

Appendix A

Case Study 1: Poultry Results Figures

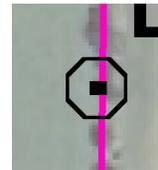
- a: Elements of the Figures**
- I: Four Week Passive Project Results, Complete**
- II: Passive Results, April 27 – May 4, 2010**
- III: Passive Results, May 4 – May 12, 2010**
- IV: Passive Results, May 12 – May 18, 2010**
- V: Passive Results, May 18 – May 25, 2010**
- VI: Active Sampling Site Locations**
- VII: Active Sampling Results, May 4, 2010**
- VIII: Active Sampling Results, May 24, 2010**
- IX: Active Sampling Results, May 25, 2010**

Elements of the Figures

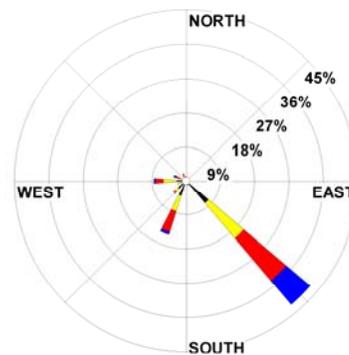
Proportional bars represent weekly passive ammonia concentrations in the summary figure, as well as the short term active ammonia (green) and hydrogen sulfide (pink) concentrations. The pink line in all of the figures represent the study boundary, which in most cases should be the property boundary of the farms.



Proportional symbols represent passive ammonia concentrations in the weekly figures. Each case study has its own concentration scale and can not be directly compared with other farms. Actual concentrations associated with the symbols are shown in the tables on each figure page.



Wind roses are a device to illustrate the direction and speed of the wind. The direction of the bar indicates where the wind is blowing **from**, with the colors indicating the speed of the wind and the length of the bar showing what percentage of the time the wind was coming from that direction. In the figure to the right, wind was coming from the southeast close to 45% of the time, with a wind speed of 11 – 17 knots about 9% of the time, a speed of 7 – 11 knots about 15% of the time, a speed of 4 – 7 knots about 11% of the time, and 1 – 4 knots about 8% of the time. In addition, winds were from the west 9% of the time, and from the southwest about 15% of the time. At the bottom of the wind speed scale to the right, the percentage of the time that the wind was calm is recorded, in this case, 16.67% of the time.

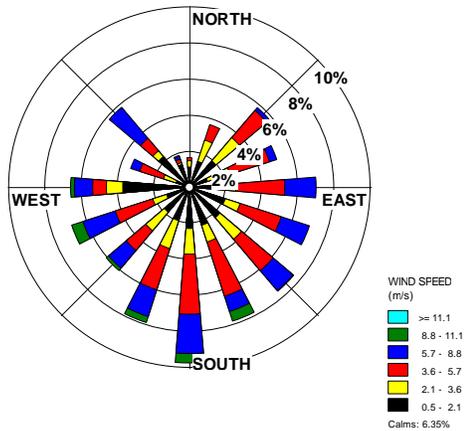
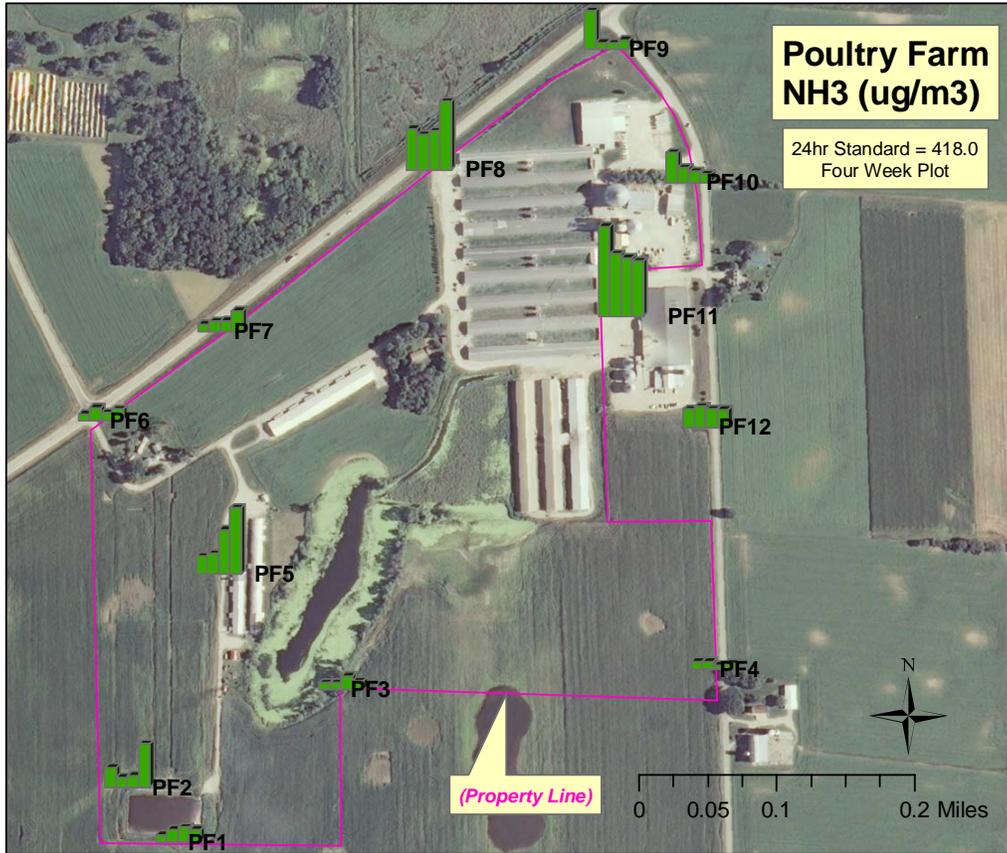


WIND SPEED (Knots)



Calms: 16.67%

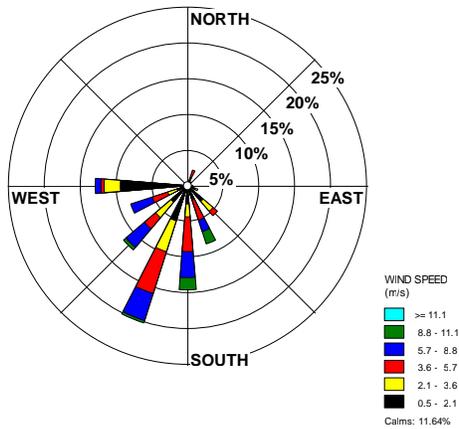
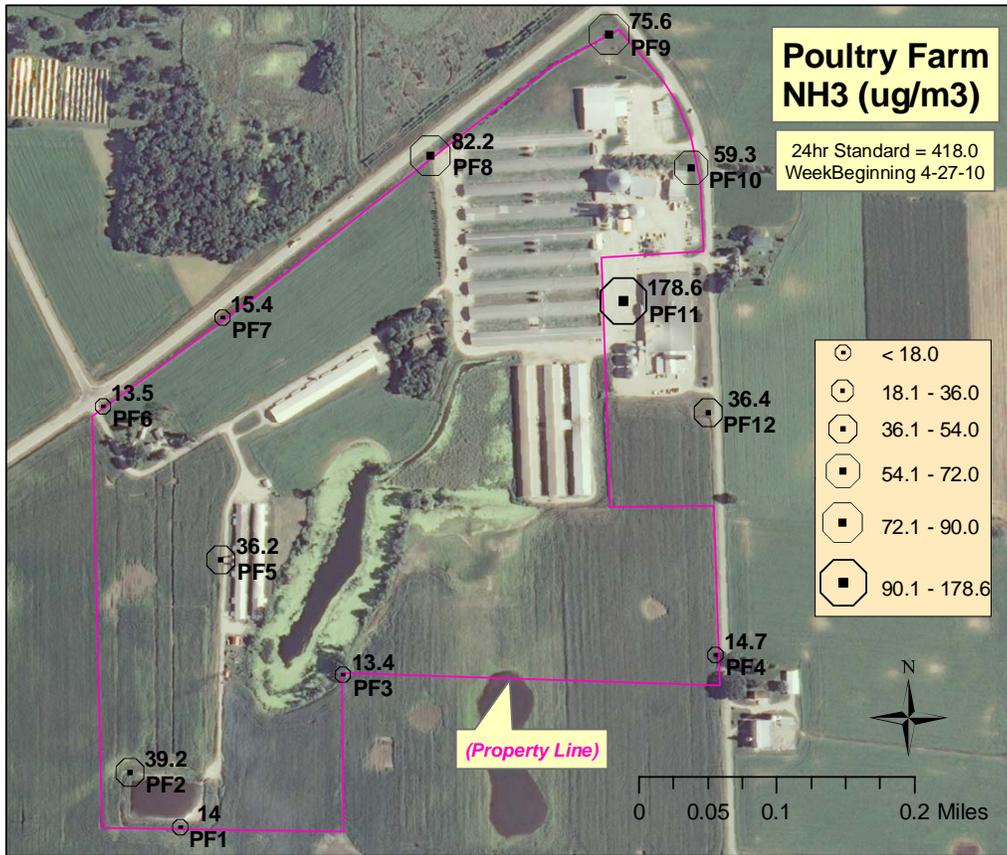
Figure A-I: Four Week Passive Project Results, Complete



Poultry Fenceline Passive Ammonia Samples
4/27 - 5/25/2010
Ambient Air Concentrations in Micrograms per Cubic Meter.
Asterisk denotes values calculated from results below lab reporting limit.

Location	04/27/2010	05/04/2010	05/12/2010	05/18/2010
PF1	14.0*	24.7	29.3	25.2
PF2	39.2	19.7	23.5	86.6
PF3	13.4*	13.5*	27.0	17.4
PF4	14.7*	15.3	8.1*	11.3*
PF5	36.2	41.2	88.6	132.1
PF6	13.5*	25.9	15.8*	23.3
PF7	15.4*	22.4	22.7	42.1
PF8	82.2	70.7	77.1	136.0
PF9	75.6	12.7*	11.6*	18.1
PF10	59.3	29.4	21.6	16.9
PF11	178.6	123.6	115.6	109.7
PF12	36.4	41.2	35.8	35.6

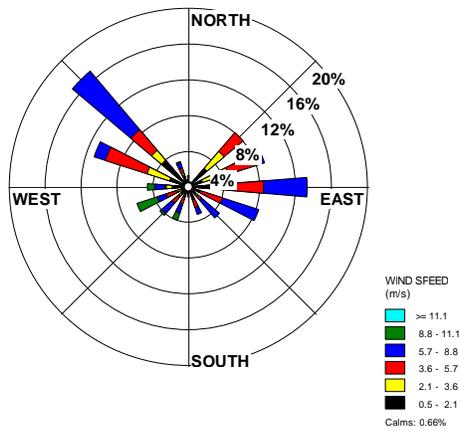
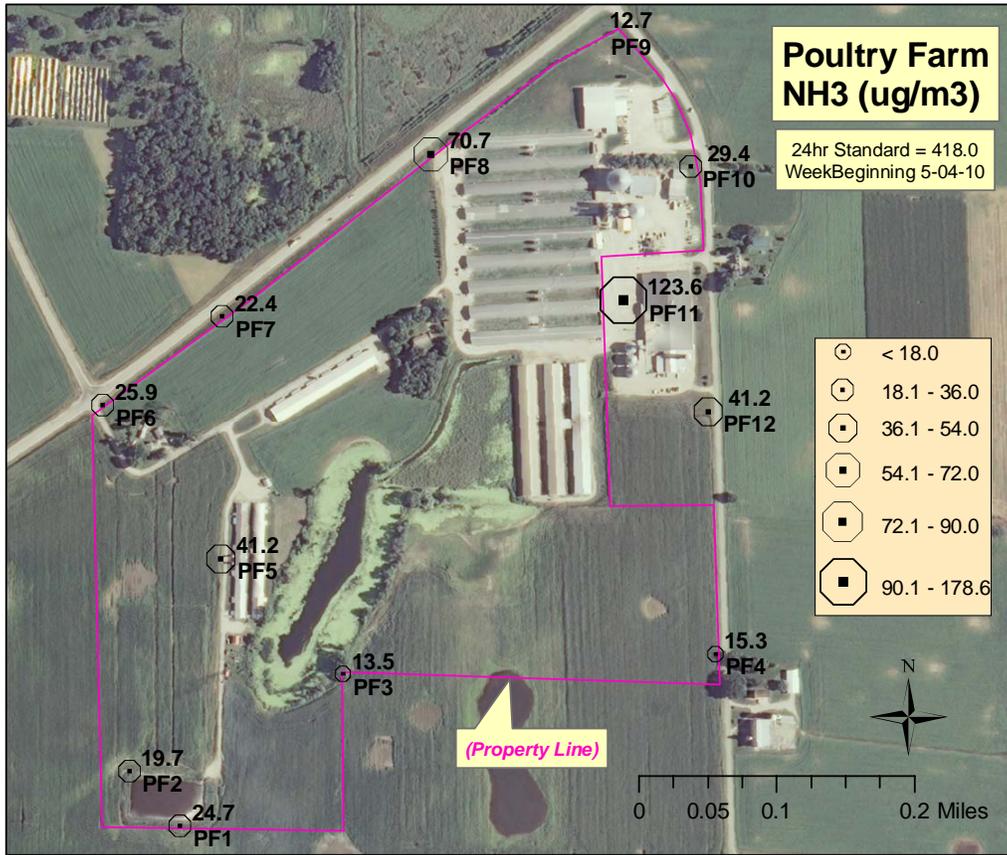
Figure A-II: Passive Results, April 27 – May 4, 2010



Poultry Fenceline Passive Ammonia Samples, 4/27 – 5/4/2010
Ambient Air Concentrations in Micrograms per Cubic Meter. An asterisk denotes values calculated from results below lab reporting limit.

Location	04/27/2010
PF1	14.0*
PF2	39.2
PF3	13.4*
PF4	14.7*
PF5	36.2
PF6	13.5*
PF7	15.4*
PF8	82.2
PF9	75.6
PF10	59.3
PF11	178.6
PF12	36.4

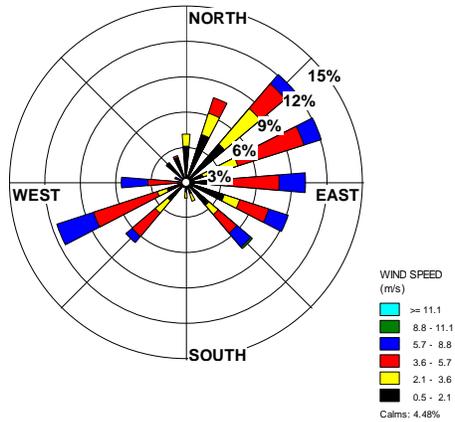
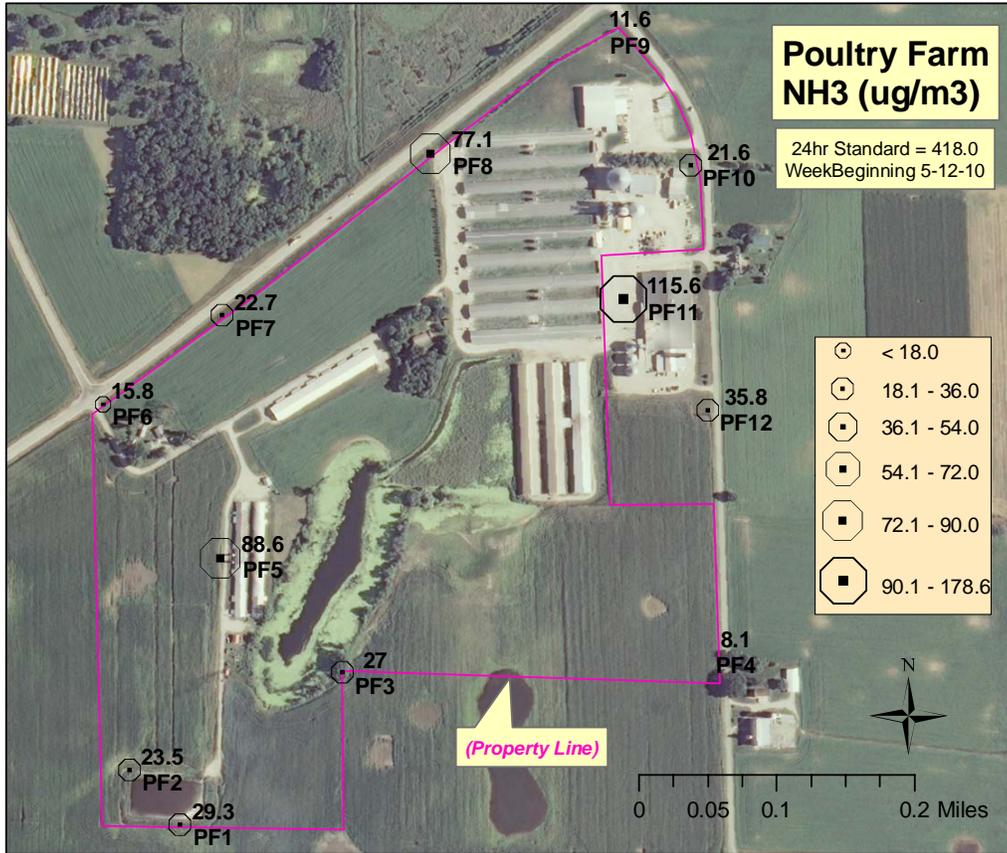
Figure A-III: Passive Results, May 4 – May 12, 2010



Poultry Fenceline Passive Ammonia Samples, 5/4 – 5/12/2010
Ambient Air Concentrations in Micrograms per Cubic Meter. An asterisk denotes values calculated from results below lab reporting limit.

Location	05/04/2010
PF1	24.7
PF2	19.7
PF3	13.5*
PF4	15.3
PF5	41.2
PF6	25.9
PF7	22.4
PF8	70.7
PF9	12.7*
PF10	29.4
PF11	123.6
PF12	41.2

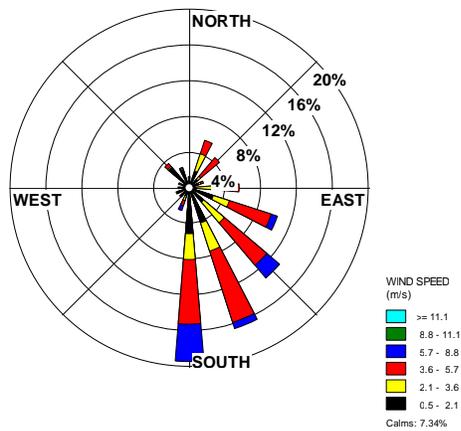
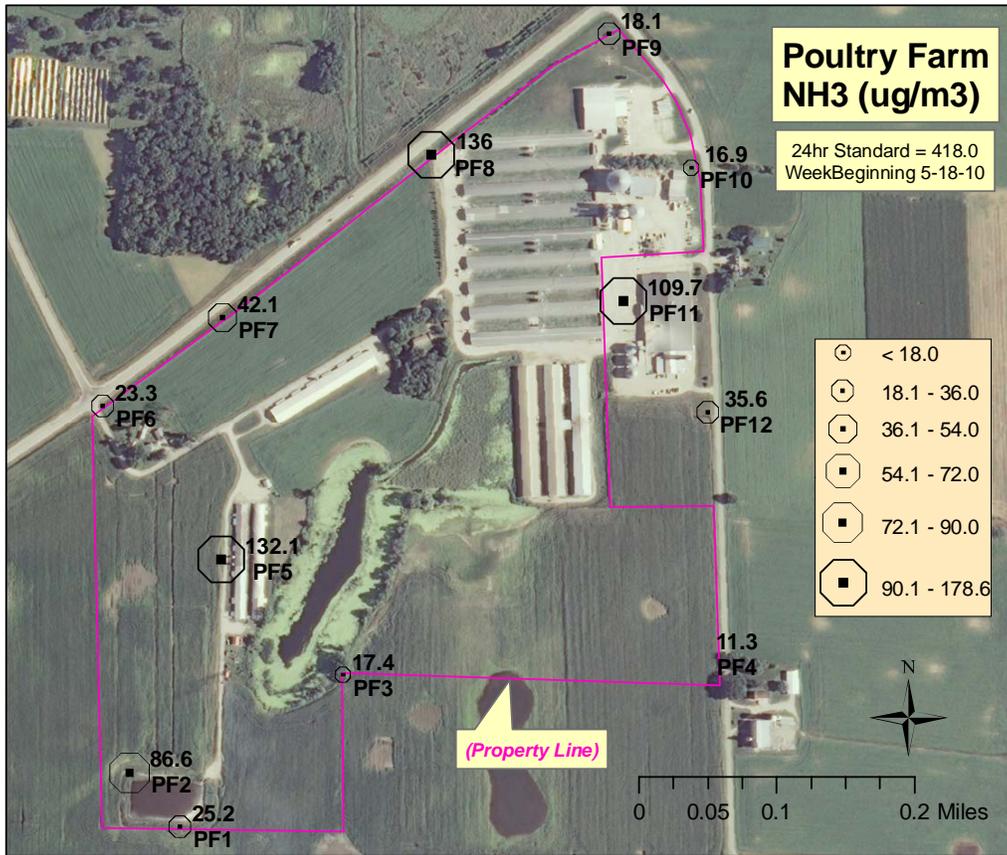
Figure A-IV: Passive Results, May 12 – May 18, 2010



Poultry Fenceline Passive Ammonia Samples, 5/12 – 5/18/2010
Ambient Air Concentrations in Micrograms per Cubic Meter. An asterisk denotes values calculated from results below lab reporting limit.

Location	05/12/2010
PF1	29.3
PF2	23.5
PF3	27.0
PF4	8.1*
PF5	88.6
PF6	15.8*
PF7	22.7
PF8	77.1
PF9	11.6*
PF10	21.6
PF11	115.6
PF12	35.8

Figure A-V: Passive Results, May 18 – May 25, 2010



Poultry Fenceline Passive Ammonia Samples, 5/18 – 5/25/2010
Ambient Air Concentrations in Micrograms per Cubic Meter. An asterisk denotes values calculated from results below lab reporting limit.

Location	05/18/2010
PF1	25.2
PF2	86.6
PF3	17.4
PF4	11.3*
PF5	132.1
PF6	23.3
PF7	42.1
PF8	136.0
PF9	18.1
PF10	16.9
PF11	109.7
PF12	35.6

Figure A-VI: Active Sampling Site Locations

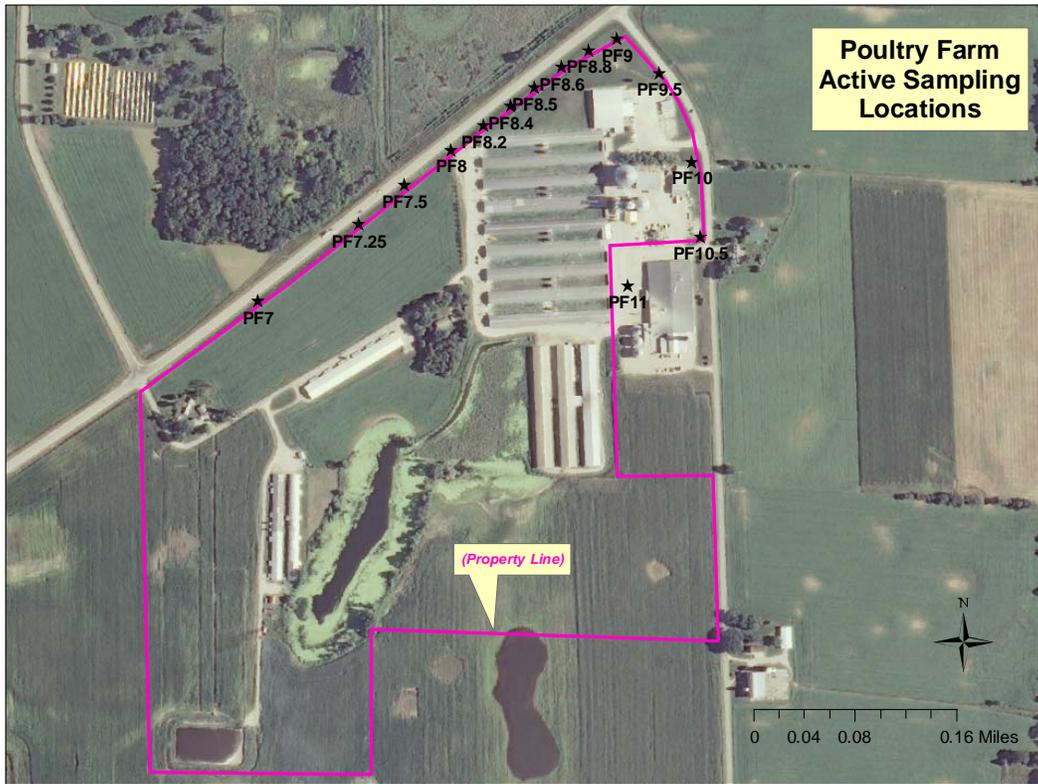
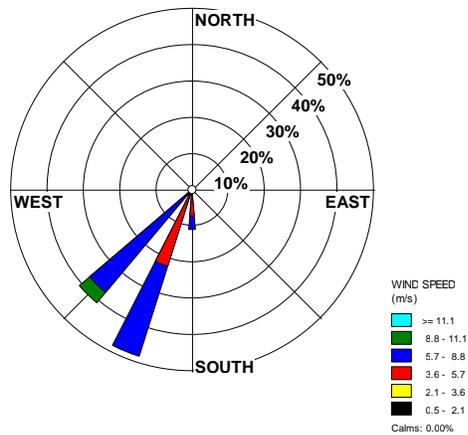
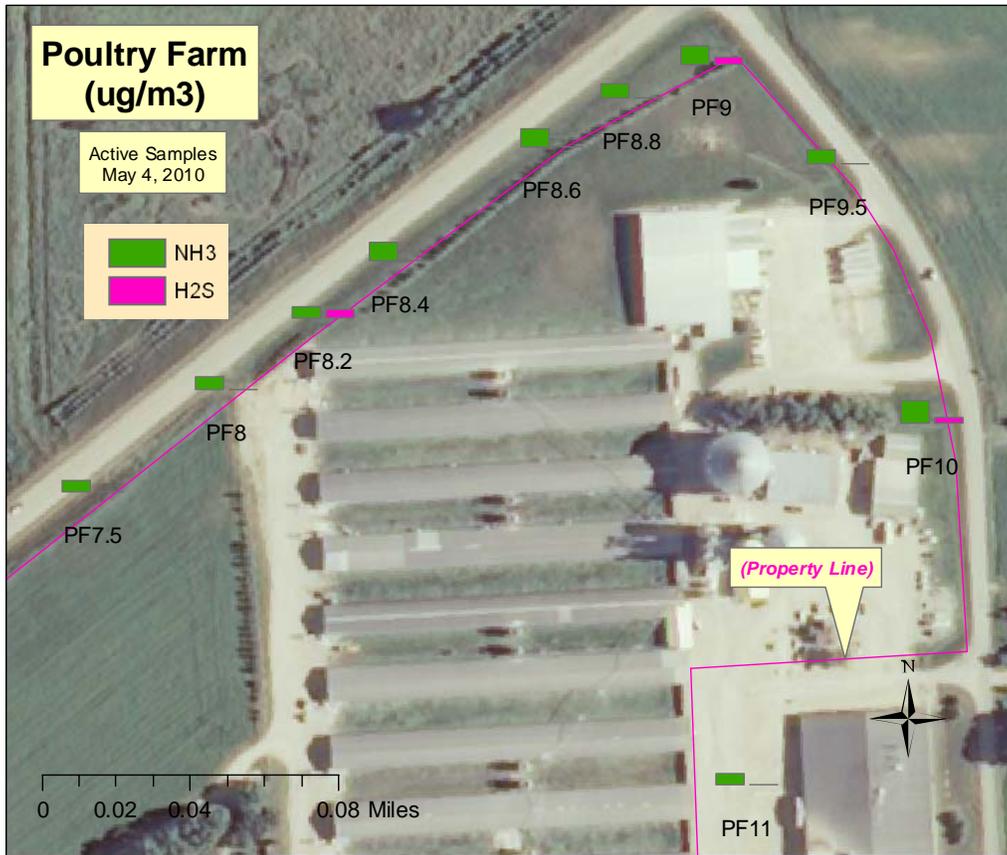


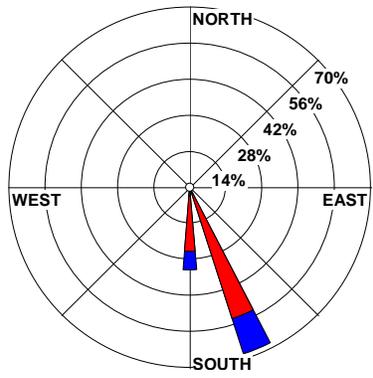
Figure A-VII: Active Sampling Results, May 4, 2010



**Poultry Active Sample Results
05/04/2010**

Location	NH3	H2S
PF7.5	<52.7	
PF8	<58.8	
PF8.2	<48.0	<40.1
PF8.4	86.3	
PF8.6	84.1	
PF8.8	<65.1	
PF9	80.9	<30.4
PF9.5	65.5	
PF10	105.6	<24.1
PF11	54.4	

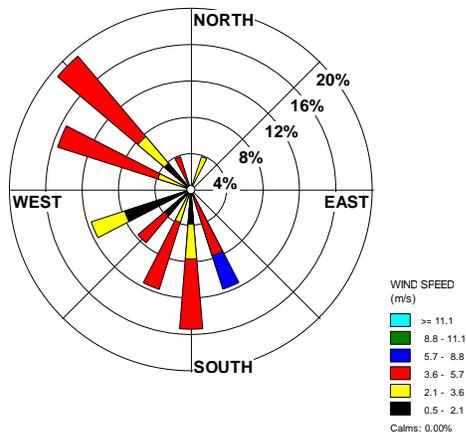
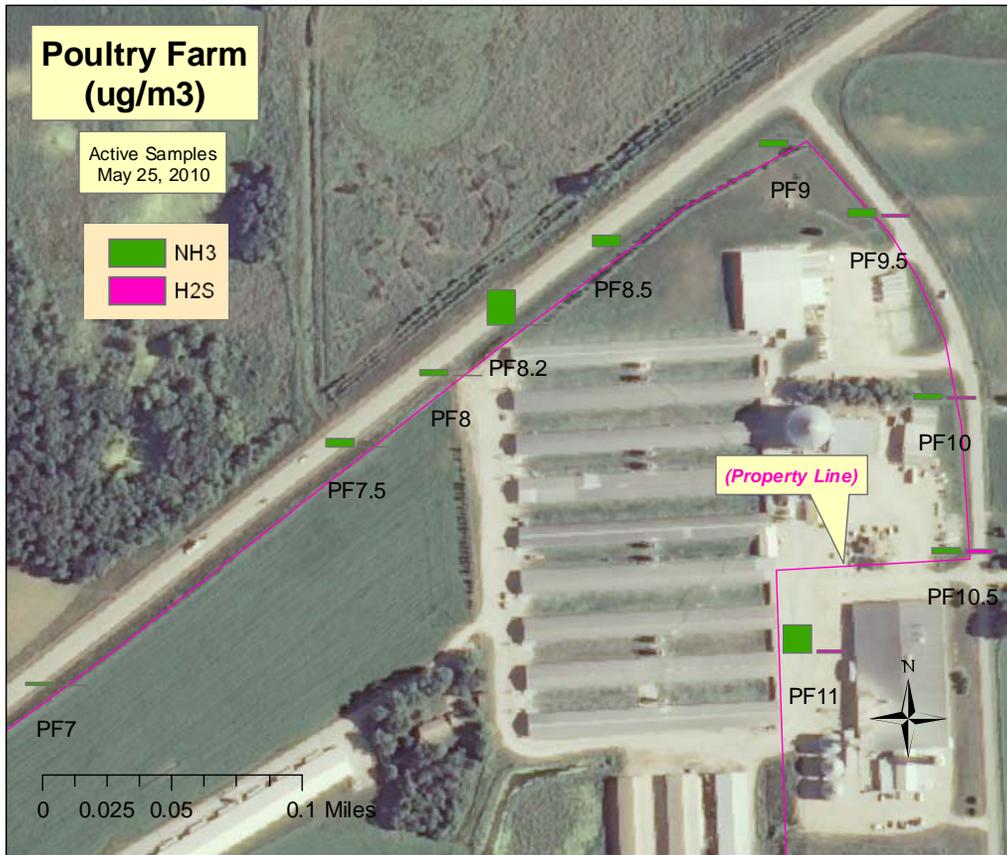
Figure A-VIII: Active Sampling Results, May 24, 2010



**Poultry Active Sample Results
05/24/2010**

Location	NH3	H2S
PF7	<19.2	
PF7.25	<14.4	
PF7.5	93.8	
PF8	<30.2	
PF8.2	632.0	<13.8
PF8.6		<8.2
PF8.8	65.3	
PF9	<23.2	
PF9.5	<27.2	
PF10	<26.3	

Figure A-IX: Active Sampling Results, May 25, 2010



**Poultry Active Sample Results
05/25/2010**

Location	NH3	H2S
PF7	12.6	
PF7.5	37.1	
PF8	<25.1	
PF8.2	164.0	
PF8.5	52.3	
PF9	33.2	
PF9.5	36.9	<14.4
PF10	<25.1	<13.9
PF10.5	<25.2	<16.7
PF11	130	<12.4

