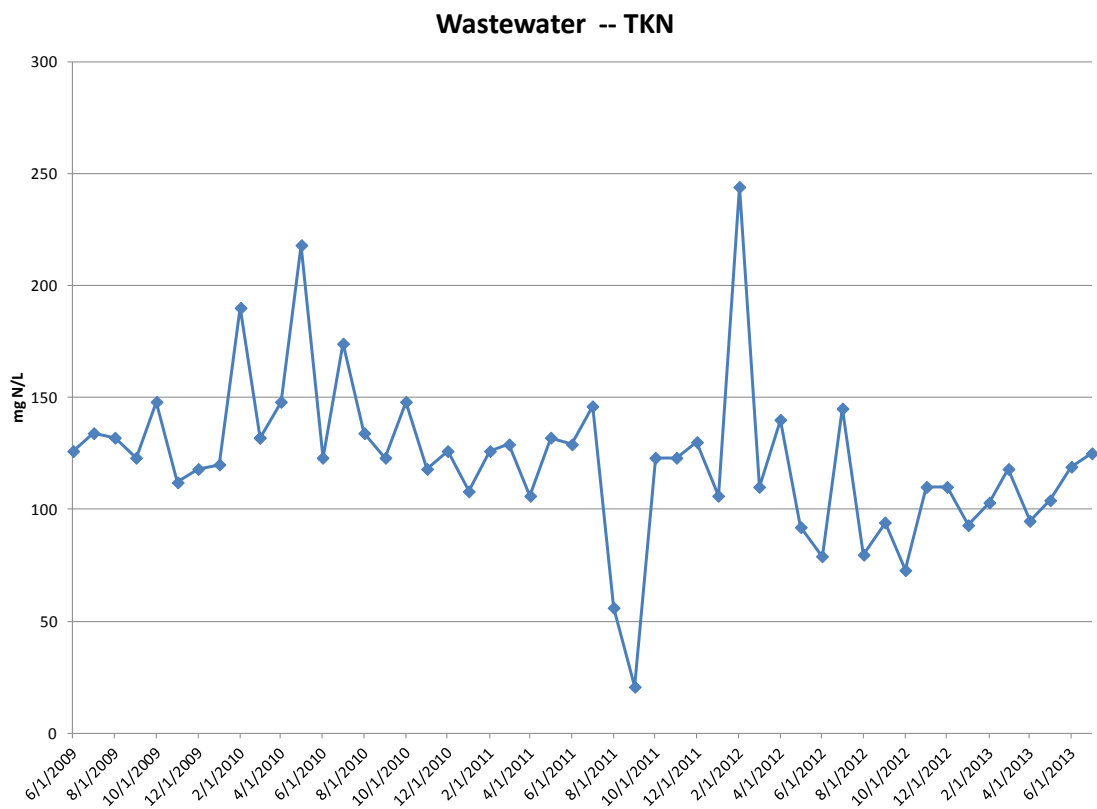
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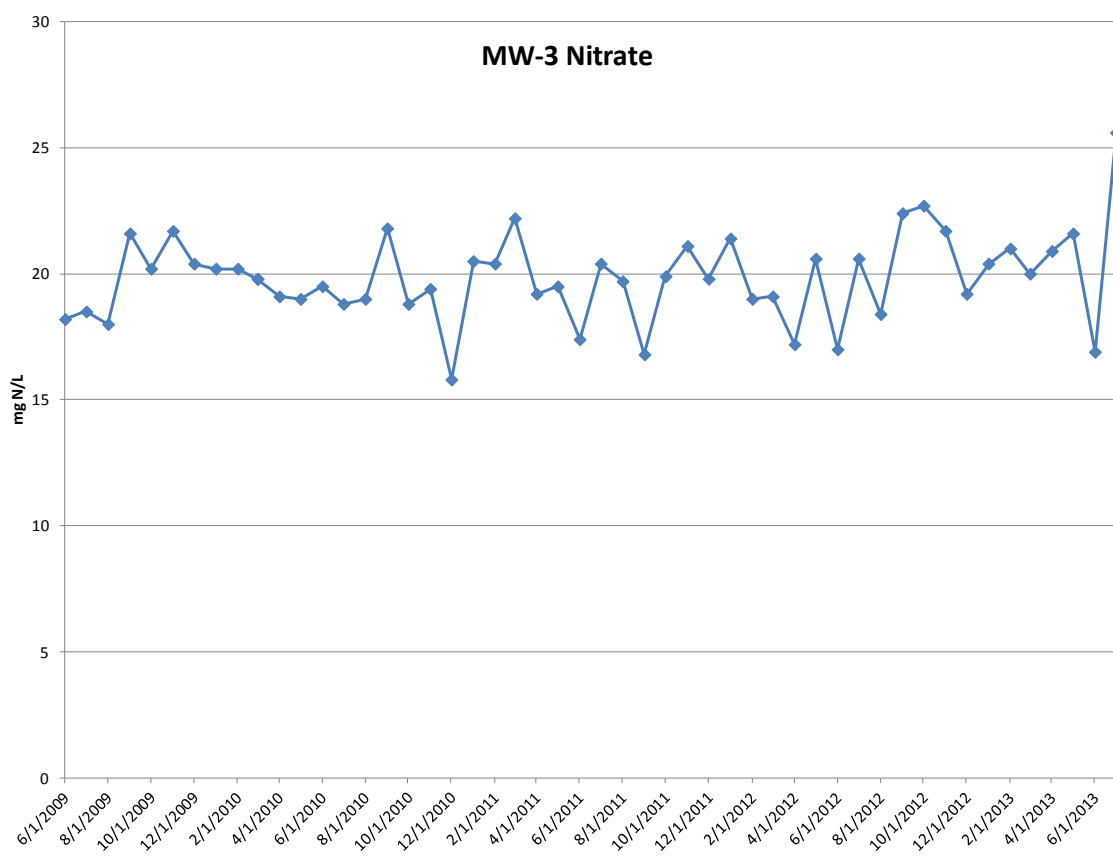
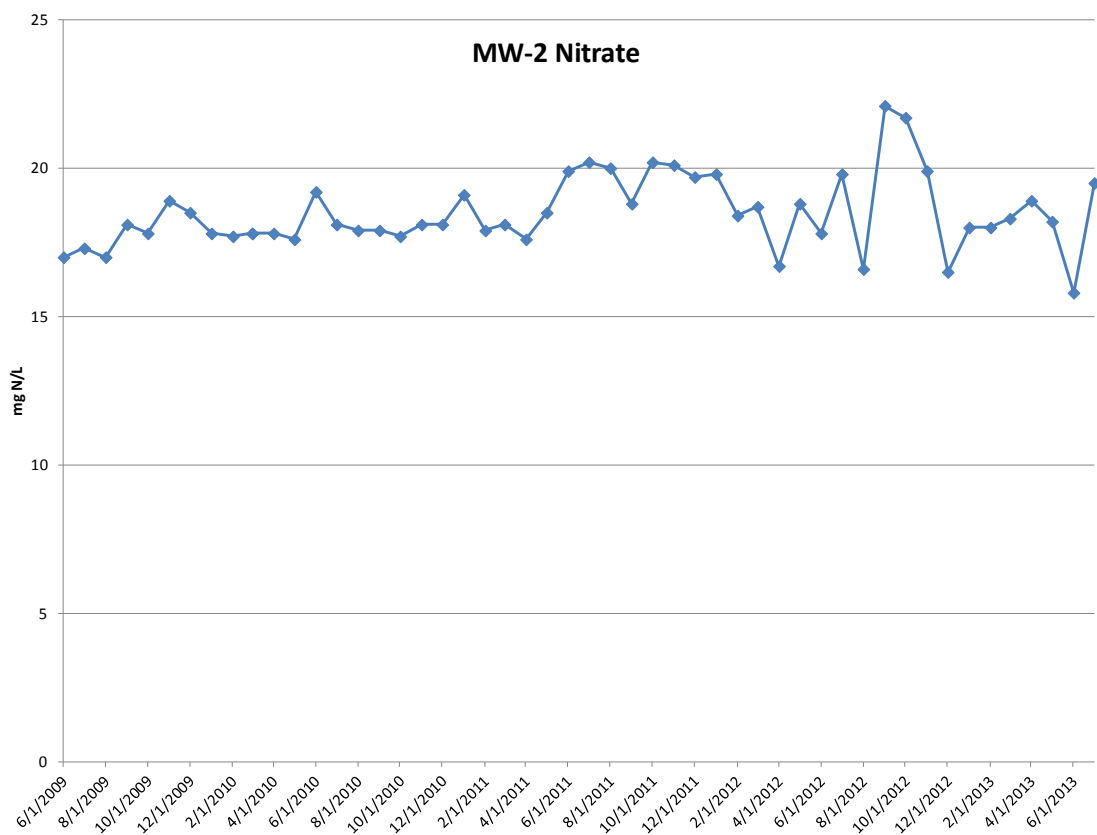
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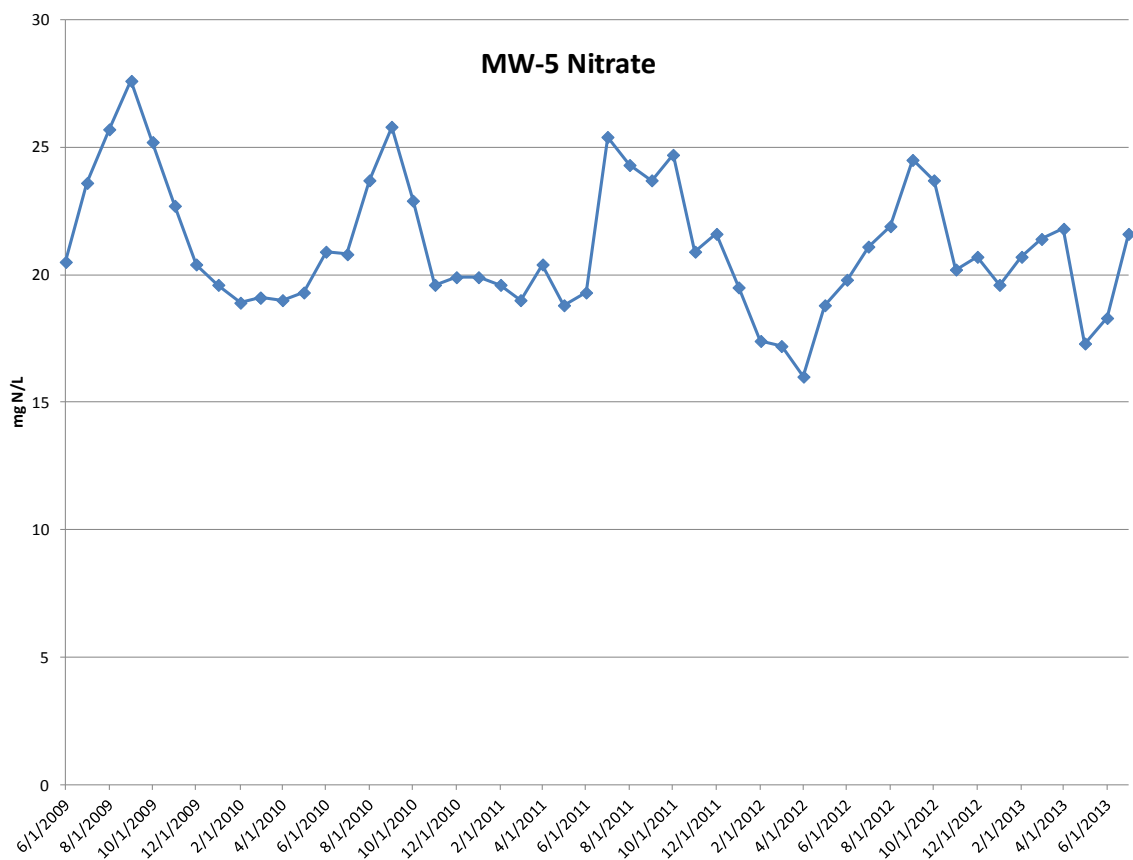
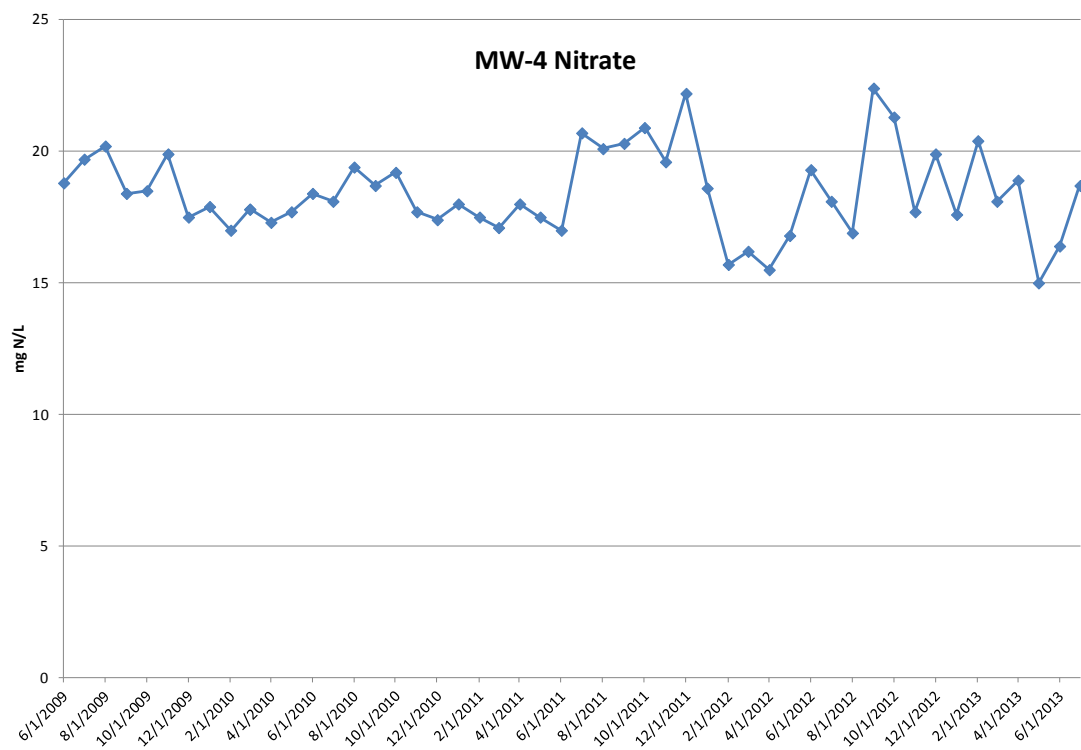
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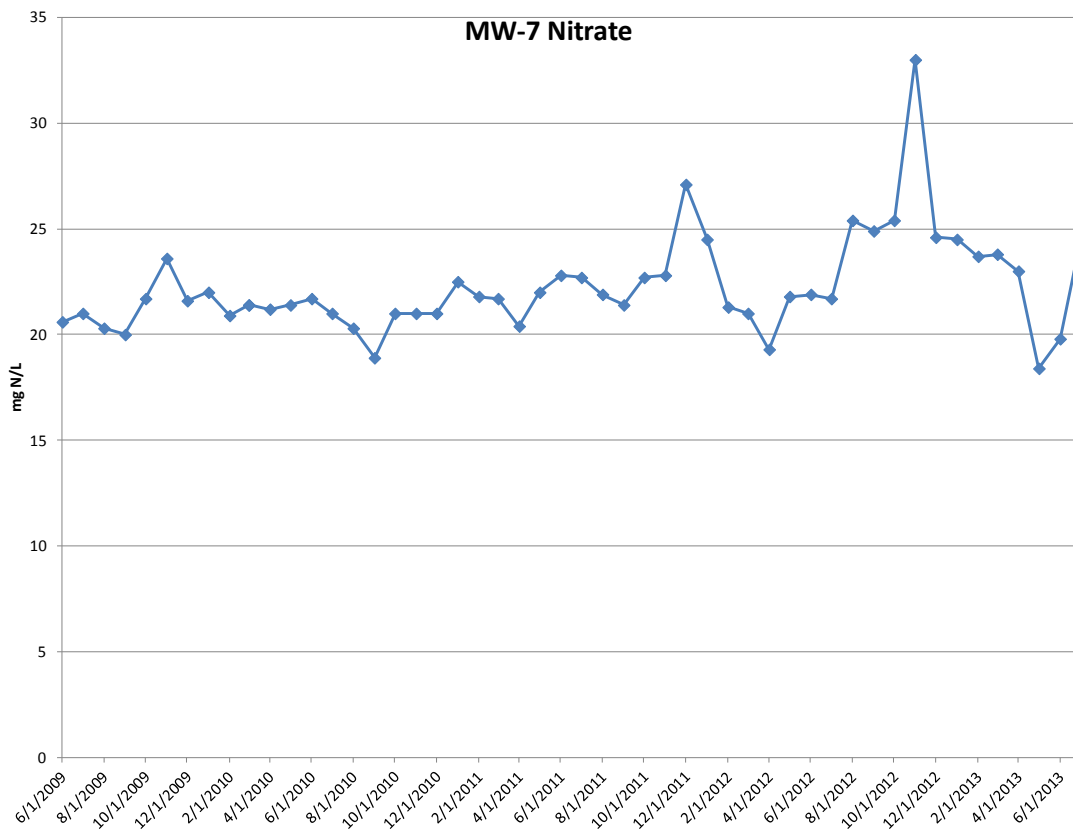
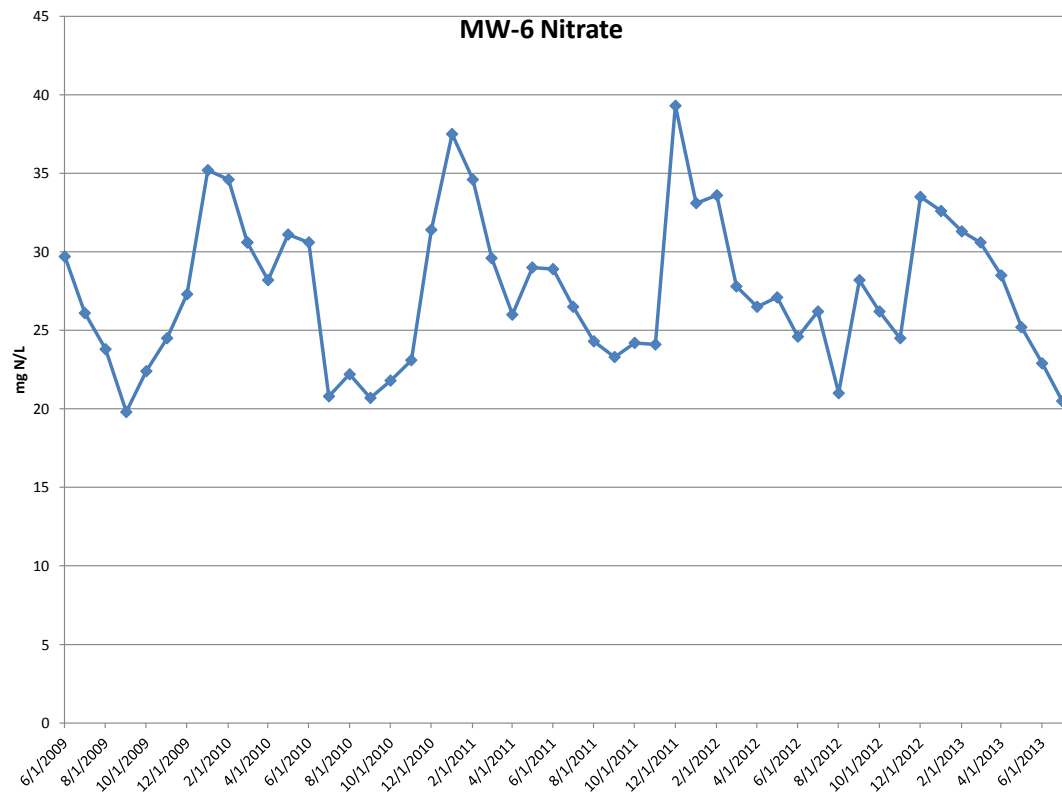
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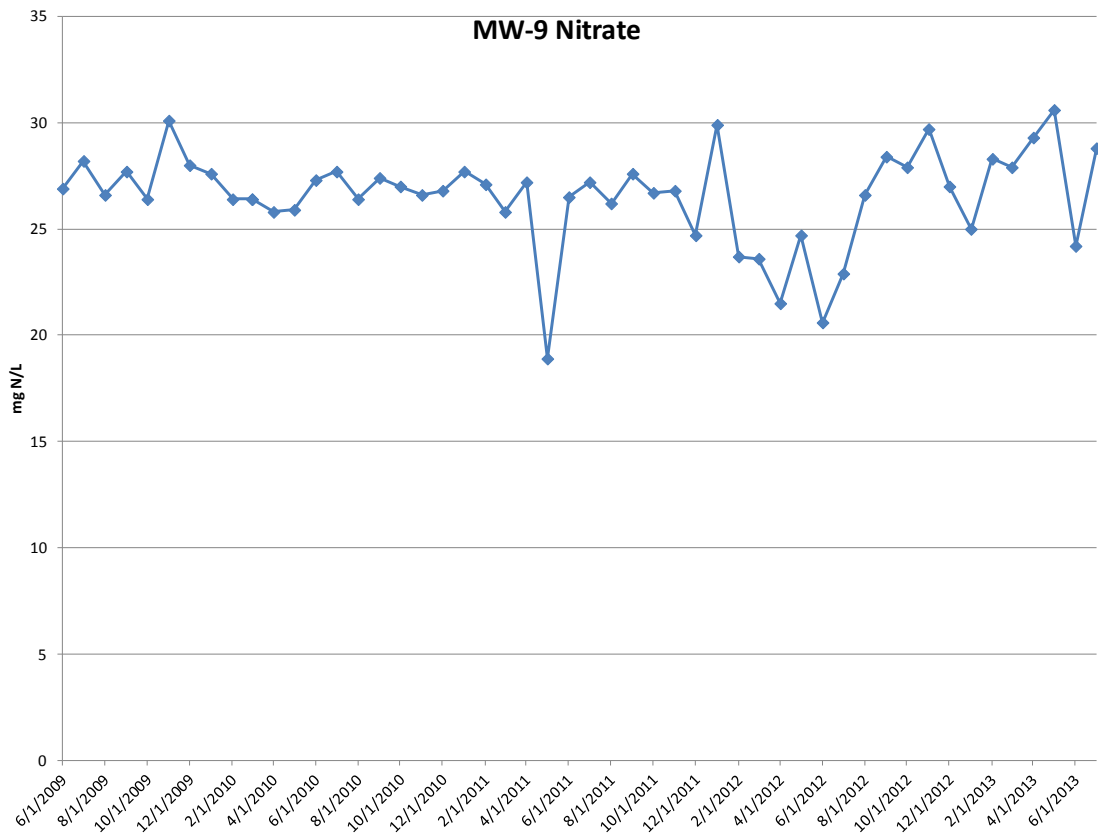
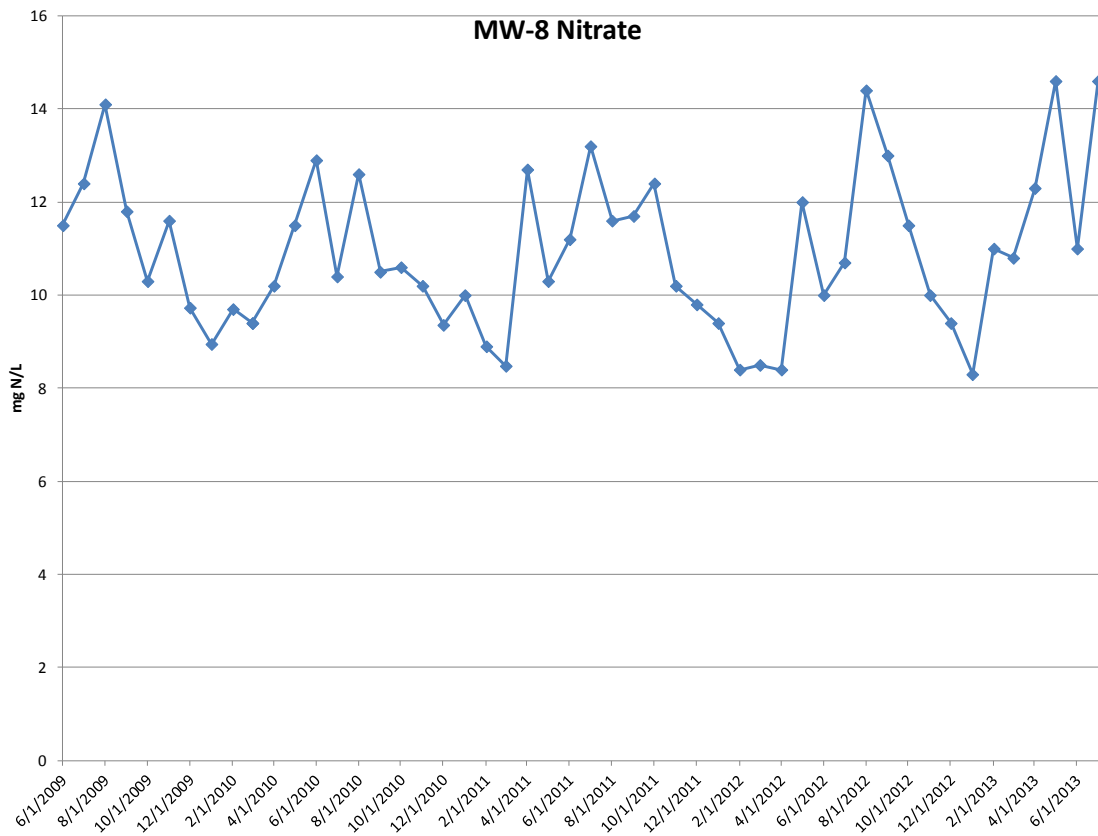
Appendix A. Nitrate Concentration Time Series Graphs

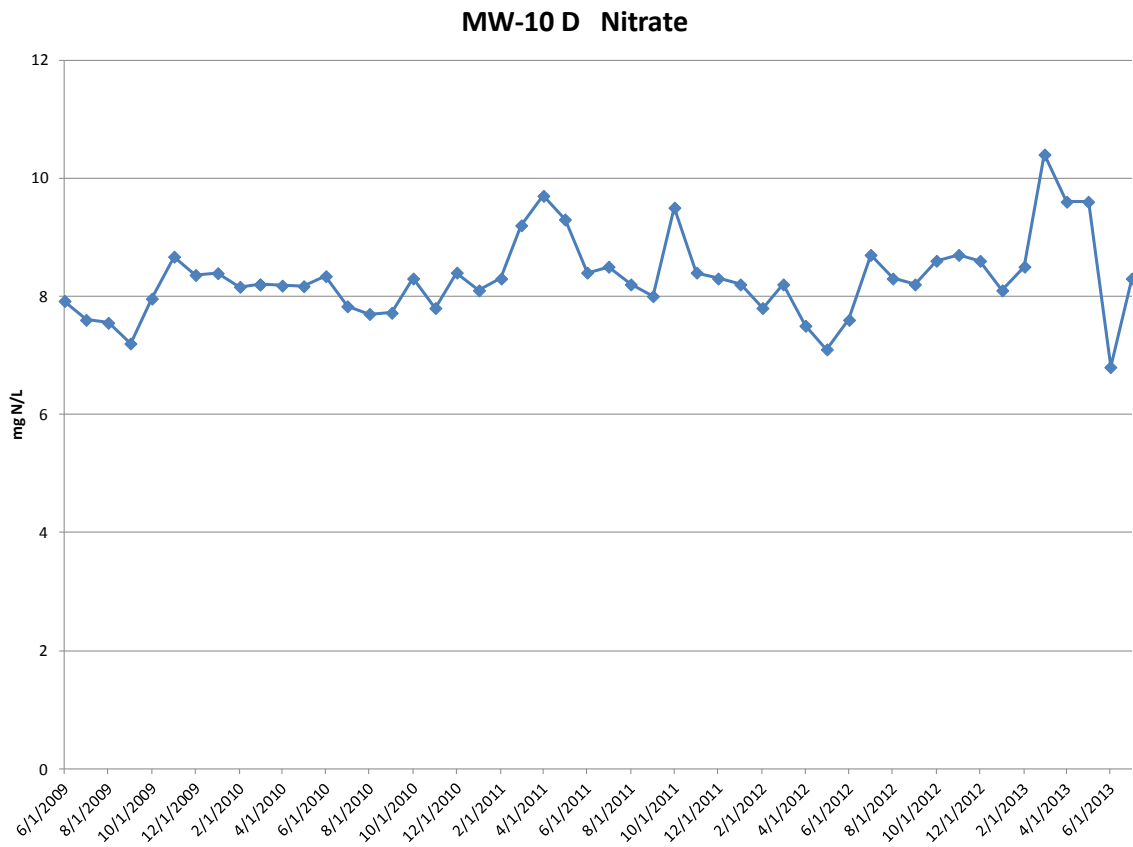
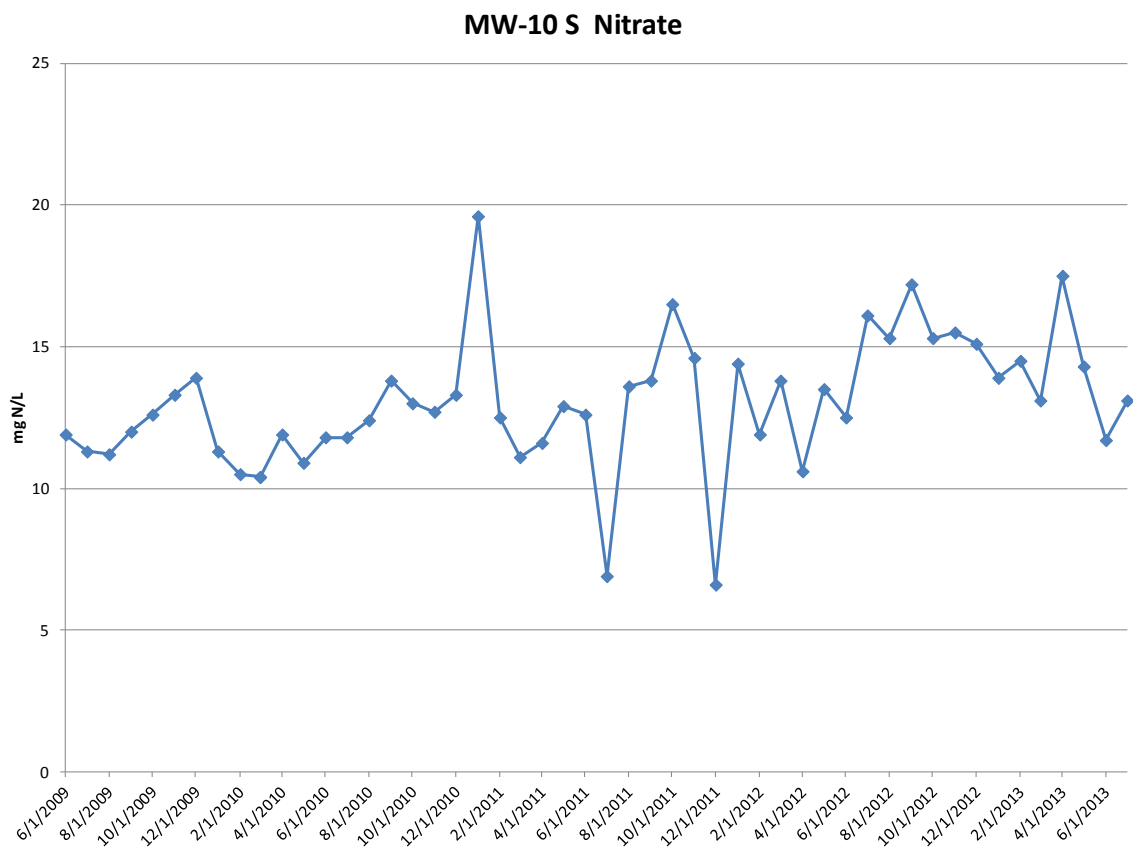


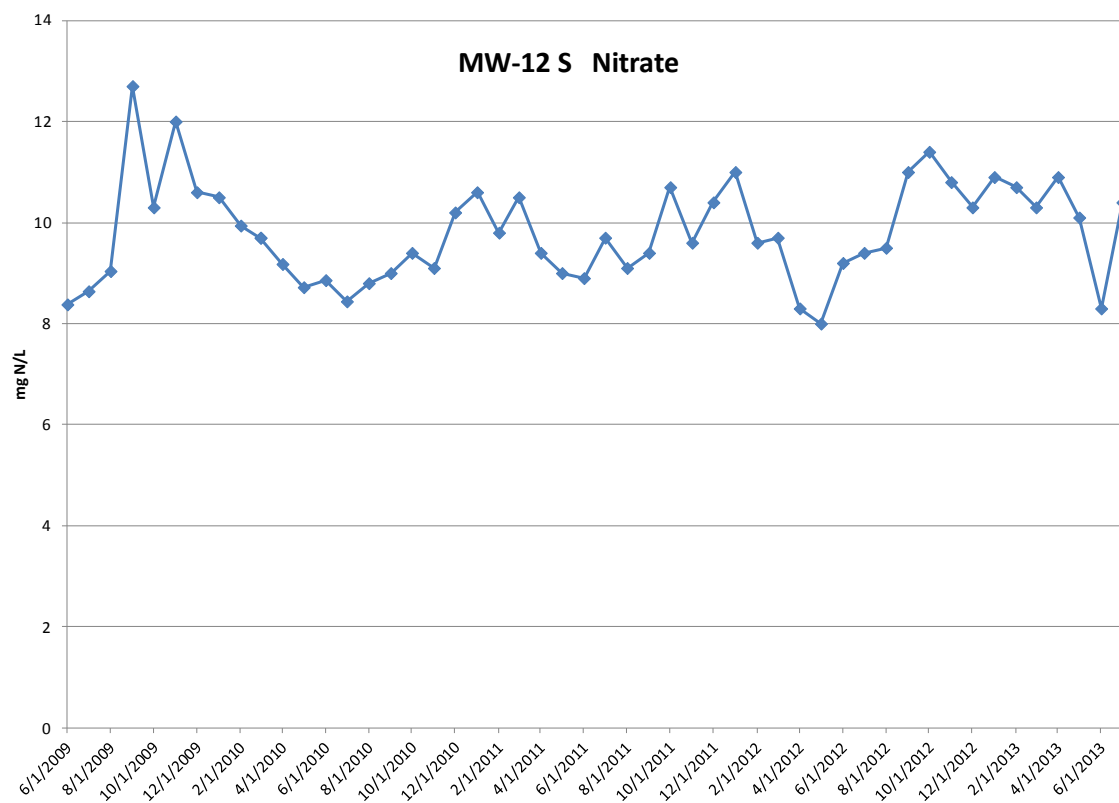
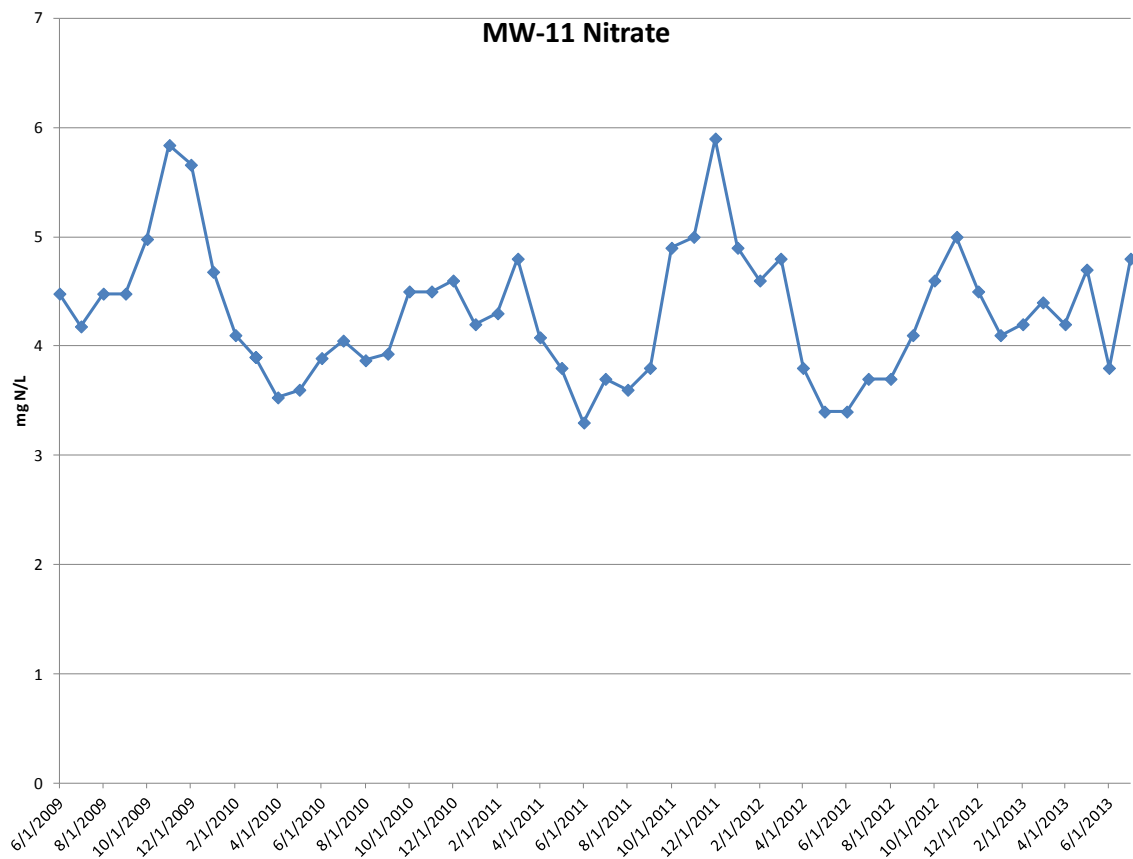


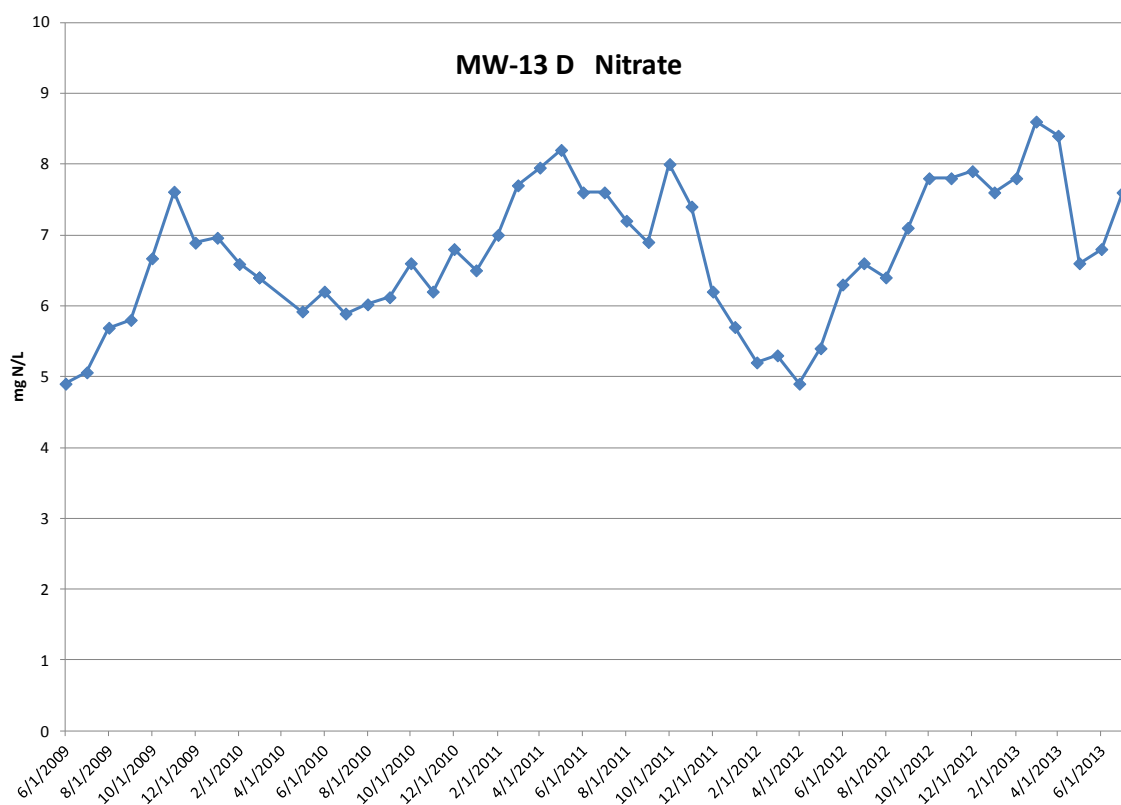
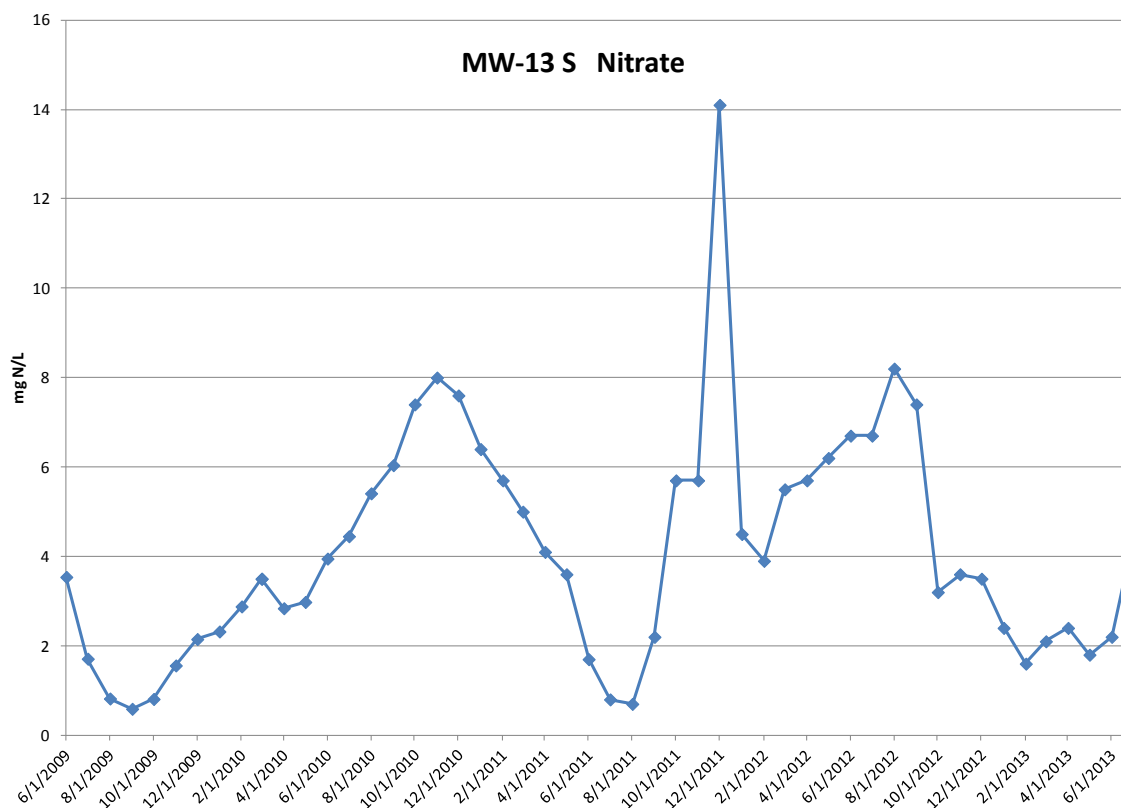


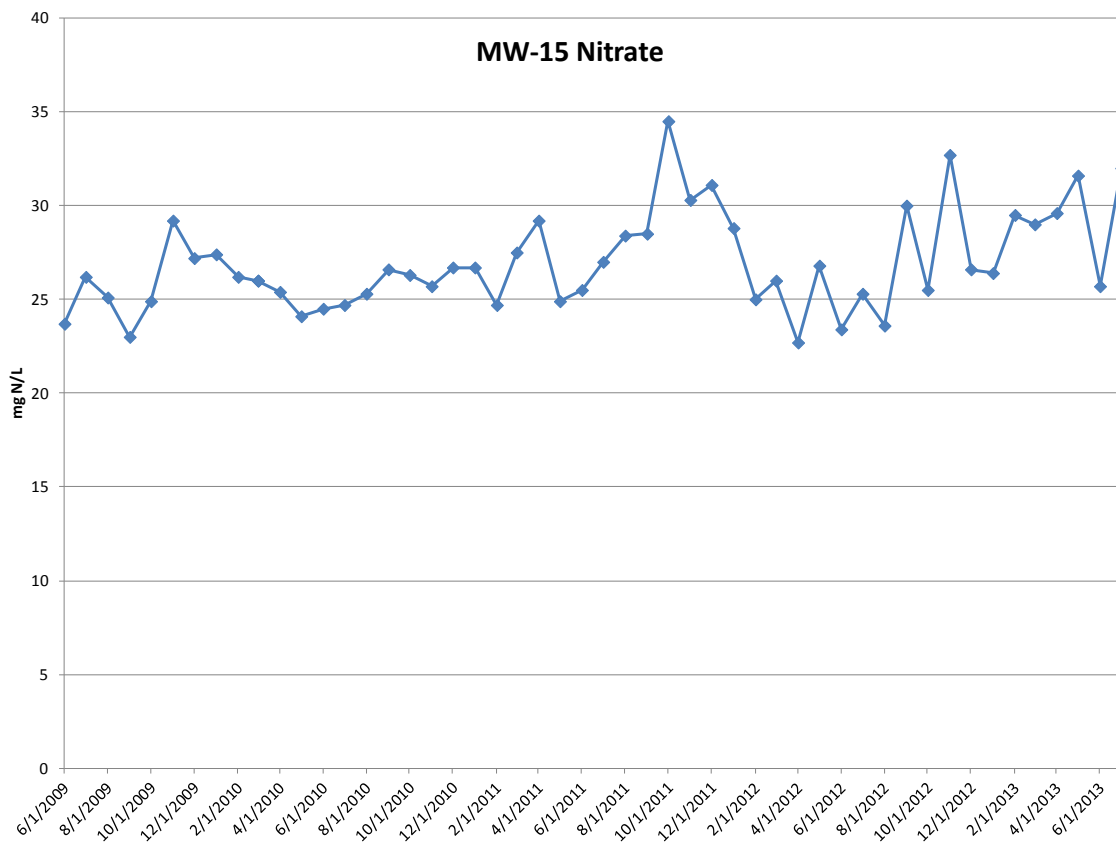
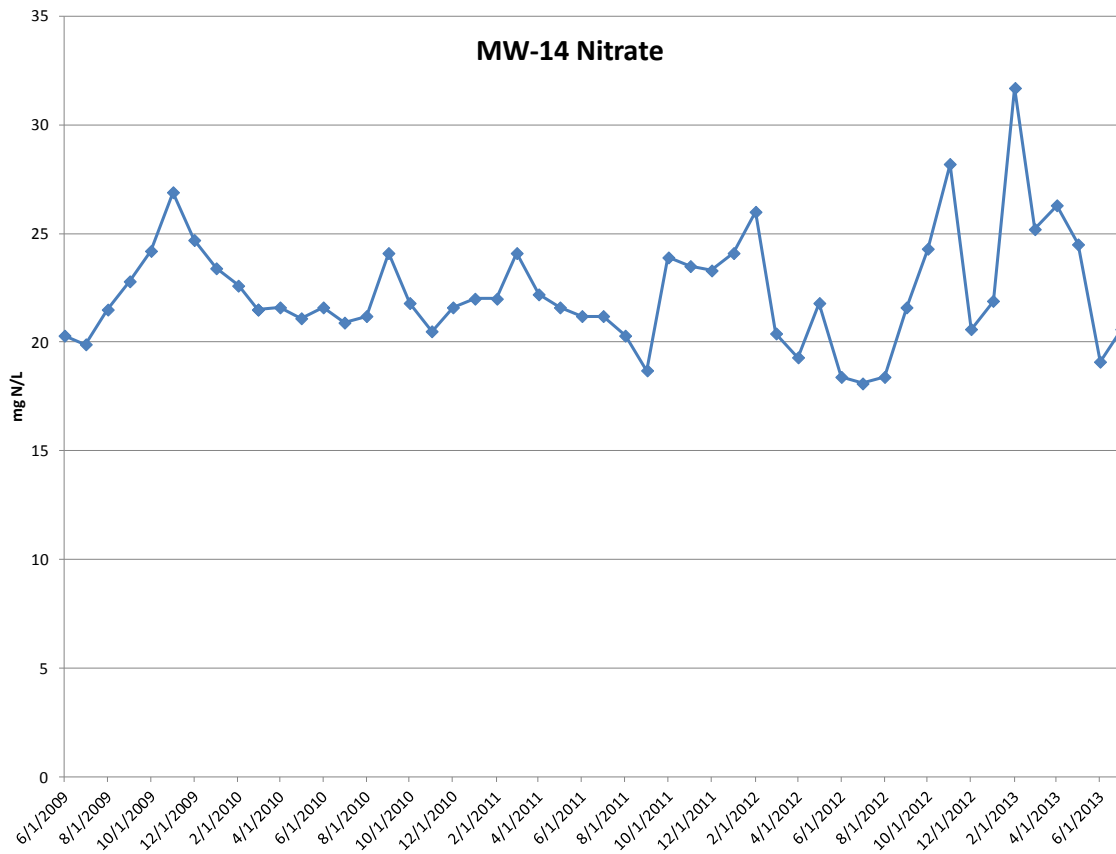


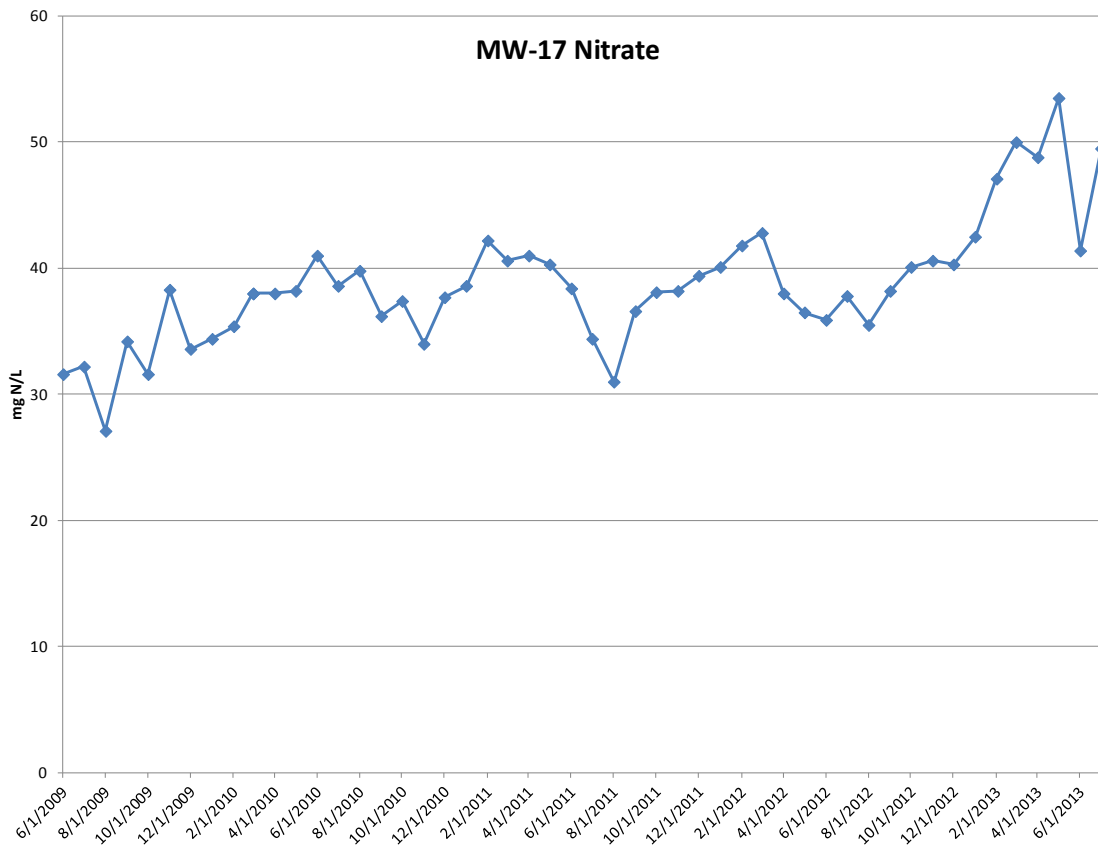
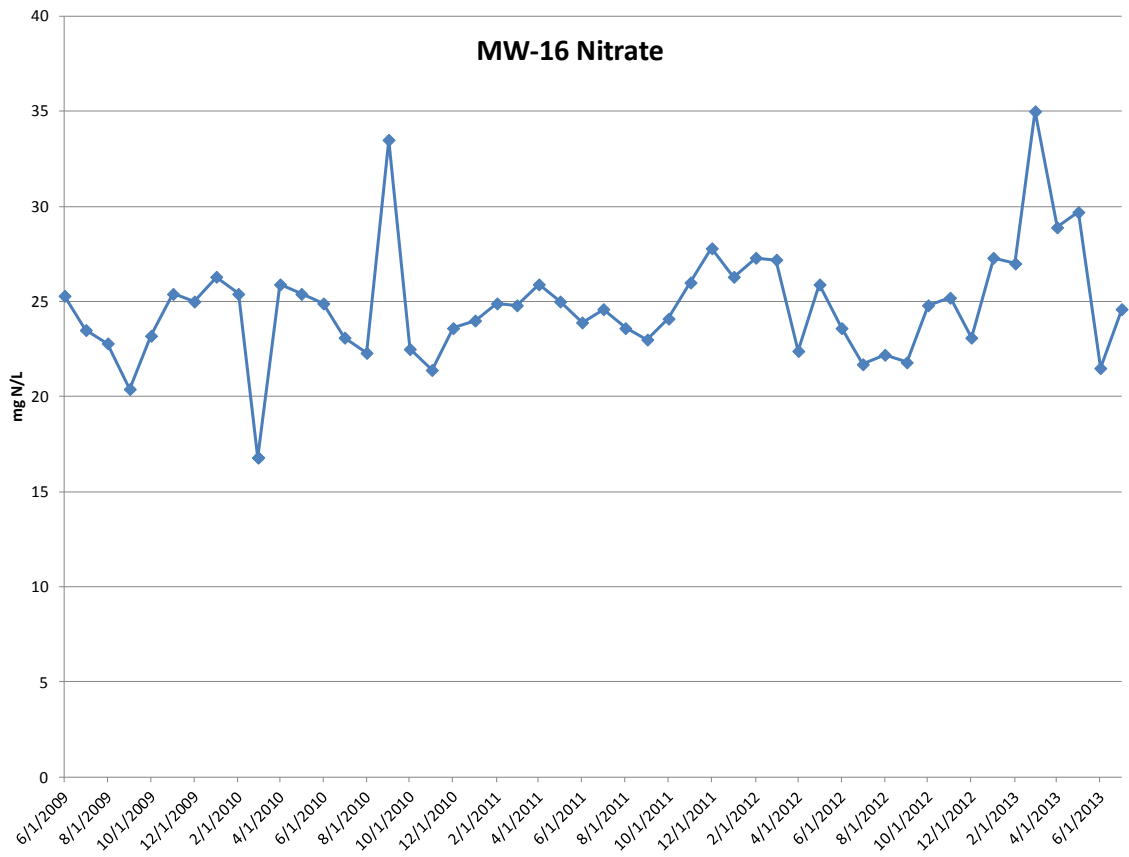


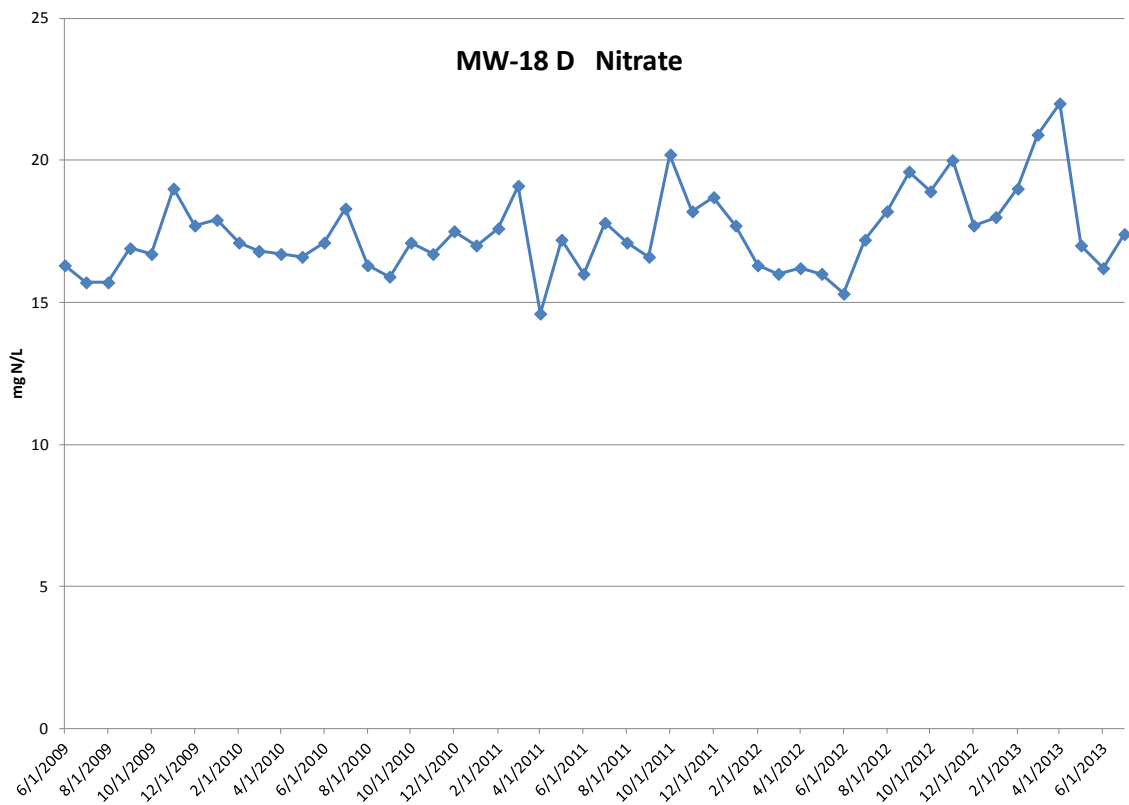
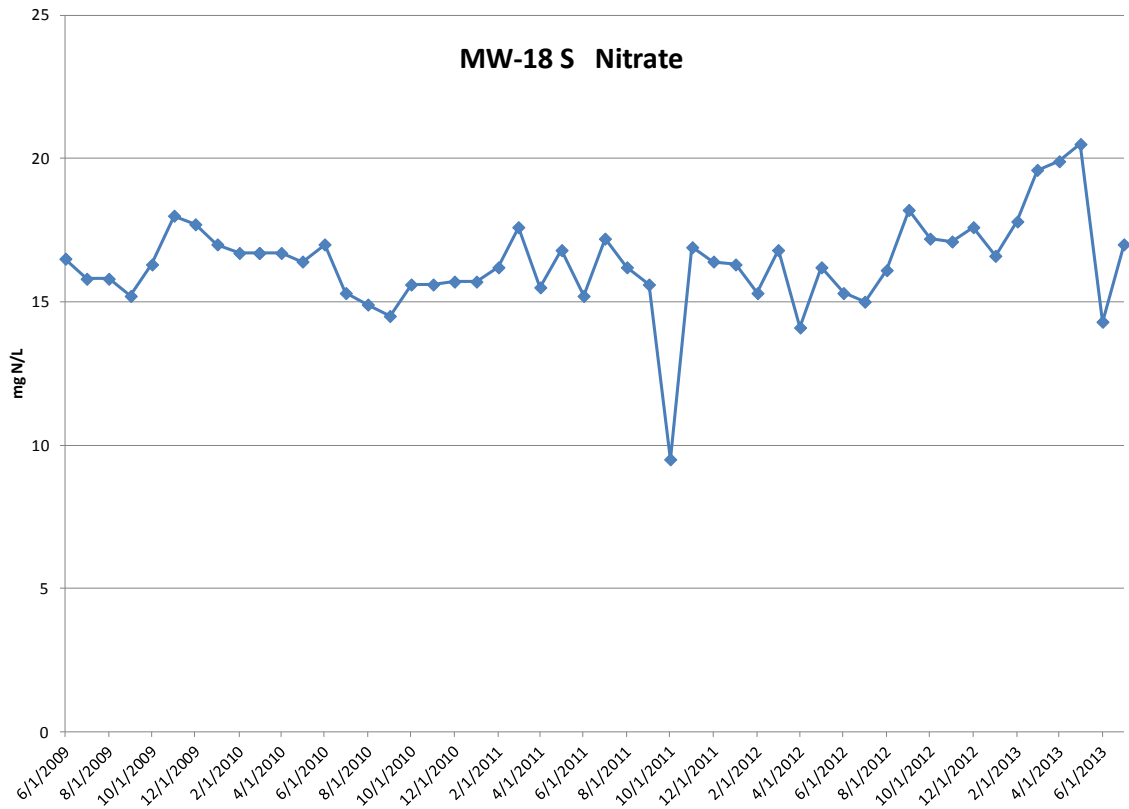


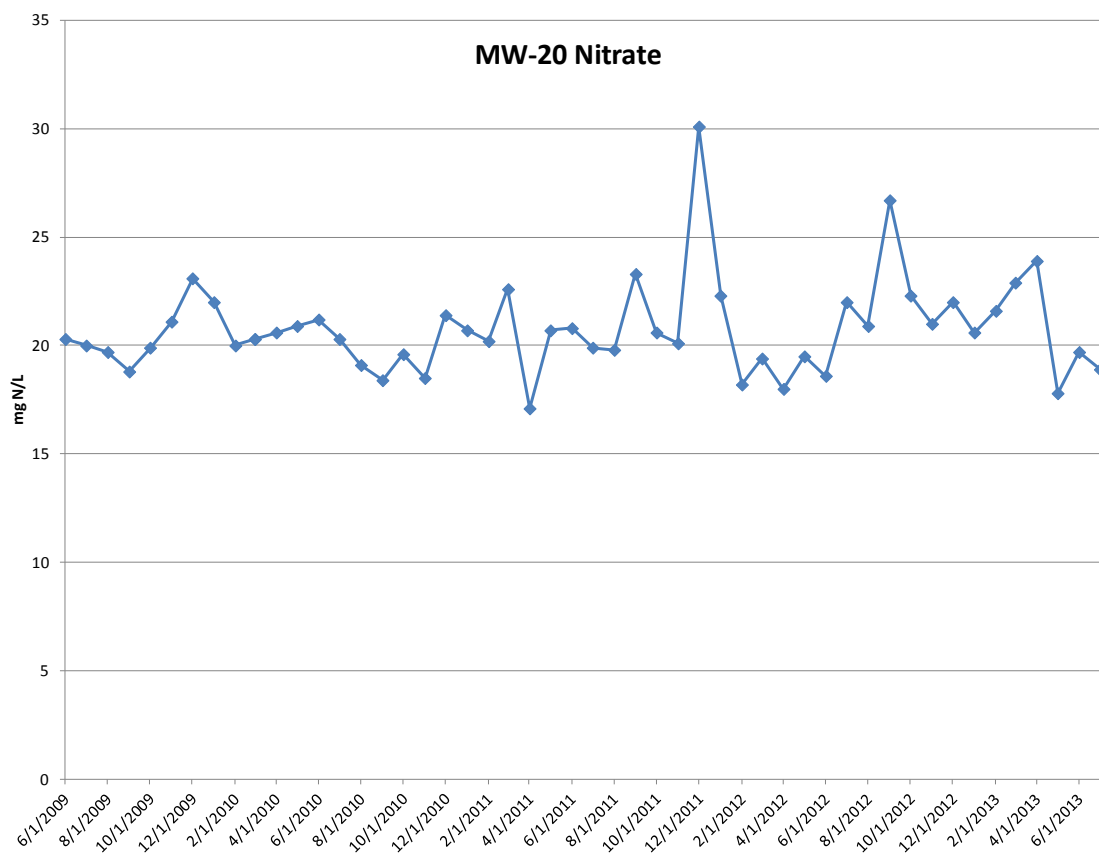
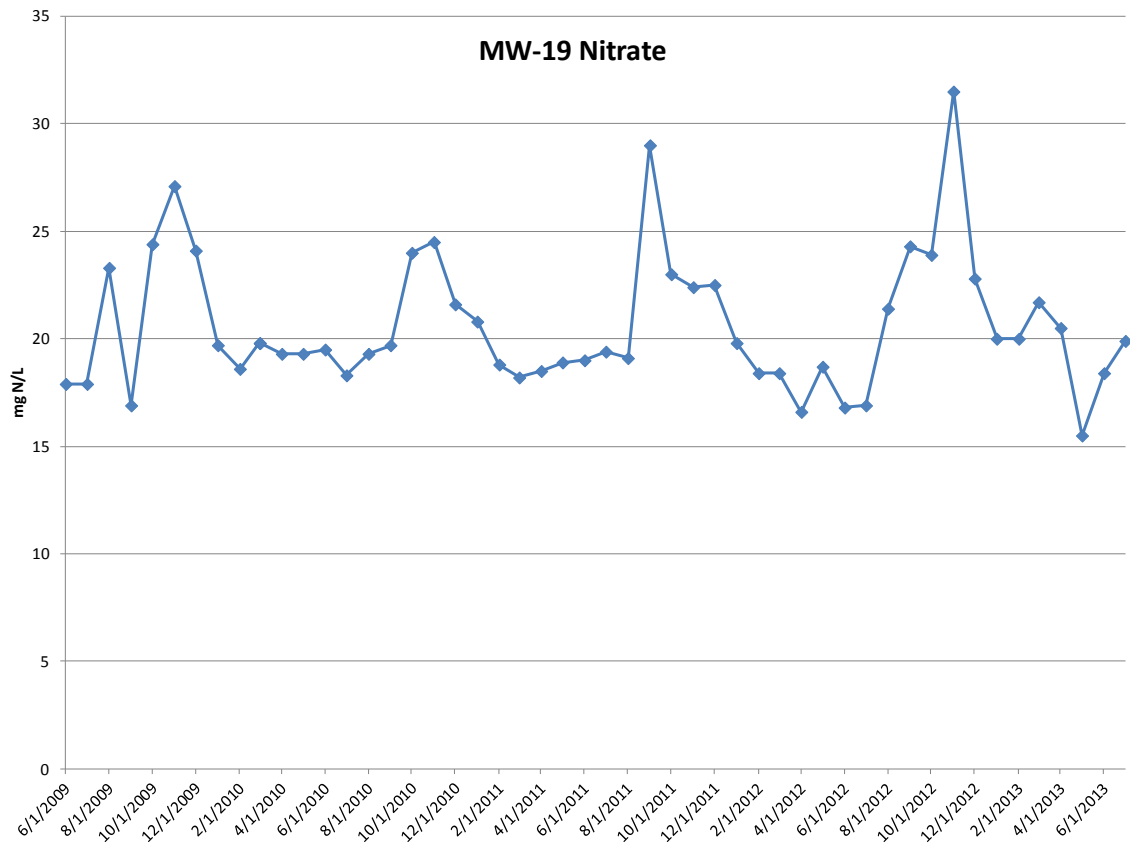


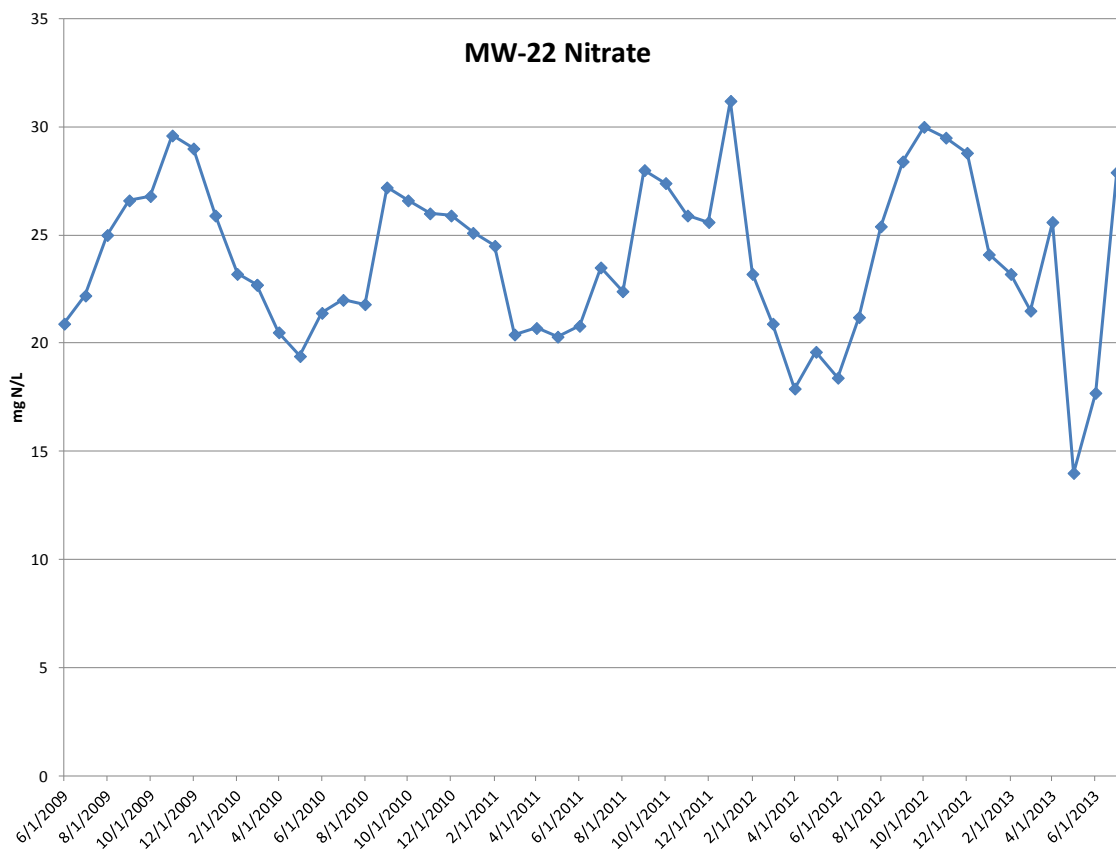
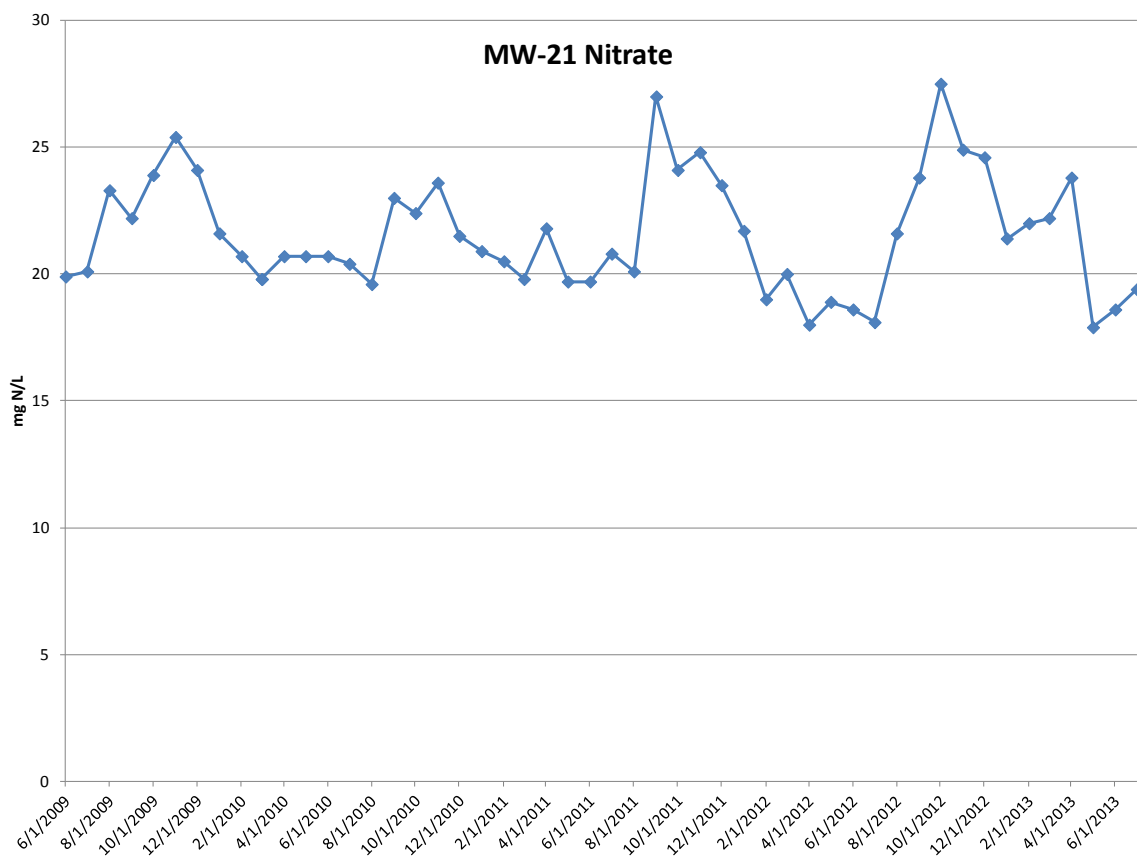


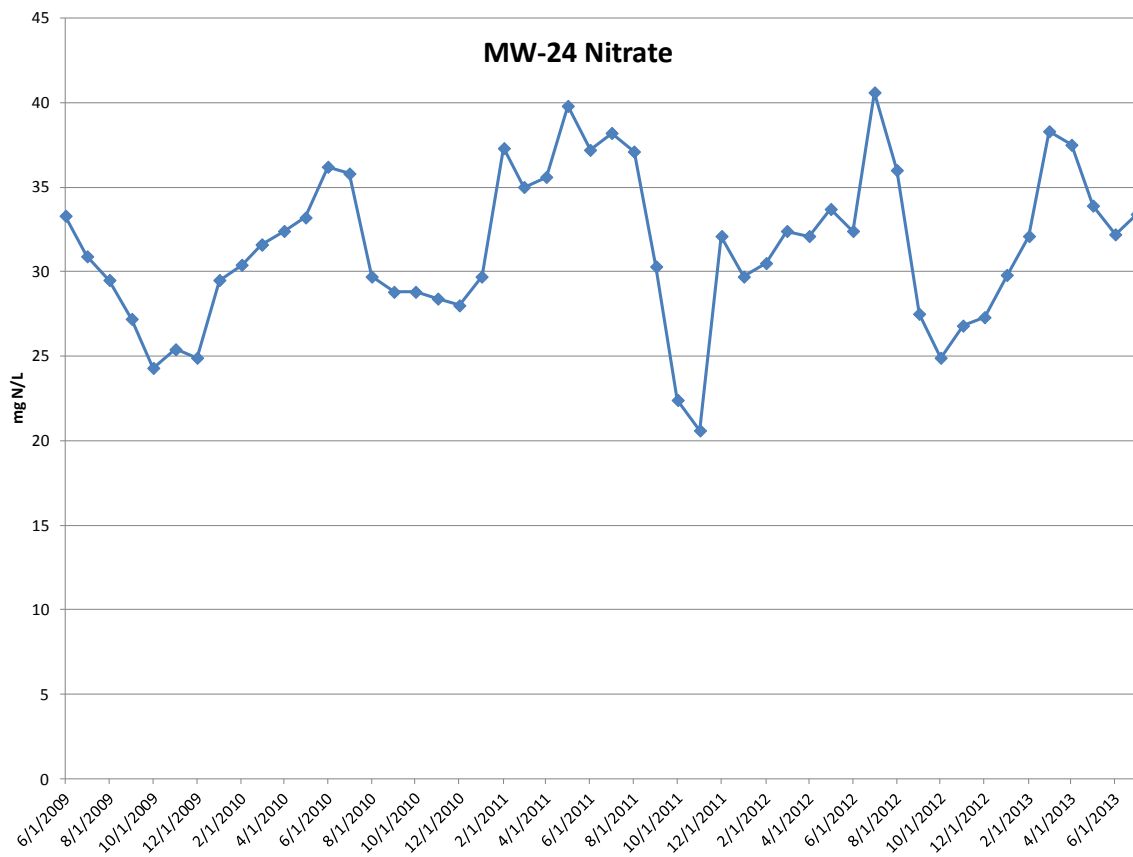
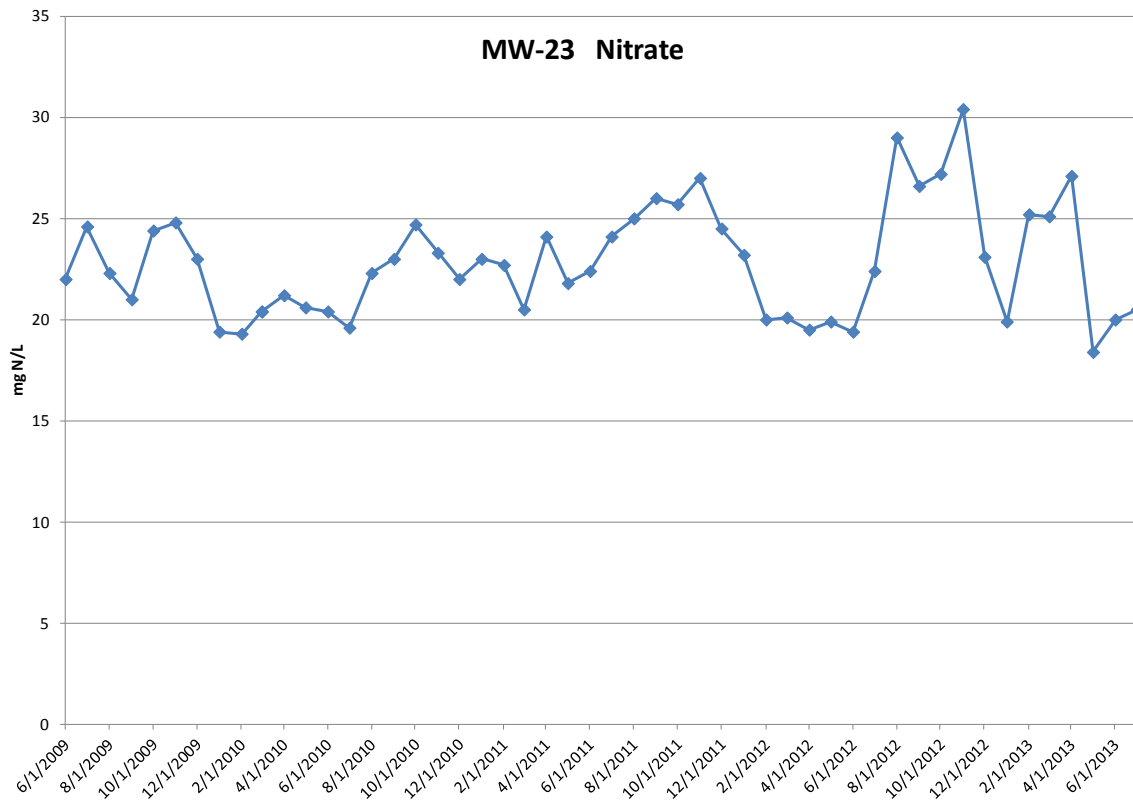


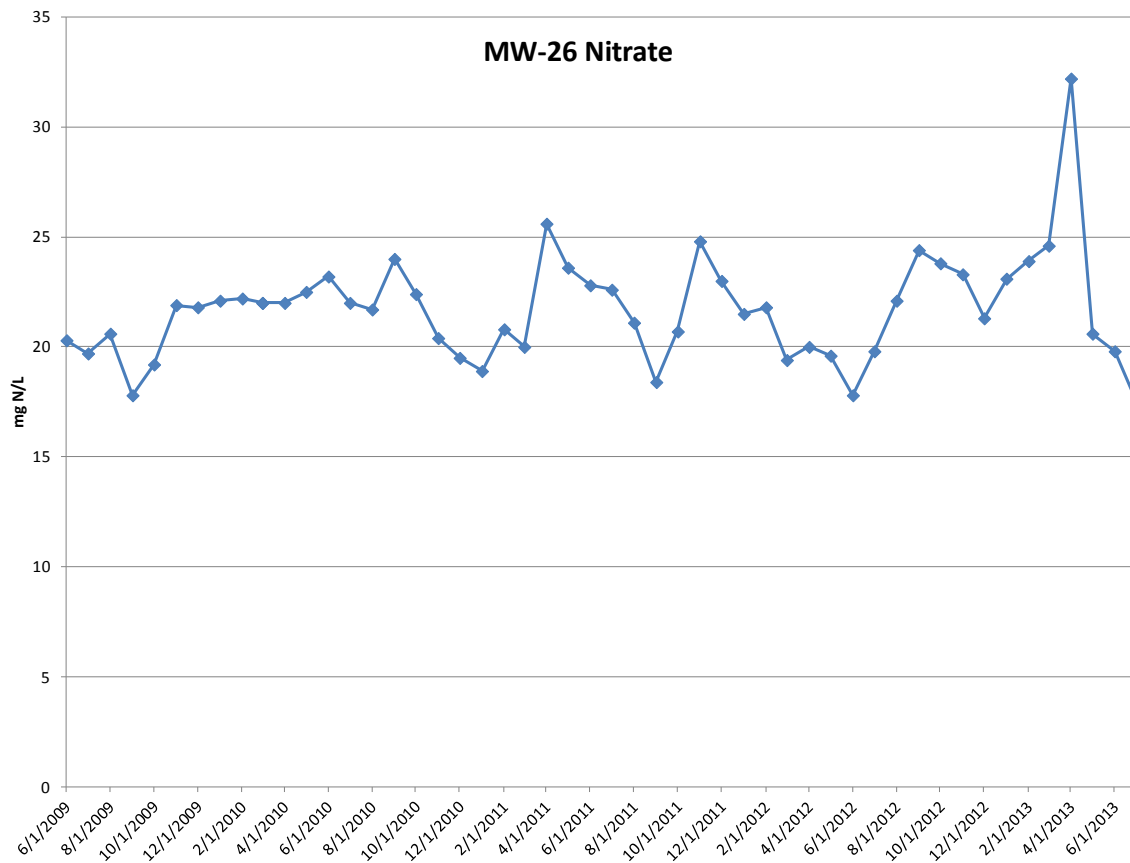
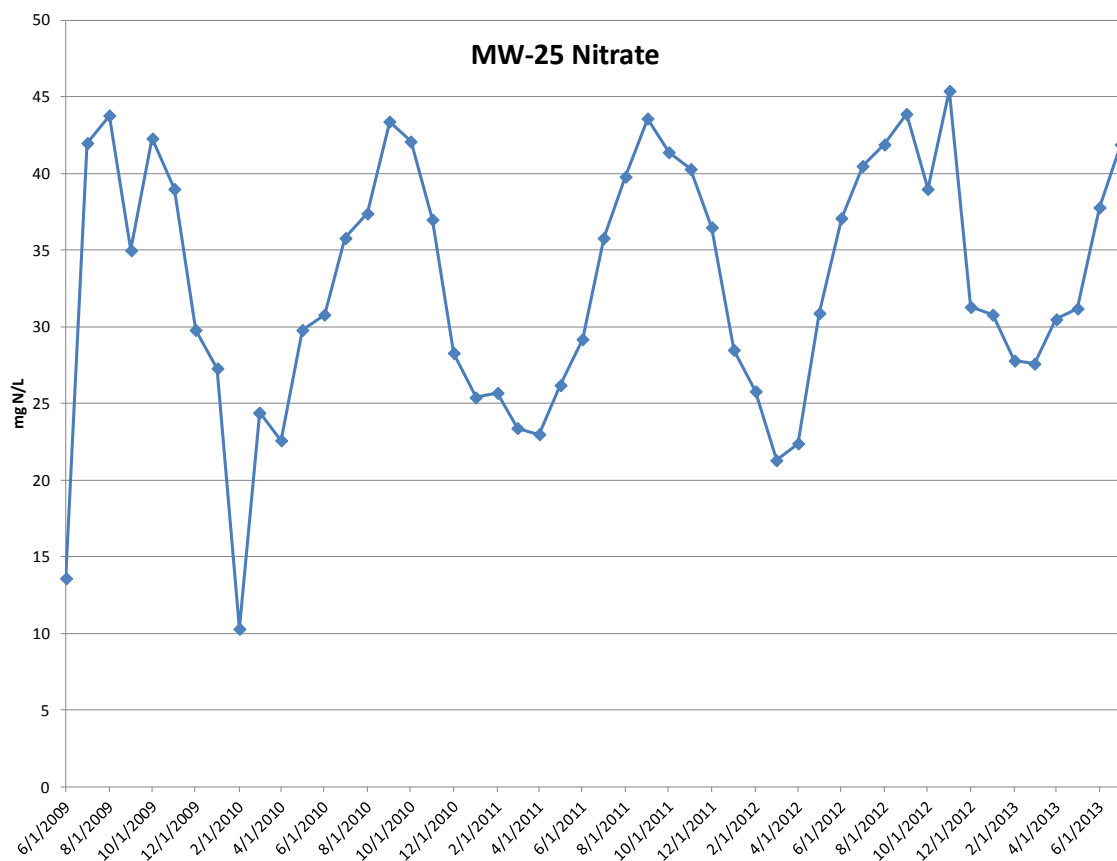


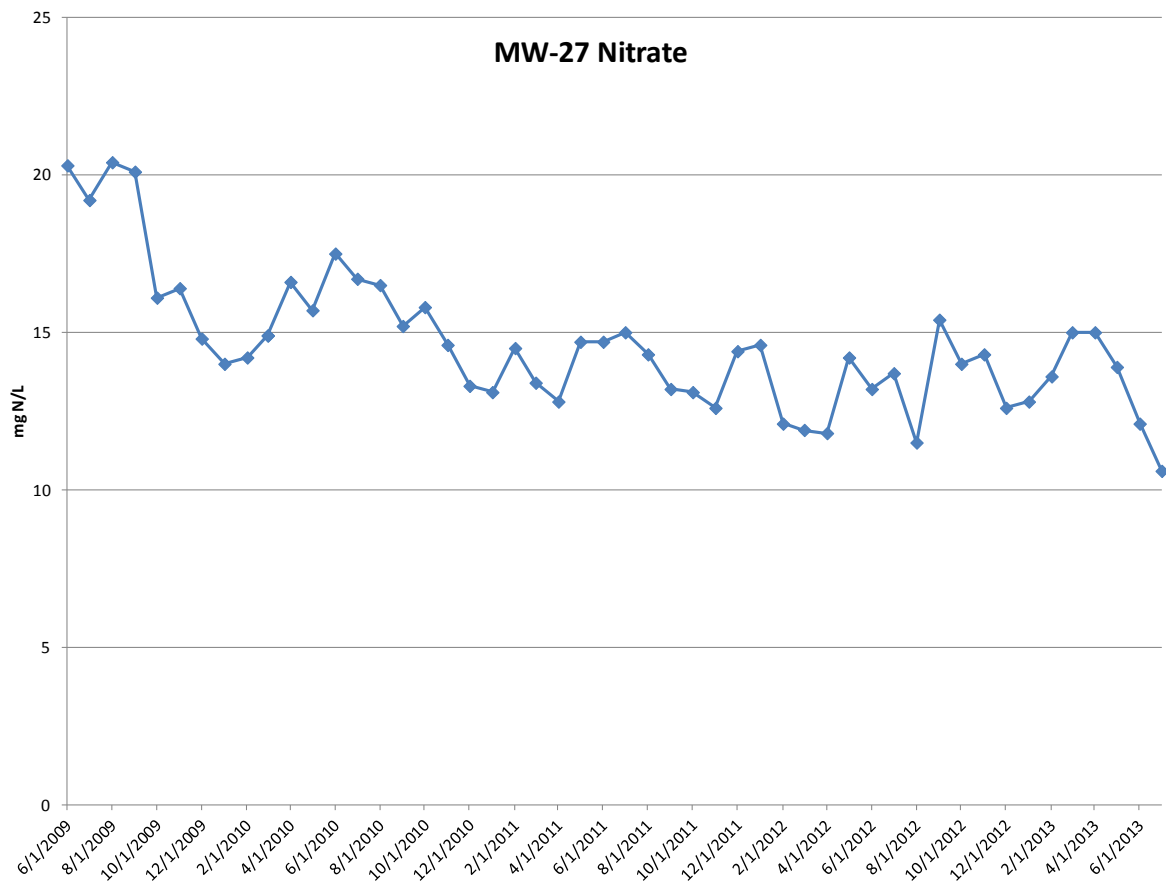




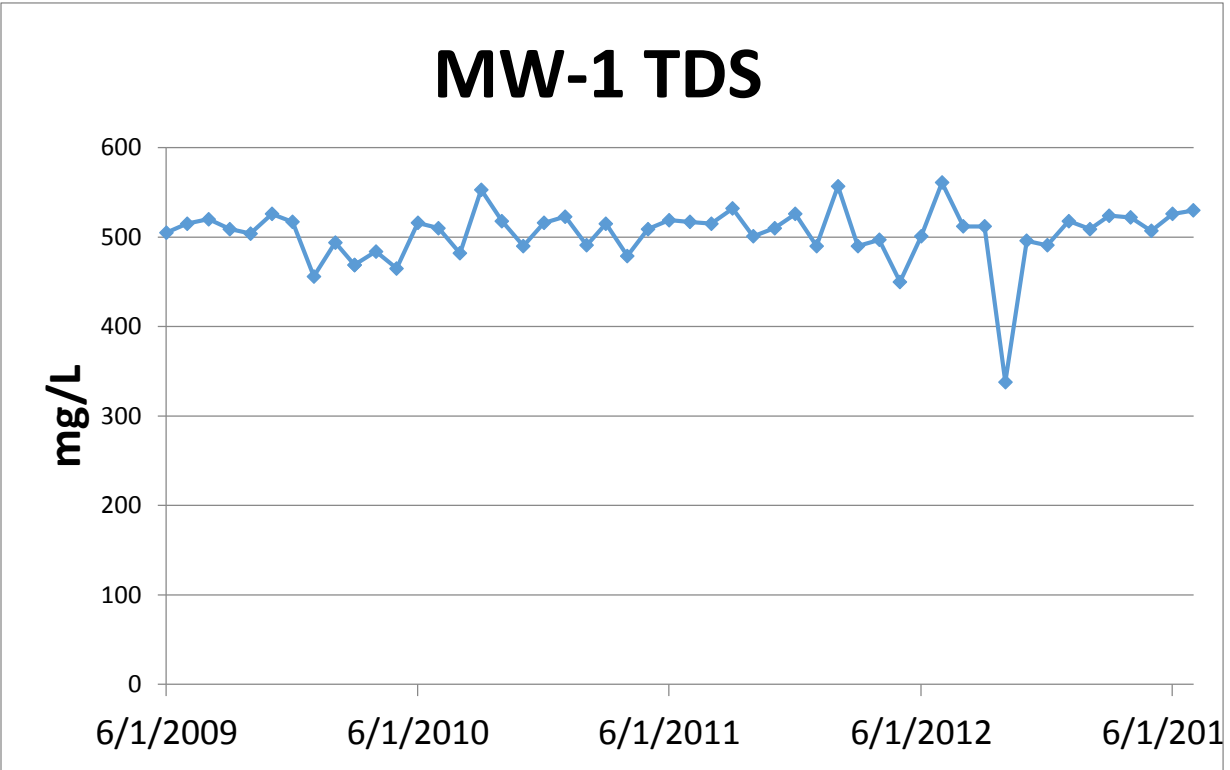
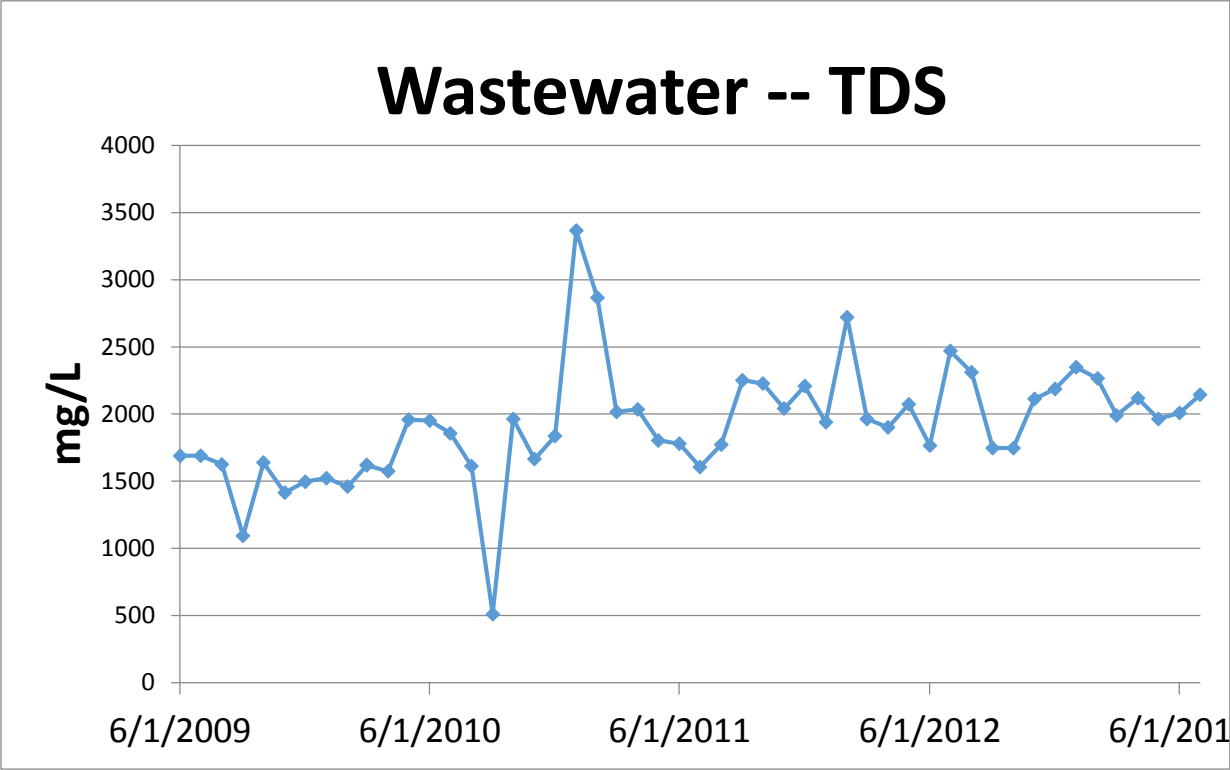


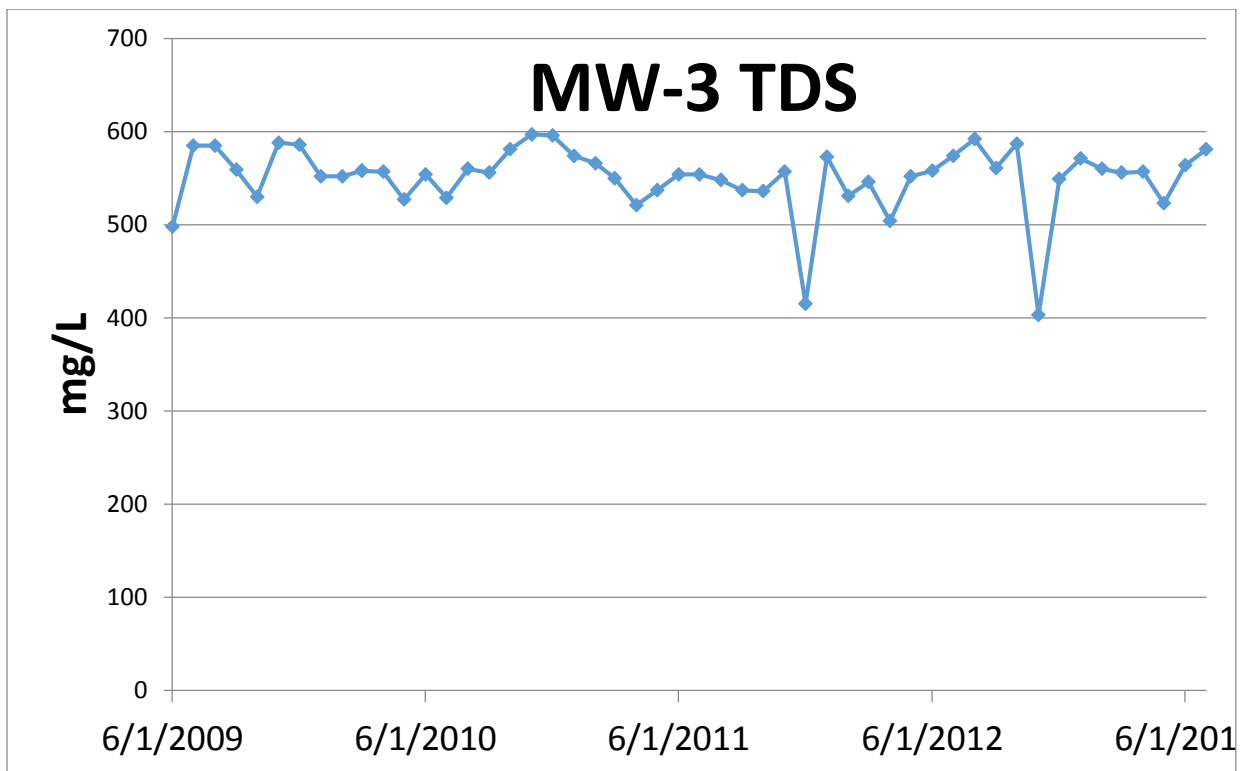
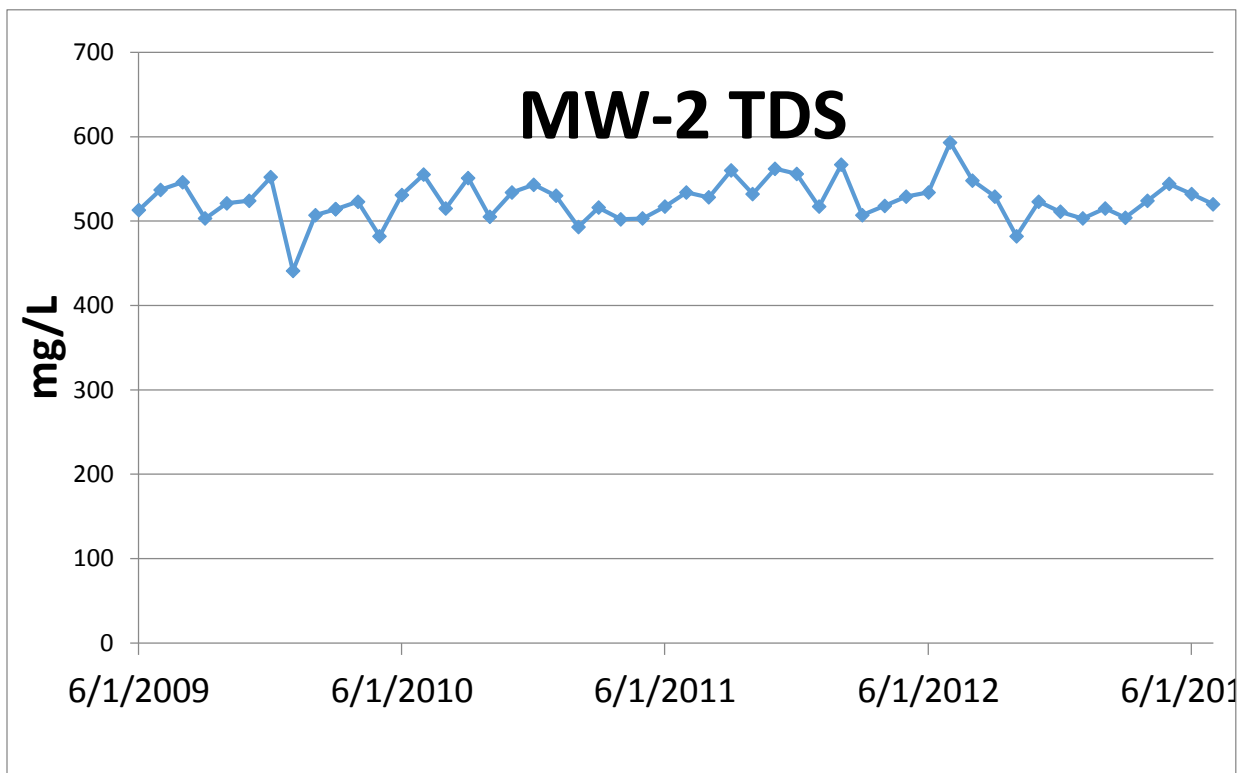


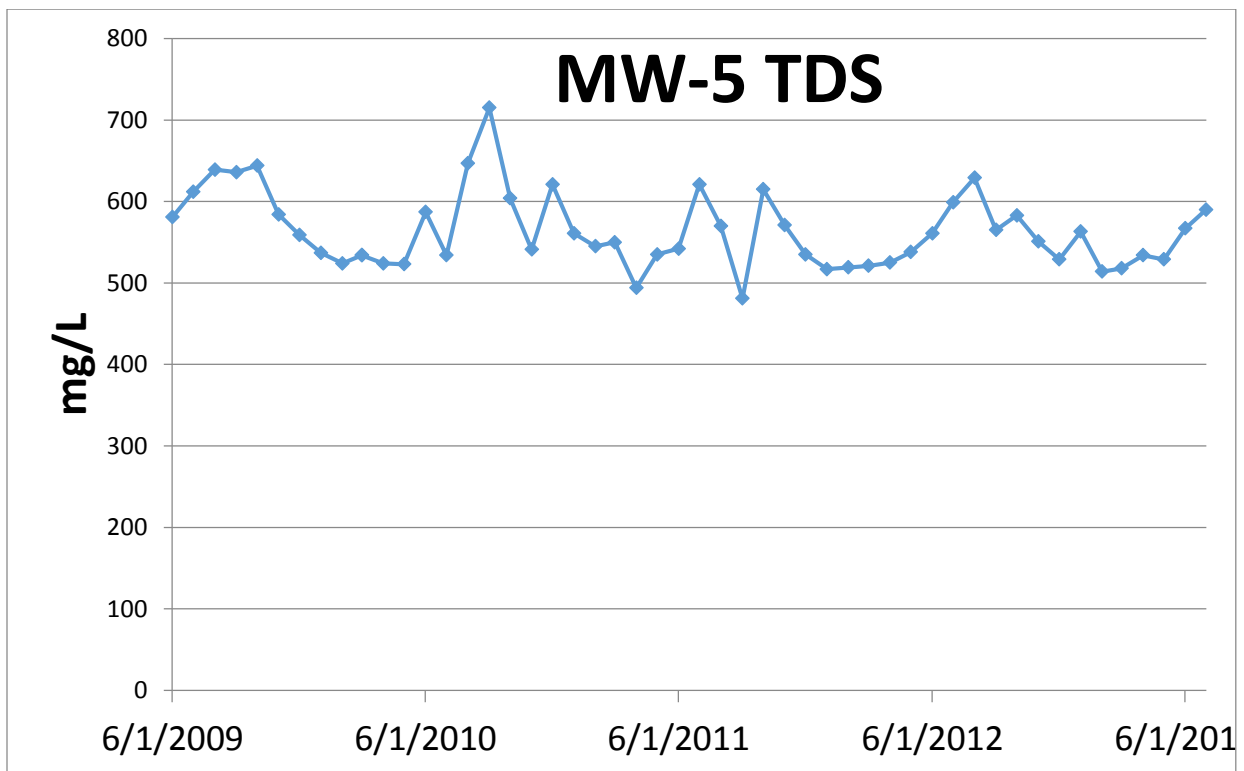
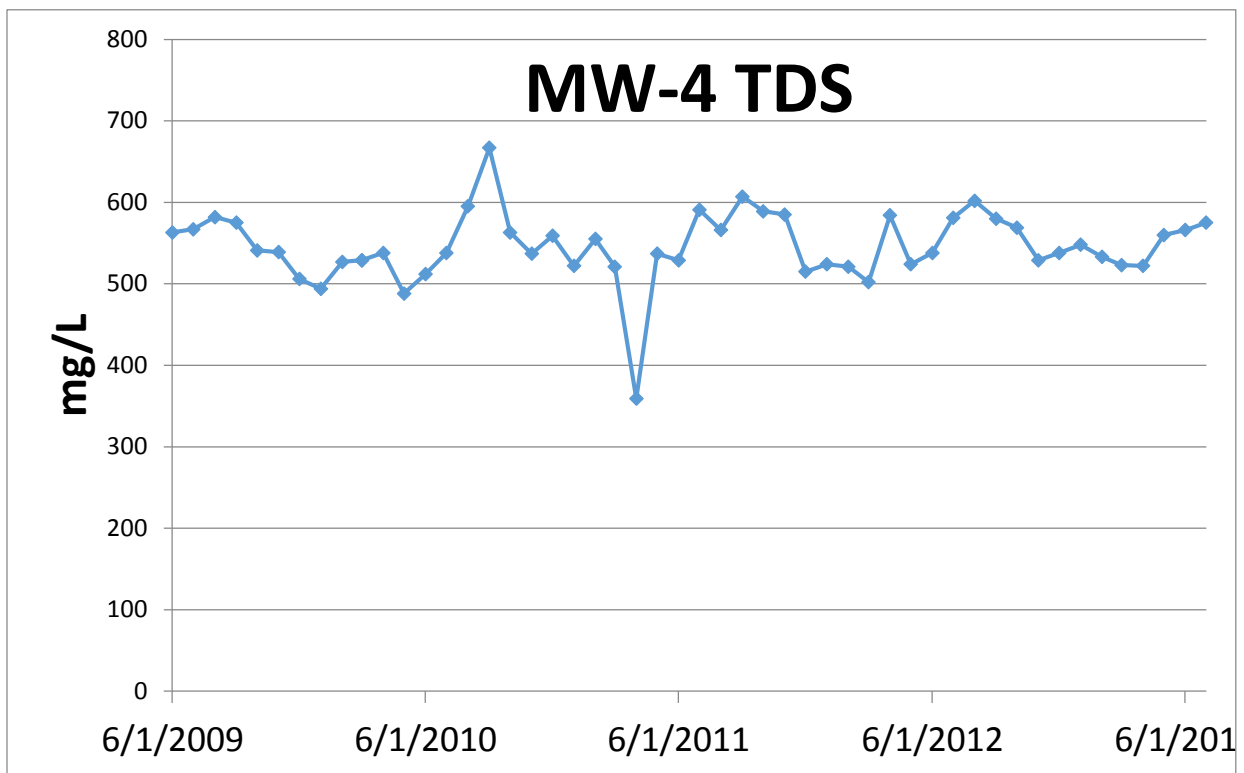


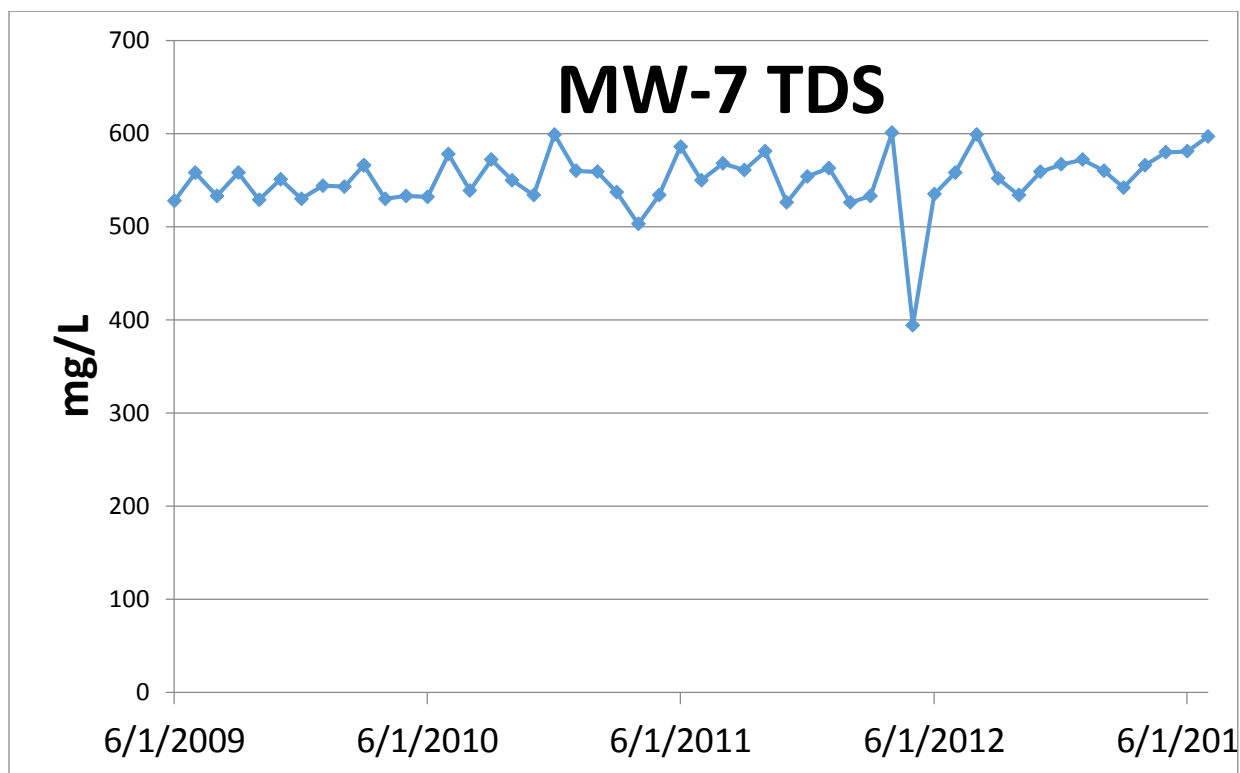
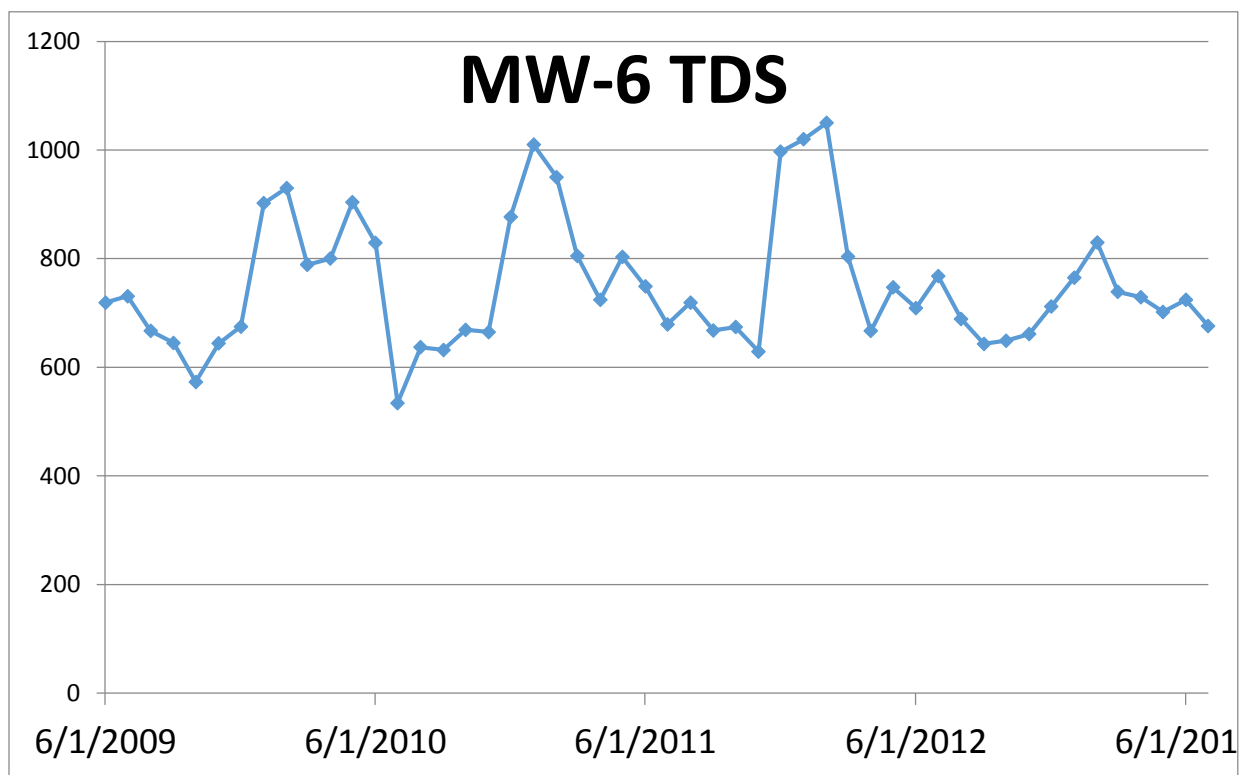


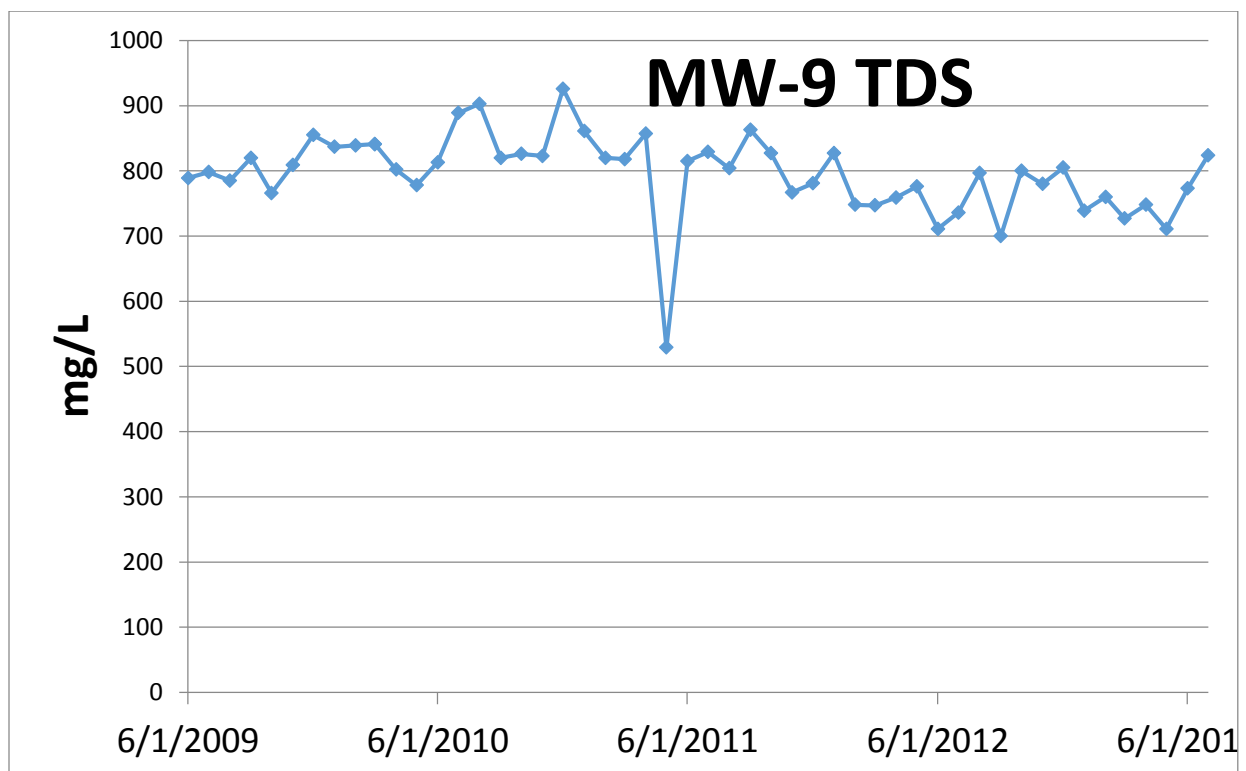
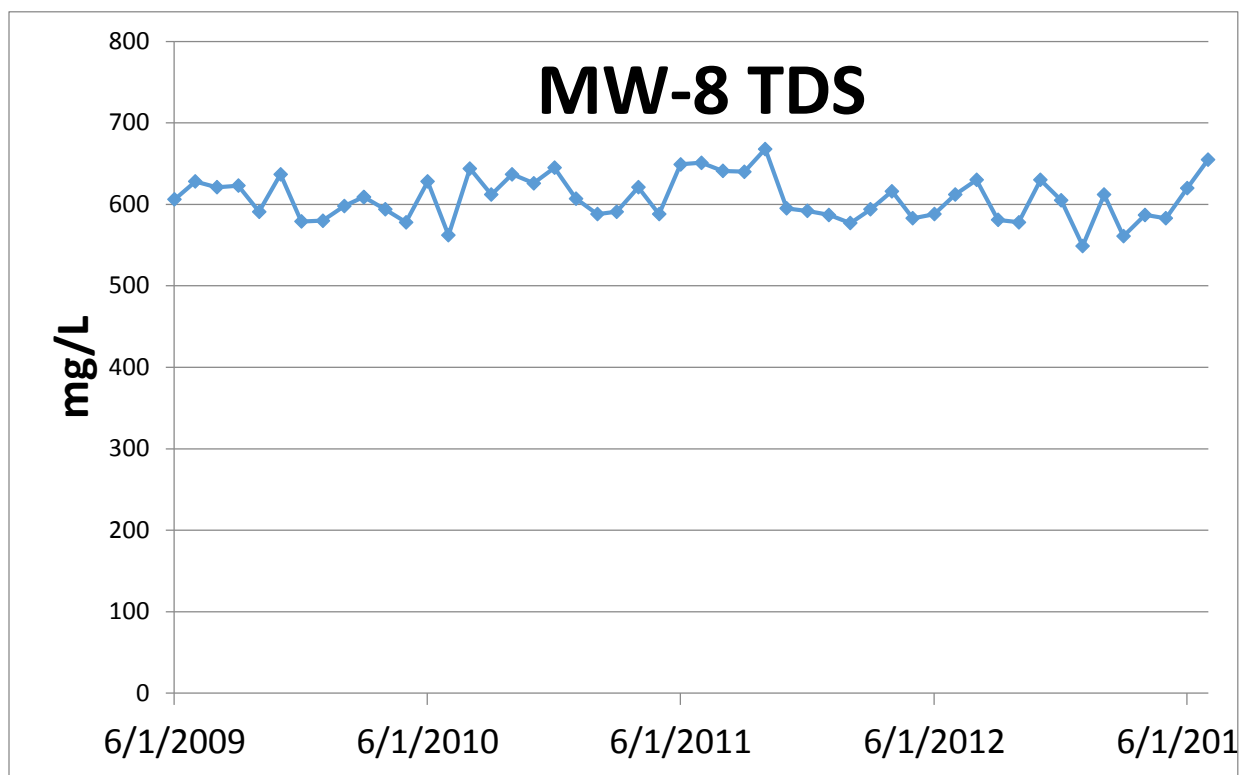
Appendix B. TDS Concentration Time Series Graphs

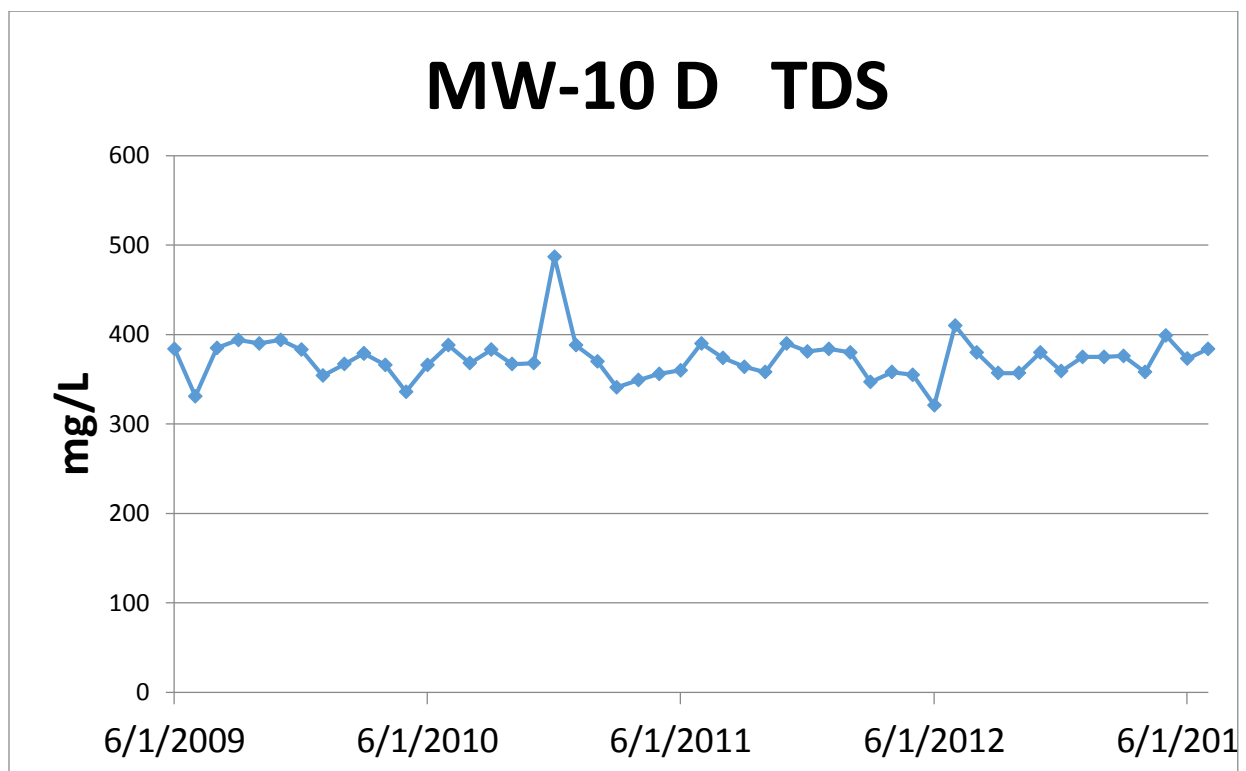
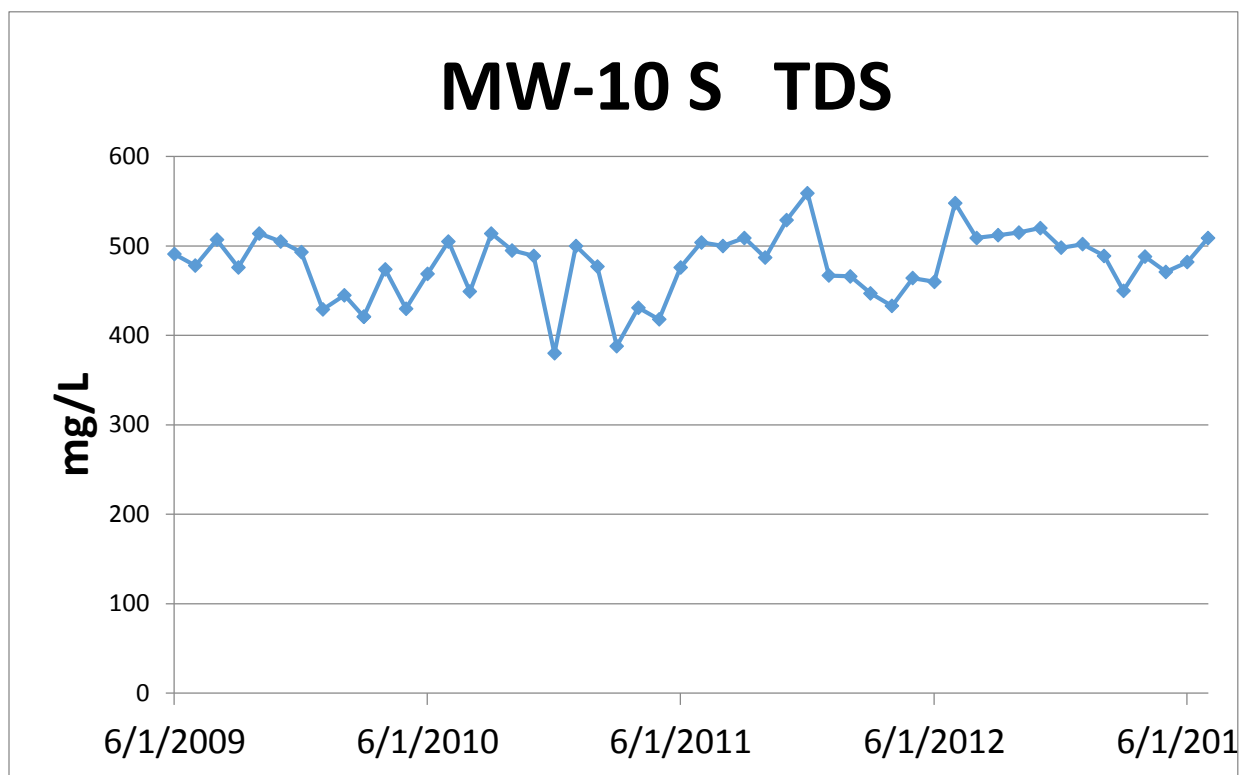


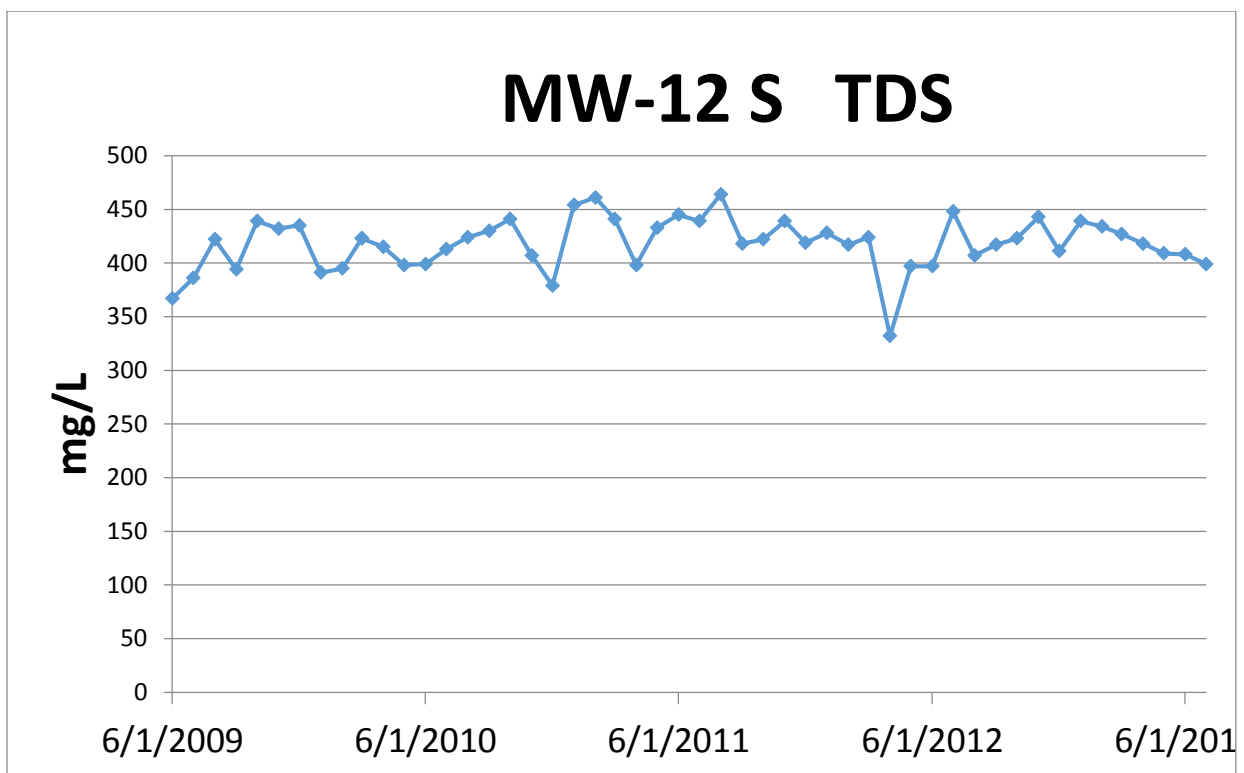
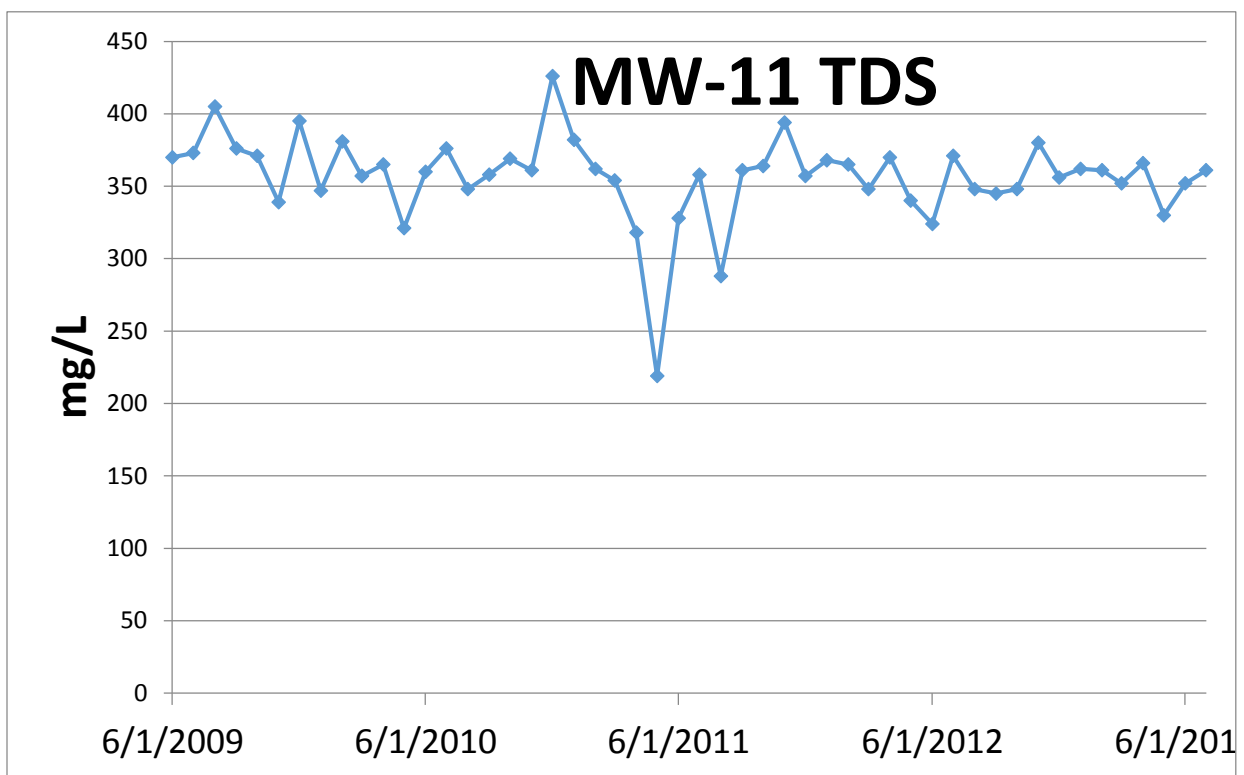


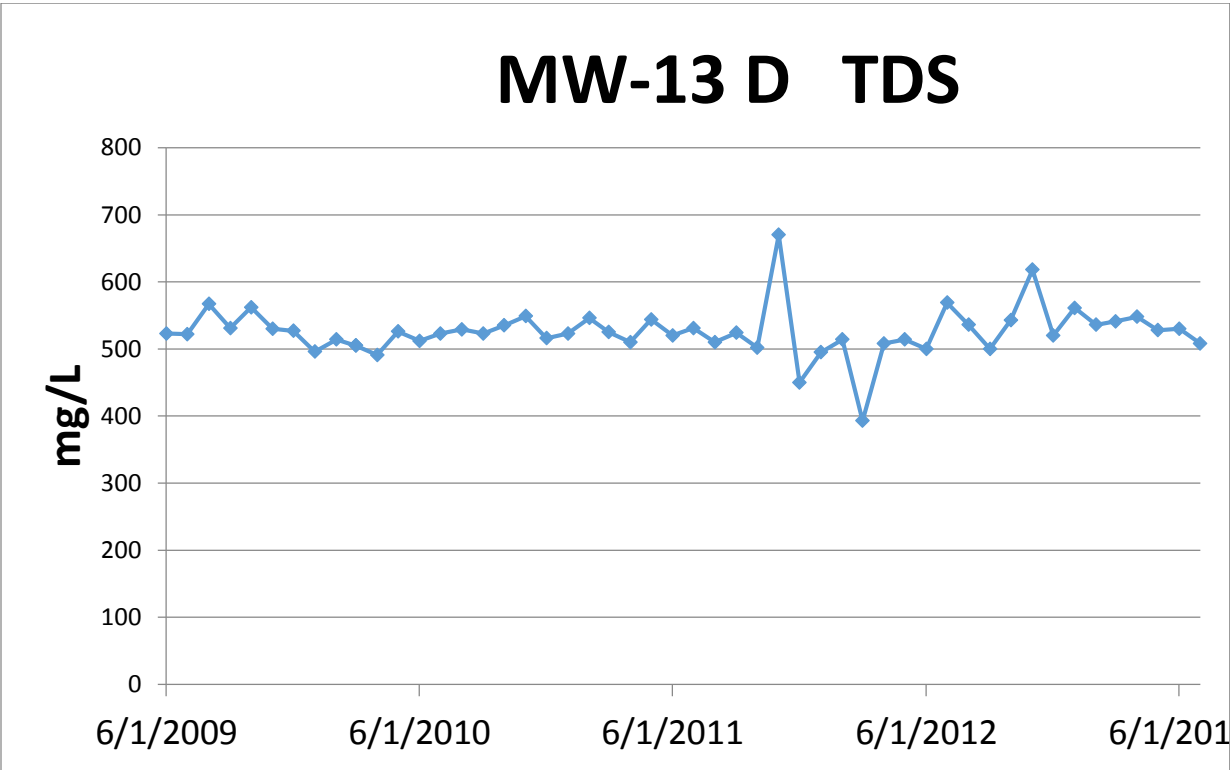
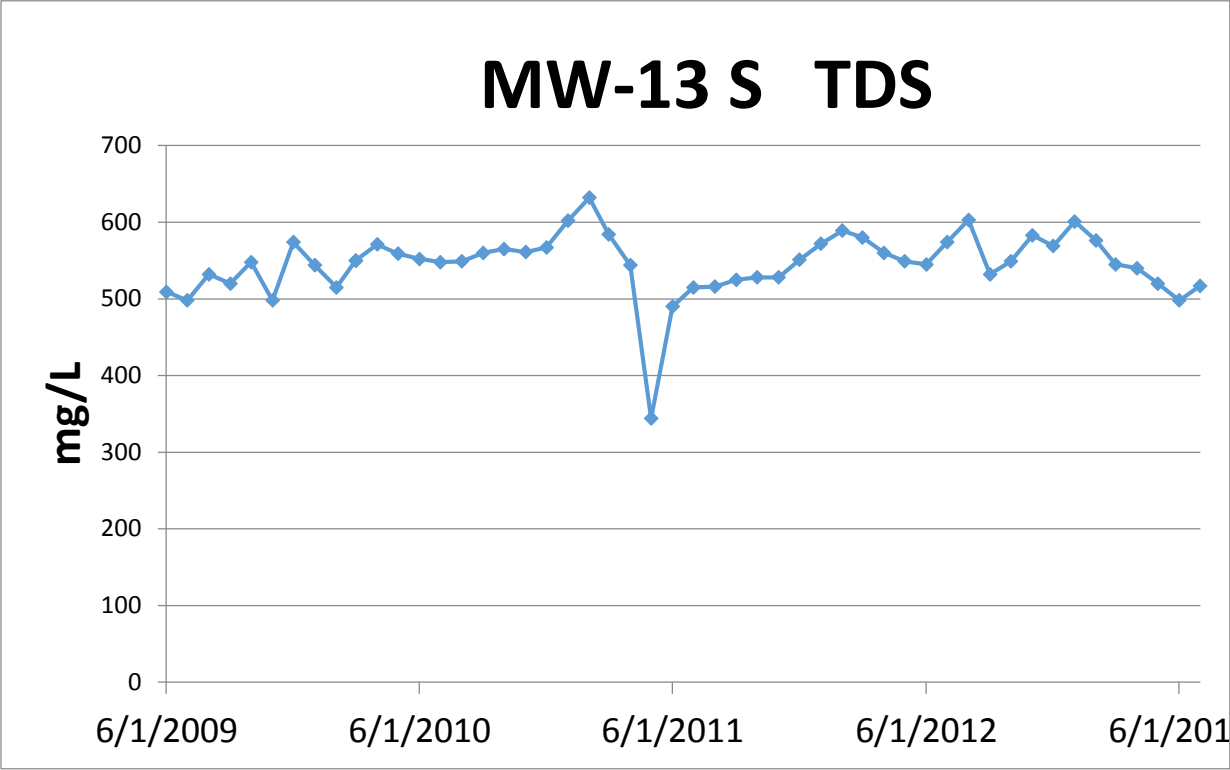


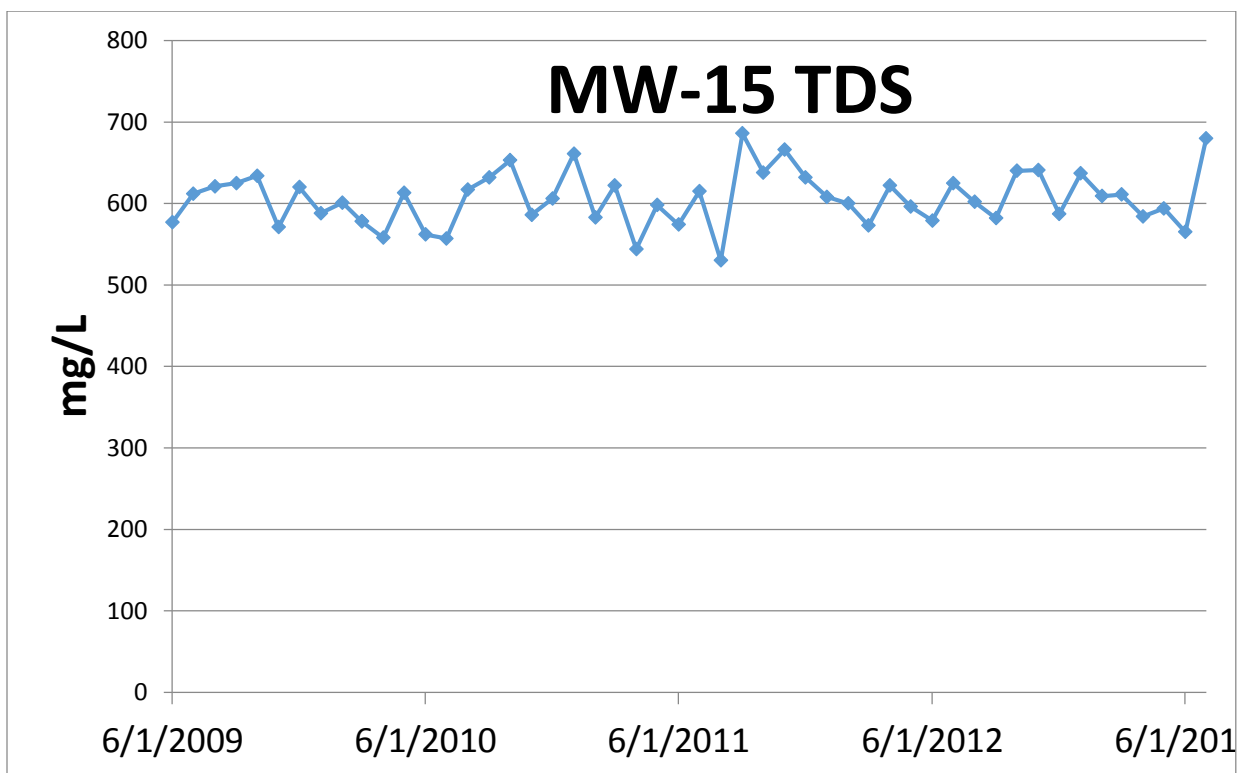
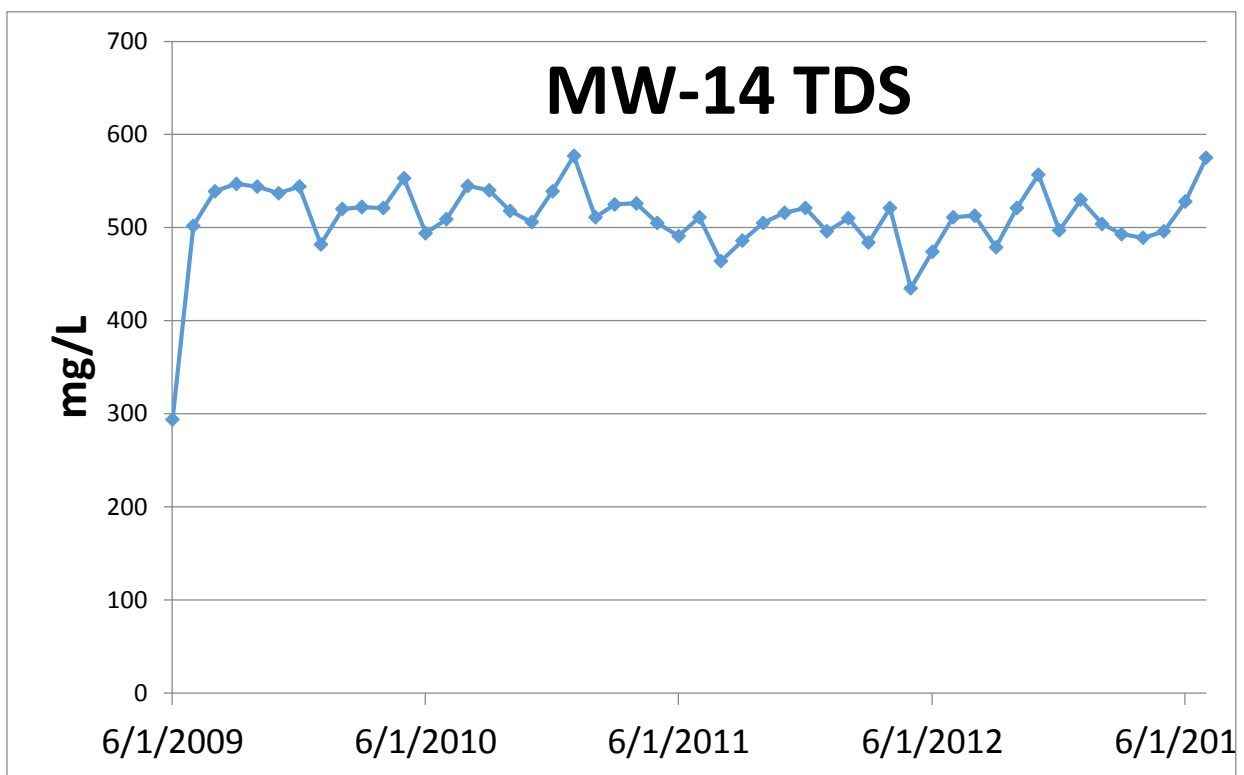


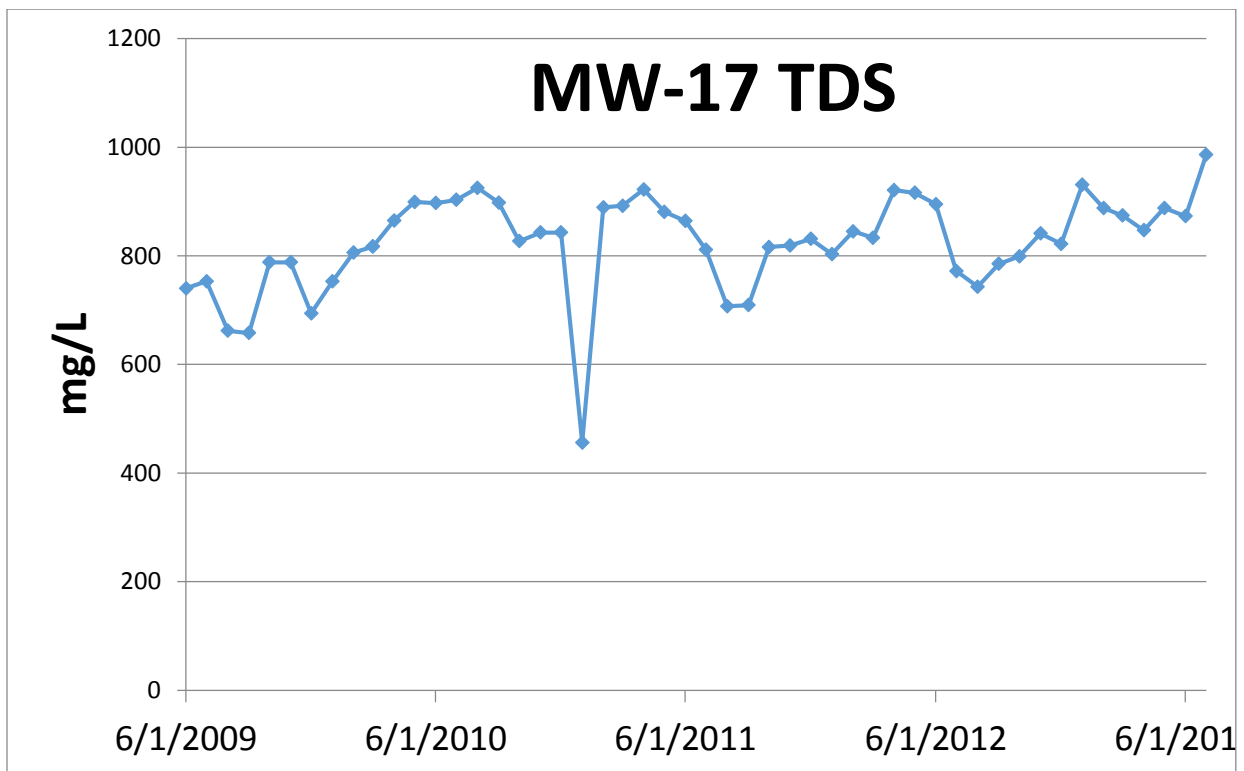
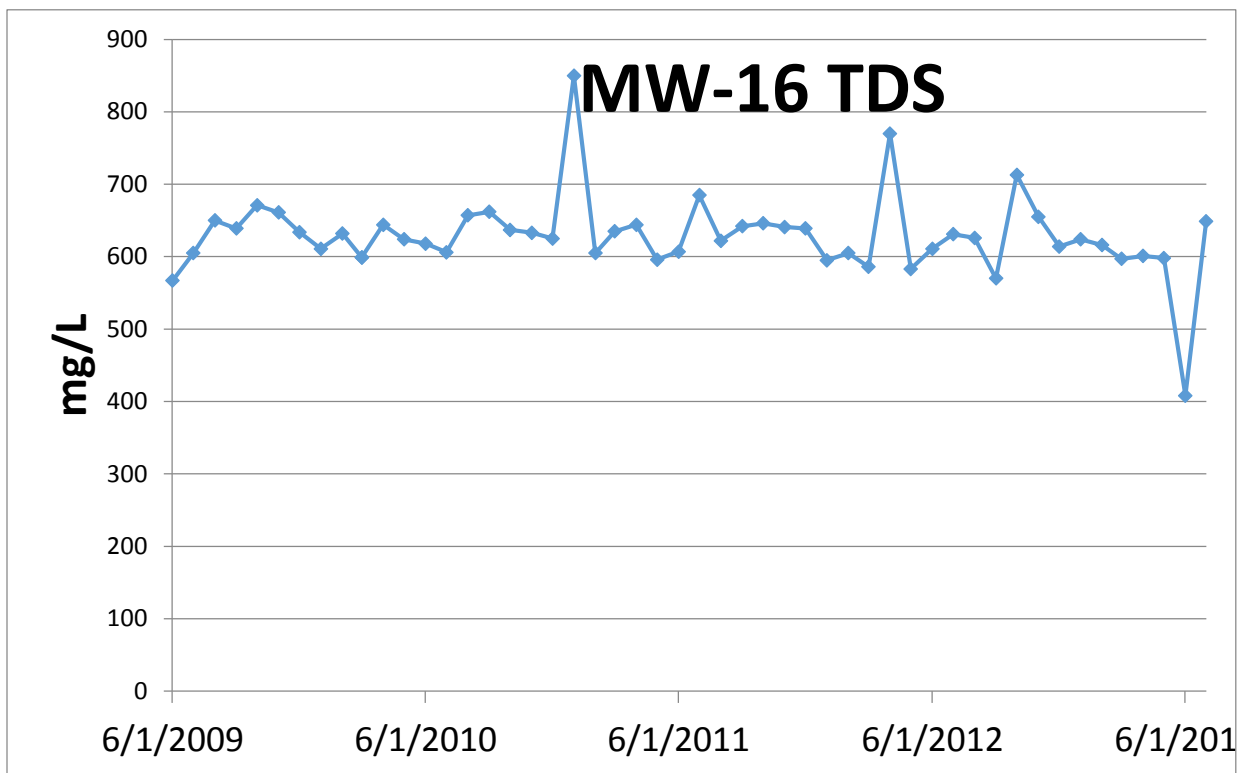


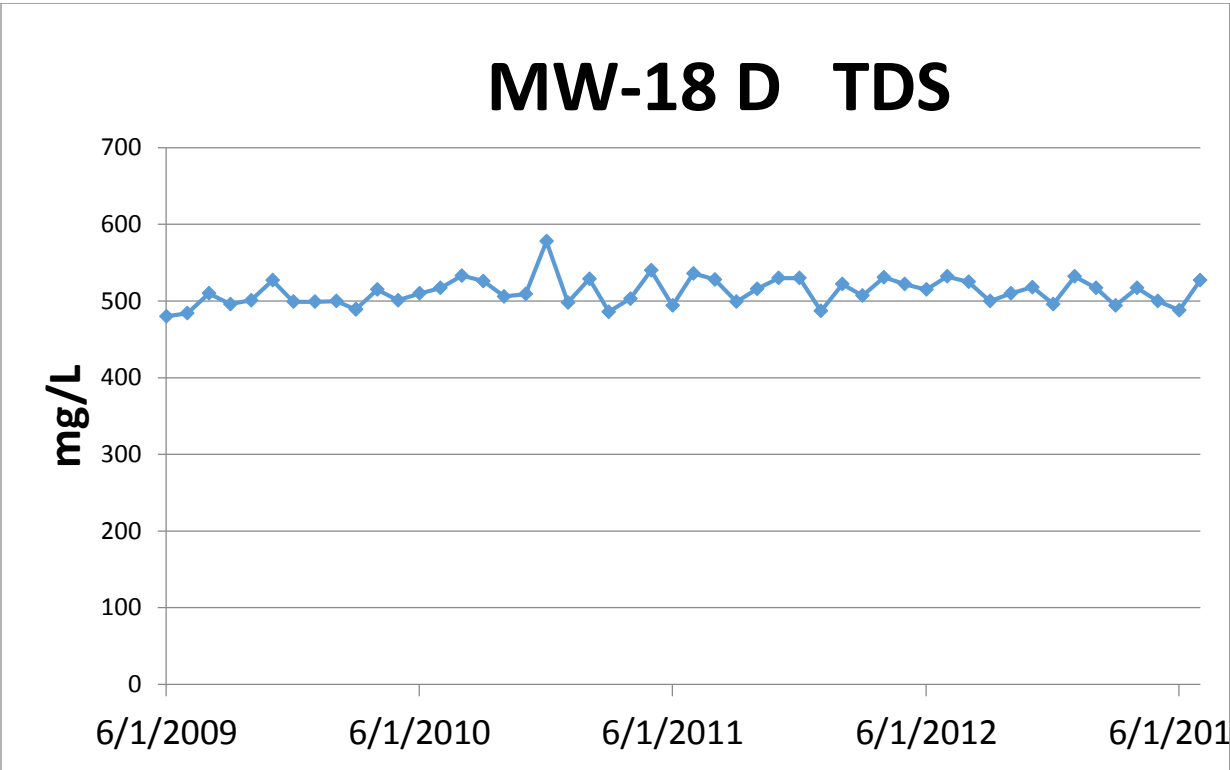
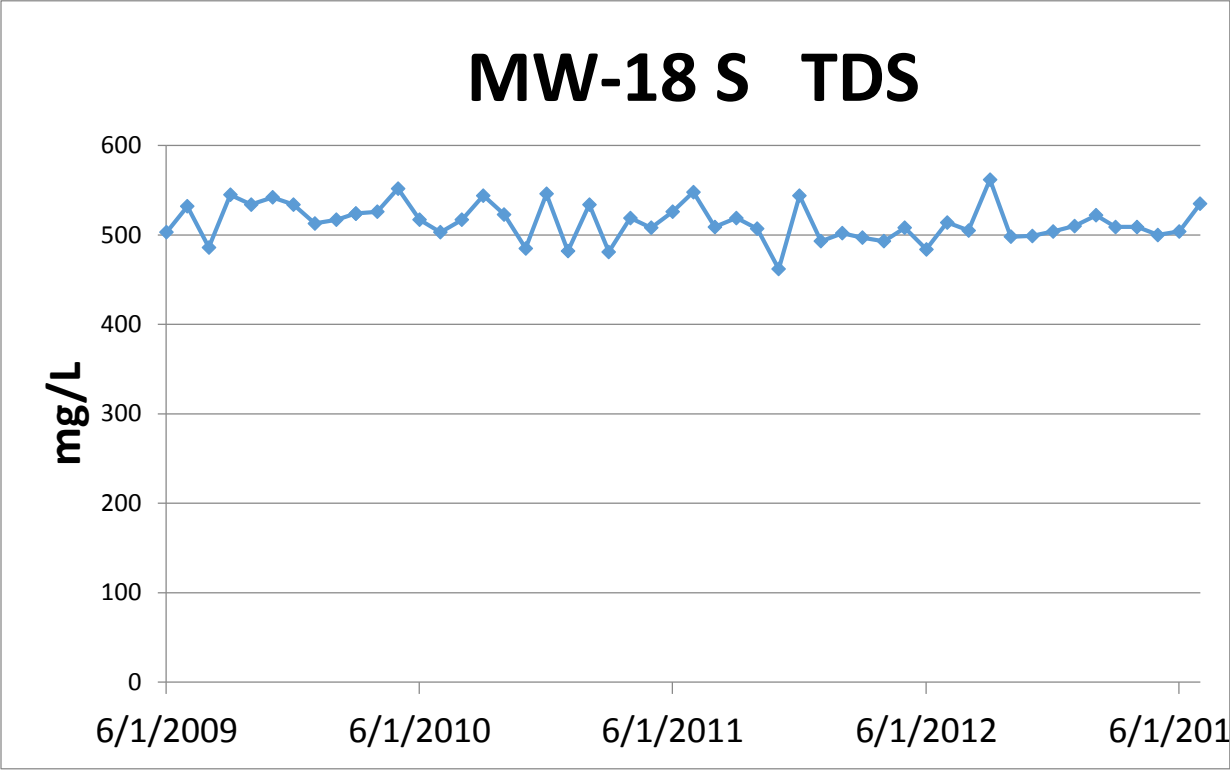


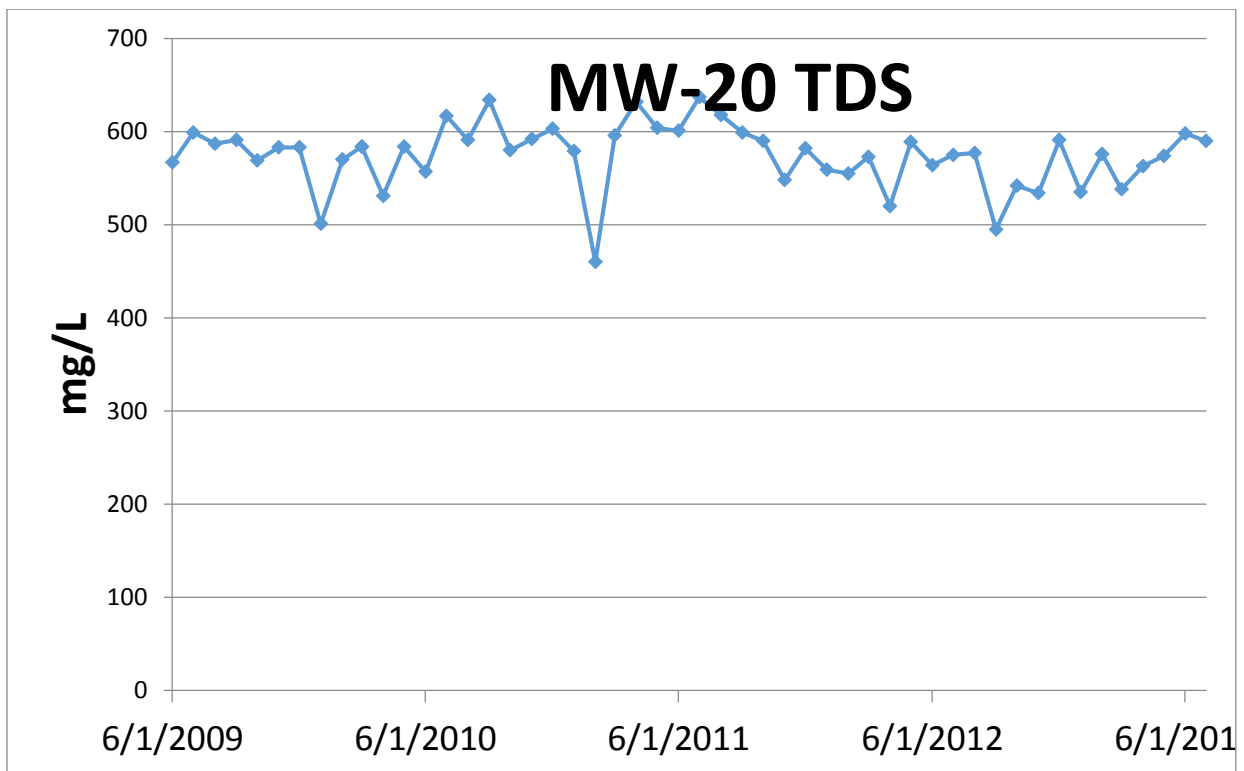
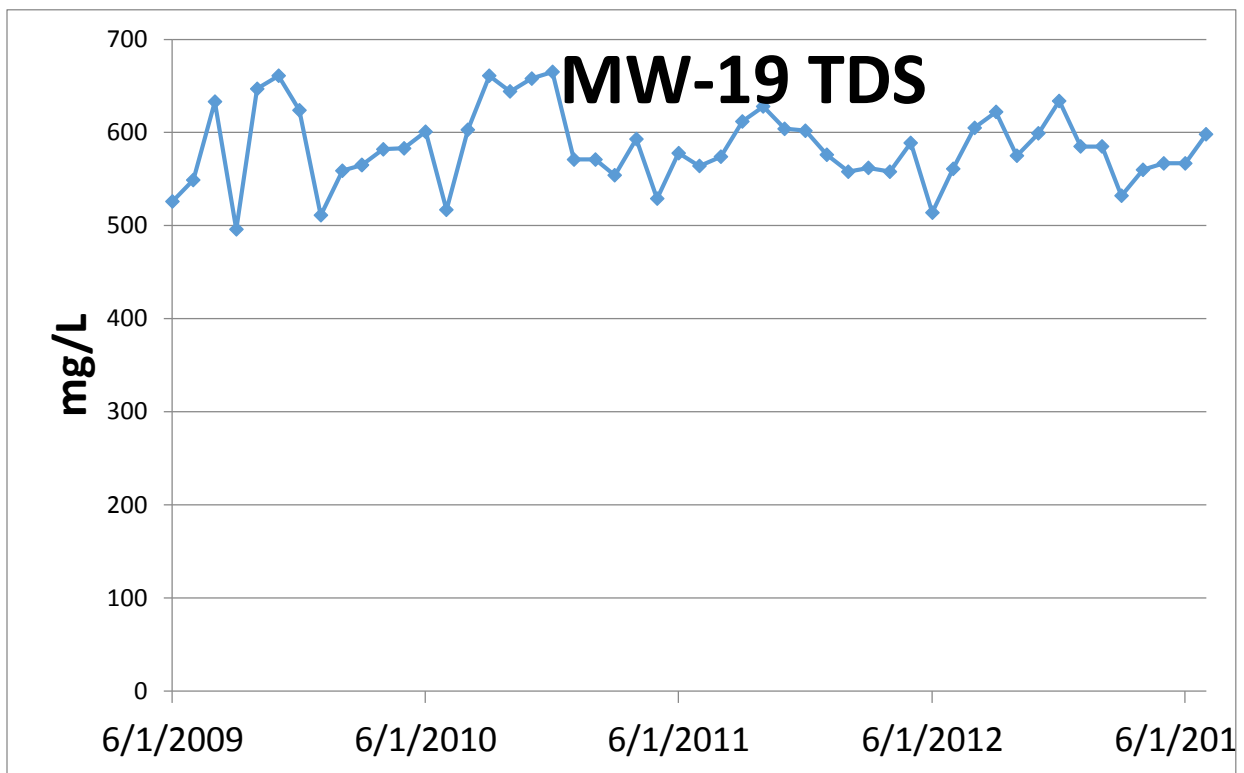


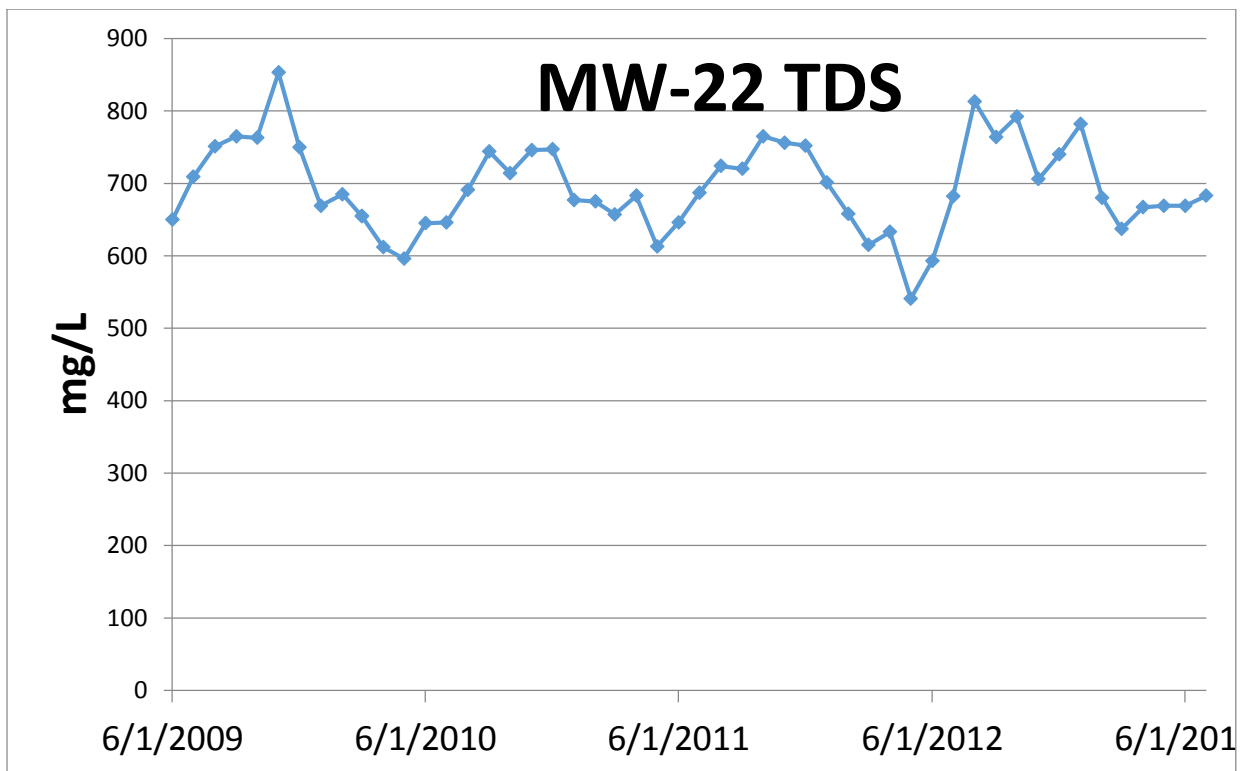
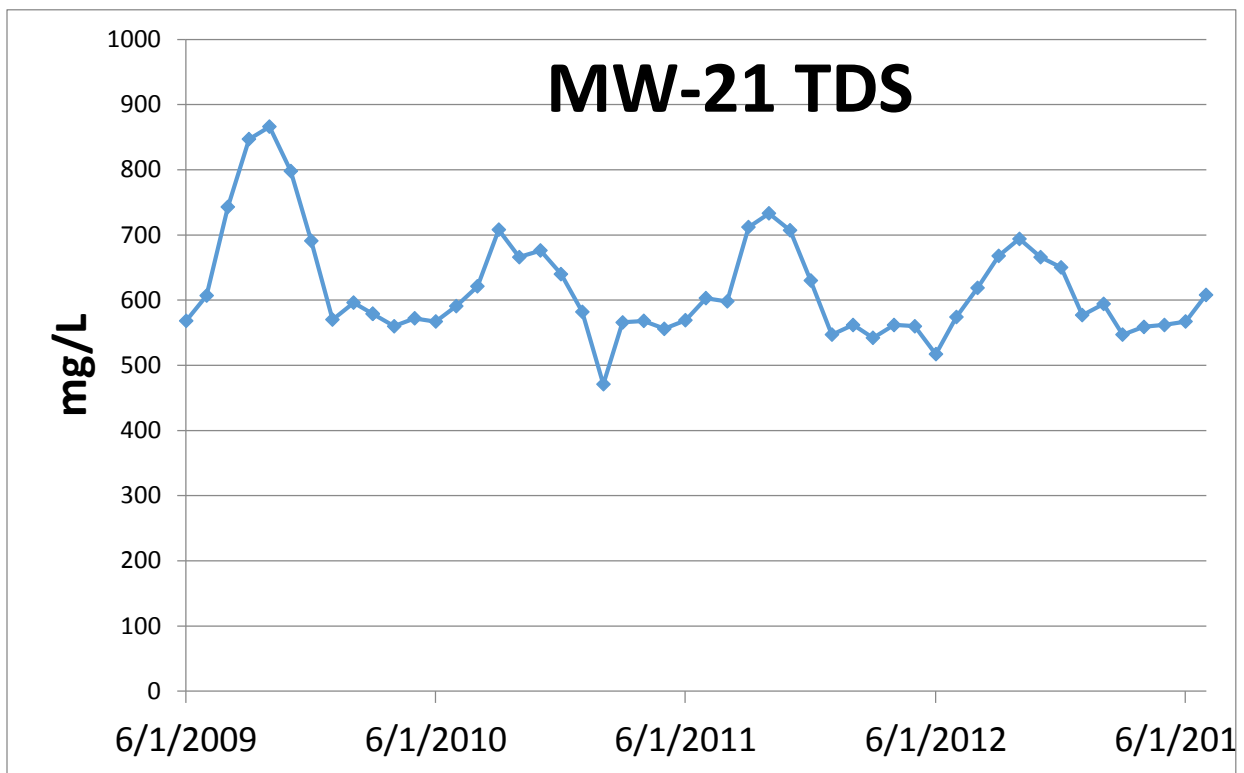


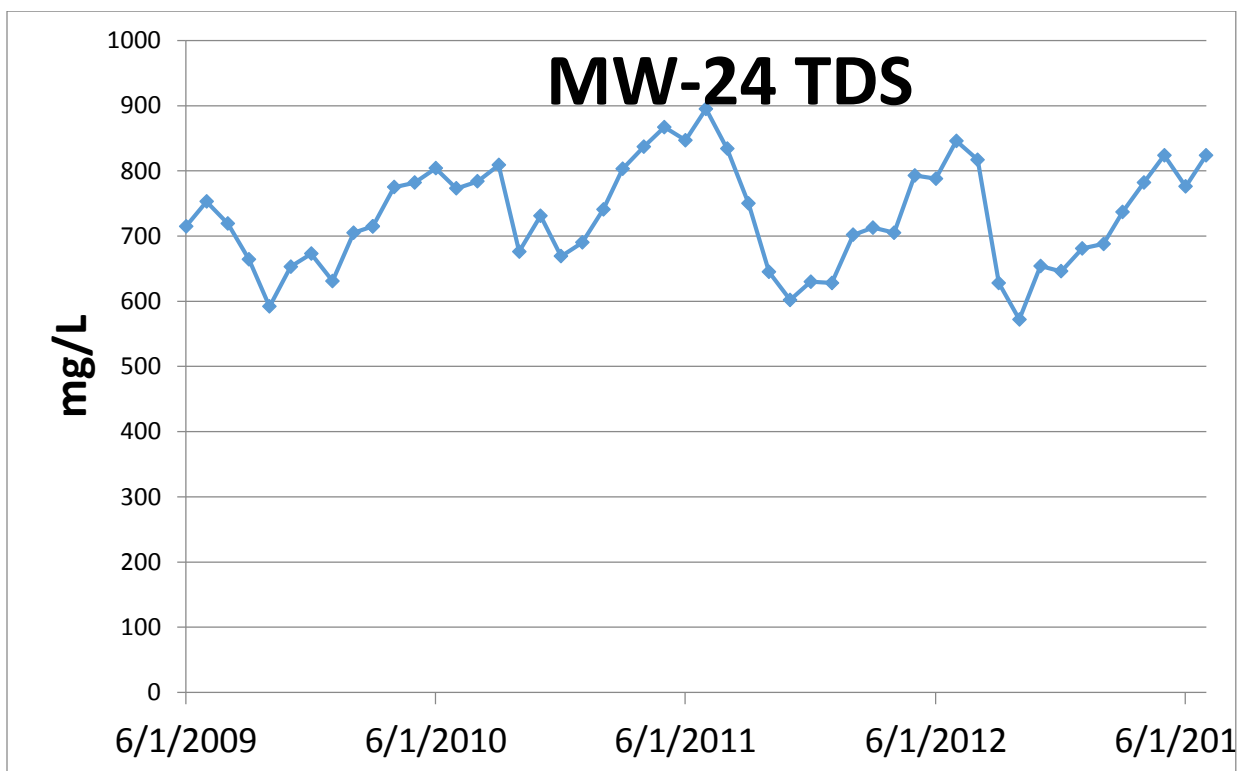
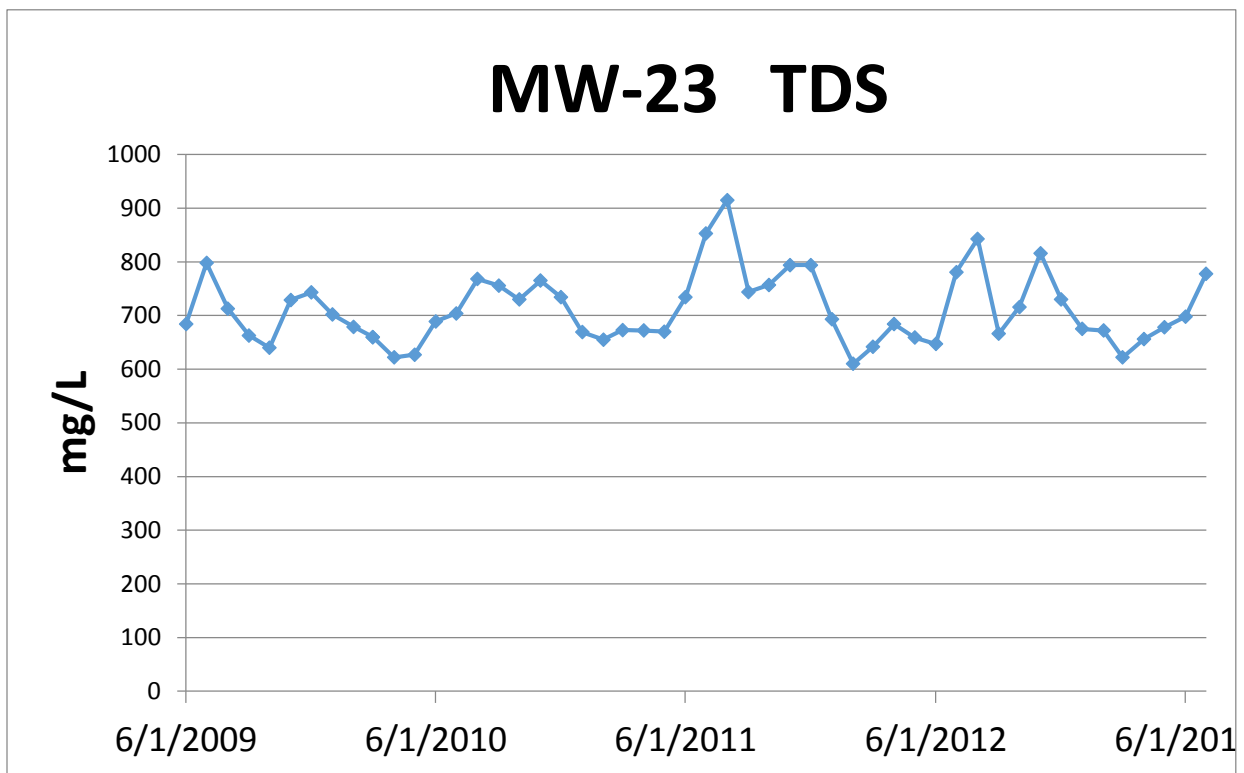


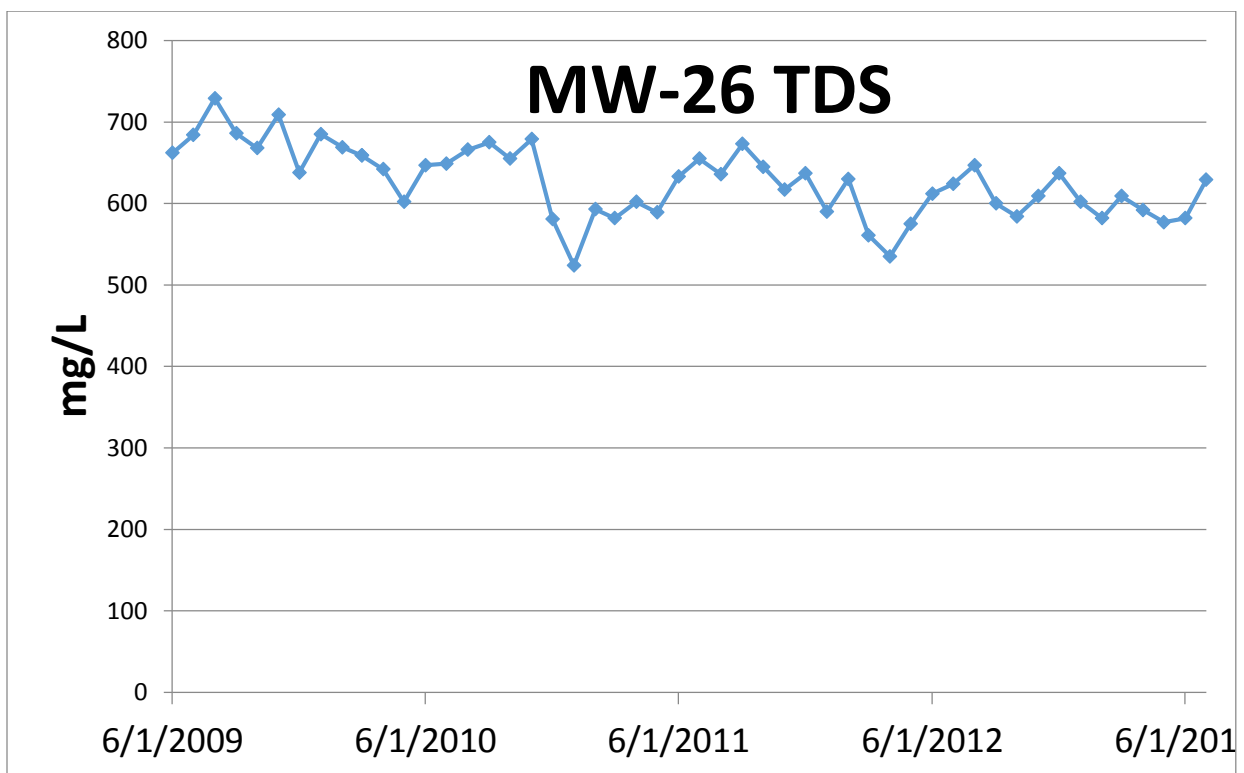
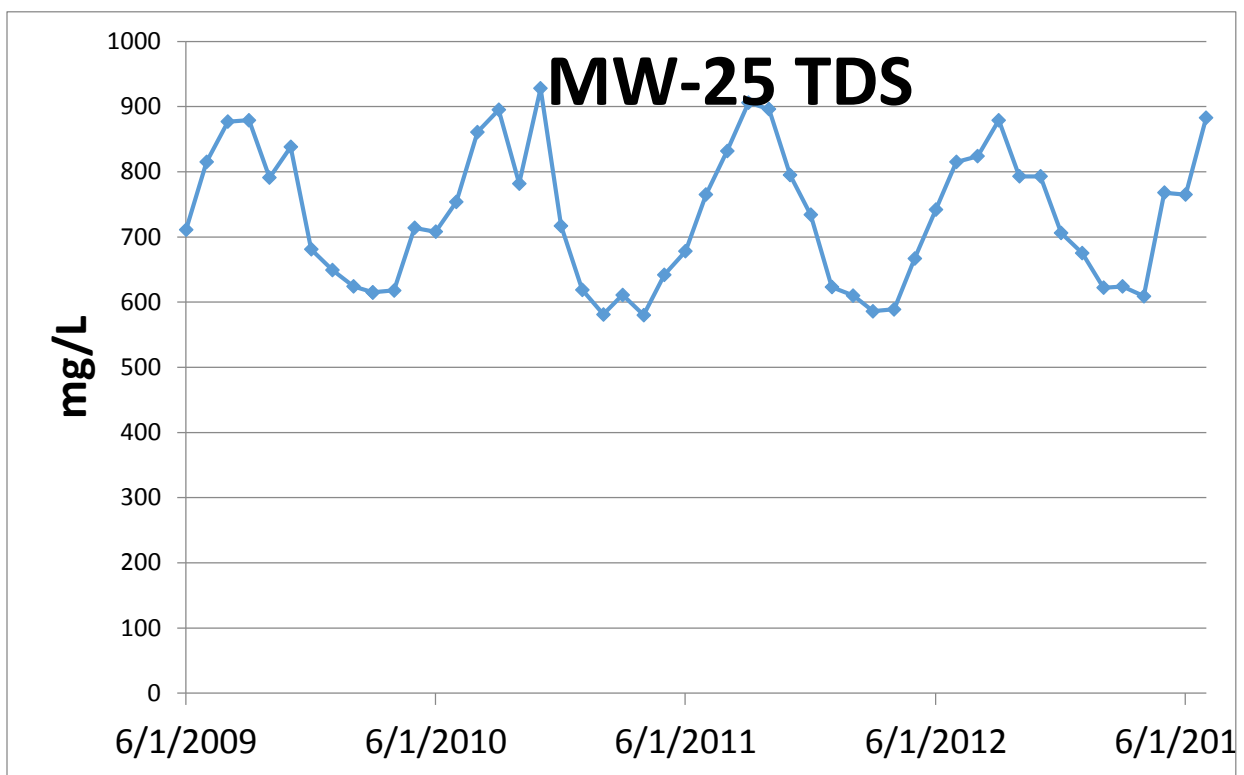


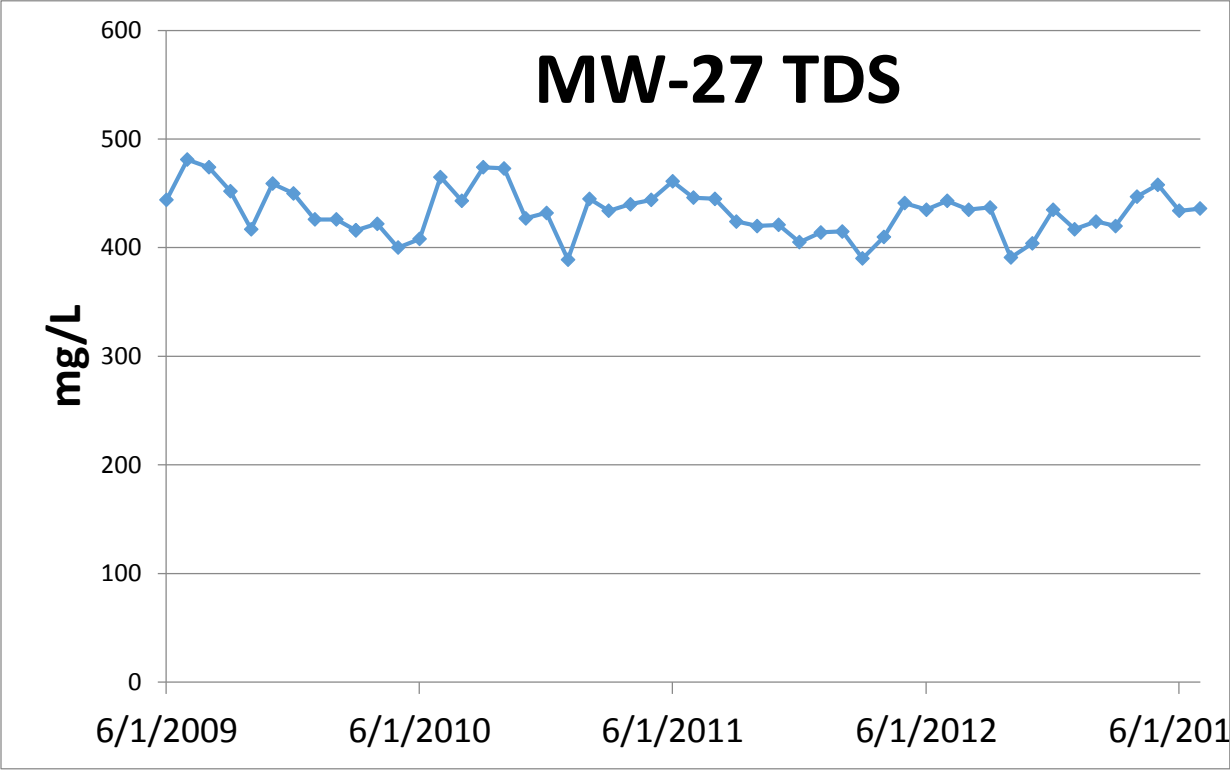




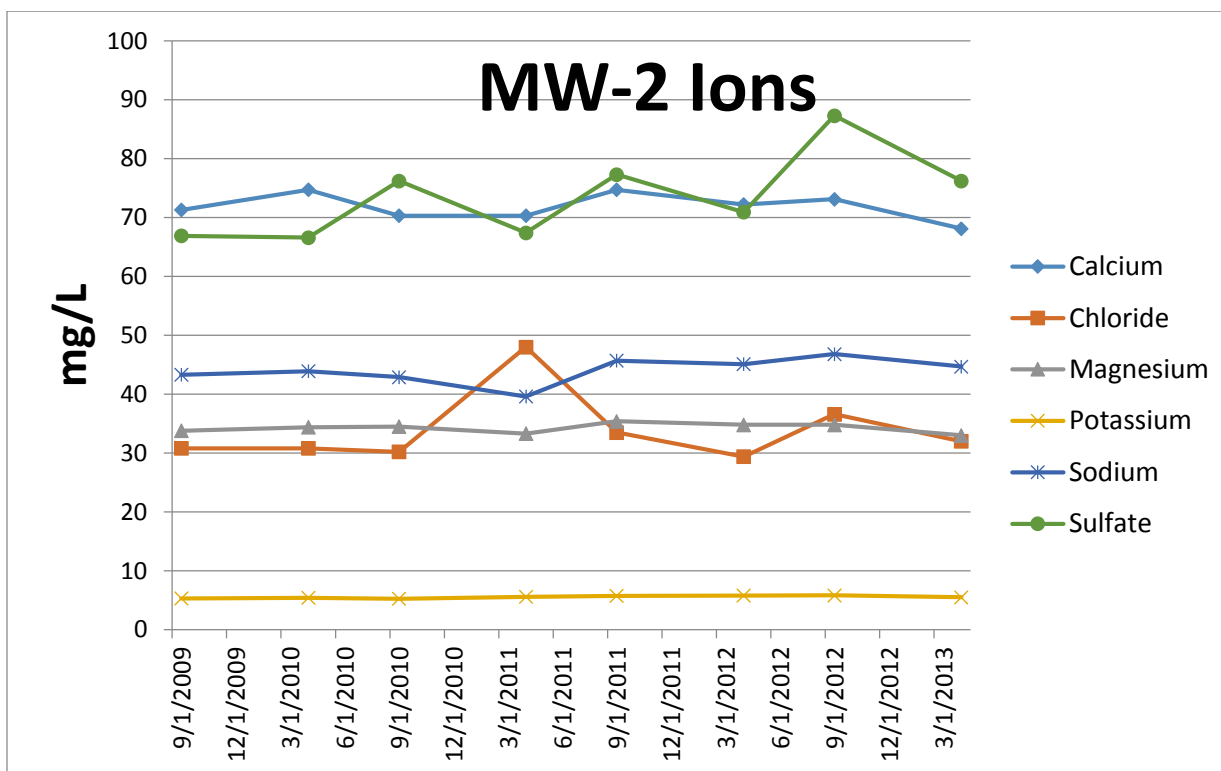
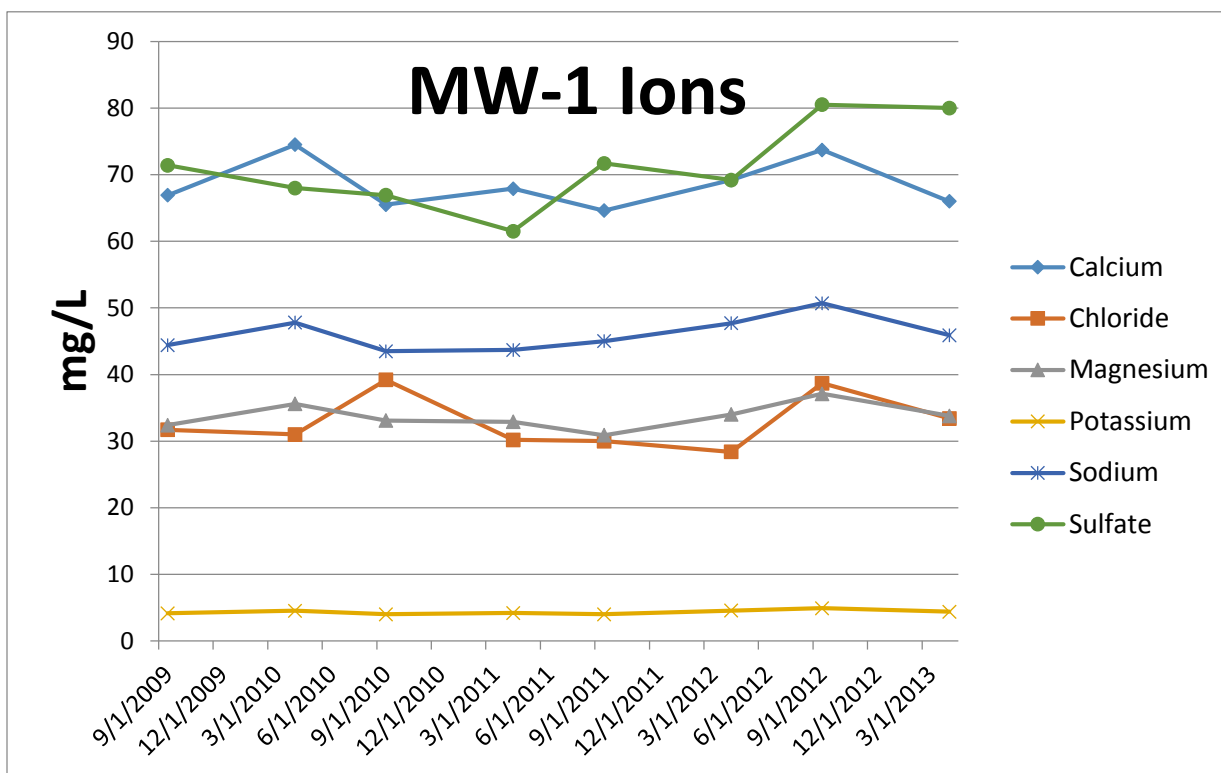


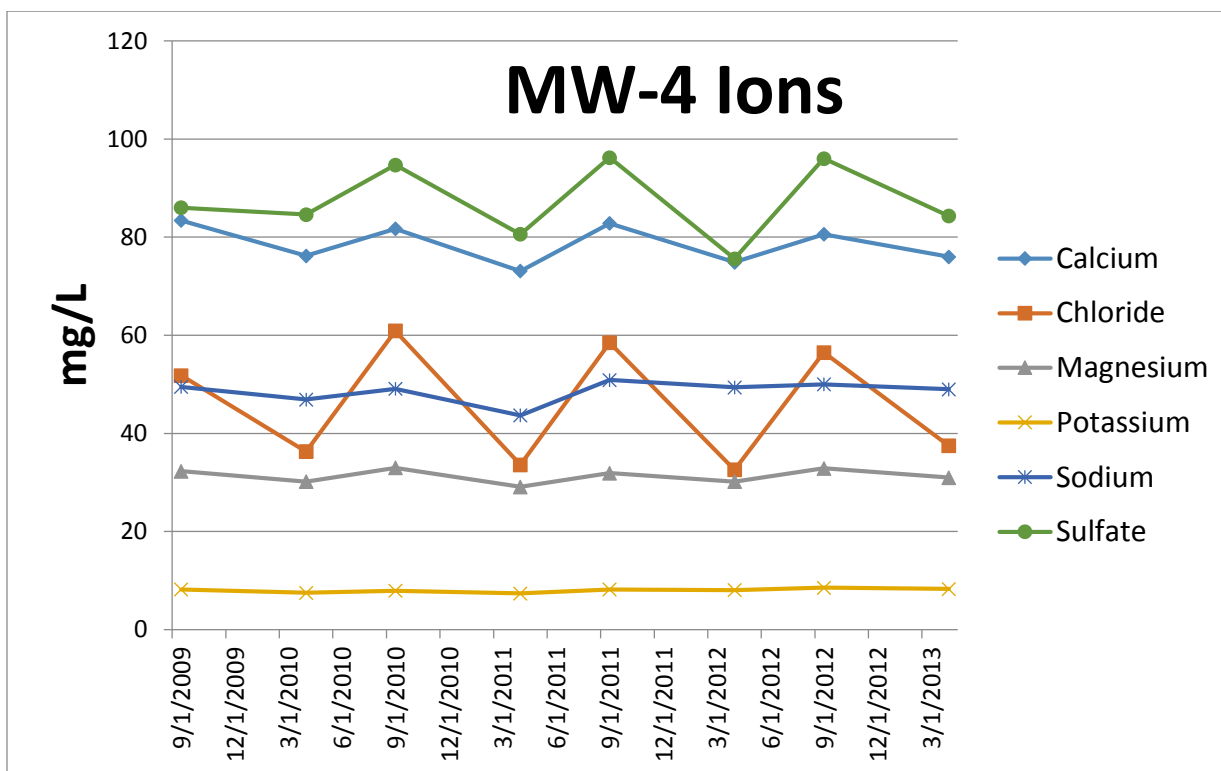
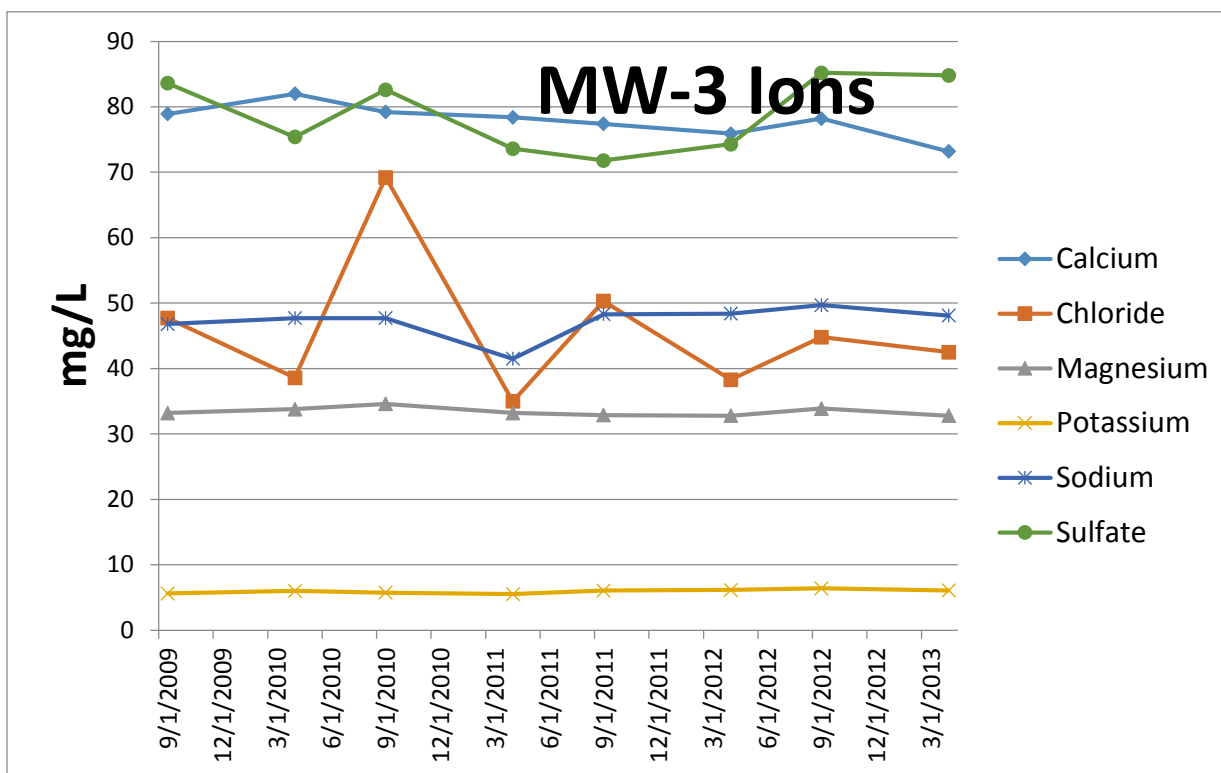


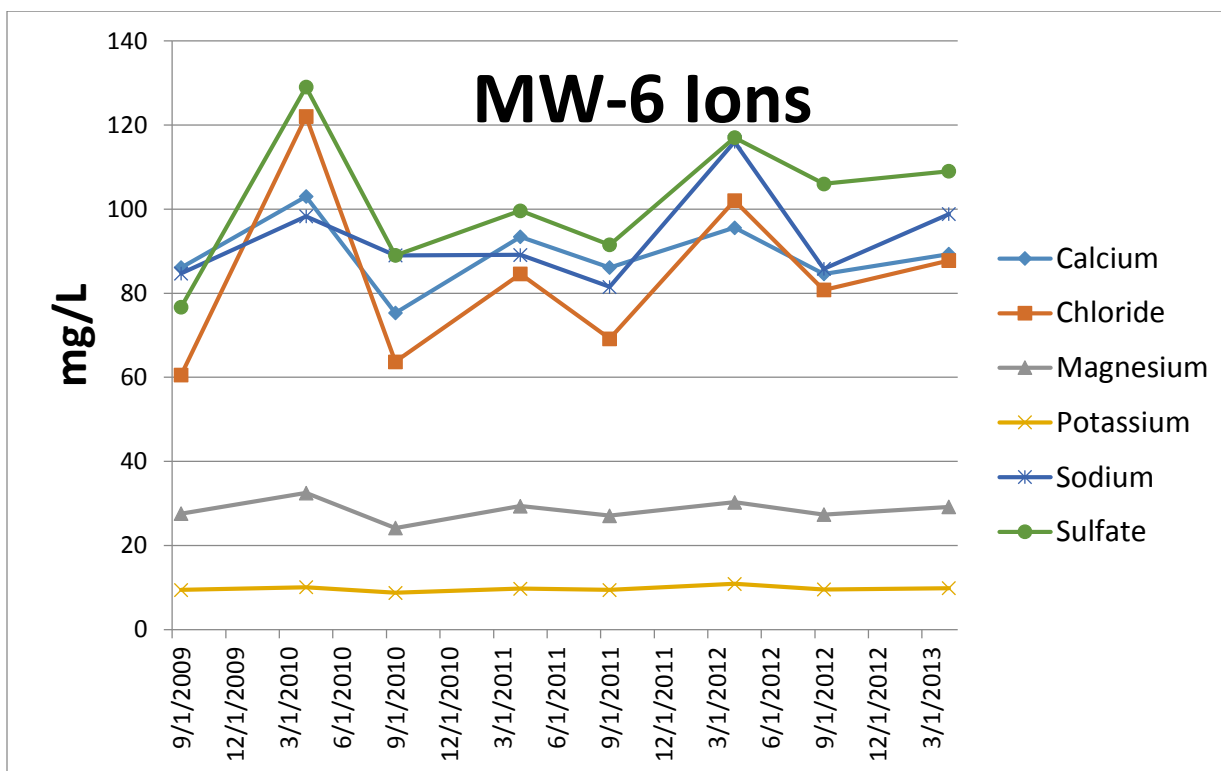
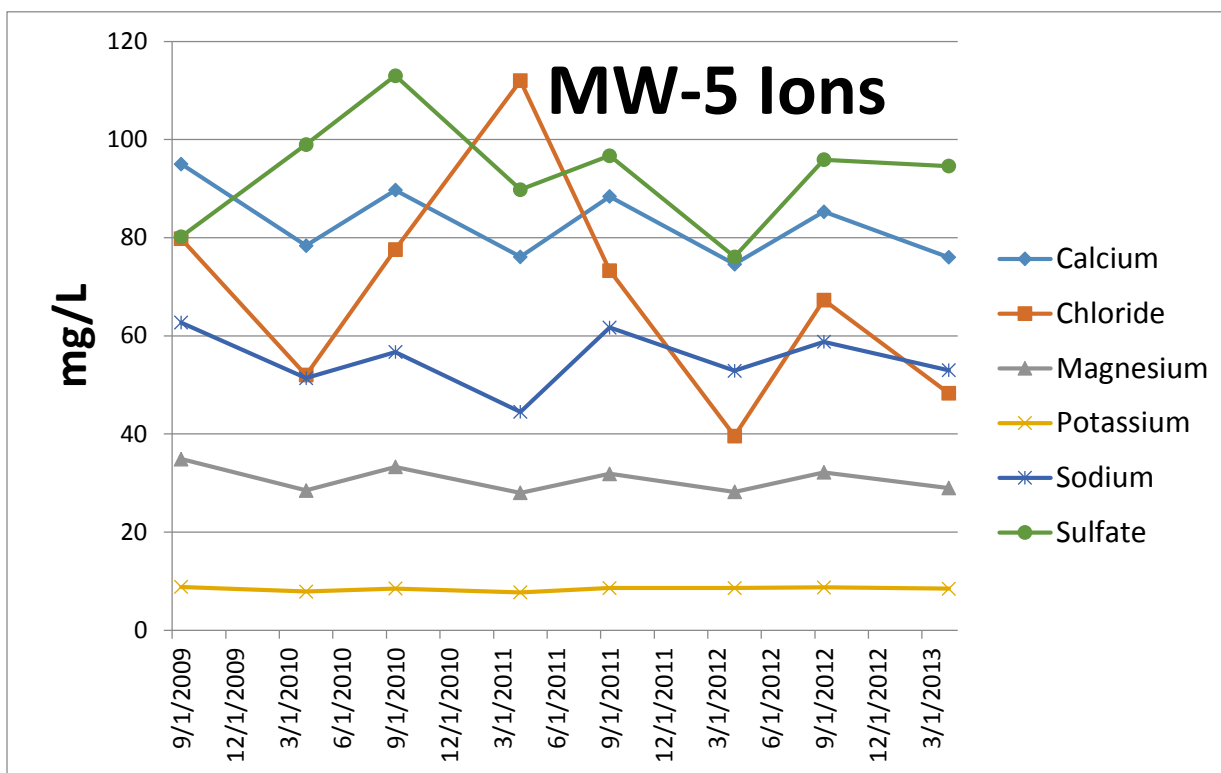


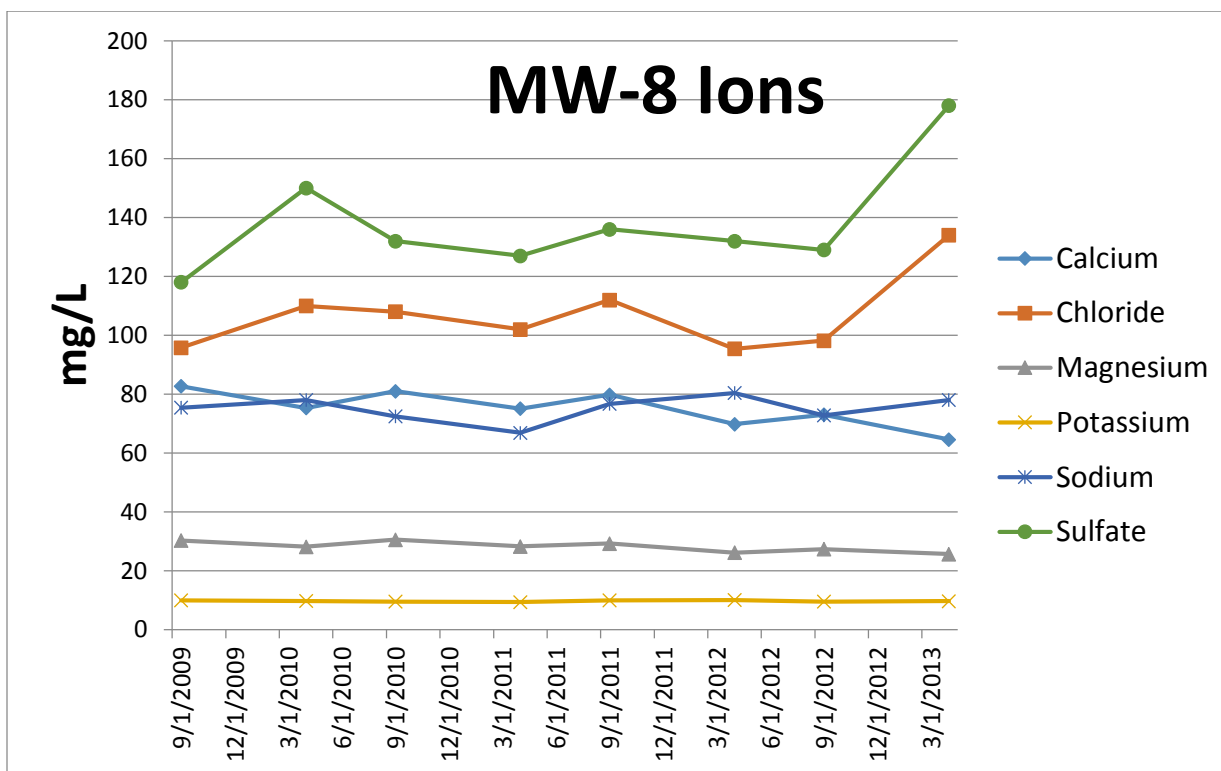
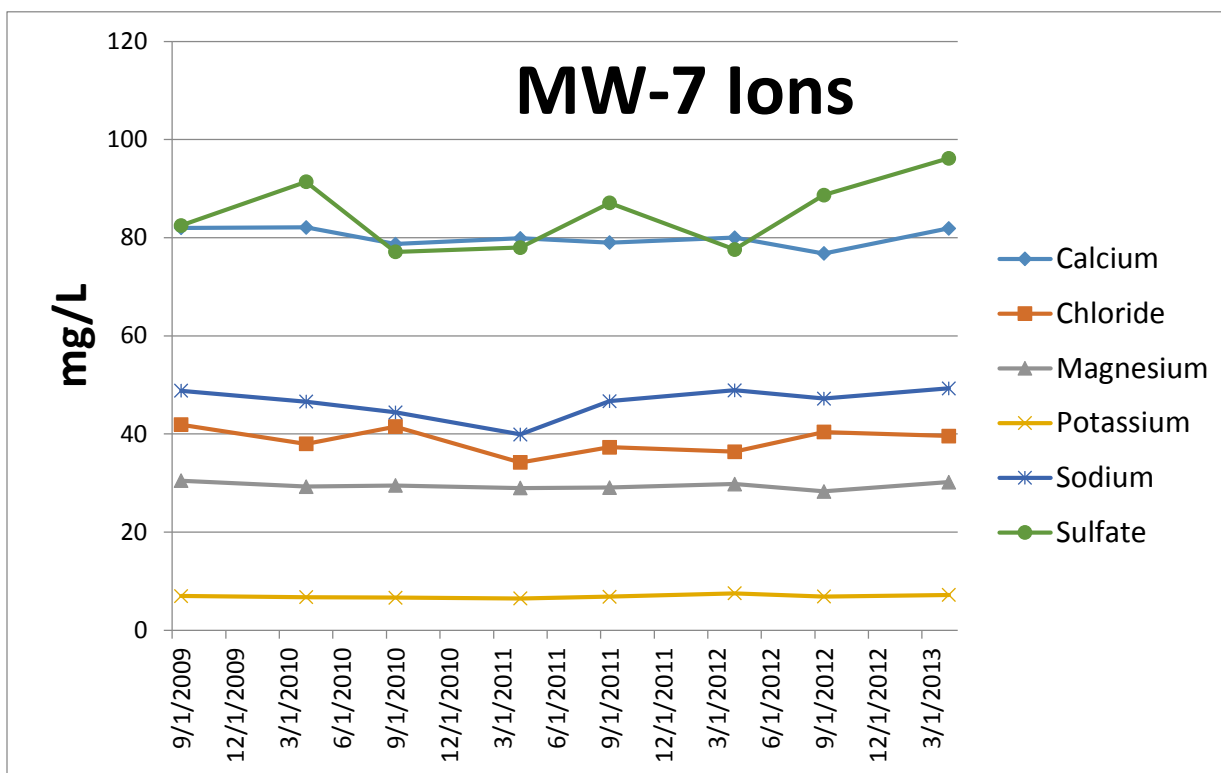


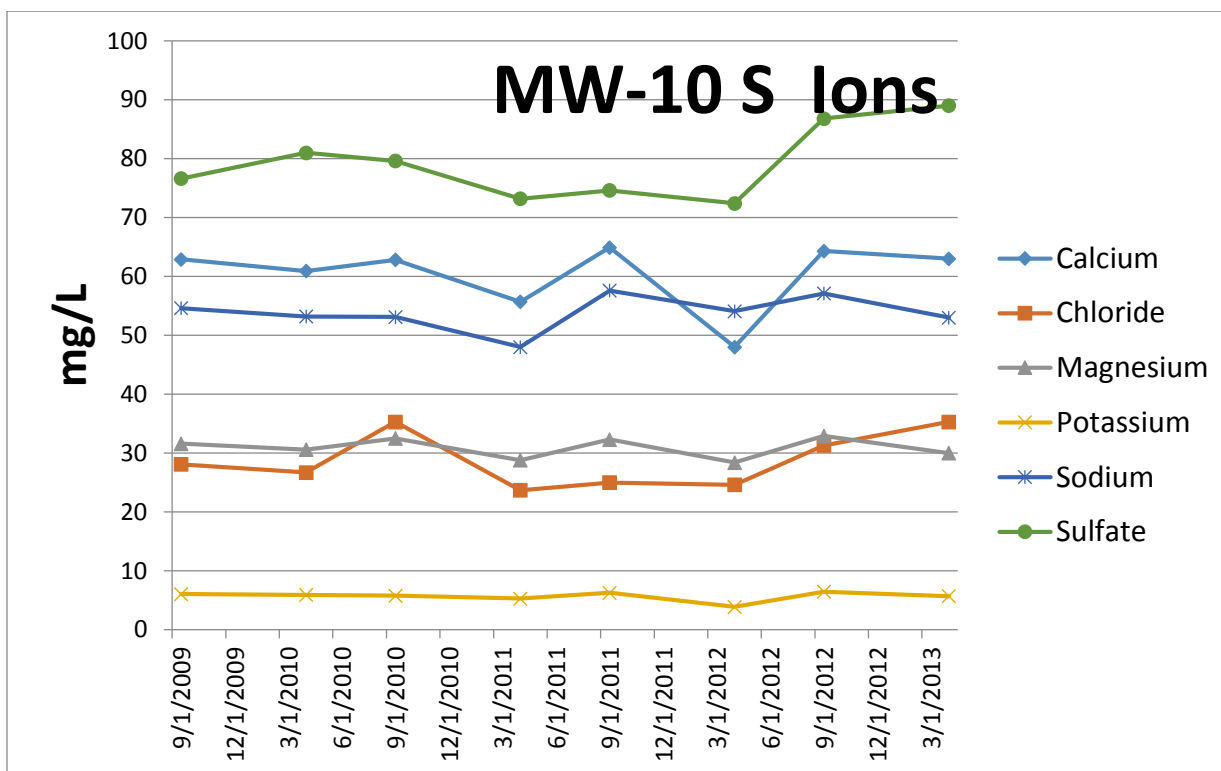
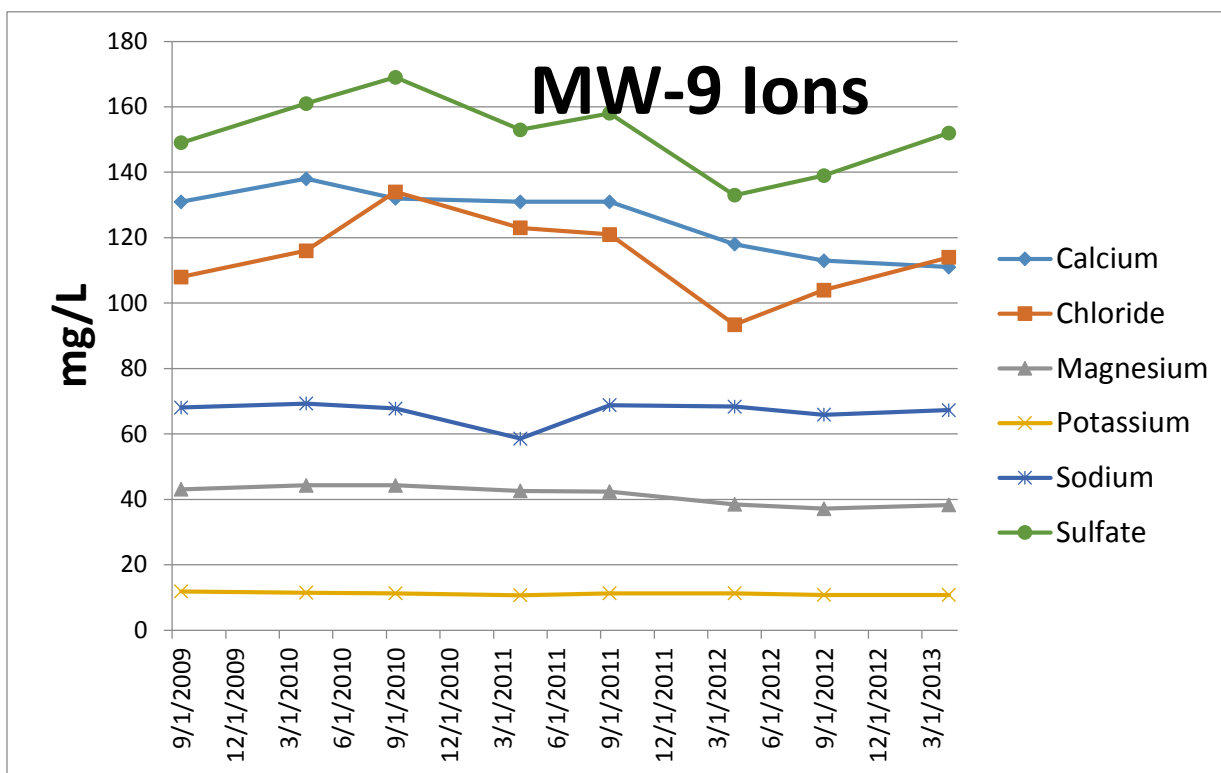
Appendix C. Ions Concentration Time Series Graphs

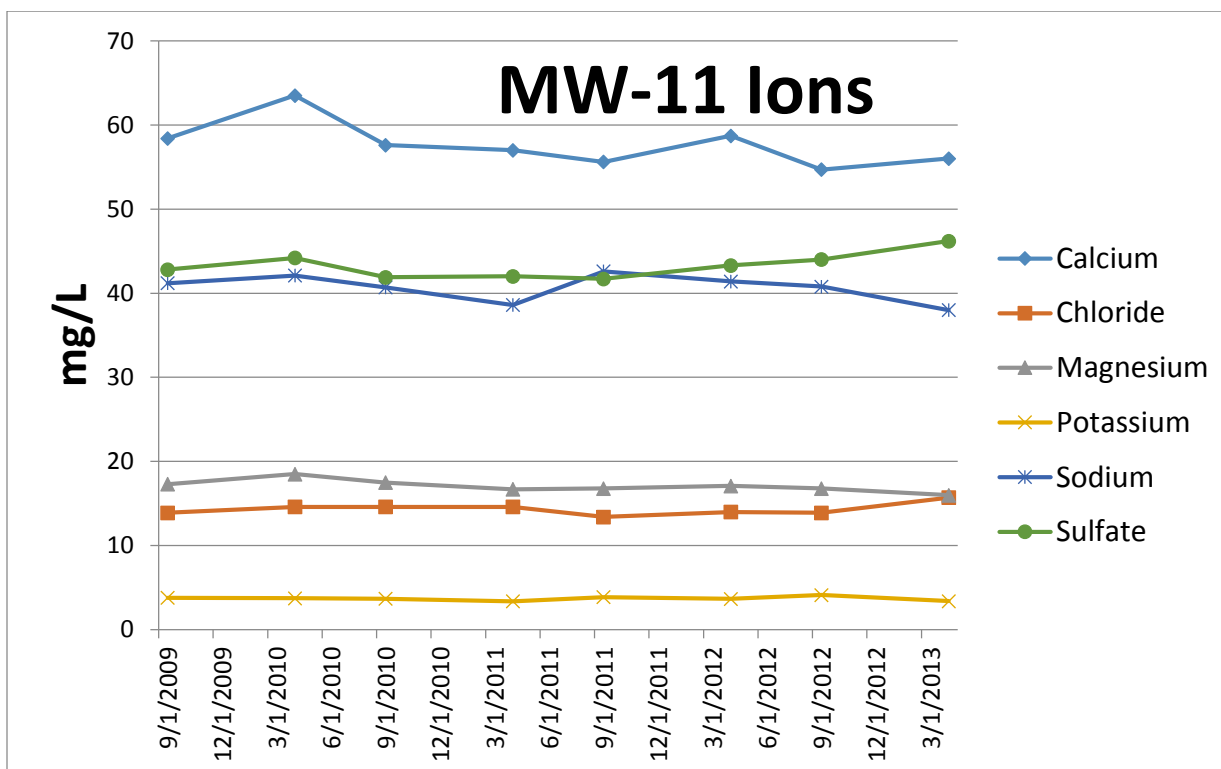
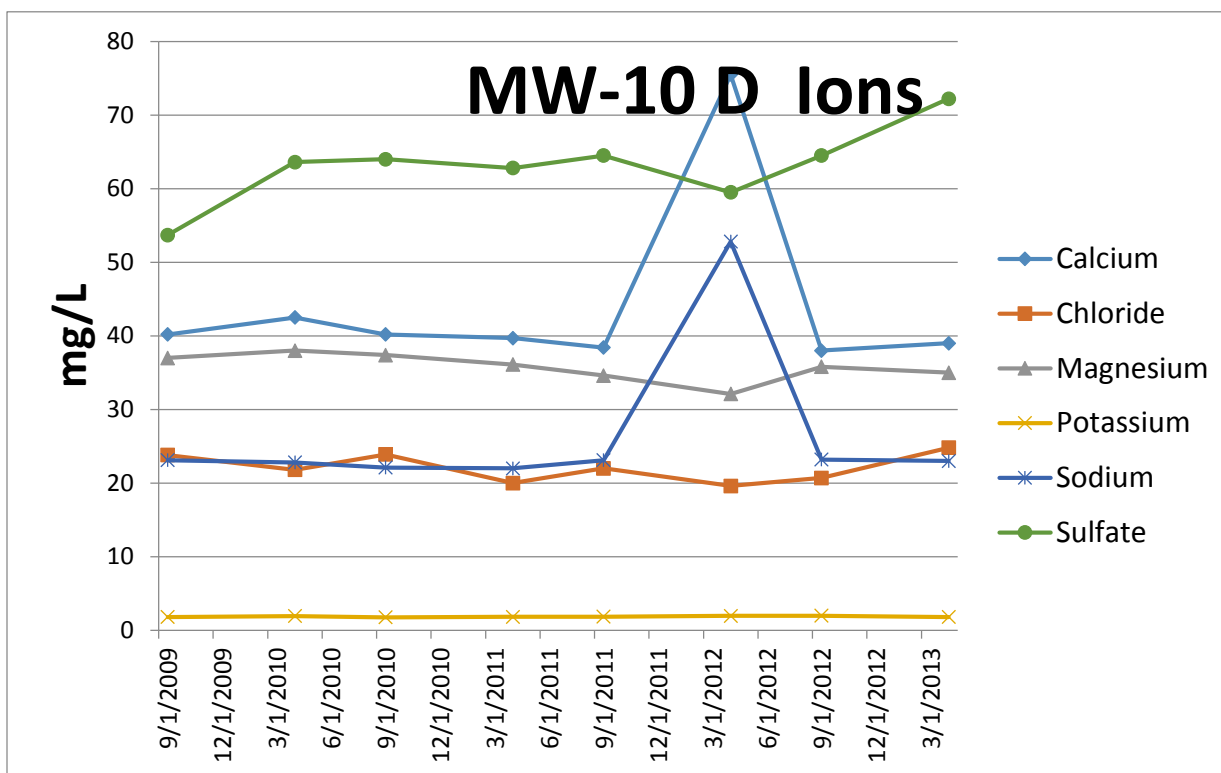


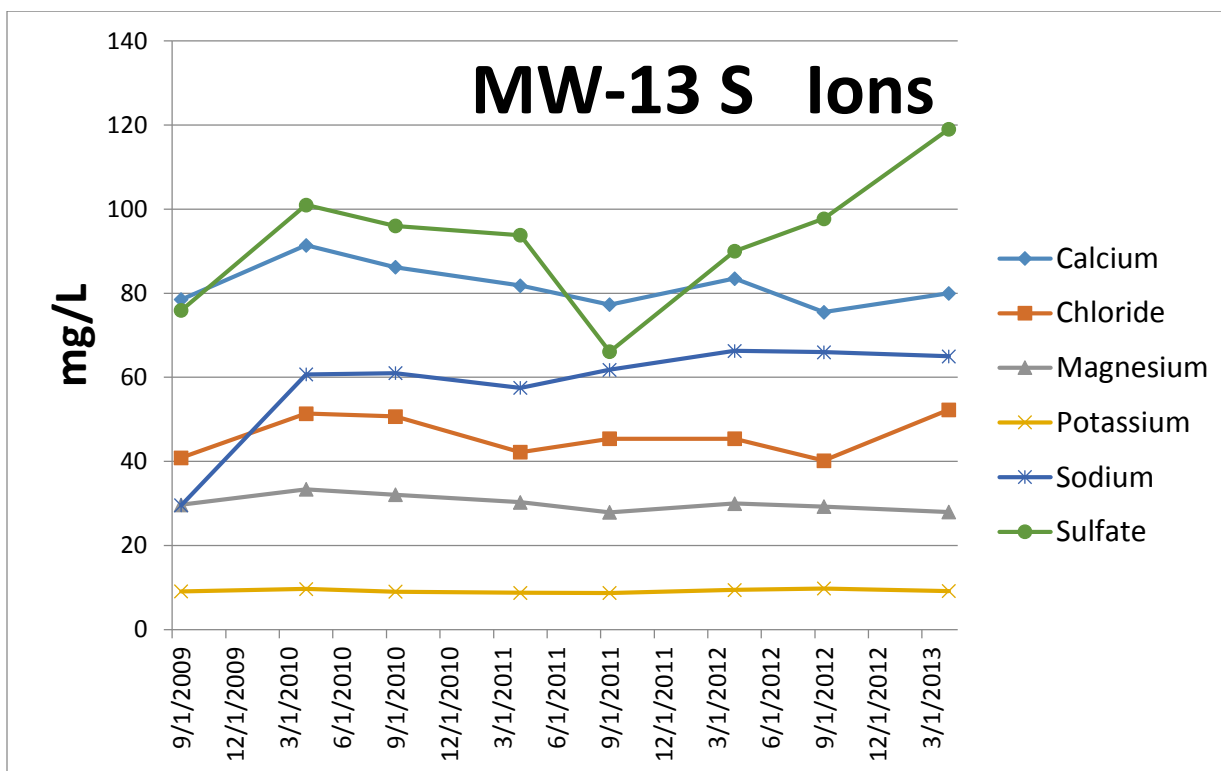
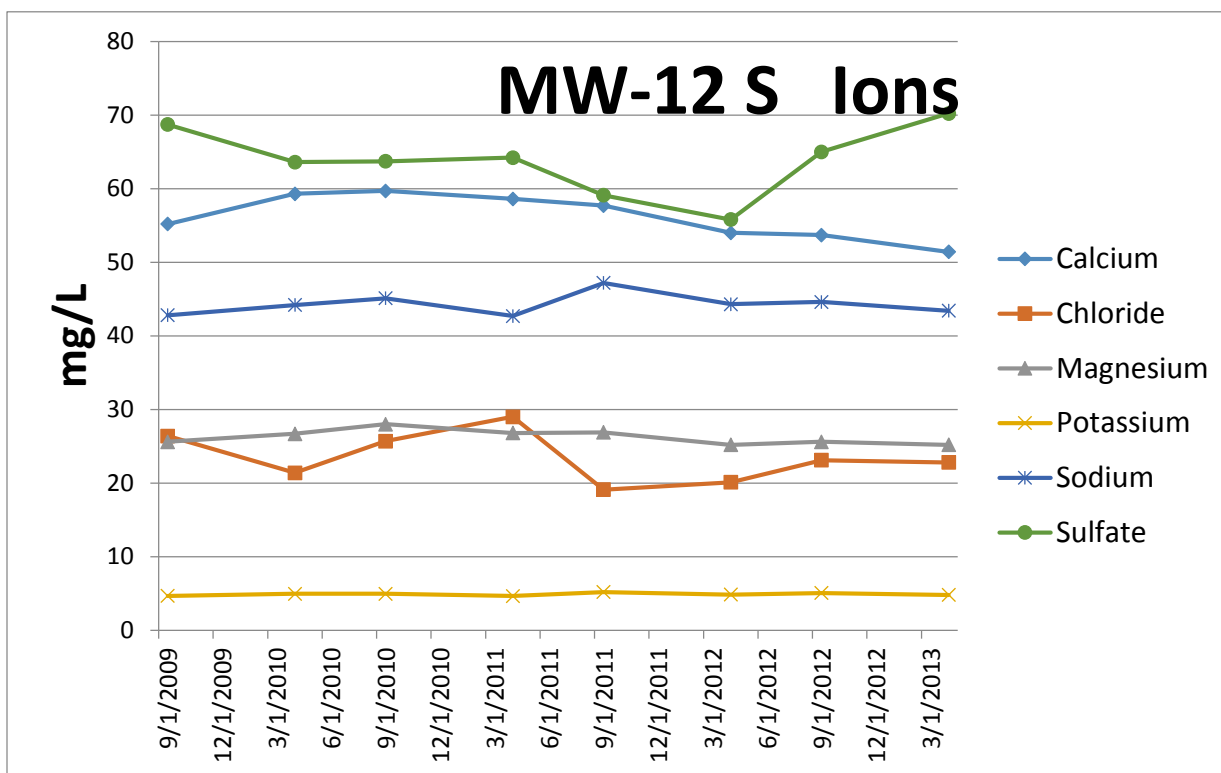


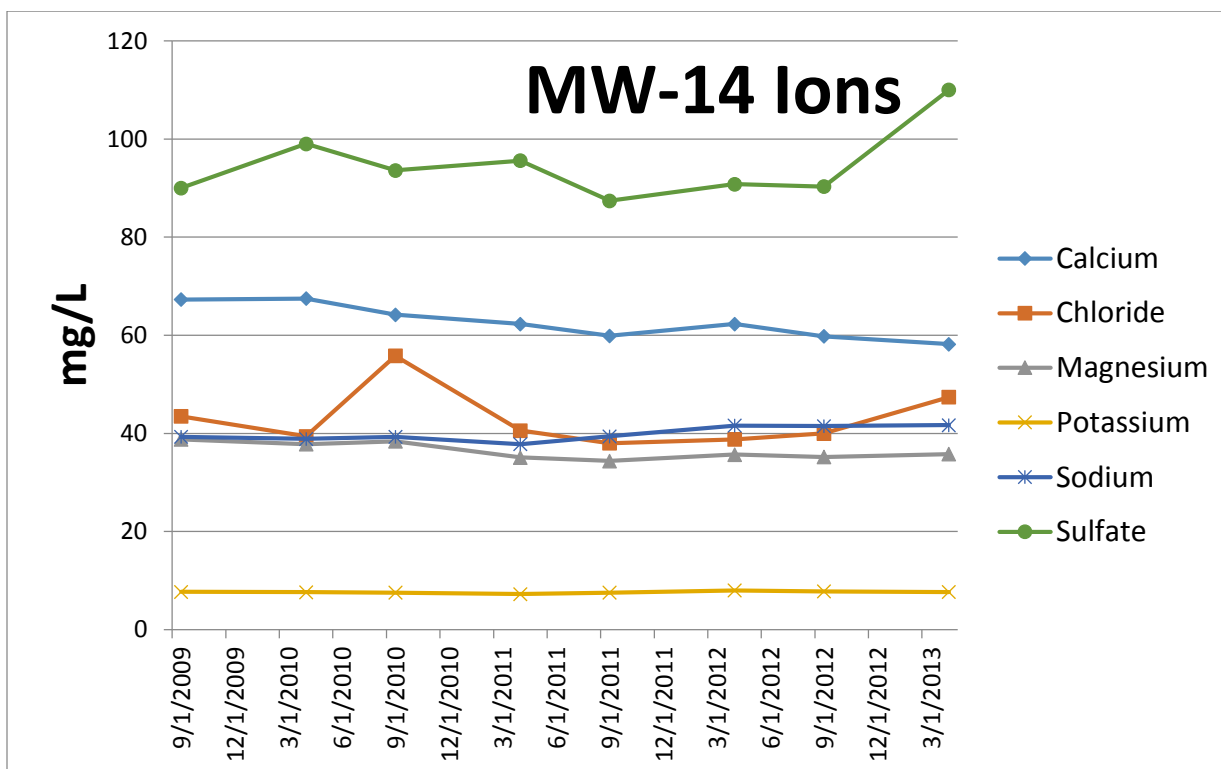
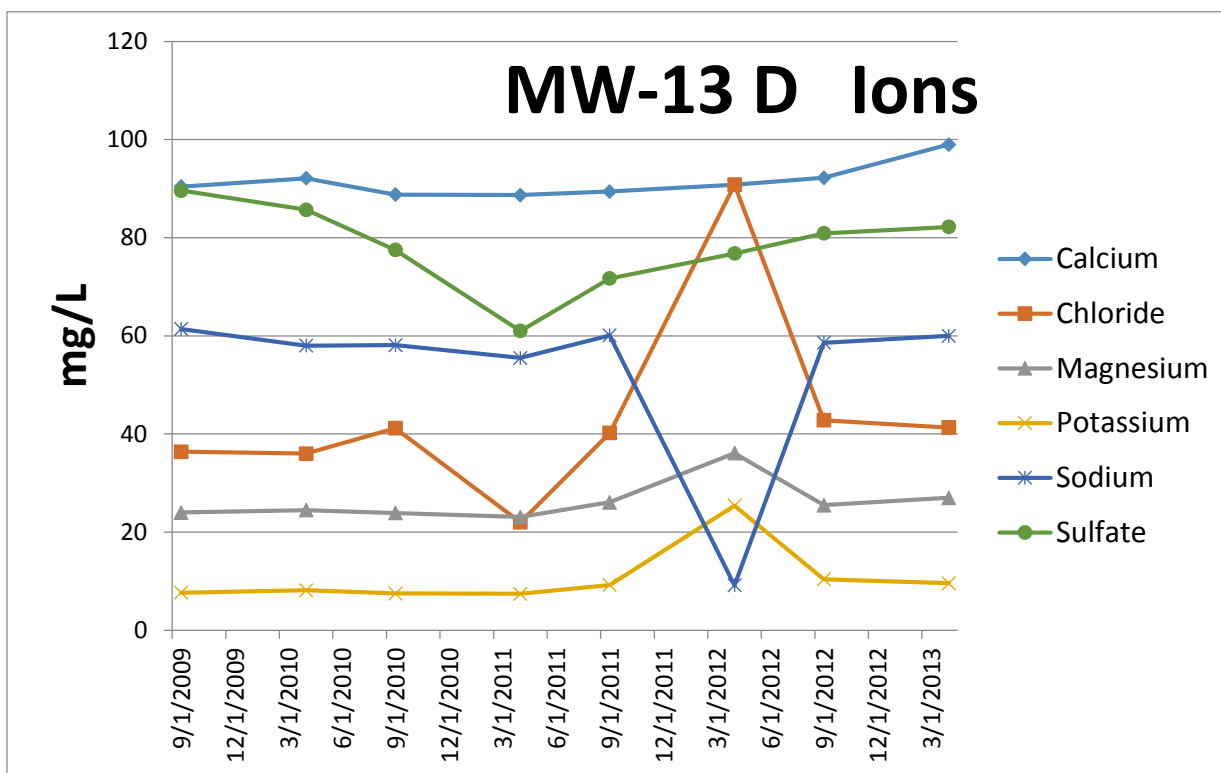


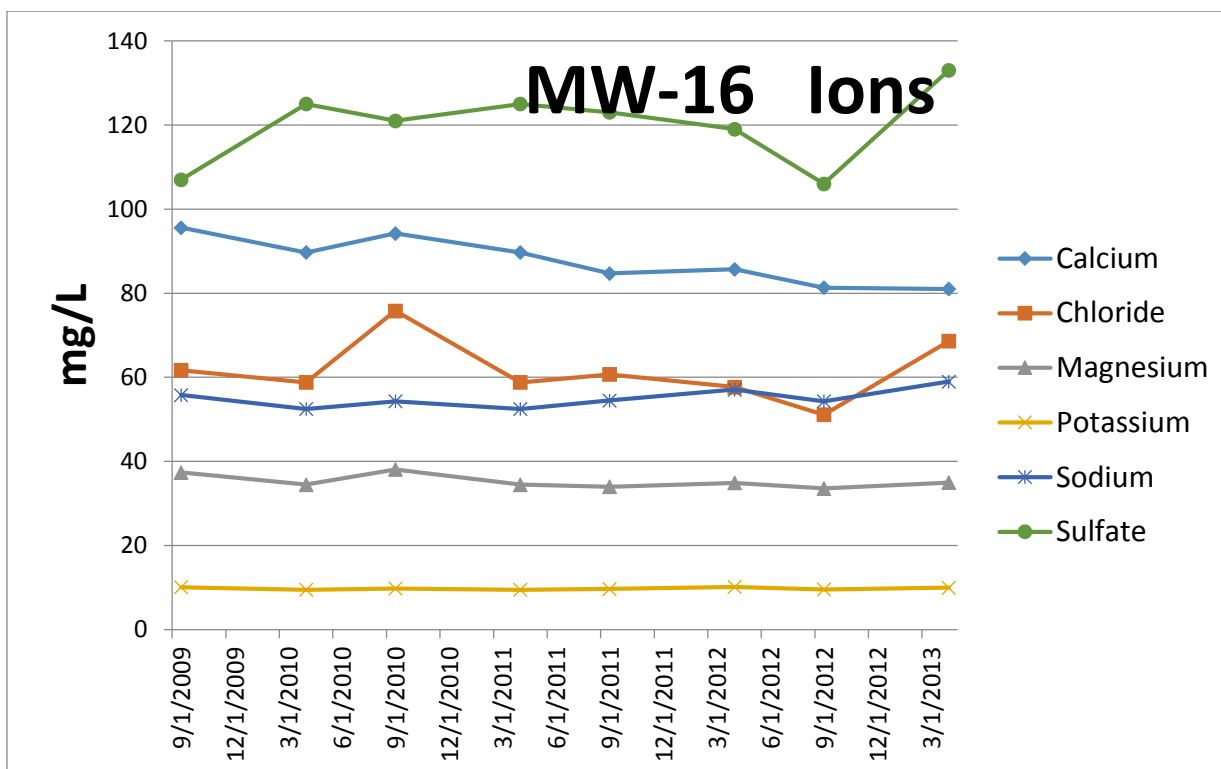
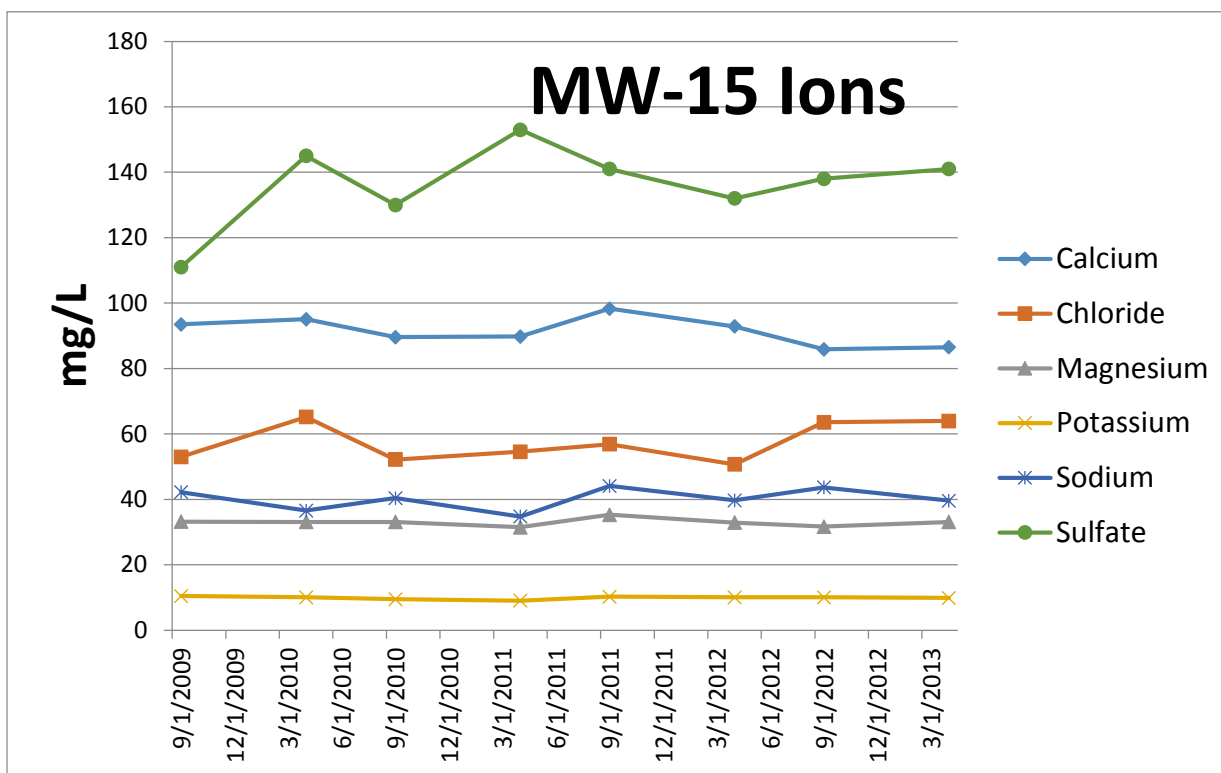


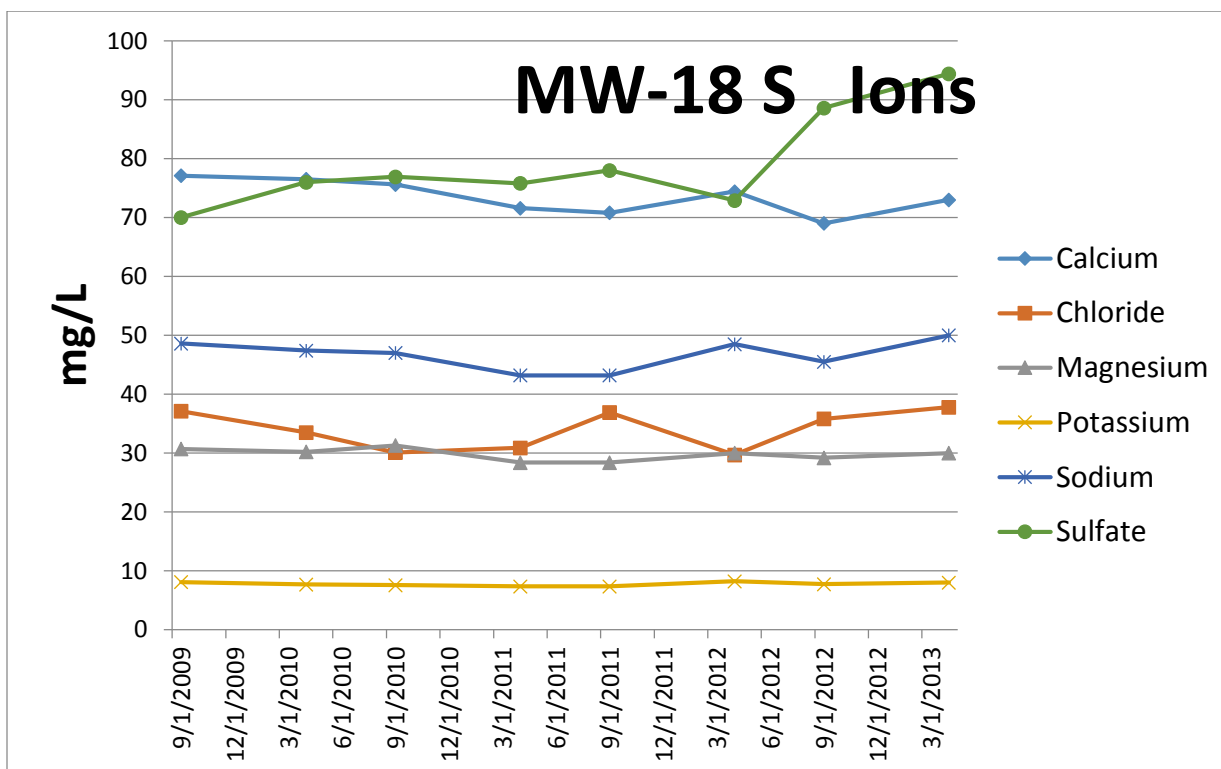
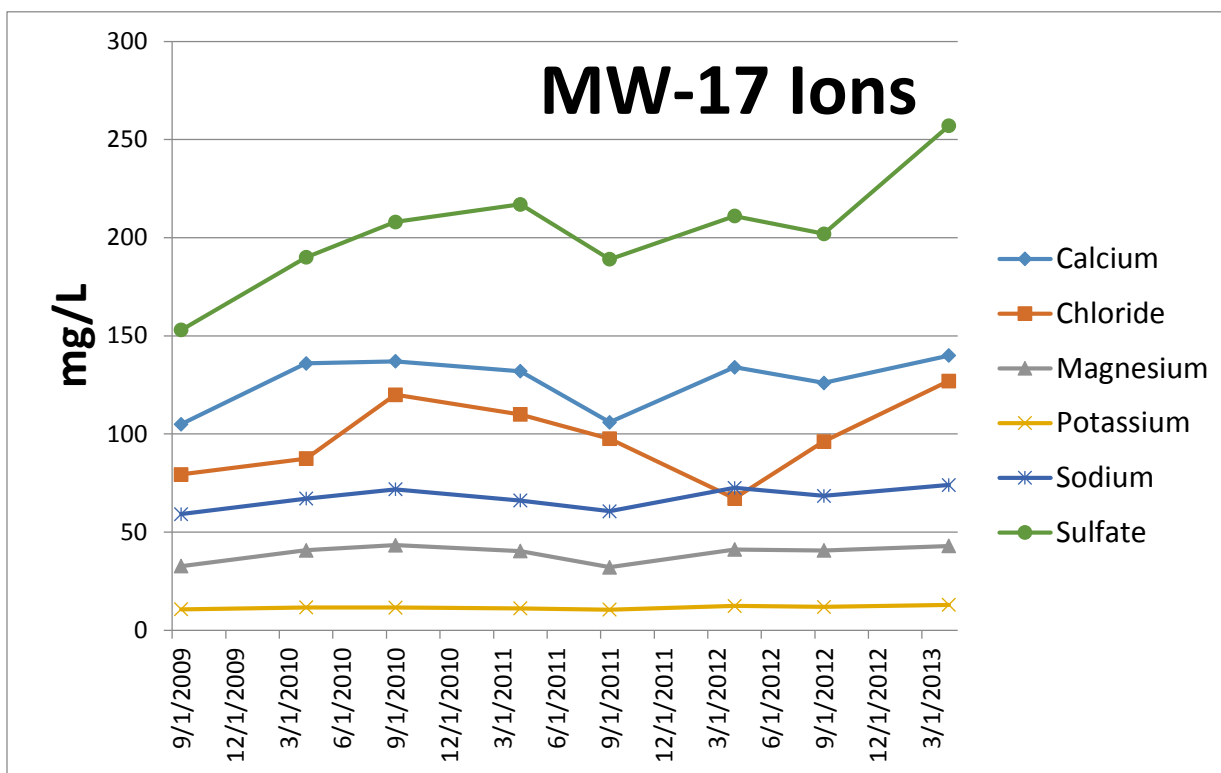


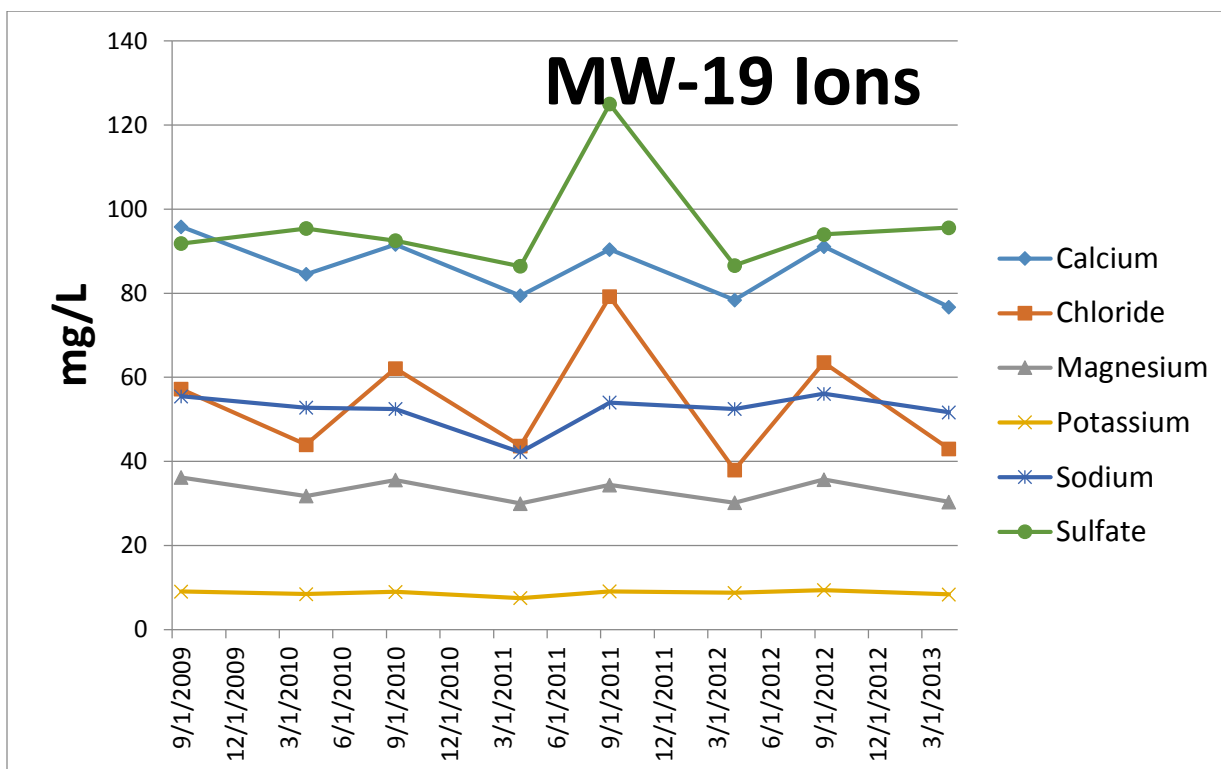
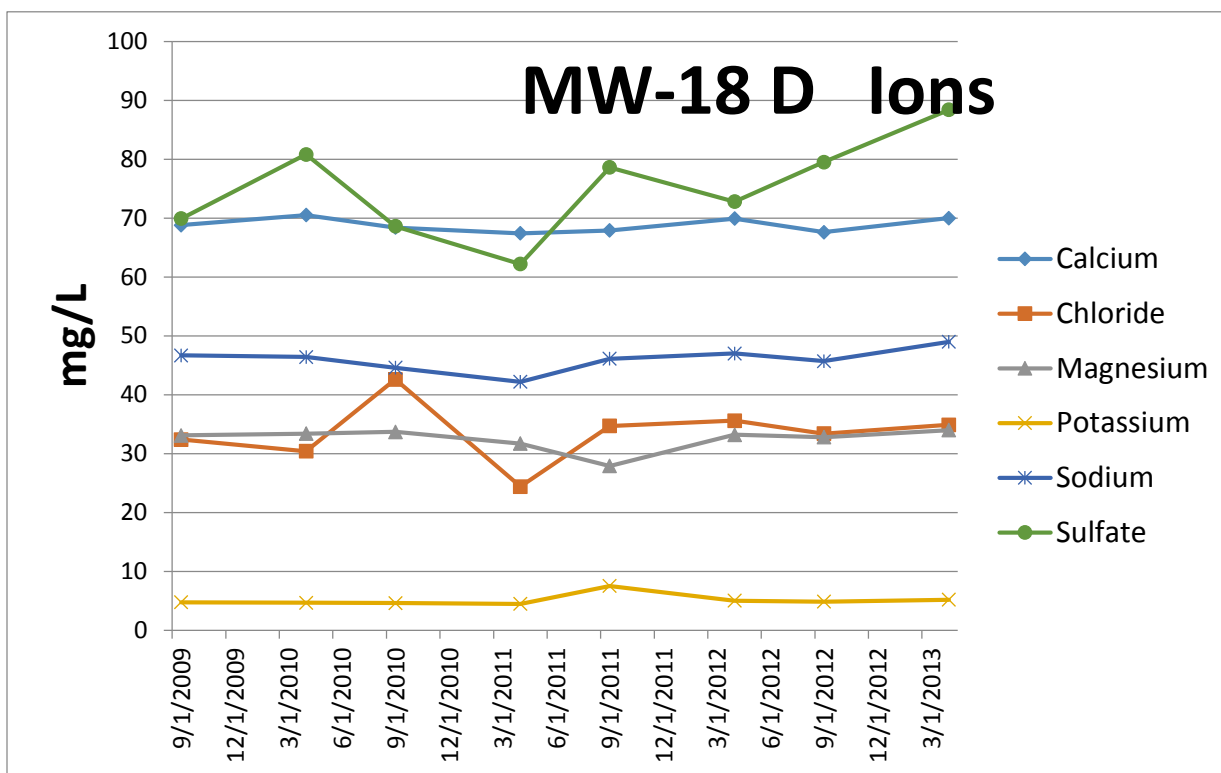


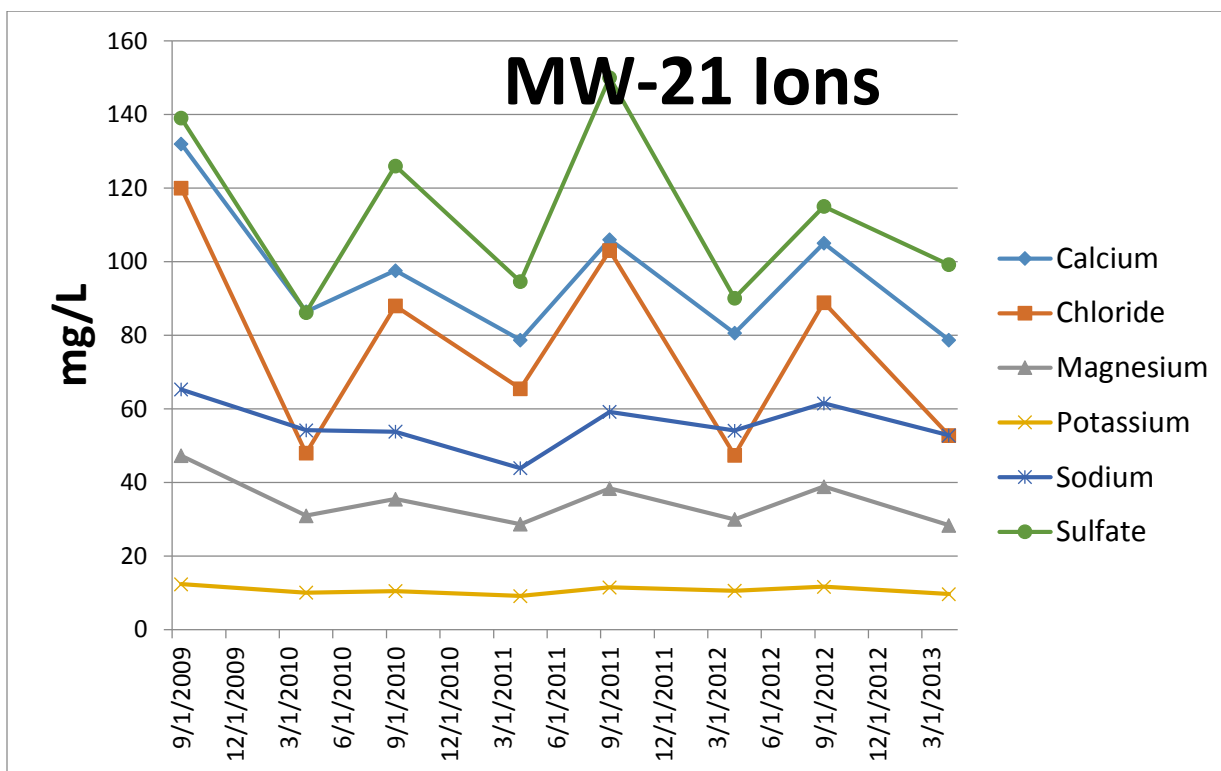
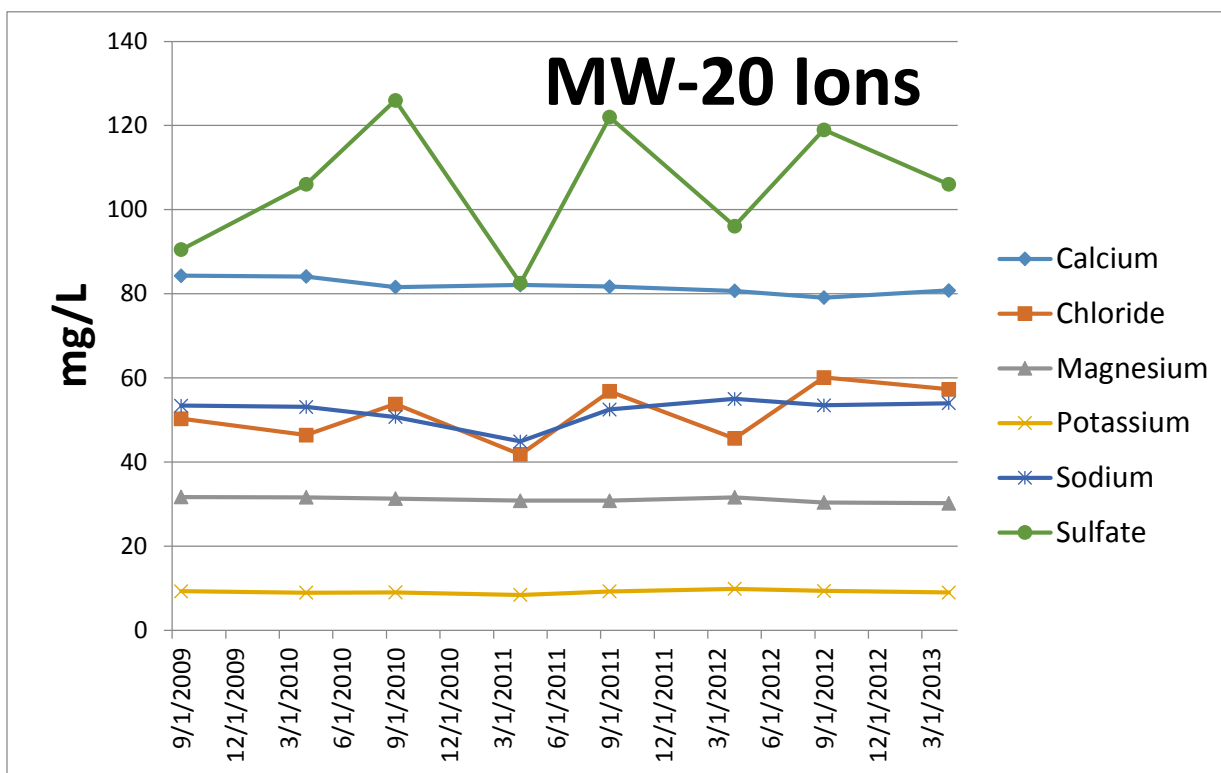


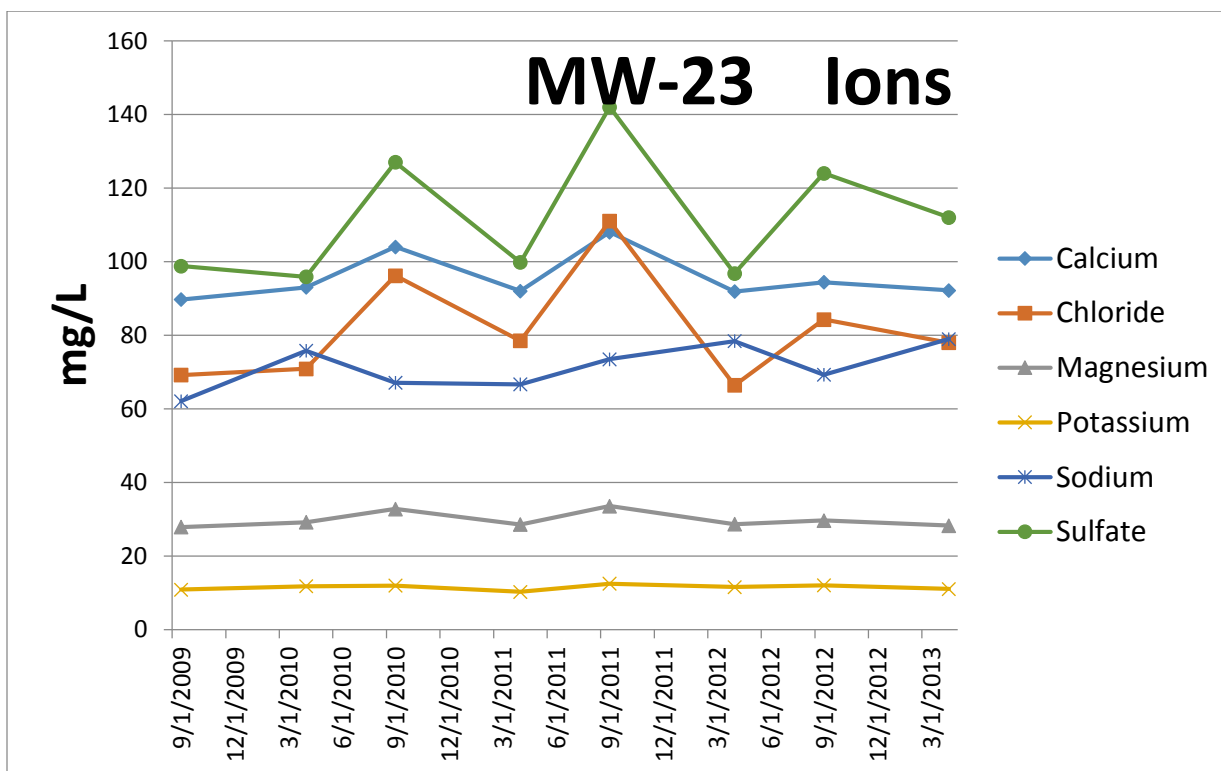
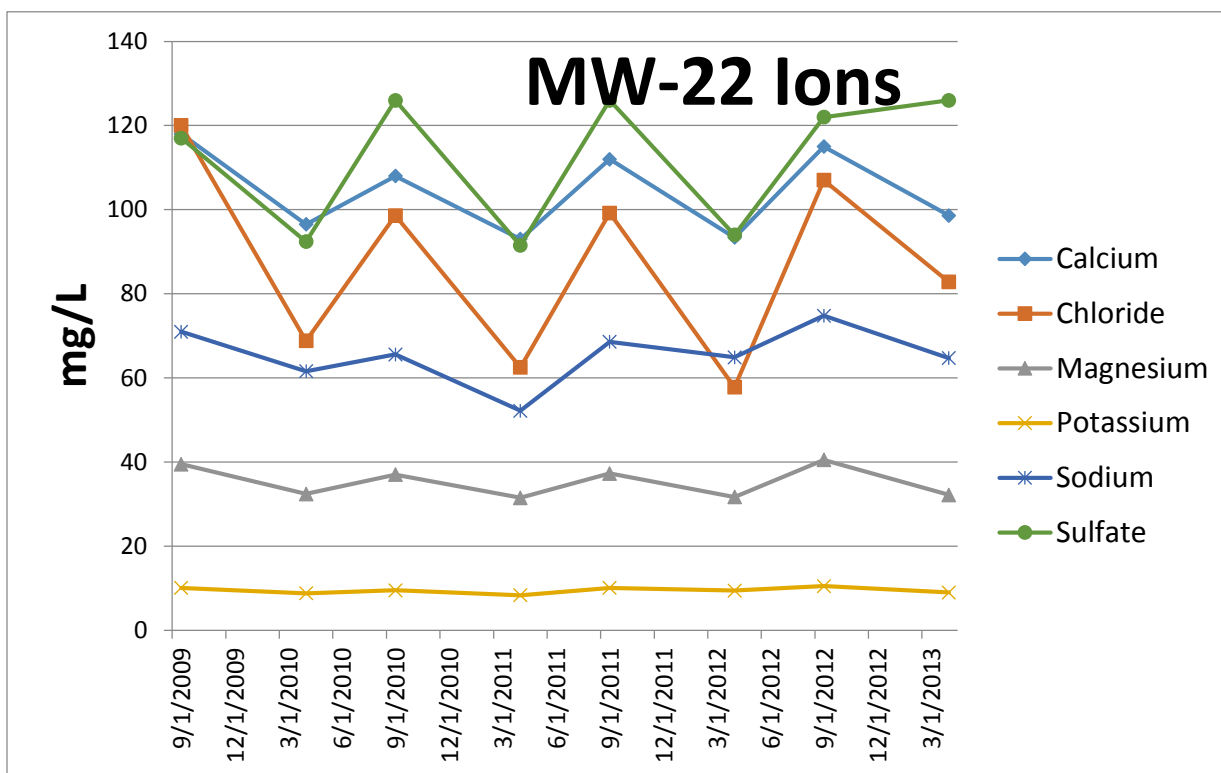


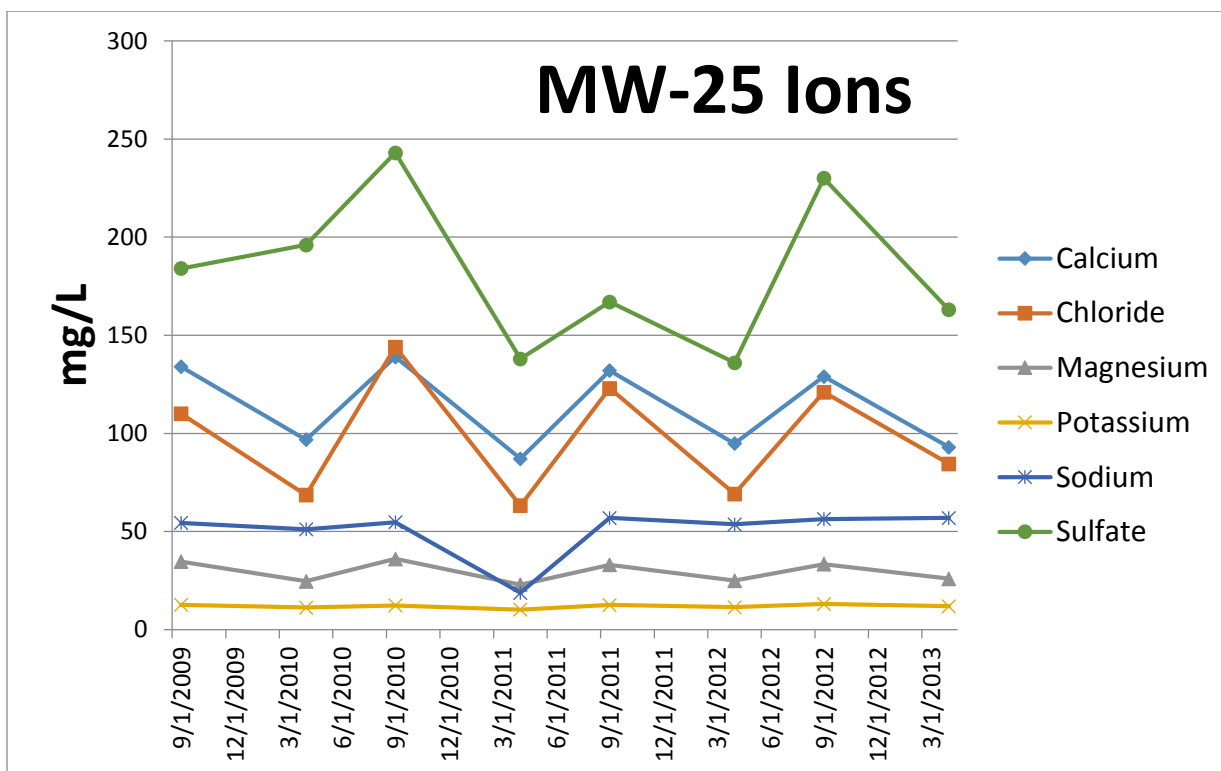
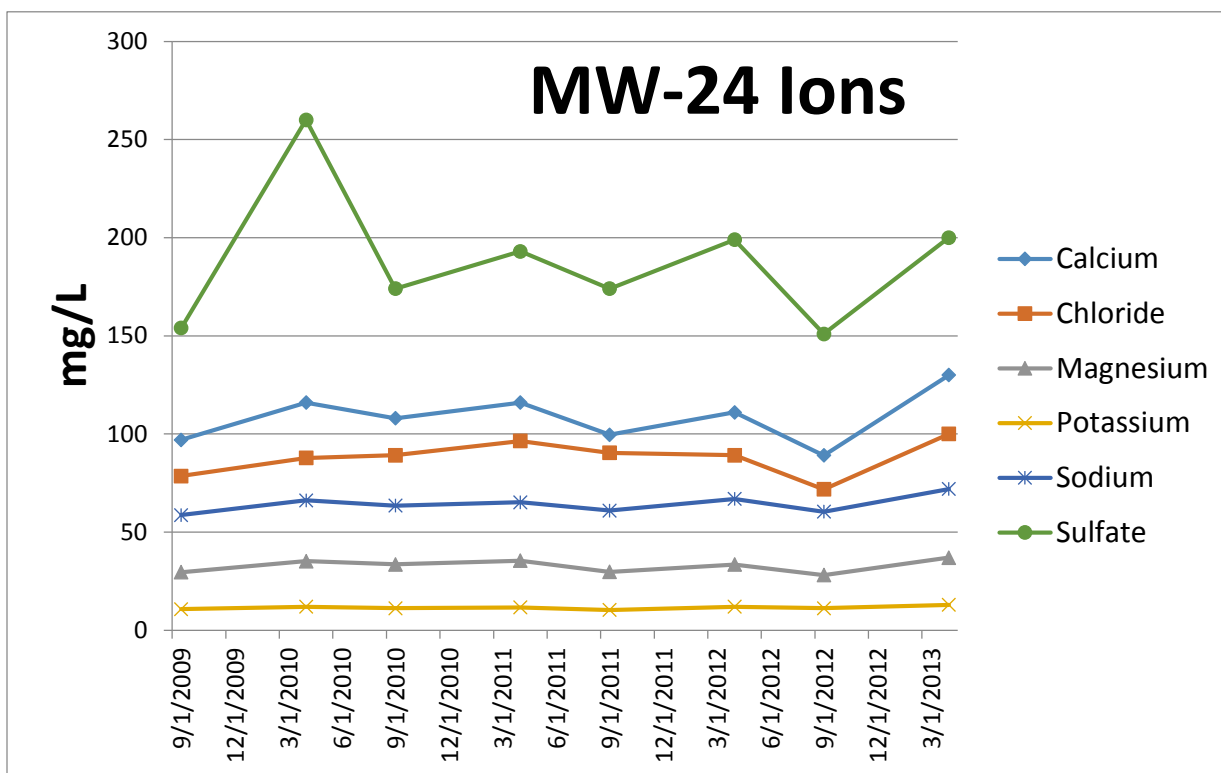


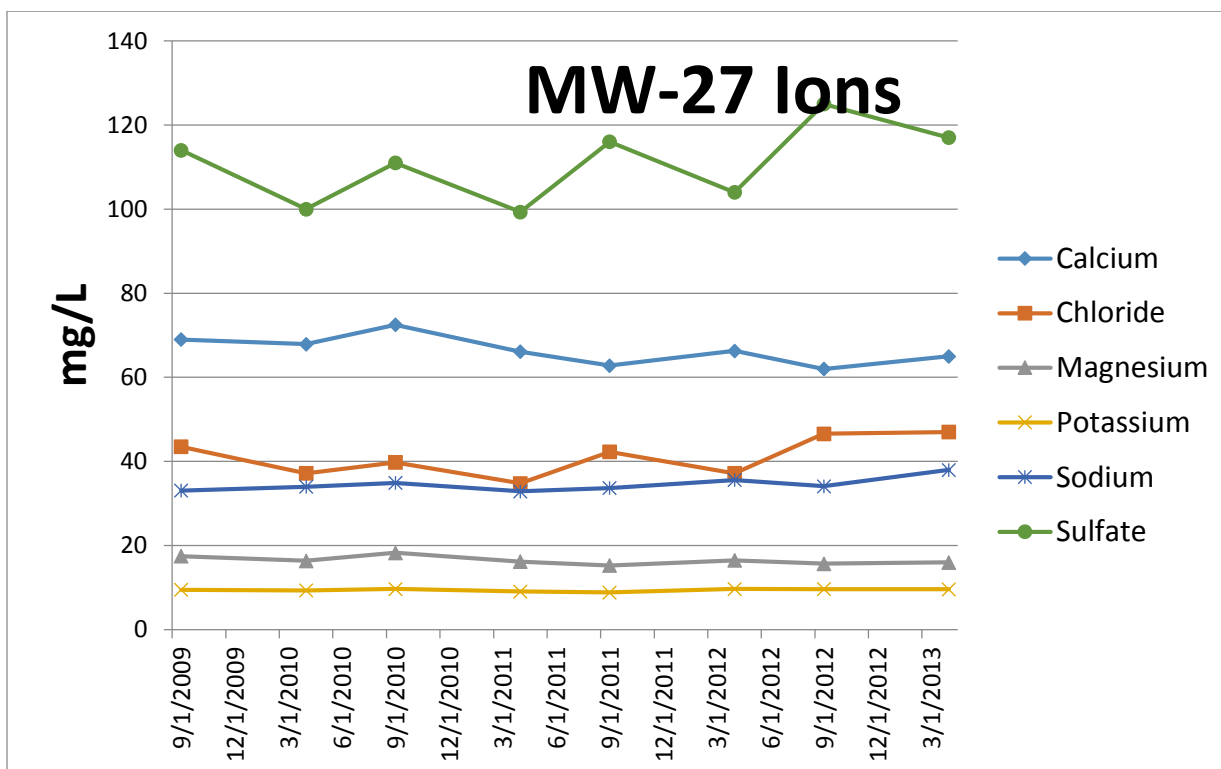
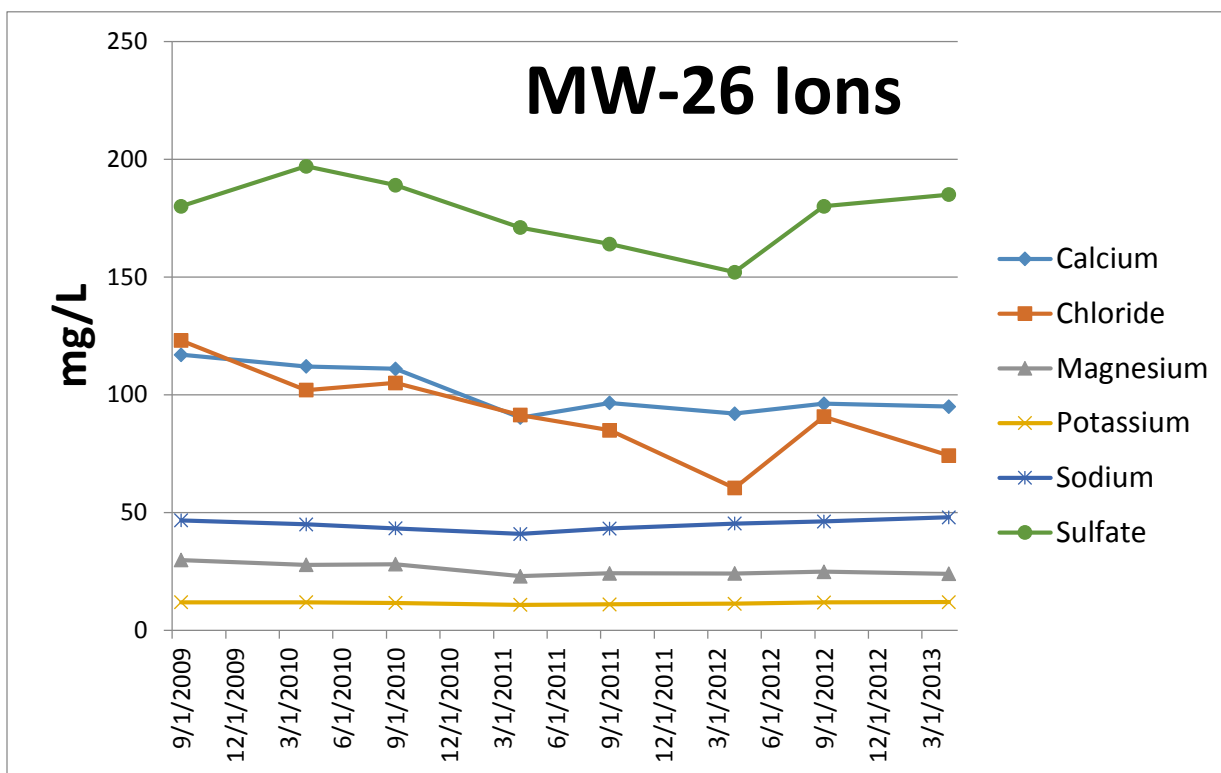






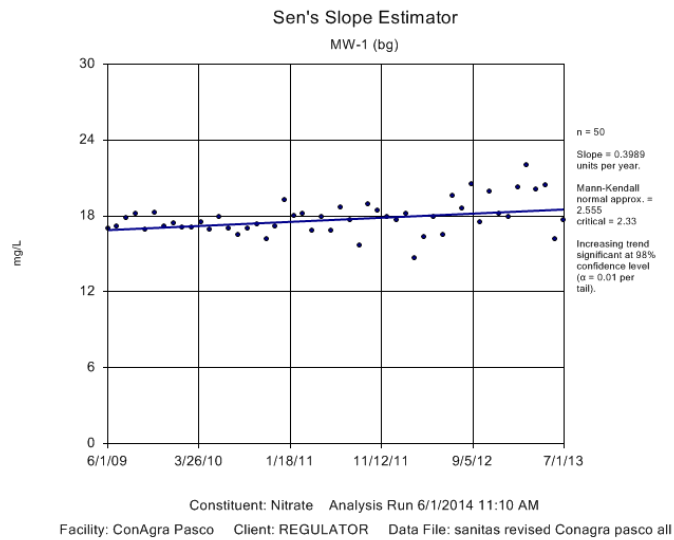




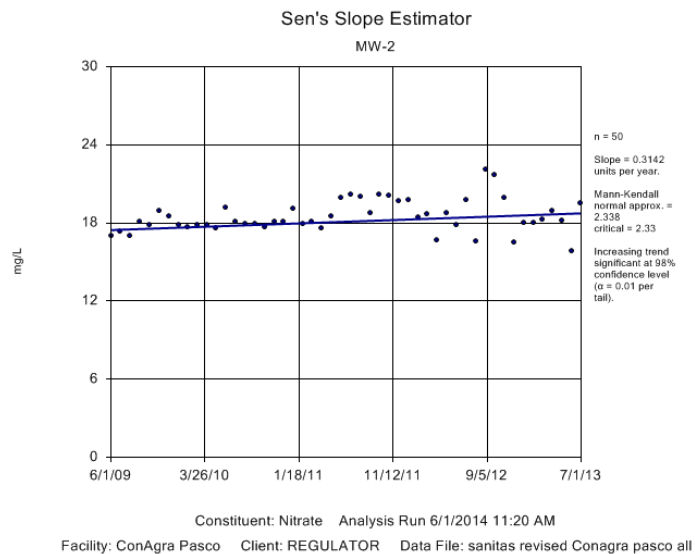


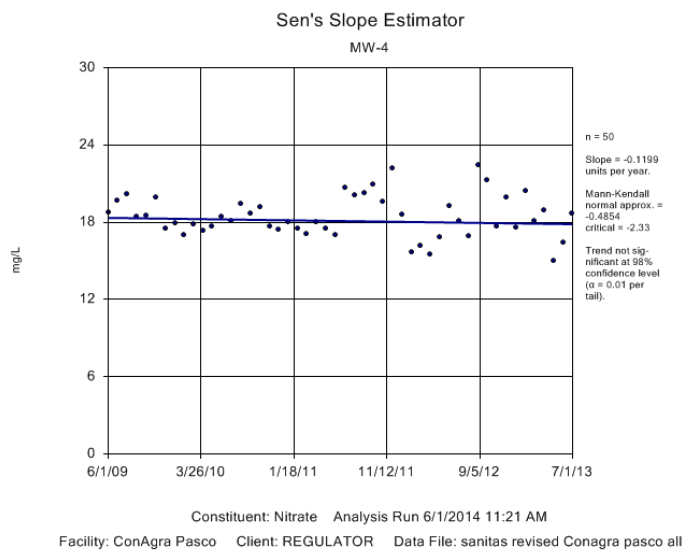
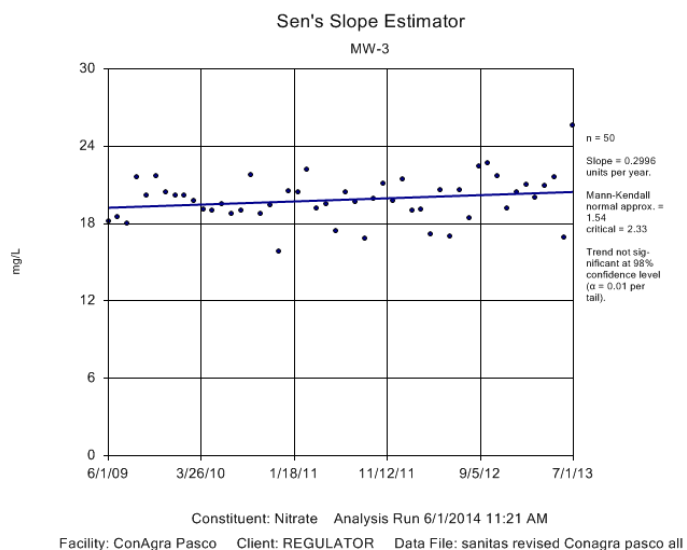
Appendix D. Groundwater Nitrate Trends

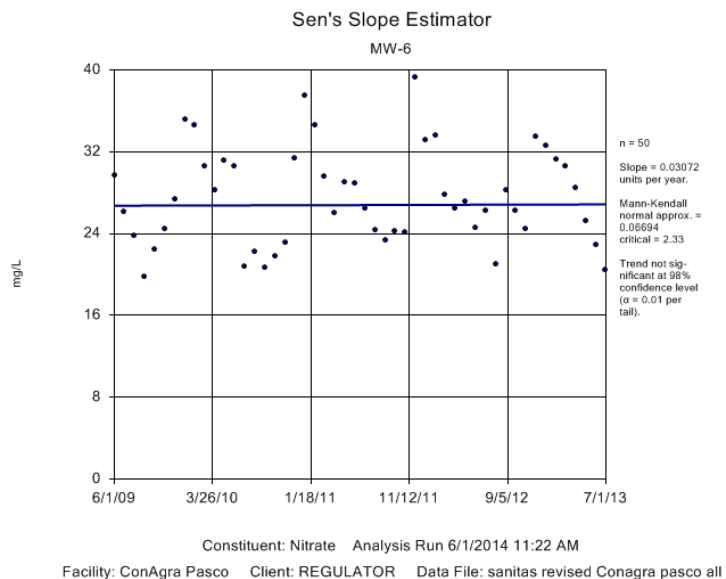
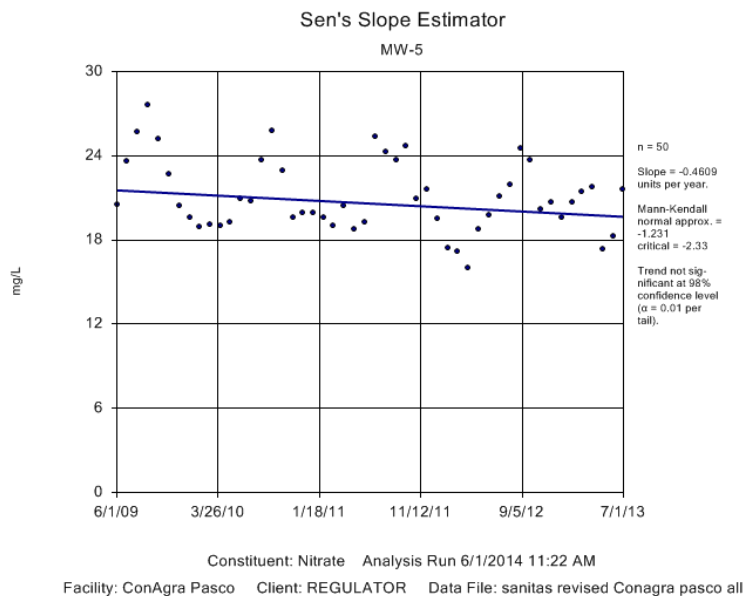
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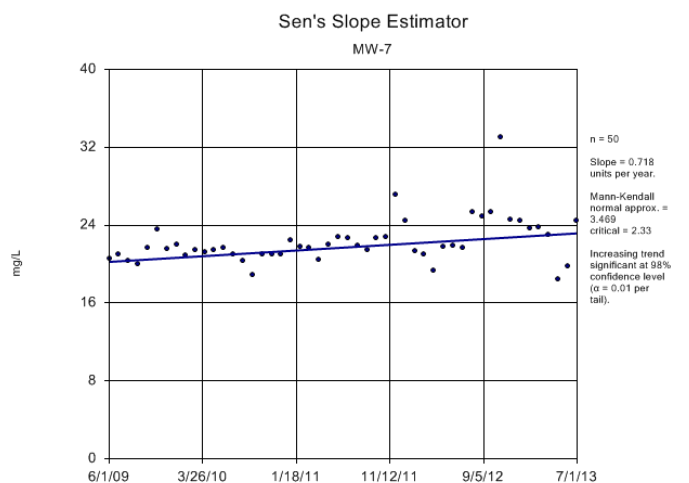


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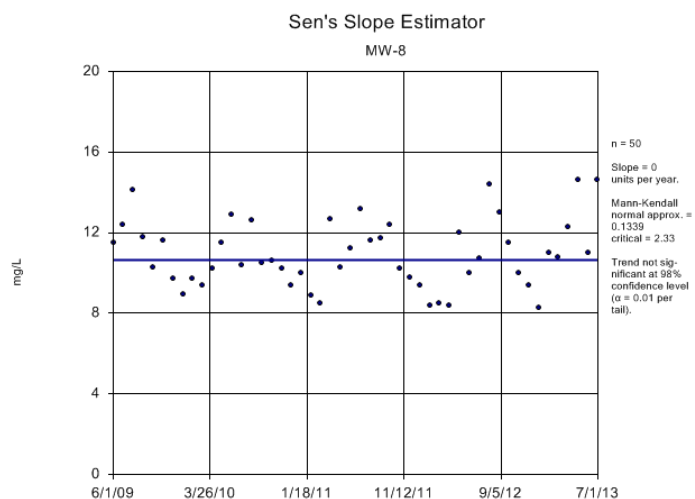




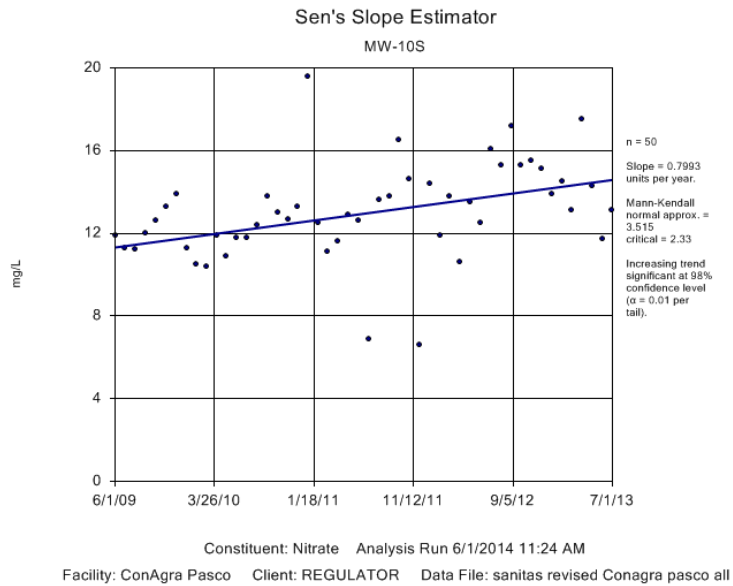
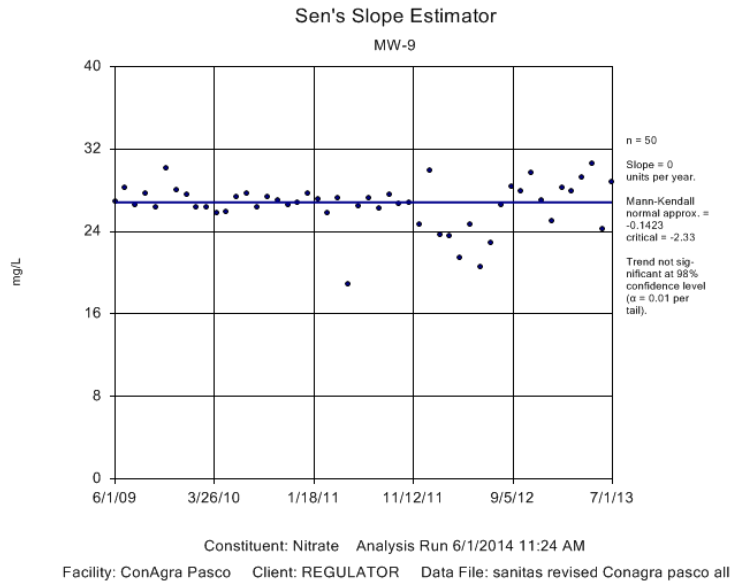


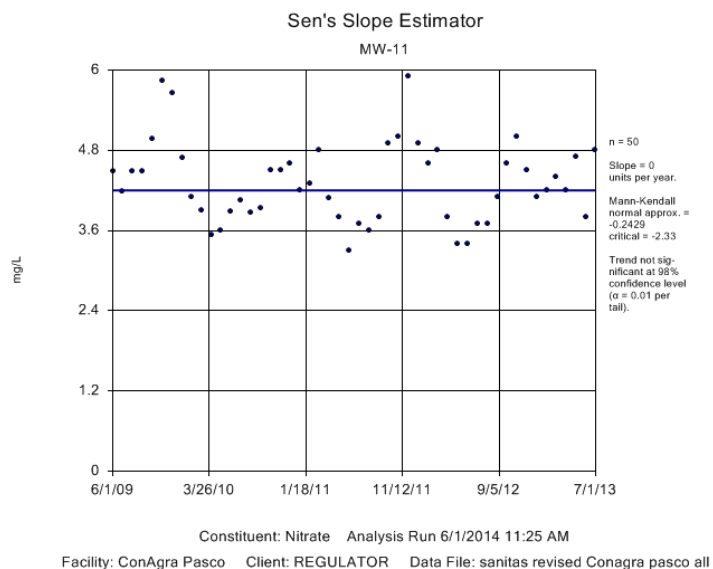
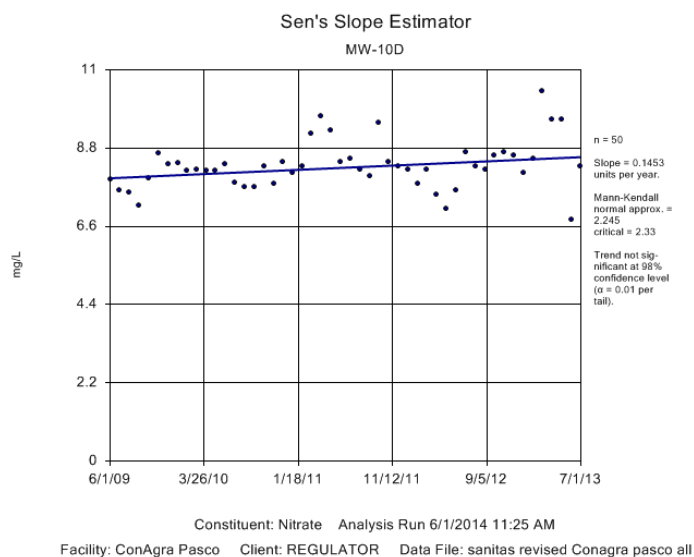


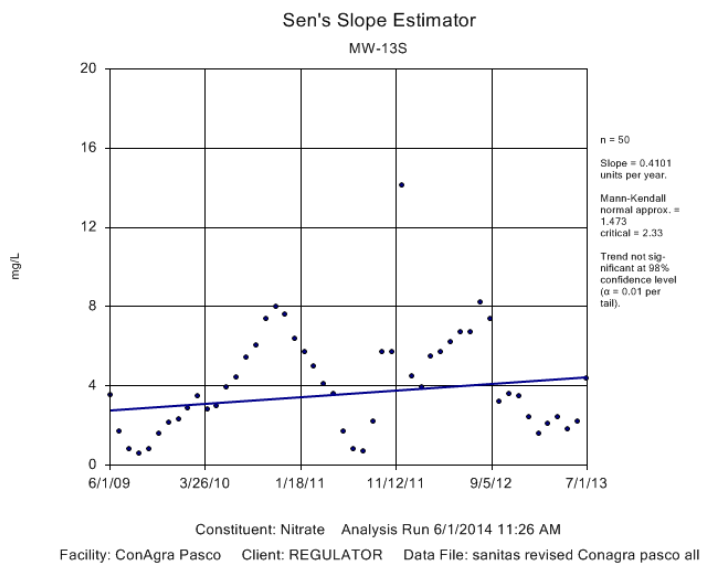
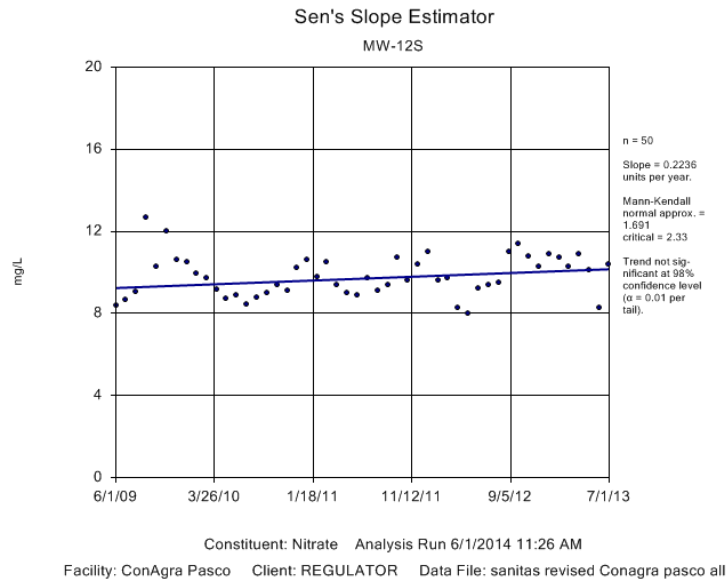
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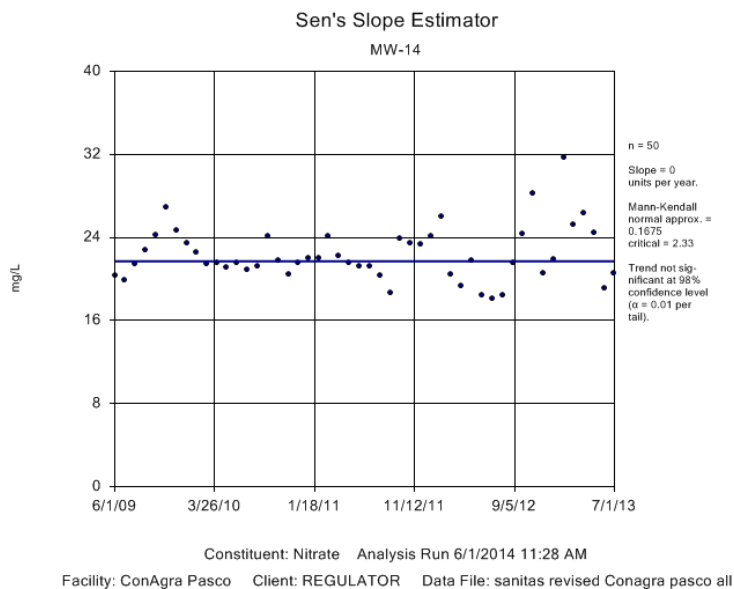
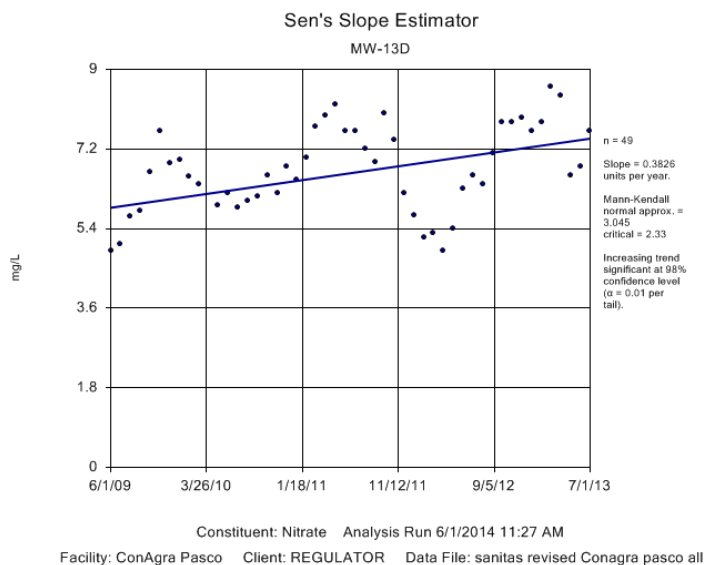


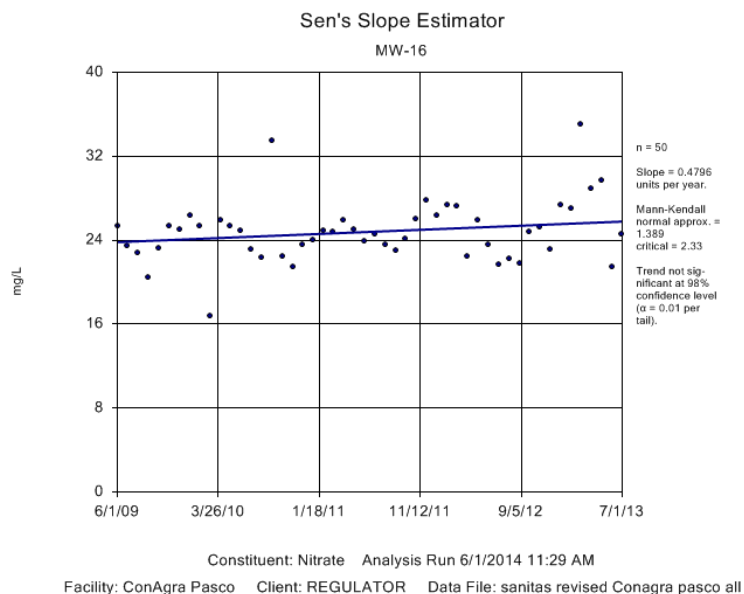
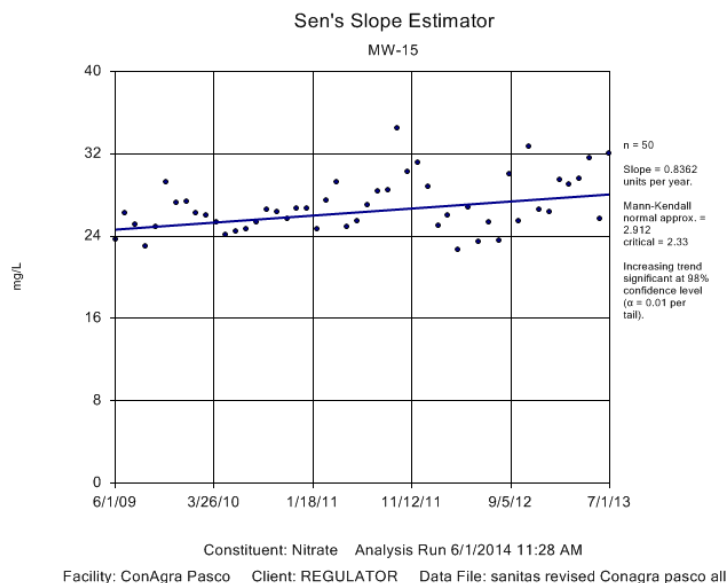
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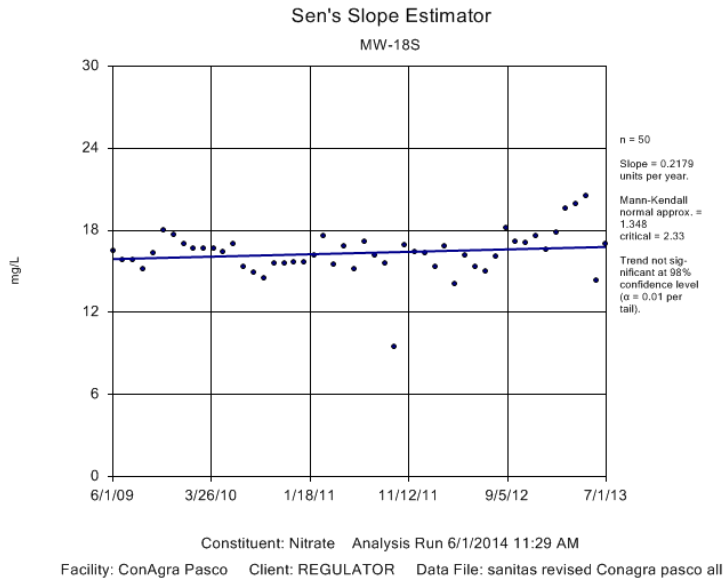
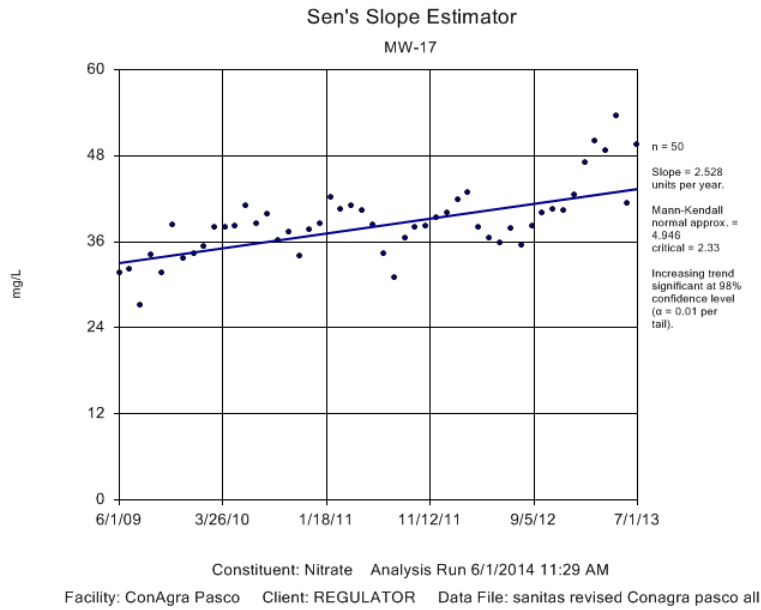


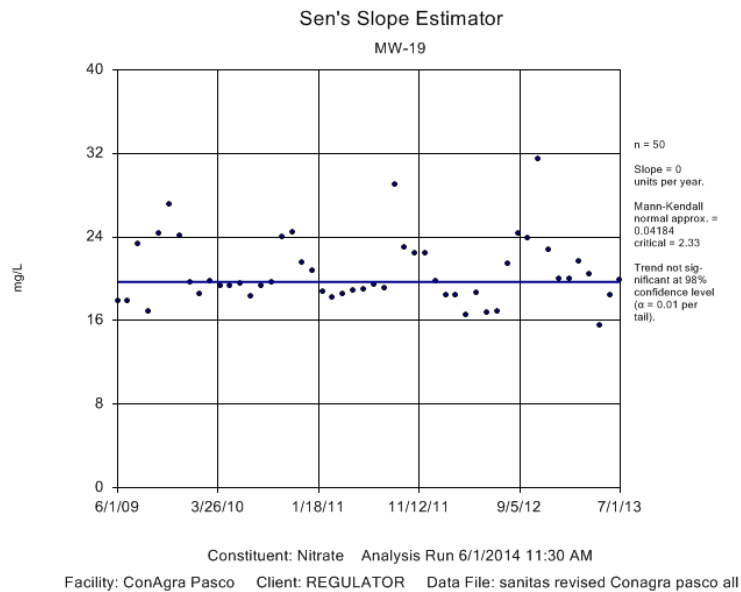
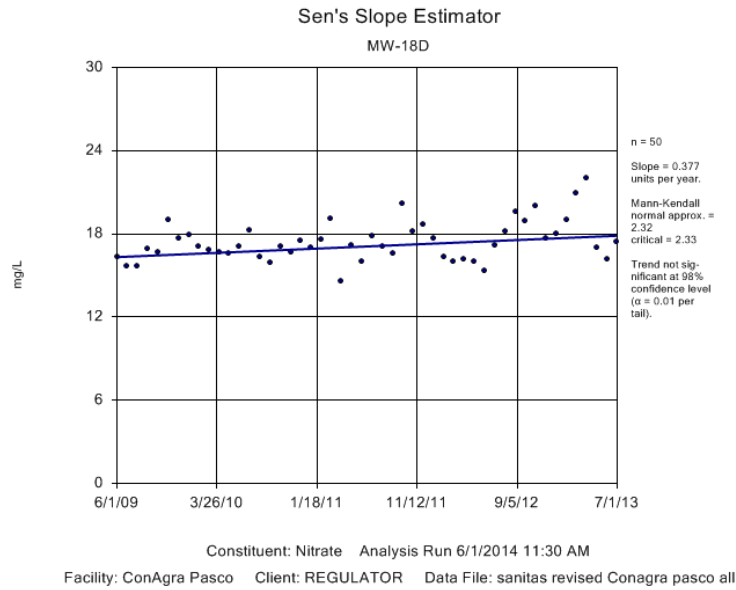


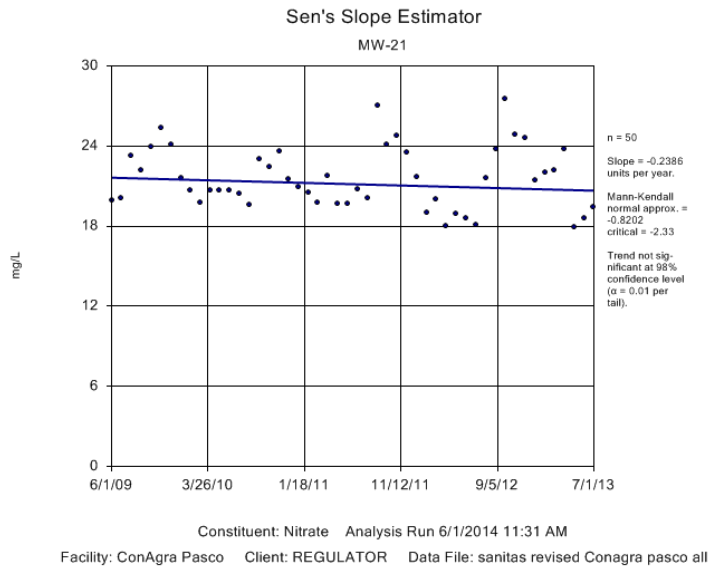
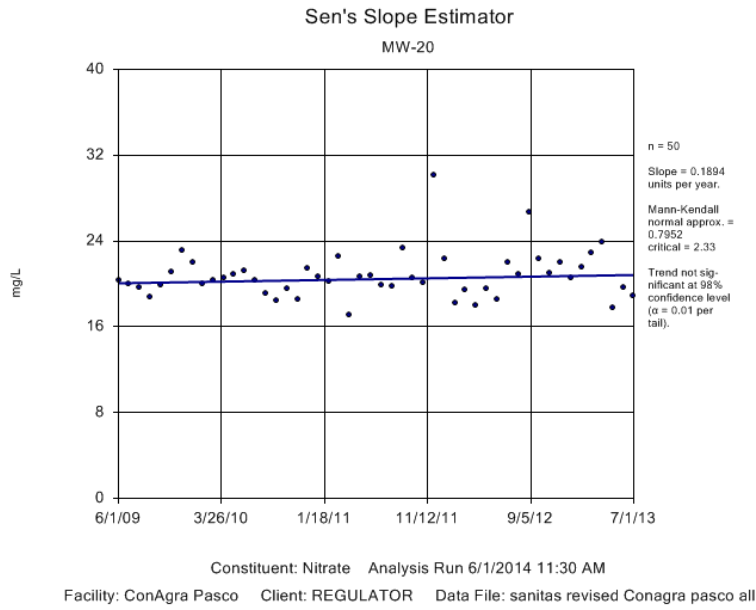


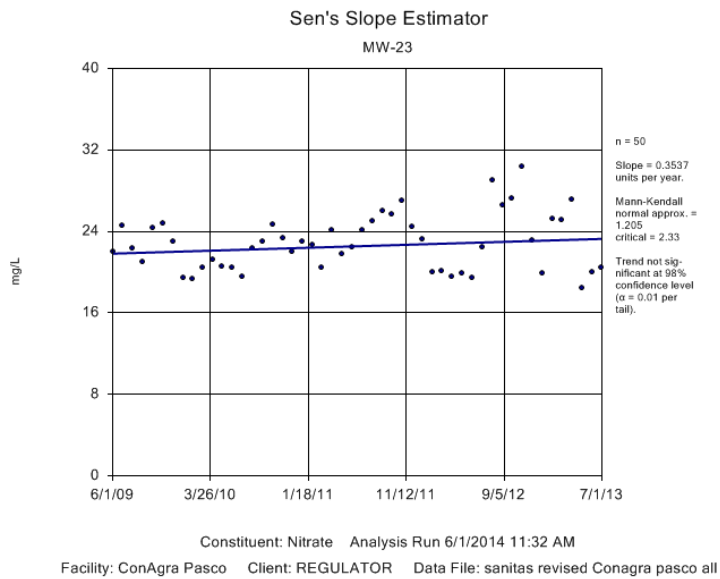
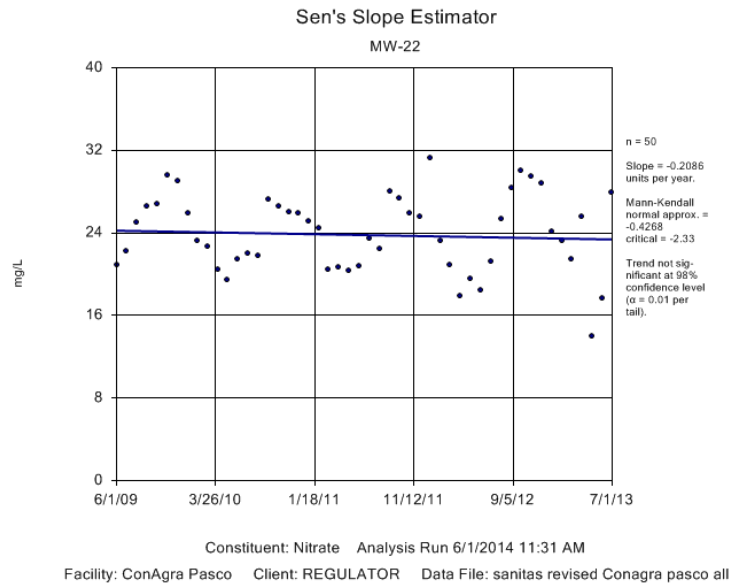


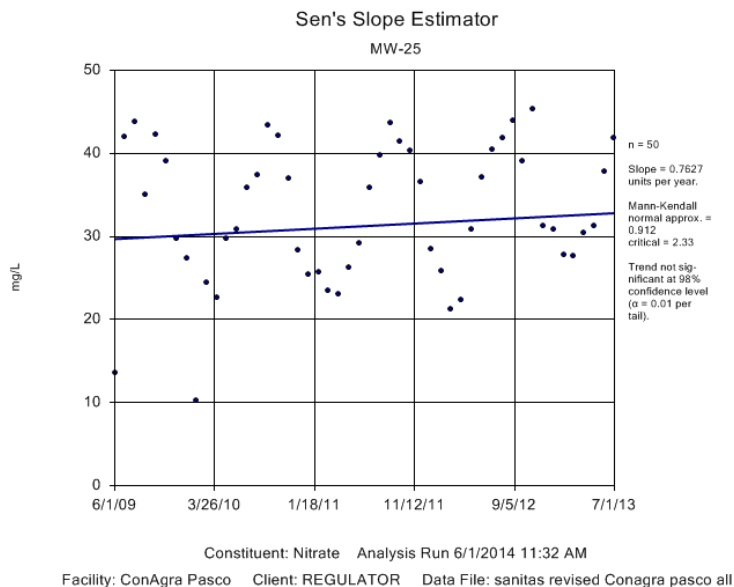
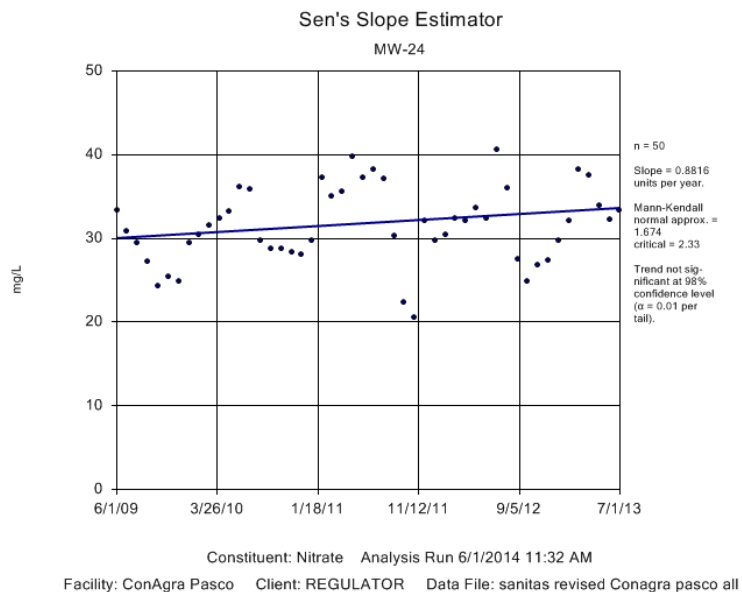


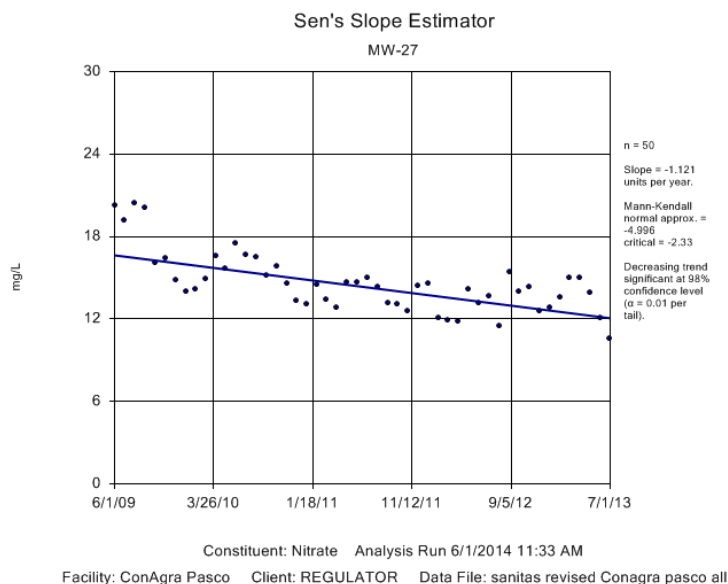
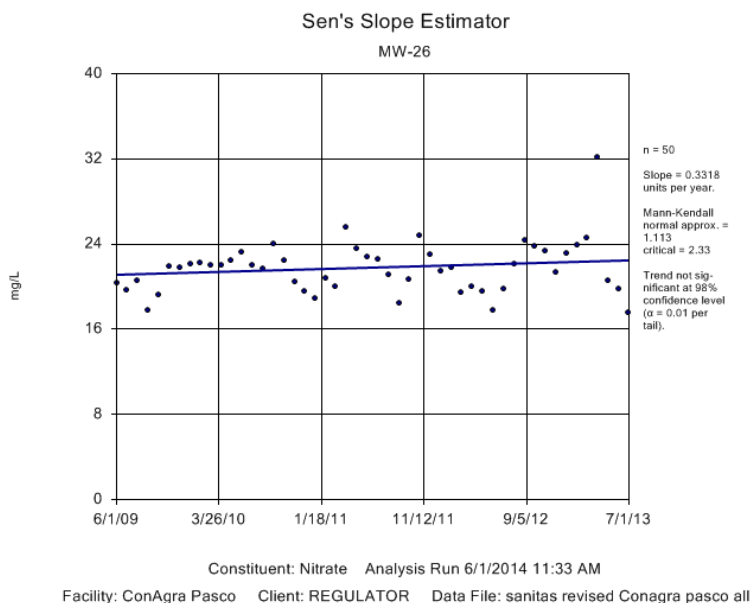






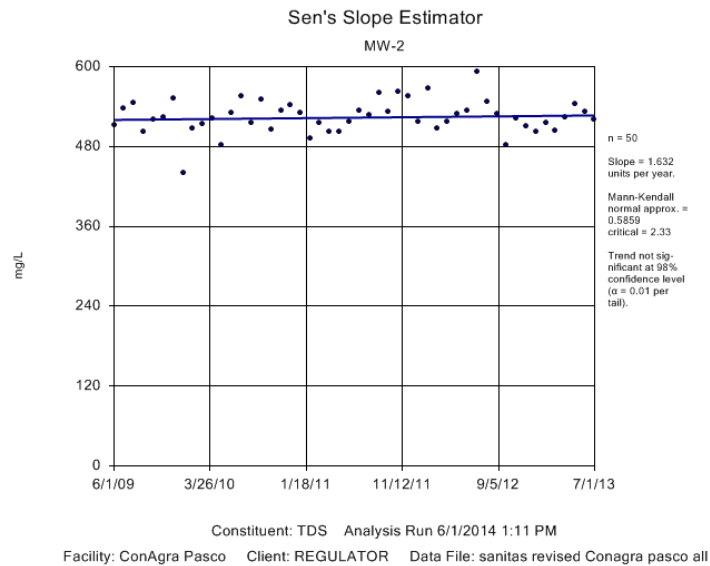




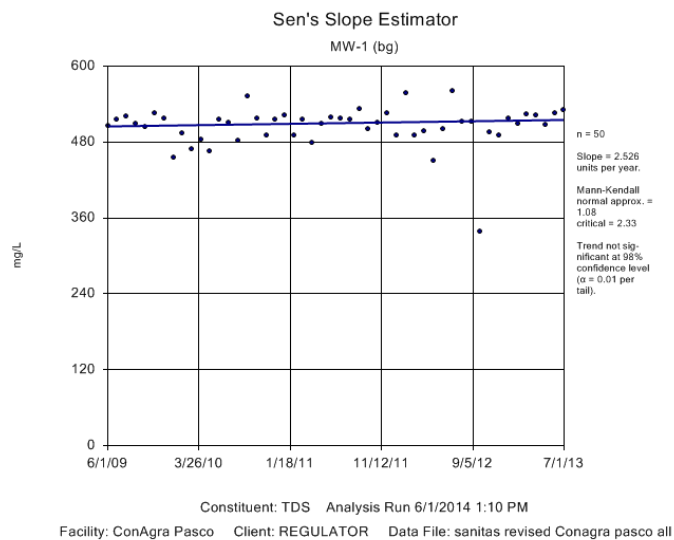


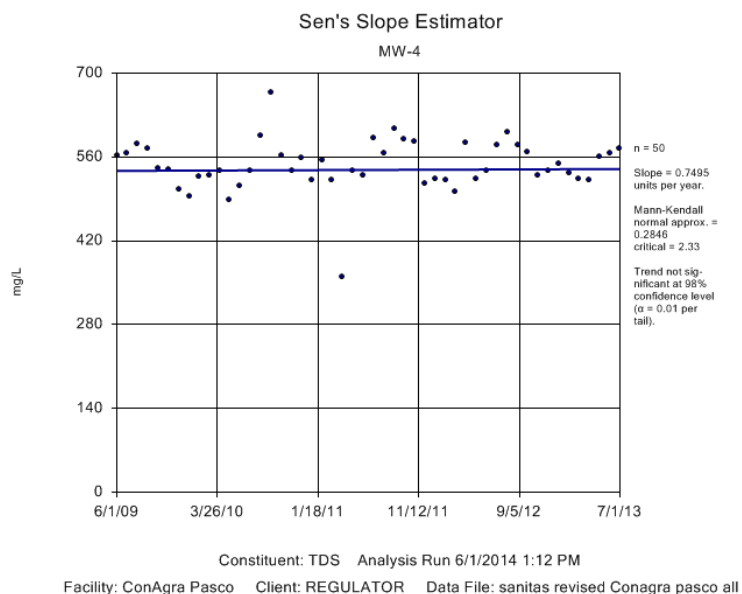
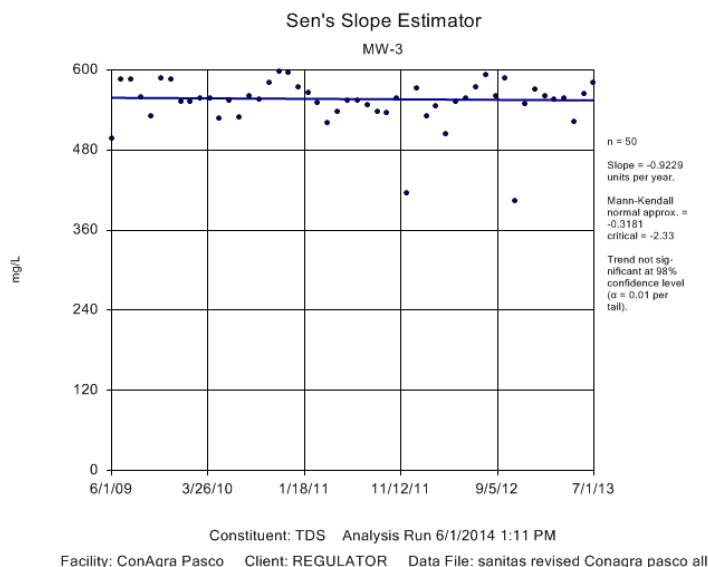
Appendix E. Groundwater TDS Trends

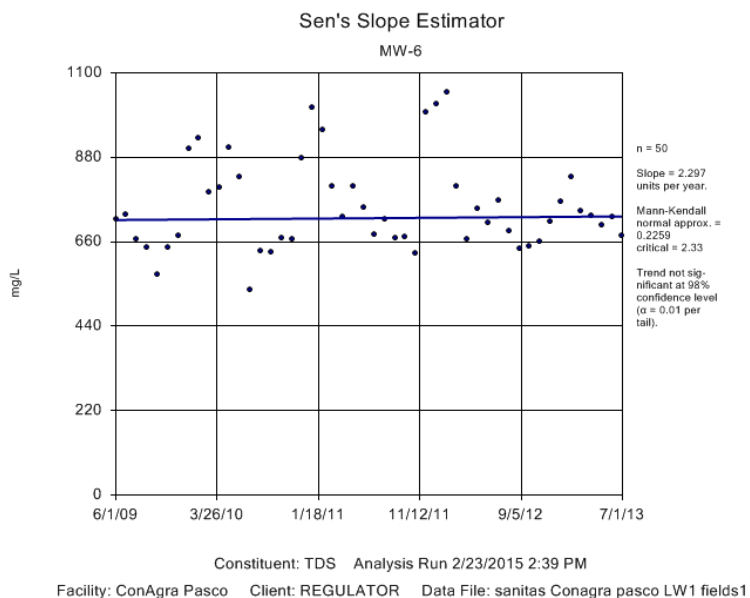
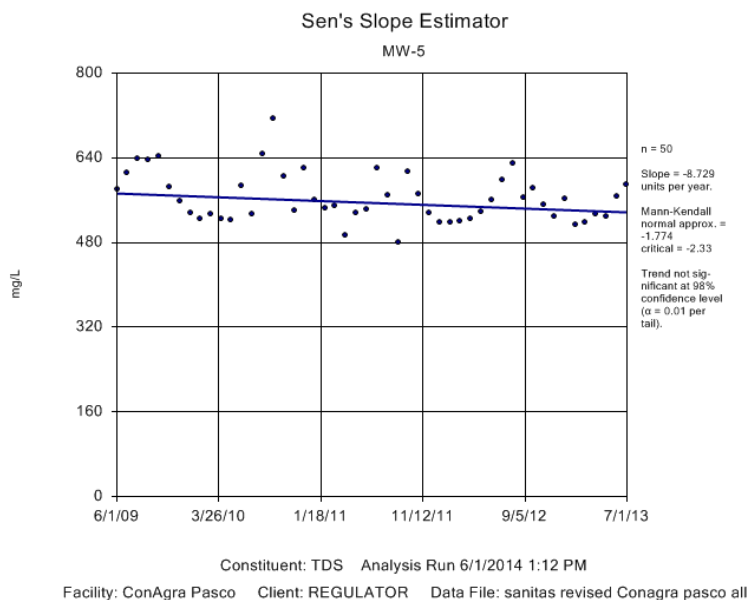
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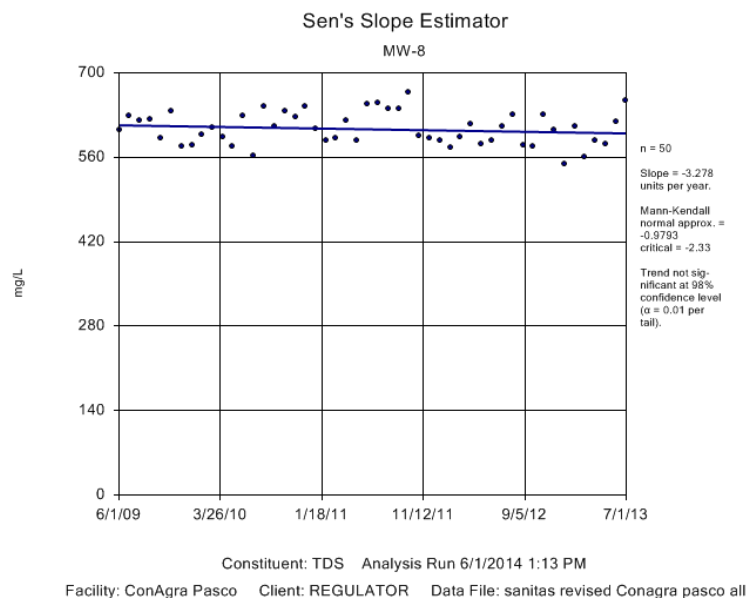
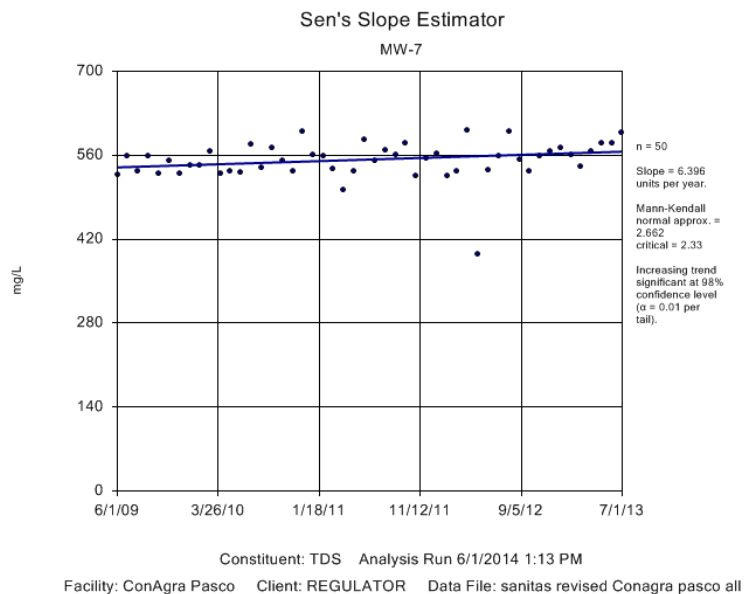


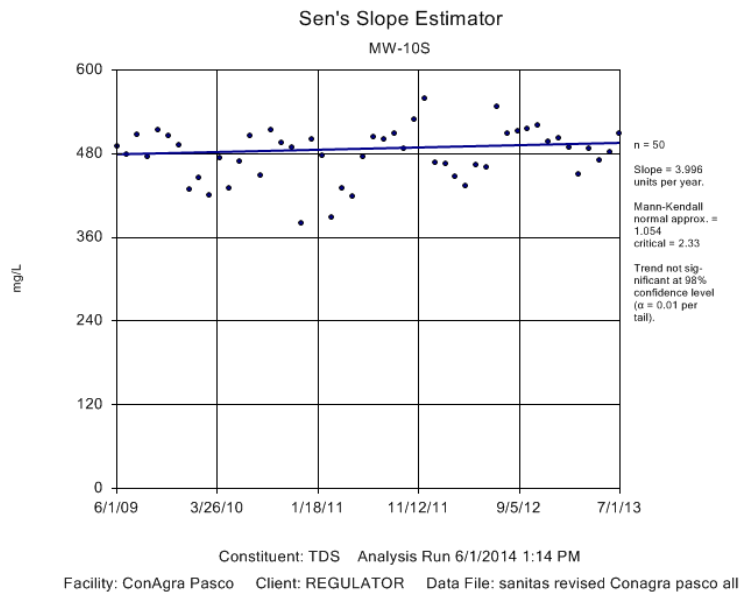
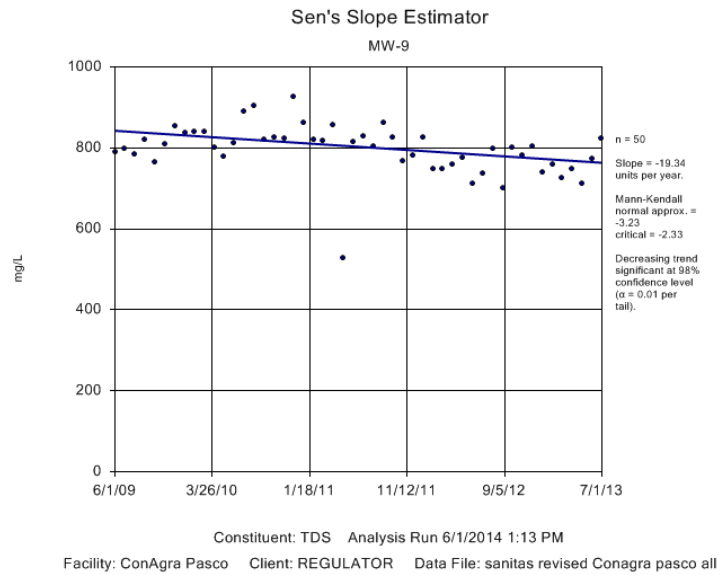
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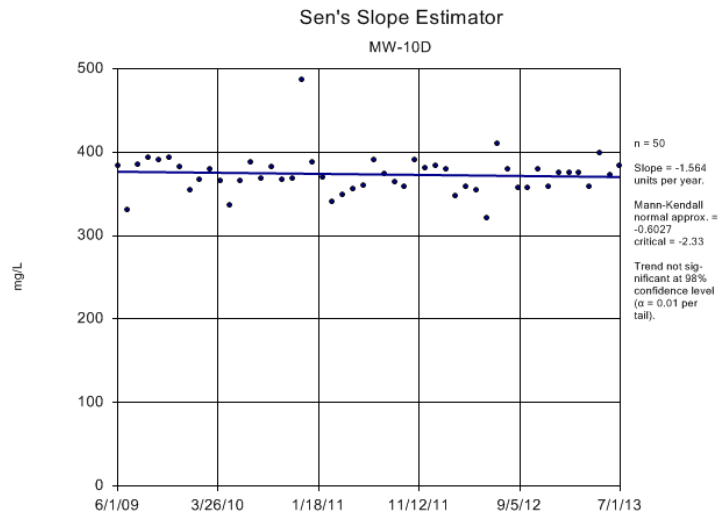




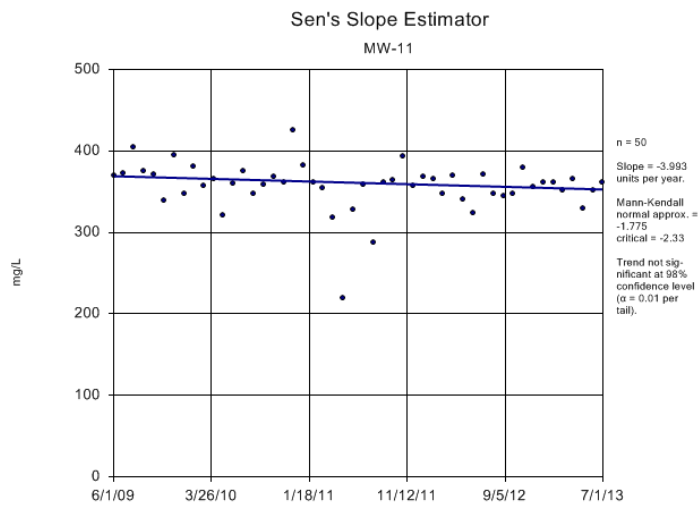




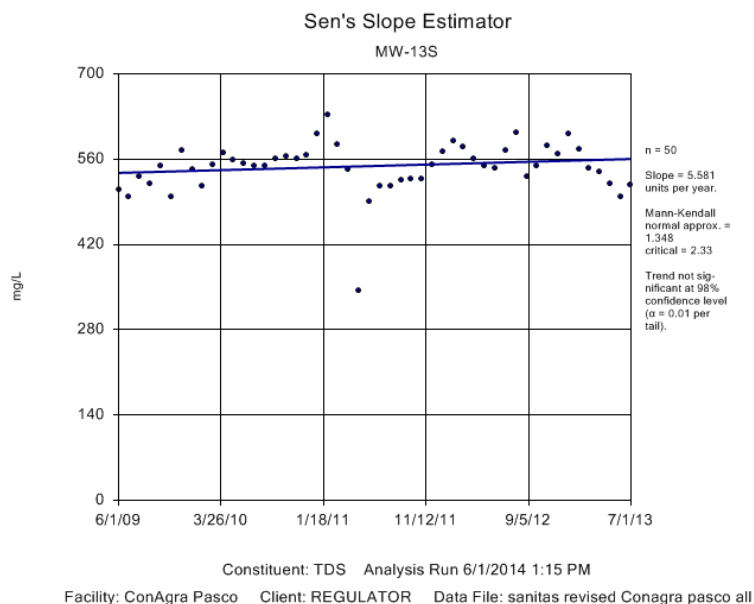
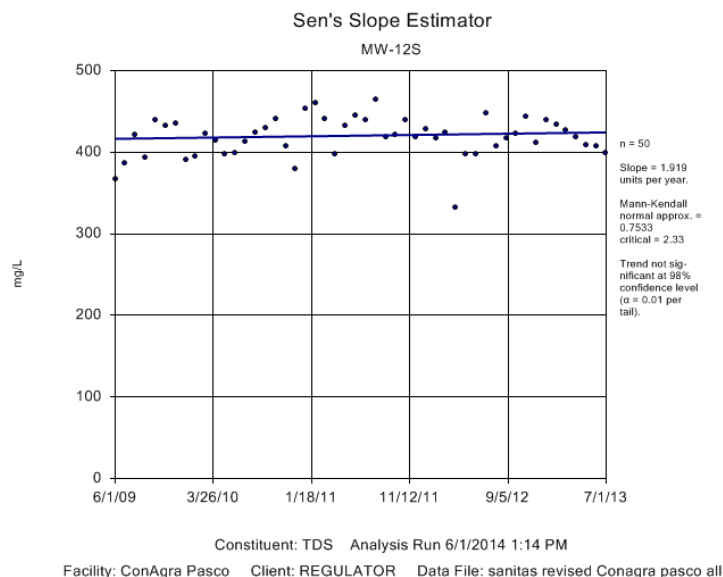


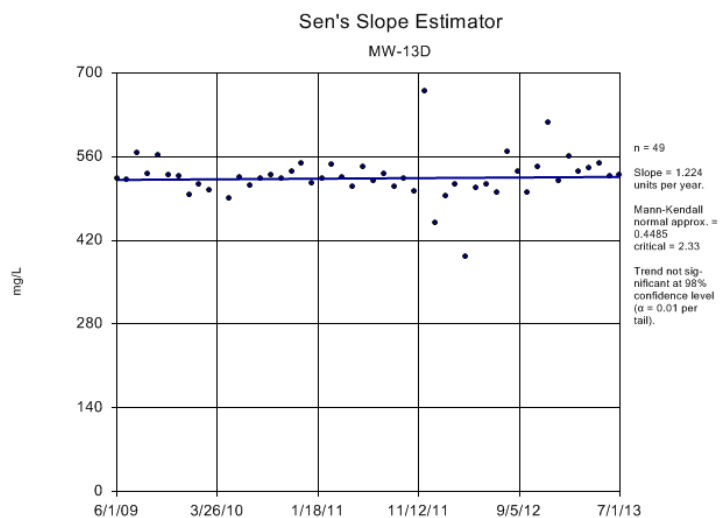


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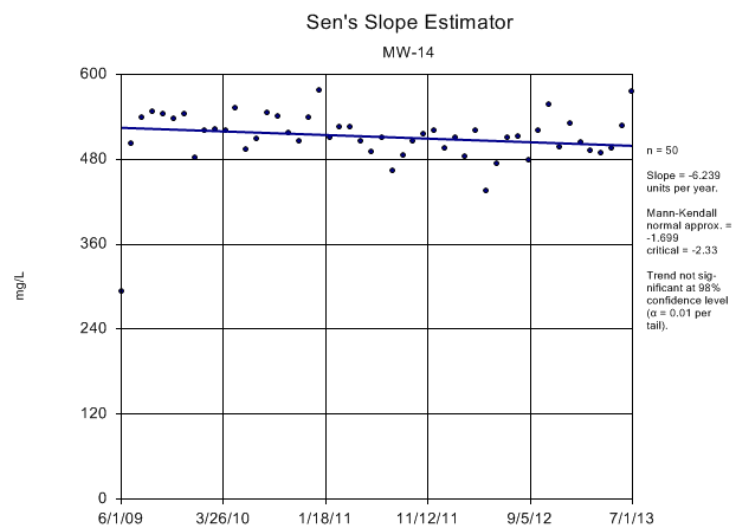


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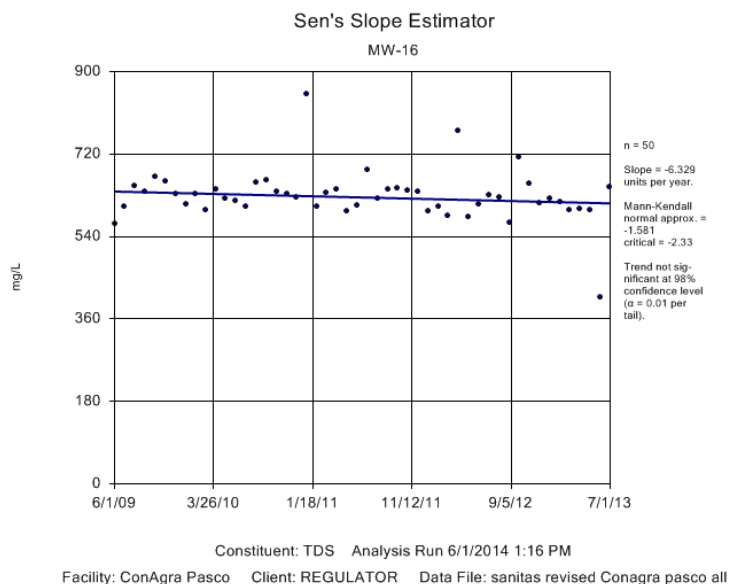
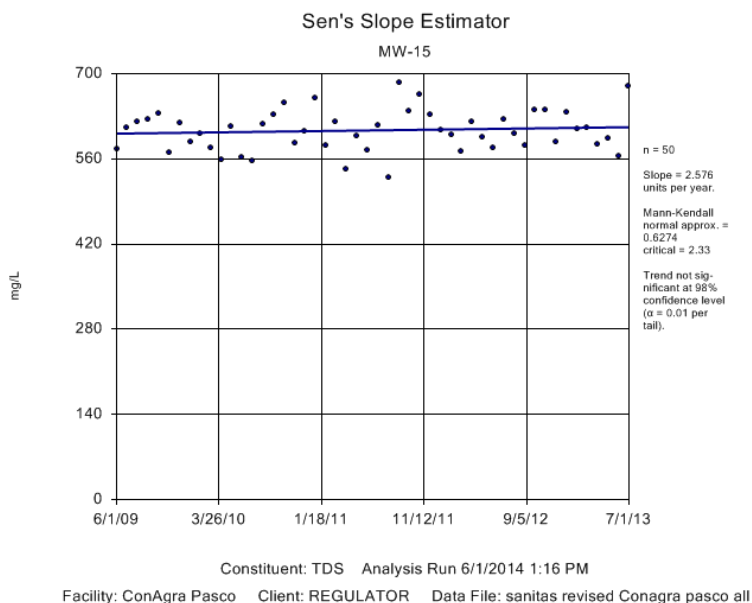


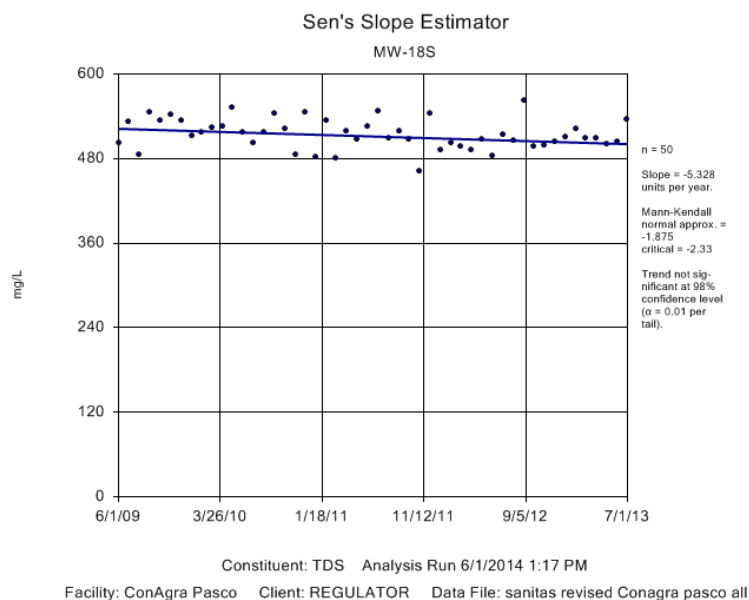
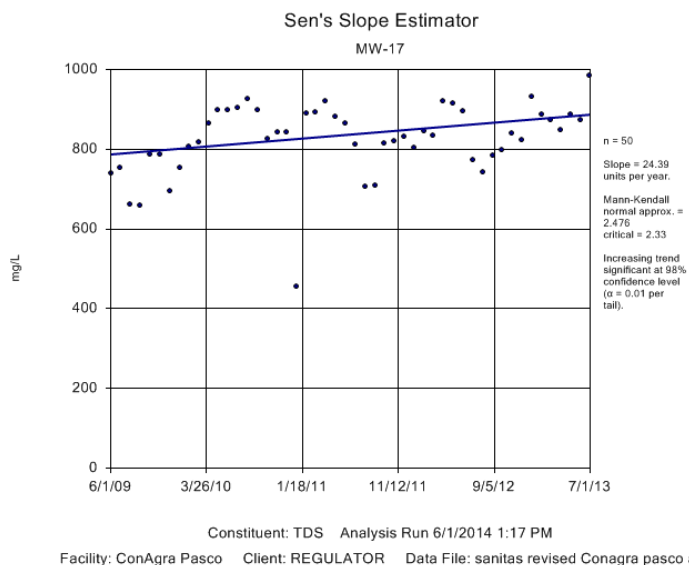


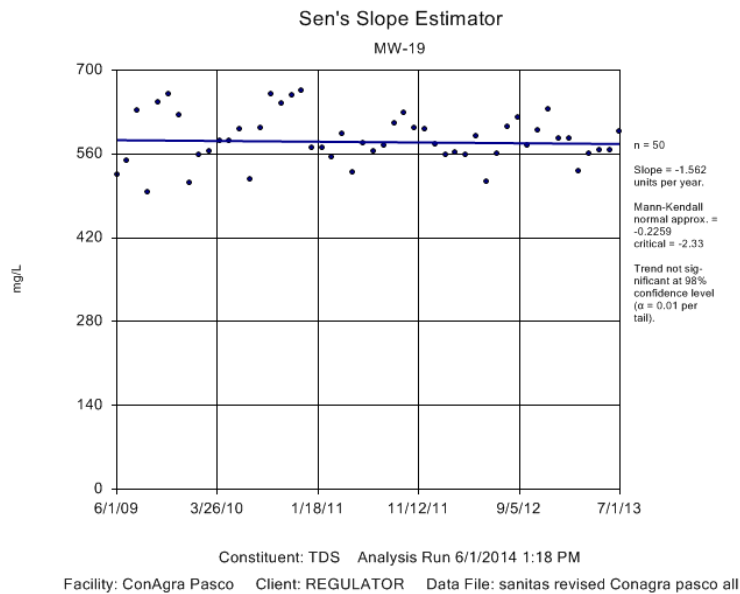
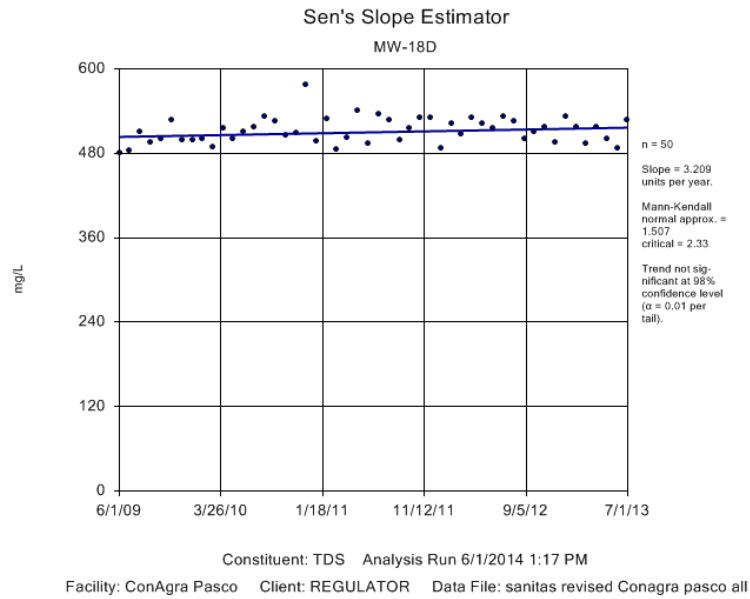
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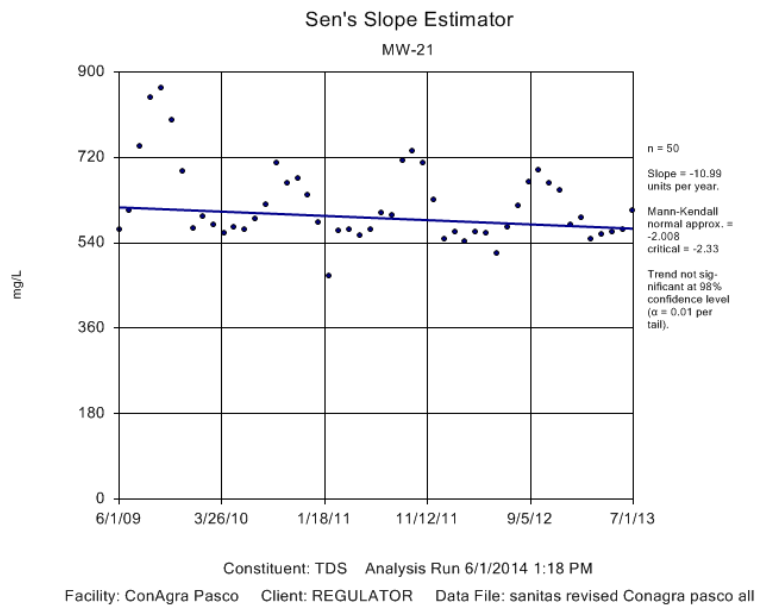
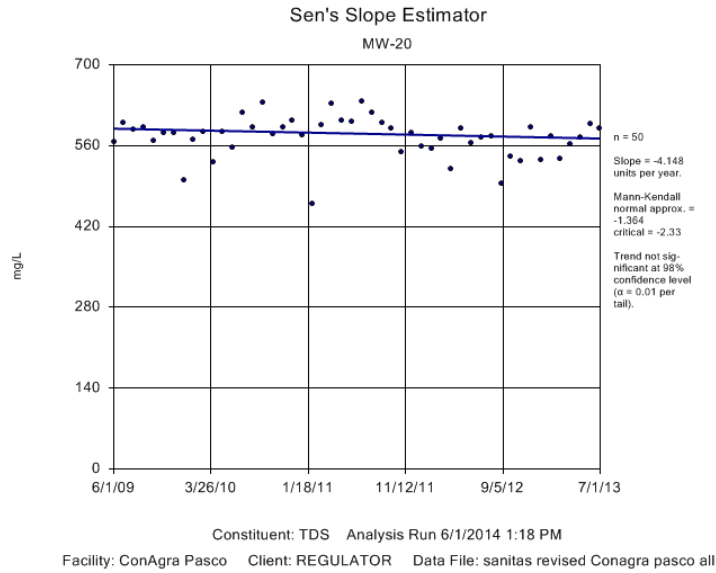


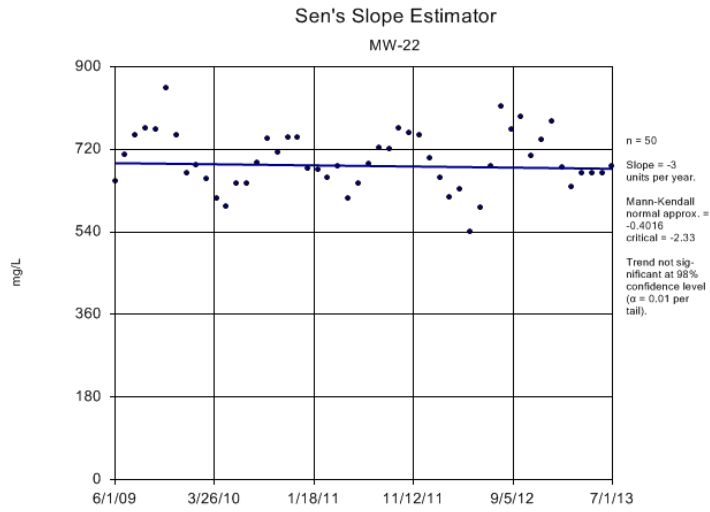
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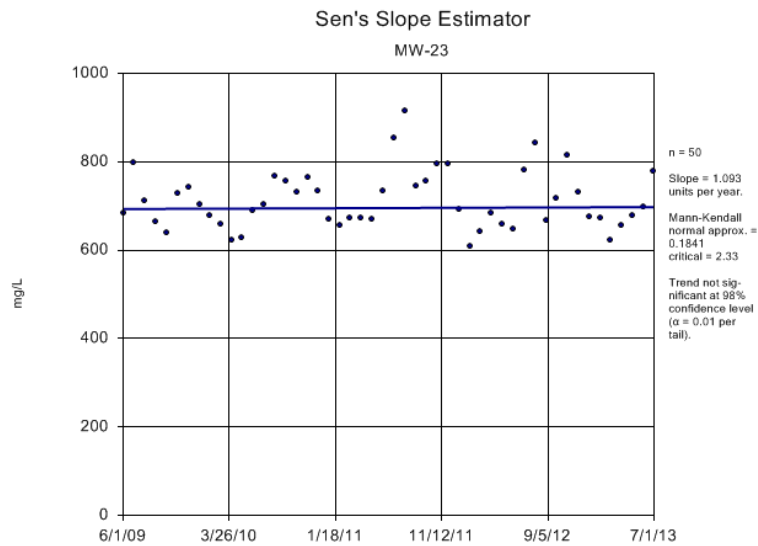




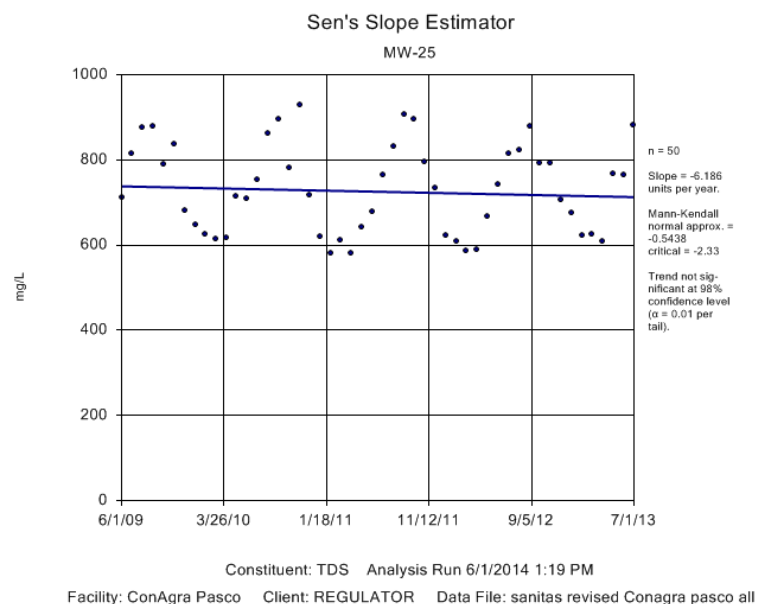
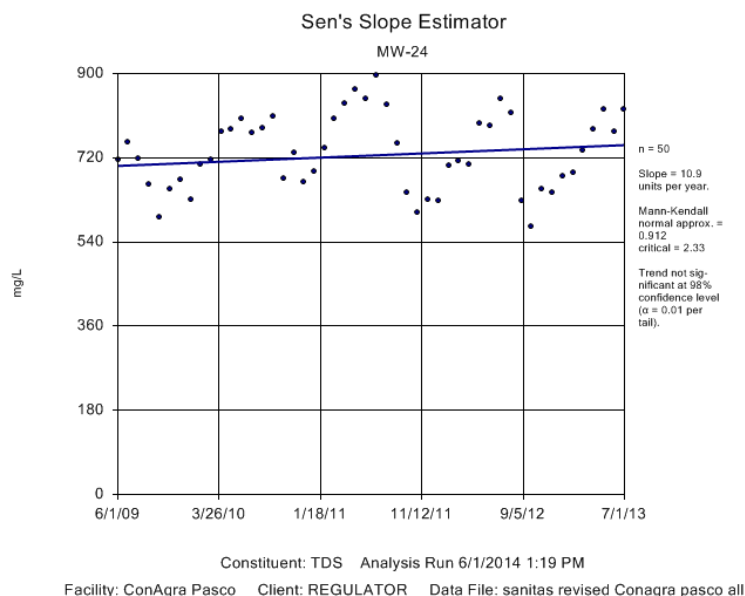


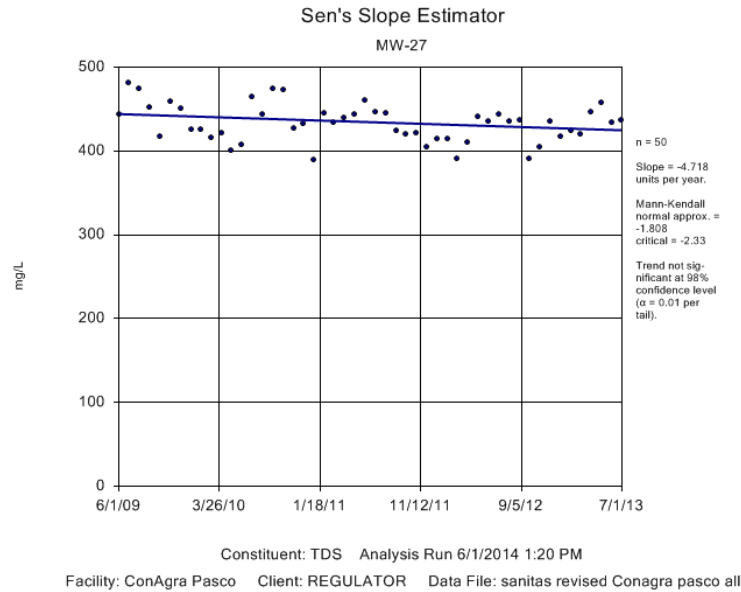
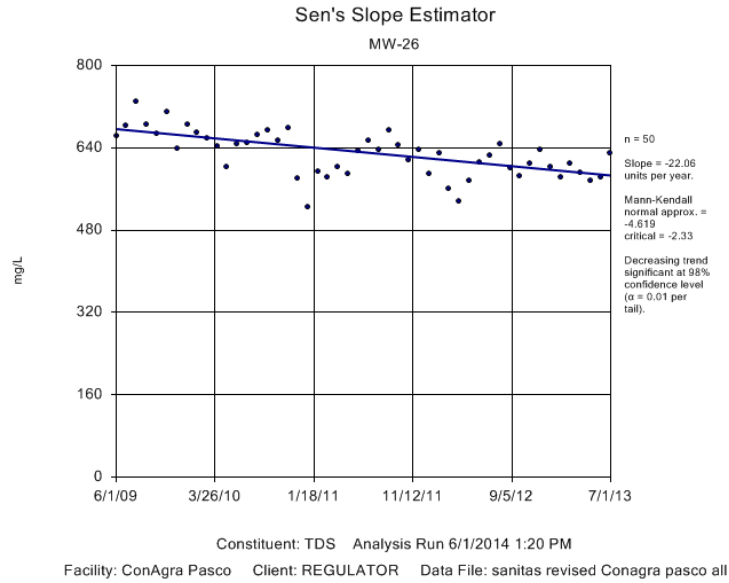


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Appendix F. Monitoring Well Construction Data

Well ID	Well Depth	Screened Interval	Static Water Level (4/2000)	Top of Casing Elevation	Groundwater Elevation
	(feet bls)	(feet bls)	(feet below TOC)	(feet msl)	(feet msl)
MW-1	102	92 - 102	81.16	432.04	350.88
MW-2	112	102 - 112	76.76	437.54	360.78
MW-3	100	90 - 100	70.59	420.05	349.46
MW-4	116	106 - 116	97.97	445.61	347.64
MW-5	120	110 - 120	95.38	441.78	346.4
MW-6	101	91 - 101	69.48	416.23	346.75
MW-7	91	81 - 91	66.92	414.3	347.38
MW-8	107	97 - 107	55.11	401.28	346.17
MW-9	70	55 - 70	55.82	402	346.18
MW-10 S	44	29 - 44	31.93	527.24	495.31
MW-10 D	70	55 - 70	25.08	527.71	502.63
MW-11	25	10 - 25	12.81	524.71	511.9
MW-12 S	20	5 - 20	8.01	491.64	483.63
MW-13 S	22	12 - 22	15.39	467.35	451.96
MW-13 D	47	35 - 47	16.11	467.58	451.47
MW-14	112	97 - 112	99.16	454.17	355.01
MW-15	98	83 - 98	84.91	435.53	350.62
MW-16	127	112 - 127	113.23	461.24	348.01
MW-17	126	110 - 125	111.64	458.19	346.55
MW-18 S	106	91 - 106	95.82	444.33	348.51
MW-18 D	136	126 - 136	95.11	443.81	348.7
MW-19	59	44 - 59	49.26	395.03	345.77
MW-20	70	55 - 70	61.28	405.51	344.23
MW-21	81	71 - 81	72.24	416.41	344.17
MW-22	63	47 - 62	52.79	396.89	344.1
MW-23	56	41 - 56	44.49	390.05	345.56
MW-24	150	135 - 150	142.18	491.66	349.48
MW-25	175	160 - 175	168.82	517.91	349.09
MW-26	176	161 - 176	168.24	520.51	352.27
MW-27	170	154 - 169	161.95	514.75	352.8

bls = below land surface

TOC = top of casing

msl = mean sea level

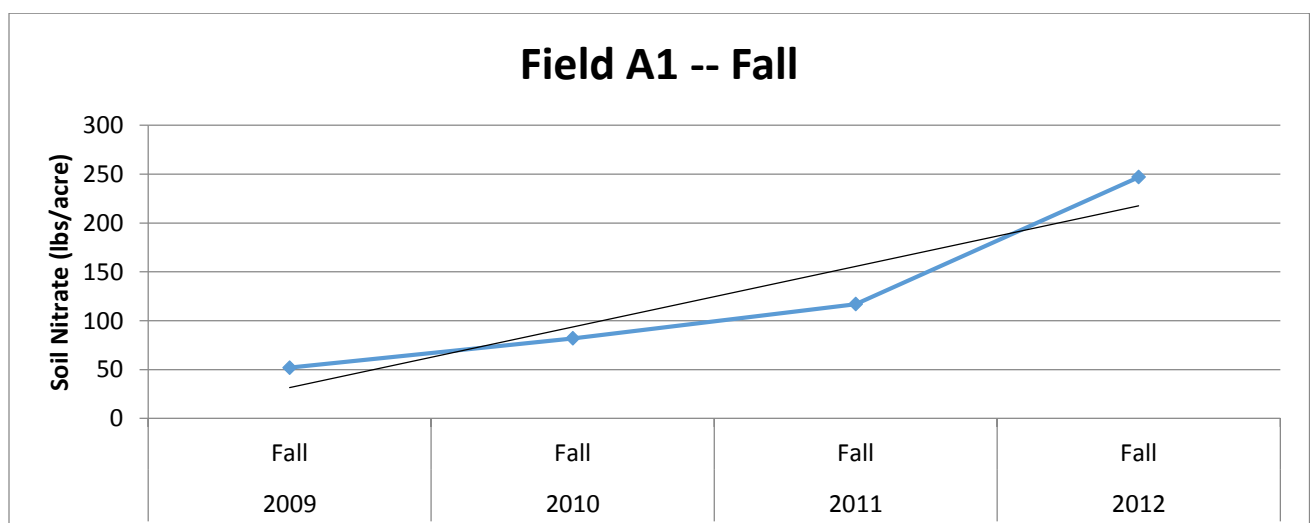
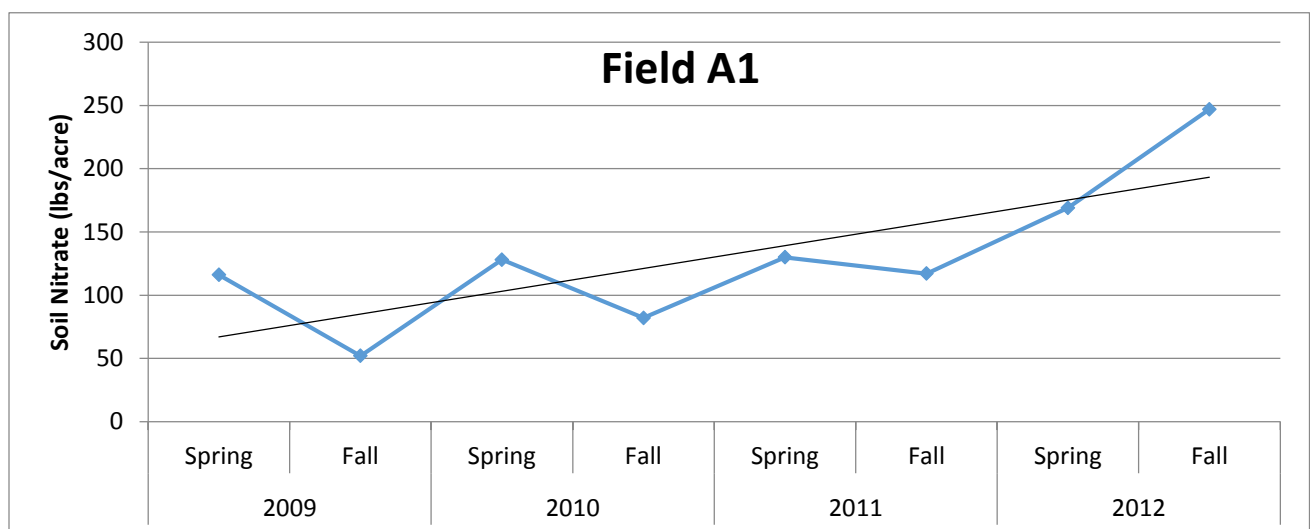
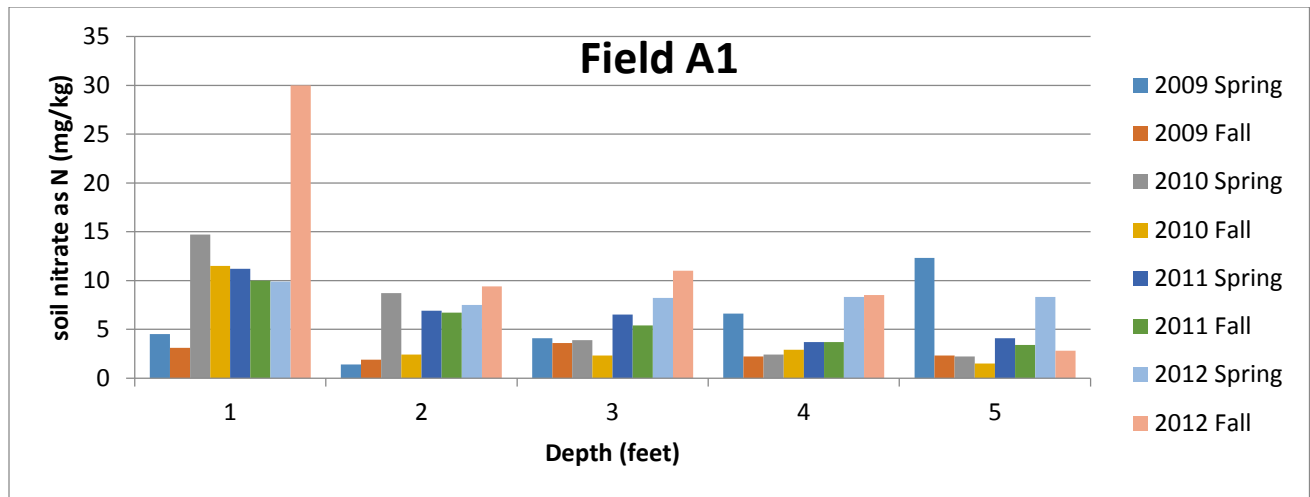
Appendix G. Groundwater Quality Data

Groundwater quality data tables for the following parameters are attached to this report as zip files on the Intranet at <https://fortress.wa.gov/ecy/publications/SummaryPages/1503023.html>

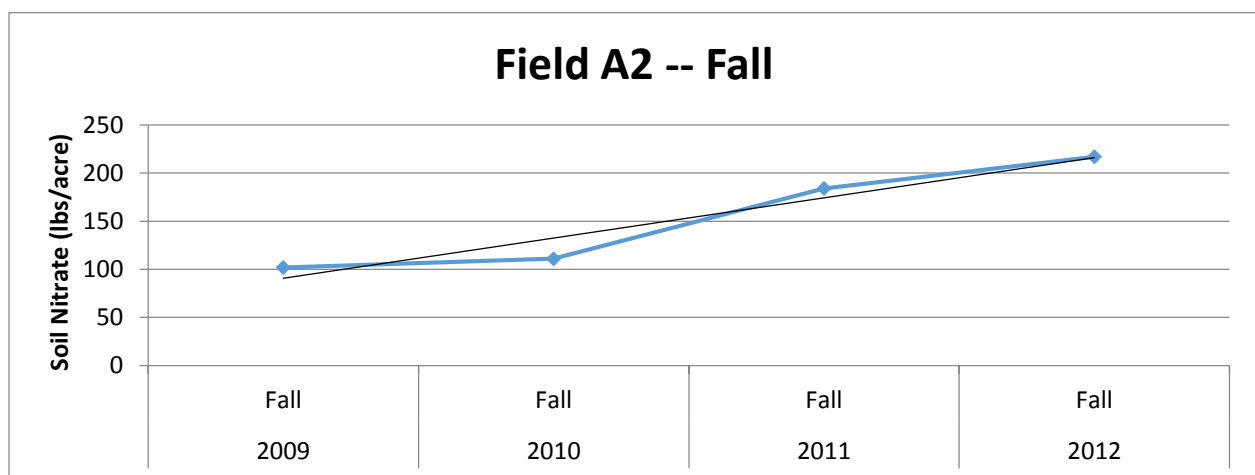
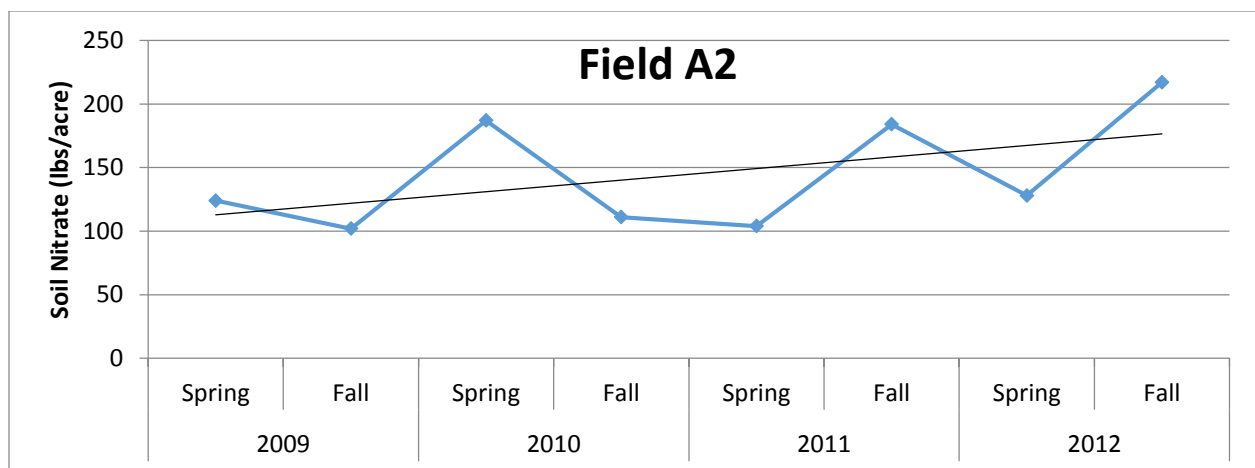
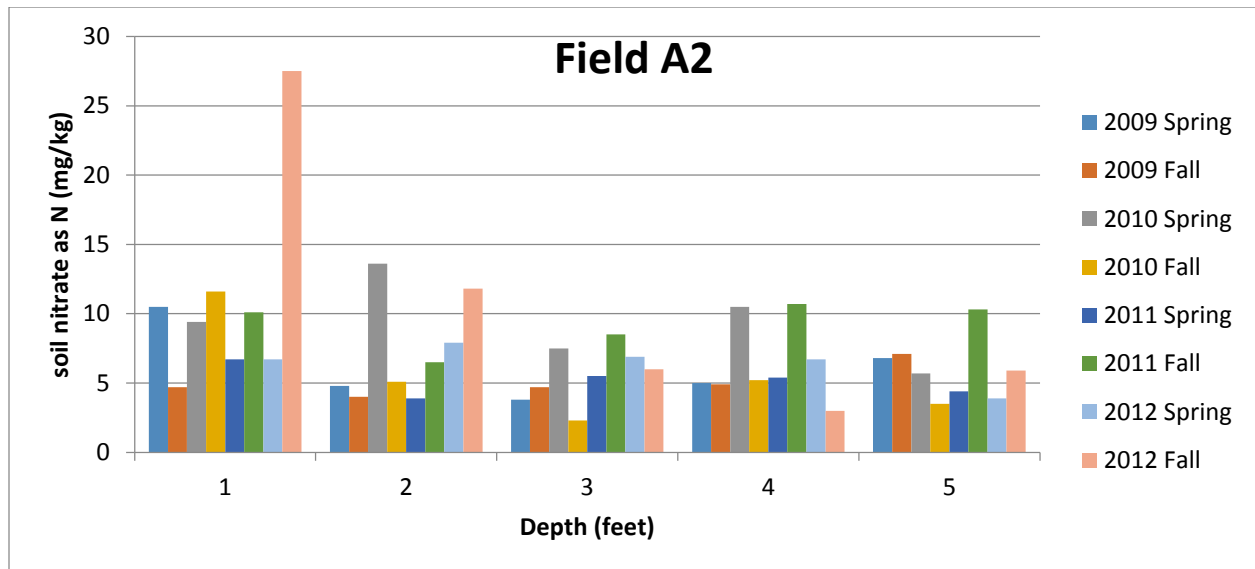
- Nitrate
- TDS
- Ions

Appendix H. Soil Nitrate Profiles and Trends by Field

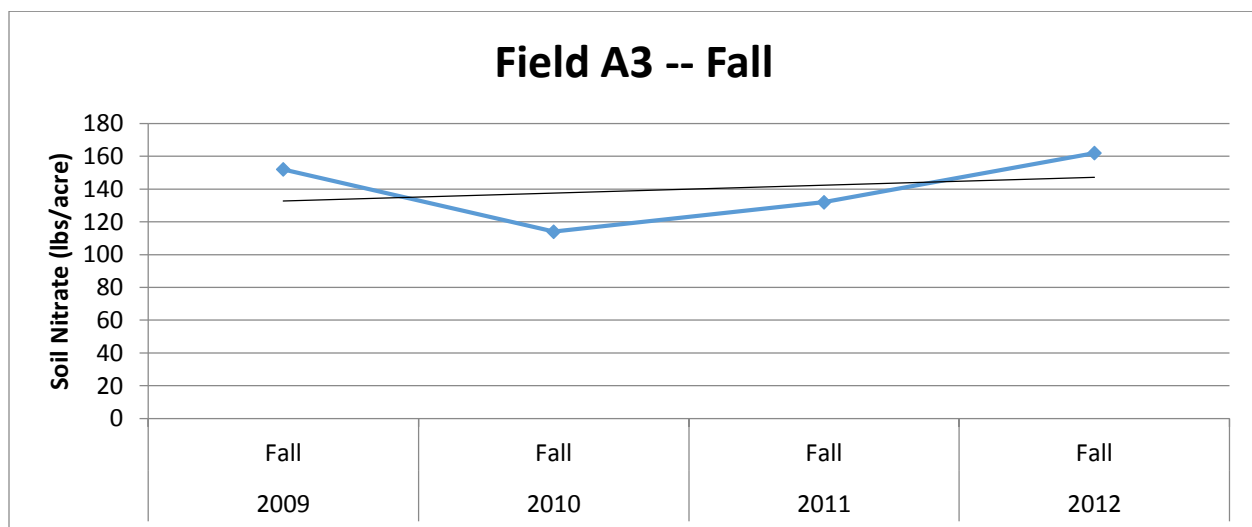
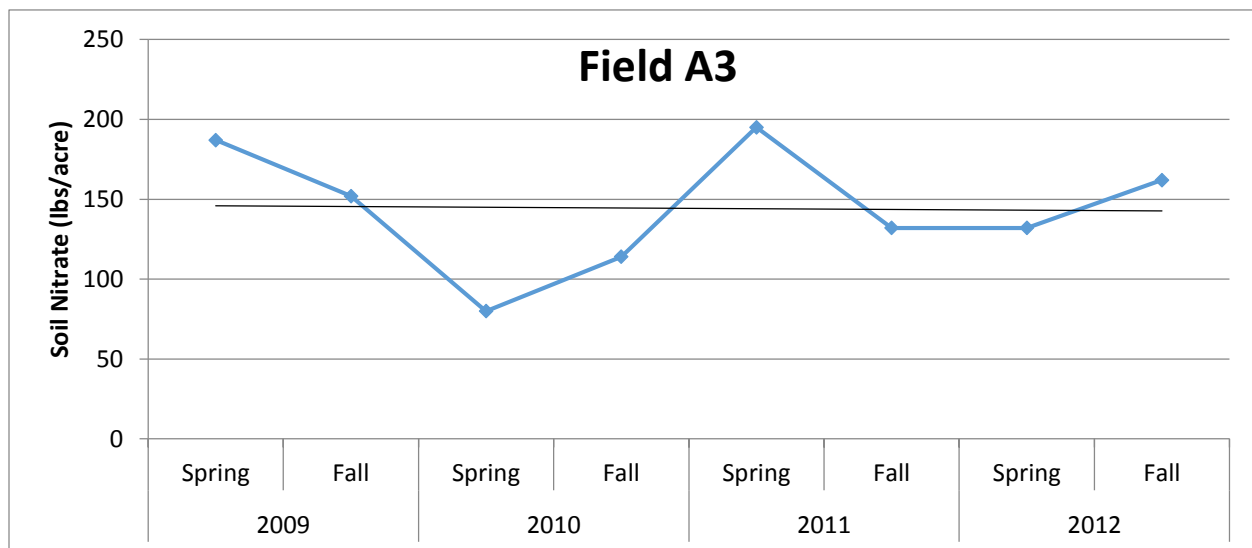
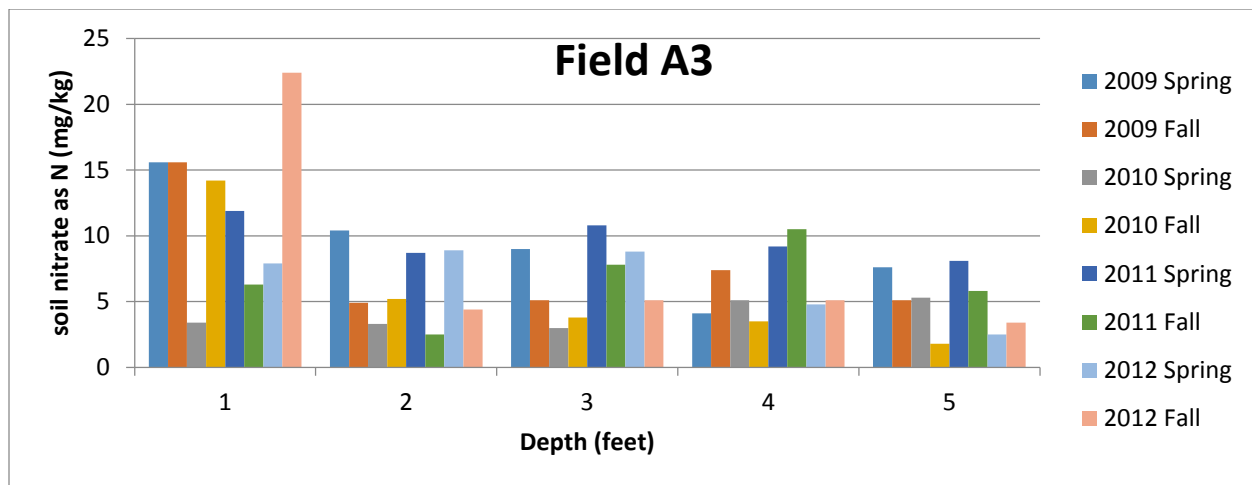
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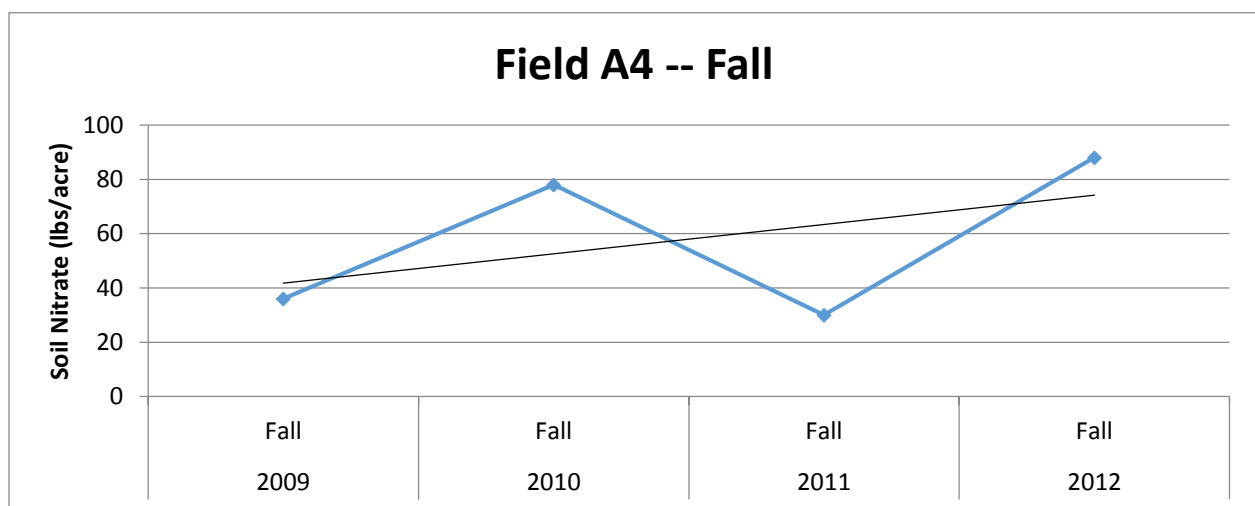
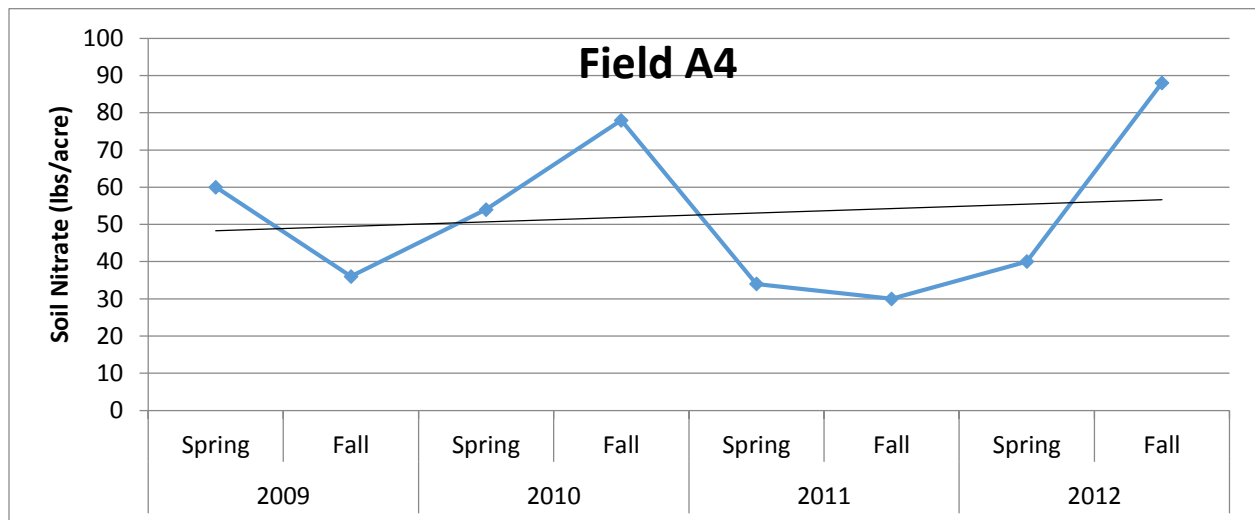
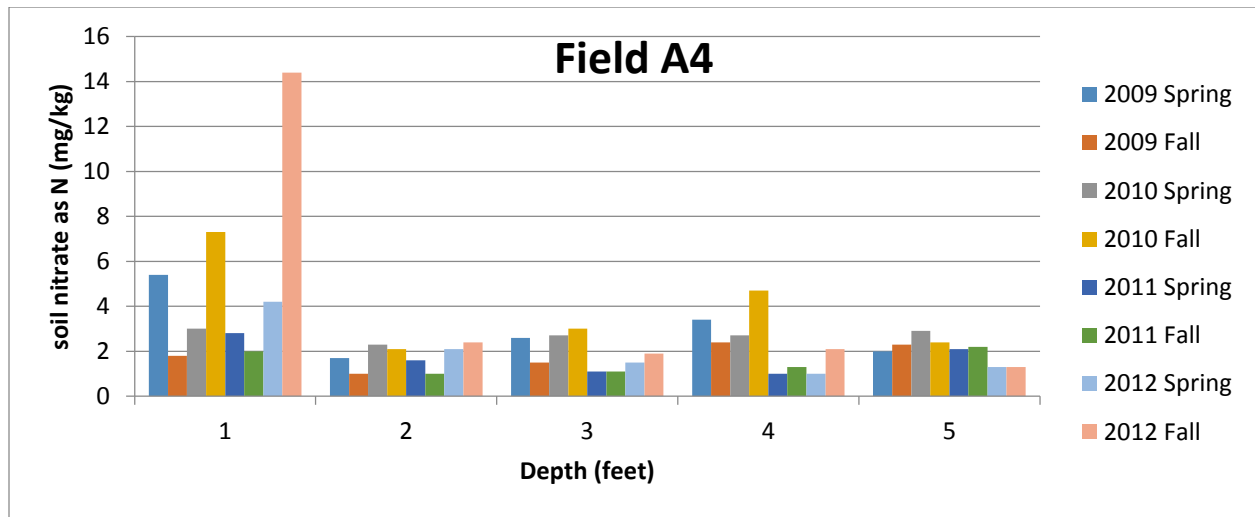
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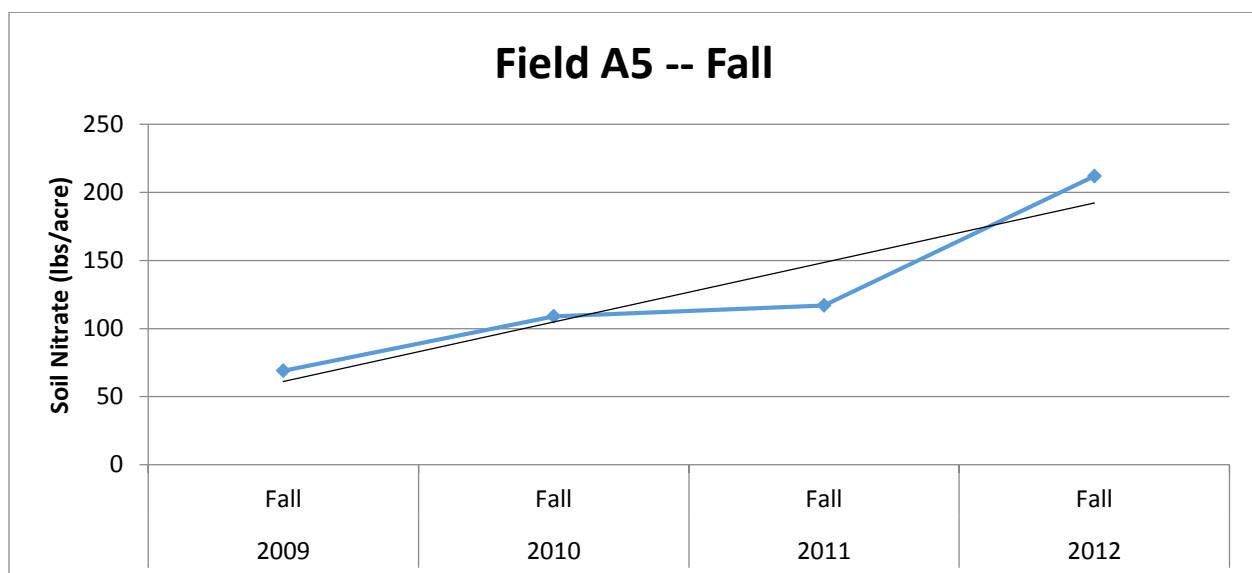
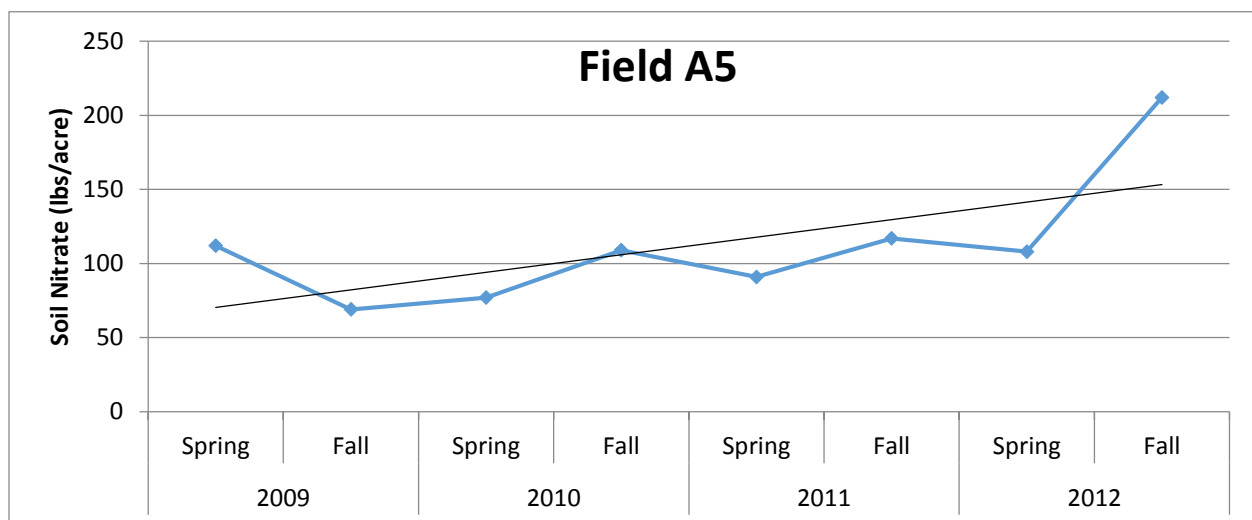
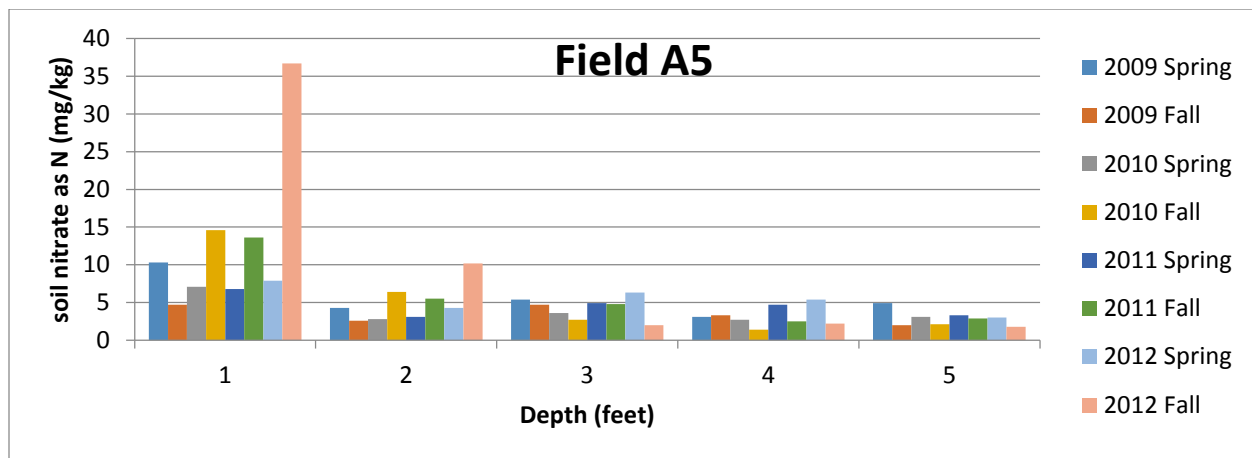
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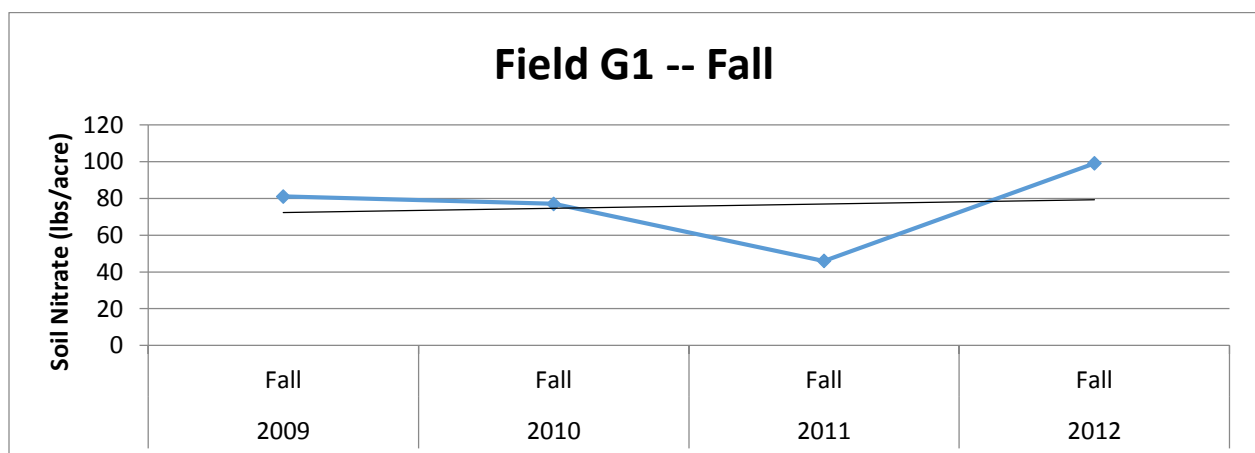
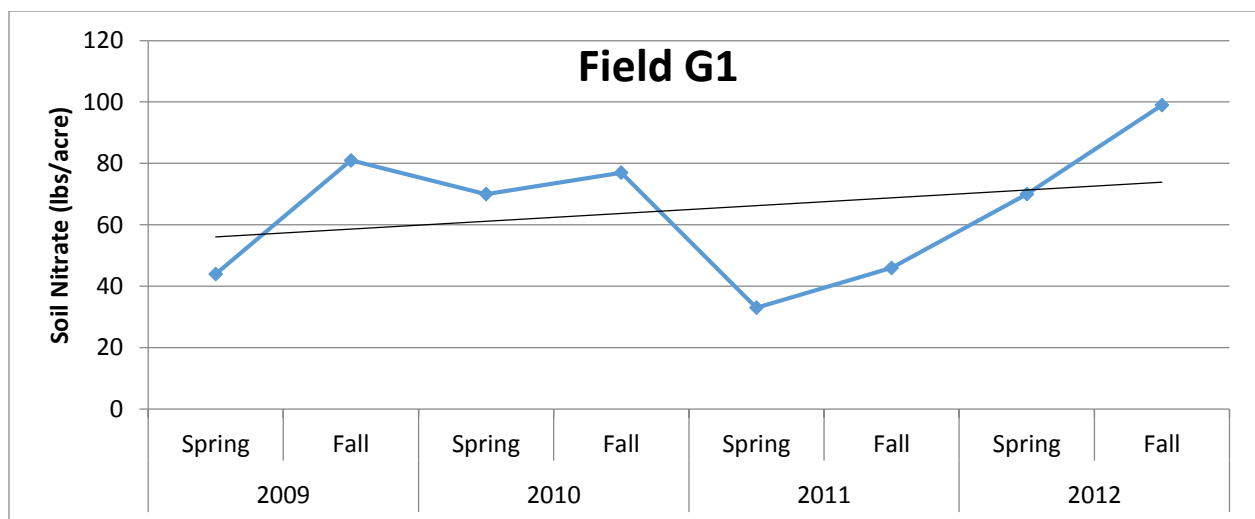
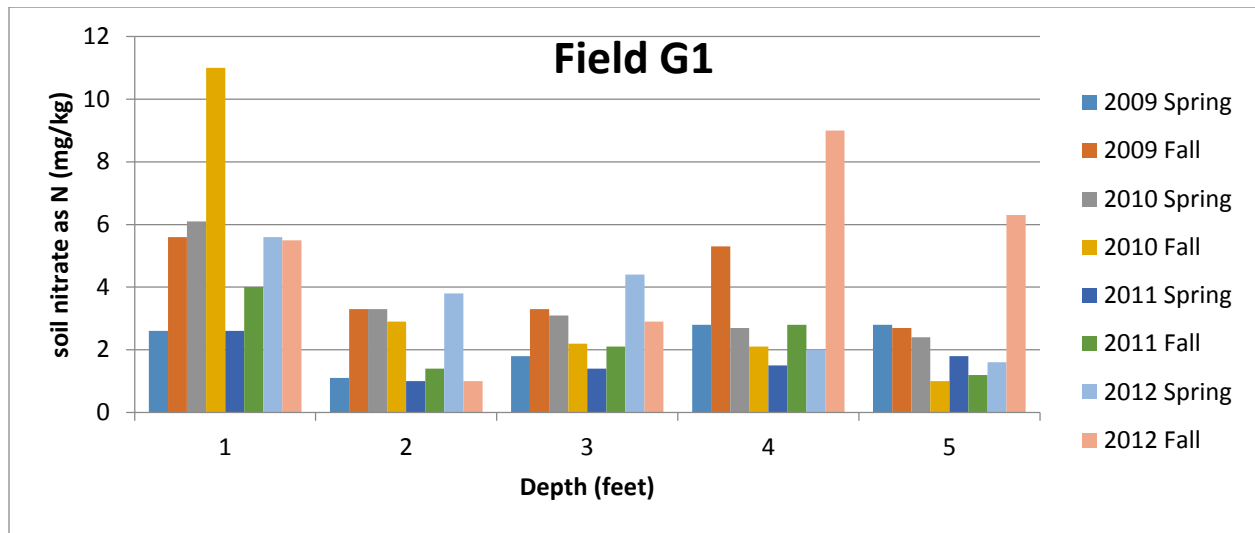
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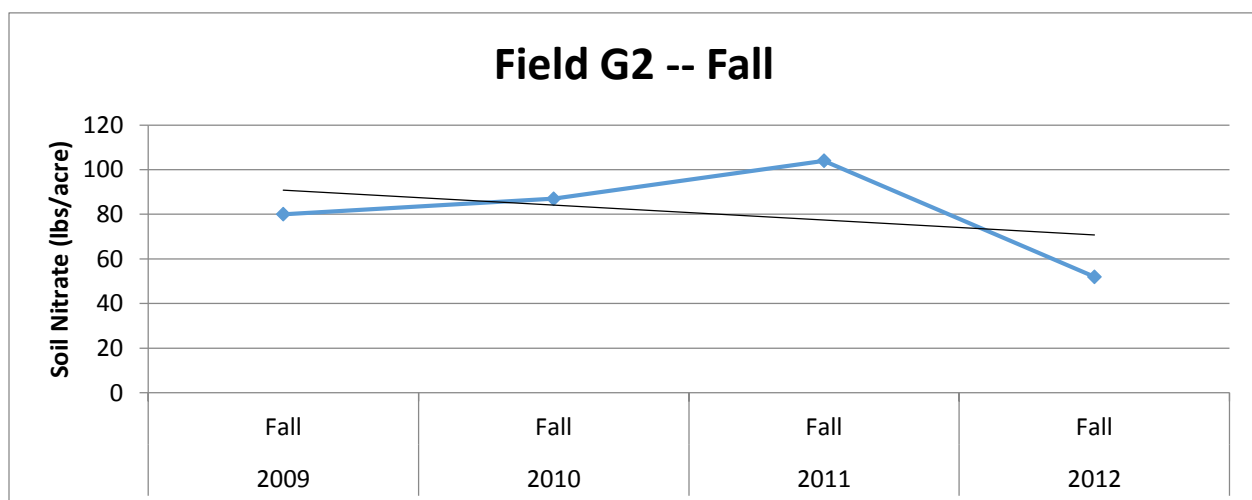
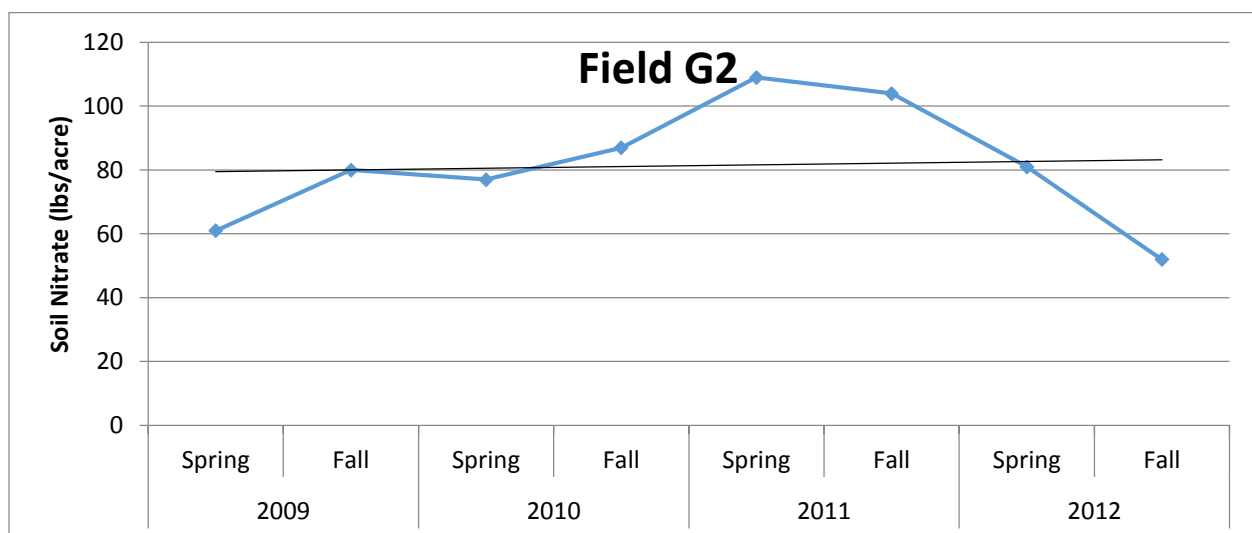
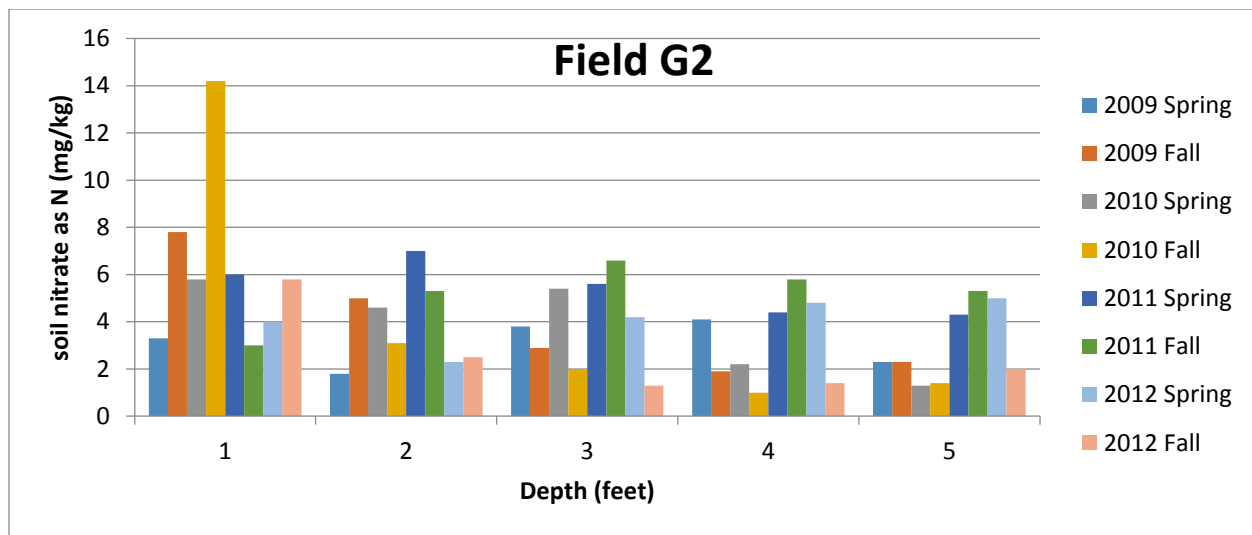
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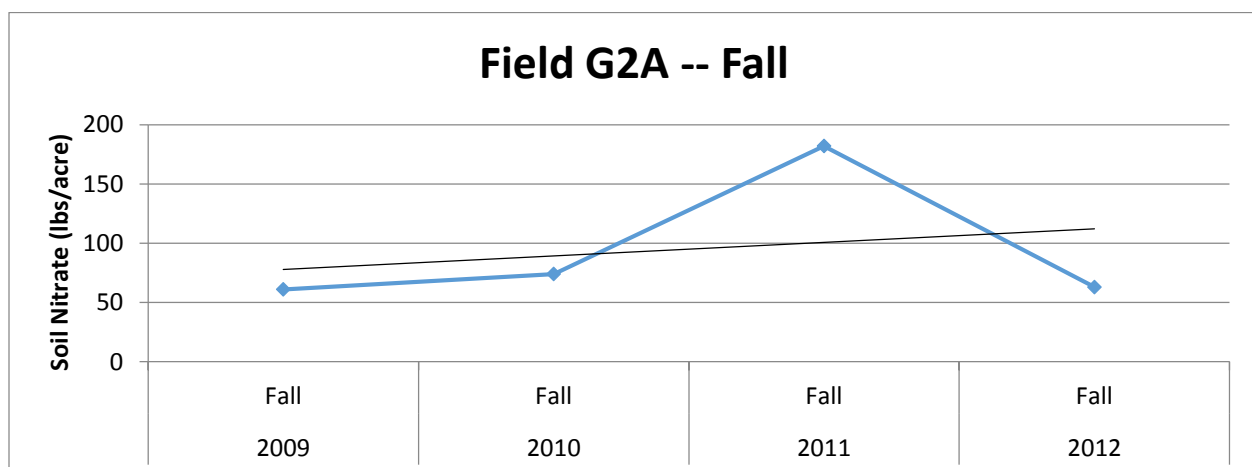
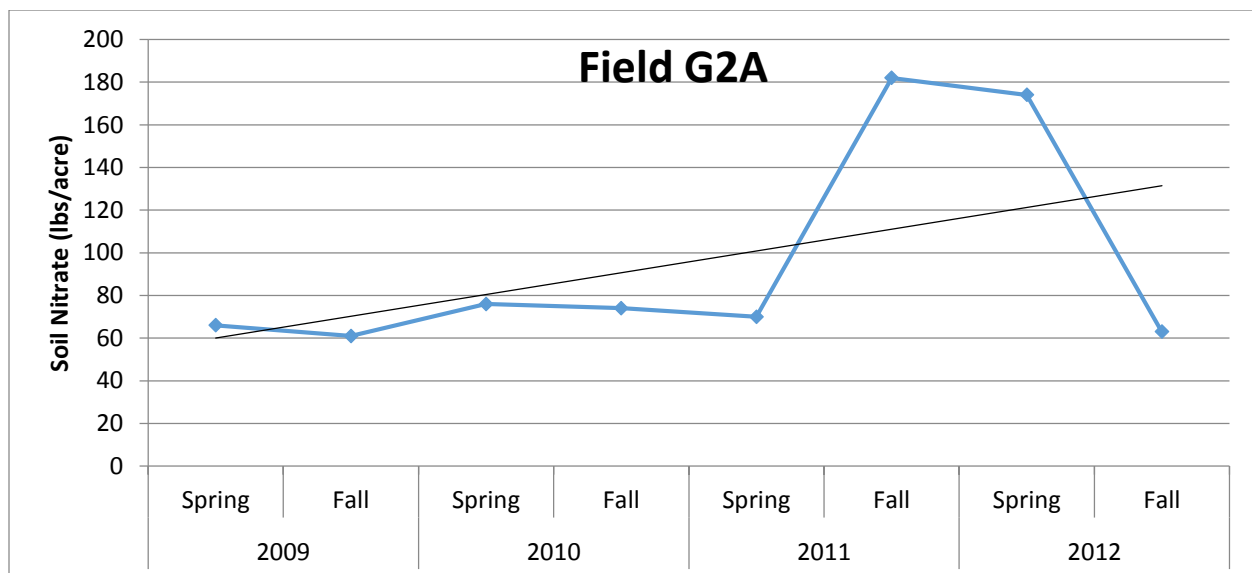
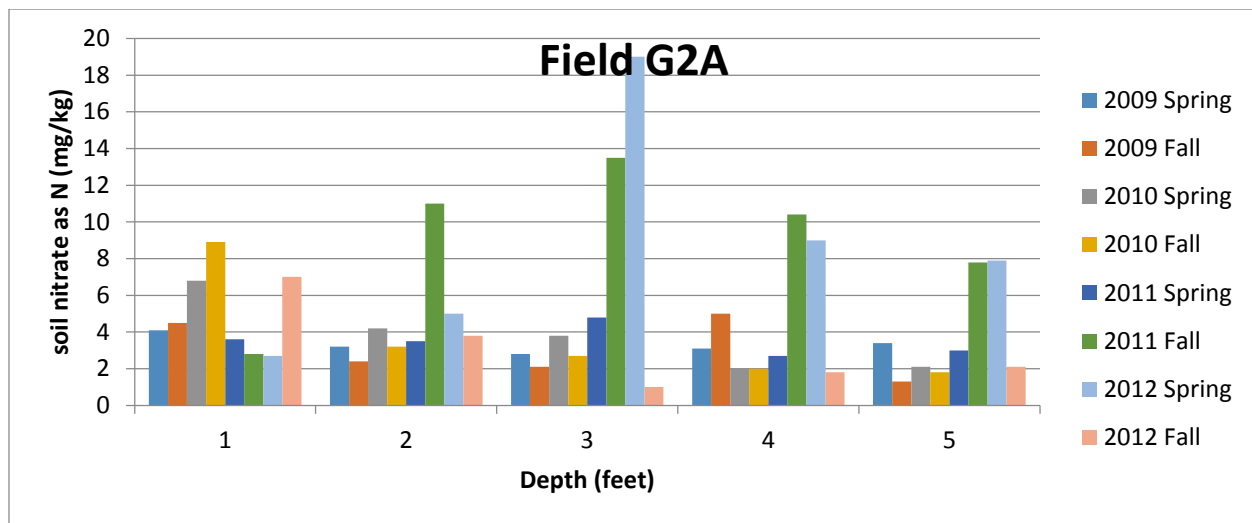
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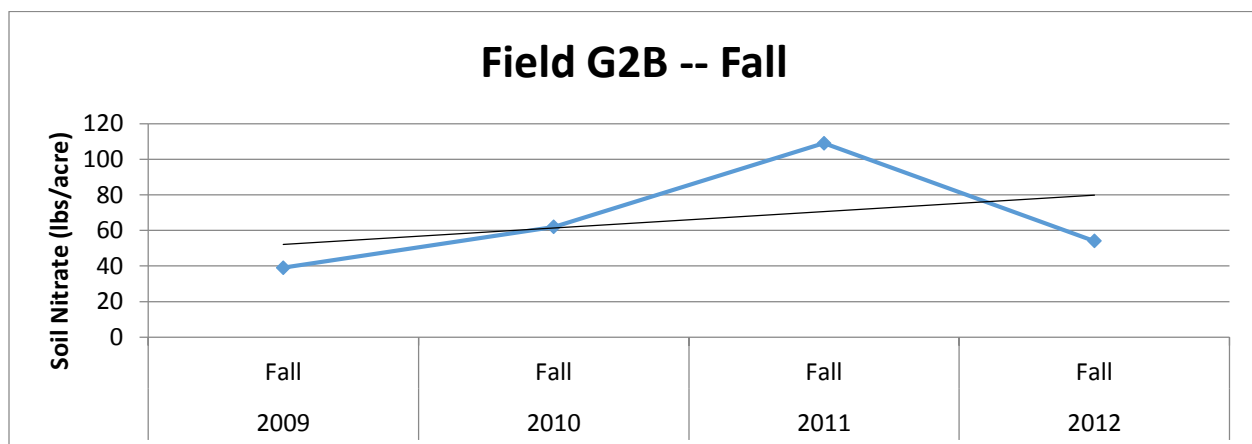
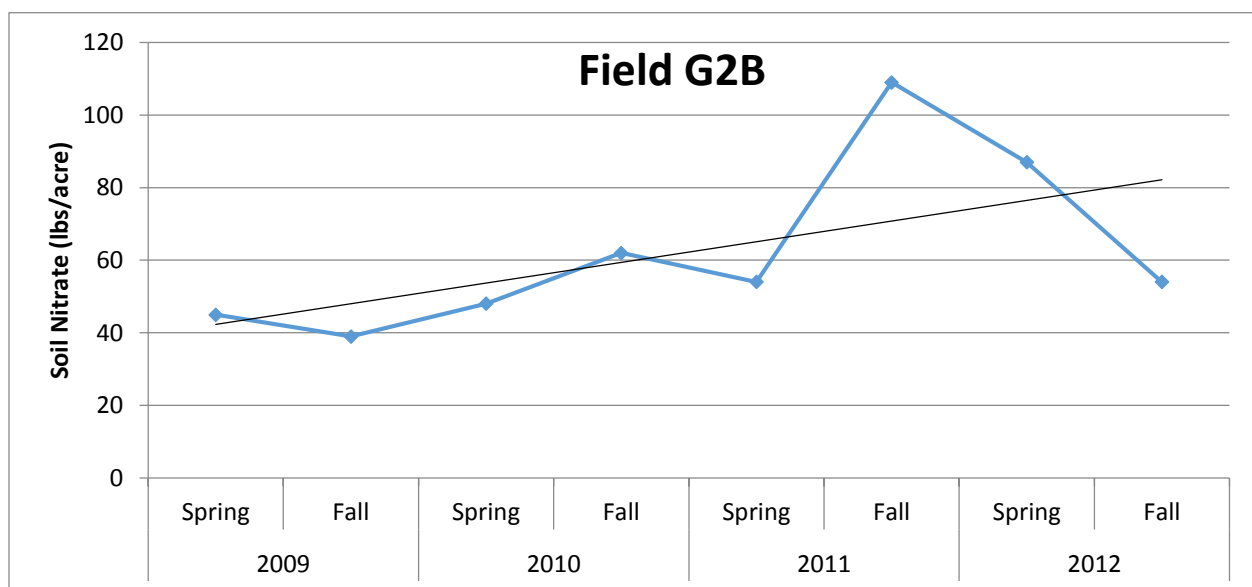
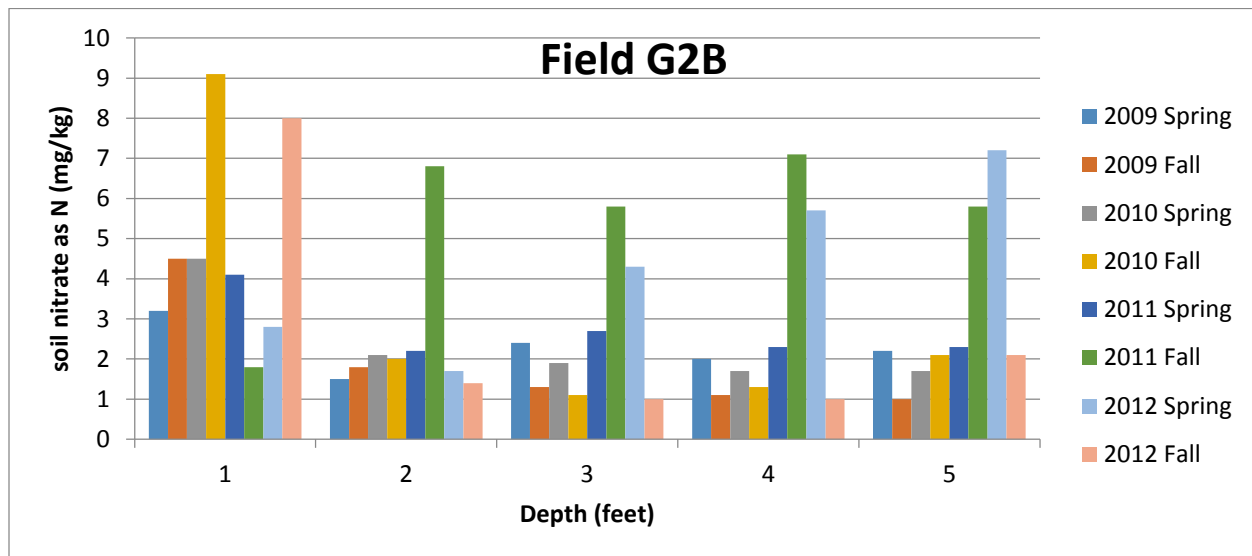
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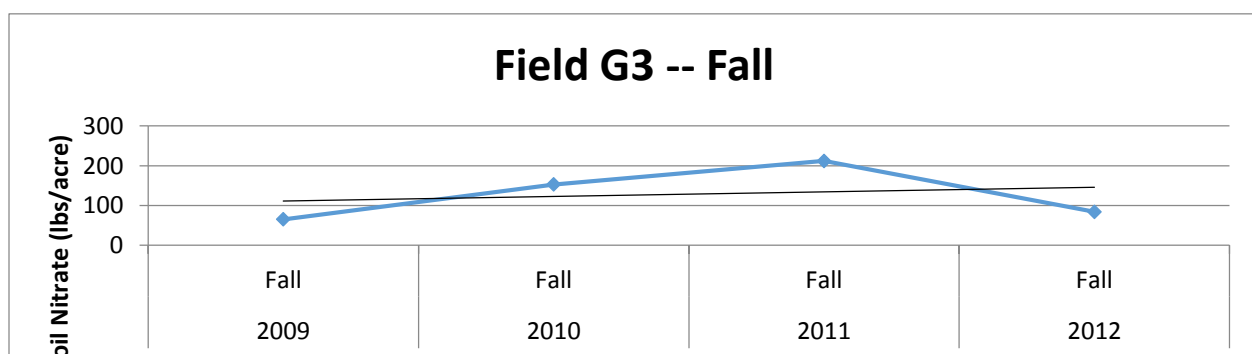
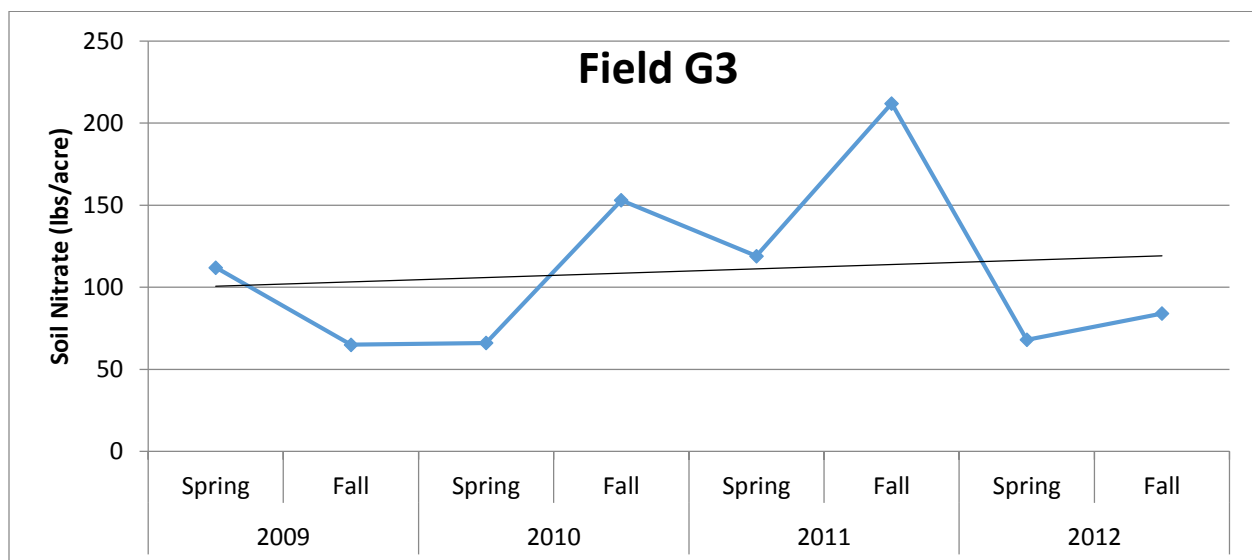
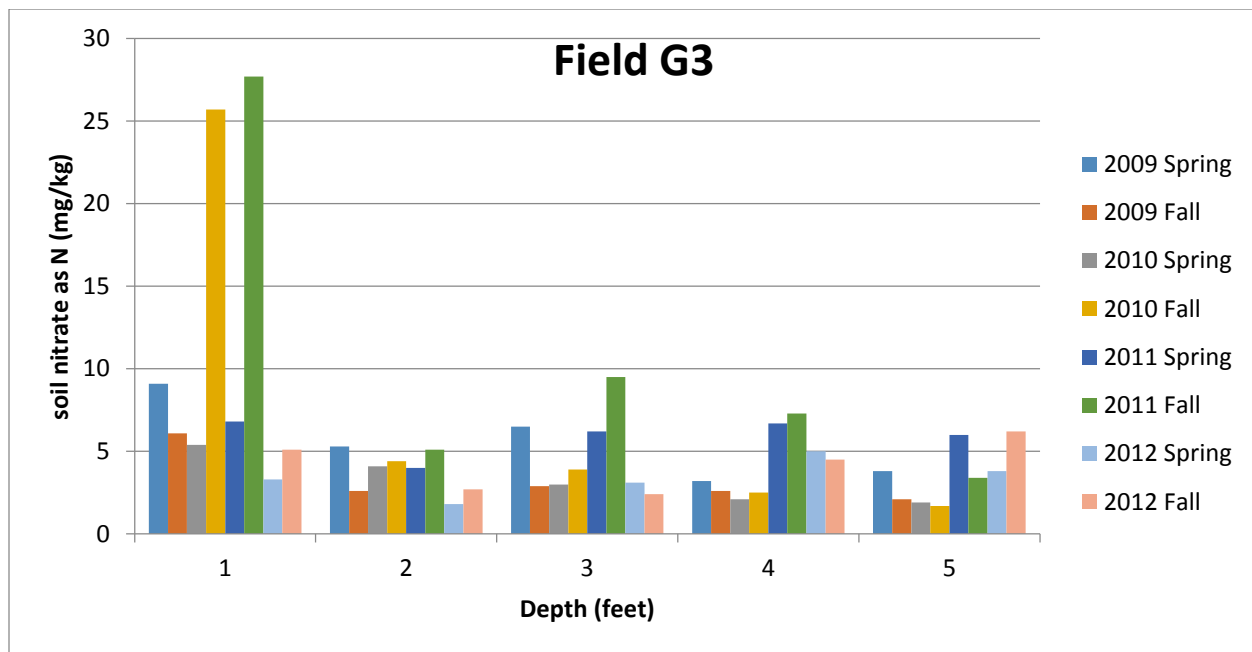
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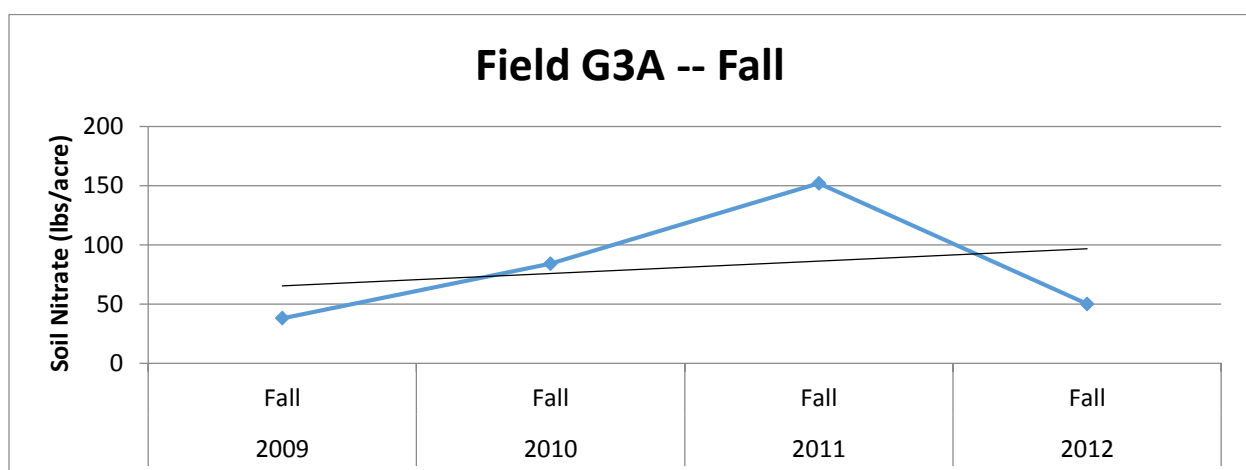
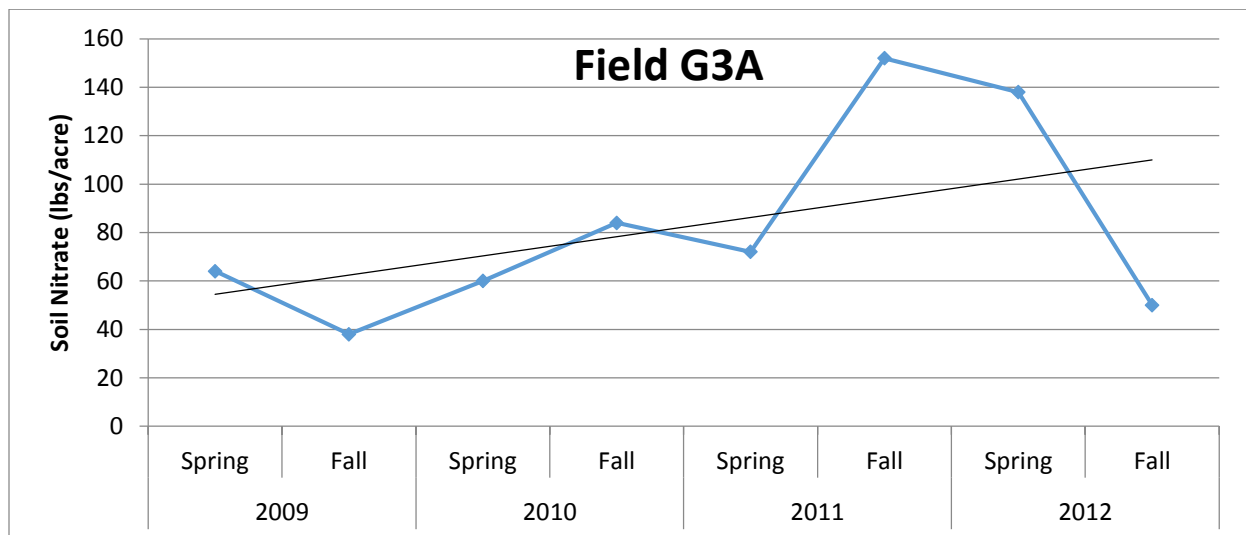
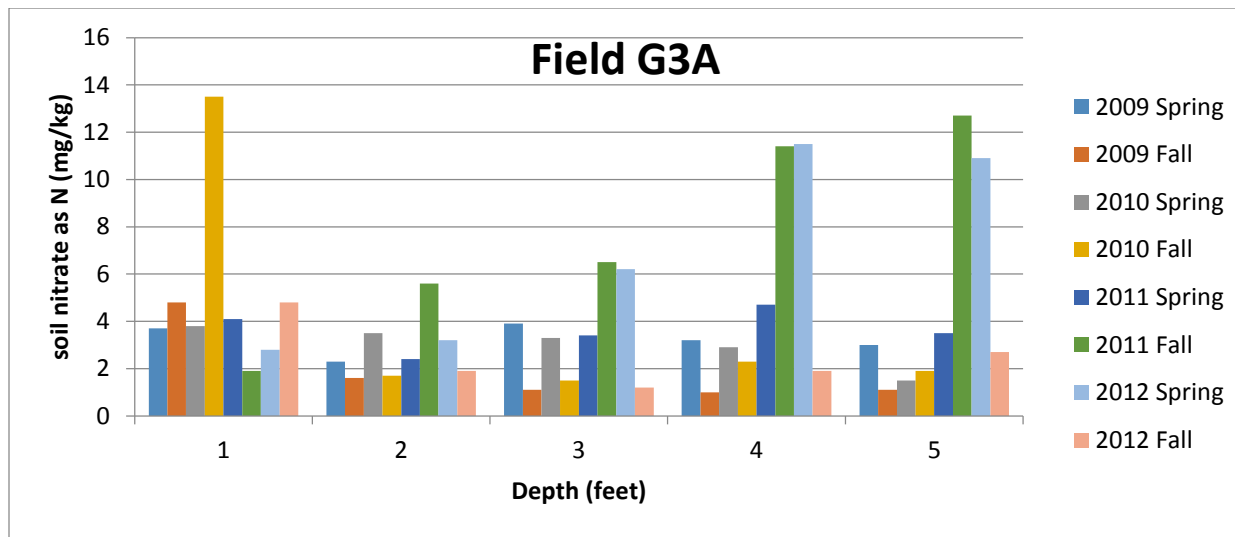
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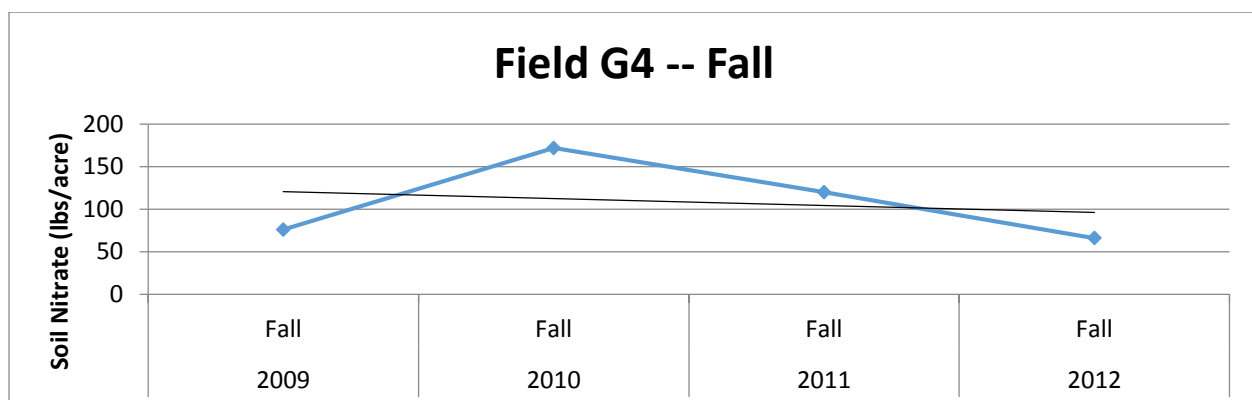
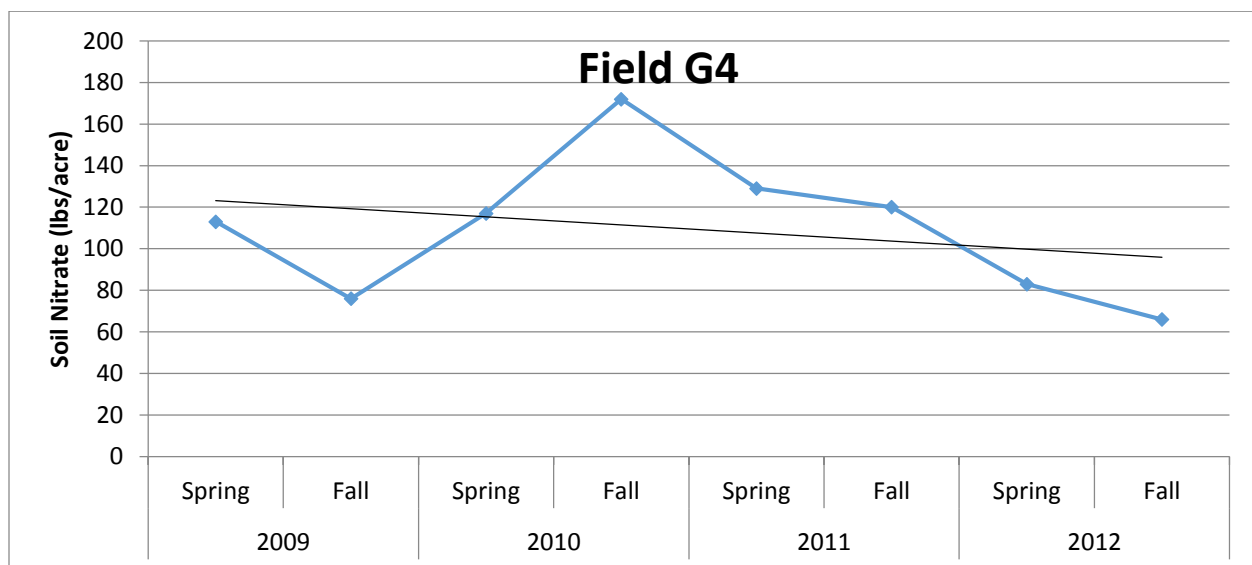
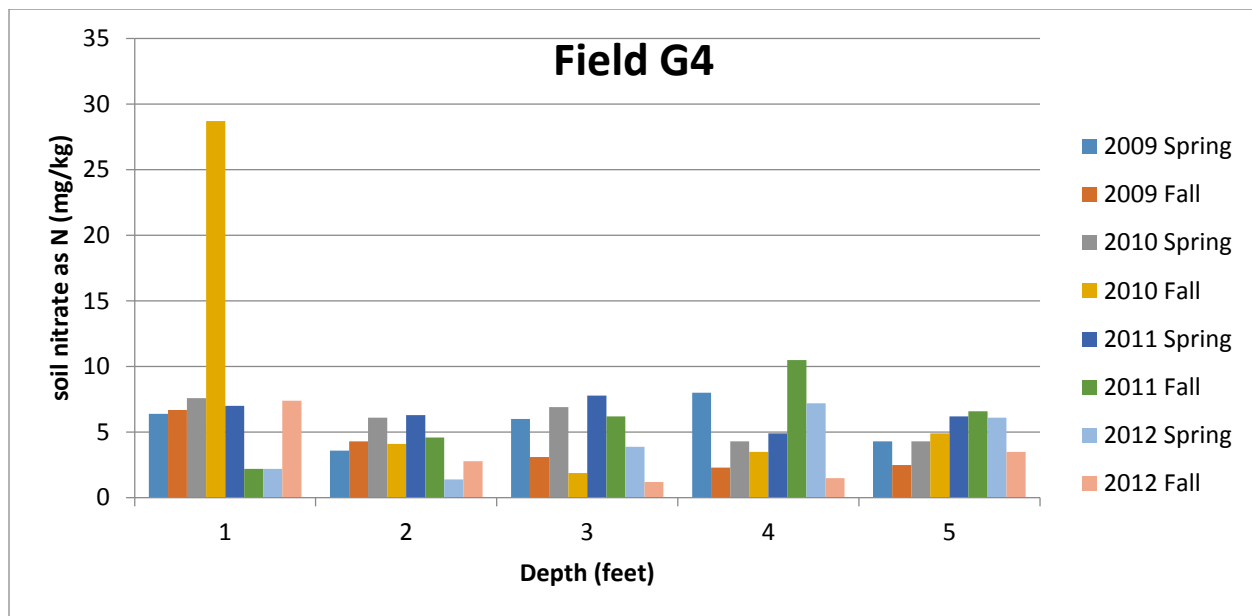
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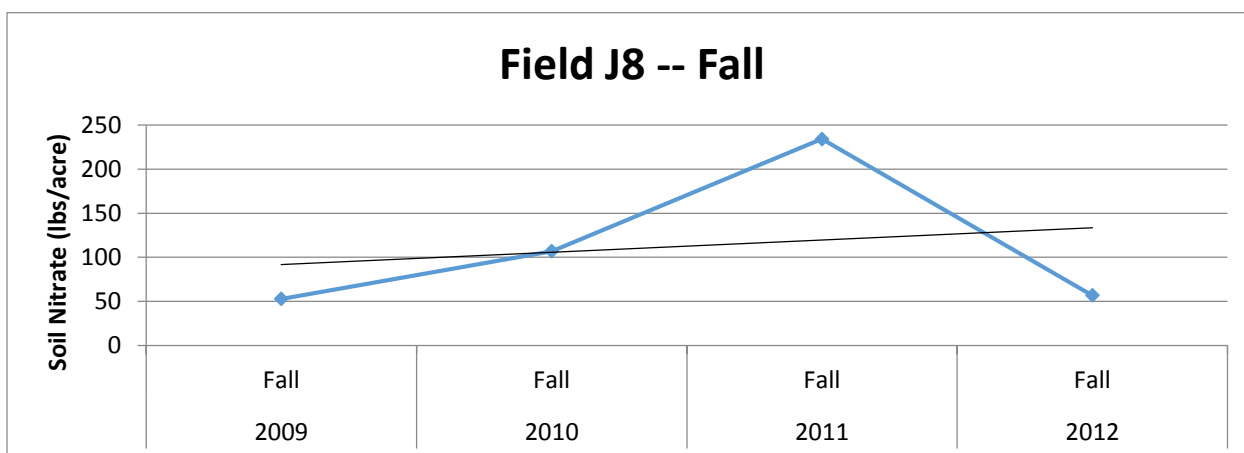
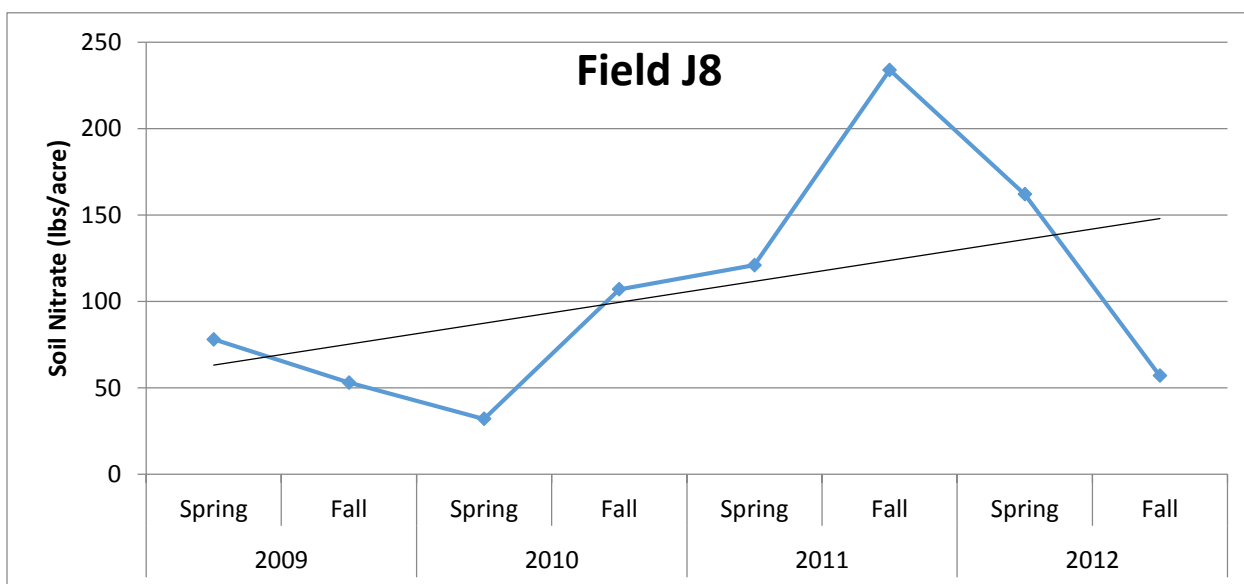
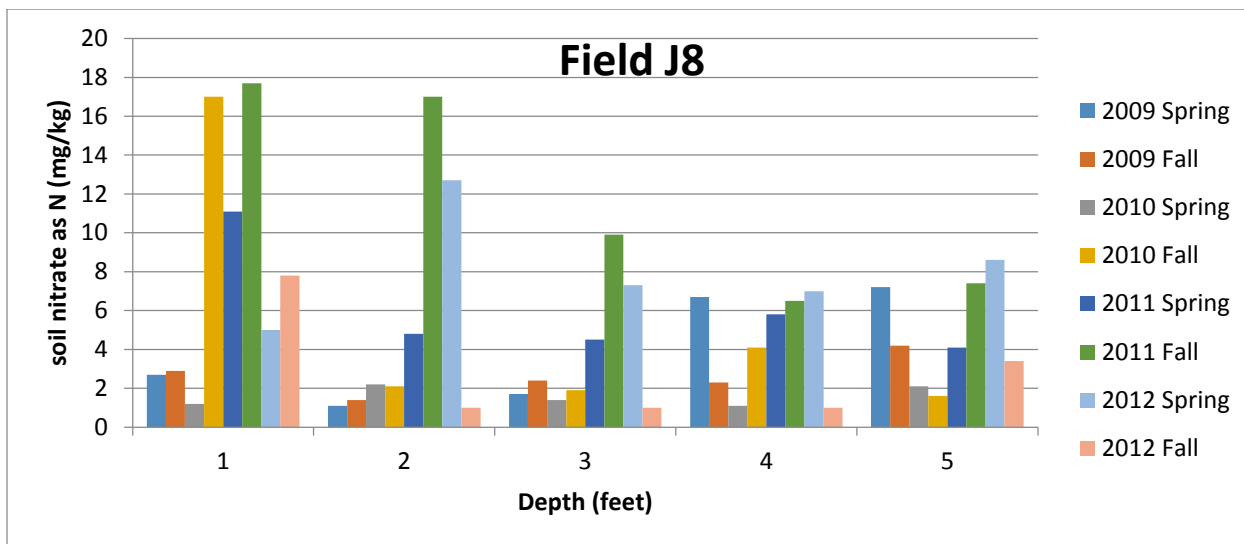
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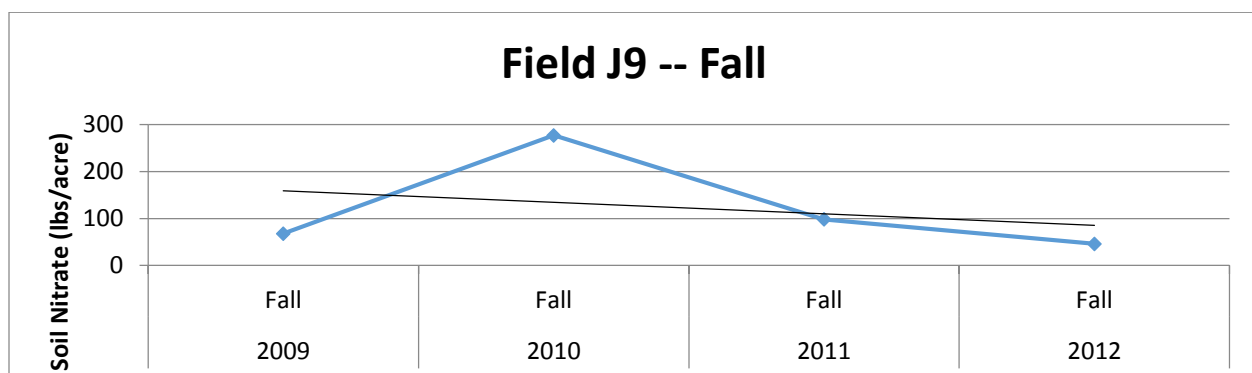
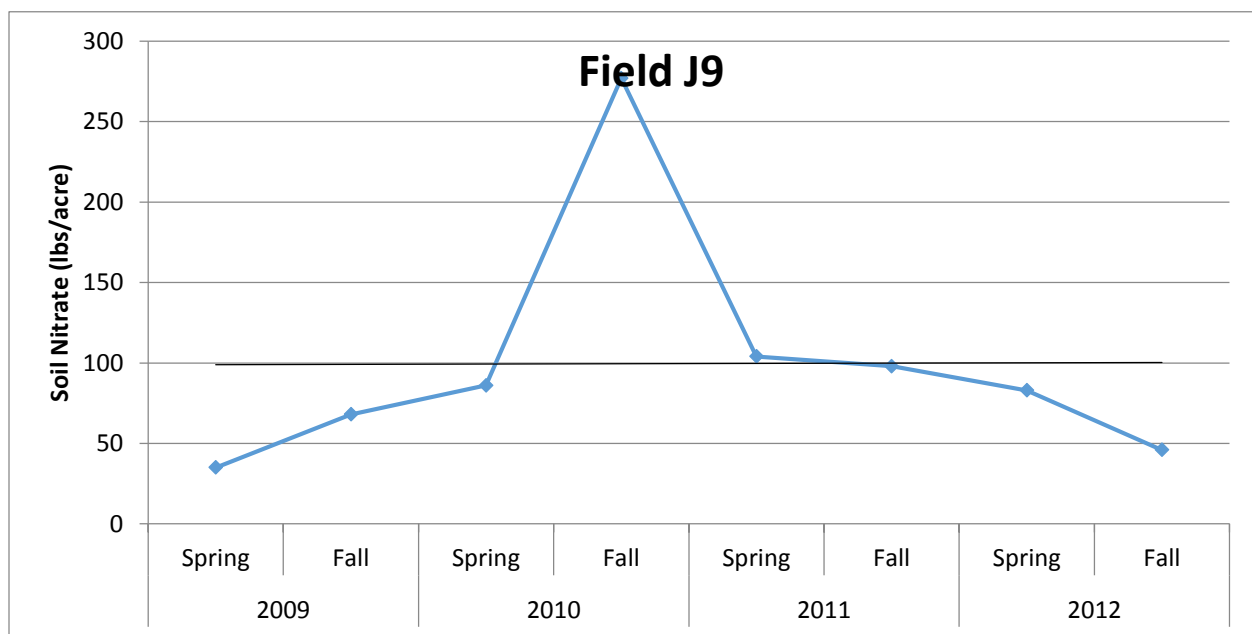
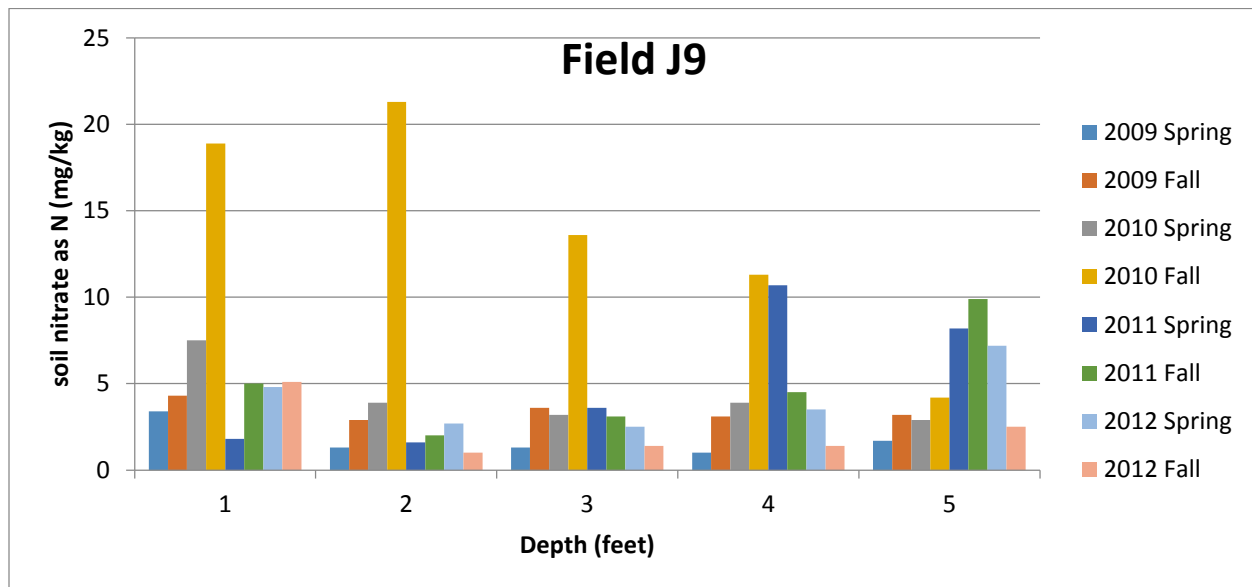
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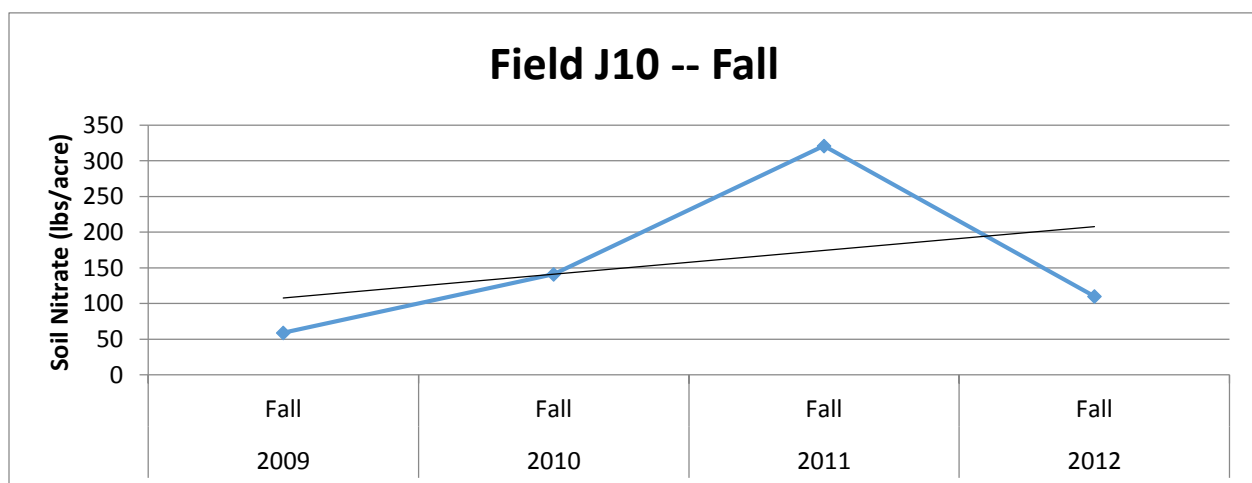
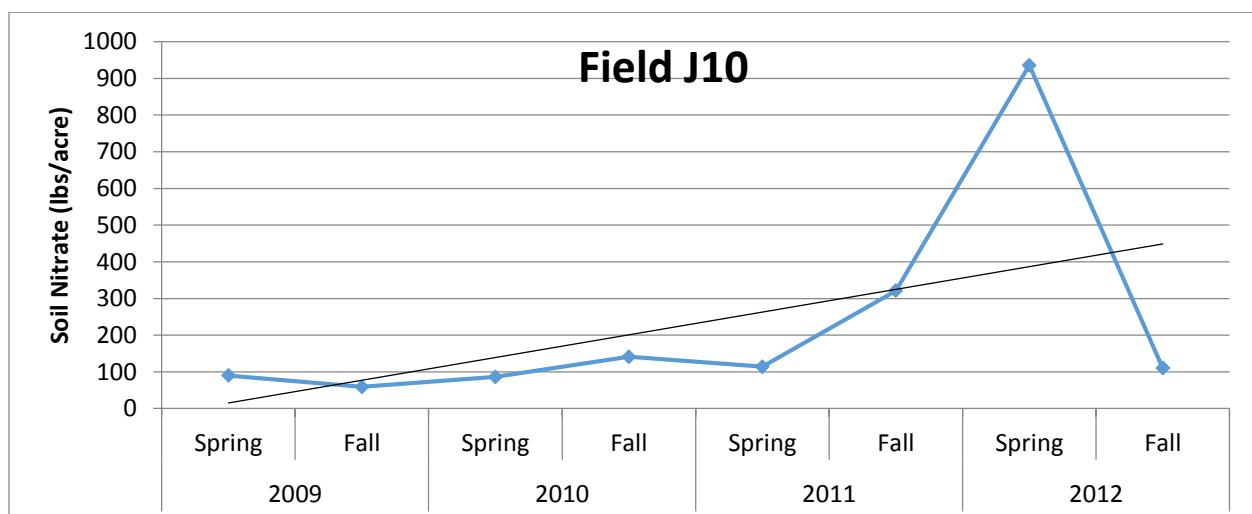
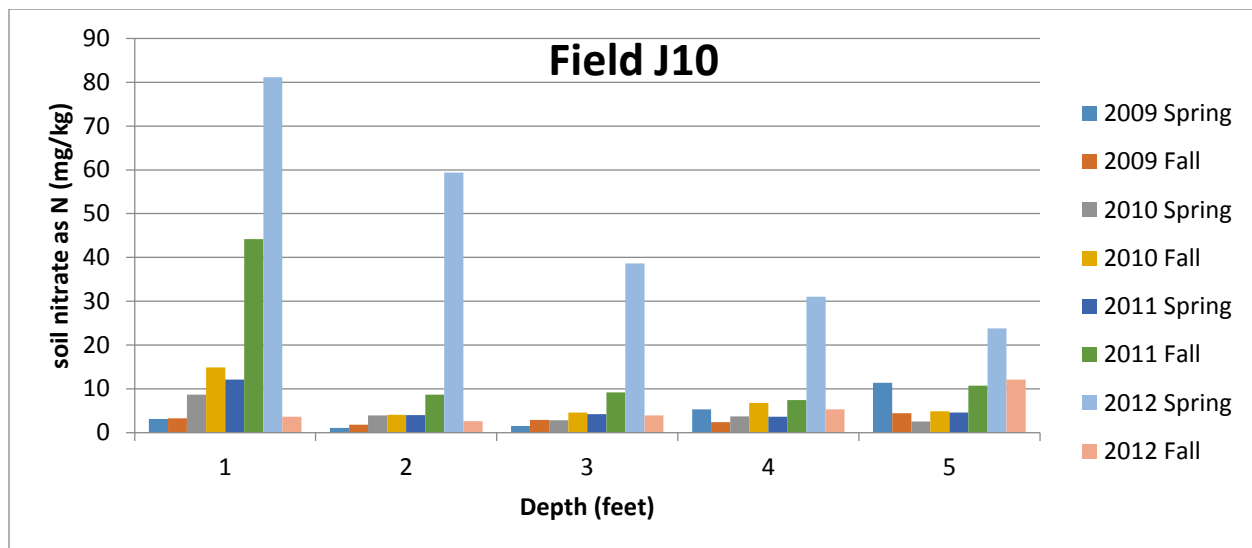
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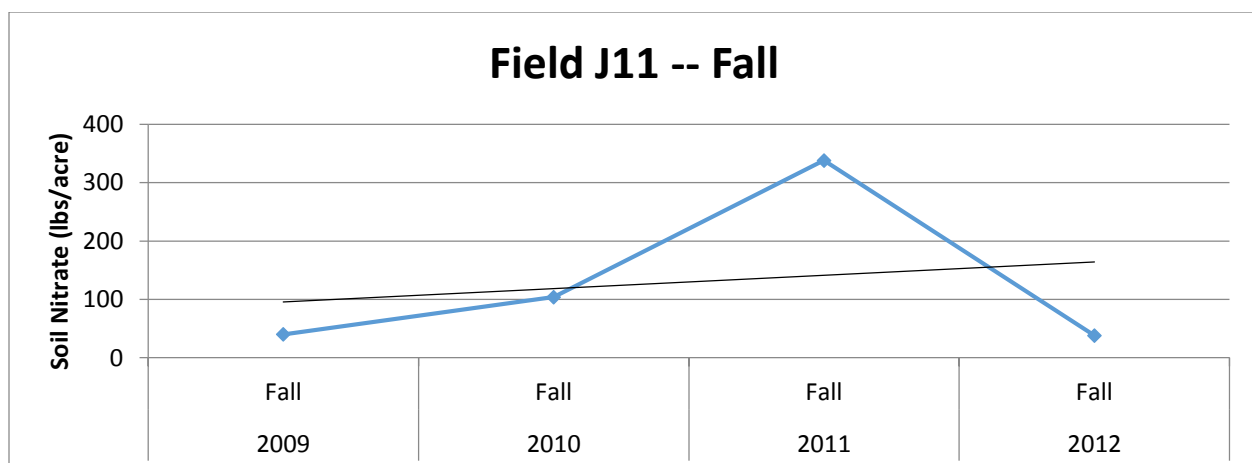
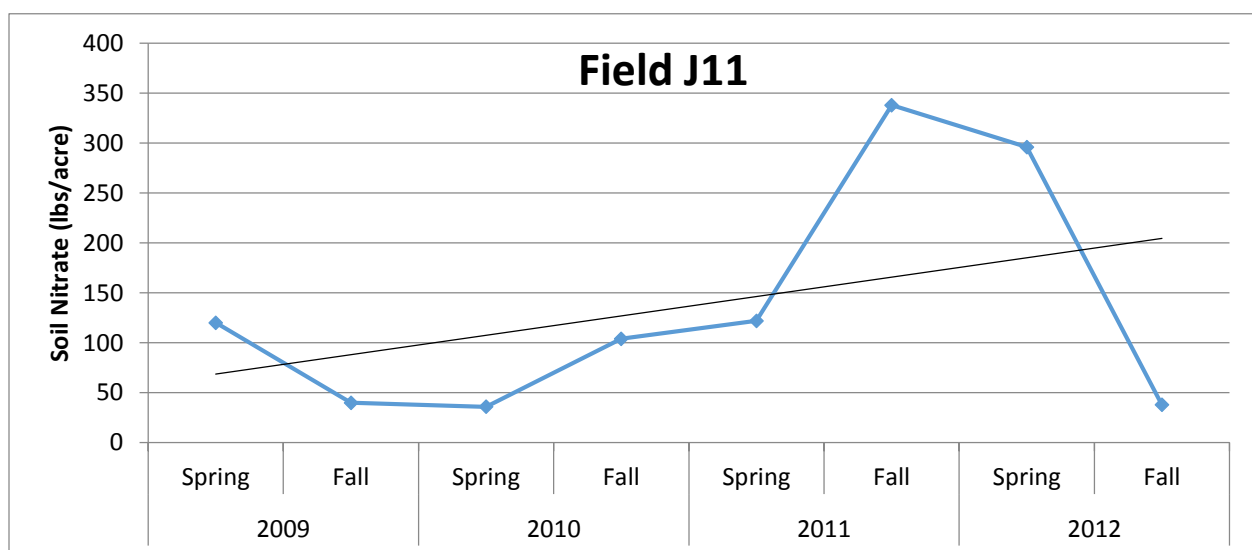
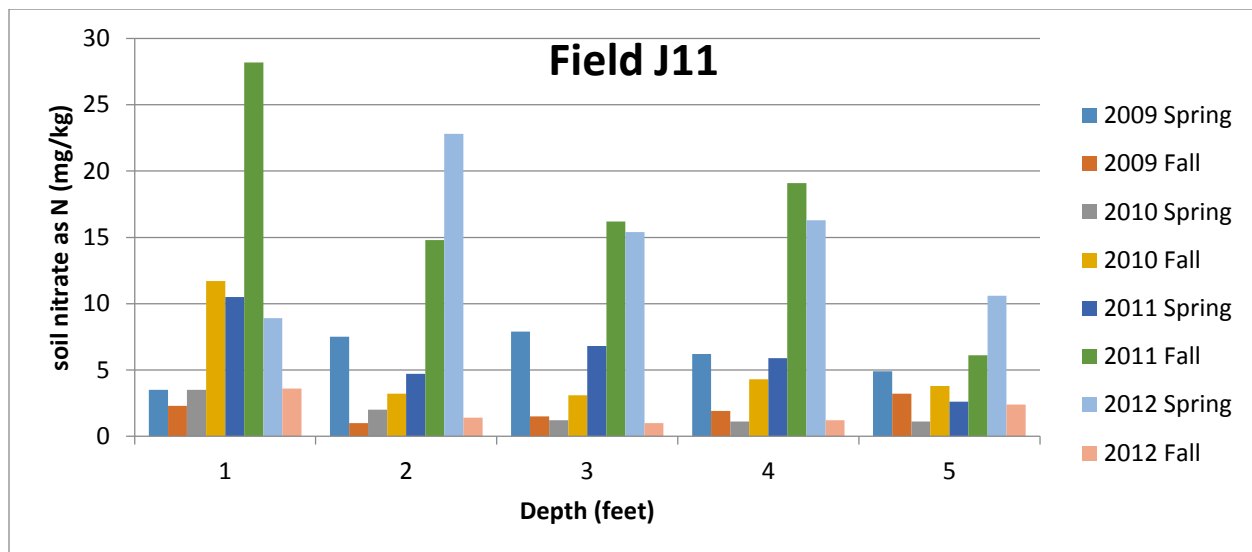
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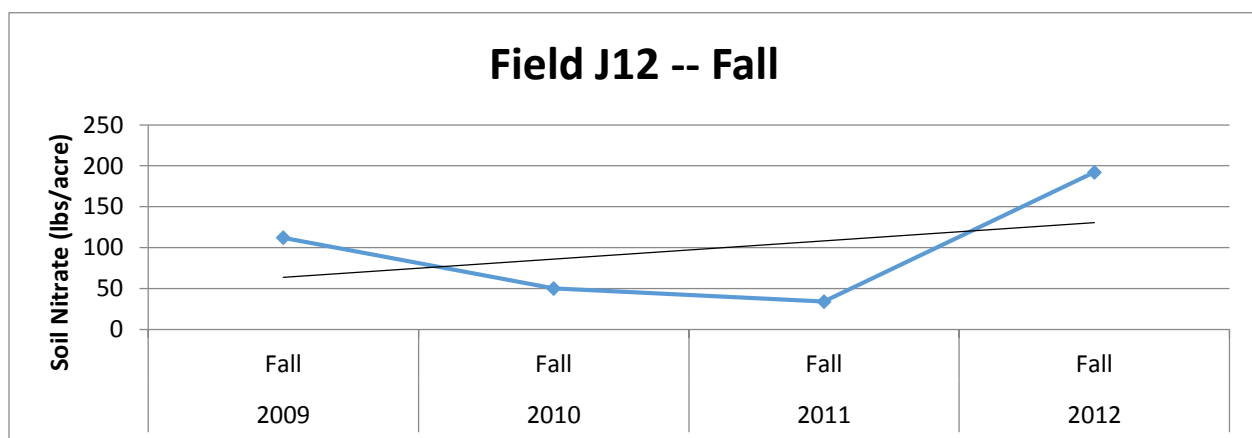
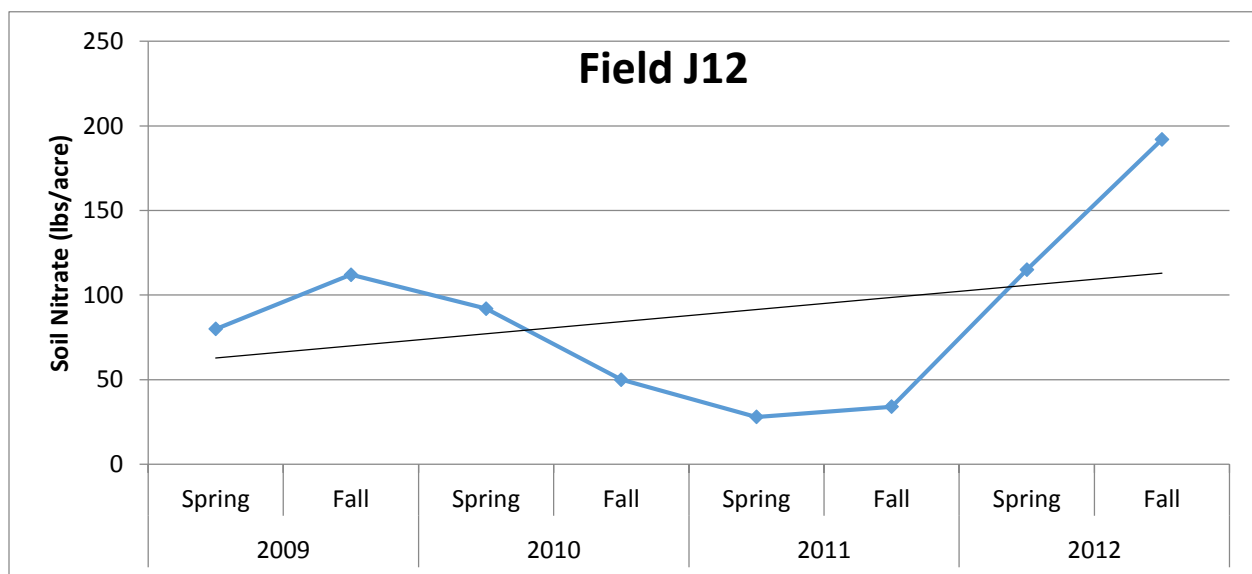
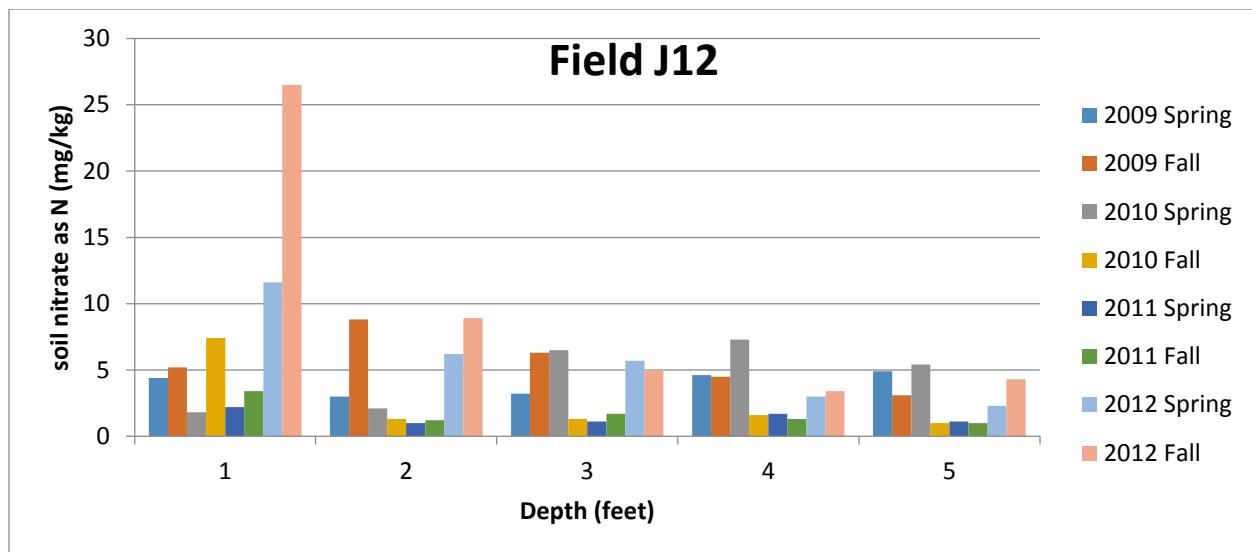
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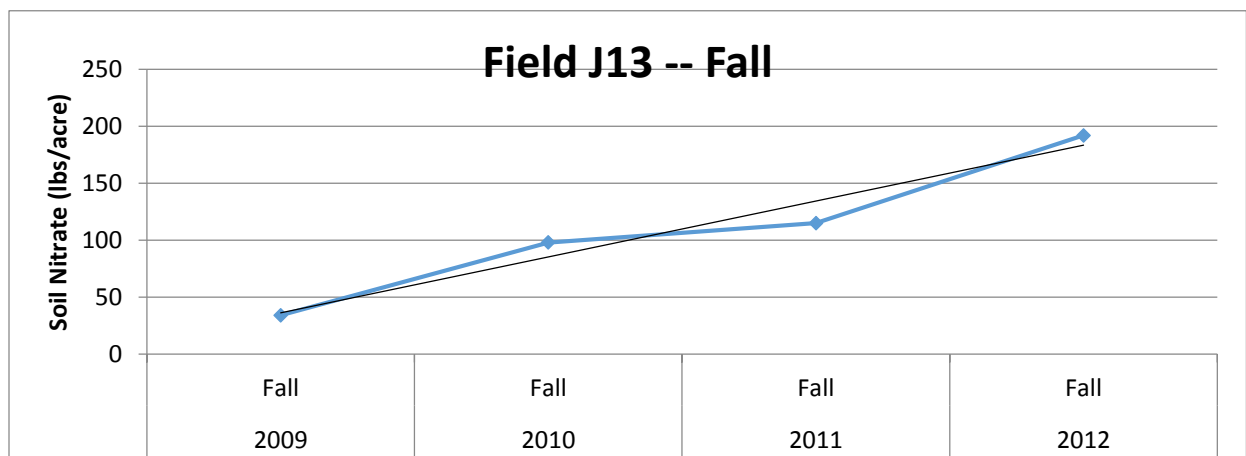
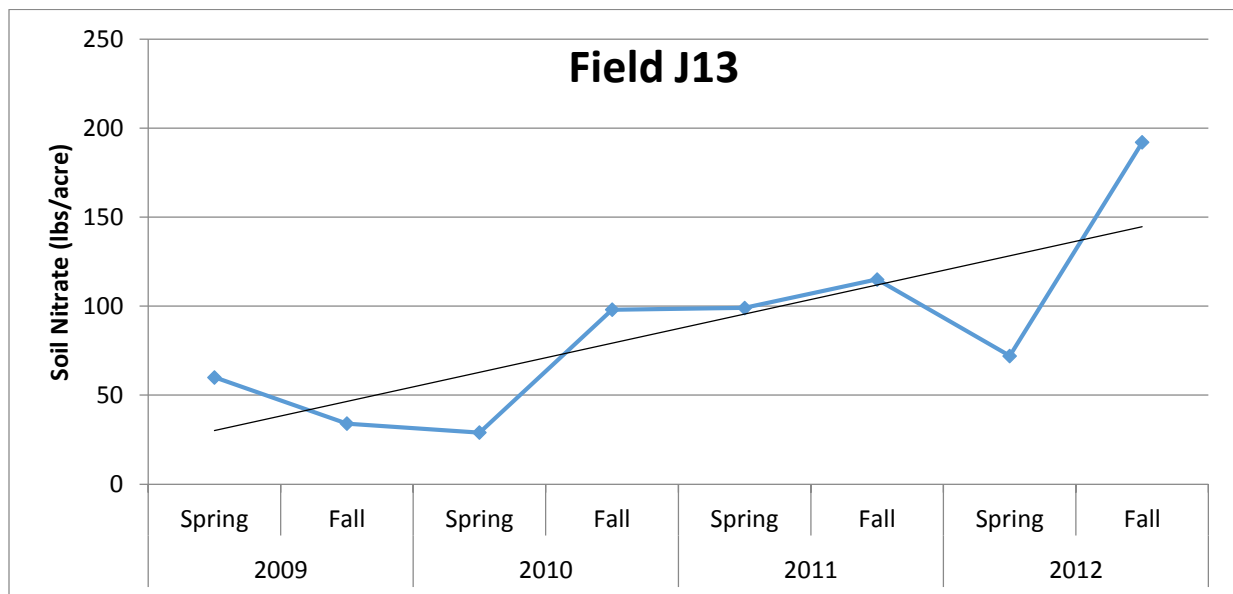
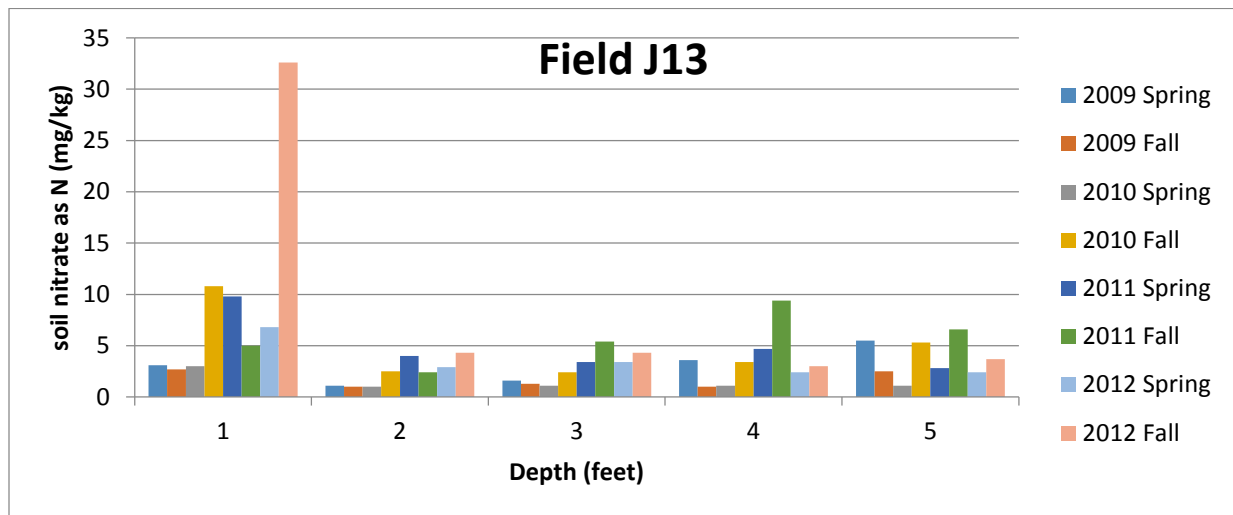
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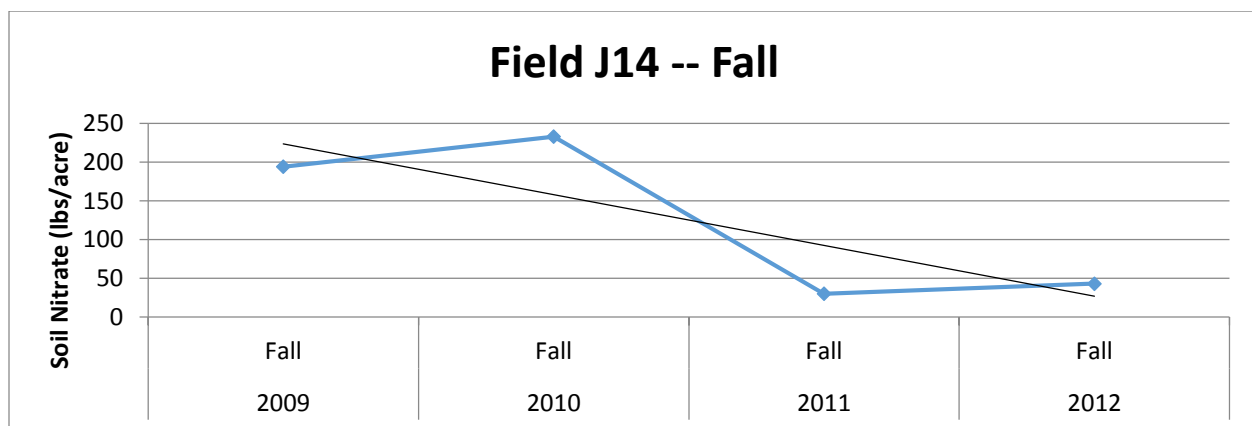
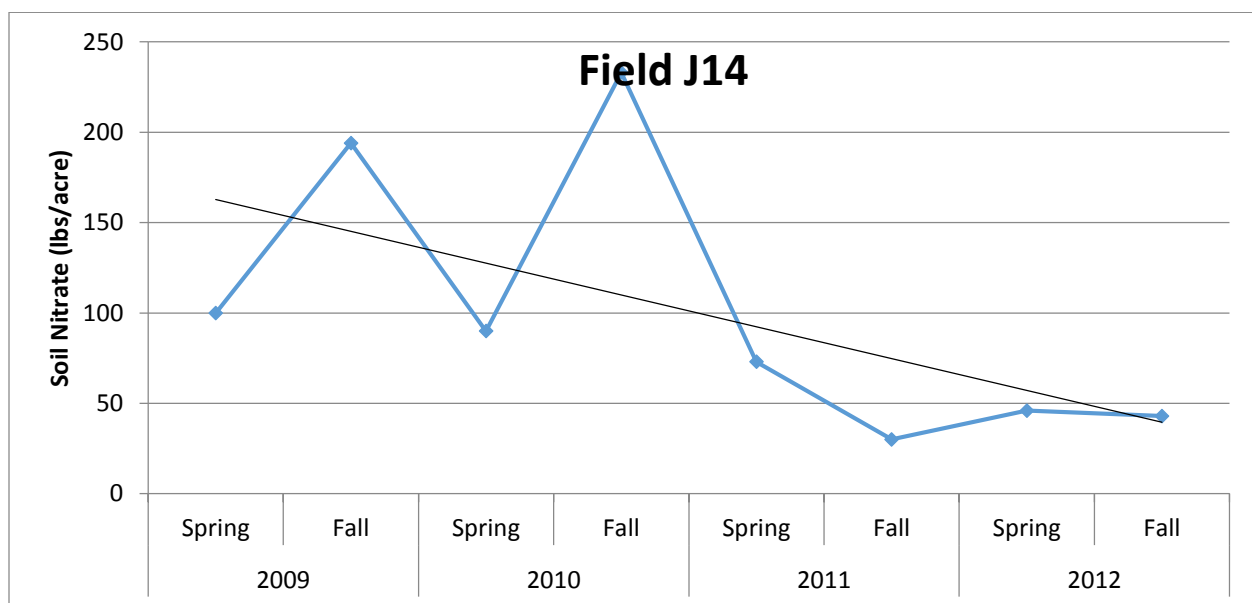
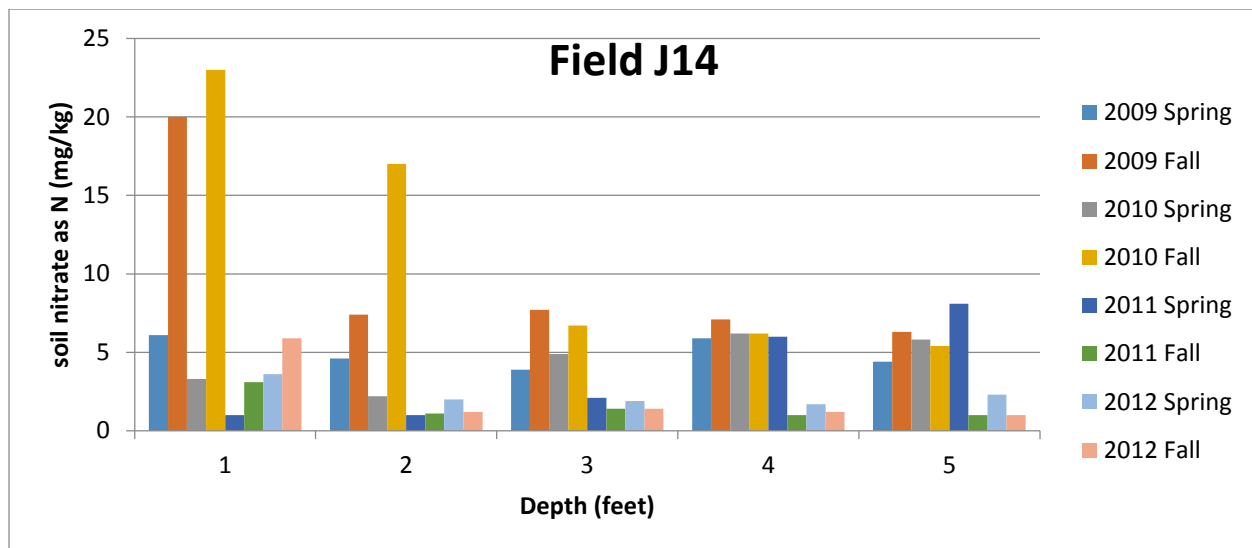
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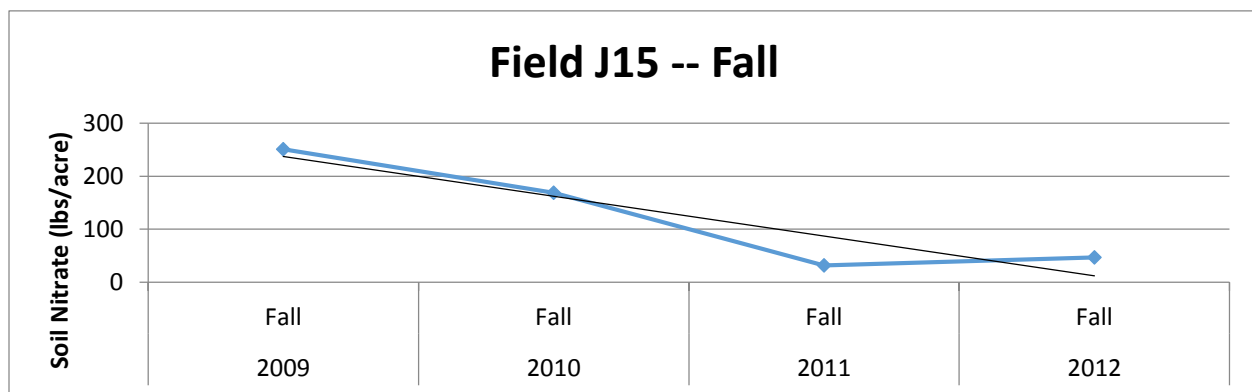
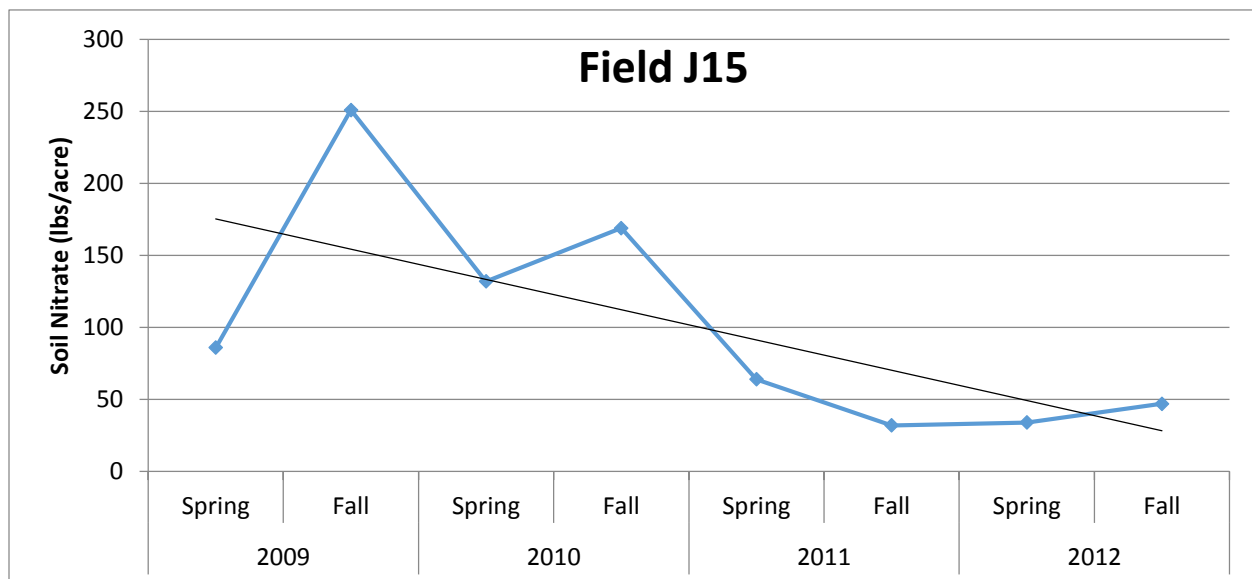
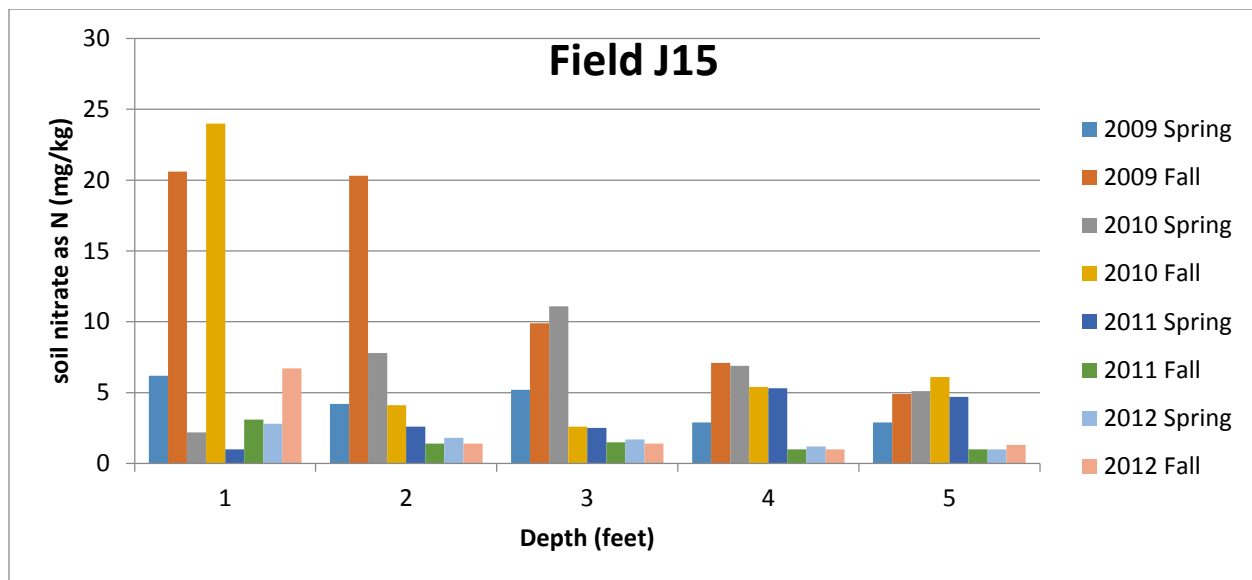
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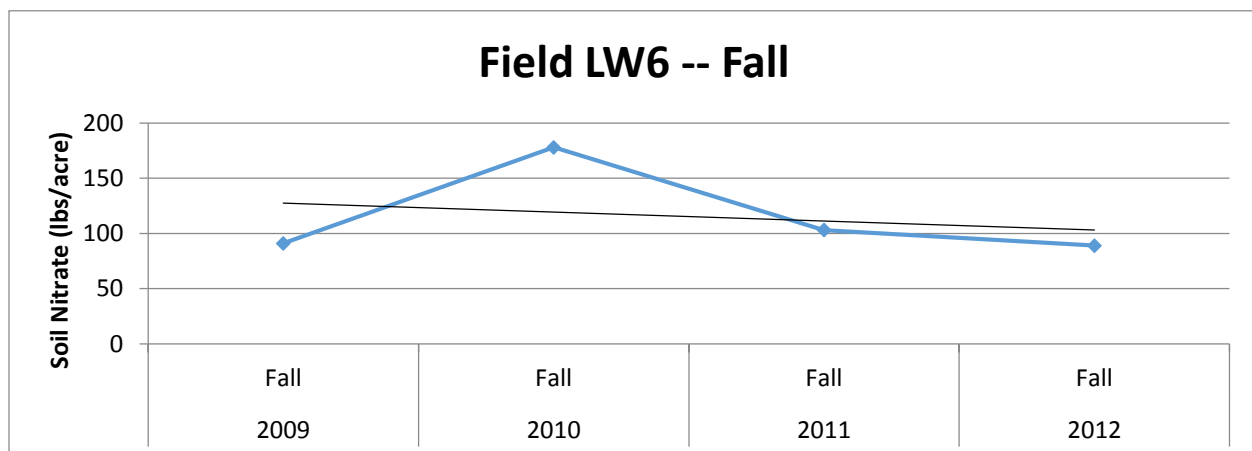
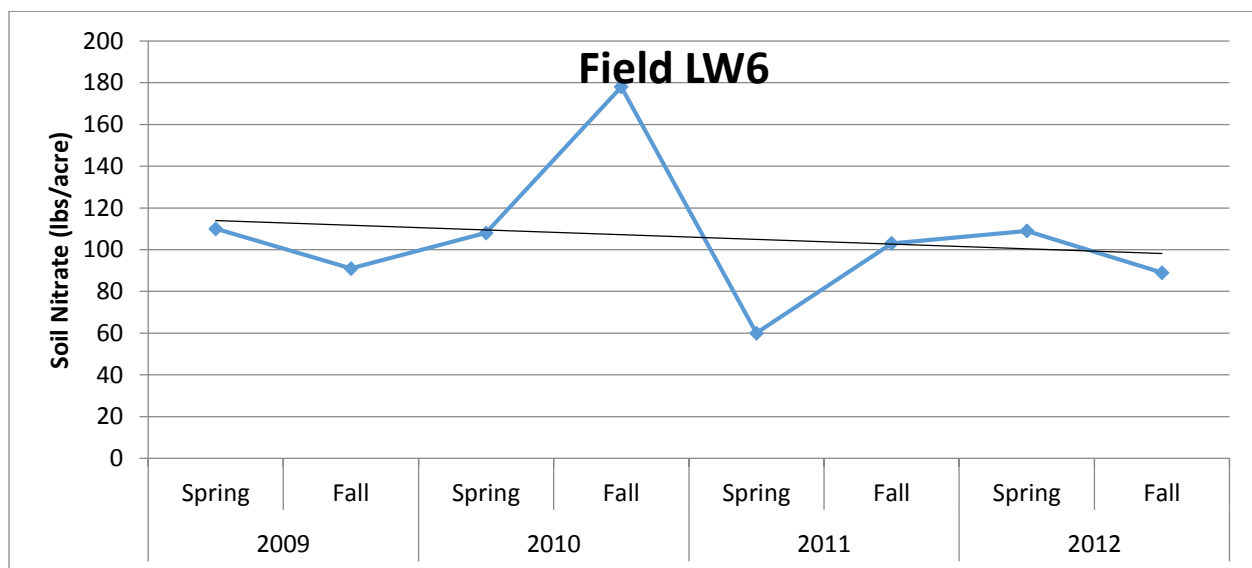
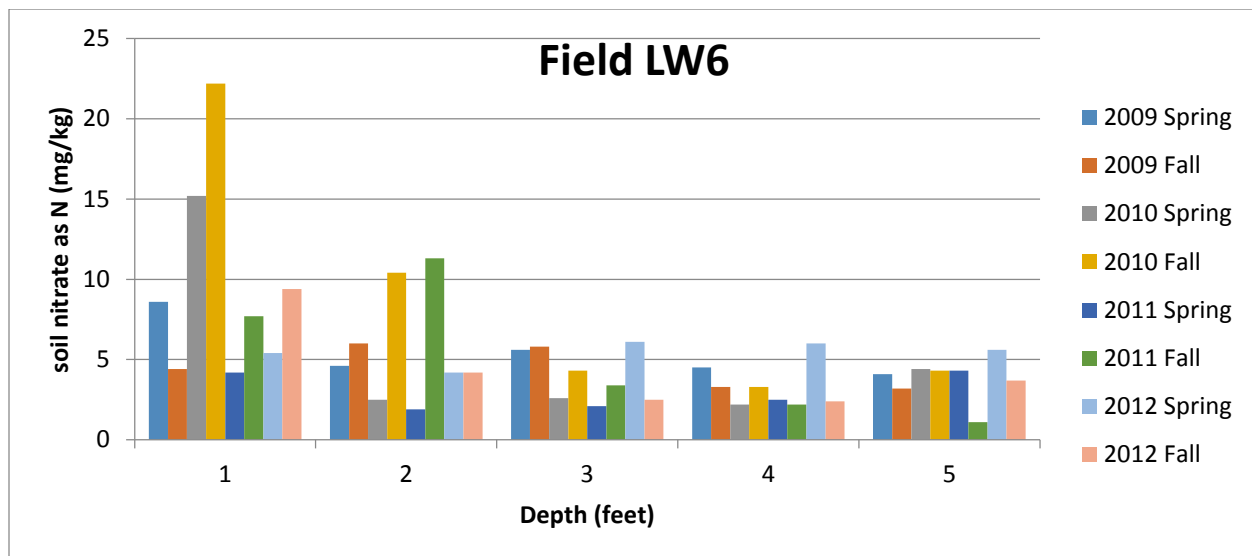
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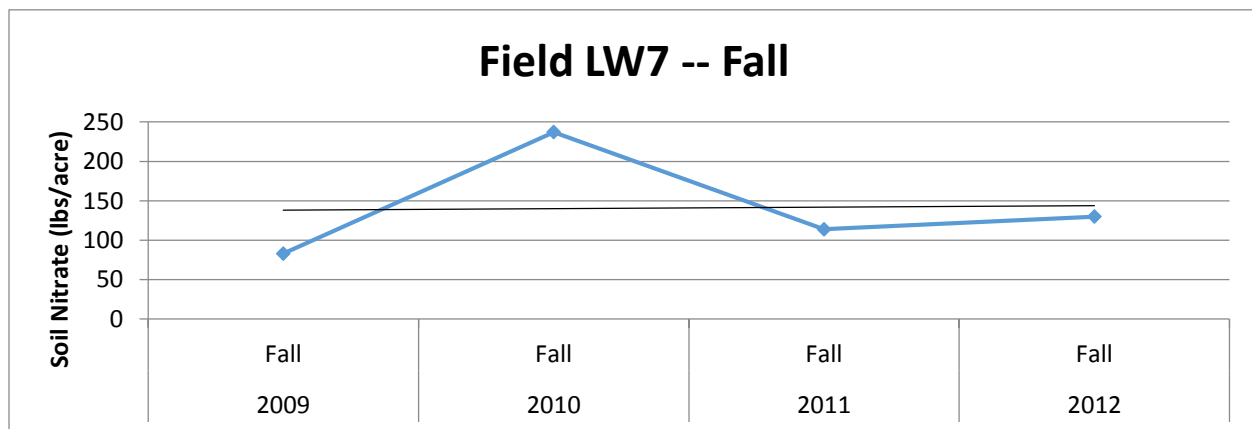
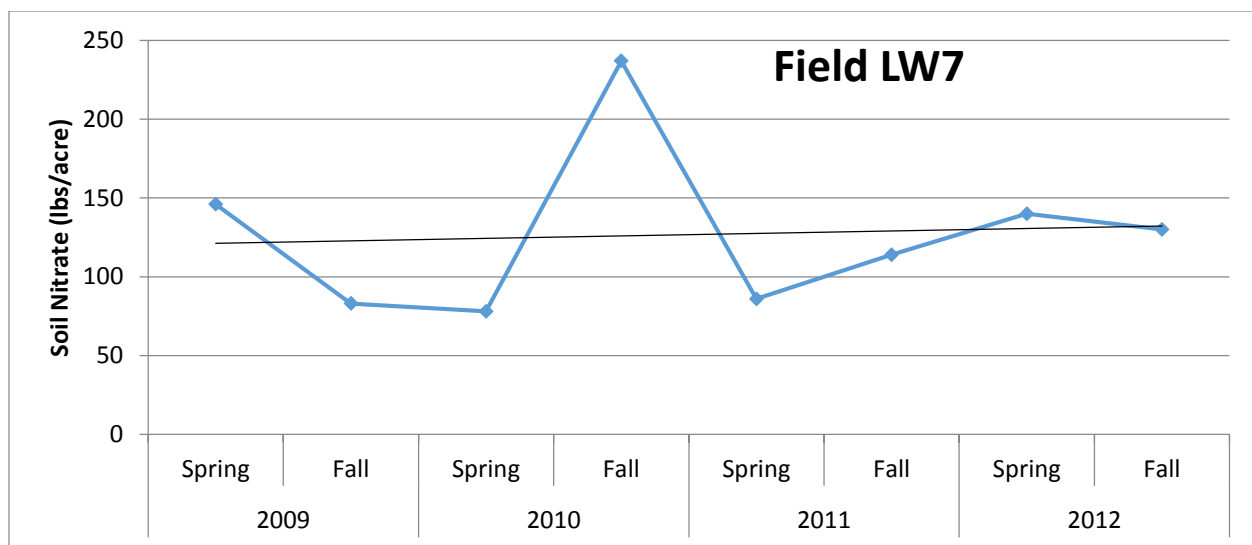
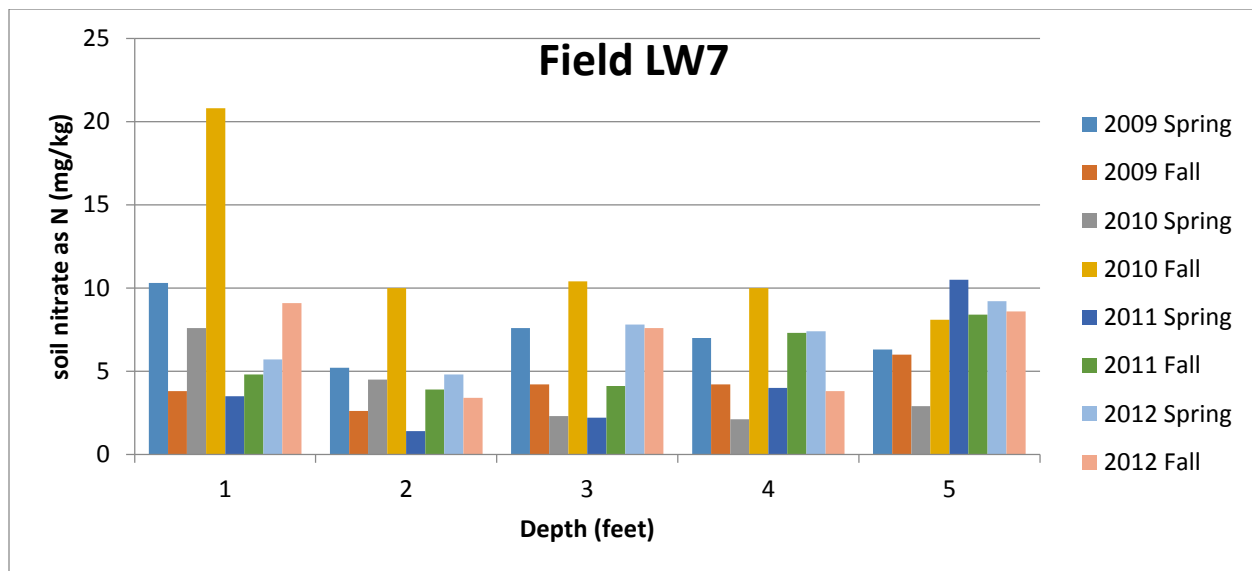
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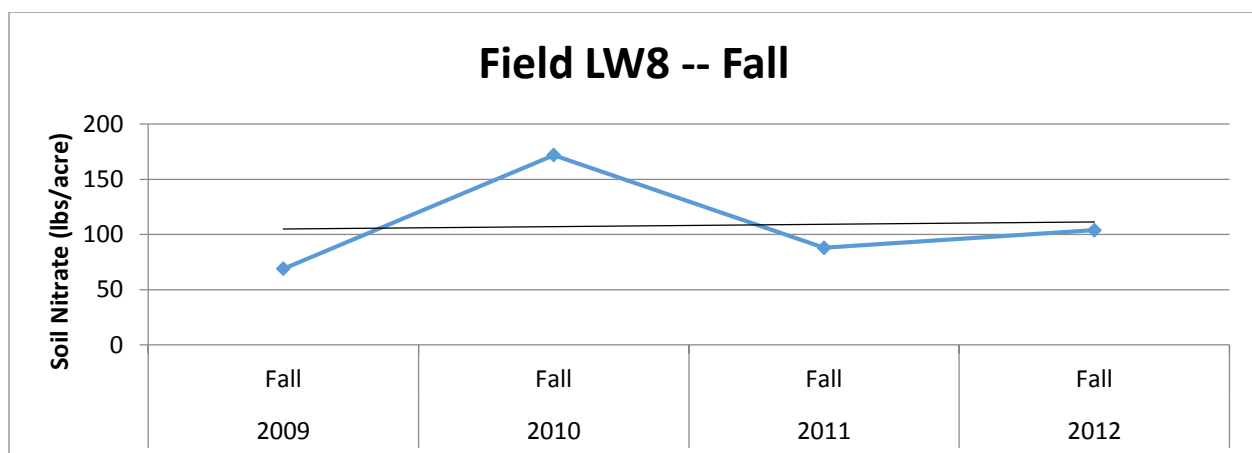
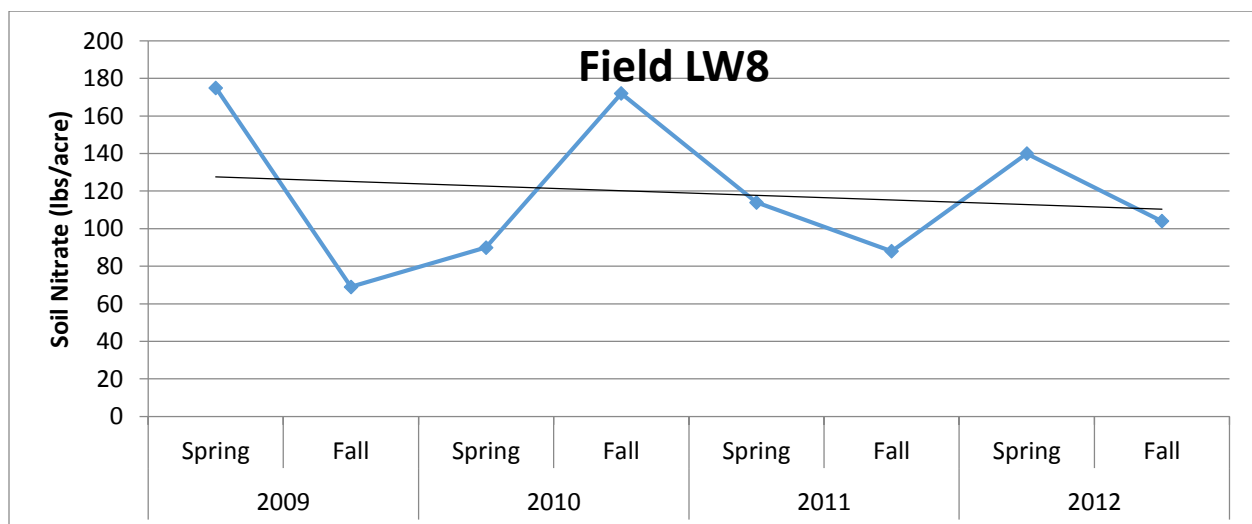
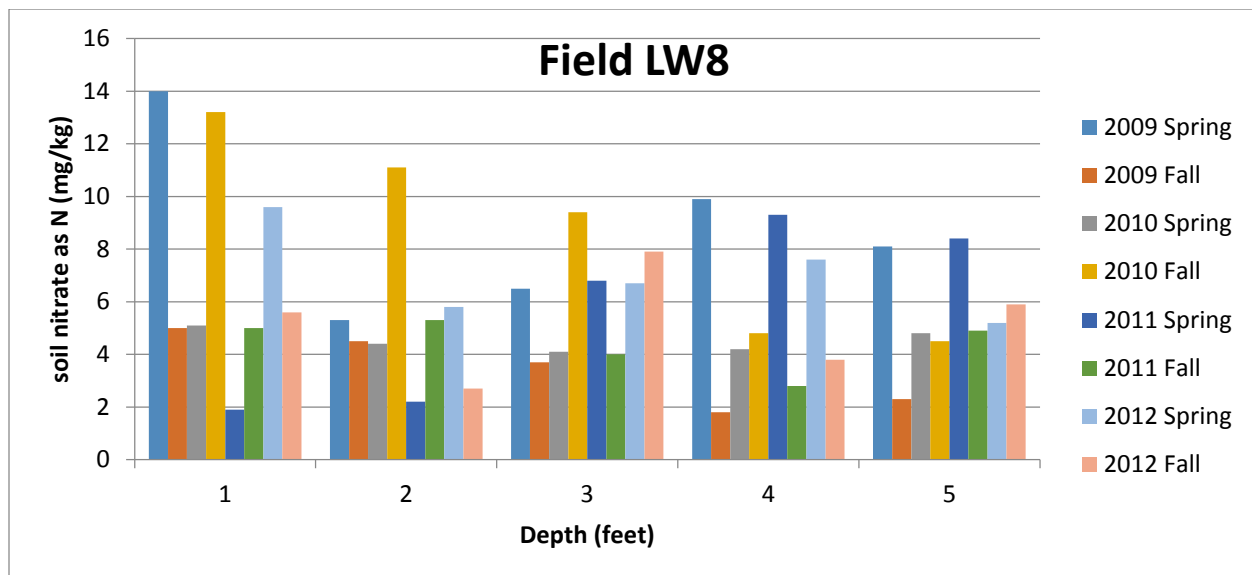
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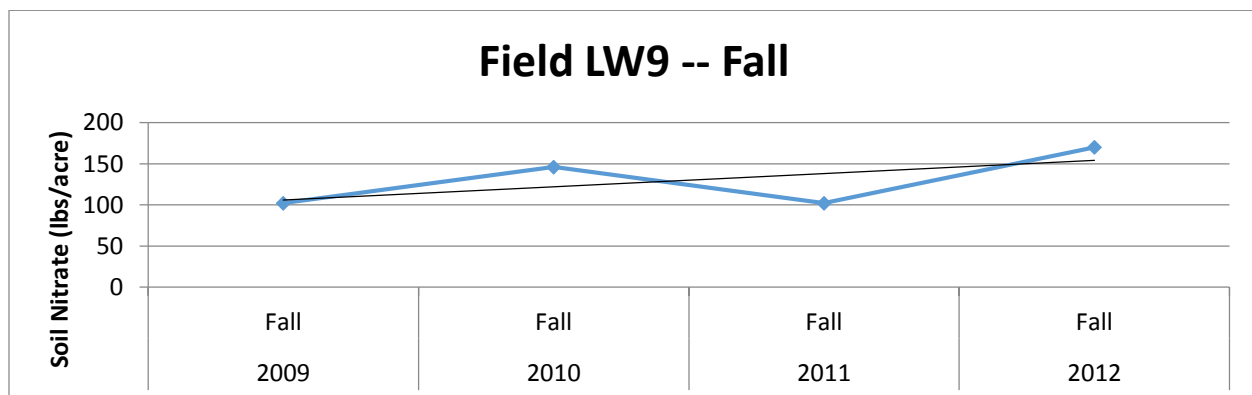
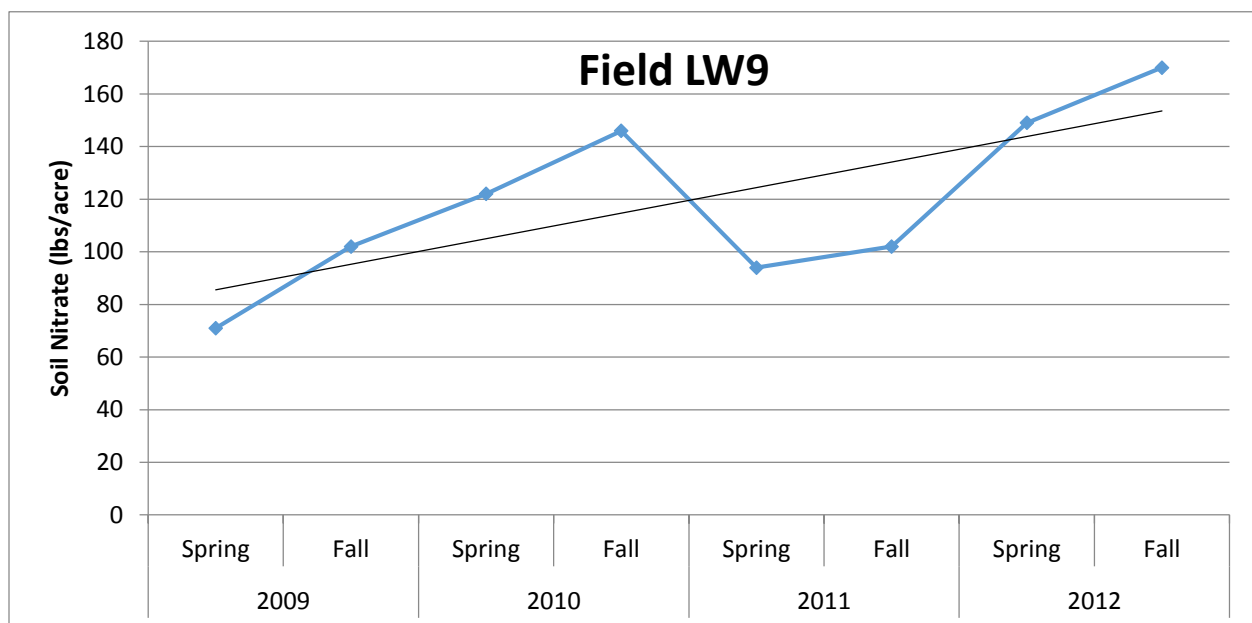
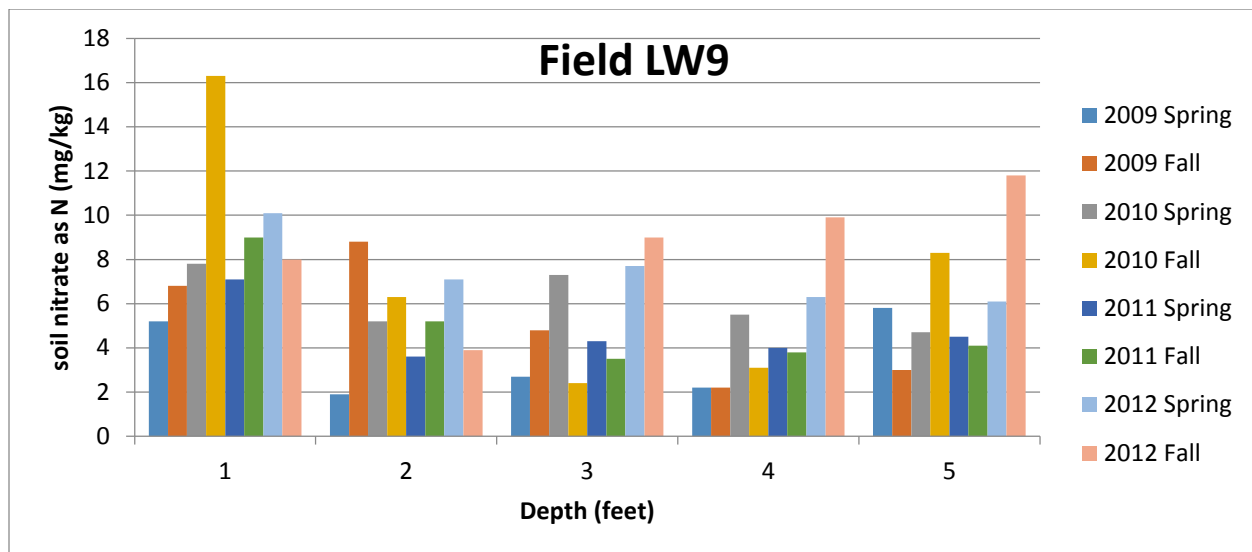
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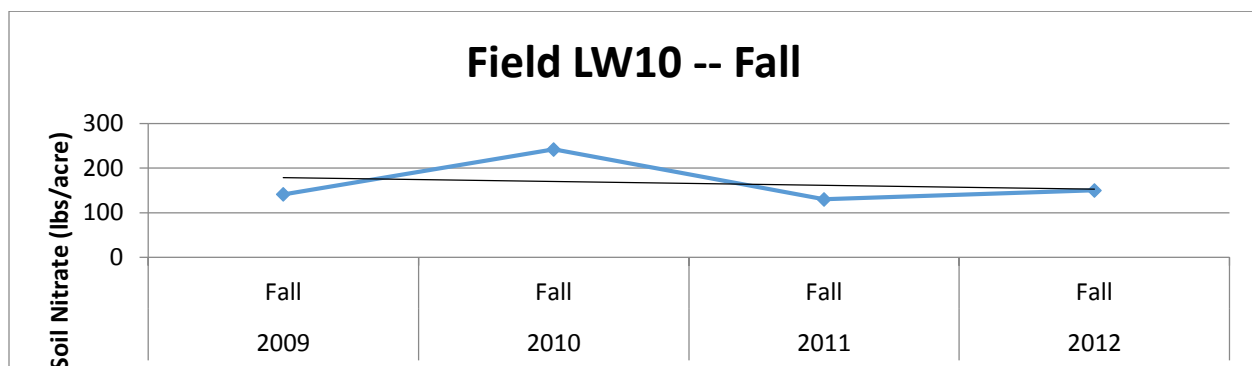
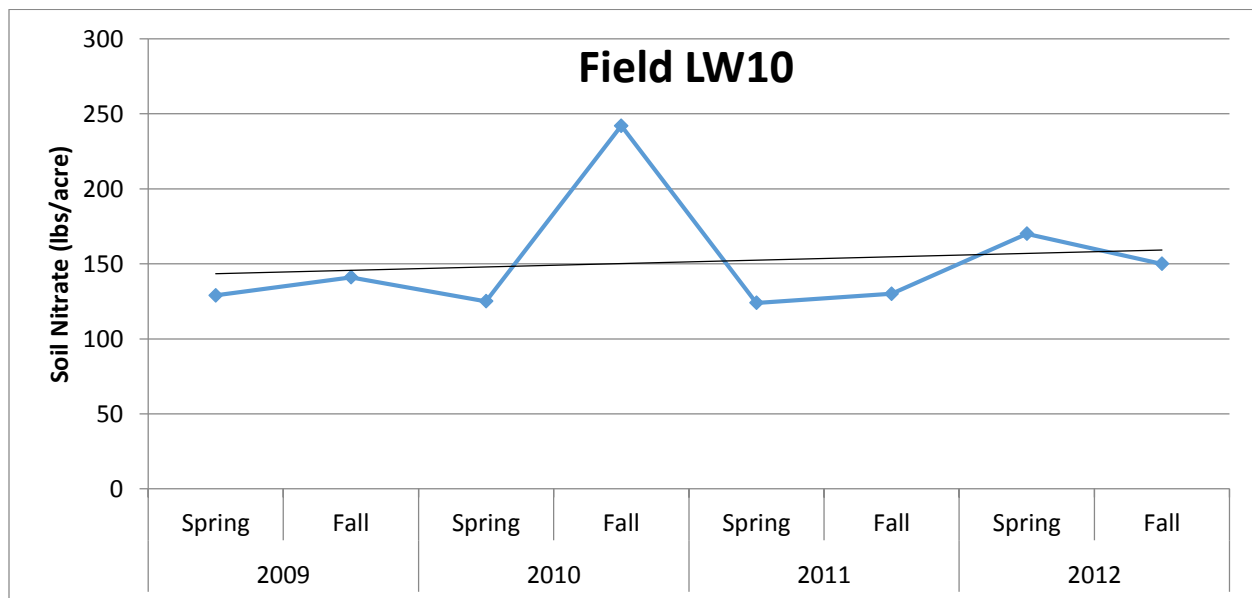
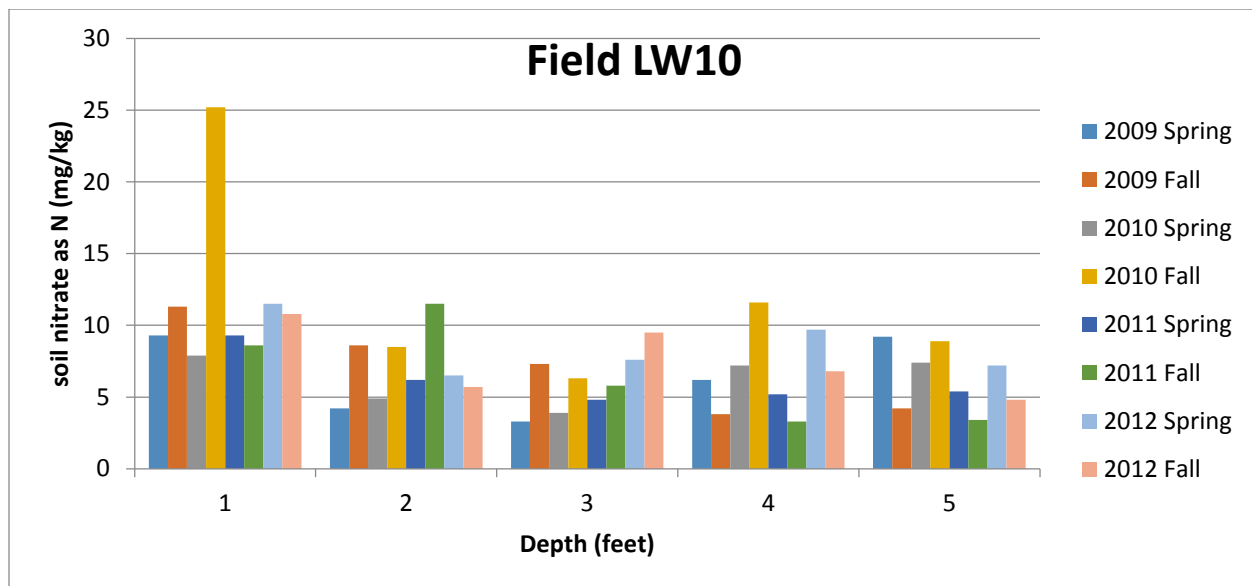
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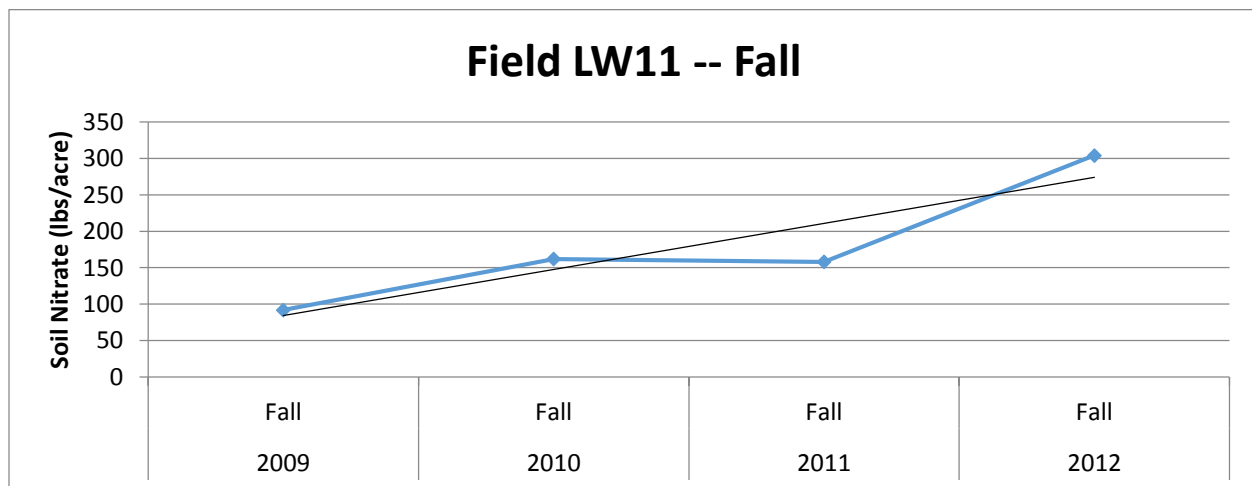
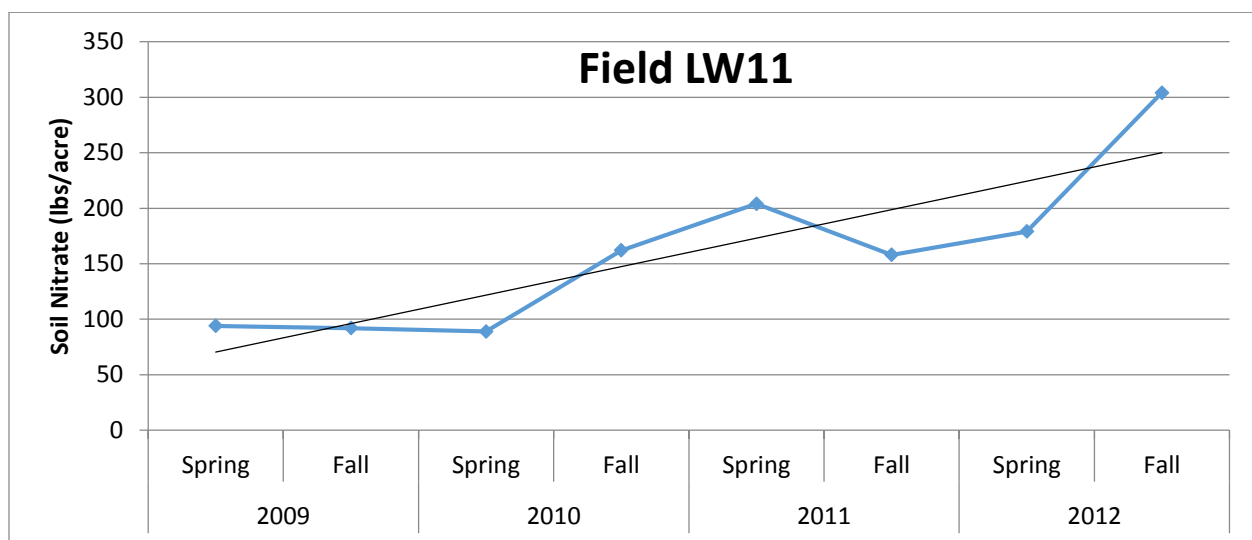
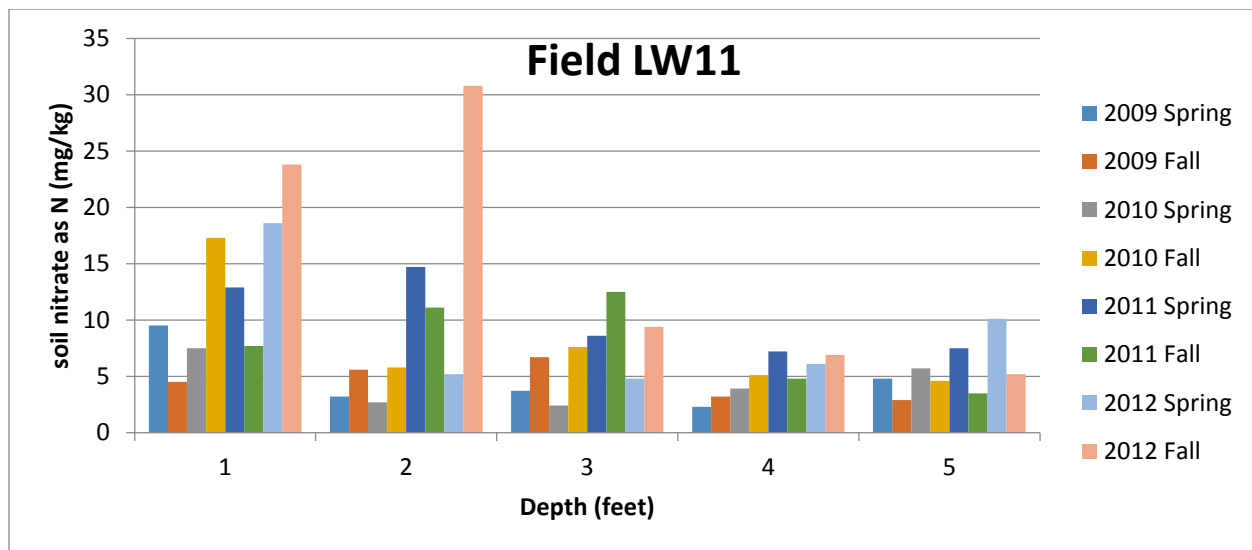
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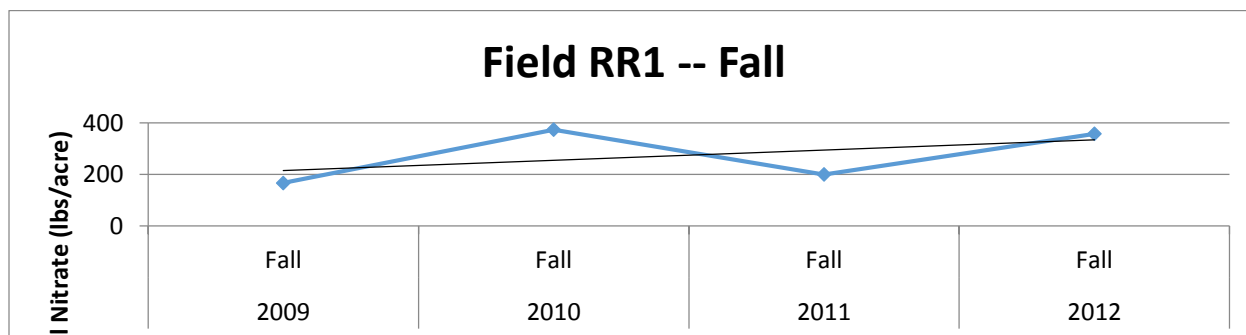
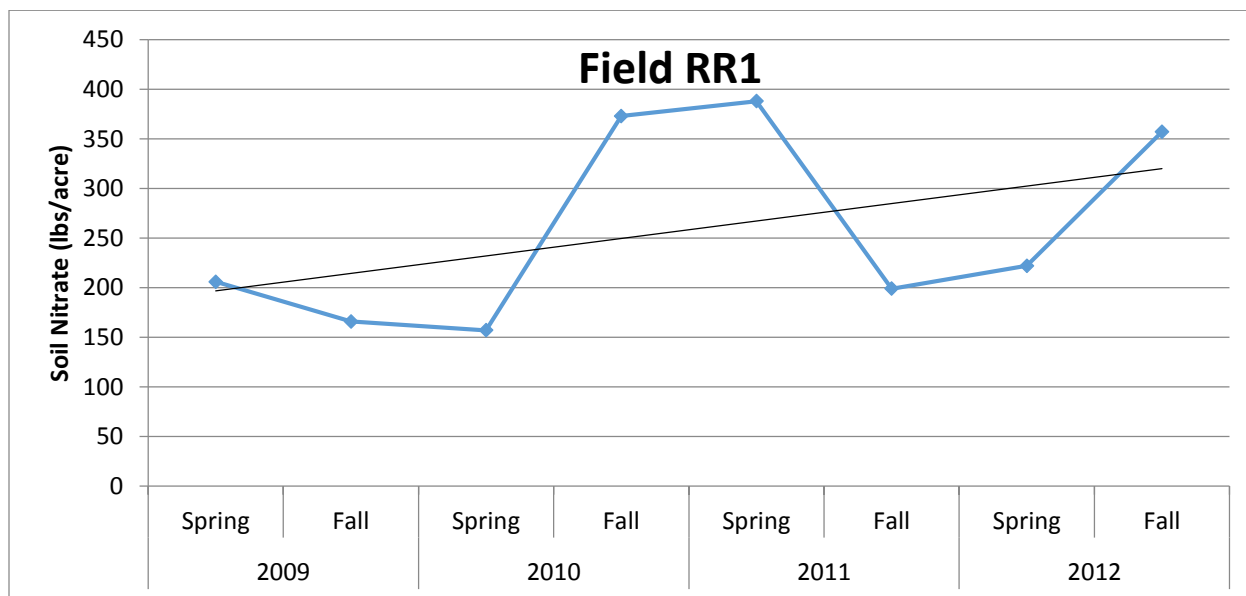
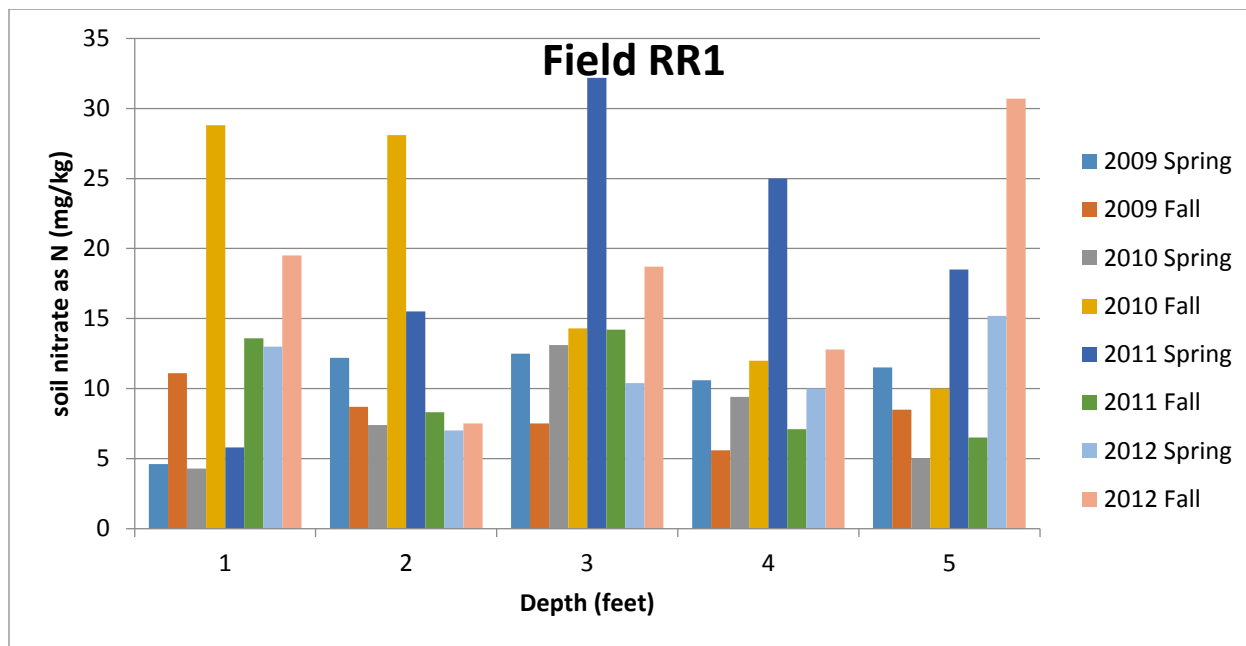
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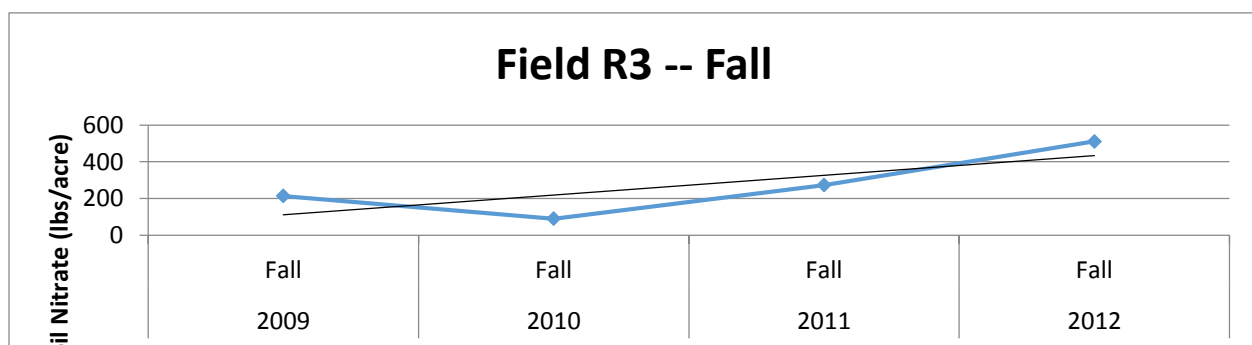
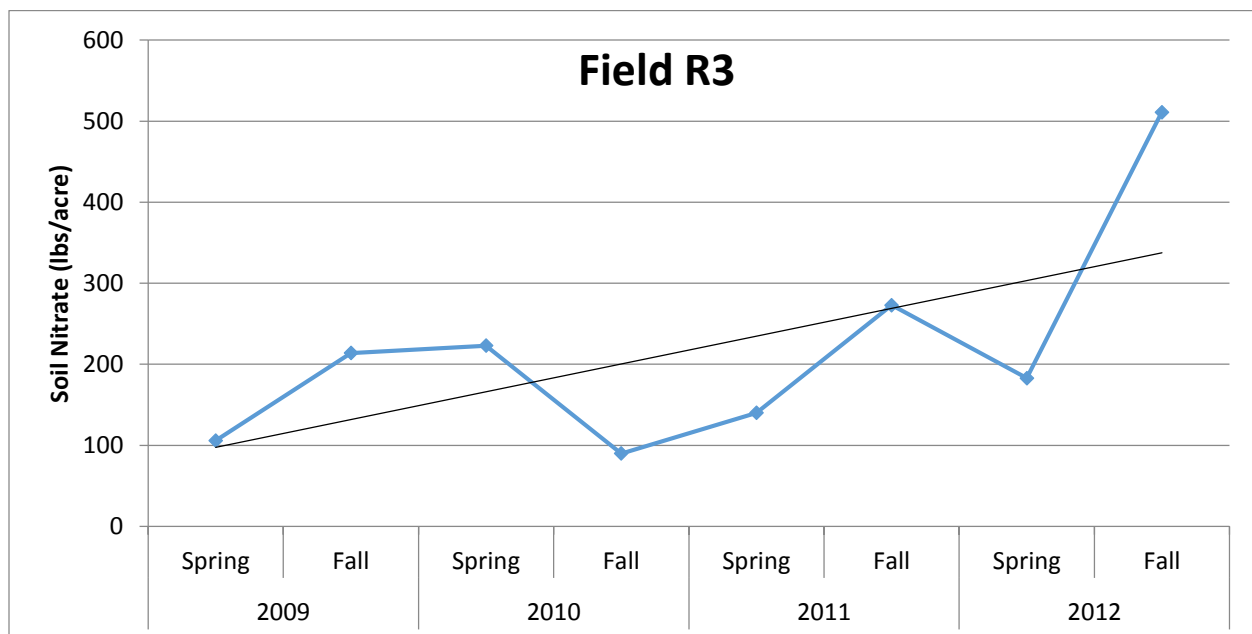
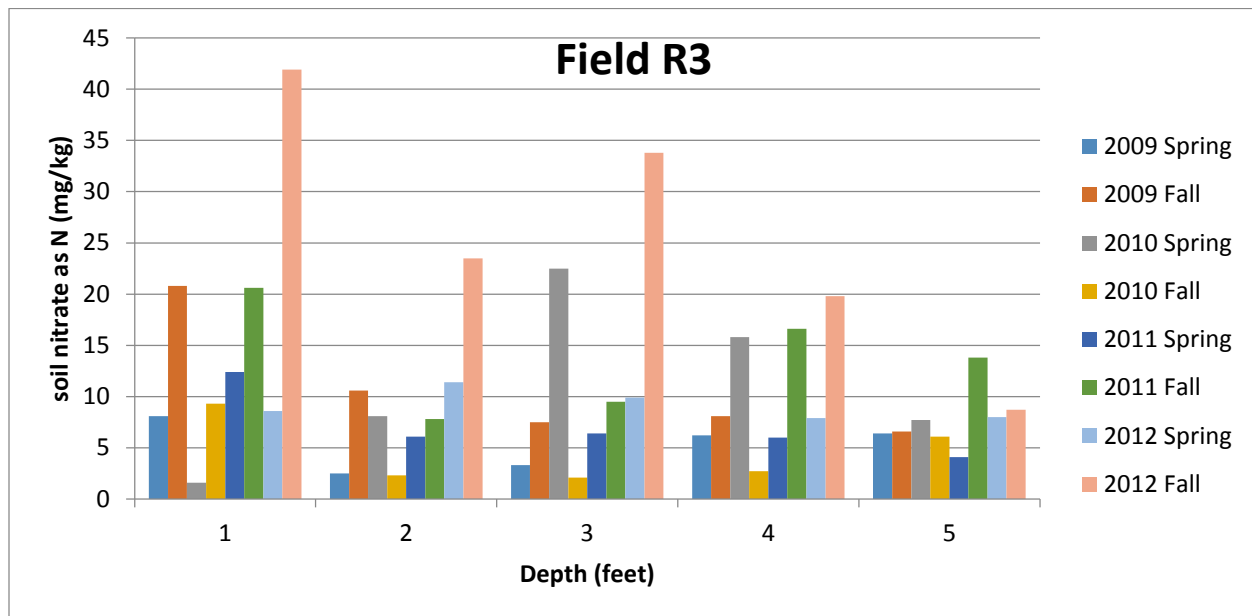
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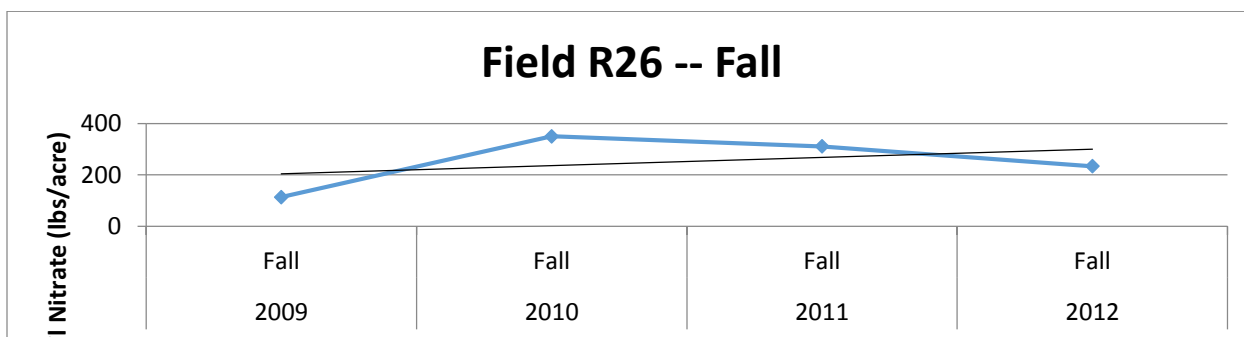
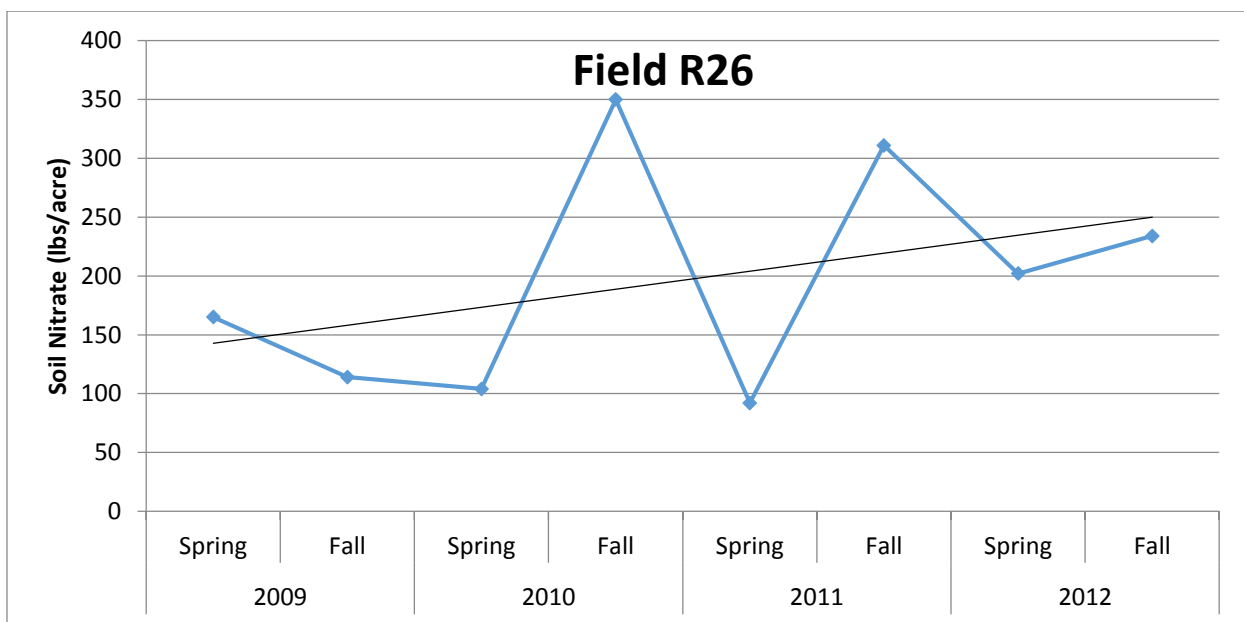
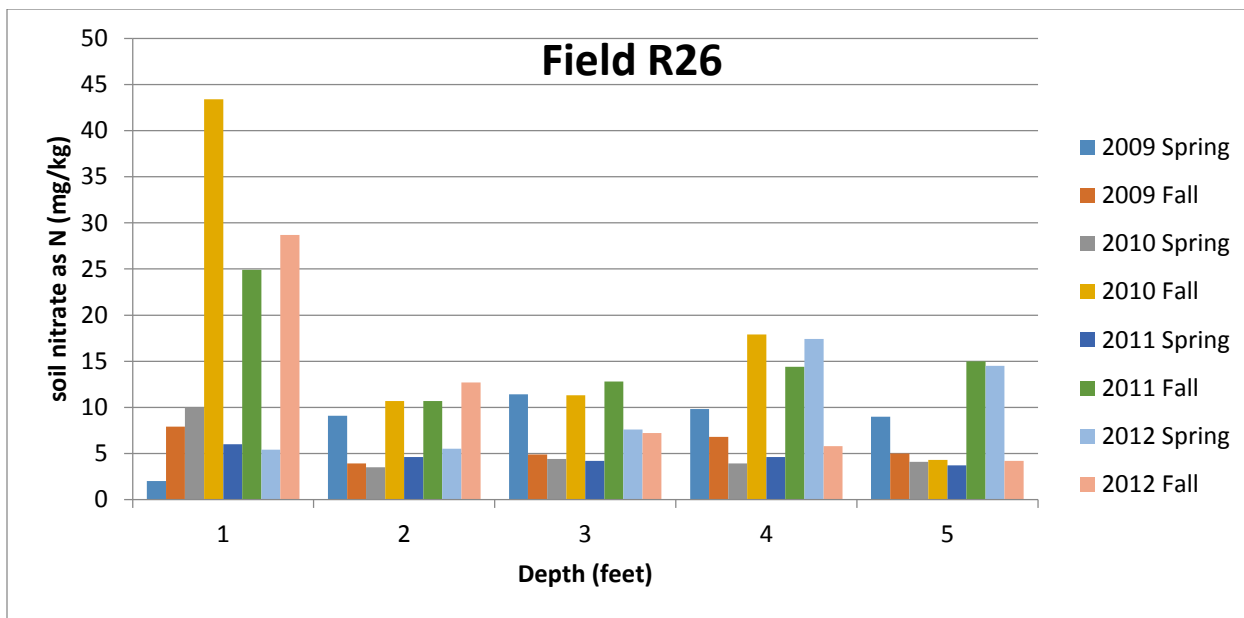
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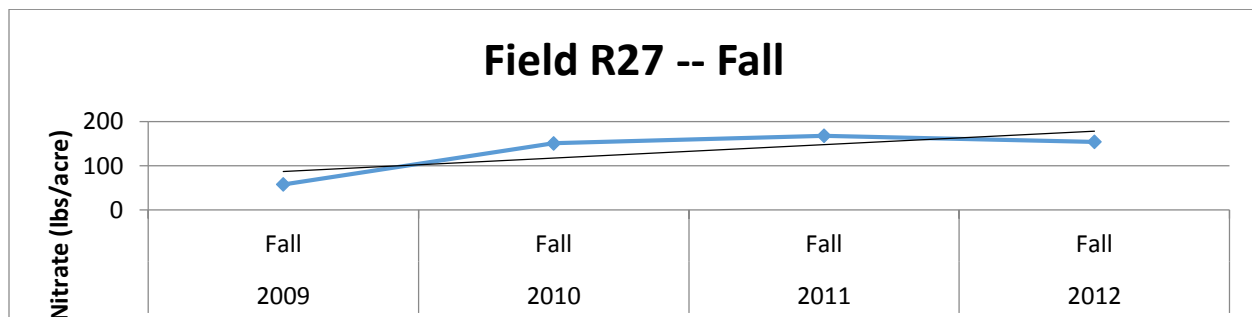
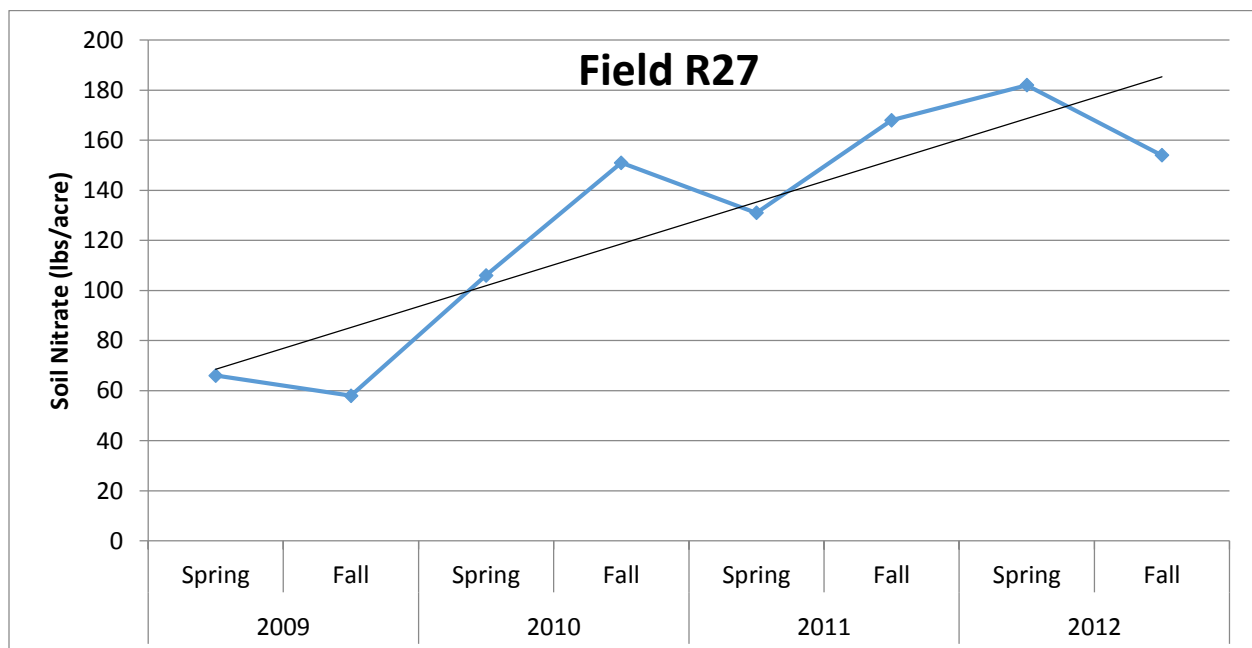
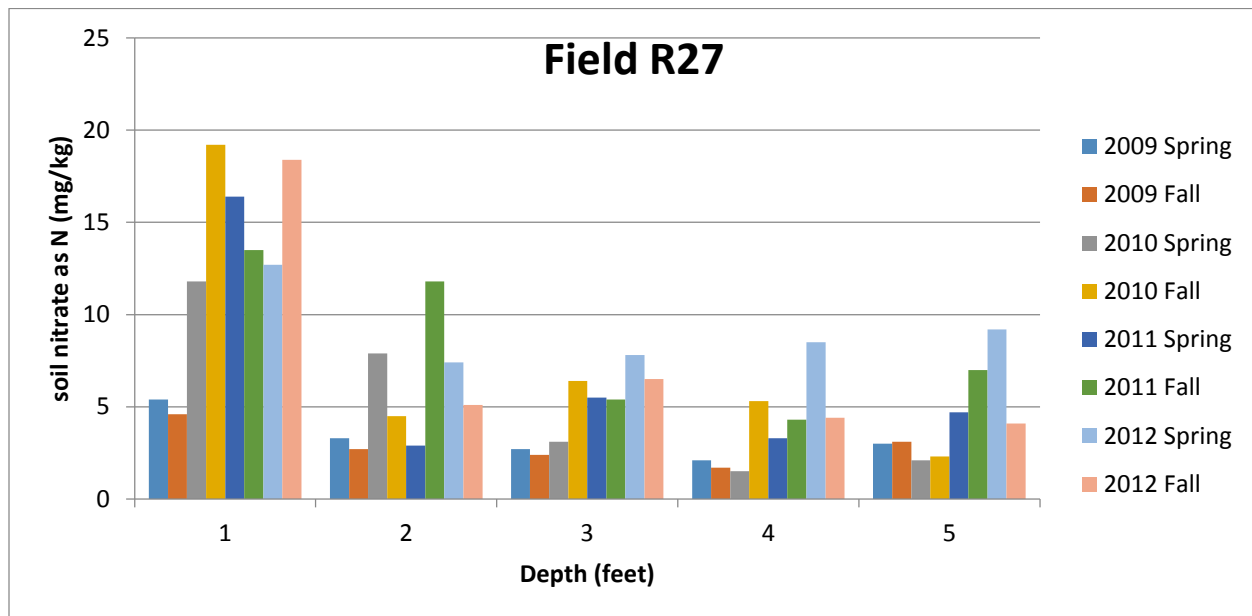
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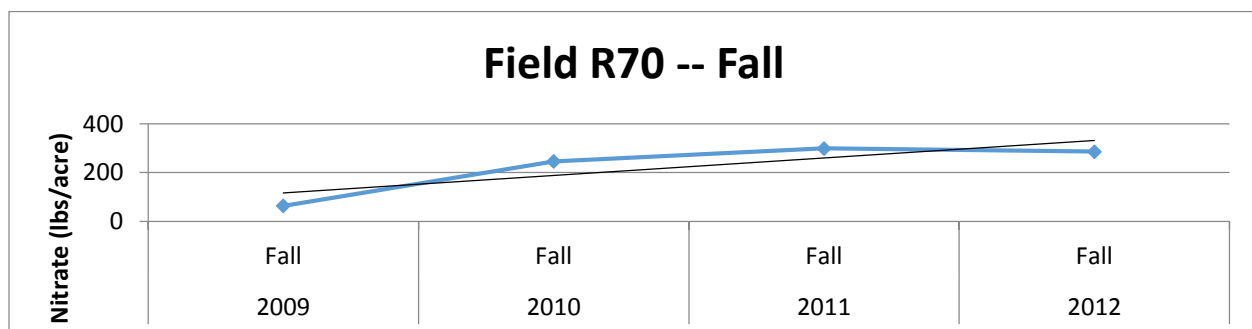
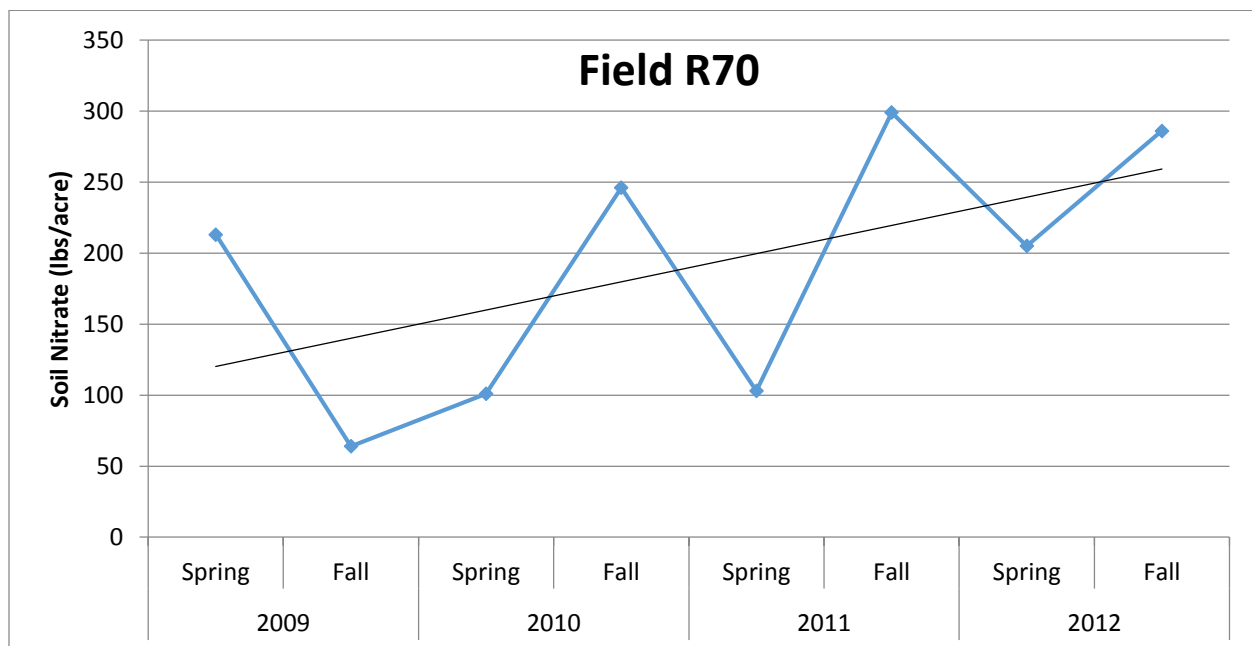
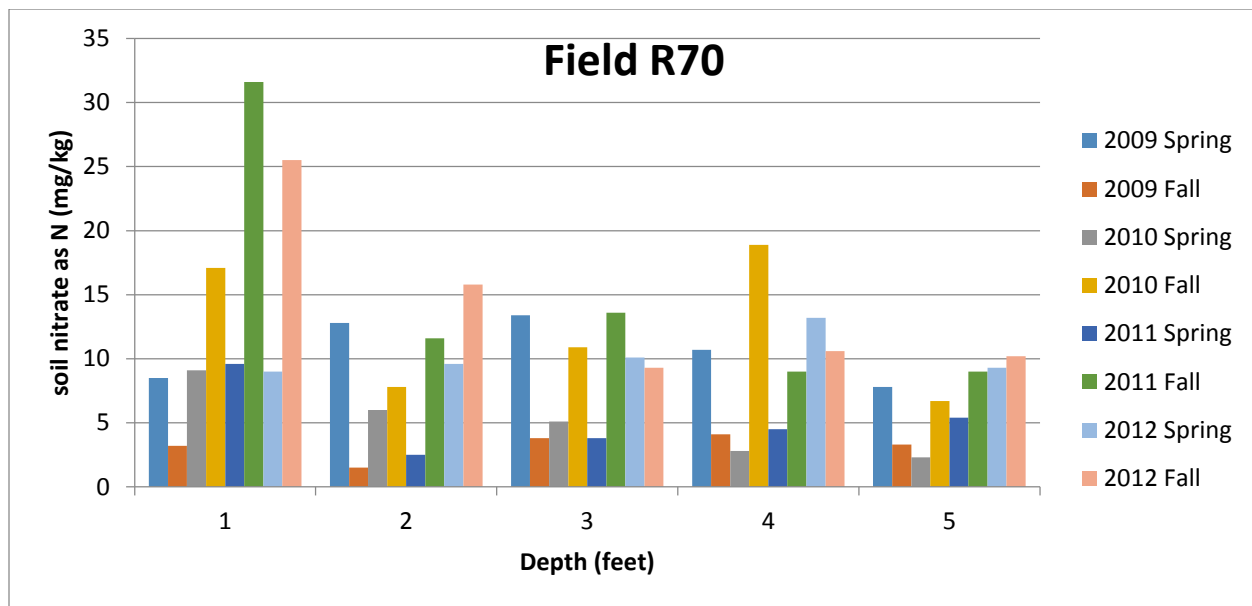
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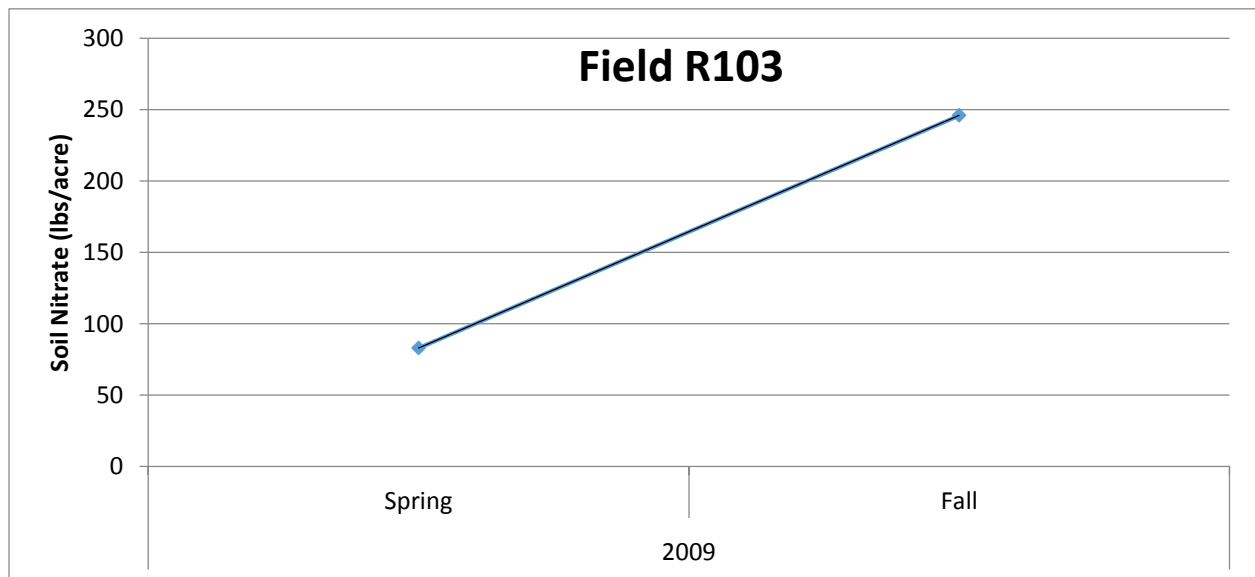
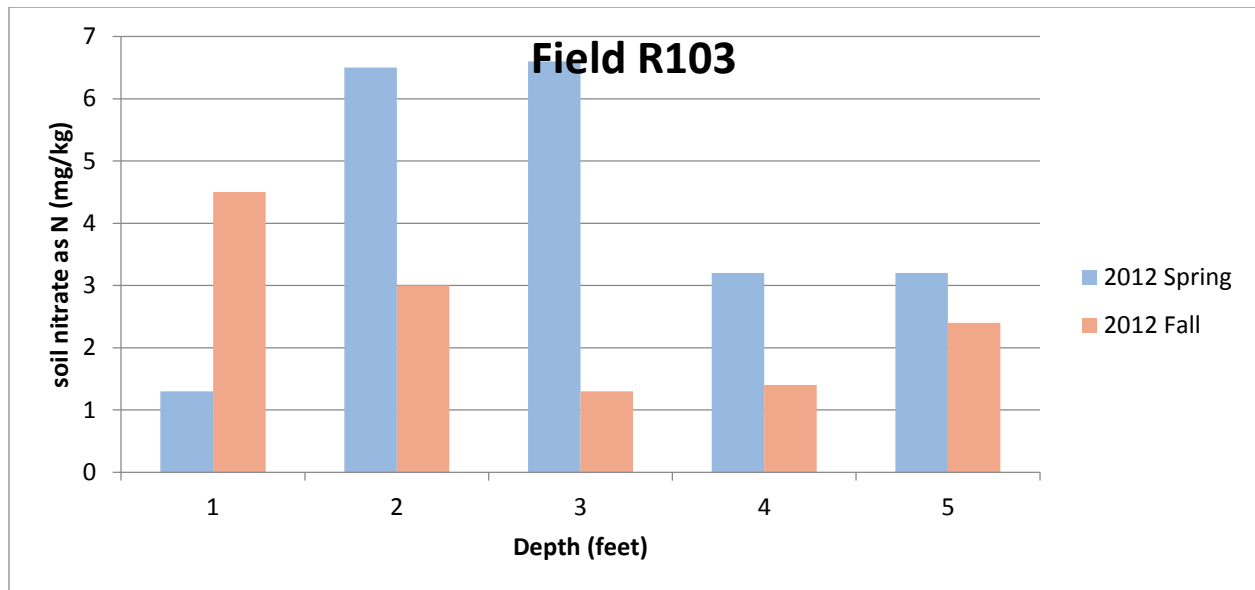
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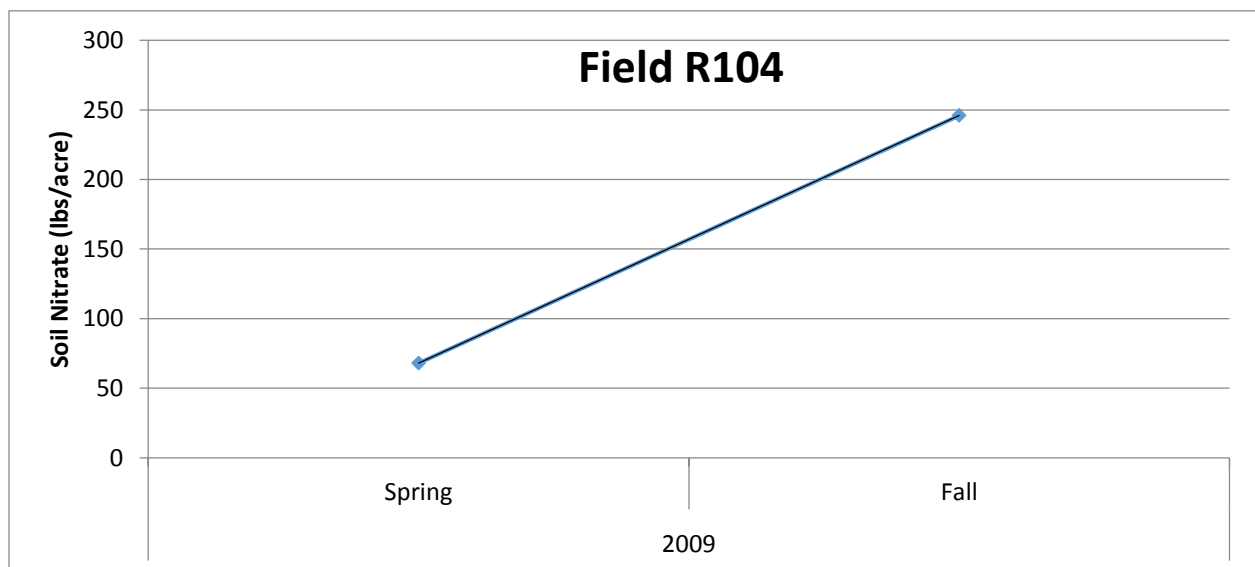
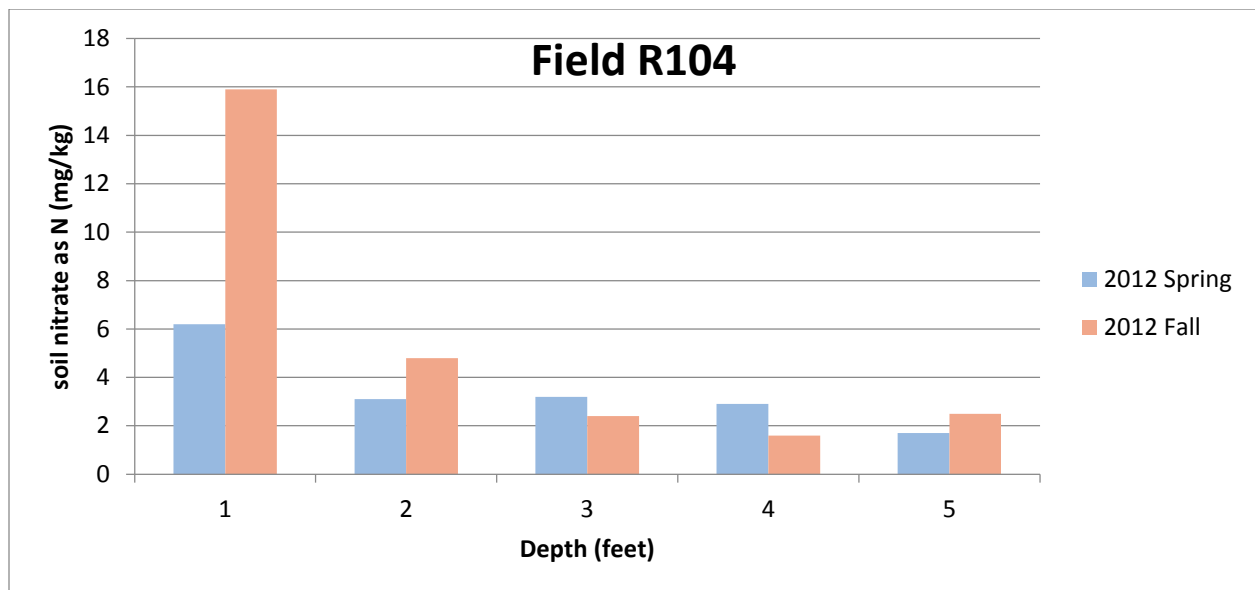
Field R70



Field R103



Field R104



Appendix I. Hydrographs for Monitoring Wells (with Overlay of Nitrate and TDS Concentrations)

