

ATTACHMENTS
To Michigan's September 1, 2004 response

Attachment A
Tables

Table 1: Statewide Fine Particulate Monitors 2001-2003 (μm^3)

Site	Year	Annual Avg	3-Yr Annual Avg ¹
Flint	2001	13.10	12.7
Genesee Co.	2002	12.54	12.9
	2003	12.0	12.5
New Haven	2001	13.60	13.2
Macomb Co.	2002	13.35	13.5
	2003	12.8	13.1
Luna Pier	2001	15.30	15.2
Monroe Co.	2002	16.26	15.8
	2003	13.7	15.4
Oak Park	2001	14.70	14.7
Oakland Co.	2002	15.00	15.0
	2003	14.6	14.8
Port Huron	2001	13.96	13.8
St. Clair Co.	2002	13.84	14.0
	2003	14.2	14.0
Ann Arbor	2001	13.50	13.2
Washtenaw Co.	2002	13.57	13.4
	2003	13.1	13.4
Ypsilanti	2001	14.49	14.3
Washtenaw Co.	2002	14.86	14.5
	2003	14.6	14.7
Allen Park	2001	17.34	16.5
Wayne Co.	2002	15.94	16.3
	2003	15.2	16.1
SW HS	2001	18.28	18.0
Wayne Co.	2002	17.43	17.9
	2003	16.6	17.4
Linwood	2001	15.79	16.1
Wayne Co.	2002	15.59	15.6
	2003	15.8	15.7
East 7 Mile	2001	15.64	14.9
Wayne Co.	2002	14.17	14.8
	2003	14.6	14.9
Livonia	2001	14.60	14.1
Wayne Co.	2002	14.5	14.5
	2003	14.1	14.4
Dearborn	2001	19.61	19.9
Wayne Co.	2002	19.84	19.3
	2003	19.1	19.5
Wyandotte	2001	18.20	17.4
Wayne Co.	2002	16.28	17.4
	2003	16.3	16.9

1. The 3-year Annual Average is based on the averages of the year listed and the two preceding years. The shaded value represents years 2001-2003. Note: The annual NAAQS is $15 \mu\text{m}^3$

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Table 2: EPA's Design values

County 2001-2003 Design Value	
Genesee	12.6
Macomb	13.3
Monroe	15.1
Oakland	14.8
St. Clair	13.9
Washtenaw	14.6
Wayne	19.5

Table 3: EPA's intended nonattainment areas for PM 2.5

Area	Michigan Counties in Metropolitan Area	Michigan Recommended Nonattainment Counties	EPA's Intended Nonattainment Counties
Detroit-Ann Arbor-Flint	Monroe	Monroe	Monroe
	Wayne	Wayne	Wayne
	Livingston		Livingston
	Macomb		Macomb
	Oakland		Oakland
	St. Clair		St. Clair
	Washtenaw		Washtenaw
	Genesee		
	Lapeer		
Lenawee			

Table 4: Weighted Emissions Scores

County	Sox		NOx		Carbon		Crustal		Composite Emission scores	
	EPA	EPA	EPA	EPA	EPA	EPA	EPA	MDEQ	EPA	MDEQ
Wayne	59,884	107,604	4,435	2,823	29.9	24.8				
Oakland	8,277	44,171	2,264	1,829	13.6	13.4				
Macomb	4,602	33,482	1,413	1,282	9.5	13.4				
Monroe	126,037	62,432	1,565	4,834	15.1	9.2				
Genesee	3,010	20,648	1,377	1,914	7.5	9.0				
St. Clair	72,450	40,659	1,248	2,687	10.4	8.9				
Washtenaw	2,163	14,980	944	1,502	5.3	6.7				
Livingston	701	8,024	852	1,695	4.0	5.9				
Lenawee	642	4,496	554	1,488	2.5	4.5				
Lapeer	895	5,202	389	1,109	2.1	3.7				

EPA Urban increment:

Total mass= 4.3 ug/m³; 0% sulfates; 54% nitrates; 42% carbon; 4% crustal.

Urban site= 261630001; Allen Park

Rural site= MKGO1 (M.K. Goddard)

MDEQ Urban increment:

Total Mass = 10.6 ug/m³; 0% sulfates; 35% nitrates; 22% carbon; 43% crustal.

Urban site = 261630001; Allen Park

Rural site = QUC11 (Quaker City, Ohio)

Attachment A, Continued
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Table 5: Growth Analysis: percent growth

County	1990-2000	2000 - 2003
Genesee	1%	1%
Lapeer	18%	3%
Lenawee	8%	1%
Livingston	36%	7%
Macomb	10%	3%
Monroe	9%	2%
Oakland	10%	1%
St. Clair	13%	2%
Washtenaw	14%	30%
Wayne	-2%	-1%

Table 6: % Change in On-road Mobile Emissions of VOC, NOx, and PM2.5 for 7-County

SEMCOG Region: 2002-2010				
Year	Emissions (Tons/summer day)			VMT (millions of miles/summer day)*
2002	176	421	8.2	142
2010	81	194	4.2	149
% Chg: 02-07	-54.0	-53.9	-48.8	4.9

*VMT estimated from the 2005 and 2030 VMT used in SEMCOG's 2030 Regional Transportation Plan. Emissions estimated with Mobile6.2 model.

Table 7: EGU (Electric Generating Unit) NOx Emission Reductions Expected from NOx SIP Call in Southeast Michigan

Year	EGU NOx
2000	339
2007	51
Difference	288
% Change	-85.0

Note: Emissions are in tons/summer day.

Attachment A, Continued
Tables

Table 8: Facility Listing of Graphics on Map 5

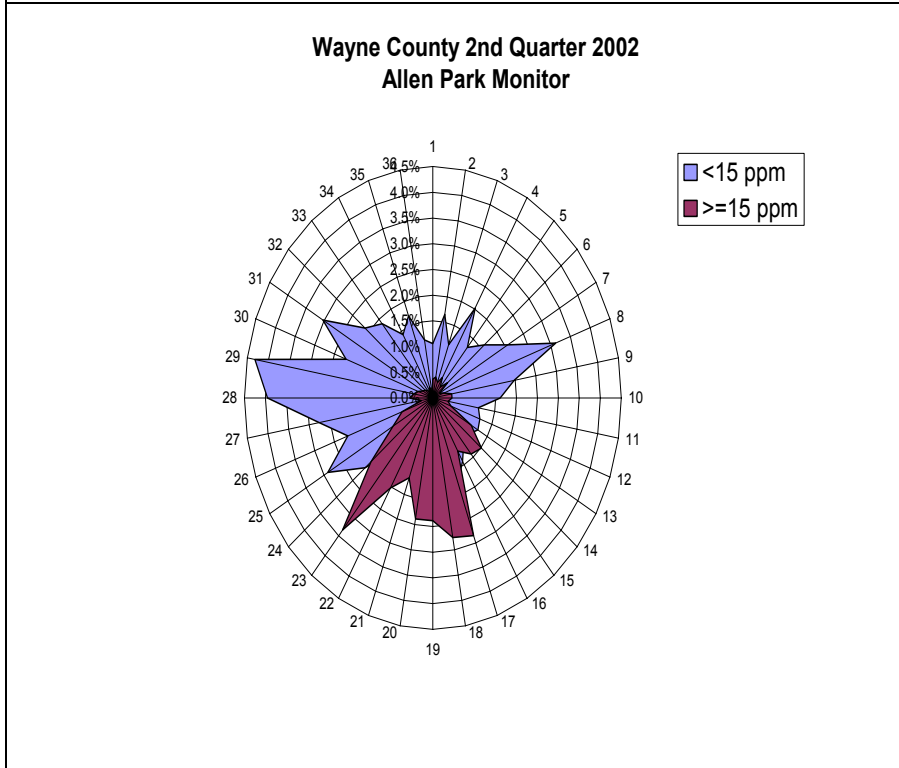
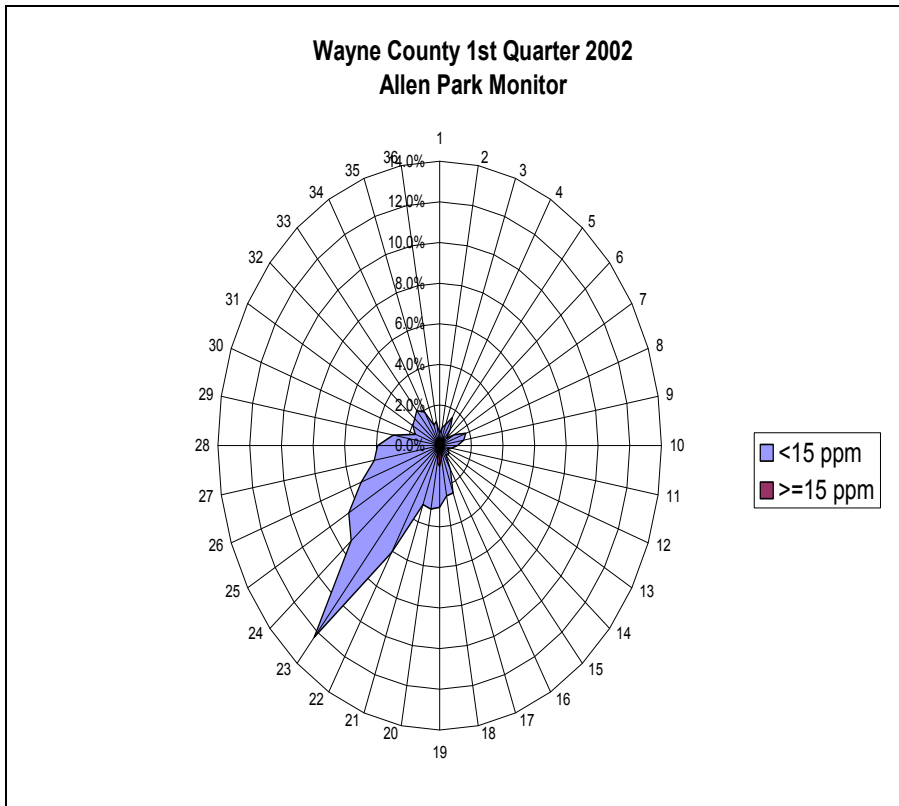
Facility Name	Location (city)	Distance From Dearborn Monitor (km)
BASF Corp #1	Wyandotte	9
BASF Corp #2	Wyandotte	9
Detroit Thermal Boulevard Heating	Detroit	9
Detroit Thermal LLC - Beacon	Detroit	9
Detroit Thermal Willis Heating Plant	Detroit	9
Greater Detroit Resource Recovery	Detroit	9
Marathon Ashland Petroleum	Detroit	9
U.S. Liquids of Detroit	Detroit	9
Wayne State University	Detroit	9
Crown Group The Ecorse	Ecorse	8
Crown Group The Livonia	Ecorse	8
Daimler Chrysler Corp	Detroit	8
Detroit Thermal / Henry Heating	Detroit	8
Henry Ford Hospital	Detroit	8
Edw. C Levy Co Plant 3	Ecorse	7
Ford Engine Mfg & Dev	Allen Park	7
Ford Motor Co Research & Engineering Center	Dearborn	7
Ford Motor Co-Elm St Boiler house	Dearborn	7
University Mi Dearborn	Dearborn	7
Wayne Co Comm. College Northwest	Detroit	7
Detroit Electro-Coatings Company LLC	Detroit	6
Detroit Edison River Rouge	River Rouge	5
Detroit Public Lighting	Detroit	5
Ford Motor Co	Dearborn	5
Ford Motor Co Allen Park Landfill	Allen Park	5
Fritz Products	River Rouge	5
Oakwood Hospital	Dearborn	5
Visteon Technical Center	Dearborn	5
Bp Products North America River Rouge	River Rouge	4
Carmeuse/ River Rouge	River Rouge	4
Coca Cola Bottling Co	Detroit	4
Crown Plating Co	Detroit	4
Detroit Edison/ Delray Power Plant	River Rouge	4
Ford Motor Co New Model Program Ctr	Allen Park	4
Frito Lay Inc	Allen Park	4
Gutter Suppliers Inc	Detroit	4
Hispanic Mfg / Gonzalez Mfg	Detroit	4
Honeywell	Detroit	4
IPMC Acquisition LLC	Detroit	4
Magni Industries Inc	Detroit	4
National Steel Corp	River Rouge	4
Reilly Plating/ Mlok Inc	Melvindale	4
Comprehensive Environmental Solutions	Detroit	3
Daimler Chrysler McGraw	Detroit	3
Darling International	Melvindale	3

Attachment A, Continued
Tables

Facility Name	Location (city)	Distance From Dearborn Monitor (km)
Detroit Salt Co	Detroit	3
Detroit Wastewater Treatment Plant	Detroit	3
Equilon Enterprises Detroit	Detroit	3
Fabiricon Products Inc	River Rouge	3
Marathon Ashland Petroleum	Detroit	3
St. Mary's Cement	Detroit	3
Sunoco River Rouge	Detroit	3
United States Gypsum Co	River Rouge	3
Cadillac Asphalt Products	Detroit	2
Edw C Levy Co Plant 6	Dearborn	2
Ferrous Environmental Recycling Corp	Dearborn	2
Owens Corning Trumbull Division	Detroit	2
Spartan Industrial Inc	Detroit	2
Carmeuse/Detroit Lime	Detroit	1
Edw. C Levy Co Plant 1	Detroit	1
Ford Motor Co Rouge Complex	Dearborn	1
Kasle Steel Corp	Dearborn	1
Rouge Steel Co	Dearborn	1
Dearborn Industrial Generation	Dearborn	0

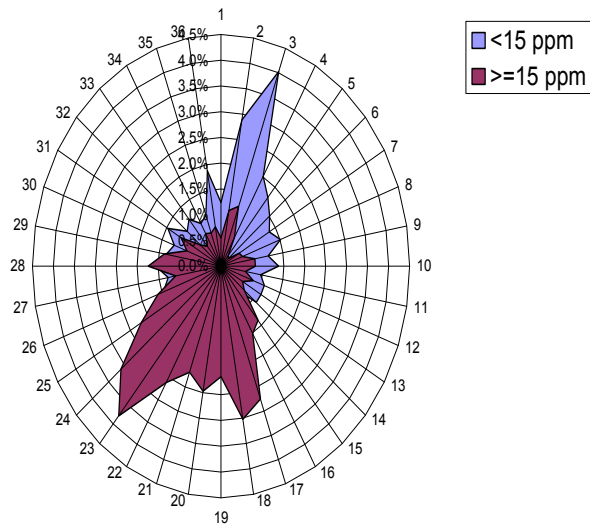
Attachment B
Pollution Roses

Total PM 2.5 Pollution Roses

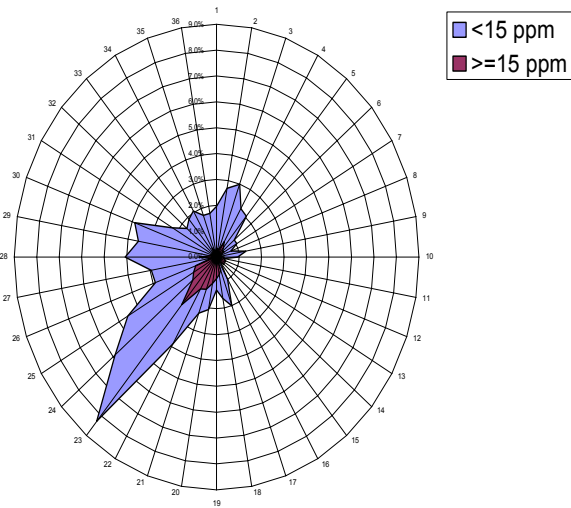


Attachment B, Continued
Pollution Roses

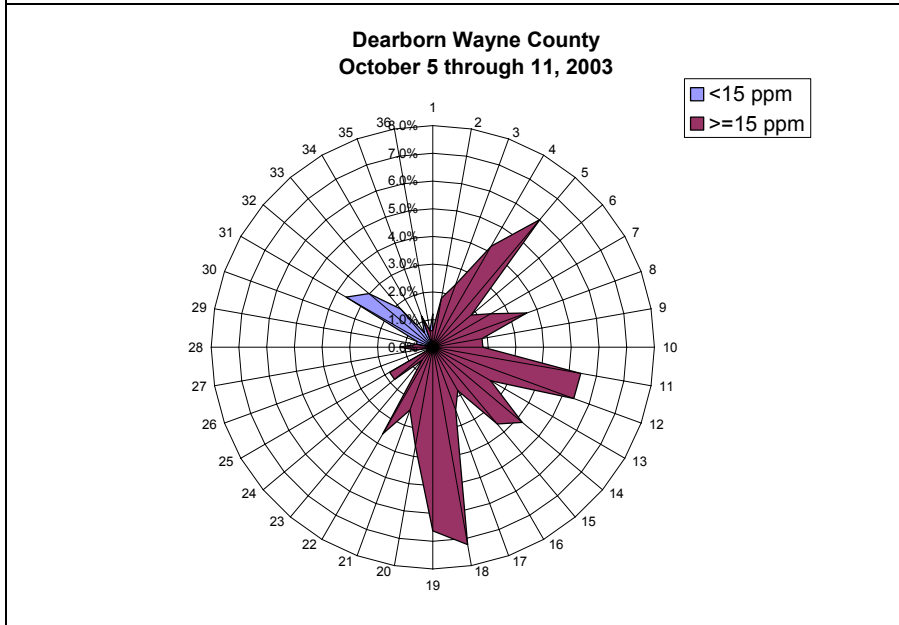
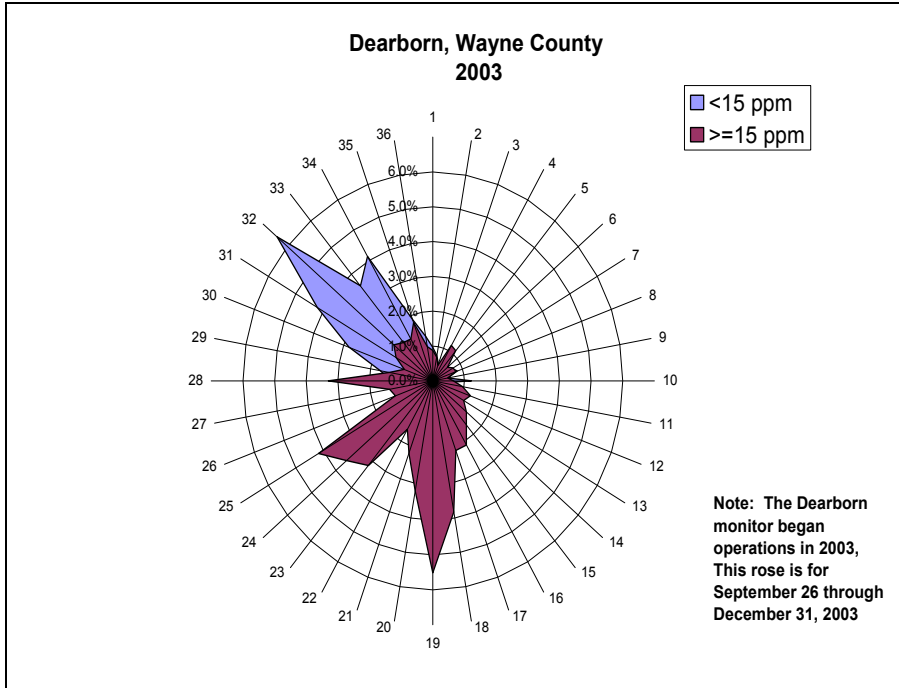
Wayne County 3rd Quarter 2002
Allen Park Monitor



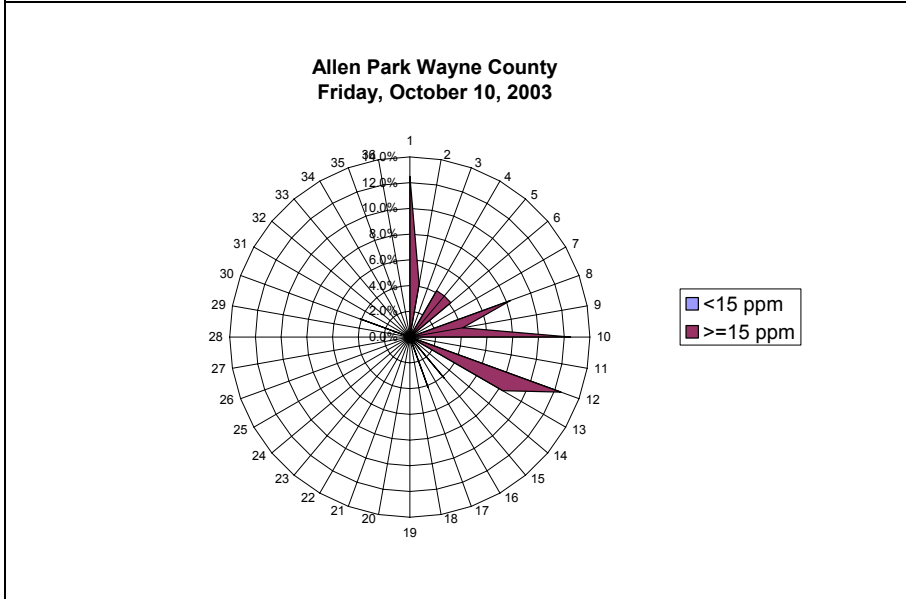
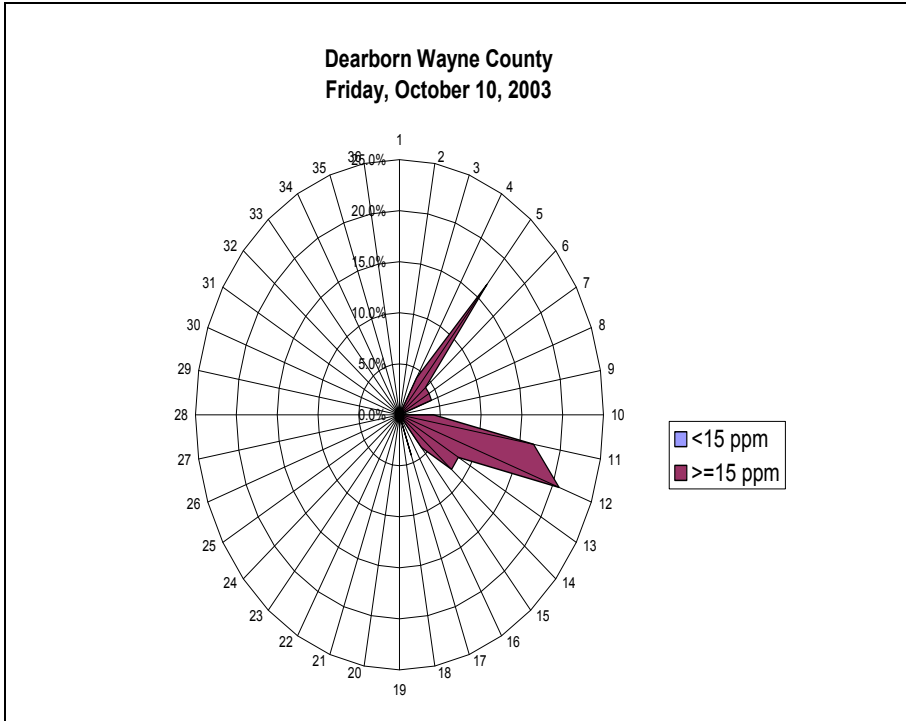
Wayne County 4th Quarter 2002
Allen Park Monitor



Attachment B, Continued
Pollution Roses



Attachment B, Continued
Pollution Roses

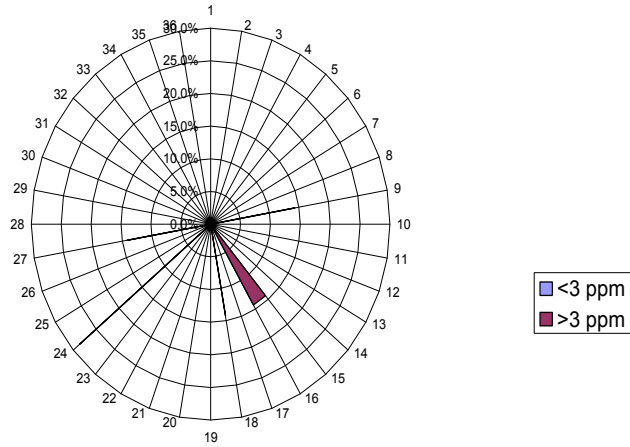


Attachment B, Continued
Pollution Roses

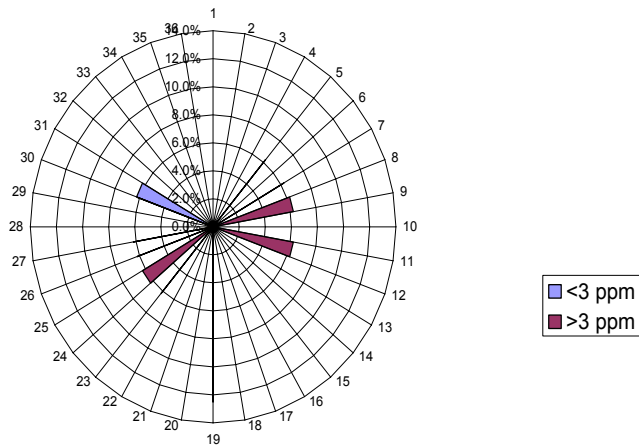
Speciated PM 2.5 Data

Sulfate Emissions

**Sulfate Dearborn
Second Quarter
Wayne County 2002**



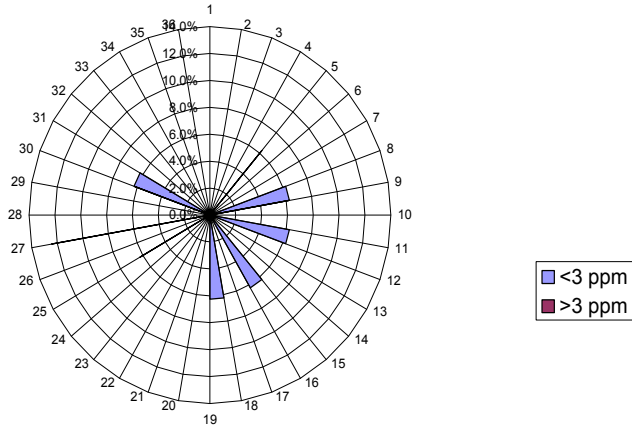
**Sulfate Dearborn
Third Quarter
Wayne County 2002**



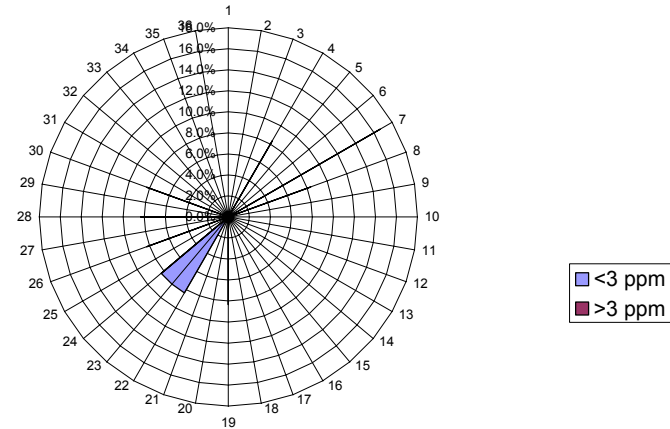
Attachment B, Continued
Pollution Roses

Nitrate Emissions

**Total Nitrate Dearborn
Third Quarter
Wayne County 2002**



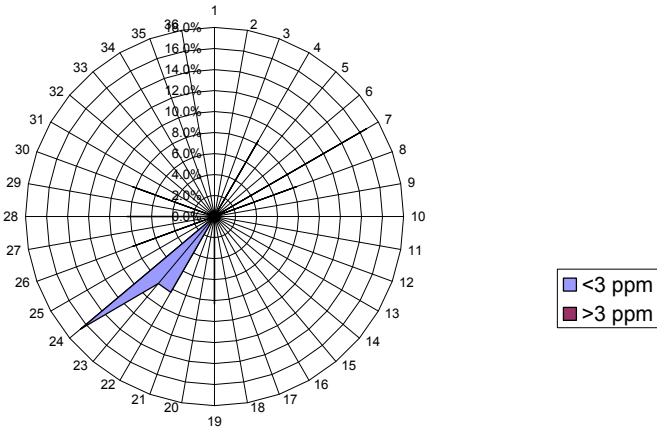
**Total Nitrate Dearborn
Fourth Quarter
Wayne County 2002**



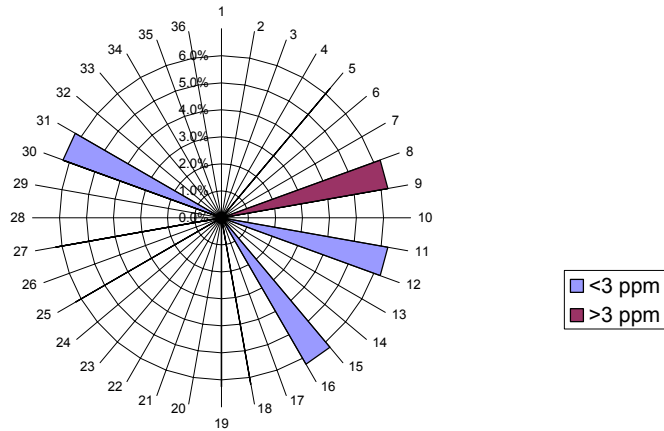
Attachment B, Continued
Pollution Roses

Ammonium Emissions

**Ammonium Dearborn
Second Quarter
Wayne County 2002**



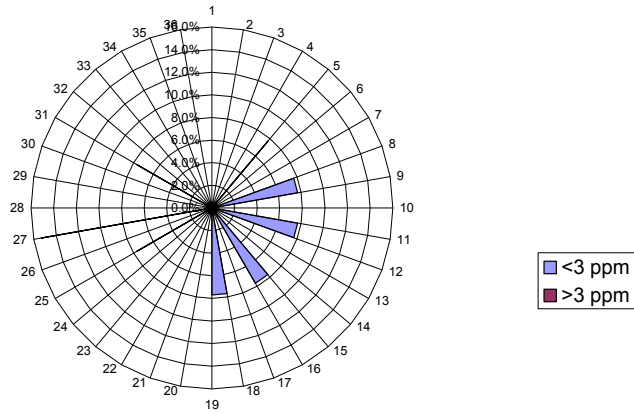
**Ammonium Dearborn
Third Quarter
Wayne County 2002**



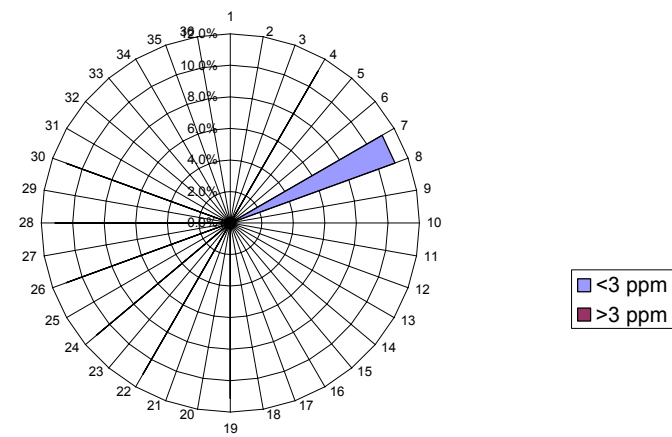
Attachment B, Continued
Pollution Roses

Elemental Carbon

**Elemental Carbon Dearborn
Second Quarter
Wayne County 2002**



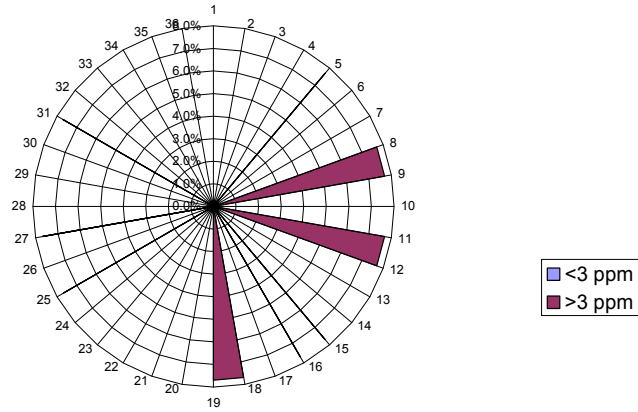
**Elemental Carbon Dearborn
Third Quarter
Wayne County 2002**



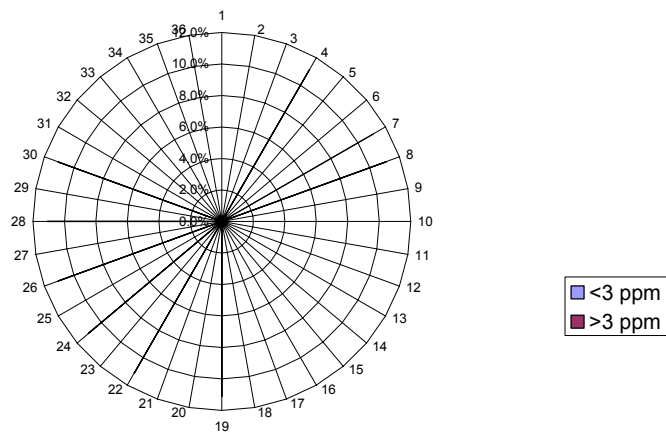
Attachment B, Continued
Pollution Roses

Organic Carbon

**OCX Carbon Dearborn
Second Quarter
Wayne County 2002**



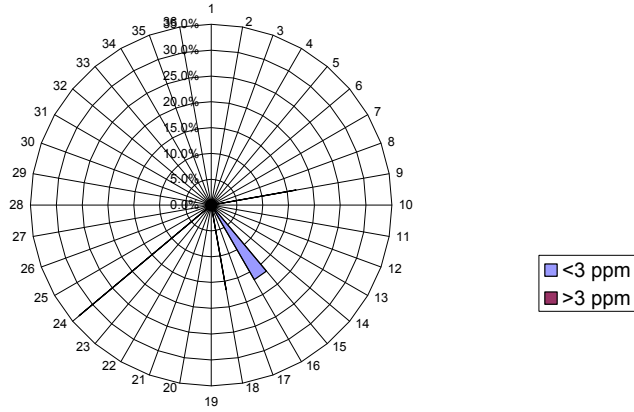
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Third Quarter
Wayne County 2002**



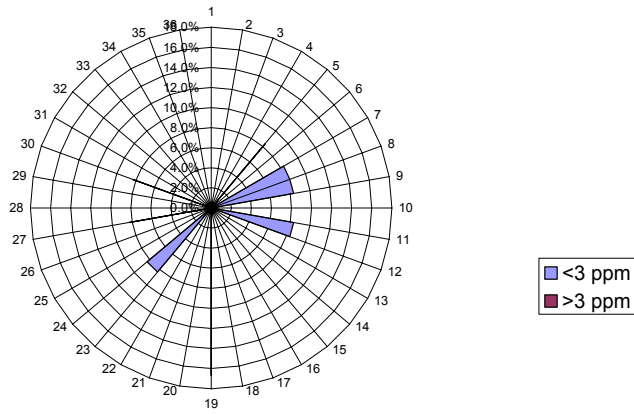
Attachment B, Continued
Pollution Roses

Nickel

**Nickel Dearborn
Second Quarter
Wayne County 2002**



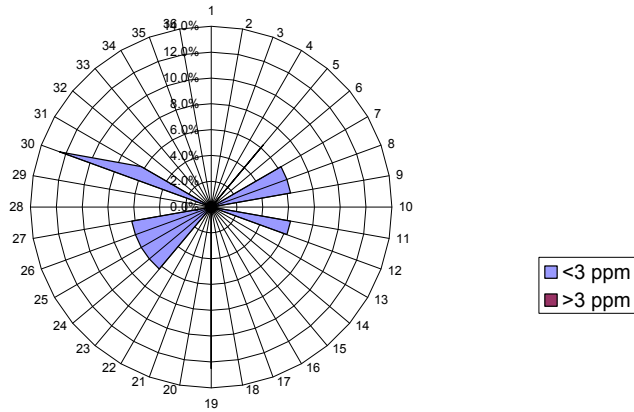
**Nickel Dearborn
Third Quarter
Wayne County 2002**



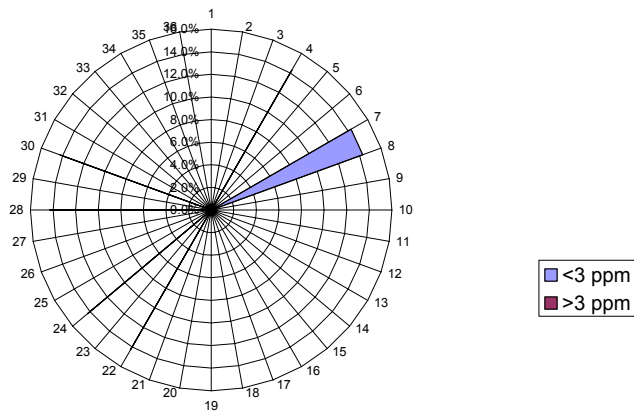
Attachment B, Continued
Pollution Roses

Iron

**Iron Dearborn
Third Quarter
Wayne County 2002**



**Iron Dearborn
Fourth Quarter
Wayne County 2002**



Attachment C
Maps

Map 1: Location of Coal Fired Boilers in S. E. Michigan



Attachment C, Continued
Maps

Map 2: Dearborn Monitor location with local industry.



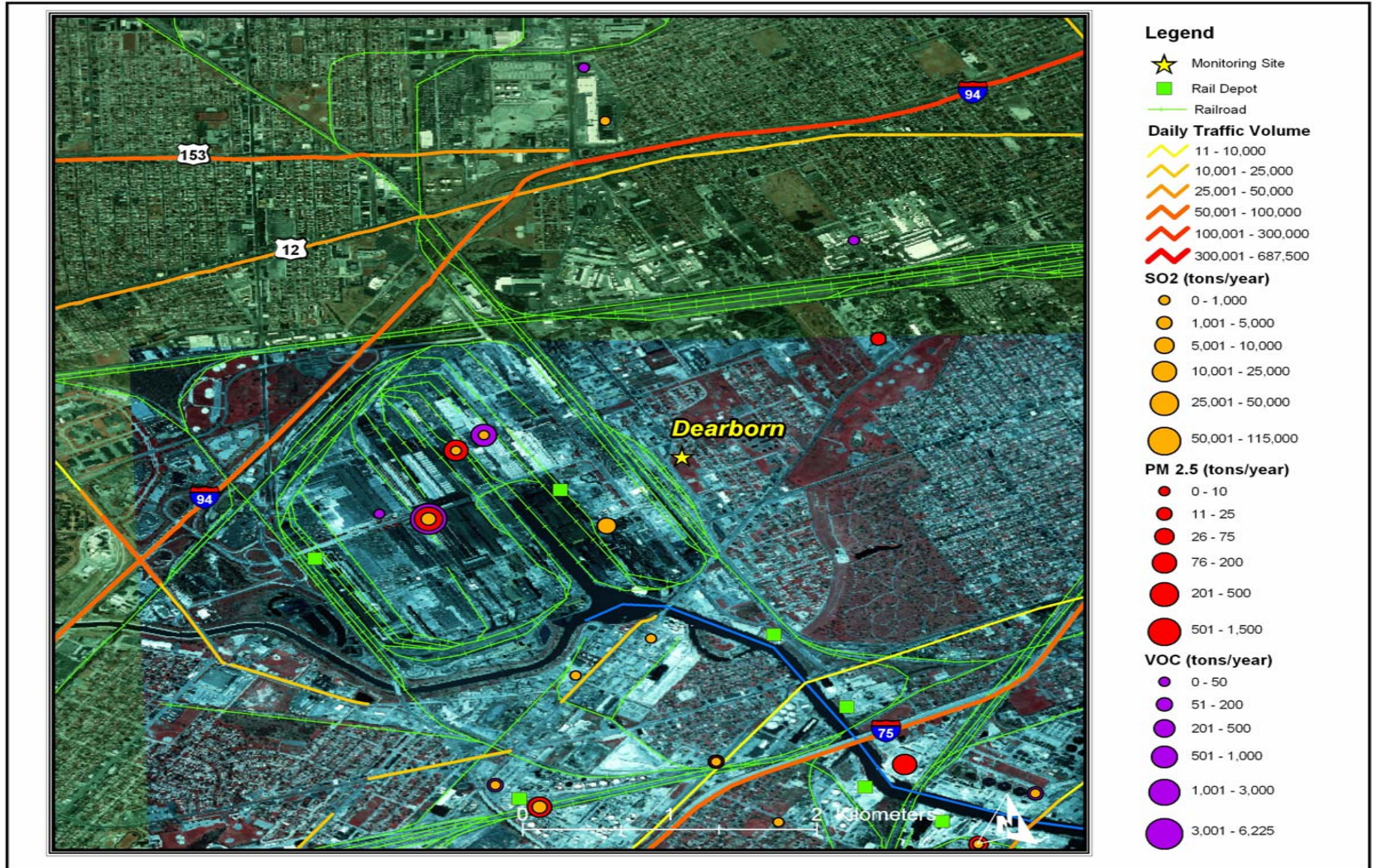
Attachment C, Continued
Maps

Map 3: Luna Pier Monitor site



Attachment C, Continued
Maps

Map 4: Location of industrial sources within the Dearborn area.



Attachment C, Continued
Maps

Map 5: Preliminary PM Sources within 10 Kilometers of Dearborn Monitor

