2005 Urban Air Toxics Monitoring Program (UATMP) – Hexavalent Chromium

February 2007
Final Report

EPA-454/R-07-005
February 2007

2005 Urban Air Toxics Monitoring Program (UATMP) – Hexavalent Chromium

Prepared By:
Eastern Research Group, Inc.
Research Triangle Park, North Carolina

Prepared for:
Margaret Dougherty and Mike Jones
Office of Air Quality Planning and Standards
Research Triangle Park, NC 27711

Contract No. 68-D-03-049
Delivery Orders 03 and 04

.

U.S. Environmental Protection Agency
Office of Air Quality Planning and Standards
Emissions, Monitoring and Analysis Division
Research Triangle Park, NC 27711

2005 Urban Air Toxics Monitoring Program (UATMP) – Hexavalent Chromium

Final Report
EPA Contract No. 68-D-03-049
Delivery Order 03
Delivery Order 04

Prepared for:

Margaret Dougherty and Mike Jones
Office of Air Quality Planning and Standards
U.S. Environmental Protection Agency
Research Triangle Park, NC 27711

Prepared by:

Eastern Research Group, Inc.
1600 Perimeter Park
Morrisville, NC 27560

February 2007

DISCLAIMER

Through its Office of Air Quality Planning and Standards, the U.S. Environmental Protection Agency funded and managed the research described in this report under EPA Contract No. 68-D-03-049 to Eastern Research Group, Inc. This report has been subjected to the Agency-s peer and administrative review and has been approved for publication as an EPA document. Mention of trade names or commercial products in this report does not constitute endorsement or recommendation for their use.

TABLE OF CONTENTS

TABLE OF CONTENTS CONTINUED

List of Appendices

LIST OF FIGURES

LIST OF FIGURES CONTINUED

LIST OF FIGURES CONTINUED

LIST OF TABLES

LIST OF ACRONYMS

AQS	Air Quality Subsystem (of the Aerometric Information and Retrieval System)
ATSDR	Agency for Toxic Substances and Disease Registry
CARB	California Air Resources Board
CFR	Code of Federal Regulations
CO	Carbon Monoxide
CV	coefficient of variation
Cr^{0+}	Steady-state chromium
Cr^{3+}	Trivalent chromium
Cr^{6+}	Hexavalent chromium
EPA	U.S. Environmental Protection Agency
ERG	Eastern Research Group, Inc.
GC	gas chromatography
GMT	Greenwich Mean Time
HAP	hazardous air pollutant
HQ	Hazard quotient
HYSPLIT	Hybrid Single-Particle Lagrangian Integrated Trajectory
IC	Ion Chromatography
IMPROVE	Interagency Monitoring of Protected Visual Environments
IPR	Initial Precision Recovery
IQR	Interquartile range
MDL	method detection limit
MRL	Minimal Risk Level
MSAs	Metropolitan statistical areas
NAMS	National Air Monitoring Station
NATA	National-scale Air Toxics Assessment
NATTS	National Air Toxics Trends Station
ng/m^3	nanogram per cubic meter
NEI	National Emissions Inventory
NOAA	National Oceanic and Atmospheric Administration
NO_2	Nitrogen Dioxide
NWS	National Weather Service
PAMS	Photochemical Assessment Monitoring Station
PE	Performance Evaluation
PM	particulate matter
QAPP	Quality Assurance Project Plan
RfC	Reference Concentration
RH	Relative Humidity
RPD	relative percent difference
SIC	Standard Industrial Classification

SLAMS	State and Local Air Monitoring Site
SO_2	Sulfur Dioxide
SPM	Single Point Monitor
UATMP	Urban Air Toxics Monitoring Program
T	Temperature
tpy	tons per year
URE	Unit Risk Estimate
VOC	Volatile Organic Compound(s)
WBAN	Weather Bureau/Army/Navy ID
WD	Wind Direction
WS	Wind Speed
Z	Zulu

Monitoring Stations

BOMA	Boston, Massachusetts
BTUT	Bountiful, Utah
BURVT	Burlington, Vermont
CHSC	Chesterfield, South Carolina
ETAL	East Thomas in Birmingham, Alabama
GPCO	Grand Junction, Colorado
GPMS	Gulfport, Mississippi
HAKY	Hazard, Kentucky
LAOR	La Grande, Oregon
MAWI	Mayville, Wisconsin
NBAL	North Birmingham, Alabama
NBIL	Northbrook in Chicago, Illinois
PRRI	Providence, Rhode Island
PVAL	Providence, Alabama
S4MO	St. Louis, Missouri (Site #4)
SDGA	Decatur, Georgia
SEWA	Seattle, Washington
SIAL	Sloss Industries in Birmingham, Alabama
SYFL	Plant City, Florida
UNVT	Underhill, Vermont
WADC	Washington, D.C.
WETX	Webberville Road in Austin, Texas

1.0 Introduction

Air pollution in urban locations incorporates many components that originate from a wide range of stationary, mobile, and natural emissions sources. Because some of these components include toxic compounds known or suspected to be carcinogenic, the U.S. Environmental Protection Agency (EPA) continues to encourage state, local, and tribal agencies to understand and appreciate the nature and extent of potentially toxic air pollution in urban locations. To achieve this goal, EPA sponsors the Urban Air Toxics Monitoring Program (UATMP) and the National Air Toxic Trends Station (NATTS) network to characterize the composition and magnitude of urban air pollution through extensive ambient air monitoring. Since the inception of the UATMP in 1987, many environmental and health agencies have participated in the program to assess the causes and effects of air pollution within their jurisdictions. The NATTS network, consisting of 23 monitoring sites located in different geographical areas with varying population densities, was designed to allow EPA to assess the spatial and temporal distribution of air toxics and evaluate any trends that may be evident, especially whether legislation aimed at reducing air toxics emissions have resulted in any discernable decrease in ambient concentrations. The expected benefits of decreased ambient concentrations are reduced risk of cancer and other adverse health effects.

This report summarizes and interprets the 2005 UATMP and NATTS hexavalent chromium monitoring effort, and serves as a companion to the 2005 UATMP annual report (U.S. EPA, 2007). This report includes up to 12 months of 1-in-6 and 1-in-12 day measurements of ambient air quality at 22 monitoring sites in or near 19 urban/rural locations, including 14 metropolitan statistical areas (MSAs). The analysis and data interpretation in this report focuses on hexavalent chromium data trends. In addition to the planned schedule for 2005 sampling, additional measurements were collected in the wake of Hurricane Katrina's devastation to the Gulf Coast in late August 2005. The results from post-Katrina hexavalent chromium sampling are included in this report at the request of the State of Mississippi.

Hexavalent chromium is highly toxic, even at low mass concentrations and emissions. EPA's National-scale Air Toxics Assessment (NATA) for 1999 identified this specie of chromium

as the driving pollutant in five of the top 10 counties for cancer risk from stationary sources (U.S. EPA, 2006a).

To facilitate examination of the 2005 UATMP and NATTS hexavalent chromium monitoring data, the complete set of measured concentrations is presented in the Appendix C of this report. In addition, these data are publicly available in electronic format from EPA's Air Quality Subsystem (AQS) at http://www.epa.gov/ttn/airs/airsaqs/.

This report is organized into seven sections and six appendices. Table 1-1 highlights the contents of each section and appendix. All figures and tables appear at the end of their respective sections (figures first, followed by tables) or in supporting appendices (Appendices E and F).

Table 1-1. Organization of the 2005 Hexavalent Chromium Report

Report Section	Section Title	Overview of Contents
1	Introduction	Introduces the history and scope of this report.
2	Overview of the 2005 Hexavalent Chromium Monitoring Effort	Provides background information on hexavalent chromium, the monitoring networks, and the sampling and analytical methods.
3	Summary of the 2005 Hexavalent Chromium Data	Presents and discusses significant trends and relationships in the UATMP and NATTS data, characterizes how ambient air concentrations, and associated risk, varied with monitoring location and with time.
4	Meteorological and Spatial Analysis	Characterizes the sampling data in relation to meteorological and emissions information.
5	Data Quality	Defines and discusses the concepts of precision and accuracy. Based on quantitative and qualitative analyses, this section examines the precision and accuracy of the ambient monitoring data.
6	Summary and Conclusion	Summarizes the most significant findings of the report.
7	References	Lists the references cited throughout the report.
Appendix A	AQS Site Information	Provides details about the monitoring site locations, including physical address, geographic coordinates, traffic information, urban area, and supporting agency.
Appendix B	Invalids	Provides information about invalidated samples.
Appendix C	Raw Data	Provides raw data results for hexavalent chromium sampling.
Appendix D	Statistical Summary of Raw Data	Provides a statistical summary of the raw data presented in Appendix C.
Appendix E	Additional Monitoring Site Information	Includes maps of the surrounding area, emission source maps, climate data, and a text summary for each site.
Appendix F	Integrated Data Analysis Products	Includes wind roses, pollution roses, and back trajectories.

2.0 Overview of the 2005 Hexavalent Chromium Monitoring Effort

In this section, background information on hexavalent chromium and its sampling method are described. The sampling networks for 2005, sampling schedules, and evaluation of completeness are also presented.

2.1 Overview of Chromium Species

Information on the health effects of chromium and chromium compounds were obtained from a Public Health Statement for chromium (ATSDR, 2000a). Chromium is a naturally occurring element found in rocks, animals, plants, soil, and in volcanic dust and gases. Chromium is present in the environment in several different forms. The most common forms are steady-state (Cr^{0+}), trivalent (Cr^{3+}), and hexavalent (Cr^{6+}). Trivalent chromium occurs naturally in the environment and is an essential nutrient required by the human body to promote the action of insulin in body tissues so that sugar, protein, and fat can be used by the body. The naturally occurring mineral chromite in the trivalent form is used as brick lining for high-temperature industrial furnaces, for making metals and alloys, and chemical compounds. Hexavalent and steady-state chromium are generally produced by industrial processes. No known taste or odor is associated with chromium compounds. Metal chromium, which is the steady-state form, is a steel-gray solid with a high melting point. It is used mainly for making steel and other alloys (mixtures of metals). Chromium compounds, mostly in trivalent or hexavalent forms, produced by the chemical industry are used for chrome plating, the manufacture of dyes and pigments, leather tanning, and wood preserving. Smaller amounts are used in drilling muds, rust and corrosion inhibitors, textiles, and toner for copying machines.

Chromium enters the air, water, and soil mostly in the trivalent and hexavalent forms as a result of natural processes and human activities. Stainless steel welding, chemical manufacturing, and use of compounds containing hexavalent chromium can increase hexavalent chromium levels in air. Waste streams from electroplating can discharge hexavalent chromium. Leather tanning and textile industries, as well as those that make dyes and pigments, can discharge both trivalent and hexavalent chromium into waterways. The levels of both trivalent and hexavalent chromium in soil

increase mainly from disposal of commercial products containing chromium, chromium waste from industry, and coal ash from electric utilities.

Table 2-1 summarizes toxicity values for hexavalent chromium. Chronic exposures of hexavalent chromium can lead to cancer effects and respiratory noncancer effects. Non-chronic health effects may occur due to exposures on an intermediate-term (15 to 364 days).

2.2 Sampling and Analytical Method

Hexavalent chromium was sampled using an EPA-approved method based on improvements to California Air Resources Board (CARB) Method 039. For a detailed description of the EPA-approved method, readers should refer to the *Standard Operating Procedure for the Determination of Hexavalent Chromium in Ambient Air Analyzed by Ion Chromatography (IC)* (U.S. EPA, 2006b). Method detection limits (MDL) are experimentally determined at the ERG analytical laboratory; the average MDL for the program was 0.016 ng/m^3. The hexavalent chromium MDL ranged from 0.012 ng/m^3 (Bountiful, UT; La Grande, OR; Providence, RI; Decatur, GA) to 0.019 ng/m^3 (Dearborn Park, MI and Washington, D.C.). The ERG MDLs are generally lower than those obtained by the original CARB method because the analytical technique now employed is more sensitive and more volume is pulled through the filters during sample collection. The MDLs were determined using the procedures set forth in 40 CFR Part 136, Appendix B (U.S. EPA, 2005).

Appreciating Detection Limits

All detection limits of the analytical methods must be considered carefully when interpreting the corresponding ambient air monitoring data. By definition, detection limits represent the lowest concentrations at which a laboratory and its equipment have been experimentally determined to reliably quantify concentrations of selected pollutants to a specific confidence level. If a chemical concentration in ambient air does not exceed the method sensitivity (as gauged by the detection limit), the analytical method might not differentiate the pollutant from other pollutants in the sample or from the random Anoise@ inherent in laboratory analyses. Therefore, when samples contain concentrations at levels below their respective detection limits, multiple analyses of the same sample may lead to a wide range of results, including highly variable concentrations or Anondetect@ observations. Data analysts must exercise caution when interpreting monitoring data with many reported concentrations at levels near or below the corresponding detection limits.

2.3 Monitoring Locations

Although EPA sponsors the UATMP and NATTS, EPA does not dictate the location of its monitoring sites. Rather, representatives from EPA Regions, and the state, local, and tribal agencies that voluntarily participate in the program and contribute to the overall monitoring costs select the monitoring locations based on specific siting criteria. Some monitors were placed near the centers of heavily populated cities (e.g., Chicago, IL and Seattle, WA), while others were placed in more rural settings (e.g., Chesterfield, SC and Hazard, KY).

Figure 2-1 shows the 22 urban and rural areas participating in the 2005 programs as well as the Hurricane Katrina monitoring site in Mississippi. The site descriptions in Tables 2-2 and 2-3 and in Appendix A provide detailed information on the surroundings near the 2005 hexavalent chromium monitoring locations. Monitoring sites that are designated as EPA NATTS sites are indicated by bold type in Table 2-2.

As presented in Figure 2-1, the 2005 hexavalent chromium monitoring sites are distributed across the country. The monitoring data from these sites may indicate certain air quality trends that are common to all urban environments, but may also show distinct geographic trends. The statistical analyses in this report differentiate those trends that appear to be site-specific from those that appear to be common to most urban environments.

Hexavalent chromium concentrations measured during 2005 varied significantly from monitoring site to monitoring site. As discussed throughout this report, the proximity of the monitoring locations to different emissions sources, especially industrial facilities, often explains the observed spatial variations in ambient air quality. To provide a first approximation of the contributions of stationary source emissions on ambient air quality at each site, Table 2-3 lists the number of people living within 10 miles of each monitoring location and the hexavalent and total chromium emissions for stationary sources residing in the monitor=s county, as reported to the 2002 National Emissions Inventory (NEI) (U.S. EPA, 2006c). Cook County, IL, where the NBIL monitoring site is located, reported the highest total chromium emissions at 4.90 tons per year (tpy). Jefferson County, AL, where four monitoring sites (ETAL, NBAL, PVAL, and SIAL)

are located, reported the second highest chromium emissions at 2.25 tpy. These two counties also reported the two highest emissions for hexavalent chromium (Cook County, 0.47 tpy; Jefferson County, 0.42 tpy).

For recordkeeping and reporting purposes, each site was assigned the following:

- A unique UATMP site code B used to track samples from the monitoring sites to the laboratory; and
- A unique nine-digit AQS site code B used to index monitoring results in the AQS database.

This report often cites these codes when presenting selected monitoring results.

2.4 Sampling Schedules

Table 2-4 presents the start and end dates for each monitoring location. Most sites in the monitoring networks started sampling in January 2005, with a few exceptions, while all sites sampled through December. Nine sites began sampling after January 2005:

- Decatur, GA site (SDGA) started in February 2005;
- Mayville, WI and Washington, D.C. sites (MVWI and WADC) started in March 2005;
- Webberville Rd. site in Austin, TX (WETX) started in June 2005;
- Birmingham, AL sites (ETAL, NBAL, PVAL, and SIAL) started in July 2005; and
- Gulfport, MS site (GPMS) started in October 2005.

Most of the sites employed collocated sample collection, with the exception at BTUT and LAOR, to facilitate the determination of method precision. Collocated samples are collected simultaneously using two independent collection systems at the same location. In cases where monitors failed to collect valid samples on a scheduled sampling day, site operators sometimes rescheduled samples for other days. This practice explains why some monitoring locations periodically strayed from the 1-in-6 or 1-in-12 day sampling schedule.

The 1-in-6 or 1-in-12 day sampling schedule permits cost-effective data collection for trends characterization (annual-average concentrations) of toxic compounds in ambient air and ensures that sampling days are evenly distributed among the seven days of the week to allow weekday/weekend comparison of air quality.

2.5 Completeness

Completeness refers to the number of valid samples collected compared to the number of samples expected from a 1-in-6 or 1-in-12 day sampling cycle. Monitoring programs that consistently generate valid results have higher completeness than programs that consistently invalidate samples. The completeness of an air monitoring program, therefore, can be a qualitative measure of the reliability of air sampling equipment and laboratory analytical equipment and a measure of the efficiency with which the program is managed. Appendix B identifies samples that were invalidated and lists the specific reasons why the samples were invalidated. Reasons for invalidation include: power failure, damage incurred during transit, and operator error.

The UATMP and NATTS data quality objectives follow the 2005 EPA-approved Quality Assurance Project Plan (QAPP), where 85-100 percent of samples collected at a given monitoring station must be analyzed successfully to be considered sufficient for data trends analysis (ERG, 2005). The data in Table 2-4 shows that only one data set (from a total of 23 data sets) did not meet this data quality objective (WETX). However, the overall completeness for the program was 96 percent. One hundred percent completeness was achieved for three monitoring sites (BOMA, NBAL, and SIAL).

Figure 2-1. Hexavalent Chromium Monitoring Site Locations

Table 2-1. Hexavalent Chromium Toxicity Values

Parameter	Time Period	Value (ng/m^3)
Risk Screening Value	24-hour (1-day) to 14 days	0.083
Acute Minimal Risk Level	24-hour (1-day) to 14 days	NA
Intermediate Minimal Risk Level	15 days to 364 days	1000
Cancer Unit Risk Estimate	365 days (annual)	12.0
Noncancer Reference Concentration	365 days (annual)	100

NA = not available

Table 2-2. Text Descriptions of the 2005 Hexavalent Chromium Monitoring Sites

2005 Site Code	Monitoring Site Location	Land Use	Location Setting	Estimated Traffic (# vehicles)	Traffic Year Estimate	Description of the Immediate Surroundings
BOMA	**Boston, MA**	Commercial	Urban	27,287	2000	The Boston site is located in a residential neighborhood on Harrison Avenue in Dudley Square. Its purpose is to measure population exposure for a city bus terminal that is located across the street from the monitor and other urban sources.
BTUT	**Bountiful, UT**	Residential	Suburban	33,310	2002	The Bountiful Viewmont site is located in a suburban area of the Ogden-Clearfield MSA, at 171 West 1370 North in Bountiful, Utah. This site is a relocation of the BOUT site, which was about 1.1 miles south of the new site. The site is located on the grounds of Viewmont High School, adjacent to a parking lot, tennis courts, and a football field. The surrounding neighborhood is made up of residential properties. BTUT is a SLAMS neighborhood-scale site for monitoring population exposure to SO_2, CO, NO_2, and $PM_{2.5}$; and a NAMS neighborhood-scale site for monitoring maximum ozone concentrations. Speciated $PM_{2.5}$ sampling, meteorological monitoring, and NATTS air toxics sampling are also done at the Bountiful Viewmont site. Several petroleum refineries are located two to five miles away from the site, as are several sand and gravel mining operations.
BURVT	Burlington, VT	Commercial	Urban	4,800	2005	The BURVT monitoring station is located near several heavily traveled roadways, a gas station and a public parking lot in the downtown area of Burlington, which is Vermont's largest city. Approximately 100,000 people live within 10 miles of the BURVT monitoring station. The site can be loosely classified as being in an urban area.
CHSC	**Chesterfield, SC**	Forest	Rural	550	2000	The site was chosen as a background site. It is very rural and in the middle of Carolina Sandhills Wildlife Refuge. The site is located on secondary road SC 145 between McBee and Chesterfield. Traffic on 145 is light. The nearest industry (AO Smith Water Heaters) is approximately 9 miles away. Elevation is ~450'.

Table 2-2. Text Descriptions of the 2005 Hexavalent Chromium Monitoring Sites (Continued)

2005 Site Code	Monitoring Site Location	Land Use	Location Setting	Estimated Traffic (# vehicles)	Traffic Year Estimate	Description of the Immediate Surroundings
DEMI	**Dearborn in Detroit, MI**	Industrial	Suburban	12,791	1990	The Dearborn, MI site is located in a residential neighborhood with industrial impacts. An auto and steel manufacturing plant is located in close proximity to the monitoring site. Previous violations of the PM_{10} standard have also occurred at this site. The site lies between I-75 and I-94. This site is expected to show some of the highest levels of air toxics in the Detroit Pilot program area. The SO_2 and PM_{10} measurements are also made there.
ETAL	East Thomas, Birmingham, AL	Residential	Suburban	30,000	Unknown	This SLAMS microscale roadway site (located at the intersection of Finley Avenue and Arkadelphia Road) has a thirty-five year history of ambient air monitoring. This site is used mainly to monitor vehicle emissions. It is also an environmental justice site in that most of the residences in the area are owned and occupied by minorities. It is also located in a valley that is heavily industrialized. This site has also yielded some of the county's highest reported particulate levels. There have been several special roadway emission studies performed at this site over the past few years, the latest of which was pertaining to the contribution of $PM_{2.5}$ particles from roadway emissions.
GPCO	**Grand Junction, CO**	Commercial	Urban	19,572	2000-2002	This site is a small 1-story shelter that houses the VOC/carbonyl sampler. The inlet for this sampler is 13' above the ground and 35' south of Pitkin Avenue. This site also has meteorological sensors (WS, WD, T, RH) on a 10 meter tower, a carbon monoxide sampler and a continuous PM_{10} sampler. Monitoring is being conducted on the southeast side of the downtown area. The area is very mixed usage, with commercial business to the west, northwest and north, residential to the northeast and east, and industrial to the southeast, south and southwest. The location is next to one of the major east-west roads in Grand Junction.

Table 2-2. Text Descriptions of the 2005 Hexavalent Chromium Monitoring Sites (Continued)

2005 Site Code	Monitoring Site Location	Land Use	Location Setting	Estimated Traffic (# vehicles)	Traffic Year Estimate	Description of the Immediate Surroundings
GPMS	Gulfport, MS	Commercial	Rural	17,000	1995	The Gulfport site is in a light commercial and residential area. This site was selected because this area is believed to have high ambient air toxic concentrations based upon information from the NATA study and Mississippi's major source emission inventories.
HAKY	**Hazard, KY**	Residential	Suburban	500	1999	The Perry County Horse Park monitoring station was established in April 2000 and is designated as a SLAMS site for PM_{10} and a Special Purpose Monitoring site for ozone and $PM_{2.5}$. In October 2001, $PM_{2.5}$ Speciation sampling was added as part of the national speciation program. The site is located on the grounds of the Perry County Horse Park and is approximately 2.5 miles north/northeast of Hazard. The monitoring station is an 8' x 10' aluminum clad shelter with a wooden deck covering the roof. The closest structure to the site is Perry Central High School, which is about 600 feet northwest of the site. The elevation is at 912 feet.
LAOR	**La Grande, OR**	Residential	Urban	55	2003	The La Grande site is a neighborhood-scale site surrounded by single-family housing with some commercial activities near by. Schools, a community college, a hospital, businesses, and some light manufacturing, typical of a rural community, can be found in fairly close proximity. A variety of sources impact this site. Forest and agricultural lands surrounding La Grande are subject to seasonal burning. No major point sources are located in close proximity to the site; although a large wood products manufacturing complex is located within the airshed. Interstate 84, a major trucking route, passes on the edge of town and a large rail yard is located near the town center.

Table 2-2. Text Descriptions of the 2005 Hexavalent Chromium Monitoring Sites (Continued)

2005 Site Code	Monitoring Site Location	Land Use	Location Setting	Estimated Traffic (# vehicles)	Traffic Year Estimate	Description of the Immediate Surroundings
MVWI	**Mayville, WI**	Agricultural	Rural	5,990	1989 & 1994	Mayville is a designated rural NATTS site. The Mayville air monitoring station is a multi-parameter site located in rural southeast Wisconsin. The site is located approximately 45 miles northwest of Milwaukee. The Mayville site is located directly to the east of the Horicon National Wildlife Refuge. The monitoring station provides an excellent location for a rural background air toxics monitoring station. The site is rural but is located within an area affected by a major urban area. The site also shows impact on an important wildlife sanctuary. Current sampling at the site compliments and supports the air toxics monitoring effort at the site. It will in some cases allow for comparison of the monitoring methodologies (PM2.5 metals vs. PM10 metals). The station was originally established for the study of ozone, fine particulate matter and regional haze. Sampling for hexavalent chromium began in March 2005 and has continued into 2006.
NBAL	North Birmingham, AL	Commercial	Urban	2,000	1994	This NAMS neighborhood scale site (located in North Birmingham) is a super site with a thirty-five year history of ambient air monitoring. It is an environmental justice site in that most of the residences in the area are owned and occupied by minorities. It is located in a valley that is heavily industrialized. This site yields the one of county's highest reported particulate levels.

Table 2-2. Text Descriptions of the 2005 Hexavalent Chromium Monitoring Sites (Continued)

2005 Site Code	Monitoring Site Location	Land Use	Location Setting	Estimated Traffic (# vehicles)	Traffic Year Estimate	Description of the Immediate Surroundings
NBIL	**Northbrook in Chicago, IL**	Residential	Suburban	29,600	2001	The village of Northbrook is located in northeast Cook County. This monitoring site is located at the Northbrook Water Filtration Station at 750 Dundee Road. A forest preserve is located immediately south with residential areas farther south (southeast to southwest). Residential areas are also immediately to the west. Commercial areas are located along Dundee Road and to the east. A major expressway (I-94) is located 1 km to the east and north. O'Hare Airport is located 18 km to the southwest and the Chicago Loop is located 32 km to the southeast.
PRRI	**Providence, RI**	Residential	Urban	5,500	1996	The site is on the roof of a rather spread-out, 1-story building in a fairly low-income neighborhood of south-Providence. It's approximately a half-mile from I-95 where it makes a sharp curve as it enters the city, where traffic congestion is common. Narragansett Bay and the Port of Providence are just a few tenths of a mile further to the east, on the other side of the highway. There is some industry along the Bay, including asphalt plant right next to the curve in the highway. There is also a highway relocation project that's been under way for a couple of years.
PVAL	Providence, AL	Residential	Rural	Unknown	Unknown	This SLAMS urban scale general background site (located in the western-most corner of Jefferson County) was established in the fall of 1999 to monitor background levels of ozone and $PM_{2.5}$ in the county, to get a better idea of what concentrations were entering the county, and to give better resolution at that time for the ozone mapping program. It is a rural site in that there are not many residences in the area and most of the land use is agricultural. It is located on a rural mountaintop on the edge of a field used for horse grazing. It is an excellent site for a background air toxics monitor.

Table 2-2. Text Descriptions of the 2005 Hexavalent Chromium Monitoring Sites (Continued)

2005 Site Code	Monitoring Site Location	Land Use	Location Setting	Estimated Traffic (# vehicles)	Traffic Year Estimate	Description of the Immediate Surroundings
S4MO	**St. Louis, MO**	Residential	Urban	22,840	1995	Blair Street has some industry around it and a fair amount of industry to the east. The site is also only about 250 meters from I-70 (at its closest point).
SDGA	**Decatur, GA**	Residential	Suburban	98,510	1995 & 1997	Northwesterly winds predominate making this site a short-range downwind location from Atlanta's urban core. Undeveloped land surrounds the site but within 1/8 of a mile there is a residential subdivision, a greenhouse/horse barn and an athletic field and a high school. Traffic on Wildcat road (a dead end, 2-lane blacktop) has considerable vehicular and diesel traffic during school hours. Three shelters comprise the dry structures at the site. One houses the PAMS GC, carbonyls and VOC equipment, another the continuous monitors and the third one belongs to Georgia Tech. Particulate matter, IMPROVE and PM10 metals reside on exposed structures.
SEWA	**Seattle, WA**	Industrial	Suburban	20,000	Unknown	The Beacon Hill site is centrally located within the Seattle urban area. The site is isolated within the confines of the city's water reservoir. The neatest roads are at least 1 km away. It is surrounded by residential neighborhoods, Jefferson Park and a middle school. It is about 100 meters above sea level. The hill is part of a larger ridge defining the eastern edge of an area of light industry including a major seaport, an airport and warehousing and trucking activity about 4 km west of the site. Interstate freeways and arterial roads carrying large amounts of traffic are closely situated 2 to 4 km northwest of the site. The site is considered to be representative of 24 hour average PM2.5 levels within a 20 km radius (Goswami 2002).

Table 2-2. Text Descriptions of the 2005 Hexavalent Chromium Monitoring Sites (Continued)

2005 Site Code	Monitoring Site Location	Land Use	Location Setting	Estimated Traffic (# vehicles)	Traffic Year Estimate	Description of the Immediate Surroundings
SIAL	Sloss Industries, Birmingham, AL	Residential	Urban	2,700	1993	This SPM neighborhood scale site (located between North Birmingham and Tarrant) has been in operation since 1994. It was established as an environmental justice site to monitor the emissions of a slag wool plant and a coke plant and is located next door to several residences in a residential area directly across the street from the plants.
SYFL	**Sydney in Plant City, FL**	Residential	Rural	5,142	2002	The site in Sydney is a NATTS neighborhood/rural site. Monitoring has been occurring at Sydney for 5 years as a background site. Current development in the area warranted it becoming a NATTS site. The Sydney site is also being used for an intercomparison of the port of Tampa as compared to a neighbor/rural site.
UNVT	**Underhill, VT**	Forest	Rural	1,000	1999	The Underhill monitoring site is in a rural area, about 20 miles east of Burlington, VT. The site is at the base of Mount Mansfield, a remote field surrounded by forest.
WADC	Washington, D.C.	Commercial	Urban	75,800	1991	WADC is located in an open field at the southeast of end of the McMillian Water Reservoir in Washington, D.C. It is also located near several heavily traveled roadways. The site is surrounded by a hospital, a cemetery, and a university. WADC is a PAMS site.
WETX	Webberville Road in Austin, TX	Residential	Urban	5,733	2003	The WETX site is located in a parking lot near the intersections of Webberville Rd and Northwestern Ave and Webberville Rd and Pedermales St. Railroad tracks run parallel with Northwestern Ave. The site was selected for an emphasis on a variety of factors: upwind of industrial facilities, population density (weighed heavily), and mobile source traffic (this location is fairly close to I-35 north—south corridor through Austin into Round Rock).

BOLD = EPA-designated National Air Toxics Trend System (NATTS) site.

Table 2-3. Site Descriptions for the 2005 Hexavalent Chromium Monitoring Sites

2005 Site Code	AQS Site Code	County	Population Residing Within 10 Miles of the Monitoring Site [a]	County-level Stationary Source Emissions[b] (tpy)		Closest National Weather Service Station
				Total Chromium	Hexavalent Chromium[c]	
BOMA	25-025-0042	Suffolk County, MA	1,589,367	0.03	NR	General Logan Int'l. Airport
BTUT	49-011-0004	Davis County, UT	243,462	0.06	NR	Salt Lake City International
BURVT	50-007-0014	Chittenden County, VT	113,941	0.01	4.5E-03	Burlington International Airport
CHSC	45-025-0001	Chesterfield County, SC	38,990	0.27	9.7E-05	Monroe Airport
DEMI	26-163-0033	Wayne County, MI	1,201,847	0.66	2.4E-03	Detroit Metropolitan Airport
ETAL	01-073-0028	Jefferson County, AL	399,149	2.25	0.42	Birmingham Int'l Airport
GPCO	08-077-0018	Mesa County, CO	106,900	0.02	8.0E-03	Walker Field Airport
GPMS	28-047-0008	Harrison County, MS	172,653	0.22	NR	Gulfport/Biloxi Regional Airport
HAKY	21-193-0003	Perry County, KY	31,585	8.3E-04	NR	Julian Carroll Airport
LAOR	41-061-0119	Union County, OR	16,050	0.01	1.8E-03	La Grande/Union County Airport
MVWI	55-027-0007	Dodge County, WI	24,497	0.02	6.9E-06	West Bend Municipal Airport
NBAL	01-073-0023	Jefferson County, AL	394,649	2.25	0.42	Birmingham Int'l Airport
NBIL	17-031-4201	Cook County, IL	883,969	4.90	0.47	Palwaukee Municipal Airport

Table 2-3. Site Descriptions for the 2005 Hexavalent Chromium Monitoring Sites (Continued)

2005 Site Code	AQS Site Code	County	Population Residing Within 10 Miles of the Monitoring Site [a]	County-level Stationary Source Emissions[b] (tpy)		Closest National Weather Service Station
				Total Chromium	Hexavalent Chromium[c]	
PRRI	44-007-0022	Providence County, RI	677,860	0.12	1.0E-04	Theodore F. Green State Airport
PVAL	01-073-1009	Jefferson County, AL	28,665	2.25	0.42	Tuscaloosa Municipal Airport
S4MO	29-510-0085	St. Louis City, MO	822,941	0.31	NR	St. Louis Downtown Airport
SDGA	13-089-0002	DeKalb County, GA	720,699	0.38	NR	W.B. Hartfield/Atlanta International Airport
SEWA	53-033-0080	King County, WA	899,122	0.35	NR	Boeing Field/King County International Airport
SIAL	01-073-6004	Jefferson County, AL	394,649	2.25	0.42	Birmingham Int'l Airport
SYFL	12-057-3002	Hillsborough County, FL	259,538	0.75	NR	Winter Haven's Gilbert Airport
UNVT	50-007-0007	Chittenden County, VT	33,401	0.01	4.5E-03	Morrisville-Stowe State Airport
WADC	11-001-0043	Washington, D.C.	1,844,583	0.01	NR	Ronald Reagan Washington National Airport
WETX	48-453-7000	Travis County, TX	666,062	0.07	NR	Austin-Bergstrom Int'l Airport

[a] Reference: http://zipnet.htm
[b] Reference: 2002 National Emissions Inventory (NEI). U.S. EPA, 2006c
[c] NR = Not reported in the 2002 NEI

Table 2-4. Sampling Schedules and Completeness

2005 Site Code	Monitoring Location	Sampling Period		Hexavalent Chromium		
		Start Date	End Date	Valid Samples	Total Samples	Percent Completeness (%)
BOMA	Boston, MA	1/10/05	12/30/05	59	59	100
BTUT	Bountiful, UT	1/16/05	12/30/05	57	59	97
BURVT	Burlington, VT	1/22/05	12/30/05	55	57	96
CHSC	Chesterfield, SC	1/16/05	12/30/05	55	59	93
DEMI	Dearborn in Detroit, MI	1/10/05	12/30/05	53	60	88
ETAL	East Thomas in Birmingham, AL	7/15/05	12/30/05	15	16	94
GPCO	Grand Junction, CO	1/10/05	12/30/05	59	60	98
GPMS	Gulfport, MS	10/7/05	12/31/05	84	86	98
HAKY	Hazard, KY	1/11/05	12/30/05	58	59	98
LAOR	La Grande, OR	1/10/05	12/30/05	56	59	95
MVWI	Mayville, WI	3/17/05	12/30/05	48	49	98
NBAL	North Birmingham, AL	7/15/05	12/30/05	16	16	100
NBIL	Northbrook in Chicago, IL	1/11/05	12/24/05	55	59	93
PRRI	Providence, RI	1/16/05	12/30/05	58	59	98
PVAL	Providence in Birmingham, AL	7/15/05	12/30/05	14	16	88
S4MO	St. Louis, MO	1/28/05	12/30/05	53	54	98
SDGA	Decatur, GA	2/27/05	12/30/05	49	50	98

Table 2-4. Sampling Schedules and Completeness (Continued)

2005 Site Code	Monitoring Location	Sampling Period		Hexavalent Chromium		
		Start Date	End Date	Valid Samples	Total Samples	Percent Completeness (%)
SEWA	Seattle, WA	1/10/05	12/30/05	59	60	98
SIAL	Sloss Industries in Birmingham, AL	7/15/05	12/30/05	16	16	100
SYFL	Sydney in Plant City, FL	1/16/05	12/30/05	57	59	97
UNVT	Underhill, VT	1/10/05	12/30/05	56	60	93
WADC	Washington, D.C.	3/17/05	12/30/05	48	49	98
WETX	Webberville Rd, Austin, TX	6/27/05	12/24/05	14	17	82
Overall				**1,094**	**1,138**	**96**

3.0 Summary of the 2005 Hexavalent Chromium Data

This section summarizes the data gathered during the 2005 hexavalent chromium monitoring effort. Complete presentations of the data are found in Appendices C and D, as follows:

- Appendix C: 2005 Hexavalent Chromium Raw Monitoring Data;
- Appendix D: 2005 Statistical Summary Table for Hexavalent Chromium Monitoring.

The raw data tables in Appendix C were uploaded into a database for air quality statistical characterization. To better understand the following sections, it is important to know how the concentration data were treated. All collocated samples were averaged in order to calculate one hexavalent chromium concentration for each sample day at each site. If one sampler at a collocated site did not detect hexavalent chromium, but the other sampler did, the detected concentration was retained for that site and date.

3.1 Statistical Characterization

A total of 1,153 hexavalent chromium concentrations (including collocated samples) were collected at the 22 sites in 2005. Samples from the site commissioned to the Hurricane Katrina monitoring effort (GPMS) account for an additional 95 concentrations.

3.1.1 Central Tendency

Table 3-1 presents the hexavalent chromium central tendency statistics of arithmetic mean, geometric mean, median, and mode. Three types of arithmetic concentration averages are presented in this report. The ***daily*** average is simply the average concentration of all detects. If there are at least seven detects within each season, then a ***seasonal*** average can be calculated. The seasonal average includes one-half MDLs substituted for all non-detects. A seasonal average will not be calculated for sites with less than seven detects in a respective season. The spring season includes concentrations from March, April, and May; summer includes June, July, and August; autumn includes September, October, and November; and winter includes December, January, and February. Finally, an ***annual*** average is the average concentration of all detects and one-half MDLs substituted for non-detects. Annual averages are calculated only for

monitoring sites where sampling began no later than February and ended no earlier than November. Note that the annual averages will always be equal to or less than the daily average due to the inclusion of one-half MDLs for non-detects. Each of these arithmetic means is presented in Table 3-1.

The sites with the top three daily average mass concentrations as presented in Table 3-1 are BOMA (0.071 ± 0.017 ng/m^3), DEMI (0.066 ± 0.009 ng/m^3), and BURVT (0.062 ± 0.012 ng/m^3). The three highest annual averages were calculated at DEMI (0.057 ± 0.009 ng/m^3), BOMA (0.057 ± 0.015 ng/m^3), and BURVT (0.053 ± 0.011 ng/m^3). Conversely, the lowest daily average was observed at PVAL (0.016 ± 0.007 ng/m^3), but an annual average could not be calculated for the site. The lowest annual average was calculated for LAOR (0.015 ± 0.009 ng/m^3). Eight sites do not have valid annual averages due to shortened sampling seasons:

- ETAL;
- GPMS;
- MVWI;
- NBAL;
- PVAL;
- SIAL;
- WADC; and
- WETX.

Table 3-1 also presents seasonal averages by site and Figure 3-1 is a graphical display of the average hexavalent chromium concentration by season. Some sites, such as BOMA and SEWA, frequently detected hexavalent chromium year-round. Other sites, such as CHSC and UNVT, rarely detected hexavalent chromium enough to calculate all four of the seasonal averages. Sites for which no valid seasonal averages were calculated (ETAL, LAOR, NBAL, PVAL, SIAL, and WETX) are not included in Figure 3-1. With the exception of UNVT, every program site has a valid summer average for hexavalent chromium. Note that GPMS, which did not begin sampling until October, is a special monitoring site related to Hurricane Katrina, and

thus is not a program site. For the sites with at least three valid seasonal averages, the summer seasonal average most frequently exhibited the highest average concentration.

Geometric mean, median, and mode are also presented in Table 3-1. Median is the middle concentration value of an ordered dataset. The median can be compared to the minimum and maximum concentrations to see how the range of values varies. Mode is the concentration that appears the most frequently in a dataset. Several of the modes are "NA" in Table 3-1, indicating that no particular value appears most frequently. The geometric mean is similar to the arithmetic mean (or average) except that the product of the concentrations is divided by the n^{th} root of the number of the values rather than the sum of the values divided by the total number of values. The geometric mean is always less than the arithmetic mean of a dataset, and tends to be influenced less by outliers. The daily average (or average of detected concentrations) and geometric mean for BOMA best illustrates this difference. Although BOMA exhibited the highest daily average (0.071 ng/m^3), BOMA's geometric mean ranked second highest (0.055 ng/m^3) behind DEMI (0.058 ng/m^3).

3.1.2 Data Distribution

Data distribution statistics, including the number of detects, minimum, maximum, first and third quartiles, standard deviation, and coefficient of variation, are presented in Table 3-2. One concentration exceeded 1 ng/m^3, which was measured at WADC (2.97 ng/m^3). This concentration is an order of magnitude higher than any other measurement recorded at a hexavalent chromium site. As a result of this concentration falling outside the distribution range, it was not included in the central tendency calculations presented in Section 3.1.1 and Table 3-1 and will not be included in the remaining statistical characterizations. Only four concentrations exceeded 0.25 ng/m^3, while over 96 percent of the concentrations measured were less than 0.10 ng/m^3. Although GPMS measured the greatest number of detects (53), SEWA measured the greatest number of detects among program sites (51). Approximately 62 percent of the measured concentrations were above the MDL.

The 1st and 3rd quartiles represent the 25th and 75th percentile of the measured concentrations, and is also called the interquartile range (IQR). The IQR presented in these columns show the variability across the 23 sites. However, it is important to remember that these values are less than or equal to 0.1 ng/m^3. The standard deviation represents the amount of variation in a data set. The highest standard deviation was calculated for LAOR (0.060).

The coefficient of variation provides a relative measure of variability by expressing variations to the magnitude of the arithmetic mean. This analysis is best suited for comparing variability across data distributions for different sites and/or pollutants. Figure 3-2 is a graphical display of each site's standard deviation versus average hexavalent chromium concentration. The coefficients of variation are generally clustered together, indicating little variability among most of the sites.

3.2 Risk Characterization

Risk due to exposures to hexavalent chromium was evaluated in several ways, and are presented in this section.

3.2.1 Risk Screening Approach

Each 24-hour speciated hexavalent chromium measurement was compared against its corresponding screening value, as compiled by an EPA risk screening guidance document (U.S. EPA, 2006d). The purpose of this guidance document is to provide a risk-based methodology for performing an initial screen of ambient air toxics monitoring data sets. Concentrations that are greater than the screening value are described as "failing the screen." A total of 68 of 674 applicable concentrations (10.1 percent) failed the screen. Table 3-3 summarizes the hexavalent chromium concentrations that failed screens, as well as the total number of detects and percentage failed for each site. BOMA had the highest number of failed screens (over 30 percent of it's detects failed screens) while three sites, BTUT, ETAL, and PVAL, had no failed screens. It is important to note that the number of failed screens presented for WADC in Table 3-3 includes the outlier for WADC.

3.2.2 Non-Chronic Risk

In addition to the risk screening described above, non-chronic risk was evaluated. Acute risk is defined as exposures from one to 14 days, while intermediate risk is defined as exposures from 15 to 364 days. At this time, acute risk factors for hexavalent chromium are not available and short-term risk could not be assessed. However, intermediate risk can be evaluated using the ATSDR Intermediate Minimal Risk Level (MRL) for hexavalent chromium (ATSDR, 2005). It is useful to compare seasonal averages to the Intermediate MRL.

Table 3-4 presents a summary of the hexavalent chromium intermediate risk analysis. None of the seasonal average concentrations exceeded the ATSDR Intermediate MRL for hexavalent chromium and were all several orders of magnitude lower. Several averages for the four Alabama sites, LAOR, and WETX were not calculated due to the definition of a seasonal average.

3.2.3 Chronic Risk

Chronic risk applies to long-term (1+ years) exposure. The cancer unit risk estimate (URE) and noncancer reference concentration (RfC) are applied to each site's annual average (if available) to calculate cancer and noncancer risk estimates. Although cancer risk is theoretical, it is described as an estimate of the number of people that may develop cancer per million people as a result of lifetime exposure. The URE is the concentration that equates to a one in-a-million cancer risk. Noncancer risk (also theoretical) is presented as a hazard quotient (HQ), where an HQ greater than one indicates a higher likelihood of an adverse health effect (such as respiratory illnesses) occurring as a result of lifetime exposure. The RfC is the concentration that equates to an HQ that can lead to an adverse noncancer health effect. Table 3-5 presents the chronic (lifetime) exposure risk estimates based on the annual averages calculated for this report. Sites without valid annual averages have no associated chronic risk calculations.

As presented in Table 3-5, none of the cancer risks associated with long-term hexavalent chromium exposures are greater than one in-a-million. Only DEMI, BOMA, BURVT, and SEWA exhibited calculated theoretical chronic cancer risks greater than 0.50 in-a-million (0.69,

0.68, 0.63, and 0.58, respectively). All of the noncancer HQs in Table 3-5 are several orders in magnitude below 1.0, with the highest HQ (5.7E-04) calculated for DEMI.

3.2.4 NATA Comparison

In February 2006, the EPA released the results of its NATA for base year 1999 (U.S. EPA, 2006a). NATA uses the NEI for hazardous air pollutants (HAPs) as its starting point, but also incorporates ambient monitoring data, geographic information, and chemical/physical transformation information to model ambient concentrations at the census tract level. Similar to the chronic risk calculations in Section 3.2.4, these concentrations are then applied to cancer URE and noncancer RfC factors to yield census tract-level theoretical cancer and noncancer risk. NATA is a useful resource in helping federal and state/local/tribal agencies identify potential areas of air quality concern. Nationwide, the top five counties for hexavalent chromium cancer risk are: Licking County, OH (105.83 in-a-million); Richmond City, VA (86.95); Washington County, MS (72.73); Howard County, AR (69.07); and Copiah County, MS (62.94).

Table 3-5 also presents the 1999 NATA results for the census tracts where the hexavalent chromium monitoring sites are located. Each site's respective census tract is identified and the population that resides in each census tract is provided. Additionally, the NATA-modeled cancer and noncancer risk associated with hexavalent chromium at each site also is presented in Table 3-5. Finally, the 1999 NATA-modeled hexavalent chromium concentration is presented for comparison to the annual averages. NATA-modeled concentrations are assumed to be the average concentration that a person breathed for an entire year. Although EPA does not recommend comparing concentrations from different base years, it is useful to see if the concentration profile is similar.

According to the 1999 NATA results, the top five program sites ranked by census tract risk for cancer and noncancer were at SEWA, S4MO, DEMI, PRRI, and NBAL. By comparison, the 2005 calculated cancer and noncancer risks for DEMI, SEWA, and S4MO ranked 1st, 4th, and 5th. All of the NATA-modeled concentrations and risks were within an order of magnitude of

each other suggesting very good agreement between the modeled and measured concentration values.

Figure 3-1. Comparison of Average Seasonal Hexavalent Chromium Concentrations

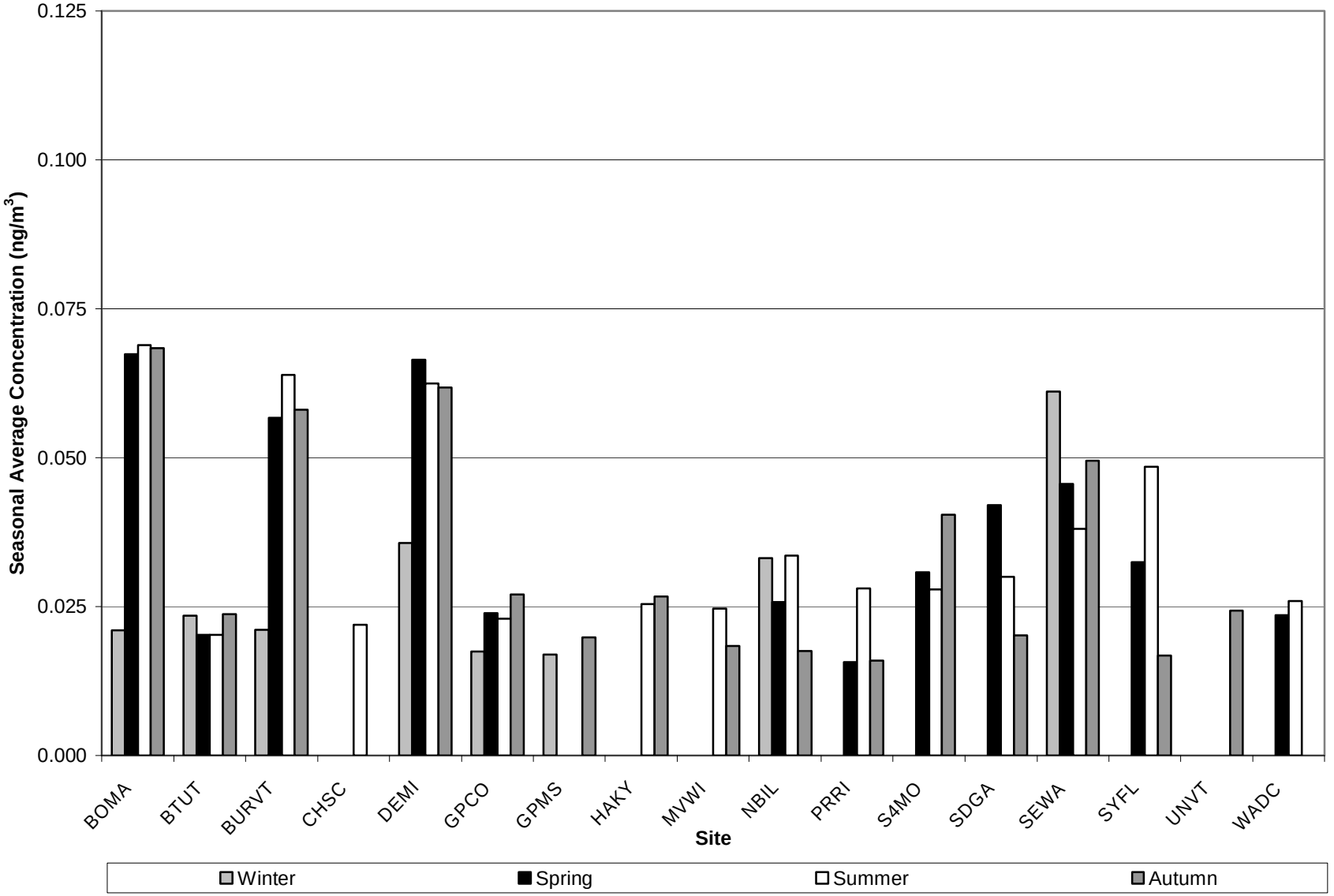


Figure 3-2. Coefficient of Variation Analysis Across 23 Sites

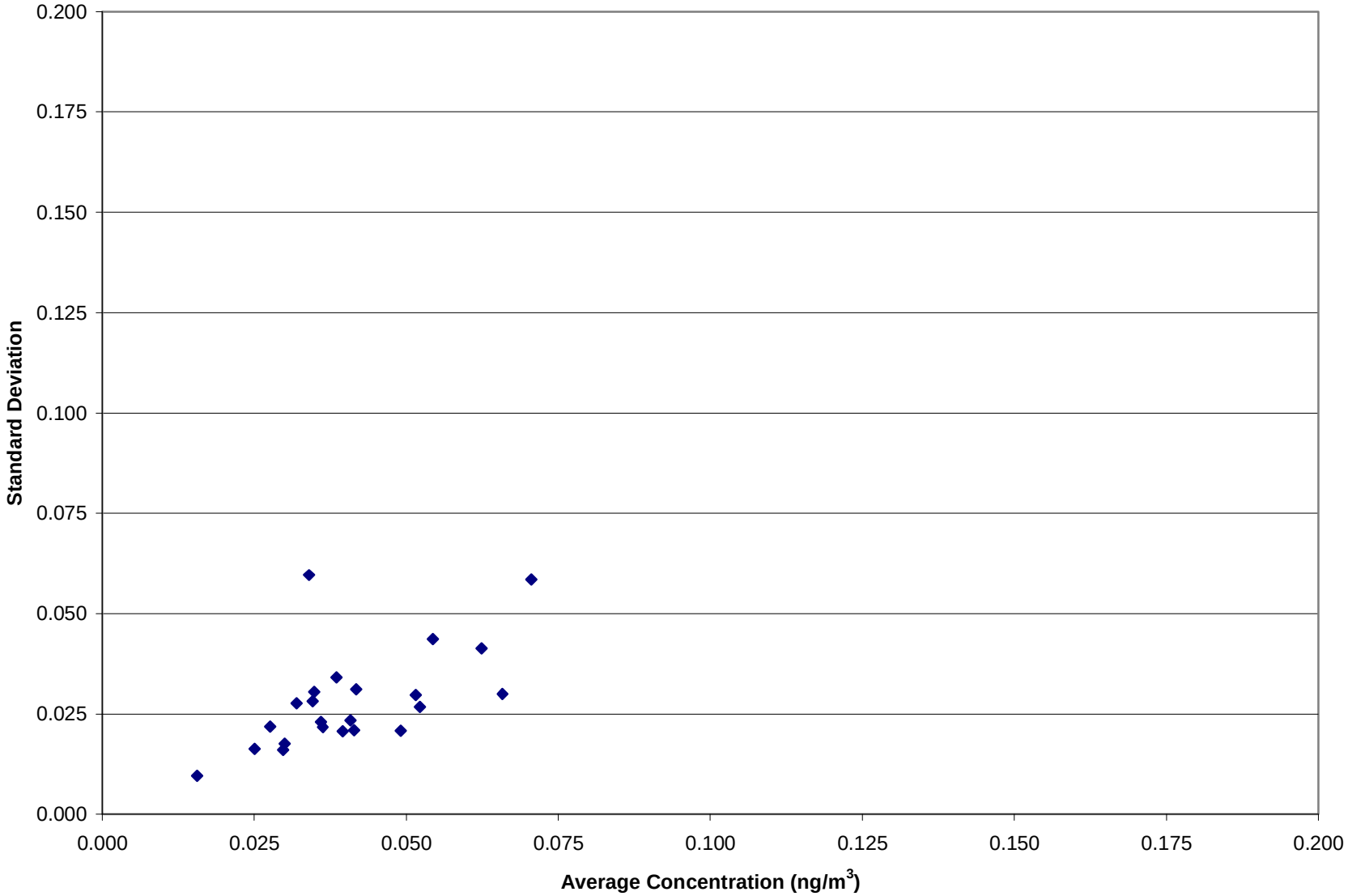


Table 3-1. Hexavalent Chromium Central Tendency Summary

2005 Site Code	Daily Average (ng/m^3)	Annual Average (ng/m^3)	Winter Average (ng/m^3)	Spring Average (ng/m^3)	Summer Average (ng/m^3)	Autumn Average (ng/m^3)	Mode (ng/m^3)	Median (ng/m^3)	Geometric Mean (ng/m^3)
BOMA	0.071 ± 0.017	0.057 ± 0.015	0.021 ± 0.006	0.067 ± 0.028	0.069 ± 0.033	0.068 ± 0.030	0.151	0.048	0.055
BTUT	0.030 ± 0.005	0.022 ± 0.004	0.023 ± 0.011	0.020 ± 0.008	0.020 ± 0.008	0.024 ± 0.009	0.018	0.027	0.025
BURVT	0.062 ± 0.012	0.053 ± 0.011	0.021 ± 0.009	0.057 ± 0.019	0.064 ± 0.020	0.058 ± 0.025	0.114	0.054	0.046
CHSC	0.035 ± 0.012	0.019 ± 0.006	NA	NA	0.022 ± 0.008	NA	0.011	0.024	0.027
DEMI	0.066 ± 0.009	0.057 ± 0.009	0.036 ± 0.014	0.066 ± 0.020	0.062 ± 0.020	0.062 ± 0.012	NA	0.066	0.058
ETAL	0.049 ± 0.012	NA	NA	NA	NA	NA	NA	0.041	0.045
GPCO	0.030 ± 0.005	0.023 ± 0.004	0.017 ± 0.007	0.024 ± 0.008	0.023 ± 0.008	0.027 ± 0.011	NA	0.028	0.025
GPMS	0.025 ± 0.004	NA	0.017 ± 0.005	NA	NA	0.020 ± 0.004	0.019	0.019	0.021
HAKY	0.036 ± 0.009	0.020 ± 0.005	NA	NA	0.025 ± 0.013	0.027 ± 0.012	NA	0.029	0.031
LAOR	0.034 ± 0.027	0.015 ± 0.009	NA	NA	NA	NA	0.005	0.017	0.018
MVWI	0.032 ± 0.011	NA	NA	NA	0.025 ± 0.016	0.018 ± 0.009	NA	0.022	0.025
NBAL	0.052 ± 0.017	NA	NA	NA	NA	NA	NA	0.051	0.043
NBIL	0.036 ± 0.007	0.027 ± 0.006	0.033 ± 0.019	0.026 ± 0.011	0.034 ± 0.011	0.018 ± 0.005	0.023	0.031	0.031
PRRI	0.028 ± 0.007	0.019 ± 0.005	NA	0.016 ± 0.006	0.028 ± 0.016	0.016 ± 0.006	0.013	0.023	0.022
PVAL	0.016 ± 0.007	NA	NA	NA	NA	NA	NA	0.019	0.012
S4MO	0.041 ± 0.006	0.033 ± 0.006	NA	0.031 ± 0.011	0.028 ± 0.009	0.040 ± 0.013	0.023	0.039	0.037
SDGA	0.040 ± 0.007	0.030 ± 0.006	NA	0.042 ± 0.015	0.030 ± 0.012	0.020 ± 0.008	0.046	0.040	0.035
SEWA	0.054 ± 0.012	0.048 ± 0.011	0.061 ± 0.032	0.046 ± 0.018	0.038 ± 0.015	0.049 ± 0.021	0.024	0.042	0.041
SIAL	0.052 ± 0.016	NA	NA	NA	NA	NA	NA	0.044	0.047
SYFL	0.042 ± 0.011	0.027 ± 0.007	NA	0.032 ± 0.017	0.048 ± 0.019	0.017 ± 0.006	NA	0.032	0.033
UNVT	0.035 ± 0.013	0.017 ± 0.005	NA	NA	NA	0.024 ± 0.012	NA	0.028	0.025
WADC	0.039 ± 0.013	NA	NA	0.024 ± 0.011	0.026 ± 0.011	NA	0.064	0.025	0.030
WETX	0.041 ± 0.013	NA	NA	NA	NA	NA	NA	0.035	0.036

Table 3-2. Hexavalent Chromium Statistical Distribution Summary

2005 Site Code	# Detects	Minimum (ng/m^3)	Maximum (ng/m^3)	First Quartile (ng/m^3)	Third Quartile (ng/m^3)	Standard Deviation (ng/m^3)	Coefficient of Variation
BOMA	46	0.017	0.269	0.035	0.086	0.059	0.829
BTUT	38	0.004	0.079	0.019	0.038	0.016	0.541
BURVT	45	0.003	0.147	0.030	0.100	0.041	0.662
CHSC	22	0.006	0.147	0.016	0.043	0.030	0.873
DEMI	45	0.006	0.146	0.042	0.081	0.030	0.455
ETAL	11	0.018	0.081	0.035	0.065	0.021	0.424
GPCO	40	0.002	0.095	0.017	0.039	0.018	0.586
GPMS	53	0.003	0.083	0.014	0.031	0.016	0.650
HAKY	25	0.011	0.103	0.024	0.044	0.023	0.638
LAOR	17	0.005	0.256	0.012	0.023	0.060	1.753
MVWI	23	0.008	0.132	0.017	0.036	0.028	0.864
NBAL	11	0.016	0.100	0.024	0.076	0.030	0.575
NBIL	37	0.006	0.112	0.023	0.050	0.022	0.599
PRRI	34	0.006	0.119	0.017	0.034	0.022	0.789
PVAL	7	0.004	0.026	0.007	0.023	0.010	0.609
S4MO	39	0.015	0.109	0.025	0.050	0.021	0.503
SDGA	35	0.010	0.116	0.023	0.049	0.021	0.522
SEWA	51	0.010	0.224	0.023	0.075	0.044	0.802
SIAL	9	0.029	0.104	0.034	0.047	0.027	0.512
SYFL	32	0.007	0.134	0.020	0.047	0.031	0.745
UNVT	18	0.005	0.101	0.012	0.049	0.028	0.816
WADC	25	0.010	0.173*	0.021	0.042	0.034	0.887
WETX	11	0.016	0.100	0.026	0.049	0.023	0.571

* The maximum concentration shown for WADC does not include the outlier 2.97 ng/m^3, measured on August 20, 2005

Table 3-3. Summary of Failed Screens

2005 Site Code	Failed Screens	# Detects	% Failed
BOMA	14	46	30.43
BTUT	0	38	0.00
BURVT	13	45	28.89
CHSC	1	22	4.55
DEMI	11	45	24.44
ETAL	0	11	0.00
GPCO	1	40	2.50
GPMS	1	53	1.89
HAKY	2	25	8.00
LAOR	1	17	5.88
MVWI	1	23	4.35
NBAL	1	11	9.09
NBIL	1	37	2.70
PRRI	1	34	2.94
PVAL	0	7	0.00
S4MO	2	39	5.13
SDGA	1	35	2.86
SEWA	8	51	15.69
SIAL	2	9	22.22
SYFL	3	32	9.38
UNVT	1	18	5.56
WADC	2*	25	8.00
WETX	1	11	9.09
Total	**68**	**674**	**10.10**

*Includes outlier for WADC

Table 3-4. Summary of Intermediate Risk

2005 Site Code	ATSDR Intermediate-term MRL (ng/m^3)	Winter Average (ng/m^3)	Spring Average (ng/m^3)	Summer Average (ng/m^3)	Autumn Average (ng/m^3)
BOMA	1,000	0.021 ± 0.006	0.067 ± 0.028	0.069 ± 0.033	0.068 ± 0.030
BTUT	1,000	0.023 ± 0.011	0.020 ± 0.008	0.020 ± 0.008	0.024 ± 0.009
BURVT	1,000	0.021 ± 0.009	0.057 ± 0.019	0.064 ± 0.020	0.058 ± 0.025
CHSC	1,000	NA	NA	0.022 ± 0.008	NA
DEMI	1,000	0.036 ± 0.014	0.066 ± 0.020	0.062 ± 0.020	0.062 ± 0.012
ETAL	1,000	NA	NA	NA	NA
GPCO	1,000	0.017 ± 0.007	0.024 ± 0.008	0.023 ± 0.008	0.027 ± 0.011
GPMS	1,000	0.017 ± 0.005	NA	NA	0.020 ± 0.004
HAKY	1,000	NA	NA	0.025 ± 0.013	0.027 ± 0.012
LAOR	1,000	NA	NA	NA	NA
MVWI	1,000	NA	NA	0.025 ± 0.016	0.018 ± 0.009
NBAL	1,000	NA	NA	NA	NA
NBIL	1,000	0.033 ± 0.019	0.026 ± 0.011	0.034 ± 0.011	0.018 ± 0.005
PRRI	1,000	NA	0.016 ± 0.006	0.028 ± 0.016	0.016 ± 0.006
PVAL	1,000	NA	NA	NA	NA
S4MO	1,000	NA	0.031 ± 0.011	0.028 ± 0.009	0.040 ± 0.013
SDGA	1,000	NA	0.042 ± 0.015	0.030 ± 0.012	0.020 ± 0.008
SEWA	1,000	0.061 ± 0.032	0.046 ± 0.018	0.038 ± 0.015	0.049 ± 0.021
SIAL	1,000	NA	NA	NA	NA
SYFL	1,000	NA	0.032 ± 0.017	0.048 ± 0.019	0.017 ± 0.006
UNVT	1,000	NA	NA	NA	0.024 ± 0.012
WADC	1,000	NA	0.024 ± 0.011	0.026 ± 0.011	NA
WETX	1,000	NA	NA	NA	NA

Table 3-5. Summary of Hexavalent Chromium Chronic (Lifetime) Risk

2005 Site Code	Annual Average (ng/m^3)	Calculated Cancer Risk	Calculated Noncancer HQ	Census Tract ID	Tract Population	NATA-Modeled Concentration (ng/m^3)	NATA-Modeled Cancer Risk	NATA-Modeled Noncancer HQ
BOMA	0.057 ± 0.015	0.68	5.70E-04	25025080400	723	0.045	0.54	4.49E-04
BTUT	0.022 ± 0.004	0.26	2.18E-04	49011126600	5,116	0.057	0.68	5.69E-04
BURVT	0.053 ± 0.011	0.63	5.26E-04	50007000500	3,935	0.019	0.23	1.91E-04
CHSC	0.019 ± 0.006	0.23	1.92E-04	45025950800	2,492	0.019	0.23	1.88E-04
DEMI	0.057 ± 0.009	0.69	5.73E-04	26163573500	5,214	0.138	1.65	1.38E-03
ETAL	NA	NA	NA	01073001200	3,603	0.076	0.91	7.55E-04
GPCO	0.023 ± 0.004	0.28	2.31E-04	08077000800	5,845	0.003	0.03	2.73E-05
GPMS	NA	NA	NA	28047001700	6,200	0.026	0.31	2.61E-04
HAKY	0.020 ± 0.005	0.24	2.02E-04	21193970400	4,359	0.002	0.03	2.42E-05
LAOR	0.015 ± 0.009	0.17	1.45E-04	41061970500	3,352	0.007	0.09	7.14E-05
MVWI	NA	NA	NA	55027961400	4,065	0.006	0.07	5.99E-05
NBAL	NA	NA	NA	01073000800	5,387	0.090	1.08	9.04E-04
NBIL	0.027 ± 0.006	0.32	2.70E-04	17031801500	6,227	0.062	0.74	6.16E-04
PRRI	0.019 ± 0.005	0.22	1.87E-04	44007000400	3,660	0.117	1.41	1.17E-03
PVAL	NA	NA	NA	01073014102	5,132	0.055	0.66	5.51E-04
S4MO	0.033 ± 0.006	0.39	3.27E-04	29510109700	4,016	0.195	2.34	1.95E-03
SDGA	0.030 ± 0.006	0.36	3.00E-04	13089023404	9,033	0.040	0.48	3.96E-04
SEWA	0.048 ± 0.011	0.58	4.81E-04	53033010000	8,139	0.621	7.46	6.21E-03
SIAL	NA	NA	NA	01073005500	2,689	0.083	1.00	8.34E-04
SYFL	0.027 ± 0.007	0.32	2.69E-04	12057012204	4,362	0.083	1.00	8.30E-04
UNVT	0.017 ± 0.005	0.21	1.72E-04	50007002900	6,037	0.002	0.02	1.96E-05
WADC	NA	NA	NA	11001003301	2,707	0.032	0.38	3.15E-04
WETX	NA	NA	NA	48453000802	3,356	0.015	0.18	1.49E-04

4.0 Meteorological and Spatial Analysis

Both meteorology and the spatial distribution of emission sources in and around a specific location are key elements affecting air quality. These two factors are predominantly independent of each other, yet act as influences on each other with respect to air quality. These two factors are explored and analyzed further in the following sections.

4.1 Meteorological Analysis

Meteorology plays an important role in air quality. For example, high temperatures can speed up the kinetics of chemical reactions in the atmosphere; precipitation can help wash pollutants out of the atmosphere; and stagnant conditions may allow pollutants to build up in the atmosphere. Because of this impact on air quality, some typical meteorological characteristics near each monitoring site are presented and how some of these meteorological factors may influence air quality at specific locations are explored.

Hourly meteorological data at the National Weather Service (NWS) station nearest each site were retrieved for all of 2005. These data are used to determine how meteorological conditions on sample days vary from normal conditions throughout the year. The data are also used to construct graphical representations of typical weather (specifically, wind) conditions. They are also used to calculate correlations of meteorological data with ambient air concentration measurements. The weather station closest to each hexavalent chromium monitoring site is presented earlier in Table 2-3.

4.1.1 Averages

Table 4-1 presents the average meteorological conditions of temperature (maximum and average), moisture (dew point temperature, wet bulb temperature, and relative humidity), pressure (sea level), and wind information (u- and v-components) for the entire year and on days samples were taken. The annual averages vary by site and geographical region as the hexavalent chromium monitoring sites are located in high and low elevations, high and low latitudes, continental and sub-tropical locations, coastal and plains regions, and mixed land usages (urban, rural, suburban), all of which play a factor in a site's meteorological characteristics.

The average meteorological conditions on sample days are fairly representative of average weather conditions throughout the year. Some exceptions to this include the Alabama sites, GPMS, MVWI, SDGA, WADC, and WETX. These sites did not sample year-round.

4.1.2 Wind Roses

In this analysis, wind roses were constructed for each site to help identify the predominant direction from which the wind blows. A wind rose shows the frequency of wind directions about a 16-point compass, and uses color or shading to represent wind speeds. Wind roses are constructed by uploading hourly wind data from the nearest NWS station into a wind rose software program, WRPLOT (Lakes, 2006). A wind rose is often used in determining where to put an ambient monitoring site when trying to capture emissions from an upwind source. A wind rose may also be useful in determining whether high concentrations correlate with a specific wind direction. The wind rose shows the frequency at which wind speed and direction are measured near a monitoring site, thereby capturing day-to-day fluctuations of wind speed and direction.

The wind roses for hexavalent chromium monitoring sites on sample days are presented in Appendix F (Figures F-1 through F-23). Some wind roses show that winds originate from a variety of directions throughout the year, while others show a marked predominant wind direction. For example, the wind rose for DEMI shows that winds originated from a variety directions. In contrast, southerly winds are most common near the LAOR monitoring site.

4.1.3 Composite Back Trajectories

A back trajectory analysis traces the origin of an air parcel in relation to the location where it is currently being measured. The method of constructing a back trajectory uses the Lagrangian frame of reference. In simplest terms, an air parcel can be traced back one hour to a new point of reference based on the current measured wind speed and direction. At this new point of reference that is now one hour prior to the previous observation, the wind speed and direction are used again to determine where the air was one hour before. Each time segment is referred to as a Atime step.@ Typical back trajectories go 24 to 48 hours prior using surface and

upper air meteorological observations. Back trajectory calculations are also governed by other meteorological parameters, such as pressure and temperature.

Gridded meteorological data and the model used for back trajectory analyses were prepared and developed by the National Oceanic and Atmospheric Administration (NOAA) (Draxler, 2003 and Rolph, 2003). The model used is the Hybrid Single-Particle Lagrangian Integrated Trajectory (HYSPLIT). Back trajectories were computed beginning at 18Z on each sampling day and then constructed back 24 hours (which matches the 24-hour sample). Composite back trajectory maps were then constructed for sampling days using GIS software. The value of the composite back trajectory maps is the determination of an airshed domain for air originating 24 hours prior to a sampling day. Agencies can use the airshed domain to evaluate regions where long-range transport may affect their monitoring site. Back trajectories do have a limitation. Because each trajectory begins at a pre-determined time (i.e. 18Z), conditions that occur after the start time will not be captured in that trajectory. If there is a wind shift that occurs after 18Z, such as the kind that occurs with frontal passage, the trajectory shown will not capture conditions that occurred after that time.

Understanding Z-Time

"Z time" is also known as Greenwich Mean Time (GMT) and is used as a way to standardize time across the globe. 0Z refers to midnight along the Prime Meridian and increases by 1 for each subsequent hour. Local time corresponding to a specific Z time will vary between four and eight hours behind in the United States depending on time zone and observation of daylight savings time. For example, 18Z on the east coast refers to either 1PM or 2PM, depending on daylight savings time. On the west coast, 18Z refers to either 10AM or 11AM, again depending on the observation of daylight savings time.

The composite back trajectory maps for each of the hexavalent chromium monitoring sites are also presented in Appendix F (Figures F-24 through F-46). Each individual line represents the 24-hour back trajectory along which a parcel of air traveled toward the monitoring site on a sample day. Thickened (or "highlighted") lines correspond to back trajectories for sample days that failed screens (refer back to Section 3.2.1). Chromium emission sources (total and hexavalent), as reported in the 2002 NEI, are plotted around the monitoring site. Each dashed circle around the site represents a one hundred mile distance from the site.

Many of the composite back trajectories show that numerous chromium emission sources are located around the monitoring sites and that trajectories originated from a variety of directions from the sites. Trajectories corresponding to sample days with concentrations that failed screens often pass over one or more chromium sources. However, some of these trajectories are surrounded by similar trajectories corresponding to days that did not have concentrations that failed screens, thus making it difficult to detect if a pattern exists between wind direction and the location of chromium emission sources. One exception to this is WETX. The WETX composite trajectory map shows that the bulk of the trajectories originated from the southeast, where no chromium emissions sources are located within 100 miles of the site. The lone trajectory originating from the southwest of the site passes near several chromium sources and is the only trajectory corresponding to a sample day with a failed screen.

Three sites had greater than 10 failed screens: BOMA (14), BURVT (13), and DEMI (11). The composite back trajectory map for BOMA shows that trajectories originated from a variety of directions, although most commonly from the west and northwest. Trajectories associated with days with failed screens at BOMA originate from south, west, north, and northeast of the site. However, sources of chromium emissions surround the BOMA monitoring site. BURVT had the second highest number of failed screens, but the composite trajectory map shows few chromium emission sources within a 100 mile radius around the site. Many of the trajectories associated with sampling days with failed screens did not pass over any chromium emission sources. DEMI is surrounded by numerous chromium sources and its trajectories originated from a variety of directions. Most of the trajectories associated with sample days with failed screens originated to the southeast, south, or southwest of the site, and passed over several chromium sources. It is important to note that the two highlighted trajectories originating to the east of the site passed over portions of Ontario, Canada, for which no emission inventory is available.

Three sites, PVAL, ETAL, and BTUT did not have any hexavalent chromium concentrations fail screens. As expected, the composite back trajectory maps for PVAL and ETAL look very similar to each other. There are a number of chromium emission sources surrounding the sites, and trajectories originate from a variety of directions about the site. Both

of these sites sampled in a 1-in-12 day sample schedule and only sampled for about half of the year. As a result, relatively few hexavalent chromium samples were taken compared to other nearby sites. For example, NBAL and SIAL each measured a concentration that failed its screen on a day in which PVAL and ETAL did not. The trajectories for ETAL, NBAL, and SIAL show the air parcel passing near three chromium sources, one to the southwest of the sites near the Alabama/Mississippi border, and then the other two just west of the sites. The PVAL map has a similar trajectory, but because the site is further west than the other three, the trajectory does not pass over the same sources.

At BTUT, the back trajectories originated from a variety of directions around the site and flowed over various chromium emission sources. However, no concentrations failed its screen at BTUT.

4.1.4 Pearson Correlations

Pearson correlation coefficients were used to measure the degree of correlation between two variables. By definition, Pearson correlation coefficients always lie between -1 and +1. Three qualification statements may be made:

- A correlation coefficient of -1 indicates a perfectly Anegative@ relationship, indicating that increases in the magnitude of one variable are associated with proportionate decreases in the magnitude of the other variable, and vice versa;
- A correlation coefficient of +1 indicates a perfectly Apositive@ relationship, indicating that the magnitudes of two variables both increase and both decrease proportionately;
- Data that are completely uncorrelated have Pearson correlation coefficients of 0.

Therefore, the sign (positive or negative) and magnitude of the Pearson correlation coefficient indicate the direction and strength, respectively, of data correlations. Generally, correlations greater than 0.75 or less than -0.75 are classified as very strong; correlation between 0.50 and 0.75 and -0.50 and -0.75 are classified as strong; and correlations between 0.25 and 0.50 and -0.25 and -0.50 are classified as moderately strong. Correlations between -0.25 and 0.25 are considered weak. Correlations were calculated from the processed monitoring data in which

each site has just one numerical hexavalent chromium concentration for each successful sampling date to avoid introducing bias.

Ambient air concentration tendencies often correlate favorably with ambient meteorological observations. The following two sections summarize how hexavalent chromium concentrations correlated with five meteorological parameters: average maximum daily temperature; average daily temperature; average daily dew point temperature; average daily wet bulb temperature; and average daily relative humidity.

4.1.4.1 Average Maximum and Average Temperature

Temperature is often a factor in high ambient air concentrations for some pollutants, such as ozone. Temperature helps speed up the kinetics as pollutants react with each other. According to Table 4-2, hexavalent chromium had mostly positive, moderately strong correlations with maximum temperature and average temperature. This indicates that an increase in temperature is often associated with a proportionate increase in concentration. The strongest correlations calculated occurred at PVAL; however, it is important to note that this site had the lowest number of detects for hexavalent chromium. UNVT and DEMI exhibited the next strongest positive correlations with the temperature parameters. SIAL exhibited the strongest negative correlations with maximum and average temperature (-0.42 and -0.43, respectively).

4.1.4.2 Moisture

Three moisture parameters were used in this study for correlation with hexavalent chromium. The *dew point temperature* is the temperature to which moist air must be cooled to reach saturation with respect to water. The *wet bulb temperature* is the temperature to which moist air must be cooled by evaporating water into it at constant pressure until saturation is reached. The *relative humidity* is the ratio of the mixing ratio to its saturation value at the same temperature and pressure (Rogers and Yau, 1989). All three of these parameters provide an indication of how much moisture is in the air. Higher dew point and wet bulb temperatures indicate increasing amounts of moisture in the air, while relative humidity is a measure of saturation (expressed as a percentage). It should be noted that a high dew point and wet bulb

temperature do not necessarily equate to a relative humidity near 100 percent, nor does a relative humidity near 100 percent equate to a high dew point or wet bulb temperature.

As illustrated in Table 4-2, the three moisture parameters also had mostly positive correlations with hexavalent chromium. This indicates that an increase in moisture content is often associated with a proportionate increase in concentration. Similar to the temperature correlations, the strongest correlations calculated with the moisture variables occurred at PVAL. WADC exhibited the next strongest positive correlations with dew point temperature and relative humidity (0.48 and 0.52, respectively), while DEMI exhibited the strongest correlation with wet bulb temperature (0.50). SIAL exhibited the strongest negative correlations with dew point and wet bulb temperature (-0.42 and -0.43, respectively), while UNVT exhibited the strongest negative correlation with relative humidity (-0.47).

4.1.5 Pollution Roses

Pollution roses for each of the hexavalent chromium monitoring sites were created to help identify the geographical area where chromium emission sources may have originated. A pollution rose is a plot of the ambient concentration versus the average unit vector of the wind direction for a specific date; high concentrations are shown in relation to the direction of potential emissions sources. A pollution rose has similar uses as the composite back trajectory map, but the pollution rose allows the reader the additional benefit of visualizing the actual concentration. Two limitations of the pollution rose include: 1) each 24-hour concentration is compared to the average wind direction for a specific date. If there is a wind shift on that date, such as the kind that occur with frontal passage, the wind direction shown might not accurately represent conditions present throughout the day; 2) if winds were calm on a specific day, the concentration is not plotted on the pollution rose.

The pollution roses for the sites are presented in Appendix F (Figures F-47 through F-69). The hexavalent chromium preliminary screening value (0.083 ng/m^3) is plotted on each pollution rose to allow easy identification of concentrations failing its screen. Each pollution rose also presents the site's daily average. It is important to note that the concentration scale is not the same for each pollution rose.

BOMA's pollution rose shows that concentrations exceeding the screening value occurred with a variety of wind directions, although a number of the exceedances occurred with easterly or southerly wind components. The highest concentration recorded occurred on August 14, 2005, with an easterly average wind direction. DEMI's pollution rose shows that exceedances of the screening value primarily occurred with southeasterly, southerly, or southwesterly winds, which correlates well with the composite back trajectory map. The highest concentration recorded at DEMI occurred on April 16, 2005, with southeasterly winds.

Many of the pollution roses show that exceedances of the screening values occurred on days with wind directions where on other days with the same wind direction, the concentrations did not exceed the screening value. Two exceptions are noted. At WETX, on the only day that the wind was out of the south-southwest, the hexavalent chromium concentration exceeded the screening value. At SIAL, on the only day that the wind was out of the west, SIAL's hexavalent chromium concentration exceeded the screening value.

4.2 Spatial Analysis

In an attempt to understand the spatial distribution of hexavalent chromium concentrations, a list of potential emission sources was developed using hexavalent chromium emission estimates from the 2002 NEI. Emissions were summed by Standard Industrial Classification (SIC) code and these data are presented in Table 4-3. This list of SIC codes is assumed to cover the universe of potential hexavalent chromium emission sources**.** Sources from two SICs emit more than 98 percent of the total hexavalent chromium point source emissions: SIC 4911, Electric Power Generation (1.83 tons, 80.24 percent of emissions) and SIC 3471, Plating and Polishing (0.41 tons, 18.13 percent of emissions). Emissions from mobile sources are much lower than stationary sources.

The potential SIC codes were then applied to a nationwide business directory (Phone Disc, 1997), encompassing 14 million businesses by business (or facility) name, street address, city, county, state, and SIC code to create a subset of potential hexavalent emission sources. After retrieving this subset, county-level summaries of the number of potential emission sources

by SIC code were generated. Table 4-4 presents a summary of the total number of emission sources for the 18 counties (22 sites, excluding the county where the Gulfport, MS site commissioned to the Hurricane Katrina monitoring effort is located) where hexavalent chromium sampling took place in 2005. It is important to note that the number of sources presented here includes both large and small (major and non-major) sources. Therefore, the number of chromium sources in Table 4-4 will differ (often dramatically) from those presented in the facility maps in Appendix E.

The five counties with the highest number of potential hexavalent chromium sources are Cook County, IL (6,047 facilities); Wayne County, MI (2,403 facilities); King County, WA (2,255 facilities); St. Louis City (1,426 facilities); and Hillsborough County, FL (1,029 facilities). In comparison, the five monitoring sites (and associated county) with the highest daily hexavalent chromium averages are: BOMA (Suffolk County, MA), DEMI (Wayne County, MI), BURVT (Chittenden County, VT), and SEWA (King County, WA), and SIAL and NBAL (Jefferson County, AL). Only Wayne County, MI and King County, WA are present in both lists. Interestingly, Washington, D.C (where the site with the tenth highest daily average resides) and King County, WA (where the site with the fifth highest daily average resides) are the counties with the highest number of SIC 4911 (Electric Services) sources. The site in the county with the largest number of hexavalent chromium emission sources (NBIL) exhibited the eleventh highest daily average.

Occupational sources of hexavalent chromium exposure may occur in the following industries (ATSDR, 2000b):

- Stainless steel welding;
- Chromate production;
- Chrome plating;
- Ferrochrome industry;
- Chrome pigments;
- Painters;
- Maintenance of copying machines;
- Battery makers;
- Candle makers;
- Printers;
- Rubber makers; and
- Cement workers.

Table 4-1. Average Meteorological Parameters for the Hexavalent Chromium Monitoring Sites

2005 Site Code	WBAN	Type	Average Maximum Temperature (°F)	Average Temperature (°F)	Average Dew Point Temperature (°F)	Average Wet Bulb Temperature (°F)	Average Relative Humidity (%)	Average Sea Level Pressure (mb)	Average *u*-component of the wind	Average *v*-component of the wind
BOMA	14739	All 2005	57.67 ± 1.95	50.98 ± 1.83	39.46 ± 1.97	45.80 ± 1.70	67.38 ± 1.57	1015.62 ± 0.89	2.11 ± 0.63	-0.63 ± 0.56
		Sample Day	58.53 ± 4.64	51.55 ± 4.44	39.96 ± 4.91	46.35 ± 4.19	67.11 ± 3.77	1016.08 ± 2.22	1.67 ± 1.48	-0.29 ± 1.34
BTUT	24127	All 2005	63.50 ± 2.50	53.41 ± 1.82	34.01 ± 0.92	43.52 ± 1.17	55.08 ± 2.03	1015.23 ± 0.79	-0.37 ± 0.29	2.02 ± 0.50
		Sample Day	64.73 ± 5.07	54.14 ± 4.49	33.64 ± 2.04	43.71 ± 2.76	53.57 ± 5.08	1015.50 ± 2.00	-0.42 ± 0.68	1.61 ± 1.16
BURVT	14742	All 2005	55.21 ± 2.28	46.75 ± 2.18	36.17 ± 2.15	41.96 ± 2.01	69.40 ± 1.17	1015.88 ± 0.87	1.04 ± 0.25	0.34 ± 0.52
		Sample Day	57.28 ± 5.65	48.41 ± 5.35	38.39 ± 5.36	43.75 ± 4.95	71.33 ± 3.15	1015.48 ± 2.09	0.71 ± 0.53	0.83 ± 1.19
CHSC	53872	All 2005	70.80 ± 1.60	60.34 ± 1.53	48.42 ± 1.83	54.25 ± 1.52	68.45 ± 1.47	1017.96 ± 0.66	0.53 ± 0.39	-0.70 ± 0.38
		Sample Day	71.12 ± 4.13	60.34 ± 3.86	48.49 ± 4.57	54.25 ± 3.79	68.97 ± 3.96	1017.75 ± 1.73	0.62 ± 1.01	-0.71 ± 1.00
DEMI	94847	All 2005	58.86 ± 2.25	50.84 ± 2.07	39.75 ± 1.90	45.36 ± 1.84	68.75 ± 1.21	1016.78 ± 0.76	1.87 ± 0.49	0.19 ± 0.49
		Sample Day	59.10 ± 5.77	50.89 ± 5.27	39.82 ± 4.96	45.45 ± 4.75	68.63 ± 2.76	1016.53 ± 1.87	1.95 ± 1.09	0.38 ± 1.20
ETAL	13876	All 2005	73.01 ± 1.50	63.18 ± 1.48	51.64 ± 1.71	56.98 ± 1.45	69.45 ± 1.29	1017.67 ± 0.57	-0.01 ± 0.36	-0.20 ± 0.37
		Sample Day	77.06 ± 6.55	66.79 ± 7.04	55.89 ± 8.43	60.71 ± 7.16	71.26 ± 6.36	1017.29 ± 2.47	-0.26 ± 1.11	0.17 ± 2.03

Table 4-1. Average Meteorological Parameters for the Hexavalent Chromium Monitoring Sites (Continued)

2005 Site Code	WBAN	Type	Average Maximum Temperature (°F)	Average Temperature (°F)	Average Dew Point Temperature (°F)	Average Wet Bulb Temperature (°F)	Average Relative Humidity (%)	Average Sea Level Pressure (mb)	Average *u*-component of the wind	Average *v*-component of the wind
GPCO	23066	All 2005	66.19 ± 1.99	53.85 ± 1.78	30.48 ± 1.12	42.50 ± 1.16	48.94 ± 2.05	1014.78 ± 0.76	-1.59 ± 0.23	0.75 ± 0.29
		Sample Day	67.43 ± 4.93	54.76 ± 4.39	29.96 ± 2.52	42.70 ± 2.74	46.58 ± 5.00	1015.17 ± 1.95	-1.45 ± 0.62	0.97 ± 0.60
GPMS	93874	All 2005	76.54 ± 1.26	67.78 ± 1.29	57.79 ± 1.50	62.07 ± 1.28	73.06 ± 1.26	1016.60 ± 0.55	-0.92 ± 0.36	-0.51 ± 0.45
		Sample Day	69.93 ± 2.17	58.83 ± 2.08	47.00 ± 2.68	52.87 ± 2.13	68.37 ± 2.84	1018.41 ± 1.13	-0.43 ± 0.61	-1.71 ± 0.95
HAKY	03889	All 2005	66.60 ± 1.85	57.60 ± 1.74	44.64 ± 1.80	51.00 ± 1.59	65.42 ± 1.49	1017.15 ± 0.65	1.05 ± 0.25	0.56 ± 0.23
		Sample Day	66.73 ± 4.45	57.75 ± 4.26	44.38 ± 4.62	51.04 ± 3.93	65.11 ± 4.20	1017.04 ± 1.73	1.03 ± 0.64	0.72 ± 0.48
LAOR	24148	All 2005	60.49 ± 1.90	48.91 ± 1.51	32.93 ± 0.93	42.19 ± 1.07	57.92 ± 1.68	NA	1.42 ± 0.29	0.92 ± 0.62
		Sample Day	62.17 ± 4.90	49.89 ± 3.75	33.31 ± 2.22	42.92 ± 2.62	57.47 ± 4.29	NA	1.16 ± 0.74	1.66 ± 1.48
MVWI	04875	All 2005	56.16 ± 2.27	48.04 ± 2.08	38.83 ± 1.99	45.54 ± 2.06	72.31 ± 1.25	NA	1.38 ± 0.42	-0.08 ± 0.33
		Sample Day	62.24 ± 5.92	53.48 ± 5.48	43.18 ± 5.32	52.13 ± 4.82	69.88 ± 3.70	NA	1.36 ± 1.03	0.12 ± 0.88
NBAL	13876	All 2005	73.01 ± 1.50	63.18 ± 1.48	51.64 ± 1.71	56.98 ± 1.45	69.45 ± 1.29	1017.67 ± 0.57	-0.01 ± 0.36	-0.20 ± 0.37
		Sample Day	77.63 ± 6.35	66.67 ± 7.08	55.06 ± 8.65	60.25 ± 7.29	69.89 ± 6.44	1017.65 ± 2.62	-0.31 ± 1.12	0.37 ±2.07

Table 4-1. Average Meteorological Parameters for the Hexavalent Chromium Monitoring Sites (Continued)

2005 Site Code	WBAN	Type	Average Maximum Temperature (°F)	Average Temperature (°F)	Average Dew Point Temperature (°F)	Average Wet Bulb Temperature (°F)	Average Relative Humidity (%)	Average Sea Level Pressure (mb)	Average *u*-component of the wind	Average *v*-component of the wind
NBIL	04838	All 2005	59.67 ± 2.27	51.53 ± 2.11	40.86 ± 1.88	46.12 ± 1.83	70.00 ± 1.27	1016.99 ± 0.74	1.12 ± 0.44	-0.03 ± 0.49
		Sample Day	60.34 ± 5.94	52.27 ± 5.42	41.35 ± 4.89	46.71 ± 4.72	69.79 ± 3.41	1016.69 ± 1.78	1.23 ± 0.95	-0.12 ± 1.20
PRRI	14765	All 2005	59.77 ± 1.99	51.56 ± 1.86	40.58 ± 2.00	46.55 ± 1.74	69.17 ± 1.51	1015.95 ± 0.87	1.62 ± 0.44	-0.83 ± 0.57
		Sample Day	61.32 ± 4.89	52.48 ± 4.61	41.52 ± 4.98	47.40 ± 4.33	69.32 ± 3.45	1016.38 ± 2.27	0.99 ± 1.06	-0.38 ± 1.31
PVAL	93806	All 2005	75.24 ± 1.50	63.99 ± 1.48	53.34 ± 1.68	58.16 ± 1.45	71.69 ± 1.10	1017.32 ± 0.58	0.09 ± 0.26	-0.39 ± 0.33
		Sample Day	79.81 ± 6.27	67.29 ± 7.05	57.19 ± 8.23	61.54 ± 7.19	73.25 ± 4.14	1017.20 ± 2.57	-0.13 ± 0.86	0.23 ± 1.87
S4MO	03960	All 2005	67.33 ± 2.11	57.45 ± 1.92	46.85 ± 1.93	51.92 ± 1.77	71.01 ± 1.32	1017.30 ± 0.72	0.64 ± 0.42	-0.21 ± 0.43
		Sample Day	69.51 ± 5.51	59.94 ± 4.85	49.28 ± 4.92	54.22 ± 4.46	71.38 ± 3.55	1015.98 ± 1.66	0.58 ± 1.03	0.10 ± 1.20
SDGA	13874	All 2005	70.80 ± 1.47	61.86 ± 147	49.72 ± 1.72	55.48 ± 1.43	67.68 ± 1.51	1017.31 ± 0.57	0.47 ± 0.59	-1.08 ± 0.37
		Sample Day	74.52 ± 3.42	64.88 ± 3.59	52.18 ± 4.44	57.99 ± 3.63	66.64 ± 3.84	1017.03 ± 1.35	0.58 ± 1.51	-1.17 ± 0.82
SEWA	24234	All 2005	60.44 ± 1.18	53.44 ± 1.02	43.99 ± 0.85	48.66 ± 0.84	72.85 ± 1.12	1016.59 ± 0.70	0.03 ± 0.17	1.92 ± 0.36
		Sample Day	61.52 ± 3.01	54.02 ± 2.53	44.03 ± 2.10	48.97 ± 2.03	71.86 ± 3.13	1015.94 ± 1.59	0.15 ± 0.48	1.79 ± 0.89

Table 4-1. Average Meteorological Parameters for the Hexavalent Chromium Monitoring Sites (Continued)

2005 Site Code	WBAN	Type	Average Maximum Temperature (°F)	Average Temperature (°F)	Average Dew Point Temperature (°F)	Average Wet Bulb Temperature (°F)	Average Relative Humidity (%)	Average Sea Level Pressure (mb)	Average *u*-component of the wind	Average *v*-component of the wind
SIAL	13876	All 2005	73.01 ± 1.50	63.18 ± 1.48	51.64 ± 1.71	56.98 ± 1.45	69.45 ± 1.29	1017.67 ± 0.57	-0.01 ± 0.36	-0.20 ± 0.37
		Sample Day	77.63 ± 6.35	66.67 ± 7.08	55.06 ± 8.65	60.25 ± 7.29	69.89 ± 7.29	1017.65 ± 2.62	-0.31 ± 1.12	0.37 ± 2.07
SYFL	12876	All 2005	81.72 ± 0.96	72.08 ± 0.98	61.40 ± 1.17	65.63 ± 0.98	71.76 ± 0.98	1016.81 ± 0.44	-1.10 ± 0.44	-0.80 ± 0.40
		Sample Day	81.25 ± 2.38	72.08 ± 2.27	61.88 ± 2.65	65.86 ± 2.26	72.90 ± 2.57	1016.61 ± 0.97	-0.96 ± 1.11	-0.86 ± 0.99
UNVT	54771	All 2005	54.15 ± 2.24	44.07 ± 2.14	35.09 ± 2.17	40.09 ± 2.01	73.72 ± 1.13	1016.47 ± 0.88	0.88 ± 0.17	-0.70 ± 0.31
		Sample Day	54.75 ± 5.56	44.46 ± 5.18	36.00 ± 5.32	40.68 ± 4.88	75.56 ± 2.91	1016.68 ± 2.12	0.67 ± 0.25	-0.42 ± 0.68
WADC	13743	All 2005	65.80 ± 1.91	57.76 ± 1.82	44.03 ± 1.93	50.98 ± 1.67	63.01 ± 1.34	1017.23 ± 0.78	0.93 ± 0.41	-1.11 ± 0.51
		Sample Day	70.78 ± 4.62	62.48 ± 4.32	48.75 ± 4.67	55.26 ± 4.00	63.83 ± 3.78	1016.44 ± 2.01	1.19 ± 0.98	-0.63 ± 1.41
WETX	13904	All 2005	81.08 ± 1.51	68.96 ± 1.42	56.58 ± 1.53	61.69 ± 1.32	69.02 ± 1.25	1015.75 ± 0.61	-0.84 ± 0.22	0.89 ± 0.57
		Sample Day	87.29 ± 5.63	73.78 ± 6.38	58.49 ± 8.03	64.76 ± 6.45	63.75 ± 4.98	1016.43 ± 1.99	-1.15 ± 0.99	1.10 ± 1.88

Table 4-2. Summary of Pearson Correlation Coefficients for Selected Meteorological Parameters and Hexavalent Chromium

2005 Site Code	# Detects	Maximum Temperature	Average Temperature	Dew Point Temperature	Wet Bulb Temperature	Relative Humidity
BOMA	46	0.29	0.33	0.38	0.37	0.29
BTUT	38	0.05	0.03	0.01	0.03	-0.03
BURVT	45	0.42	0.43	0.46	0.46	0.25
CHSC	22	0.22	0.26	0.31	0.29	0.26
DEMI	45	0.54	0.52	0.47	0.50	-0.19
ETAL	11	0.25	0.12	0.09	0.09	0.00
GPCO	40	0.26	0.23	0.05	0.21	-0.26
GPMS	53	0.29	0.23	0.20	0.22	0.08
HAKY	25	0.10	0.17	0.30	0.24	0.33
LAOR	17	0.38	0.31	0.17	0.41	0.02
MVWI	23	0.28	0.31	0.29	0.30	0.25
NBAL	11	0.36	0.31	0.27	0.30	0.01
NBIL	37	0.14	0.15	0.17	0.16	0.12
PRRI	34	0.25	0.27	0.15	0.20	-0.32
PVAL	7	0.88	0.95	0.95	0.95	0.88
S4MO	39	-0.01	-0.01	0.02	0.01	0.11
SDGA	35	0.31	0.27	0.18	0.22	-0.08
SEWA	51	-0.06	-0.06	0.15	0.03	0.34
SIAL	9	-0.42	-0.43	-0.32	-0.37	0.17
SYFL	32	0.07	0.26	0.39	0.36	0.42
UNVT	18	0.55	0.45	0.26	0.36	-0.47
WADC	24	0.27	0.34	0.48	0.44	0.52
WETX	11	-0.24	-0.14	-0.24	-0.19	-0.43

Table 4-3. 2002 Hexavalent Chromium Point Source Emissions Summary by SIC

SIC	SIC Description	Short SIC Description	Sum of Emissions (tpy)	Number of Point Sources Contributing	% of Total Emissions	Cumulative %
4911	Electric, Gas, And Sanitary Services, Electric Services, Electric services	Electric Services	1.83	35	80.24%	80.24%
3471	Fabricated Metal Products, Metal Services, Nec, Plating and polishing	Electroplating, Plating, Polishing, Anodizing, and Coloring	0.41	59	18.13%	98.38%
7699	Miscellaneous Repair Services, Miscellaneous Repair Shops, Repair services, nec	Repair Shops and Related Services, NEC	0.03	1	1.35%	99.73%
2421	Lumber And Wood Products, Sawmills and Planing Mills, Sawmills & planing mills, general	Sawmills and Planing Mills, General	1.58E-03	3	0.07%	99.80%
2046	Food And Kindred Products, Grain Mill Products, Wet corn milling	Wet Corn Milling	1.33E-03	3	0.06%	99.85%
8221	Educational Services, Colleges and Universities, Colleges and universities	Colleges, Universities, and Professional Schools	9.84E-04	15	0.04%	99.90%
2841	Chemicals And Allied Products, Soap, Cleaners, and Toilet Goods, Soap and other detergents	Soaps and Other Detergents, Except Speciality Cleaners	5.00E-04	1	0.02%	99.92%
2951	Petroleum And Coal Products, Asphalt Paving and Roofing Materials, Asphalt paving mixtures and blocks	Asphalt Paving Mixtures and Blocks	3.94E-04	14	0.02%	99.94%
6553	Real Estate, Subdividers and Developers, Cemetery subdividers and developers	Cemetery Subdividers and Developers	1.94E-04	8	0.01%	99.94%
2493	Lumber And Wood Products, Miscellaneous Wood Products, Reconstituted wood products	Reconstituted Wood Products	1.81E-04	1	0.01%	99.95%
3443	Fabricated Metal Products, Fabricated Structural Metal Products, Fabricated plate work (boiler shops)	Fabricated Plate Work (Boiler Shops)	1.71E-04	1	0.01%	99.96%

Table 4-3. 2002 Hexavalent Chromium Point Source Emissions Summary by SIC (Continued)

SIC	SIC Description	Short SIC Description	Sum of Emissions (tpy)	Number of Point Sources Contributing	% of Total Emissions	Cumulative %
7261	Personal Services, Funeral Service and Crematories, Funeral service and crematories	Funeral Services and Crematories	1.26E-04	6	0.01%	99.96%
3479	Fabricated Metal Products, Metal Services, Nec, Metal coating and allied services	Coating, Engraving, and Allied Services, NEC	1.11E-04	2	0.00%	99.97%
4952	Electric, Gas, And Sanitary Services, Sanitary Services, Sewerage systems	Sewerage Systems	1.07E-04	1	0.00%	99.97%
2865	Chemicals And Allied Products, Industrial Organic Chemicals, Cyclic crudes and intermediates	Cyclic Organic Crudes and Intermediates, and Organic Dyes and Pigments	9.45E-05	4	0.00%	99.98%
3423	Fabricated Metal Products, Cutlery, Handtools, and Hardware, Hand and edge tools, nec	Hand and Edge Tools, Except Machine Tools and Handsaws	8.40E-05	1	0.00%	99.98%
3273	Stone, Clay, And Glass Products, Concrete, Gypsum, and Plaster Products, Ready-mixed concrete	Ready-Mixed Concrete	7.74E-05	4	0.00%	99.99%
2911	Petroleum And Coal Products, Petroleum Refining, Petroleum refining	Petroleum Refining	6.72E-05	8	0.00%	99.99%
3432	Fabricated Metal Products, Plumbing and Heating, except Electric, Plumbing fixture fittings and trim	Plumbing Fixture Fittings and Trim	6.11E-05	2	0.00%	99.99%
5171	Wholesale Trade--Nondurable Goods, Petroleum and Petroleum Products, Petroleum bulk stations & terminals	Petroleum Bulk Stations and Terminals	5.81E-05	11	0.00%	99.99%
3312	Primary Metal Industries, Blast Furnace and Basic Steel Products, Blast furnaces and steel mills	Steel Works, Blast Furnaces (Including Coke Ovens), and Rolling Mills	2.36E-05	2	0.00%	99.99%
2021	Food And Kindred Products, Dairy Products, Creamery butter	Creamery Butter	2.17E-05	1	0.00%	100.00%
8412	Museums, Botanical, Zoological Gardens, Museums and Art Galleries, Museums and art galleries	Museums and Art Galleries	1.53E-05	1	0.00%	100.00%

Table 4-3. 2002 Hexavalent Chromium Point Source Emissions Summary by SIC (Continued)

SIC	SIC Description	Short SIC Description	Sum of Emissions (tpy)	Number of Point Sources Contributing	% of Total Emissions	Cumulative %
8062	Health Services, Hospitals, General medical & surgical hospitals	General Medical and Surgical Hospitals	1.52E-05	5	0.00%	100.00%
3357	Primary Metal Industries, Nonferrous Rolling and Drawing, Nonferrous wiredrawing & insulating	Drawing and Insulating of Nonferrous Wire	1.50E-05	1	0.00%	100.00%
8811	Private Households, Private Households, Private households	Private Households	1.25E-05	1	0.00%	100.00%
3999	Miscellaneous Manufacturing Industries, Miscellaneous Manufactures, Manufacturing industries, nec	Manufacturing Industries, NEC	9.92E-06	1	0.00%	100.00%
3111	Leather And Leather Products, Leather Tanning and Finishing, Leather tanning and finishing	Leather Tanning and Finishing	6.25E-06	1	0.00%	100.00%
9621	Administration Of Economic Programs, Regulation, Admin. Of Transportation, Regulation, admin. of transportation	Regulation and Administration of Transportation Programs	5.42E-06	1	0.00%	100.00%
2657	Paper And Allied Products, Paperboard Containers and Boxes, Folding paperboard boxes	Folding Paperboard Boxes, Including Sanitary	5.00E-06	1	0.00%	100.00%
0742	Agricultural Services, Veterinary Services, Veterinary services, specialties	Veterinary Services for Animal Specialties	4.86E-06	4	0.00%	100.00%
3566	Industrial Machinery And Equipment, General Industrial Machinery, Speed changers, drives, and gears	Speed Changers, Industrial High-Speed Drives, and Gears	3.73E-06	2	0.00%	100.00%
3824	Instruments And Related Products, Measuring and Controlling Devices, Fluid meters and counting devices	Totalizing Fluid Meters and Counting Devices	3.00E-06	1	0.00%	100.00%
2431	Lumber And Wood Products, Millwork, Plywood & Structural Members, Millwork	Millwork	1.60E-06	1	0.00%	100.00%
2759	Printing And Publishing, Commercial Printing, Commercial printing, nec	Commercial Printing, NEC	1.37E-06	1	0.00%	100.00%

Table 4-3. 2002 Hexavalent Chromium Point Source Emissions Summary by SIC (Continued)

SIC	SIC Description	Short SIC Description	Sum of Emissions (tpy)	Number of Point Sources Contributing	% of Total Emissions	Cumulative %
3545	Industrial Machinery And Equipment, Metalworking Machinery, Machine tool accessories	Cutting Tools, Machine Tool Accessories, and Machinists' Precision Measuring Devices	1.17E-06	1	0.00%	100.00%
3272	Stone, Clay, And Glass Products, Concrete, Gypsum, and Plaster Products, Concrete products, nec	Concrete Products, Except Block and Brick	8.50E-08	1	0.00%	100.00%
8211	Educational Services, Elementary and Secondary Schools, Elementary and secondary schools	Elementary and Secondary Schools	5.00E-08	1	0.00%	100.00%
2064	Food And Kindred Products, Sugar and Confectionery Products, Candy & other confectionery products	Candy and Other Confectionery Products	3.50E-08	1	0.00%	100.00%
2672	Paper And Allied Products, Misc. Converted Paper Products, Paper coated & laminated, nec	Coated and Laminated Paper, NEC	3.50E-08	1	0.00%	100.00%
1622	Heavy Construction, Ex. Building, Heavy Construction, except Highway, Bridge, tunnel, & elevated highway	Bridge, Tunnel, and Elevated Highway Construction	2.00E-08	1	0.00%	100.00%
3069	Rubber And Misc. Plastics Products, Fabricated Rubber Products, Nec, Fabricated rubber products, nec	Fabricated Rubber Products, NEC	1.50E-08	1	0.00%	100.00%
		Total	2.29	211		

Table 4-4. Businesses Potentially Emitting Hexavalent Chromium by SIC in Each Monitoring County

SIC Code and Description	National	Chesterfield, SC	Chittenden, VT	Cook, IL	Davis, UT	DeKalb, GA	District of Columbia, DC	Dodge, WI	Hillsborough, FL	Jefferson, AL	King, WA	Mesa, CO	Perry, KY	Providence, RI	Saint Louis, MO	Suffolk, MA	Travis, TX	Union, OR	Wayne, MI
0742, Veterinary Services for Animal Specialties	56,022	--	53	644	38	92	37	19	234	169	463	51	6	80	288	42	187	7	254
1622, Bridge, Tunnel, and Elevated Highway Construction	43	--	--	--	--	--	1	--	--	--	--	--	--	--	1	--	--	--	--
2064, Candy and Other Confectionery Products	821	--	2	60	1	--	--	1	2	--	10	--	--	1	2	1	1	--	6
2421, Sawmills and Planing Mills, General	923	--	2	2	1	--	--	--	2	--	5	--	--	--	1	--	1	1	2
2431, Millwork	3,120	1	2	51	9	7	3	3	22	8	18	2	--	6	13	7	15	--	8
2657, Folding Paperboard Boxes, Including Sanitary	404	--	--	20	1	2	--	1	1	3	4	--	--	2	4	2	--	--	1
2672, Coated and Laminated Paper, NEC	1,166	--	--	40	--	7	1	--	3	9	28	--	--	1	--	--	--	--	15
2759, Commercial Printing, NEC	19,214	4	14	448	7	46	42	5	86	58	176	8	2	68	99	55	54	1	133
2841, Soaps and Other Detergents, Except Speciality Cleaners	332	--	1	11	1	3	1	--	--	--	2	--	--	3	5	--	--	--	7
2911, Petroleum Refining	50	--	--	2	--	--	--	--	--	1	--	--	--	--	--	--	--	--	1
2951, Asphalt Paving Mixtures and Blocks	630	--	1	7	1	4	--	1	5	1	2	1	--	--	4	1	1	--	5
3069, Fabricated Rubber Products, NEC	770	--	--	25	--	6	--	--	--	1	6	--	--	1	4	--	--	--	11
3111, Leather Tanning and Finishing	206	--	--	5	1	--	--	1	--	--	--	--	--	--	--	1	--	--	--
3272, Concrete Products, Except Block and Brick	887	--	--	5	1	7	--	--	9	5	4	--	--	--	--	--	2	--	9
3273, Ready-Mixed Concrete	1,898	--	--	19	1	6	2	3	5	5	6	3	1	2	7	1	2	1	6
3312, Steel Works, Blast Furnaces (Including Coke Ovens), and Rolling Mills	1,590	1	--	92	1	1	3	--	9	22	10	--	--	3	9	--	--	--	68

Table 4-4. Businesses Potentially Emitting Hexavalent Chromium by SIC in Each Monitoring County (Continued)

SIC Code and Description	National	Chesterfield, SC	Chittenden, VT	Cook, IL	Davis, UT	DeKalb, GA	District of Columbia, DC	Dodge, WI	Hillsborough, FL	Jefferson, AL	King, WA	Mesa, CO	Perry, KY	Providence, RI	Saint Louis, MO	Suffolk, MA	Travis, TX	Union, OR	Wayne, MI
3357, Drawing and Insulating of Nonferrous Wire	267	--	3	4	--	2	--	--	--	--	5	--	--	4	--	--	1	--	2
3423, Hand and Edge Tools, Except Machine Tools and Handsaws	882	1	2	23	1	3	--	--	2	1	1	--	--	4	3	4	--	--	6
3432, Plumbing Fixture Fittings and Trim	486	--	1	16	--	4	1	--	3	1	3	1	1	--	2	2	--	--	6
3443, Fabricated Plate Work (Boiler Shops)	115	--	--	1	--	--	--	--	--	--	1	--	--	--	1	--	--	--	1
3471, Electroplating, Plating, Polishing, Anodizing, and Coloring	3,753	--	--	187	4	4	1	--	7	7	29	2	--	76	19	4	6	--	67
3479, Coating, Engraving, and Allied Services, NEC	4,713	--	2	138	5	12	4	--	20	20	63	3	--	34	38	3	13	--	68
3545, Cutting Tools, Machine Tool Accessories, and Machinists' Precision Measuring Devices	616	--	--	19	1	3	--	--	1	2	3	--	--	6	1	1	2	--	19
3566, Speed Changers, Industrial High-Speed Drives, and Gears	539	--	--	35	--	--	--	--	2	1	9	--	--	--	2	--	1	--	13
3824, Totalizing Fluid Meters and Counting Devices	20	--	--	--	--	--	--	--	--	--	--	--	--	1	--	--	--	--	1
3999, Manufacturing Industries, NEC	3,845	--	6	121	2	17	6	2	13	7	37	2	--	15	12	6	11	1	46
4911, Electric Services	4,991	1	2	4	3	3	20	1	6	4	11	1	--	3	1	7	8	1	6
4952, Sewerage Systems	722	--	--	13	2	--	--	1	5	3	15	1	--	--	2	4	--	--	1
6553, Cemetery Subdividers and Developers	5,010	2	1	65	1	9	8	2	8	25	17	2	--	16	37	12	4	2	35
7261, Funeral Services and Crematories	22,455	11	12	470	7	18	50	13	48	44	66	5	4	82	49	75	21	2	151
7699, Repair Shops and Related Services, NEC	45,893	4	34	653	32	82	50	15	176	96	290	39	5	108	152	82	120	7	287

Table 4-4. Businesses Potentially Emitting Hexavalent Chromium by SIC in Each Monitoring County (Continued)

SIC Code and Description	National	Chesterfield, SC	Chittenden, VT	Cook, IL	Davis, UT	DeKalb, GA	District of Columbia, DC	Dodge, WI	Hillsborough, FL	Jefferson, AL	King, WA	Mesa, CO	Perry, KY	Providence, RI	Saint Louis, MO	Suffolk, MA	Travis, TX	Union, OR	Wayne, MI
8062, General Medical and Surgical Hospitals	10,922	1	3	188	8	22	32	3	35	40	61	5	1	24	67	45	34	1	91
8211, Elementary and Secondary Schools	125,792	23	97	2,363	90	180	359	61	283	286	753	57	11	308	525	291	256	20	941
8221, Colleges, Universities, and Professional Schools	8,243	2	9	190	7	24	108	--	26	24	61	3	3	11	45	47	23	--	65
8412, Museums and Art Galleries	7,508	--	6	83	1	6	52	1	5	14	60	5	--	9	23	41	37	1	31
9621, Regulations and Administration of Transportation Programs	9,210	2	5	43	3	14	8	4	11	17	36	6	2	11	10	26	35	5	40
Total	344,058	53	258	6,047	230	584	789	137	1,029	874	2,255	197	36	879	1,426	760	835	50	2,403

5.0 Data Quality

This section discusses data quality for the ambient air hexavalent chromium concentrations. In accordance with the QAPP (ERG, 2005), the following data calculations were performed: completeness, precision, and accuracy (also called bias). Completeness statistics are presented in Section 2.5 of this report. The QAPP goal of 85 percent completeness was met by all sites with the exception of the site in Austin, TX (WETX), which had 82 percent completeness. As indicators of the reliability and representativeness of experimental measurements, both precision and bias are considered when interpreting ambient air monitoring data. All calculations are based on sample concentrations detected above the MDL. The overall precision level (the average for all sites) is slightly higher than the UATMP and NATTS data quality objective and the guidelines in EPA's *Standard Operating Procedure for the Determination of Hexavalent Chromium in Ambient Air Analyzed by Ion Chromatography (IC)* (U.S. EPA, 2006b). The quality assessments presented in this section provide information to show that the hexavalent chromium monitoring data are of a known and high quality.

As outlined in the QAPP, 10 percent of all sample collections were collocated samples. Collocated samples are samples collected simultaneously using two independent collection systems at the same location.

5.1 Precision

Precision refers to the agreement between independent measurements performed according to identical protocols and procedures. Two types of precision are discussed: analytical precision and analytical and sampling precision. To normally quantify "analytical precision" (i.e., how precisely the analytical methods measure ambient air concentrations), concentrations measured during analysis of collocated samples are replicated. Because the volume used to prepare the samples for analysis is too low for replicate analyses, the analytical precision is represented by the replicate analysis performed during the 2005 Method Detection Limit Study (U.S. EPA, 2005).

Applied to ambient air monitoring data, precision is a measurement of random errors inherent to the process of sampling and analyzing ambient air.

To quantify "sampling and analytical precision" (i.e., how precisely the sampling and analytical methods measure ambient air concentrations), concentrations measured during collocated samples are compared.

5.1.1 Analytical Precision

Analytical precision is a measurement of random errors associated with the process of analyzing environmental samples. These errors may result from various factors, but typically originate from random "noise" inherent to analytical instruments. Laboratories can easily evaluate analytical precision by comparing concentrations measured during replicate analysis of the same ambient air samples. This report uses three parameters to quantify random errors indicated for hexavalent chromium samples:

- ***Average concentration difference*** simply quantifies how collocated analytical results differ, on average, for each sample. When interpreting central tendency estimates, participating agencies are encouraged to compare central tendencies to the average concentration differences. If the hexavalent chromium average concentration difference exceeds or nearly equals its central tendency, the analytical method may not be capable of precisely characterizing annual concentrations. Therefore, data interpretation should be made with caution. Average concentration differences are calculated by subtracting the first analytical result from the second analytical result and averaging the difference.

- ***Relative percent difference (RPD)*** expresses average concentration differences relative to the average concentrations detected during collocated analyses. The RPD is calculated as follows:

$$\frac{X_1 - X_2}{\overline{X}} \times 100 = RPD$$

Where:

X_1 is the ambient air concentration measured in one sample;
X_2 is the concentration measured for the collocated sample analysis; and
$\overline{X}$ is the arithmetic mean of X_1 and X_2.

Analysis of collocated samples with low variability have lower RPDs (and better precision), and analysis with high variability have higher RPDs (and poorer precision).

- ***Coefficient of Variation (CV)*** provides a relative measure of data dispersion compared to the mean.

$$CV = \frac{s}{\overline{X}} \times 100$$

Where:

F is the standard deviation of the sets of collocated results;
$\overline{X}$ is the arithmetic mean of the sets of collocated results;

The CV is used to measure the imprecision in survey estimates introduced from analysis. A coefficient of 1 percent would indicate that the analytical results could vary slightly due to sampling error, while a variation of 50 percent means that the results are more imprecise.

The tables in this section use absolute average concentration differences, RPDs, and CVs to characterize the analytical precision representing all collocated samples. As discussed previously, the volume used to prepare the samples for hexavalent chromium analysis was too low to analyze the sample twice, therefore there are no replicate analyses presented in this report. In order to provide analytical precision, the replicate analysis of the method detection limit samples is presented in Table 5-1. These values represent Initial Precision Recovery (IPR), which is the verification process of how much sample is recovered during analysis. As shown, the replicate results for 10 samples prepared at 0.25 ng/mL have a CV of 2.6 percent, which is well within the required EPA limit at 15 percent. Replicate analyses have begun in 2006 and will be discussed in next year's report.

5.1.2 Sampling and Analytical Precision

Sampling and analytical precision quantifies random errors associated not only with analyzing ambient air samples in the laboratory but also with collecting the samples. This type of precision is most easily evaluated by comparing concentrations measured in collocated samples collected from the same air parcel. Collocated samples were collected at least 10 percent of the scheduled sampling days.

To calculate sampling and analytical precision, data analysts compared the concentrations between collocated samples. Also, the CV for two collocated samples was calculated for each site with the target recovery being 15 percent. Table 5-2 presents average concentration differences, RPDs, and CVs as estimates of collocated sampling and analytical variability.

The average concentration differences observed for collocated analyses of hexavalent chromium ranged from 0.0056 ng/m^{3}at ETAL to 0.0514 ng/m^3 at CHSC. The RPD average was

slightly higher than the required 25 percent, which was calculated overall at 32.0 percent. RPD ranged from 11.3 percent at UNVT to 89.0 percent at SDGA. The CV ranged from 8.0 percent at UNVT to 62.9 percent at SDGA, with an overall average of 22.6 percent, which again was slightly higher than the 15 percent required limit. The four sites with the highest RPDs were SDGA (89.0 percent RPD, 62.9 percent CV), CHSC (70.4 percent RPD, 49.8 percent CV), SYFL (45.9 percent RPD, 32.5 percent CV), and PRRI (41.8 percent RPD, 29.6 percent CV). Two of these sites, PRRI and SDGA, used commercially available samplers, different from the ERG provided samplers used at all of the other sites. CHSC had only one collocated data set of detected results out of six total sets, the others being nondetect, whereas SYFL had two data sets out of six that had detects, all of which were at or below the detection limit.

Samplers were exchanged and recalibrated in mid-2006. While doing these calibrations, it was noted that there were some slight leaks in the collocated sample lines, making the actual volumes pulled markedly lower than what was recorded. This may have affected the results for the collocated samples, although when leaks occurred can not determined. ERG has recommended that the sites perform quarterly flow calibration checks to ensure accurate readings. The sites that may have been effected were DEMI, GPCO, HAKY, NBIL, SEWA, and UNVT. The sample line at CHSC was actually broken in two, allowing no sample to go to the collocated filter. This could explain the high RPD and CV discussed previously.

5.2 Accuracy

Laboratories typically evaluate the accuracy of data generated by analyzing external Performance Evaluation (PE) samples and comparing the measured concentrations obtained to the known concentrations of the PE samples. Unfortunately, PE samples were not yet available for the measurement of hexavalent chromium in ambient air, therefore a performance evaluation cannot be performed.

Accuracy indicates the extent to which experimental measurements represent their corresponding "true" or "actual" values.

Table 5-1. Hexavalent Chromium Analytical Precision: IPR Determination

Sample	Concentration (ng/mL)
Sample-1	0.265
Sample-2	0.257
Sample-3	0.277
Sample-4	0.260
Sample-5	0.264
Sample-6	0.268
Sample-7	0.267
Sample-8	0.277
Sample-9	0.266
Sample-10	0.275
Standard Deviation	0.00692
Method Detection Limit	0.0195
CV	2.6%

Table 5-2. Hexavalent Chromium Sampling and Analytical Precision: Collocated Samples

2005 Site Code	Number of Collocated samples	Frequency of Detection	Average RPD for Replicate Analyses (%)	Average Concentration Difference for Replicate Analyses (ng/m^3)	Coefficient of Variation (%)
BOMA	16	81%	23.8%	0.0161	**16.8%**
BURVT	26	73%	25.0%	0.0147	**17.7%**
CHSC	12	17%	**70.4%**	0.0514	**49.8%**
DEMI	10	90%	17.8%	0.0188	12.6%
ETAL	2	100%	**31.8%**	0.0056	**22.5%**
GPCO	12	67%	22.9%	0.0150	**16.2%**
GPMS	18	83%	**27.4%**	0.0098	**19.3%**
HAKY	12	25%	**28.6%**	0.0209	**20.2%**
MVWI	8	50%	24.5%	0.0087	**17.3%**
NBAL	2	0%	NA	NA	NA
NBIL	8	63%	21.1%	0.0161	14.6%
PRRI	14	71%	**41.8%**	0.0062	**29.6%**
PVAL	2	0%	NA	NA	NA
S4MO	10	50%	15.7%	0.0189	11.1%
SAMS	18	22%	19.2%	0.0131	13.6%
SDGA	6	83%	**89.0%**	0.0378	**62.9%**
SEWA	14	100%	**27.9%**	0.0166	**19.7%**
SIAL	2	0%	NA	NA	NA
SYFL	12	33%	**45.9%**	0.0078	**32.5%**
UNVT	16	31%	11.3%	0.0121	8.0%
WETX	2	100%	**32.8%**	0.0075	**23.2%**
	Average	54%	**32.0%**	0.0165	**22.6%**

6.0 Conclusions and Recommendations

As indicated throughout this report, UATMP and NATTS monitoring data offer a wealth of information for evaluating trends, patterns, and the potential for health risk in air quality and should ultimately help a wide range of audiences understand the complex nature of urban and rural air pollution. The following discussion summarizes the main conclusions of this report and presents recommendations for ongoing urban air monitoring efforts.

6.1 Conclusions

Analyses of the 2005 UATMP hexavalent chromium monitoring data identified the following notable trends and patterns in national-level and site-specific urban air pollution:

$ *Ambient air concentration data sets generally met data quality objectives for completeness.* Completeness, or the number of valid samples collected compared to the number expected from a 1-in-6 or 1-in-12 day sampling schedule, measures the reliability of the sampling and analytical equipment as well as the efficiency of the program. Typically, a completeness of 85-100% is desired for a complete data set. One out of 23 data sets failed to comply with the data quality objective of 85% completeness. Three data sets achieved 100% completeness.

$ *Total number of samples for hexavalent chromium.* A total of 1,153 measurements of hexavalent chromium were made. Samples from the site commissioned to the Hurricane Katrina monitoring effort account for an additional 95 measurements.

$ *Ambient air concentrations of hexavalent chromium.* Only one measured concentration exceeded 1 ng/m^3. This data point was excluded from most statistical analyses because it falls outside the distribution range. Over 96 percent of the concentrations were less than 0.10 ng/m^3.

$ *Detects.* Detection of hexavalent chromium is subject to the analytical method used and the limitations of the instruments. Method detection limits are the lowest concentration an instrument can reliably quantify with a certain level of confidence. Approximately 62% of the measured concentrations were detected.

$ *Averages.* Three types of averages were calculated for each site sampling hexavalent chromium: daily, seasonal, and annual. The highest daily average was calculated for BOMA (0.071 ng/m^3). The highest annual averages were calculated for BOMA and DEMI (both 0.057 ng/m^3). Annual averages could not be calculated for eight sites due to the short sampling duration. Summer and autumn tended to have the highest seasonal averages.

$ *Preliminary Risk Screening.* Over 10% of the hexavalent chromium concentrations failed screens. The failure rate varied by site, ranging from 0 percent (at BTUT, ETAL, and PVAL) to 30 percent (at BOMA).

- *Non-Chronic Risk.* Acute risk factors are not available at this time for hexavalent chromium. An intermediate risk value has been determined by ATSDR and can be compared to seasonal averages of hexavalent chromium. No seasonal average of hexavalent chromium exceeded the ATSDR Intermediate MRL.

- *Chronic Risk.* According to the 1999 NATA, the sites with the highest cancer and noncancer risks were SEWA, S4MO, and DEMI. Based on the annual averages of measured concentrations of hexavalent chromium, DEMI, BOMA, and BURVT exhibited the highest cancer and noncancer risks.

$ *Pearson Correlations.* Pearson Correlations were computed at each site between hexavalent chromium and various meteorological parameters. Most of the sites exhibited moderately strong positive correlations with the temperature and moistures variables. The strongest correlations were calculated for PVAL, which also had the lowest number of measurements taken.

$ *Emissions.* Point sources involved in electric power generation and metal plating and polishing industries contribute to over 98 percent (80 percent and 18 percent, respectively) of stationary source hexavalent chromium emissions. Of the sites sampling hexavalent chromium, the counties where WADC and SEWA reside have the highest number of electric power generating facilities and have the highest and fifth highest daily averages, respectively.

6.2 Data Quality

The precision of the sampling methods and concentration measurements was analyzed for the 2005 UATMP and NATTS programs using relative percent difference (RPD), coefficient of variation (CV), and average concentration difference calculations based on collocated samples. The overall precision was within the data quality objectives and Monitoring Method guidelines. Sampling and analytical method accuracy is assured by using proven methods and following strict quality control and quality assurance guidelines.

6.3 Recommendations

In light of the lessons learned from the 2005 monitoring effort, a number of recommendations for future ambient air monitoring are supported:

$ *Encourage state/local/tribal agencies to develop and/or verify hexavalent chromium emission inventories.* State/local/tribal agencies should use the data collected from the

UATMP and NATTS program to validate an emissions inventory or, at the very least, identify and/or verify emission sources of concern. Ideally, state/local/tribal agencies would compare the ambient monitoring results with an emission inventory for source category completeness. The emissions inventory would then be used to develop modeled concentrations useful to compare against ambient monitoring data.

$ *Use ambient air monitoring data to improve NATA results.* NATA-modeled concentrations may be compared to the ambient air monitoring concentrations to compare/validate NATA results.

$ *Encourage continued participation in the UATMP and NATTS program.* Ongoing ambient air monitoring at fixed locations can provide insight into long-term trends in urban air quality and the potential for urban air pollution to cause adverse health effects among the general population. Therefore, state and local agencies should be strongly encouraged either to develop and implement their own ambient air monitoring programs or to participate in future UATMP monitoring efforts. It is also recommended that monitoring sites be placed in census tracts in which NATA cancer risk is extremely high (greater than 25 in-a-million).

$ *Encourage year-round monitoring.* Many of the statistical treatments presented require a full year of data to be most useful and representative of conditions experienced at each specified location. Therefore, state, local, and tribal agencies should be strongly encouraged to implement year-round ambient air monitoring programs.

7.0 References

ATSDR, 2000a. Agency for Toxics Substances and Disease Registry (ATSDR). Public Health Statement for Chromium. September 2000. http://www.atsdr.cdc.gov/toxprofiles/phs7.html

ATSDR, 2000b. Agency for Toxics Substances and Disease Registry (ATSDR). Toxicological Profile for Chromium. September 2000. http://www.atsdr.cdc.gov/toxprofiles/tp7.html

ATSDR, 2005. Agency for Toxics Substances and Disease Registry (ATSDR). Minimal Risk Levels for Hazardous Substances. December 2005. Internet address: http://www.atsdr.cdc.gov/mrls.html

Draxler, R.R. and Rolph, G.D., 2003. HYSPLIT (Hybrid Single-Particle Lagrangian Integrated Trajectory) Model access via NOAA ARL READY Website (http://www.arl.noaa.gov/ready/hysplit4.html). NOAA Air Resources Laboratory. Silver Spring. MD.

ERG, 2005. Eastern Research Group, Inc. ASupport for the EPA National Monitoring Programs (NMOC, UATMP, PAMS, HAPs, and NATTS), Quality Assurance Project Plan, Category 1, 2005/2006.@ Internet address: http://www.ergweb2.com/uatmp/user/index.cfm

Lakes, 2006. Lakes Environmental, WRPLOT View. http://www.weblakes.com/lakewrpl.html. 2006.

PhoneDisc, 1997. American Business Information, Inc. Name and Business Type Index, Second Edition. Bethesda, Maryland.

Rolph, G.D., 2003. Real-time Environmental Applications and Display sYstem (READY) Website (http://www.arl.noaa.gov/ready/hysplit4.html). NOAA Air Resources Laboratory, Silver Spring, MD.

Rogers and Yau, 1989. AA Short Course in Cloud Physics.@ R. R. Rogers and M. K. Yau. Pergamon Press. 1989.

Ruffner and Bair, 1987. AThe Weather Almanac.@ James A. Ruffner and Frank E. Bair. Gale Research Company. 1987.

Topozone. Maps a la Carte, Inc. 2003. www.topozone.com

USEPA, 2005. 40 CFR Part 136, Appendix B. Definition and Procedure for the Determination of the Method Detection Limit, Revision 1.11.

USEPA, 2006a. The National-Scale Air Toxics Assessment (NATA) for 1999. Internet address: http://www.epa.gov/ttn/atw/nata1999/

USEPA, 2006b. Standard Operating Procedure for the Determination of Hexavalent Chromium in Ambient Air Analyzed by Ion Chromatography (IC). June 2006. Internet address: http://www.epa.gov/ttn/amtic/airtox.html

USEPA, 2006c. 2002 National Emissions Inventory (NEI) Data and Documentation. Data retrieved from ftp://ftp.epa.gov/EmisInventory/2002finalnei/

USEPA, 2006d. A Preliminary Risk-based Screening Approach for Air Toxics Monitoring Data Sets. Air, Pesticides, and Toxics Management Division. Atlanta, GA. February 2006. Internet address: http://www.epa.gov/docs/region04/air/airtoxic/Screening-041106-KM.pdf

USEPA, 2007. "2005 Urban Air Toxics Monitoring Program (UATMP), Final Report". EPA-454/R-07-001. December 2006.

Appendix A

AQS Site Descriptions for the 2005 Hexavalent Chromium Monitoring stations

Air Quality Subsystem

Site Description

Site AQS ID: 01-073-0028 **Site ID:** ETAL **Local ID:**

Address: EAST THOMAS, FINLEY, 841 FINLEY AVE. BP. **City:** BIRMINGHAM

State: ALABAMA **Zip:** 35204 **County:** JEFFERSON

Location Description: **Location Setting:** SUBURBAN

Collection Method: GPS - UNSPECIFIED **Land Use:** RESIDENTIAL

Date Established: 1/1/1981 **Date Terminated:** **Last Updated:** 03/22/2005

Regional Eval Date: 11/16/1981 **HQ Eval Date:**

MSA/CMSA: BIRMINGHAM, AL **AQCR:** METROPOLITAN BIRMINGHAM

Type Met Site: **Dist to Met Site (m):** **Direct Met Site:** **Met Site ID:**

Urban Area: BIRMINGHAM, AL **Local Region:**

City Population: **Dir. to CBD:** SE **Dist to City (km):** 6 **EPA Region:**

Census Block: **Block Group:** **Census Tract:**

Congressional District: **Class 1 Area:**

Site Latitude: 33.529444 **Site Longitude:** -86.850278 **Time Zone:** CENTRAL

UTM Zone: 16 **UTM Northing:** 3709800 **UTM Easting:** 513902

Accuracy: 15 **Datum:** WGS84 **Scale:** 0 **Point/Line/Area:** POINT

Vertical Measure (m): 170 **Vertical Accuracy:** 0 **Vertical Method:** 000

Vertical Datum: UNKNOWN **Agency:** JEFFERSON COUNTY, AL DEPARTMENT OF HEALTH

Site Comments: NAMS MICRO SCALE CARBON MONOXIDE AND PB SLAMS CARBON MONOXIDE

Traffic Information:

Tangent Road	Tangent Road Name	Traffic Count	Year of Traffic Count	Source of Traffic Count	Type Road	Direction from Site to Road
1	UNKNOWN	30000			EXPRESSWAY	UNK

Air Quality Subsystem

Site Description

Site AQS ID: 01-073-0023 **Site ID:** NBAL **Local ID:**

Address: NO. B'HAM,SOU R.R., 3009 28TH ST. NO. **City:** BIRMINGHAM

State: ALABAMA **Zip:** 35207 **County:** JEFFERSON

Location Description: **Location Setting:** URBAN AND CENTER CITY

Collection Method: GPS - UNSPECIFIED **Land Use:** COMMERCIAL

Date Established: 3/12/1979 **Date Terminated:** **Last Updated:** 03/22/2005

Regional Eval Date: **HQ Eval Date:** 07/17/1980

MSA/CMSA: BIRMINGHAM, AL **AQCR:** METROPOLITAN BIRMINGHAM

Type Met Site: **Dist to Met Site (m):** **Direct Met Site:** **Met Site ID:**

Urban Area: BIRMINGHAM, AL **Local Region:**

City Population: **Dir. to CBD:** N **Dist to City (km):** 4 **EPA Region:**

Census Block: **Block Group:** **Census Tract:**

Congressional District: **Class 1 Area:**

Site Latitude: 33.553056 **Site Longitude:** -86.815 **Time Zone:** CENTRAL

UTM Zone: 16 **UTM Northing:** 3712423 **UTM Easting:** 517173

Accuracy: 15 **Datum:** **Scale:** 0 **Point/Line/Area:** POINT

Vertical Measure (m): 174 **Vertical Accuracy:** 0 **Vertical Method:** 000

Vertical Datum: UNKNOWN **Agency:** JEFFERSON COUNTY, AL DEPARTMENT OF HEALTH

Site Comments: NAMS PM10 SITE POC 4 IS A CONTINUOUS PM10 MONITOR

Traffic Information:

Tangent Road	Tangent Road Name	Traffic Count	Year of Traffic Count	Source of Traffic Count	Type Road	Direction from Site to Road
1	28TH STREET NORTH	2000	1994		LOCAL ST OR HY	W

Air Quality Subsystem

Site Description

Site AQS ID: 01-073-1009 **Site ID:** PVAL **Local ID:**

Address: 1801 BRUCE SHAW ROAD **City:** NOT IN A CITY

State: ALABAMA **Zip:** 35006 **County:** JEFFERSON

Location Description: **Location Setting:** RURAL

Collection Method: GPS - UNSPECIFIED **Land Use:** RESIDENTIAL

Date Established: 1/1/2000 **Date Terminated:** **Last Updated:** 03/22/2005

Regional Eval Date: **HQ Eval Date:**

MSA/CMSA: BIRMINGHAM, AL **AQCR:** METROPOLITAN BIRMINGHAM

Type Met Site: **Dist to Met Site (m):** **Direct Met Site:** **Met Site ID:**

Urban Area: NOT IN AN URBAN AREA **Local Region:**

City Population: **Dir. to CBD:** **Dist to City (km):** **EPA Region:**

Census Block: **Block Group:** **Census Tract:**

Congressional District: **Class 1 Area:**

Site Latitude: 33.459722 **Site Longitude:** -87.305556 **Time Zone:**

UTM Zone: 16 **UTM Northing:** 3702102 **UTM Easting:** 471604

Accuracy: 15 **Datum:** WGS84 **Scale:** 0 **Point/Line/Area:** POINT

Vertical Measure (m): 14 **Vertical Accuracy:** 5 **Vertical Method:** 014

Vertical Datum: NGVD29 **Agency:** JEFFERSON COUNTY, AL DEPARTMENT OF HEALTH

Site Comments:

Traffic Information:

Tangent Road	Tangent Road Name	Traffic Count	Year of Traffic Count	Source of Traffic Count	Type Road	Direction from Site to Road
1	LOCK 17 ROAD				LOCAL ST OR HY	S

Air Quality Subsystem

Site Description

Site AQS ID: 01-073-6004 **Site ID:** SIAL **Local ID:**

Address: 4113 SHUTTLESWORTH DRIVE **City:** BIRMINGHAM

State: ALABAMA **Zip:** 35207 **County:** JEFFERSON

Location Description: **Location Setting:** URBAN AND CENTER CITY

Collection Method: GPS - UNSPECIFIED **Land Use:** RESIDENTIAL

Date Established: 1/24/1996 **Date Terminated:** **Last Updated:** 3/22/2005

Regional Eval Date: **HQ Eval Date:**

MSA/CMSA: BIRMINGHAM, AL **AQCR:**

Type Met Site: **Dist to Met Site (m):** **Direct Met Site:** **Met Site ID:**

Urban Area: BIRMINGHAM, AL **Local Region:**

City Population: **Dir. to CBD:** **Dist to City (km):** **EPA Region:**

Census Block: **Block Group:** **Census Tract:**

Congressional District: **Class 1 Area:**

Site Latitude: 33.565278 **Site Longitude:** -86.796389 **Time Zone:** CENTRAL

UTM Zone: 16 **UTM Northing:** 3713782 **UTM Easting:** 518899

Accuracy: 15 **Datum:** WGS84 **Scale:** 0 **Point/Line/Area:**

Vertical Measure (m): 179 **Vertical Accuracy:** 15 **Vertical Method:** 8

Vertical Datum: UNKNOWN **Agency:** JEFFERSON COUNTY, AL DEPARTMENT OF HEALTH

Site Comments:

Traffic Information:

Tangent Road	Tangent Road Name	Traffic Count	Year of Traffic Count	Source of Traffic Count	Type Road	Direction from Site to Road
42	AVENUE NORTH				LOCAL ST OR HY	E

Air Quality Subsystem

Site Description

Site AQS ID: 08-077-0018 **Site ID:** GPCO **Local ID:**

Address: 645 1/4 PITKIN AVE. **City:** GRAND JUNCTION

State: COLORADO **Zip:** 81501 **County:** MESA

Location Description: **Location Setting:** URBAN AND CENTER CITY

Collection Method: GPS - UNSPECIFIED **Land Use:** COMMERCIAL

Date Established: 1/15/2004 **Date Terminated:** **Last Updated:** 02/03/2004

Regional Eval Date: **HQ Eval Date:**

MSA/CMSA: GRAND JUNCTION, CO **AQCR:**

Type Met Site: **Dist to Met Site (m):** **Direct Met Site:** **Met Site ID:**

Urban Area: GRAND JUNCTION, CO **Local Region:**

City Population: **Dir. to CBD:** **Dist to City (km):** **EPA Region:**

Census Block: **Block Group:** **Census Tract:**

Congressional District: **Class 1 Area:**

Site Latitude: 39.066201 **Site Longitude:** -108.561659 **Time Zone:** MOUNTAIN

UTM Zone: 12 **UTM Northing:** 4326741 **UTM Easting:** 710962

Accuracy: 1 **Datum:** NAD83 **Scale:** 24000 **Point/Line/Area:**

Vertical Measure (m): 1396 **Vertical Accuracy:** 1 **Vertical Method:** 1

Vertical Datum: MEAN SEA-LEVEL **Agency:** COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT

Site Comments: IN PARKING LOT TO NORTH OF POWELL BLDG. PARTICULATE SITE (08-077-0017)

Traffic Information:

Tangent Road	Tangent Road Name	Traffic Count	Year of Traffic Count	Source of Traffic Count	Type Road	Direction from Site to Road
1	PITKIN AVE.	13525	2001	DOT	THRU ST OR HY	N
2	7TH ST.	5015	2002	DOT	LOCAL ST OR HY	E
3	SOUTH AVE.	1032	2000	DOT	LOCAL ST OR HY	S

Air Quality Subsystem

Site Description

Site AQS ID: 11-001-0043 **Site ID:** WADC **Local ID:** 0043

Address: S.E. END MCMILLIAN RESERVOIR, WASH. DC. **City:** NOT IN A CITY

State: DISTRICT OF COLUMBIA **Zip:** ~20001 **County:** DISTRICT OF COLUMBIA

Location Description: **Location Setting:** URBAN AND CENTER CITY

Collection Method: **Land Use:** COMMERCIAL

Date Established: 9/9/1993 **Date Terminated:** **Last Updated:**

Regional Eval Date: 09/10/1993 **HQ Eval Date:** 09/10/1993

MSA/CMSA: WASHINGTON-ARLINGTON-ALEXANDRIA, DC-VA-MD-WV **AQCR:** NATIONAL CAPITAL

Type Met Site: **Dist to Met Site (m):** 1 **Direct Met Site:** S **Met Site ID:**

Urban Area: WASHINGTON, DC-MD-VA **Local Region:**

City Population: **Dir. to CBD:** NW **Dist to City (km):** **EPA Region:**

Census Block: **Block Group:** **Census Tract:**

Congressional District: **Class 1 Area:**

Site Latitude: 38.918889 **Site Longitude:** -77.0125 **Time Zone:**

UTM Zone: 18 **UTM Northing:** 4309493 **UTM Easting:** 325523

Accuracy: 5 **Datum:** NAD27 **Scale:** 24000 **Point/Line/Area:** POINT

Vertical Measure (m): 50 **Vertical Accuracy:** 0 **Vertical Method:** 000

Vertical Datum: UNKNOWN **Agency:** DC DEPT. OF HEALTH - BEQ AIR QUALITY DIV.

Site Comments:

Traffic Information:

Tangent Road	Tangent Road Name	Traffic Count	Year of Traffic Count	Source of Traffic Count	Type Road	Direction from Site to Road
1	NORTH CAPITOL STREET	27000	1992		MAJ ST OR HY	E
2	MICHIGAN AVE.	16000	1992		MAJ ST OR HY	N
3	BRYANT STREET	4500	1992		LOCAL ST OR HY	NE
4	3RD STREET	4900	1992		LOCAL ST OR HY	SW
5	1ST. STREET	11000	1992		LOCAL ST OR HY	E
6	4TH. STREET	12400	1992		LOCAL ST OR HY	W

Air Quality Subsystem

Site Description

Site AQS ID: 12-057-3002 **Site ID:** SYFL **Local ID:**

Address: 1167 NORTH DOVER ROAD **City:** PLANT CITY

State: FLORIDA **Zip:** 33527 **County:** HILLSBOROUGH

Location Description: **Location Setting:** RURAL

Collection Method: GPS - UNSPECIFIED **Land Use:** RESIDENTIAL

Date Established: 1/1/2004 **Date Terminated:** **Last Updated:** 04/06/2004

Regional Eval Date: **HQ Eval Date:**

MSA/CMSA: TAMPA-ST. PETERSBURG-CLEARWATER, FL **AQCR:** WEST CENTRAL FLORIDA

Type Met Site: **Dist to Met Site (m):** **Direct Met Site:** **Met Site ID:**

Urban Area: TAMPA-ST. PETERSBURG-CLEARWATER, FL **Local Region:**

City Population: **Dir. to CBD:** N **Dist to City (km):** **EPA Region:**

Census Block: **Block Group:** **Census Tract:**

Congressional District: **Class 1 Area:**

Site Latitude: 27.96565 **Site Longitude:** -82.2304 **Time Zone:** EASTERN

UTM Zone: 17 **UTM Northing:** 3093835 **UTM Easting:** 378978

Accuracy: 0 **Datum:** NAD83 **Scale:** 24000 **Point/Line/Area:** POINT

Vertical Measure (m): 20 **Vertical Accuracy:** 0.01 **Vertical Method:** 008

Vertical Datum: MEAN SEA-LEVEL **Agency:** HILLSBOROUGH COUNTY ENVIRONMENTAL PROTECTION COMMISSION

Site Comments:

Traffic Information:

Tangent Road	Tangent Road Name	Traffic Count	Year of Traffic Count	Source of Traffic Count	Type Road	Direction from Site to Road
1	SYDNEY ROAD	1945	2002		LOCAL ST OR HY	N
2	DOVER ROAD	3197	2002		LOCAL ST OR HY	E

Air Quality Subsystem

Site Description

Site AQS ID: 13-089-0002 **Site ID:** SDGA **Local ID:**

Address: SOUTH DEKALB **City:** DECATUR

State: GEORGIA **Zip:** 30034 **County:** DEKALB

Location Description: **Location Setting:** SUBURBAN

Collection Method: GPS CODE (PSEUDO RANGE) PRECISE POSITION **Land Use:** RESIDENTIAL

Date Established: 1/1/1974 **Date Terminated:** **Last Updated:**

Regional Eval Date: **HQ Eval Date:** 07/16/1980

MSA/CMSA: ATLANTA-SANDY SPRINGS-MARIETTA, GA **AQCR:** METROPOLITAN ATLANTA

Type Met Site: **Dist to Met Site (m):** **Direct Met Site:** **Met Site ID:**

Urban Area: ATLANTA, GA **Local Region:**

City Population: **Dir. to CBD:** SE **Dist to City (km):** 8 **EPA Region:**

Census Block: **Block Group:** **Census Tract:**

Congressional District: **Class 1 Area:**

Site Latitude: 33.6875 **Site Longitude:** -84.290278 **Time Zone:** EASTERN

UTM Zone: 16 **UTM Northing:** 3730641 **UTM Easting:** 751191

Accuracy: 0 **Datum:** NAD27 **Scale:** 24000 **Point/Line/Area:** POINT

Vertical Measure (m): 308 **Vertical Accuracy:** 0 **Vertical Method:** 000

Vertical Datum: UNKNOWN **Agency:** GEORGIA AIR PROTECTION BRANCH AMBIENT MONITORING PROGRAM

Site Comments: LOCATED ON DEKALB CO. SCHOOLS ENVIRONMENTAL EDUCATION PROPERTY

Traffic Information:

Tangent Road	Tangent Road Name	Traffic Count	Year of Traffic Count	Source of Traffic Count	Type Road	Direction from Site to Road
1	CLIFTON SPRINGS RD	500	1997		LOCAL ST OR HY	N
2	WILDCAT ROAD	10	1997		LOCAL ST OR HY	S
3	I-285	98000	1995		EXPRESSWAY	NW

Air Quality Subsystem

Site Description

Site AQS ID: 17-031-4201 **Site ID:** NBIL **Local ID:**

Address: 750 DUNDEE RD. **City:** NORTHBROOK

State: ILLINOIS **Zip:** 60062 **County:** COOK

Location Description: **Location Setting:** SUBURBAN

Collection Method: GPS CODE (PSEUDO RANGE) PRECISE POSITION **Land Use:** RESIDENTIAL

Date Established: 3/20/1997 **Date Terminated:** **Last Updated:** 07/19/2003

Regional Eval Date: **HQ Eval Date:**

MSA/CMSA: CHICAGO-NAPERVILLE-JOLIET, IL-IN-WI **AQCR:** METROPOLITAN CHICAGO

Type Met Site: **Dist to Met Site (m):** **Direct Met Site:** **Met Site ID:**

Urban Area: CHICAGO, IL-NORTHWESTERN INDIANA **Local Region:**

City Population: **Dir. to CBD:** NE **Dist to City (km):** 32 **EPA Region:**

Census Block: **Block Group:** **Census Tract:**

Congressional District: **Class 1 Area:**

Site Latitude: 42.14 **Site Longitude:** -87.799167 **Time Zone:** CENTRAL

UTM Zone: 16 **UTM Northing:** 4665414 **UTM Easting:** 433955

Accuracy: 20 **Datum:** NAD27 **Scale:** 24000 **Point/Line/Area:** POINT

Vertical Measure (m): 198 **Vertical Accuracy:** 5 **Vertical Method:** 014

Vertical Datum: MEAN SEA-LEVEL **Agency:** ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

Site Comments:

Traffic Information:

Tangent Road	Tangent Road Name	Traffic Count	Year of Traffic Count	Source of Traffic Count	Type Road	Direction from Site to Road
1	DUNDEE ROAD	34900	1993		ARTERIAL	S

Air Quality Subsystem

Site Description

Site AQS ID: 21-193-0003 **Site ID:** HAKY **Local ID:** KAIRS 13

Address: PERRY COUNTY HORSE PARK **City:** HAZARD

State: KENTUCKY **Zip:** ~41701 **County:** PERRY

Location Description: **Location Setting:** SUBURBAN

Collection Method: INTERPOLATION-MAP **Land Use:** RESIDENTIAL

Date Established: 12/15/1999 **Date Terminated:** **Last Updated:**

Regional Eval Date: **HQ Eval Date:**

MSA/CMSA: **AQCR:** APPALACHIAN

Type Met Site: **Dist to Met Site (m):** 77400 **Direct Met Site:** SW **Met Site ID:** 5626

Urban Area: NOT IN AN URBAN AREA **Local Region:**

City Population: **Dir. to CBD:** **Dist to City (km):** **EPA Region:**

Census Block: **Block Group:** **Census Tract:**

Congressional District: **Class 1 Area:**

Site Latitude: 37.283056 **Site Longitude:** -83.220278 **Time Zone:** EASTERN

UTM Zone: 17 **UTM Northing:** 4128405 **UTM Easting:** 303165

Accuracy: 0 **Datum:** NAD27 **Scale:** 24000 **Point/Line/Area:** POINT

Vertical Measure (m): 280 **Vertical Accuracy:** 0 **Vertical Method:** 000

Vertical Datum: UNKNOWN **Agency:** KENTUCKY DIVISION FOR AIR QUALITY

Site Comments:

Traffic Information:

Tangent Road	Tangent Road Name	Traffic Count	Year of Traffic Count	Source of Traffic Count	Type Road	Direction from Site to Road
1	WAYNE DAVIDSON RD	500	1999		LOCAL ST OR HY	W

Air Quality Subsystem

Site Description

Site AQS ID: 25-025-0042 **Site ID:** BOMA **Local ID:**

Address: HARRISON AVENUE **City:** BOSTON

State: MASSACHUSETTS **Zip:** 02119 **County:** SUFFOLK

Location Description: **Location Setting:** URBAN AND CENTER CITY

Collection Method: GPS CODE (PSEUDO RANGE) PRECISE POSITION **Land Use:** COMMERCIAL

Date Established: 12/15/1998 **Date Terminated:** **Last Updated:** 01/13/2005

Regional Eval Date: **HQ Eval Date:**

MSA/CMSA: BOSTON-CAMBRIDGE-QUINCY, MA-NH **AQCR:** METROPOLITAN BOSTON

Type Met Site: **Dist to Met Site (m):** **Direct Met Site:** **Met Site ID:**

Urban Area: BOSTON, MA **Local Region:**

City Population: **Dir. to CBD:** **Dist to City (km):** **EPA Region:**

Census Block: **Block Group:** **Census Tract:**

Congressional District: **Class 1 Area:**

Site Latitude: 42.32944 **Site Longitude:** -71.082778 **Time Zone:** EASTERN

UTM Zone: 19 **UTM Northing:** 4688242 **UTM Easting:** 328394

Accuracy: 15 **Datum:** **Scale:** 24000 **Point/Line/Area:** POINT

Vertical Measure (m): 6 **Vertical Accuracy:** 0 **Vertical Method:** 000

Vertical Datum: UNKNOWN **Agency:** MASS DEPT ENVIRONMENTAL PROTECTION-DIV AIR QUALITY CONTROL

Site Comments: 2004 OCTOBER, SITE DOWN DUE TO TRAILER MOVE & WAITING FOR POWER REINSTALL

Traffic Information:

Tangent Road	Tangent Road Name	Traffic Count	Year of Traffic Count	Source of Traffic Count	Type Road	Direction from Site to Road
1	HARRISON AVENUE	12785	1999		LOCAL ST OR HY	E
2	DUDLEY STREET	8502	1999		LOCAL ST OR HY	S
3	WARREN STREET	6000	2000		LOCAL ST OR HY	W

Air Quality Subsystem

Site Description

Site AQS ID: 26-163-0033 **Site ID:** DEMI **Local ID:**

Address: 2842 WYOMING **City:** DEARBORN

State: MICHIGAN **Zip:** 48120 **County:** WAYNE

Location Description: **Location Setting:** SUBURBAN

Collection Method: **Land Use:** INDUSTRIAL

Date Established: 6/1/1990 **Date Terminated:** **Last Updated:** 01/04/2005

Regional Eval Date: **HQ Eval Date:**

MSA/CMSA: DETROIT-WARREN-LIVONIA, MI **AQCR:** METROPOLITAN DETROIT-PORT HURON

Type Met Site: **Dist to Met Site (m):** **Direct Met Site:** **Met Site ID:**

Urban Area: DETROIT, MI **Local Region:**

City Population: **Dir. to CBD:** **Dist to City (km):** **EPA Region:**

Census Block: **Block Group:** **Census Tract:**

Congressional District: **Class 1 Area:**

Site Latitude: 42.30754 **Site Longitude:** -83.14961 **Time Zone:**

UTM Zone: 17 **UTM Northing:** 4685946 **UTM Easting:** 322825

Accuracy: 0 **Datum:** **Scale:** 0 **Point/Line/Area:** POINT

Vertical Measure (m): 0 **Vertical Accuracy:** 0 **Vertical Method:** 000

Vertical Datum: UNKNOWN **Agency:** WAYNE COUNTY AIR POLLUTION CONTROL DIVISION

Site Comments: REPLACES SITE 32 AFTER RELOCATION

Traffic Information:

Tangent Road	Tangent Road Name	Traffic Count	Year of Traffic Count	Source of Traffic Count	Type Road	Direction from Site to Road
1	WYOMING	12791	1990		LOCAL ST OR HY	W

Air Quality Subsystem

Site Description

Site AQS ID: 28-047-0008 **Site ID:** GPMS **Local ID:**

Address: 47 Maple Street **City:** GULFPORT

State: MISSISSIPPI **Zip:** 39507 **County:** HARRISON

Location Description: **Location Setting:** RURAL

Collection Method: INTERPOLATION-MAP **Land Use:** COMMERCIAL

Date Established: 4/1/1999 **Date Terminated:** **Last Updated:** 11/30/2005

Regional Eval Date: **HQ Eval Date:**

MSA/CMSA: GULFPORT-BILOXI, MS **AQCR:** MOBILE-PENSACOLA-PANAMA CITY-SOUTHERN MISSISSIPPI

Type Met Site: **Dist to Met Site (m):** **Direct Met Site:** **Met Site ID:**

Urban Area: BILOXI-GULFPORT, MS **Local Region:**

City Population: **Dir. to CBD:** **Dist to City (km):** **EPA Region:**

Census Block: **Block Group:** **Census Tract:**

Congressional District: **Class 1 Area:**

Site Latitude: 30.390139 **Site Longitude:** -89.049722 **Time Zone:**

UTM Zone: 16 **UTM Northing:** 3363603 **UTM Easting:** 303062

Accuracy: 0 **Datum:** **Scale:** 24000 **Point/Line/Area:** POINT

Vertical Measure (m): 0 **Vertical Accuracy:** 0 **Vertical Method:** 000

Vertical Datum: UNKNOWN **Agency:** MISSISSIPPI DEQ, OFFICE OF POLLUTION

Site Comments: PM 2.5 TREND/SPECIATION SITE

Traffic Information:

Tangent Road	Tangent Road Name	Traffic Count	Year of Traffic Count	Source of Traffic Count	Type Road	Direction from Site to Road
1	PASS ROAD	17000	1995		MAJ ST OR HY	N

Air Quality Subsystem

Site Description

Site AQS ID: 29-510-0085 **Site ID:** S4MO **Local ID:**

Address: BLAIR ST **City:** ST. LOUIS

State: MISSOURI **Zip:** 63107 **County:** ST. LOUIS

Location Description: **Location Setting:** URBAN AND CENTER CITY

Collection Method: ADDRESS MATCHING-OTHER **Land Use:** RESIDENTIAL

Date Established: 3/1/1999 **Date Terminated:** **Last Updated:** 07/17/2003

Regional Eval Date: **HQ Eval Date:**

MSA/CMSA: ST. LOUIS, MO-IL **AQCR:** METROPOLITAN ST. LOUIS

Type Met Site: **Dist to Met Site (m):** **Direct Met Site:** **Met Site ID:**

Urban Area: ST. LOUIS, MO-IL **Local Region:**

City Population: **Dir. to CBD:** **Dist to City (km):** **EPA Region:**

Census Block: **Block Group:** **Census Tract:**

Congressional District: **Class 1 Area:**

Site Latitude: 38.655556 **Site Longitude:** -90.198333 **Time Zone:**

UTM Zone: 15 **UTM Northing:** 4282072 **UTM Easting:** 743801

Accuracy: 303 **Datum:** NAD27 **Scale:** 24000 **Point/Line/Area:** POINT

Vertical Measure (m): 0 **Vertical Accuracy:** 0 **Vertical Method:** 000

Vertical Datum: UNKNOWN **Agency:** ST LOUIS CITY DIVISION OF AIR POLLUTION CONTROL

Site Comments:

Traffic Information:

Tangent Road	Tangent Road Name	Traffic Count	Year of Traffic Count	Source of Traffic Count	Type Road	Direction from Site to Road
1	BLAIR STREET	22840	1995		LOCAL ST OR HY	W

Air Quality Subsystem

Site Description

Site AQS ID: 41-061-0119 **Site ID:** LAOR **Local ID:**

Address: 2806 N. ASH ST., LA GRANDE **City:** LA GRANDE

State: OREGON **Zip:** 97850 **County:** UNION

Location Description: **Location Setting:** URBAN AND CENTER CITY

Collection Method: GPS CARRIER PHASE STATIC RELATIVE POSITION **Land Use:** RESIDENTIAL

Date Established: 12/10/2003 **Date Terminated:** **Last Updated:** 12/21/2005

Regional Eval Date: **HQ Eval Date:**

MSA/CMSA: LA GRANDE, OR **AQCR:** EASTERN OREGON

Type Met Site: **Dist to Met Site (m):** **Direct Met Site:** **Met Site ID:**

Urban Area: NOT IN AN URBAN AREA **Local Region:**

City Population: **Dir. to CBD:** **Dist to City (km):** **EPA Region:**

Census Block: **Block Group:** **Census Tract:**

Congressional District: 5 **Class 1 Area:**

Site Latitude: 45.338972 **Site Longitude:** -117.904797 **Time Zone:** PACIFIC

UTM Zone: 11 **UTM Northing:** 5020787 **UTM Easting:** 429107

Accuracy: 23 **Datum:** NAD83 **Scale:** 24000 **Point/Line/Area:** POINT

Vertical Measure (m): 848 **Vertical Accuracy:** 0.01 **Vertical Method:** 000

Vertical Datum: UNKNOWN **Agency:** OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY

Site Comments: SITE RELOCATED FROM 41-061-0017 BECAUSE OF PM2.5 SURVEY

Traffic Information:

Tangent Road	Tangent Road Name	Traffic Count	Year of Traffic Count	Source of Traffic Count	Type Road	Direction from Site to Road
1	N. ASH ST.	55	2003	DOT	LOCAL ST OR HY	E

Air Quality Subsystem

Site Description

Site AQS ID: 44-007-0022 **Site ID:** PRRI **Local ID:**

Address: 212 PRAIRIE AVE, PROVIDENCE RI **City:** PROVIDENCE

State: RHODE ISLAND **Zip:** 02905 **County:** PROVIDENCE

Location Description: **Location Setting:** URBAN AND CENTER CITY

Collection Method: GPS CODE (PSEUDO RANGE) PRECISE POSITION **Land Use:** RESIDENTIAL

Date Established: 1/1/1999 **Date Terminated:** **Last Updated:** 06/17/2004

Regional Eval Date: **HQ Eval Date:**

MSA/CMSA: PROVIDENCE-NEW BEDFORD-FALL RIVER, RI-MA **AQCR:** METROPOLITAN PROVIDENCE

Type Met Site: **Dist to Met Site (m):** **Direct Met Site:** **Met Site ID:**

Urban Area: PROVIDENCE-PAWTUCKET, RI-MA **Local Region:**

City Population: **Dir. to CBD:** **Dist to City (km):** **EPA Region:**

Census Block: **Block Group:** **Census Tract:**

Congressional District: **Class 1 Area:**

Site Latitude: 41.807949 **Site Longitude:** -71.415 **Time Zone:**

UTM Zone: 19 **UTM Northing:** **UTM Easting:** 299383

Accuracy: 15 **Datum:** **Scale:** 0 **Point/Line/Area:** POINT

Vertical Measure (m): 0 **Vertical Accuracy:** 0 **Vertical Method:** 000

Vertical Datum: UNKNOWN **Agency:** RHODE ISLAND DEM AND DOH

Site Comments:

Traffic Information:

Tangent Road	Tangent Road Name	Traffic Count	Year of Traffic Count	Source of Traffic Count	Type Road	Direction from Site to Road
1	PRAIRIE AVE	5500	1996		THRU ST OR HY	W

Air Quality Subsystem

Site Description

Site AQS ID: 45-025-0001 **Site ID:** CHSC **Local ID:**

Address: RT 2 BOX 100 MCBEE (SC145) **City:** NOT IN A CITY

State: SOUTH CAROLINA **Zip:** 29101 **County:** CHESTERFIELD

Location Description: **Location Setting:** RURAL

Collection Method: GPS CARRIER PHASE STATIC RELATIVE POSITION **Land Use:** FOREST

Date Established: 1/6/2000 **Date Terminated:** **Last Updated:** 08/15/2005

Regional Eval Date: **HQ Eval Date:**

MSA/CMSA: **AQCR:** FLORENCE

Type Met Site: **Dist to Met Site (m):** **Direct Met Site:** **Met Site ID:**

Urban Area: NOT IN AN URBAN AREA **Local Region:**

City Population: **Dir. to CBD:** NNE **Dist to City (km):** 14.5 **EPA Region:**

Census Block: **Block Group:** **Census Tract:**

Congressional District: **Class 1 Area:**

Site Latitude: 34.617119 **Site Longitude:** -80.198789 **Time Zone:** EASTERN

UTM Zone: 17 **UTM Northing:** 3830681 **UTM Easting:** 573453

Accuracy: 0 **Datum:** NAD83 **Scale:** 24000 **Point/Line/Area:** POINT

Vertical Measure (m): 133 **Vertical Accuracy:** 0.03 **Vertical Method:** 000

Vertical Datum: MEAN SEA-LEVEL **Agency:** SOUTH CAROLINA DEPARTMENT HEALTH AND ENVIRONMENTAL CONTROL

Site Comments: NEXT TO THE RUBY FIRE TOWER

Traffic Information:

Tangent Road	Tangent Road Name	Traffic Count	Year of Traffic Count	Source of Traffic Count	Type Road	Direction from Site to Road
1	HWY 175	150	2000		THRU ST OR HY	SE

Air Quality Subsystem

Site Description

Site AQS ID: 48-453-7000 **Site ID:** WETX **Local ID:**

Address: 2600-B WEBBERVILLE ROAD **City:** AUSTIN

State: TEXAS **Zip:** 78702 **County:** TRAVIS

Location Description: **Location Setting:** URBAN AND CENTER CITY

Collection Method: INTERPOLATION - DIGITAL MAP SRCE (TIGER) **Land Use:** RESIDENTIAL

Date Established: 6/15/2005 **Date Terminated:** **Last Updated:** 12/08/2005

Regional Eval Date: **HQ Eval Date:**

MSA/CMSA: AUSTIN-ROUND ROCK, TX **AQCR:** AUSTIN-WACO

Type Met Site: **Dist to Met Site (m):** **Direct Met Site:** **Met Site ID:**

Urban Area: AUSTIN, TX **Local Region:**

City Population: **Dir. to CBD:** **Dist to City (km):** **EPA Region:**

Census Block: **Block Group:** **Census Tract:**

Congressional District: **Class 1 Area:**

Site Latitude: 30.2632 **Site Longitude:** -97.7131 **Time Zone:** CENTRAL

UTM Zone: 14 **UTM Northing:** 3348470 **UTM Easting:** 623797

Accuracy: 40 **Datum:** WGS84 **Scale:** 24000 **Point/Line/Area:**

Vertical Measure (m): 142 **Vertical Accuracy:** 5 **Vertical Method:** 0

Vertical Datum: MEAN SEA-LEVEL **Agency:** RADIAN CORPORATION

Site Comments:

Traffic Information:

Air Quality Subsystem

Site Description

Site AQS ID: 49-011-0004 **Site ID:** BTUT **Local ID:**

Address: 171 WEST 1370 NORTH, BOUNTIFUL, UTAH **City:** BOUNTIFUL

State: UTAH **Zip:** 84010 **County:** DAVIS

Location Description: **Location Setting:** SUBURBAN

Collection Method: INTERPOLATION-MAP **Land Use:** RESIDENTIAL

Date Established: 7/12/2003 **Date Terminated:** **Last Updated:** 09/30/2003

Regional Eval Date: **HQ Eval Date:**

MSA/CMSA: OGDEN-CLEARFIELD, UT **AQCR:** WASATCH FRONT

Type Met Site: **Dist to Met Site (m):** **Direct Met Site:** **Met Site ID:**

Urban Area: SALT LAKE CITY, UT **Local Region:**

City Population: **Dir. to CBD:** **Dist to City (km):** **EPA Region:**

Census Block: **Block Group:** **Census Tract:**

Congressional District: **Class 1 Area:**

Site Latitude: 40.902967 **Site Longitude:** -111.884467 **Time Zone:**

UTM Zone: 12 **UTM Northing:** 4528150 **UTM Easting:** 425503

Accuracy: 20 **Datum:** WGS84 **Scale:** 24000 **Point/Line/Area:** POINT

Vertical Measure (m): 1309 **Vertical Accuracy:** 3 **Vertical Method:** 014

Vertical Datum: MEAN SEA-LEVEL **Agency:** UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY

Site Comments: NEW SITE TO REPLACE 490110001

Traffic Information:

Tangent Road	Tangent Road Name	Traffic Count	Year of Traffic Count	Source of Traffic Count	Type Road	Direction from Site to Road
1	200 WEST	7000	2001	DOT	THRU ST OR HY	W

Air Quality Subsystem

Site Description

Site AQS ID: 50-007-0014 **Site ID:** BURVT **Local ID:**

Address: 150 SOUTH WINOOSKI AVENUE **City:** BURLINGTON

State: VERMONT **Zip:** 05401 **County:** CHITTENDEN

Location Description: **Location Setting:** URBAN AND CENTER CITY

Collection Method: ADDRESS MATCHING-OTHER **Land Use:** COMMERCIAL

Date Established: 1/15/2003 **Date Terminated:** **Last Updated:** 10/15/2003

Regional Eval Date: **HQ Eval Date:**

MSA/CMSA: BURLINGTON-SOUTH BURLINGTON, VT **AQCR:** CHAMPLAIN VALLEY

Type Met Site: **Dist to Met Site (m):** **Direct Met Site:** **Met Site ID:**

Urban Area: BURLINGTON, VT **Local Region:**

City Population: **Dir. to CBD:** **Dist to City (km):** **EPA Region:**

Census Block: **Block Group:** **Census Tract:**

Congressional District: **Class 1 Area:**

Site Latitude: 44.476202 **Site Longitude:** -73.210383 **Time Zone:** EASTERN

UTM Zone: 18 **UTM Northing:** 4926106 **UTM Easting:** 642333

Accuracy: 1 **Datum:** NAD27 **Scale:** 1 **Point/Line/Area:**

Vertical Measure (m): 63.1 **Vertical Accuracy:** 1 **Vertical Method:** 8

Vertical Datum: MEAN SEA-LEVEL **Agency:** VERMONT AGENCY OF ENVIRONMENTAL CONSERVATION

Site Comments:

Traffic Information:

Air Quality Subsystem

Site Description

Site AQS ID: 50-007-0007 **Site ID:** UNVT **Local ID:**

Address: PROCTOR MAPLE RESEARCH FARM **City:** UNDERHILL (TOWN OF)

State: VERMONT **Zip:** 05489 **County:** CHITTENDEN

Location Description: **Location Setting:** RURAL

Collection Method: **Land Use:** FOREST

Date Established: 5/1/1988 **Date Terminated:** **Last Updated:** 12/08/2004

Regional Eval Date: **HQ Eval Date:**

MSA/CMSA: BURLINGTON-SOUTH BURLINGTON, VT **AQCR:** CHAMPLAIN VALLEY

Type Met Site: **Dist to Met Site (m):** **Direct Met Site:** **Met Site ID:**

Urban Area: BURLINGTON, VT **Local Region:**

City Population: **Dir. to CBD:** E **Dist to City (km):** **EPA Region:**

Census Block: **Block Group:** **Census Tract:**

Congressional District: **Class 1 Area:**

Site Latitude: 44.5275 **Site Longitude:** -72.874444 **Time Zone:** EASTERN

UTM Zone: 18 **UTM Northing:** 4932445 **UTM Easting:** 668903

Accuracy: 0 **Datum:** **Scale:** 0 **Point/Line/Area:** POINT

Vertical Measure (m): 342 **Vertical Accuracy:** 0 **Vertical Method:** 000

Vertical Datum: UNKNOWN **Agency:** VERMONT AGENCY OF ENVIRONMENTAL CONSERVATION

Site Comments: 47-0180-001-F01

Traffic Information:

Air Quality Subsystem

Site Description

Site AQS ID: 53-033-0080 **Site ID:** SEWA **Local ID:**

Address: BEACON HILL RESERVOIR/CHARLESTON & 15TH **City:** SEATTLE

State: WASHINGTON **Zip:** 98144 **County:** KING

Location Description: **Location Setting:** SUBURBAN

Collection Method: **Land Use:** INDUSTRIAL

Date Established: 6/4/1979 **Date Terminated:** **Last Updated:**

Regional Eval Date: **HQ Eval Date:**

MSA/CMSA: SEATTLE-TACOMA-BELLEVUE, WA **AQCR:** PUGET SOUND

Type Met Site: **Dist to Met Site (m):** **Direct Met Site:** **Met Site ID:**

Urban Area: SEATTLE, WA **Local Region:**

City Population: **Dir. to CBD:** SE **Dist to City (km):** 5 **EPA Region:**

Census Block: **Block Group:** **Census Tract:**

Congressional District: **Class 1 Area:**

Site Latitude: 47.569722 **Site Longitude:** -122.3125 **Time Zone:** PACIFIC

UTM Zone: 10 **UTM Northing:** 5268489 **UTM Easting:** 551711

Accuracy: 0 **Datum:** **Scale:** 0 **Point/Line/Area:** POINT

Vertical Measure (m): 96 **Vertical Accuracy:** 0 **Vertical Method:** 000

Vertical Datum: UNKNOWN **Agency:** WASHINGTON STATE DEPARTMENT OF ECOLOGY

Site Comments: NAMS NO2 SITE ESTAB. 6-4-79; ML 8440E.

Traffic Information:

Tangent Road	Tangent Road Name	Traffic Count	Year of Traffic Count	Source of Traffic Count	Type Road	Direction from Site to Road
1	UNKNOWN	20000			LOCAL ST OR HY	UNK

Air Quality Subsystem

Site Description

Site AQS ID: 55-027-0007 **Site ID:** MVWI **Local ID:**

Address: MAYVILLE, NEAR N6705 MADISON RD **City:** NOT IN A CITY

State: WISCONSIN **Zip:** ~53050 **County:** DODGE

Location Description: **Location Setting:** RURAL

Collection Method: **Land Use:** AGRICULTURAL

Date Established: 6/3/1994 **Date Terminated:** **Last Updated:** 07/09/2003

Regional Eval Date: **HQ Eval Date:**

MSA/CMSA: BEAVER DAM, WI **AQCR:** SOUTHERN WISCONSIN

Type Met Site: **Dist to Met Site (m):** **Direct Met Site:** **Met Site ID:**

Urban Area: NOT IN AN URBAN AREA **Local Region:**

City Population: **Dir. to CBD:** **Dist to City (km):** **EPA Region:**

Census Block: **Block Group:** **Census Tract:**

Congressional District: **Class 1 Area:**

Site Latitude: 43.435 **Site Longitude:** -88.527778 **Time Zone:** CENTRAL

UTM Zone: 16 **UTM Northing:** 4810036 **UTM Easting:** 376361

Accuracy: 30 **Datum:** NAD27 **Scale:** 24000 **Point/Line/Area:** POINT

Vertical Measure (m): 360 **Vertical Accuracy:** 0 **Vertical Method:** 000

Vertical Datum: UNKNOWN **Agency:** WISCONSIN DEPT OF NATURAL RESOURCES, AIR MONITORING SECTION

Site Comments: TRAILER - 150M W OF STATE PATROL RADIO TOWER, APPROX 450M W OF MADISON RD

Traffic Information:

Tangent Road	Tangent Road Name	Traffic Count	Year of Traffic Count	Source of Traffic Count	Type Road	Direction from Site to Road
1	MADISON RD	100	1994	DOT	LOCAL ST OR HY	E
2	STH 67	1630	1989	DOT	THRU ST OR HY	W
3	STH 33	4260	1989	DOT	THRU ST OR HY	N

Appendix B

2005 Invalid Hexavalent Chromium Samples

Invalid Hexavalent Chromium Samples

Invalid Samples at BTUT

Analysis Method	Date Sampled	Sample Type	Sample ID	Invalid Reason
Hexavalent Chromium	9/7/2005	Field Sample	5091507-01	Power Failure
Hexavalent Chromium	11/18/2005	Field Sample	5112802-01	Lost or Damaged in Transit

Invalid Samples at BURVT

Analysis Method	Date Sampled	Sample Type	Sample ID	Invalid Reason
Hexavalent Chromium	4/4/2005	Collocated - C1	5040807-01	Lab Error
Hexavalent Chromium	4/4/2005	Collocated - C2	5040807-02	Lab Error
Hexavalent Chromium	12/24/2005	Field Sample	6010412-01	Unable to Reach Site

Invalid Samples at CHSC

Analysis Method	Date Sampled	Sample Type	Sample ID	Invalid Reason
Hexavalent Chromium	2/9/2005	Field Sample	5021113-01	Miscellaneous Void
Hexavalent Chromium	3/7/2005	Field Sample	5031601-01	Miscellaneous Void
Hexavalent Chromium	4/10/2005	Field Sample	5041205-01	Operator Error
Hexavalent Chromium	9/13/2005	Field Sample	5100706-01	Insufficient Data (Cannot Calculate)

Invalid Samples at DEMI

Analysis Method	Date Sampled	Sample Type	Sample ID	Invalid Reason
Hexavalent Chromium	1/22/2005	Collocated - C1	5012701-03	Machine Malfunction
Hexavalent Chromium	1/22/2005	Collocated - C2	5012701-04	Machine Malfunction
Hexavalent Chromium	6/9/2005	Field Sample	5061502-03	Voided by Operator
Hexavalent Chromium	6/15/2005	Field Sample	5062001-01	Lost or Damaged in Transit
Hexavalent Chromium	8/20/2005	Field Sample	5082508-01	Operator Error
Hexavalent Chromium	9/1/2005	Field Sample	5090712-03	Lost or Damaged in Transit
Hexavalent Chromium	10/25/2005	Field Sample	5102808-01	Sample Time Out of Limits
Hexavalent Chromium	12/30/2005	Field Sample	6010423-01	Voided by Operator

Invalid Samples at ETAL

Analysis Method	Date Sampled	Sample Type	Sample ID	Invalid Reason
Hexavalent Chromium	12/30/2005	Field Sample	6010501-01	Machine Malfunction

Invalid Samples at GPCO

Analysis Method	Date Sampled	Sample Type	Sample ID	Invalid Reason
Hexavalent Chromium	2/9/2005	Field Sample	5021607-01	Collection Error

Invalid Samples at GPMS

Analysis Method	Date Sampled	Sample Type	Sample ID	Invalid Reason
Hexavalent Chromium	10/20/2005	Field Sample	5102503-04	Voided by Operator
Hexavalent Chromium	11/27/2005	Field Sample	5112910-20	Power Failure

Invalid Samples at HAKY

Analysis Method	Date Sampled	Sample Type	Sample ID	Invalid Reason
Hexavalent Chromium	12/24/2005	Field Sample	6010415-01	Unable to Reach Site

Invalid Samples at LAOR

Analysis Method	Date Sampled	Sample Type	Sample ID	Invalid Reason
Hexavalent Chromium	4/4/2005	Field Sample	5040705-01	Collection Error
Hexavalent Chromium	8/20/2005	Field Sample	5082321-01	Collection Error
Hexavalent Chromium	9/19/2005	Field Sample	5092311-01	Collection Error

Invalid Samples at MVWI

Analysis Method	Date Sampled	Sample Type	Sample ID	Invalid Reason
Hexavalent Chromium	10/1/2005	Field Sample	5100419-01	Miscellaneous Void

Invalid Samples at NBIL

Analysis Method	Date Sampled	Sample Type	Sample ID	Invalid Reason
Hexavalent Chromium	1/16/2005	Field Sample	5011804-01	Construction/Repairs in Area
Hexavalent Chromium	2/9/2005	Field Sample	5021105-01	Construction/Repairs in Area
Hexavalent Chromium	2/21/2005	Collocated - C1	5022305-01	Construction/Repairs in Area
Hexavalent Chromium	2/21/2005	Collocated - C2	5022305-02	Construction/Repairs in Area
Hexavalent Chromium	11/24/2005	Collocated - C1	5112801-01	Lost or Damaged in Transit
Hexavalent Chromium	11/24/2005	Collocated - C2	5112801-02	Lost or Damaged in Transit

Invalid Samples at PRRI

Analysis Method	Date Sampled	Sample Type	Sample ID	Invalid Reason
Hexavalent Chromium	12/12/2005	Field Sample	5122012-02	Power Failure

Invalid Samples at PVAL

Analysis Method	Date Sampled	Sample Type	Sample ID	Invalid Reason
Hexavalent Chromium	9/1/2005	Field Sample	5091311-01	Sample Time Out of Limits
Hexavalent Chromium	9/13/2005	Field Sample	5092218-04	Sample Time Out of Limits

Invalid Samples at S4MO

Analysis Method	Date Sampled	Sample Type	Sample ID	Invalid Reason
Hexavalent Chromium	5/10/2005	Collocated - C1	5051318-01	Interference/Co-Elution
Hexavalent Chromium	6/15/2005	Field Sample	5062101-02	Voided by Operator
Hexavalent Chromium	11/24/2005	Collocated - C1	5112916-05	Miscellaneous Void

Invalid Samples at SDGA

Analysis Method	Date Sampled	Sample Type	Sample ID	Invalid Reason
Hexavalent Chromium	9/19/2005	Field Sample	5092306-01	Technician Unavailable

Invalid Samples at SEWA

Analysis Method	Date Sampled	Sample Type	Sample ID	Invalid Reason
Hexavalent Chromium	1/16/2005	Field Sample	5012014-01	Machine Malfunction

Invalid Samples at SYFL

Analysis Method	Date Sampled	Sample Type	Sample ID	Invalid Reason
Hexavalent Chromium	8/8/2005	Field Sample	5081118-02	Lab Error
Hexavalent Chromium	8/26/2005	Field Sample	5083101-02	Power Failure

Invalid Samples at UNVT

Analysis Method	Date Sampled	Sample Type	Sample ID	Invalid Reason
Hexavalent Chromium	9/7/2005	Field Sample	5091304-01	Lab Error
Hexavalent Chromium	10/25/2005	Field Sample	5102803-01	Power Failure
Hexavalent Chromium	10/31/2005	Field Sample	5110410-01	Miscellaneous Void
Hexavalent Chromium	12/24/2005	Field Sample	6010409-01	Unable to Reach Site

Invalid Samples at WADC

Analysis Method	Date Sampled	Sample Type	Sample ID	Invalid Reason
Hexavalent Chromium	9/13/2005	Field Sample	5091502-01	Lab Error

Invalid Samples at WETX

Analysis Method	Date Sampled	Sample Type	Sample ID	Invalid Reason
Hexavalent Chromium	6/27/2005	Field Sample	5063001-01	Collection Error
Hexavalent Chromium	8/26/2005	Field Sample	5090605-04	Lost or Damaged in Transit
Hexavalent Chromium	11/18/2005	Field Sample	5112803-01	Lost or Damaged in Transit

Appendix C

2005 Hexavalent Chromium Sampling Results

BOMA Hexavalent Chromium Sampling Results

Sample Date:	1/10/2005
Sample Type:	Field Sample
ID:	5011401-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	2/21/2005
Sample Type:	Collocated - C2
ID:	5022304-02
Units	ng/m3
Hexavalent Chromium	0.0322

Sample Date:	4/16/2005
Sample Type:	Field Sample
ID:	5042004-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	1/16/2005
Sample Type:	Field Sample
ID:	5012003-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	2/27/2005
Sample Type:	Field Sample
ID:	5030301-01
Units	ng/m3
Hexavalent Chromium	0.0394

Sample Date:	4/22/2005
Sample Type:	Field Sample
ID:	5042603-01
Units	ng/m3
Hexavalent Chromium	0.0412

Sample Date:	1/22/2005
Sample Type:	Collocated - C1
ID:	5020101-01
Units	ng/m3
Hexavalent Chromium	0.0216

Sample Date:	3/5/2005
Sample Type:	Field Sample
ID:	5030812-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	4/28/2005
Sample Type:	Field Sample
ID:	5050302-01
Units	ng/m3
Hexavalent Chromium	0.0397

Sample Date:	1/22/2005
Sample Type:	Collocated - C2
ID:	5020101-02
Units	ng/m3
Hexavalent Chromium	0.0115

Sample Date:	3/11/2005
Sample Type:	Field Sample
ID:	5031504-01
Units	ng/m3
Hexavalent Chromium	0.0849

Sample Date:	5/4/2005
Sample Type:	Field Sample
ID:	5050620-01
Units	ng/m3
Hexavalent Chromium	0.183

Sample Date:	1/28/2005
Sample Type:	Field Sample
ID:	5020201-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	3/17/2005
Sample Type:	Field Sample
ID:	5032205-01
Units	ng/m3
Hexavalent Chromium	0.0593

Sample Date:	5/10/2005
Sample Type:	Collocated - C1
ID:	5051319-01
Units	ng/m3
Hexavalent Chromium	0.174

Sample Date:	2/3/2005
Sample Type:	Field Sample
ID:	5020804-01
Units	ng/m3
Hexavalent Chromium	0.0259

Sample Date:	3/23/2005
Sample Type:	Field Sample
ID:	5032504-01
Units	ng/m3
Hexavalent Chromium	0.0948

Sample Date:	5/10/2005
Sample Type:	Collocated - C2
ID:	5051319-02
Units	ng/m3
Hexavalent Chromium	0.185

Sample Date:	2/9/2005
Sample Type:	Field Sample
ID:	5021110-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	3/29/2005
Sample Type:	Field Sample
ID:	5040104-01
Units	ng/m3
Hexavalent Chromium	0.0474

Sample Date:	5/16/2005
Sample Type:	Field Sample
ID:	5051903-01
Units	ng/m3
Hexavalent Chromium	0.0520

Sample Date:	2/15/2005
Sample Type:	Field Sample
ID:	5021707-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	4/4/2005
Sample Type:	Field Sample
ID:	5040702-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	5/22/2005
Sample Type:	Field Sample
ID:	5052504-01
Units	ng/m3
Hexavalent Chromium	0.0992

Sample Date:	2/21/2005
Sample Type:	Collocated - C1
ID:	5022304-01
Units	ng/m3
Hexavalent Chromium	0.0367

Sample Date:	4/10/2005
Sample Type:	Field Sample
ID:	5041403-01
Units	ng/m3
Hexavalent Chromium	0.0347

Sample Date:	6/3/2005
Sample Type:	Field Sample
ID:	5060722-01
Units	ng/m3
Hexavalent Chromium	0.0958

BOMA Hexavalent Chromium Sampling Results

Sample Date:	6/9/2005	**Sample Date:**	7/27/2005	**Sample Date:**	9/19/2005
Sample Type:	Field Sample	**Sample Type:**	Field Sample	**Sample Type:**	Field Sample
ID:	5061424-01	**ID:**	5072902-01	**ID:**	5092101-01
Units	ng/m3	**Units**	ng/m3	**Units**	ng/m3
Hexavalent Chromium	0.151	Hexavalent Chromium	ND	Hexavalent Chromium	0.0414
Sample Date:	6/15/2005	**Sample Date:**	8/2/2005	**Sample Date:**	9/25/2005
Sample Type:	Field Sample	**Sample Type:**	Field Sample	**Sample Type:**	Field Sample
ID:	5062107-01	**ID:**	5080411-02	**ID:**	5092903-01
Units	ng/m3	**Units**	ng/m3	**Units**	ng/m3
Hexavalent Chromium	0.0622	Hexavalent Chromium	0.0331	Hexavalent Chromium	0.0845
Sample Date:	6/21/2005	**Sample Date:**	8/8/2005	**Sample Date:**	10/1/2005
Sample Type:	Collocated - C1	**Sample Type:**	Field Sample	**Sample Type:**	Field Sample
ID:	5062306-01	**ID:**	5081001-01	**ID:**	5100424-01
Units	ng/m3	**Units**	ng/m3	**Units**	ng/m3
Hexavalent Chromium	0.0367	Hexavalent Chromium	0.0402	Hexavalent Chromium	0.0362
Sample Date:	6/21/2005	**Sample Date:**	8/14/2005	**Sample Date:**	10/7/2005
Sample Type:	Collocated - C2	**Sample Type:**	Field Sample	**Sample Type:**	Field Sample
ID:	5062306-02	**ID:**	5081612-01	**ID:**	5101211-01
Units	ng/m3	**Units**	ng/m3	**Units**	ng/m3
Hexavalent Chromium	ND	Hexavalent Chromium	0.269	Hexavalent Chromium	0.257
Sample Date:	6/27/2005	**Sample Date:**	8/20/2005	**Sample Date:**	10/13/2005
Sample Type:	Field Sample	**Sample Type:**	Field Sample	**Sample Type:**	Collocated - C1
ID:	5062907-01	**ID:**	5082317-01	**ID:**	5101819-01
Units	ng/m3	**Units**	ng/m3	**Units**	ng/m3
Hexavalent Chromium	0.0604	Hexavalent Chromium	0.0250	Hexavalent Chromium	0.0607
Sample Date:	7/3/2005	**Sample Date:**	8/26/2005	**Sample Date:**	10/13/2005
Sample Type:	Field Sample	**Sample Type:**	Field Sample	**Sample Type:**	Collocated - C2
ID:	5070705-01	**ID:**	5083014-01	**ID:**	5101819-02
Units	ng/m3	**Units**	ng/m3	**Units**	ng/m3
Hexavalent Chromium	0.111	Hexavalent Chromium	0.0277	Hexavalent Chromium	0.0478
Sample Date:	7/9/2005	**Sample Date:**	9/1/2005	**Sample Date:**	10/19/2005
Sample Type:	Field Sample	**Sample Type:**	Field Sample	**Sample Type:**	Field Sample
ID:	5071219-01	**ID:**	5090702-01	**ID:**	5102510-01
Units	ng/m3	**Units**	ng/m3	**Units**	ng/m3
Hexavalent Chromium	0.0417	Hexavalent Chromium	0.0649	Hexavalent Chromium	0.0481
Sample Date:	7/15/2005	**Sample Date:**	9/7/2005	**Sample Date:**	10/25/2005
Sample Type:	Field Sample	**Sample Type:**	Field Sample	**Sample Type:**	Field Sample
ID:	5071909-01	**ID:**	5091306-01	**ID:**	5102805-01
Units	ng/m3	**Units**	ng/m3	**Units**	ng/m3
Hexavalent Chromium	0.0612	Hexavalent Chromium	ND	Hexavalent Chromium	0.0857
Sample Date:	7/21/2005	**Sample Date:**	9/13/2005	**Sample Date:**	10/31/2005
Sample Type:	Field Sample	**Sample Type:**	Field Sample	**Sample Type:**	Collocated - C1
ID:	5072801-01	**ID:**	5091606-01	**ID:**	5110212-01
Units	ng/m3	**Units**	ng/m3	**Units**	ng/m3
Hexavalent Chromium	ND	Hexavalent Chromium	0.0780	Hexavalent Chromium	ND

BOMA Hexavalent Chromium Sampling Results

Sample Date:	10/31/2005
Sample Type:	Collocated - C2
ID:	5110212-02
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	11/6/2005
Sample Type:	Collocated - C1
ID:	5110815-01
Units	ng/m3
Hexavalent Chromium	0.129

Sample Date:	11/6/2005
Sample Type:	Collocated - C2
ID:	5110815-02
Units	ng/m3
Hexavalent Chromium	0.0932

Sample Date:	11/12/2005
Sample Type:	Field Sample
ID:	5111516-01
Units	ng/m3
Hexavalent Chromium	0.0296

Sample Date:	11/18/2005
Sample Type:	Field Sample
ID:	5112215-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	11/24/2005
Sample Type:	Collocated - C1
ID:	5113006-01
Units	ng/m3
Hexavalent Chromium	0.0238

Sample Date:	11/24/2005
Sample Type:	Collocated - C2
ID:	5113006-02
Units	ng/m3
Hexavalent Chromium	0.0254

Sample Date:	11/30/2005
Sample Type:	Field Sample
ID:	5120243-02
Units	ng/m3
Hexavalent Chromium	0.151

Sample Date:	12/6/2005
Sample Type:	Field Sample
ID:	5120815-01
Units	ng/m3
Hexavalent Chromium	0.0168

Sample Date:	12/12/2005
Sample Type:	Field Sample
ID:	5121512-01
Units	ng/m3
Hexavalent Chromium	0.0178

Sample Date:	12/18/2005
Sample Type:	Field Sample
ID:	5122014-01
Units	ng/m3
Hexavalent Chromium	0.0267

Sample Date:	12/24/2005
Sample Type:	Field Sample
ID:	5122815-01
Units	ng/m3
Hexavalent Chromium	0.0277

Sample Date:	12/30/2005
Sample Type:	Field Sample
ID:	6010434-01
Units	ng/m3
Hexavalent Chromium	0.0445

BTUT Hexavalent Chromium Sampling Results

Sample Date:	1/16/2005
Sample Type:	Field Sample
ID:	5011902-03
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	3/11/2005
Sample Type:	Field Sample
ID:	5031501-01
Units	ng/m3
Hexavalent Chromium	0.0179

Sample Date:	5/4/2005
Sample Type:	Field Sample
ID:	5051002-01
Units	ng/m3
Hexavalent Chromium	0.0375

Sample Date:	1/22/2005
Sample Type:	Field Sample
ID:	5012602-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	3/17/2005
Sample Type:	Field Sample
ID:	5032201-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	5/10/2005
Sample Type:	Field Sample
ID:	5051314-01
Units	ng/m3
Hexavalent Chromium	0.0498

Sample Date:	1/28/2005
Sample Type:	Field Sample
ID:	5020108-01
Units	ng/m3
Hexavalent Chromium	0.0291

Sample Date:	3/23/2005
Sample Type:	Field Sample
ID:	5032505-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	5/17/2005
Sample Type:	Field Sample
ID:	5052004-01
Units	ng/m3
Hexavalent Chromium	0.0477

Sample Date:	2/3/2005
Sample Type:	Field Sample
ID:	5020803-01
Units	ng/m3
Hexavalent Chromium	0.0144

Sample Date:	3/29/2005
Sample Type:	Field Sample
ID:	5040101-02
Units	ng/m3
Hexavalent Chromium	0.0227

Sample Date:	5/22/2005
Sample Type:	Field Sample
ID:	5052506-01
Units	ng/m3
Hexavalent Chromium	0.0039

Sample Date:	2/10/2005
Sample Type:	Field Sample
ID:	5021506-01
Units	ng/m3
Hexavalent Chromium	0.0266

Sample Date:	4/4/2005
Sample Type:	Field Sample
ID:	5040803-01
Units	ng/m3
Hexavalent Chromium	0.0133

Sample Date:	5/28/2005
Sample Type:	Field Sample
ID:	5060111-01
Units	ng/m3
Hexavalent Chromium	0.0344

Sample Date:	2/15/2005
Sample Type:	Field Sample
ID:	5021801-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	4/10/2005
Sample Type:	Field Sample
ID:	5041305-01
Units	ng/m3
Hexavalent Chromium	0.0035

Sample Date:	6/3/2005
Sample Type:	Field Sample
ID:	5060703-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	2/21/2005
Sample Type:	Field Sample
ID:	5022501-01
Units	ng/m3
Hexavalent Chromium	0.0269

Sample Date:	4/16/2005
Sample Type:	Field Sample
ID:	5042007-01
Units	ng/m3
Hexavalent Chromium	0.0320

Sample Date:	6/9/2005
Sample Type:	Field Sample
ID:	5061420-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	2/27/2005
Sample Type:	Field Sample
ID:	5030201-01
Units	ng/m3
Hexavalent Chromium	0.0791

Sample Date:	4/22/2005
Sample Type:	Field Sample
ID:	5042704-01
Units	ng/m3
Hexavalent Chromium	0.0173

Sample Date:	6/15/2005
Sample Type:	Field Sample
ID:	5062106-01
Units	ng/m3
Hexavalent Chromium	0.0245

Sample Date:	3/5/2005
Sample Type:	Field Sample
ID:	5030809-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	4/28/2005
Sample Type:	Field Sample
ID:	5050501-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	6/21/2005
Sample Type:	Field Sample
ID:	5062407-01
Units	ng/m3
Hexavalent Chromium	ND

BTUT Hexavalent Chromium Sampling Results

Sample Date:	6/27/2005
Sample Type:	Field Sample
ID:	5063004-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	8/20/2005
Sample Type:	Field Sample
ID:	5082314-04
Units	ng/m3
Hexavalent Chromium	0.0217

Sample Date:	10/13/2005
Sample Type:	Field Sample
ID:	5101906-01
Units	ng/m3
Hexavalent Chromium	0.0378

Sample Date:	7/3/2005
Sample Type:	Field Sample
ID:	5070605-01
Units	ng/m3
Hexavalent Chromium	0.0628

Sample Date:	8/26/2005
Sample Type:	Field Sample
ID:	5083009-01
Units	ng/m3
Hexavalent Chromium	0.0208

Sample Date:	10/19/2005
Sample Type:	Field Sample
ID:	5102505-01
Units	ng/m3
Hexavalent Chromium	0.0421

Sample Date:	7/9/2005
Sample Type:	Field Sample
ID:	5071209-04
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	9/1/2005
Sample Type:	Field Sample
ID:	5090710-03
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	10/27/2005
Sample Type:	Field Sample
ID:	5110408-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	7/15/2005
Sample Type:	Field Sample
ID:	5072008-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	9/7/2005
Sample Type:	Field Sample
ID:	5091507-01
Units	ng/m3
Hexavalent Chromium	

Sample Date:	10/31/2005
Sample Type:	Field Sample
ID:	5110205-01
Units	ng/m3
Hexavalent Chromium	0.0336

Sample Date:	7/21/2005
Sample Type:	Field Sample
ID:	5072702-03
Units	ng/m3
Hexavalent Chromium	0.0438

Sample Date:	9/13/2005
Sample Type:	Field Sample
ID:	5091904-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	11/6/2005
Sample Type:	Field Sample
ID:	5110908-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	7/27/2005
Sample Type:	Field Sample
ID:	5072903-03
Units	ng/m3
Hexavalent Chromium	0.0207

Sample Date:	9/19/2005
Sample Type:	Field Sample
ID:	5092207-04
Units	ng/m3
Hexavalent Chromium	0.0328

Sample Date:	11/12/2005
Sample Type:	Field Sample
ID:	5111614-01
Units	ng/m3
Hexavalent Chromium	0.0285

Sample Date:	8/2/2005
Sample Type:	Field Sample
ID:	5080505-01
Units	ng/m3
Hexavalent Chromium	0.0174

Sample Date:	9/25/2005
Sample Type:	Field Sample
ID:	5092801-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	11/18/2005
Sample Type:	Field Sample
ID:	5112802-01
Units	ng/m3
Hexavalent Chromium	

Sample Date:	8/8/2005
Sample Type:	Field Sample
ID:	5081202-04
Units	ng/m3
Hexavalent Chromium	0.0171

Sample Date:	10/1/2005
Sample Type:	Field Sample
ID:	5100541-01
Units	ng/m3
Hexavalent Chromium	0.0232

Sample Date:	11/24/2005
Sample Type:	Field Sample
ID:	5113007-01
Units	ng/m3
Hexavalent Chromium	0.0246

Sample Date:	8/14/2005
Sample Type:	Field Sample
ID:	5082314-03
Units	ng/m3
Hexavalent Chromium	0.0387

Sample Date:	10/7/2005
Sample Type:	Field Sample
ID:	5101402-01
Units	ng/m3
Hexavalent Chromium	0.0610

Sample Date:	11/30/2005
Sample Type:	Field Sample
ID:	5120238-01
Units	ng/m3
Hexavalent Chromium	0.0179

BTUT Hexavalent Chromium Sampling Results

Sample Date:	12/6/2005
Sample Type:	Field Sample
ID:	5120913-01
Units	ng/m3
Hexavalent Chromium	0.0095

Sample Date:	12/12/2005
Sample Type:	Field Sample
ID:	5121513-01
Units	ng/m3
Hexavalent Chromium	0.0455

Sample Date:	12/18/2005
Sample Type:	Field Sample
ID:	5122111-04
Units	ng/m3
Hexavalent Chromium	0.0280

Sample Date:	12/24/2005
Sample Type:	Field Sample
ID:	5122811-02
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	12/30/2005
Sample Type:	Field Sample
ID:	6010604-03
Units	ng/m3
Hexavalent Chromium	0.0220

BURVT Hexavalent Chromium Sampling Results

Sample Date:	1/22/2005
Sample Type:	Collocated - C1
ID:	5012601-01
Units	ng/m3
Hexavalent Chromium	0.0114

Sample Date:	2/27/2005
Sample Type:	Collocated - C2
ID:	5030303-01
Units	ng/m3
Hexavalent Chromium	0.0520

Sample Date:	4/4/2005
Sample Type:	Collocated - C1
ID:	5040807-01
Units	ng/m3
Hexavalent Chromium	

Sample Date:	1/22/2005
Sample Type:	Collocated - C2
ID:	5012601-02
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	3/5/2005
Sample Type:	Collocated - C1
ID:	5030814-01
Units	ng/m3
Hexavalent Chromium	0.0454

Sample Date:	4/4/2005
Sample Type:	Collocated - C2
ID:	5040807-02
Units	ng/m3
Hexavalent Chromium	

Sample Date:	1/28/2005
Sample Type:	Collocated - C1
ID:	5020205-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	3/5/2005
Sample Type:	Collocated - C2
ID:	5030814-02
Units	ng/m3
Hexavalent Chromium	0.0425

Sample Date:	4/10/2005
Sample Type:	Collocated - C1
ID:	5041402-01
Units	ng/m3
Hexavalent Chromium	0.0468

Sample Date:	1/28/2005
Sample Type:	Collocated - C2
ID:	5020205-02
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	3/11/2005
Sample Type:	Collocated - C1
ID:	5031506-01
Units	ng/m3
Hexavalent Chromium	0.0197

Sample Date:	4/10/2005
Sample Type:	Collocated - C2
ID:	5041402-02
Units	ng/m3
Hexavalent Chromium	0.0332

Sample Date:	2/9/2005
Sample Type:	Field Sample
ID:	5021608-02
Units	ng/m3
Hexavalent Chromium	0.0172

Sample Date:	3/11/2005
Sample Type:	Collocated - C2
ID:	5031506-02
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	4/16/2005
Sample Type:	Field Sample
ID:	5041903-01
Units	ng/m3
Hexavalent Chromium	0.106

Sample Date:	2/15/2005
Sample Type:	Field Sample
ID:	5021809-02
Units	ng/m3
Hexavalent Chromium	0.0025

Sample Date:	3/17/2005
Sample Type:	Field Sample
ID:	5032210-01
Units	ng/m3
Hexavalent Chromium	0.0358

Sample Date:	4/22/2005
Sample Type:	Field Sample
ID:	5042703-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	2/21/2005
Sample Type:	Collocated - C1
ID:	5022507-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	3/23/2005
Sample Type:	Field Sample
ID:	5032904-02
Units	ng/m3
Hexavalent Chromium	0.0234

Sample Date:	4/28/2005
Sample Type:	Field Sample
ID:	5050401-02
Units	ng/m3
Hexavalent Chromium	0.0230

Sample Date:	2/21/2005
Sample Type:	Collocated - C2
ID:	5022507-02
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	3/29/2005
Sample Type:	Collocated - C1
ID:	5040108-01
Units	ng/m3
Hexavalent Chromium	0.0361

Sample Date:	5/4/2005
Sample Type:	Collocated - C1
ID:	5051102-01
Units	ng/m3
Hexavalent Chromium	0.0965

Sample Date:	2/27/2005
Sample Type:	Collocated - C1
ID:	5030303-03
Units	ng/m3
Hexavalent Chromium	0.0584

Sample Date:	3/29/2005
Sample Type:	Collocated - C2
ID:	5040108-02
Units	ng/m3
Hexavalent Chromium	0.0341

Sample Date:	5/4/2005
Sample Type:	Collocated - C2
ID:	5051102-02
Units	ng/m3
Hexavalent Chromium	0.0794

BURVT Hexavalent Chromium Sampling Results

Sample Date:	5/10/2005
Sample Type:	Collocated - C1
ID:	5051316-01
Units	ng/m3
Hexavalent Chromium	0.0774

Sample Date:	6/21/2005
Sample Type:	Collocated - C2
ID:	5062405-02
Units	ng/m3
Hexavalent Chromium	0.0279

Sample Date:	8/14/2005
Sample Type:	Field Sample
ID:	5081809-01
Units	ng/m3
Hexavalent Chromium	0.0755

Sample Date:	5/10/2005
Sample Type:	Collocated - C2
ID:	5051316-02
Units	ng/m3
Hexavalent Chromium	0.0762

Sample Date:	6/27/2005
Sample Type:	Field Sample
ID:	5063002-01
Units	ng/m3
Hexavalent Chromium	0.0536

Sample Date:	8/20/2005
Sample Type:	Field Sample
ID:	5082403-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	5/16/2005
Sample Type:	Field Sample
ID:	5052002-01
Units	ng/m3
Hexavalent Chromium	0.0557

Sample Date:	7/3/2005
Sample Type:	Field Sample
ID:	5070704-01
Units	ng/m3
Hexavalent Chromium	0.0486

Sample Date:	8/26/2005
Sample Type:	Field Sample
ID:	5083010-01
Units	ng/m3
Hexavalent Chromium	0.0297

Sample Date:	5/22/2005
Sample Type:	Field Sample
ID:	5052508-01
Units	ng/m3
Hexavalent Chromium	0.100

Sample Date:	7/9/2005
Sample Type:	Field Sample
ID:	5071211-01
Units	ng/m3
Hexavalent Chromium	0.114

Sample Date:	9/1/2005
Sample Type:	Field Sample
ID:	5090707-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	5/28/2005
Sample Type:	Field Sample
ID:	5060112-01
Units	ng/m3
Hexavalent Chromium	0.137

Sample Date:	7/15/2005
Sample Type:	Field Sample
ID:	5072005-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	9/7/2005
Sample Type:	Field Sample
ID:	5091303-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	6/3/2005
Sample Type:	Field Sample
ID:	5060720-01
Units	ng/m3
Hexavalent Chromium	0.0595

Sample Date:	7/21/2005
Sample Type:	Field Sample
ID:	5072607-01
Units	ng/m3
Hexavalent Chromium	0.0529

Sample Date:	9/13/2005
Sample Type:	Field Sample
ID:	5091601-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	6/9/2005
Sample Type:	Field Sample
ID:	5061423-01
Units	ng/m3
Hexavalent Chromium	0.108

Sample Date:	7/27/2005
Sample Type:	Field Sample
ID:	5080213-01
Units	ng/m3
Hexavalent Chromium	0.119

Sample Date:	9/19/2005
Sample Type:	Field Sample
ID:	5092704-01
Units	ng/m3
Hexavalent Chromium	0.0688

Sample Date:	6/15/2005
Sample Type:	Field Sample
ID:	5062105-01
Units	ng/m3
Hexavalent Chromium	0.138

Sample Date:	8/2/2005
Sample Type:	Field Sample
ID:	5080510-01
Units	ng/m3
Hexavalent Chromium	0.0465

Sample Date:	9/25/2005
Sample Type:	Field Sample
ID:	5092907-01
Units	ng/m3
Hexavalent Chromium	0.0473

Sample Date:	6/21/2005
Sample Type:	Collocated - C1
ID:	5062405-01
Units	ng/m3
Hexavalent Chromium	0.111

Sample Date:	8/8/2005
Sample Type:	Field Sample
ID:	5081103-01
Units	ng/m3
Hexavalent Chromium	0.0286

Sample Date:	10/1/2005
Sample Type:	Field Sample
ID:	5100422-01
Units	ng/m3
Hexavalent Chromium	0.128

BURVT Hexavalent Chromium Sampling Results

Sample Date:	10/7/2005	**Sample Date:**	11/24/2005
Sample Type:	Field Sample	**Sample Type:**	Collocated - C1
ID:	5101308-01	**ID:**	5112923-01
Units	ng/m3	**Units**	ng/m3
Hexavalent Chromium	0.115	Hexavalent Chromium	ND
Sample Date:	10/13/2005	**Sample Date:**	11/24/2005
Sample Type:	Collocated - C1	**Sample Type:**	Collocated - C2
ID:	5101901-01	**ID:**	5112923-02
Units	ng/m3	**Units**	ng/m3
Hexavalent Chromium	0.133	Hexavalent Chromium	0.0028
Sample Date:	10/13/2005	**Sample Date:**	11/30/2005
Sample Type:	Collocated - C2	**Sample Type:**	Field Sample
ID:	5101901-02	**ID:**	5120610-01
Units	ng/m3	**Units**	ng/m3
Hexavalent Chromium	0.131	Hexavalent Chromium	0.0538
Sample Date:	10/19/2005	**Sample Date:**	12/6/2005
Sample Type:	Field Sample	**Sample Type:**	Field Sample
ID:	5102608-01	**ID:**	5121414-01
Units	ng/m3	**Units**	ng/m3
Hexavalent Chromium	ND	Hexavalent Chromium	0.0266
Sample Date:	10/25/2005	**Sample Date:**	12/12/2005
Sample Type:	Field Sample	**Sample Type:**	Field Sample
ID:	5102802-01	**ID:**	5121609-01
Units	ng/m3	**Units**	ng/m3
Hexavalent Chromium	0.147	Hexavalent Chromium	0.0319
Sample Date:	10/31/2005	**Sample Date:**	12/18/2005
Sample Type:	Field Sample	**Sample Type:**	Field Sample
ID:	5110411-01	**ID:**	5122119-01
Units	ng/m3	**Units**	ng/m3
Hexavalent Chromium	0.0605	Hexavalent Chromium	0.0170
Sample Date:	11/6/2005	**Sample Date:**	12/24/2005
Sample Type:	Field Sample	**Sample Type:**	Field Sample
ID:	5110906-01	**ID:**	6010412-01
Units	ng/m3	**Units**	ng/m3
Hexavalent Chromium	ND	Hexavalent Chromium	
Sample Date:	11/12/2005	**Sample Date:**	12/30/2005
Sample Type:	Field Sample	**Sample Type:**	Field Sample
ID:	5111508-01	**ID:**	6010412-02
Units	ng/m3	**Units**	ng/m3
Hexavalent Chromium	0.114	Hexavalent Chromium	0.0317
Sample Date:	11/18/2005		
Sample Type:	Field Sample		
ID:	5112304-01		
Units	ng/m3		
Hexavalent Chromium	0.0155		

Sample Date:	1/16/2005
Sample Type:	Field Sample
ID:	5012004-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	1/22/2005
Sample Type:	Collocated - C1
ID:	5012509-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	1/22/2005
Sample Type:	Collocated - C2
ID:	5012509-02
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	1/28/2005
Sample Type:	Field Sample
ID:	5020102-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	2/3/2005
Sample Type:	Field Sample
ID:	5020801-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	2/9/2005
Sample Type:	Field Sample
ID:	5021113-01
Units	ng/m3
Hexavalent Chromium	

Sample Date:	2/15/2005
Sample Type:	Field Sample
ID:	5021706-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	2/21/2005
Sample Type:	Collocated - C1
ID:	5022303-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	2/21/2005
Sample Type:	Collocated - C2
ID:	5022303-02
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	2/27/2005
Sample Type:	Field Sample
ID:	5030205-01
Units	ng/m3
Hexavalent Chromium	0.0192

Sample Date:	3/7/2005
Sample Type:	Field Sample
ID:	5031601-01
Units	ng/m3
Hexavalent Chromium	

Sample Date:	3/11/2005
Sample Type:	Field Sample
ID:	5031401-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	3/17/2005
Sample Type:	Field Sample
ID:	5032102-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	3/23/2005
Sample Type:	Field Sample
ID:	5032503-01
Units	ng/m3
Hexavalent Chromium	0.147

Sample Date:	3/29/2005
Sample Type:	Field Sample
ID:	5033108-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	4/4/2005
Sample Type:	Field Sample
ID:	5040601-01
Units	ng/m3
Hexavalent Chromium	0.0059

Sample Date:	4/10/2005
Sample Type:	Field Sample
ID:	5041205-01
Units	ng/m3
Hexavalent Chromium	

Sample Date:	4/16/2005
Sample Type:	Field Sample
ID:	5042006-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	4/22/2005
Sample Type:	Field Sample
ID:	5042604-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	4/28/2005
Sample Type:	Field Sample
ID:	5050202-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	5/4/2005
Sample Type:	Field Sample
ID:	5050613-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	5/10/2005
Sample Type:	Collocated - C1
ID:	5051212-01
Units	ng/m3
Hexavalent Chromium	0.0473

Sample Date:	5/10/2005
Sample Type:	Collocated - C2
ID:	5051212-02
Units	ng/m3
Hexavalent Chromium	0.0987

Sample Date:	5/16/2005
Sample Type:	Field Sample
ID:	5051806-01
Units	ng/m3
Hexavalent Chromium	0.0399

Sample Date:	5/22/2005
Sample Type:	Field Sample
ID:	5052406-01
Units	ng/m3
Hexavalent Chromium	0.0110

Sample Date:	5/28/2005
Sample Type:	Field Sample
ID:	5060104-01
Units	ng/m3
Hexavalent Chromium	0.0201

Sample Date:	6/3/2005
Sample Type:	Field Sample
ID:	5060719-01
Units	ng/m3
Hexavalent Chromium	0.0369

Sample Date:	6/9/2005
Sample Type:	Field Sample
ID:	5061302-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	6/15/2005
Sample Type:	Field Sample
ID:	5061705-01
Units	ng/m3
Hexavalent Chromium	0.0378

Sample Date:	6/21/2005
Sample Type:	Collocated - C1
ID:	5062301-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	6/21/2005
Sample Type:	Collocated - C2
ID:	5062301-02
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	6/27/2005
Sample Type:	Field Sample
ID:	5062906-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	7/3/2005
Sample Type:	Field Sample
ID:	5070609-01
Units	ng/m3
Hexavalent Chromium	0.0582

Sample Date:	7/9/2005
Sample Type:	Field Sample
ID:	5071216-01
Units	ng/m3
Hexavalent Chromium	0.0448

Sample Date:	7/15/2005
Sample Type:	Field Sample
ID:	5071914-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	7/21/2005
Sample Type:	Field Sample
ID:	5072502-01
Units	ng/m3
Hexavalent Chromium	0.0331

Sample Date:	7/27/2005
Sample Type:	Field Sample
ID:	5072905-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	8/2/2005
Sample Type:	Field Sample
ID:	5080413-01
Units	ng/m3
Hexavalent Chromium	0.0209

Sample Date:	8/8/2005
Sample Type:	Field Sample
ID:	5081002-01
Units	ng/m3
Hexavalent Chromium	0.0277

Sample Date:	8/14/2005
Sample Type:	Field Sample
ID:	5081615-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	8/20/2005
Sample Type:	Field Sample
ID:	5082318-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	8/26/2005
Sample Type:	Field Sample
ID:	5083012-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	9/1/2005
Sample Type:	Field Sample
ID:	5090607-01
Units	ng/m3
Hexavalent Chromium	0.0441

Sample Date:	9/7/2005
Sample Type:	Field Sample
ID:	5091401-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	9/13/2005
Sample Type:	Field Sample
ID:	5100706-01
Units	ng/m3
Hexavalent Chromium	

Sample Date:	9/19/2005
Sample Type:	Field Sample
ID:	5092105-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	9/25/2005
Sample Type:	Field Sample
ID:	5092709-01
Units	ng/m3
Hexavalent Chromium	0.0534

Sample Date:	10/1/2005
Sample Type:	Field Sample
ID:	5100418-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	10/7/2005
Sample Type:	Field Sample
ID:	5101108-01
Units	ng/m3
Hexavalent Chromium	0.0205

Sample Date:	10/13/2005
Sample Type:	Collocated - C1
ID:	5101705-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	10/13/2005
Sample Type:	Collocated - C2
ID:	5101705-02
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	10/19/2005
Sample Type:	Field Sample
ID:	5102104-01
Units	ng/m3
Hexavalent Chromium	0.0153

Sample Date:	10/25/2005
Sample Type:	Field Sample
ID:	5102713-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	10/31/2005
Sample Type:	Field Sample
ID:	5110204-01
Units	ng/m3
Hexavalent Chromium	ND

CHSC Hexavalent Chromium Sampling Results

Sample Date:	11/6/2005
Sample Type:	Field Sample
ID:	5110812-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	11/12/2005
Sample Type:	Field Sample
ID:	5111512-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	11/18/2005
Sample Type:	Field Sample
ID:	5112214-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	11/24/2005
Sample Type:	Collocated - C1
ID:	5112926-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	11/24/2005
Sample Type:	Collocated - C2
ID:	5112926-02
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	11/30/2005
Sample Type:	Field Sample
ID:	5120236-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	12/6/2005
Sample Type:	Field Sample
ID:	5120817-01
Units	ng/m3
Hexavalent Chromium	0.0170

Sample Date:	12/12/2005
Sample Type:	Field Sample
ID:	5121514-01
Units	ng/m3
Hexavalent Chromium	0.0110

Sample Date:	12/18/2005
Sample Type:	Field Sample
ID:	5122010-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	12/24/2005
Sample Type:	Field Sample
ID:	5122905-01
Units	ng/m3
Hexavalent Chromium	0.0160

Sample Date:	12/30/2005
Sample Type:	Field Sample
ID:	6010432-01
Units	ng/m3
Hexavalent Chromium	0.0151

DEMI Hexavalent Chromium Sampling Results

Sample Date:	1/10/2005
Sample Type:	Field Sample
ID:	5011203-01
Units	ng/m3
Hexavalent Chromium	0.0360

Sample Date:	2/21/2005
Sample Type:	Collocated - C2
ID:	5022302-02
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	4/16/2005
Sample Type:	Field Sample
ID:	5041905-01
Units	ng/m3
Hexavalent Chromium	0.146

Sample Date:	1/16/2005
Sample Type:	Field Sample
ID:	5012005-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	2/27/2005
Sample Type:	Field Sample
ID:	5030103-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	4/22/2005
Sample Type:	Field Sample
ID:	5042607-01
Units	ng/m3
Hexavalent Chromium	0.102

Sample Date:	1/22/2005
Sample Type:	Collocated - C1
ID:	5012701-03
Units	ng/m3
Hexavalent Chromium	

Sample Date:	3/5/2005
Sample Type:	Field Sample
ID:	5030911-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	4/28/2005
Sample Type:	Field Sample
ID:	5050403-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	1/22/2005
Sample Type:	Collocated - C2
ID:	5012701-04
Units	ng/m3
Hexavalent Chromium	

Sample Date:	3/11/2005
Sample Type:	Field Sample
ID:	5031511-01
Units	ng/m3
Hexavalent Chromium	0.0334

Sample Date:	5/4/2005
Sample Type:	Field Sample
ID:	5050615-01
Units	ng/m3
Hexavalent Chromium	0.0714

Sample Date:	1/28/2005
Sample Type:	Field Sample
ID:	5020203-01
Units	ng/m3
Hexavalent Chromium	0.0055

Sample Date:	3/17/2005
Sample Type:	Field Sample
ID:	5032206-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	5/10/2005
Sample Type:	Collocated - C1
ID:	5051215-01
Units	ng/m3
Hexavalent Chromium	0.142

Sample Date:	2/3/2005
Sample Type:	Field Sample
ID:	5020901-01
Units	ng/m3
Hexavalent Chromium	0.0309

Sample Date:	3/23/2005
Sample Type:	Field Sample
ID:	5032501-01
Units	ng/m3
Hexavalent Chromium	0.0805

Sample Date:	5/10/2005
Sample Type:	Collocated - C2
ID:	5051215-02
Units	ng/m3
Hexavalent Chromium	0.110

Sample Date:	2/9/2005
Sample Type:	Field Sample
ID:	5021112-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	3/29/2005
Sample Type:	Field Sample
ID:	5040102-01
Units	ng/m3
Hexavalent Chromium	0.0742

Sample Date:	5/16/2005
Sample Type:	Field Sample
ID:	5051808-01
Units	ng/m3
Hexavalent Chromium	0.0654

Sample Date:	2/15/2005
Sample Type:	Field Sample
ID:	5021709-01
Units	ng/m3
Hexavalent Chromium	0.0752

Sample Date:	4/4/2005
Sample Type:	Field Sample
ID:	5040603-01
Units	ng/m3
Hexavalent Chromium	0.0587

Sample Date:	5/22/2005
Sample Type:	Field Sample
ID:	5052407-01
Units	ng/m3
Hexavalent Chromium	0.0854

Sample Date:	2/21/2005
Sample Type:	Collocated - C1
ID:	5022302-01
Units	ng/m3
Hexavalent Chromium	0.0330

Sample Date:	4/10/2005
Sample Type:	Field Sample
ID:	5041202-01
Units	ng/m3
Hexavalent Chromium	0.0464

Sample Date:	5/28/2005
Sample Type:	Field Sample
ID:	5060105-01
Units	ng/m3
Hexavalent Chromium	0.0792

DEMI Hexavalent Chromium Sampling Results

Sample Date:	6/3/2005
Sample Type:	Field Sample
ID:	5060715-01
Units	ng/m3
Hexavalent Chromium	0.0659

Sample Date:	6/9/2005
Sample Type:	Field Sample
ID:	5061502-03
Units	ng/m3
Hexavalent Chromium	

Sample Date:	6/15/2005
Sample Type:	Field Sample
ID:	5062001-01
Units	ng/m3
Hexavalent Chromium	

Sample Date:	6/21/2005
Sample Type:	Collocated - C1
ID:	5062308-01
Units	ng/m3
Hexavalent Chromium	0.125

Sample Date:	6/21/2005
Sample Type:	Collocated - C2
ID:	5062308-02
Units	ng/m3
Hexavalent Chromium	0.147

Sample Date:	6/27/2005
Sample Type:	Field Sample
ID:	5062905-02
Units	ng/m3
Hexavalent Chromium	0.0902

Sample Date:	7/3/2005
Sample Type:	Field Sample
ID:	5070707-01
Units	ng/m3
Hexavalent Chromium	0.0891

Sample Date:	7/9/2005
Sample Type:	Field Sample
ID:	5072004-03
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	7/15/2005
Sample Type:	Field Sample
ID:	5072004-01
Units	ng/m3
Hexavalent Chromium	0.0418

Sample Date:	7/21/2005
Sample Type:	Field Sample
ID:	5072608-01
Units	ng/m3
Hexavalent Chromium	0.0739

Sample Date:	7/27/2005
Sample Type:	Field Sample
ID:	5072906-01
Units	ng/m3
Hexavalent Chromium	0.0265

Sample Date:	8/2/2005
Sample Type:	Field Sample
ID:	5080410-01
Units	ng/m3
Hexavalent Chromium	0.0514

Sample Date:	8/8/2005
Sample Type:	Field Sample
ID:	5081003-01
Units	ng/m3
Hexavalent Chromium	0.0889

Sample Date:	8/14/2005
Sample Type:	Field Sample
ID:	5081905-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	8/20/2005
Sample Type:	Field Sample
ID:	5082508-01
Units	ng/m3
Hexavalent Chromium	

Sample Date:	8/26/2005
Sample Type:	Field Sample
ID:	5090109-01
Units	ng/m3
Hexavalent Chromium	0.0665

Sample Date:	9/1/2005
Sample Type:	Field Sample
ID:	5090712-03
Units	ng/m3
Hexavalent Chromium	

Sample Date:	9/7/2005
Sample Type:	Field Sample
ID:	5090903-01
Units	ng/m3
Hexavalent Chromium	0.105

Sample Date:	9/13/2005
Sample Type:	Field Sample
ID:	5091501-01
Units	ng/m3
Hexavalent Chromium	0.0619

Sample Date:	9/19/2005
Sample Type:	Field Sample
ID:	5092203-03
Units	ng/m3
Hexavalent Chromium	0.0616

Sample Date:	9/25/2005
Sample Type:	Field Sample
ID:	5092702-01
Units	ng/m3
Hexavalent Chromium	0.0776

Sample Date:	10/1/2005
Sample Type:	Field Sample
ID:	5100601-01
Units	ng/m3
Hexavalent Chromium	0.0861

Sample Date:	10/7/2005
Sample Type:	Field Sample
ID:	5101218-01
Units	ng/m3
Hexavalent Chromium	0.0545

Sample Date:	10/13/2005
Sample Type:	Collocated - C1
ID:	5101909-01
Units	ng/m3
Hexavalent Chromium	0.0791

Sample Date:	10/13/2005
Sample Type:	Collocated - C2
ID:	5101909-02
Units	ng/m3
Hexavalent Chromium	0.0783

Sample Date:	10/19/2005
Sample Type:	Field Sample
ID:	5102107-01
Units	ng/m3
Hexavalent Chromium	0.0680

Sample Date:	10/25/2005
Sample Type:	Field Sample
ID:	5102808-01
Units	ng/m3
Hexavalent Chromium	

DEMI Hexavalent Chromium Sampling Results

Sample Date:	10/31/2005
Sample Type:	Field Sample
ID:	5110206-01
Units	ng/m3
Hexavalent Chromium	0.0604

Sample Date:	11/6/2005
Sample Type:	Field Sample
ID:	5110805-01
Units	ng/m3
Hexavalent Chromium	0.0581

Sample Date:	11/12/2005
Sample Type:	Field Sample
ID:	5111615-01
Units	ng/m3
Hexavalent Chromium	0.0765

Sample Date:	11/18/2005
Sample Type:	Field Sample
ID:	5112302-01
Units	ng/m3
Hexavalent Chromium	0.0271

Sample Date:	11/24/2005
Sample Type:	Collocated - C1
ID:	5120228-01
Units	ng/m3
Hexavalent Chromium	0.0253

Sample Date:	11/24/2005
Sample Type:	Collocated - C2
ID:	5120228-02
Units	ng/m3
Hexavalent Chromium	0.0190

Sample Date:	11/30/2005
Sample Type:	Field Sample
ID:	5120228-03
Units	ng/m3
Hexavalent Chromium	0.0268

Sample Date:	12/6/2005
Sample Type:	Field Sample
ID:	5120813-01
Units	ng/m3
Hexavalent Chromium	0.0338

Sample Date:	12/12/2005
Sample Type:	Field Sample
ID:	5121608-01
Units	ng/m3
Hexavalent Chromium	0.0387

Sample Date:	12/18/2005
Sample Type:	Field Sample
ID:	5122123-01
Units	ng/m3
Hexavalent Chromium	0.0580

Sample Date:	12/24/2005
Sample Type:	Field Sample
ID:	5122813-01
Units	ng/m3
Hexavalent Chromium	0.0882

Sample Date:	12/30/2005
Sample Type:	Field Sample
ID:	6010423-01
Units	ng/m3
Hexavalent Chromium	

ETAL Hexavalent Chromium Sampling Results

Sample Date:	7/15/2005
Sample Type:	Field Sample
ID:	5071904-04
Units	ng/m3
Hexavalent Chromium	0.0296

Sample Date:	10/19/2005
Sample Type:	Field Sample
ID:	5102707-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	7/21/2005
Sample Type:	Field Sample
ID:	5072708-04
Units	ng/m3
Hexavalent Chromium	0.0813

Sample Date:	11/1/2005
Sample Type:	Field Sample
ID:	5110335-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	7/27/2005
Sample Type:	Field Sample
ID:	5072908-04
Units	ng/m3
Hexavalent Chromium	0.0380

Sample Date:	11/12/2005
Sample Type:	Field Sample
ID:	5111805-01
Units	ng/m3
Hexavalent Chromium	0.0686

Sample Date:	8/8/2005
Sample Type:	Field Sample
ID:	5081203-04
Units	ng/m3
Hexavalent Chromium	0.0618

Sample Date:	11/24/2005
Sample Type:	Collocated - C1
ID:	5113005-01
Units	ng/m3
Hexavalent Chromium	0.0204

Sample Date:	8/20/2005
Sample Type:	Field Sample
ID:	5082502-04
Units	ng/m3
Hexavalent Chromium	0.0347

Sample Date:	11/24/2005
Sample Type:	Collocated - C2
ID:	5113005-02
Units	ng/m3
Hexavalent Chromium	0.0148

Sample Date:	9/1/2005
Sample Type:	Field Sample
ID:	5091308-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	12/6/2005
Sample Type:	Field Sample
ID:	5120909-01
Units	ng/m3
Hexavalent Chromium	0.0557

Sample Date:	9/13/2005
Sample Type:	Field Sample
ID:	5092217-04
Units	ng/m3
Hexavalent Chromium	0.0761

Sample Date:	12/18/2005
Sample Type:	Field Sample
ID:	5122108-06
Units	ng/m3
Hexavalent Chromium	0.0414

Sample Date:	9/25/2005
Sample Type:	Field Sample
ID:	5100409-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	12/30/2005
Sample Type:	Field Sample
ID:	6010501-01
Units	ng/m3
Hexavalent Chromium	

Sample Date:	10/7/2005
Sample Type:	Field Sample
ID:	5101212-04
Units	ng/m3
Hexavalent Chromium	0.0348

GPCO Hexavalent Chromium Sampling Results

Sample Date:	1/10/2005
Sample Type:	Field Sample
ID:	5011202-02
Units	ng/m3
Hexavalent Chromium	0.0156

Sample Date:	2/21/2005
Sample Type:	Collocated - C2
ID:	5022301-02
Units	ng/m3
Hexavalent Chromium	0.0435

Sample Date:	4/16/2005
Sample Type:	Field Sample
ID:	5042002-01
Units	ng/m3
Hexavalent Chromium	0.0467

Sample Date:	1/16/2005
Sample Type:	Field Sample
ID:	5012007-03
Units	ng/m3
Hexavalent Chromium	0.0131

Sample Date:	2/27/2005
Sample Type:	Field Sample
ID:	5030202-01
Units	ng/m3
Hexavalent Chromium	0.0091

Sample Date:	4/22/2005
Sample Type:	Field Sample
ID:	5042612-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	1/22/2005
Sample Type:	Collocated - C1
ID:	5012510-01
Units	ng/m3
Hexavalent Chromium	0.0258

Sample Date:	3/5/2005
Sample Type:	Field Sample
ID:	5030808-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	4/28/2005
Sample Type:	Field Sample
ID:	5050303-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	1/22/2005
Sample Type:	Collocated - C2
ID:	5012510-02
Units	ng/m3
Hexavalent Chromium	0.0216

Sample Date:	3/11/2005
Sample Type:	Field Sample
ID:	5031510-02
Units	ng/m3
Hexavalent Chromium	0.0368

Sample Date:	5/4/2005
Sample Type:	Field Sample
ID:	5051001-01
Units	ng/m3
Hexavalent Chromium	0.0283

Sample Date:	1/28/2005
Sample Type:	Field Sample
ID:	5020105-01
Units	ng/m3
Hexavalent Chromium	0.0130

Sample Date:	3/17/2005
Sample Type:	Field Sample
ID:	5032401-01
Units	ng/m3
Hexavalent Chromium	0.0563

Sample Date:	5/10/2005
Sample Type:	Collocated - C1
ID:	5051317-01
Units	ng/m3
Hexavalent Chromium	0.0411

Sample Date:	2/3/2005
Sample Type:	Field Sample
ID:	5020902-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	3/23/2005
Sample Type:	Field Sample
ID:	5032907-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	5/10/2005
Sample Type:	Collocated - C2
ID:	5051317-02
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	2/9/2005
Sample Type:	Field Sample
ID:	5021607-01
Units	ng/m3
Hexavalent Chromium	

Sample Date:	3/29/2005
Sample Type:	Field Sample
ID:	5040103-01
Units	ng/m3
Hexavalent Chromium	0.0276

Sample Date:	5/17/2005
Sample Type:	Field Sample
ID:	5051905-01
Units	ng/m3
Hexavalent Chromium	0.0085

Sample Date:	2/15/2005
Sample Type:	Field Sample
ID:	5021810-01
Units	ng/m3
Hexavalent Chromium	0.0128

Sample Date:	4/7/2005
Sample Type:	Field Sample
ID:	5041301-01
Units	ng/m3
Hexavalent Chromium	0.0270

Sample Date:	5/22/2005
Sample Type:	Field Sample
ID:	5052505-01
Units	ng/m3
Hexavalent Chromium	0.0202

Sample Date:	2/21/2005
Sample Type:	Collocated - C1
ID:	5022301-01
Units	ng/m3
Hexavalent Chromium	0.0262

Sample Date:	4/10/2005
Sample Type:	Field Sample
ID:	5041301-03
Units	ng/m3
Hexavalent Chromium	0.0017

Sample Date:	5/28/2005
Sample Type:	Field Sample
ID:	5060108-01
Units	ng/m3
Hexavalent Chromium	0.0305

GPCO Hexavalent Chromium Sampling Results

Sample Date:	6/3/2005	**Sample Date:**	7/24/2005	**Sample Date:**	9/13/2005
Sample Type:	Field Sample	**Sample Type:**	Field Sample	**Sample Type:**	Field Sample
ID:	5060804-01	**ID:**	5072609-01	**ID:**	5091605-01
Units	ng/m3	**Units**	ng/m3	**Units**	ng/m3
Hexavalent Chromium	0.0466	Hexavalent Chromium	ND	Hexavalent Chromium	ND
Sample Date:	6/9/2005	**Sample Date:**	7/27/2005	**Sample Date:**	9/19/2005
Sample Type:	Field Sample	**Sample Type:**	Field Sample	**Sample Type:**	Field Sample
ID:	5061706-01	**ID:**	5080201-03	**ID:**	5092304-01
Units	ng/m3	**Units**	ng/m3	**Units**	ng/m3
Hexavalent Chromium	0.0356	Hexavalent Chromium	0.0204	Hexavalent Chromium	0.0260
Sample Date:	6/15/2005	**Sample Date:**	8/2/2005	**Sample Date:**	9/25/2005
Sample Type:	Field Sample	**Sample Type:**	Field Sample	**Sample Type:**	Field Sample
ID:	5062204-01	**ID:**	5081006-01	**ID:**	5092803-01
Units	ng/m3	**Units**	ng/m3	**Units**	ng/m3
Hexavalent Chromium	0.0599	Hexavalent Chromium	ND	Hexavalent Chromium	ND
Sample Date:	6/21/2005	**Sample Date:**	8/8/2005	**Sample Date:**	10/1/2005
Sample Type:	Collocated - C1	**Sample Type:**	Field Sample	**Sample Type:**	Field Sample
ID:	5062304-01	**ID:**	5081109-04	**ID:**	5100703-01
Units	ng/m3	**Units**	ng/m3	**Units**	ng/m3
Hexavalent Chromium	ND	Hexavalent Chromium	ND	Hexavalent Chromium	0.0293
Sample Date:	6/21/2005	**Sample Date:**	8/14/2005	**Sample Date:**	10/7/2005
Sample Type:	Collocated - C2	**Sample Type:**	Field Sample	**Sample Type:**	Field Sample
ID:	5062304-02	**ID:**	5081907-01	**ID:**	5101305-01
Units	ng/m3	**Units**	ng/m3	**Units**	ng/m3
Hexavalent Chromium	ND	Hexavalent Chromium	0.0209	Hexavalent Chromium	0.0952
Sample Date:	7/12/2005	**Sample Date:**	8/20/2005	**Sample Date:**	10/13/2005
Sample Type:	Field Sample	**Sample Type:**	Field Sample	**Sample Type:**	Collocated - C1
ID:	5071906-06	**ID:**	5082405-01	**ID:**	5101903-01
Units	ng/m3	**Units**	ng/m3	**Units**	ng/m3
Hexavalent Chromium	ND	Hexavalent Chromium	ND	Hexavalent Chromium	0.0401
Sample Date:	7/15/2005	**Sample Date:**	8/29/2005	**Sample Date:**	10/13/2005
Sample Type:	Field Sample	**Sample Type:**	Field Sample	**Sample Type:**	Collocated - C2
ID:	5071906-07	**ID:**	5090108-01	**ID:**	5101903-02
Units	ng/m3	**Units**	ng/m3	**Units**	ng/m3
Hexavalent Chromium	ND	Hexavalent Chromium	0.0401	Hexavalent Chromium	0.0406
Sample Date:	7/18/2005	**Sample Date:**	9/1/2005	**Sample Date:**	10/19/2005
Sample Type:	Field Sample	**Sample Type:**	Field Sample	**Sample Type:**	Field Sample
ID:	5072007-01	**ID:**	5090711-03	**ID:**	5102508-01
Units	ng/m3	**Units**	ng/m3	**Units**	ng/m3
Hexavalent Chromium	0.0273	Hexavalent Chromium	0.0384	Hexavalent Chromium	ND
Sample Date:	7/21/2005	**Sample Date:**	9/7/2005	**Sample Date:**	10/25/2005
Sample Type:	Field Sample	**Sample Type:**	Field Sample	**Sample Type:**	Field Sample
ID:	5072603-01	**ID:**	5091403-01	**ID:**	5110203-01
Units	ng/m3	**Units**	ng/m3	**Units**	ng/m3
Hexavalent Chromium	0.0338	Hexavalent Chromium	ND	Hexavalent Chromium	0.0326

GPCO Hexavalent Chromium Sampling Results

Sample Date:	10/31/2005
Sample Type:	Field Sample
ID:	5110808-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	11/6/2005
Sample Type:	Field Sample
ID:	5111005-01
Units	ng/m3
Hexavalent Chromium	0.0472

Sample Date:	11/12/2005
Sample Type:	Field Sample
ID:	5111705-01
Units	ng/m3
Hexavalent Chromium	0.0193

Sample Date:	11/18/2005
Sample Type:	Field Sample
ID:	5112303-01
Units	ng/m3
Hexavalent Chromium	0.0174

Sample Date:	11/24/2005
Sample Type:	Collocated - C1
ID:	5112914-07
Units	ng/m3
Hexavalent Chromium	0.0120

Sample Date:	11/24/2005
Sample Type:	Collocated - C2
ID:	5112914-08
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	11/30/2005
Sample Type:	Field Sample
ID:	5120705-04
Units	ng/m3
Hexavalent Chromium	0.0313

Sample Date:	12/6/2005
Sample Type:	Field Sample
ID:	5121420-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	12/12/2005
Sample Type:	Field Sample
ID:	5121505-04
Units	ng/m3
Hexavalent Chromium	0.0526

Sample Date:	12/18/2005
Sample Type:	Field Sample
ID:	5122109-04
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	12/24/2005
Sample Type:	Field Sample
ID:	5122902-01
Units	ng/m3
Hexavalent Chromium	0.0101

Sample Date:	12/30/2005
Sample Type:	Field Sample
ID:	6010437-01
Units	ng/m3
Hexavalent Chromium	0.0163

Sample Date:	10/7/2005
Sample Type:	Field Sample
ID:	5101201-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	10/8/2005
Sample Type:	Field Sample
ID:	5101201-02
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	10/9/2005
Sample Type:	Field Sample
ID:	5101201-03
Units	ng/m3
Hexavalent Chromium	0.0147

Sample Date:	10/10/2005
Sample Type:	Field Sample
ID:	5101201-04
Units	ng/m3
Hexavalent Chromium	0.0256

Sample Date:	10/11/2005
Sample Type:	Field Sample
ID:	5101301-01
Units	ng/m3
Hexavalent Chromium	0.0422

Sample Date:	10/12/2005
Sample Type:	Field Sample
ID:	5101401-04
Units	ng/m3
Hexavalent Chromium	0.0447

Sample Date:	10/13/2005
Sample Type:	Field Sample
ID:	5101703-01
Units	ng/m3
Hexavalent Chromium	0.0226

Sample Date:	10/14/2005
Sample Type:	Field Sample
ID:	5101911-13
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	10/15/2005
Sample Type:	Field Sample
ID:	5101911-11
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	10/16/2005
Sample Type:	Field Sample
ID:	5101911-14
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	10/17/2005
Sample Type:	Field Sample
ID:	5101911-12
Units	ng/m3
Hexavalent Chromium	0.0511

Sample Date:	10/18/2005
Sample Type:	Field Sample
ID:	5102003-03
Units	ng/m3
Hexavalent Chromium	0.0211

Sample Date:	10/19/2005
Sample Type:	Collocated - C1
ID:	5102109-01
Units	ng/m3
Hexavalent Chromium	0.0137

Sample Date:	10/19/2005
Sample Type:	Collocated - C2
ID:	5102109-02
Units	ng/m3
Hexavalent Chromium	0.0180

Sample Date:	10/20/2005
Sample Type:	Field Sample
ID:	5102503-04
Units	ng/m3
Hexavalent Chromium	

Sample Date:	10/21/2005
Sample Type:	Field Sample
ID:	5102503-01
Units	ng/m3
Hexavalent Chromium	0.0523

Sample Date:	10/22/2005
Sample Type:	Field Sample
ID:	5102503-03
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	10/23/2005
Sample Type:	Field Sample
ID:	5102503-02
Units	ng/m3
Hexavalent Chromium	0.0404

Sample Date:	10/24/2005
Sample Type:	Field Sample
ID:	5102602-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	10/25/2005
Sample Type:	Field Sample
ID:	5102701-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	10/26/2005
Sample Type:	Collocated - C1
ID:	5102801-01
Units	ng/m3
Hexavalent Chromium	0.0483

Sample Date:	10/26/2005
Sample Type:	Collocated - C2
ID:	5102801-02
Units	ng/m3
Hexavalent Chromium	0.0351

Sample Date:	10/27/2005
Sample Type:	Field Sample
ID:	5110101-08
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	10/28/2005
Sample Type:	Field Sample
ID:	5110101-09
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	10/29/2005
Sample Type:	Field Sample
ID:	5110101-10
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	10/30/2005
Sample Type:	Field Sample
ID:	5110101-11
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	10/31/2005
Sample Type:	Field Sample
ID:	5110201-01
Units	ng/m3
Hexavalent Chromium	0.0135

Sample Date:	11/1/2005	Sample Date:	11/9/2005	Sample Date:	11/16/2005
Sample Type:	Field Sample	Sample Type:	Collocated - C1	Sample Type:	Collocated - C2
ID:	5110302-03	ID:	5111108-01	ID:	5111803-02
Units	ng/m3	Units	ng/m3	Units	ng/m3
Hexavalent Chromium	ND	Hexavalent Chromium	0.0219	Hexavalent Chromium	ND

Sample Date:	11/2/2005	Sample Date:	11/9/2005	Sample Date:	11/17/2005
Sample Type:	Collocated - C1	Sample Type:	Collocated - C2	Sample Type:	Field Sample
ID:	5110402-06	ID:	5111108-02	ID:	5112102-01
Units	ng/m3	Units	ng/m3	Units	ng/m3
Hexavalent Chromium	0.0627	Hexavalent Chromium	0.0244	Hexavalent Chromium	0.0117

Sample Date:	11/2/2005	Sample Date:	11/10/2005	Sample Date:	11/18/2005
Sample Type:	Collocated - C2	Sample Type:	Field Sample	Sample Type:	Field Sample
ID:	5110402-07	ID:	5111503-01	ID:	5112205-01
Units	ng/m3	Units	ng/m3	Units	ng/m3
Hexavalent Chromium	0.0279	Hexavalent Chromium	0.0164	Hexavalent Chromium	ND

Sample Date:	11/3/2005	Sample Date:	11/11/2005	Sample Date:	11/19/2005
Sample Type:	Field Sample	Sample Type:	Field Sample	Sample Type:	Field Sample
ID:	5110814-01	ID:	5111503-02	ID:	5112205-02
Units	ng/m3	Units	ng/m3	Units	ng/m3
Hexavalent Chromium	0.0275	Hexavalent Chromium	0.0118	Hexavalent Chromium	ND

Sample Date:	11/4/2005	Sample Date:	11/12/2005	Sample Date:	11/20/2005
Sample Type:	Field Sample	Sample Type:	Field Sample	Sample Type:	Field Sample
ID:	5110814-02	ID:	5111503-03	ID:	5112205-03
Units	ng/m3	Units	ng/m3	Units	ng/m3
Hexavalent Chromium	0.0422	Hexavalent Chromium	0.0192	Hexavalent Chromium	ND

Sample Date:	11/5/2005	Sample Date:	11/13/2005	Sample Date:	11/21/2005
Sample Type:	Field Sample	Sample Type:	Field Sample	Sample Type:	Field Sample
ID:	5110814-03	ID:	5111503-04	ID:	5112308-01
Units	ng/m3	Units	ng/m3	Units	ng/m3
Hexavalent Chromium	0.0301	Hexavalent Chromium	0.0091	Hexavalent Chromium	0.0163

Sample Date:	11/6/2005	Sample Date:	11/14/2005	Sample Date:	11/22/2005
Sample Type:	Field Sample	Sample Type:	Field Sample	Sample Type:	Field Sample
ID:	5110814-04	ID:	5111618-01	ID:	5112910-15
Units	ng/m3	Units	ng/m3	Units	ng/m3
Hexavalent Chromium	0.0530	Hexavalent Chromium	0.0192	Hexavalent Chromium	0.0029

Sample Date:	11/7/2005	Sample Date:	11/15/2005	Sample Date:	11/23/2005
Sample Type:	Field Sample	Sample Type:	Field Sample	Sample Type:	Field Sample
ID:	5110903-01	ID:	5111702-03	ID:	5112910-16
Units	ng/m3	Units	ng/m3	Units	ng/m3
Hexavalent Chromium	0.0696	Hexavalent Chromium	0.0099	Hexavalent Chromium	ND

Sample Date:	11/8/2005	Sample Date:	11/16/2005	Sample Date:	11/24/2005
Sample Type:	Field Sample	Sample Type:	Collocated - C1	Sample Type:	Field Sample
ID:	5111003-03	ID:	5111803-01	ID:	5112910-17
Units	ng/m3	Units	ng/m3	Units	ng/m3
Hexavalent Chromium	0.0200	Hexavalent Chromium	0.0168	Hexavalent Chromium	ND

Sample Date:	11/25/2005	Sample Date:	12/3/2005	Sample Date:	12/11/2005
Sample Type:	Field Sample	Sample Type:	Field Sample	Sample Type:	Field Sample
ID:	5112910-18	ID:	5120605-03	ID:	5121304-04
Units	ng/m3	Units	ng/m3	Units	ng/m3
Hexavalent Chromium	ND	Hexavalent Chromium	0.0078	Hexavalent Chromium	0.0048
Sample Date:	11/26/2005	Sample Date:	12/4/2005	Sample Date:	12/12/2005
Sample Type:	Field Sample	Sample Type:	Field Sample	Sample Type:	Field Sample
ID:	5112910-19	ID:	5120605-04	ID:	5121404-01
Units	ng/m3	Units	ng/m3	Units	ng/m3
Hexavalent Chromium	0.0126	Hexavalent Chromium	0.0186	Hexavalent Chromium	0.0400
Sample Date:	11/27/2005	Sample Date:	12/5/2005	Sample Date:	12/13/2005
Sample Type:	Field Sample	Sample Type:	Field Sample	Sample Type:	Field Sample
ID:	5112910-20	ID:	5120701-04	ID:	5121605-02
Units	ng/m3	Units	ng/m3	Units	ng/m3
Hexavalent Chromium		Hexavalent Chromium	0.0198	Hexavalent Chromium	ND
Sample Date:	11/28/2005	Sample Date:	12/6/2005	Sample Date:	12/14/2005
Sample Type:	Field Sample	Sample Type:	Field Sample	Sample Type:	Collocated - C1
ID:	5113001-01	ID:	5120809-01	ID:	5122007-01
Units	ng/m3	Units	ng/m3	Units	ng/m3
Hexavalent Chromium	ND	Hexavalent Chromium	0.0192	Hexavalent Chromium	ND
Sample Date:	11/29/2005	Sample Date:	12/7/2005	Sample Date:	12/14/2005
Sample Type:	Field Sample	Sample Type:	Collocated - C1	Sample Type:	Collocated - C2
ID:	5120108-01	ID:	5120904-01	ID:	5121605-03
Units	ng/m3	Units	ng/m3	Units	ng/m3
Hexavalent Chromium	0.0165	Hexavalent Chromium	0.0134	Hexavalent Chromium	ND
Sample Date:	11/30/2005	Sample Date:	12/7/2005	Sample Date:	12/15/2005
Sample Type:	Collocated - C1	Sample Type:	Collocated - C2	Sample Type:	Field Sample
ID:	5120222-01	ID:	5120904-02	ID:	5122007-02
Units	ng/m3	Units	ng/m3	Units	ng/m3
Hexavalent Chromium	0.0316	Hexavalent Chromium	0.0093	Hexavalent Chromium	ND
Sample Date:	11/30/2005	Sample Date:	12/8/2005	Sample Date:	12/16/2005
Sample Type:	Collocated - C2	Sample Type:	Field Sample	Sample Type:	Field Sample
ID:	5120222-02	ID:	5121304-01	ID:	5122007-03
Units	ng/m3	Units	ng/m3	Units	ng/m3
Hexavalent Chromium	0.0332	Hexavalent Chromium	0.0832	Hexavalent Chromium	ND
Sample Date:	12/1/2005	Sample Date:	12/9/2005	Sample Date:	12/17/2005
Sample Type:	Field Sample	Sample Type:	Field Sample	Sample Type:	Field Sample
ID:	5120605-01	ID:	5121304-02	ID:	5122007-04
Units	ng/m3	Units	ng/m3	Units	ng/m3
Hexavalent Chromium	0.0143	Hexavalent Chromium	ND	Hexavalent Chromium	ND
Sample Date:	12/2/2005	Sample Date:	12/10/2005	Sample Date:	12/18/2005
Sample Type:	Field Sample	Sample Type:	Field Sample	Sample Type:	Field Sample
ID:	5120605-02	ID:	5121304-03	ID:	5122007-05
Units	ng/m3	Units	ng/m3	Units	ng/m3
Hexavalent Chromium	0.0120	Hexavalent Chromium	ND	Hexavalent Chromium	ND

Sample Date:	12/19/2005
Sample Type:	Field Sample
ID:	5122102-04
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	12/20/2005
Sample Type:	Field Sample
ID:	5122801-01
Units	ng/m3
Hexavalent Chromium	0.0209

Sample Date:	12/21/2005
Sample Type:	Collocated - C1
ID:	5122801-02
Units	ng/m3
Hexavalent Chromium	0.0252

Sample Date:	12/21/2005
Sample Type:	Collocated - C2
ID:	5122801-03
Units	ng/m3
Hexavalent Chromium	0.0242

Sample Date:	12/22/2005
Sample Type:	Field Sample
ID:	5122809-01
Units	ng/m3
Hexavalent Chromium	0.0306

Sample Date:	12/23/2005
Sample Type:	Field Sample
ID:	5122809-02
Units	ng/m3
Hexavalent Chromium	0.0119

Sample Date:	12/24/2005
Sample Type:	Field Sample
ID:	5122809-03
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	12/25/2005
Sample Type:	Field Sample
ID:	5122809-04
Units	ng/m3
Hexavalent Chromium	0.0143

Sample Date:	12/26/2005
Sample Type:	Field Sample
ID:	5122809-05
Units	ng/m3
Hexavalent Chromium	0.0139

Sample Date:	12/27/2005
Sample Type:	Field Sample
ID:	5123012-03
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	12/28/2005
Sample Type:	Field Sample
ID:	5123012-04
Units	ng/m3
Hexavalent Chromium	0.0192

Sample Date:	12/29/2005
Sample Type:	Field Sample
ID:	6010403-03
Units	ng/m3
Hexavalent Chromium	0.0194

Sample Date:	12/30/2005
Sample Type:	Field Sample
ID:	6010403-05
Units	ng/m3
Hexavalent Chromium	0.0293

Sample Date:	12/31/2005
Sample Type:	Field Sample
ID:	6010403-04
Units	ng/m3
Hexavalent Chromium	0.0225

HAKY Hexavalent Chromium Sampling Results

Sample Date:	1/11/2005
Sample Type:	Field Sample
ID:	5011402-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	2/21/2005
Sample Type:	Collocated - C2
ID:	5022307-02
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	4/16/2005
Sample Type:	Field Sample
ID:	5042009-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	1/17/2005
Sample Type:	Field Sample
ID:	5012008-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	2/27/2005
Sample Type:	Field Sample
ID:	5030102-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	4/22/2005
Sample Type:	Field Sample
ID:	5042610-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	1/22/2005
Sample Type:	Collocated - C1
ID:	5012504-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	3/5/2005
Sample Type:	Field Sample
ID:	5030810-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	4/28/2005
Sample Type:	Field Sample
ID:	5050304-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	1/22/2005
Sample Type:	Collocated - C2
ID:	5012504-02
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	3/11/2005
Sample Type:	Field Sample
ID:	5031509-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	5/4/2005
Sample Type:	Field Sample
ID:	5050616-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	1/28/2005
Sample Type:	Field Sample
ID:	5020202-01
Units	ng/m3
Hexavalent Chromium	0.0105

Sample Date:	3/17/2005
Sample Type:	Field Sample
ID:	5032203-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	5/10/2005
Sample Type:	Collocated - C1
ID:	5051712-01
Units	ng/m3
Hexavalent Chromium	0.0287

Sample Date:	2/4/2005
Sample Type:	Field Sample
ID:	5020903-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	3/23/2005
Sample Type:	Field Sample
ID:	5032905-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	5/10/2005
Sample Type:	Collocated - C2
ID:	5051712-02
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	2/9/2005
Sample Type:	Field Sample
ID:	5021503-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	3/29/2005
Sample Type:	Field Sample
ID:	5033106-01
Units	ng/m3
Hexavalent Chromium	0.0304

Sample Date:	5/16/2005
Sample Type:	Field Sample
ID:	5051805-01
Units	ng/m3
Hexavalent Chromium	0.0529

Sample Date:	2/15/2005
Sample Type:	Field Sample
ID:	5021710-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	4/4/2005
Sample Type:	Field Sample
ID:	5040604-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	5/22/2005
Sample Type:	Field Sample
ID:	5052405-01
Units	ng/m3
Hexavalent Chromium	0.0261

Sample Date:	2/21/2005
Sample Type:	Collocated - C1
ID:	5022307-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	4/10/2005
Sample Type:	Field Sample
ID:	5041303-01
Units	ng/m3
Hexavalent Chromium	0.0133

Sample Date:	5/28/2005
Sample Type:	Field Sample
ID:	5060102-01
Units	ng/m3
Hexavalent Chromium	0.0227

Sample Date:	6/3/2005	**Sample Date:**	7/21/2005	**Sample Date:**	9/19/2005
Sample Type:	Field Sample	**Sample Type:**	Field Sample	**Sample Type:**	Field Sample
ID:	5060717-01	**ID:**	5072611-01	**ID:**	5092106-01
Units	ng/m3	**Units**	ng/m3	**Units**	ng/m3
Hexavalent Chromium	0.103	Hexavalent Chromium	0.0284	Hexavalent Chromium	0.0293
Sample Date:	6/9/2005	**Sample Date:**	8/2/2005	**Sample Date:**	9/25/2005
Sample Type:	Field Sample	**Sample Type:**	Field Sample	**Sample Type:**	Field Sample
ID:	5061418-01	**ID:**	5080506-01	**ID:**	5092701-01
Units	ng/m3	**Units**	ng/m3	**Units**	ng/m3
Hexavalent Chromium	0.0327	Hexavalent Chromium	0.0215	Hexavalent Chromium	0.0320
Sample Date:	6/15/2005	**Sample Date:**	8/8/2005	**Sample Date:**	10/1/2005
Sample Type:	Field Sample	**Sample Type:**	Field Sample	**Sample Type:**	Field Sample
ID:	5062205-01	**ID:**	5081204-01	**ID:**	5100423-01
Units	ng/m3	**Units**	ng/m3	**Units**	ng/m3
Hexavalent Chromium	0.0480	Hexavalent Chromium	ND	Hexavalent Chromium	0.0294
Sample Date:	6/21/2005	**Sample Date:**	8/14/2005	**Sample Date:**	10/7/2005
Sample Type:	Collocated - C1	**Sample Type:**	Field Sample	**Sample Type:**	Field Sample
ID:	5062913-02	**ID:**	5081906-01	**ID:**	5101217-01
Units	ng/m3	**Units**	ng/m3	**Units**	ng/m3
Hexavalent Chromium	ND	Hexavalent Chromium	ND	Hexavalent Chromium	ND
Sample Date:	6/21/2005	**Sample Date:**	8/20/2005	**Sample Date:**	10/13/2005
Sample Type:	Collocated - C2	**Sample Type:**	Field Sample	**Sample Type:**	Collocated - C1
ID:	5062913-03	**ID:**	5082315-01	**ID:**	5101905-01
Units	ng/m3	**Units**	ng/m3	**Units**	ng/m3
Hexavalent Chromium	ND	Hexavalent Chromium	0.0407	Hexavalent Chromium	0.0520
Sample Date:	6/27/2005	**Sample Date:**	8/26/2005	**Sample Date:**	10/13/2005
Sample Type:	Field Sample	**Sample Type:**	Field Sample	**Sample Type:**	Collocated - C2
ID:	5062913-01	**ID:**	5083015-01	**ID:**	5101905-02
Units	ng/m3	**Units**	ng/m3	**Units**	ng/m3
Hexavalent Chromium	ND	Hexavalent Chromium	0.0243	Hexavalent Chromium	0.0390
Sample Date:	7/3/2005	**Sample Date:**	9/1/2005	**Sample Date:**	10/19/2005
Sample Type:	Field Sample	**Sample Type:**	Field Sample	**Sample Type:**	Field Sample
ID:	5070610-01	**ID:**	5090705-01	**ID:**	5102511-01
Units	ng/m3	**Units**	ng/m3	**Units**	ng/m3
Hexavalent Chromium	ND	Hexavalent Chromium	0.0523	Hexavalent Chromium	0.0442
Sample Date:	7/9/2005	**Sample Date:**	9/7/2005	**Sample Date:**	10/25/2005
Sample Type:	Field Sample	**Sample Type:**	Field Sample	**Sample Type:**	Field Sample
ID:	5071220-01	**ID:**	5091305-01	**ID:**	5102708-01
Units	ng/m3	**Units**	ng/m3	**Units**	ng/m3
Hexavalent Chromium	ND	Hexavalent Chromium	ND	Hexavalent Chromium	ND
Sample Date:	7/15/2005	**Sample Date:**	9/13/2005	**Sample Date:**	10/31/2005
Sample Type:	Field Sample	**Sample Type:**	Field Sample	**Sample Type:**	Field Sample
ID:	5072003-01	**ID:**	5091506-01	**ID:**	5110211-01
Units	ng/m3	**Units**	ng/m3	**Units**	ng/m3
Hexavalent Chromium	ND	Hexavalent Chromium	0.0259	Hexavalent Chromium	ND

HAKY Hexavalent Chromium Sampling Results

Sample Date:	11/6/2005
Sample Type:	Field Sample
ID:	5110810-01
Units	ng/m3
Hexavalent Chromium	0.0992

Sample Date:	11/12/2005
Sample Type:	Field Sample
ID:	5111514-01
Units	ng/m3
Hexavalent Chromium	0.0111

Sample Date:	11/18/2005
Sample Type:	Field Sample
ID:	5112207-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	11/23/2005
Sample Type:	Collocated - C1
ID:	5112922-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	11/23/2005
Sample Type:	Collocated - C2
ID:	5112922-02
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	11/30/2005
Sample Type:	Field Sample
ID:	5120608-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	12/6/2005
Sample Type:	Field Sample
ID:	5120816-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	12/12/2005
Sample Type:	Field Sample
ID:	5121611-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	12/18/2005
Sample Type:	Field Sample
ID:	5122015-01
Units	ng/m3
Hexavalent Chromium	0.0348

Sample Date:	12/24/2005
Sample Type:	Field Sample
ID:	6010415-01
Units	ng/m3
Hexavalent Chromium	

Sample Date:	12/30/2005
Sample Type:	Field Sample
ID:	6010415-02
Units	ng/m3
Hexavalent Chromium	0.0130

LAOR Hexavalent Chromium Sampling Results

Sample Date:	1/10/2005
Sample Type:	Field Sample
ID:	5011201-02
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	3/5/2005
Sample Type:	Field Sample
ID:	5030815-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	4/28/2005
Sample Type:	Field Sample
ID:	5050309-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	1/16/2005
Sample Type:	Field Sample
ID:	5011903-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	3/11/2005
Sample Type:	Field Sample
ID:	5031502-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	5/4/2005
Sample Type:	Field Sample
ID:	5051004-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	1/22/2005
Sample Type:	Field Sample
ID:	5012508-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	3/17/2005
Sample Type:	Field Sample
ID:	5032211-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	5/10/2005
Sample Type:	Field Sample
ID:	5051209-01
Units	ng/m3
Hexavalent Chromium	0.0322

Sample Date:	1/28/2005
Sample Type:	Field Sample
ID:	5020208-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	3/23/2005
Sample Type:	Field Sample
ID:	5033001-01
Units	ng/m3
Hexavalent Chromium	0.0401

Sample Date:	5/16/2005
Sample Type:	Field Sample
ID:	5051904-01
Units	ng/m3
Hexavalent Chromium	0.0054

Sample Date:	2/3/2005
Sample Type:	Field Sample
ID:	5020807-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	3/29/2005
Sample Type:	Field Sample
ID:	5033102-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	5/22/2005
Sample Type:	Field Sample
ID:	5052403-01
Units	ng/m3
Hexavalent Chromium	0.0072

Sample Date:	2/9/2005
Sample Type:	Field Sample
ID:	5021606-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	4/4/2005
Sample Type:	Field Sample
ID:	5040705-01
Units	ng/m3
Hexavalent Chromium	

Sample Date:	5/28/2005
Sample Type:	Field Sample
ID:	5060103-01
Units	ng/m3
Hexavalent Chromium	0.0167

Sample Date:	2/15/2005
Sample Type:	Field Sample
ID:	5021708-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	4/10/2005
Sample Type:	Field Sample
ID:	5041304-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	6/3/2005
Sample Type:	Field Sample
ID:	5060803-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	2/21/2005
Sample Type:	Field Sample
ID:	5022502-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	4/16/2005
Sample Type:	Field Sample
ID:	5042008-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	6/9/2005
Sample Type:	Field Sample
ID:	5061417-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	2/27/2005
Sample Type:	Field Sample
ID:	5030104-01
Units	ng/m3
Hexavalent Chromium	0.0211

Sample Date:	4/22/2005
Sample Type:	Field Sample
ID:	5042611-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	6/15/2005
Sample Type:	Field Sample
ID:	5062109-01
Units	ng/m3
Hexavalent Chromium	ND

LAOR Hexavalent Chromium Sampling Results

Sample Date:	6/21/2005
Sample Type:	Field Sample
ID:	5062809-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	8/14/2005
Sample Type:	Field Sample
ID:	5081611-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	10/7/2005
Sample Type:	Field Sample
ID:	5101105-01
Units	ng/m3
Hexavalent Chromium	0.0090

Sample Date:	6/27/2005
Sample Type:	Field Sample
ID:	5062909-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	8/20/2005
Sample Type:	Field Sample
ID:	5082321-01
Units	ng/m3
Hexavalent Chromium	

Sample Date:	10/13/2005
Sample Type:	Field Sample
ID:	5101907-01
Units	ng/m3
Hexavalent Chromium	0.0226

Sample Date:	7/3/2005
Sample Type:	Field Sample
ID:	5070712-01
Units	ng/m3
Hexavalent Chromium	0.256

Sample Date:	8/26/2005
Sample Type:	Field Sample
ID:	5083108-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	10/19/2005
Sample Type:	Field Sample
ID:	5102507-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	7/9/2005
Sample Type:	Field Sample
ID:	5071215-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	9/1/2005
Sample Type:	Field Sample
ID:	5090808-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	10/25/2005
Sample Type:	Field Sample
ID:	5102703-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	7/15/2005
Sample Type:	Field Sample
ID:	5071908-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	9/7/2005
Sample Type:	Field Sample
ID:	5090908-01
Units	ng/m3
Hexavalent Chromium	0.0747

Sample Date:	10/31/2005
Sample Type:	Field Sample
ID:	5110210-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	7/21/2005
Sample Type:	Field Sample
ID:	5072802-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	9/13/2005
Sample Type:	Field Sample
ID:	5091513-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	11/6/2005
Sample Type:	Field Sample
ID:	5110811-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	7/27/2005
Sample Type:	Field Sample
ID:	5080507-01
Units	ng/m3
Hexavalent Chromium	0.0142

Sample Date:	9/19/2005
Sample Type:	Field Sample
ID:	5092311-01
Units	ng/m3
Hexavalent Chromium	

Sample Date:	11/12/2005
Sample Type:	Field Sample
ID:	5111515-01
Units	ng/m3
Hexavalent Chromium	0.0117

Sample Date:	8/2/2005
Sample Type:	Field Sample
ID:	5080508-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	9/25/2005
Sample Type:	Field Sample
ID:	5092708-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	11/18/2005
Sample Type:	Field Sample
ID:	5112210-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	8/8/2005
Sample Type:	Field Sample
ID:	5081008-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	10/1/2005
Sample Type:	Field Sample
ID:	5100416-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	11/30/2005
Sample Type:	Field Sample
ID:	5120818-01
Units	ng/m3
Hexavalent Chromium	0.0138

Sample Date:	12/6/2005
Sample Type:	Field Sample
ID:	5120819-01
Units	ng/m3
Hexavalent Chromium	0.0115

Sample Date:	12/12/2005
Sample Type:	Field Sample
ID:	5121405-01
Units	ng/m3
Hexavalent Chromium	0.0190

Sample Date:	12/18/2005
Sample Type:	Field Sample
ID:	5122122-01
Units	ng/m3
Hexavalent Chromium	0.0174

Sample Date:	12/24/2005
Sample Type:	Field Sample
ID:	5122816-01
Units	ng/m3
Hexavalent Chromium	0.0054

Sample Date:	12/30/2005
Sample Type:	Field Sample
ID:	6010513-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	3/17/2005	**Sample Date:**	5/10/2005	**Sample Date:**	6/21/2005
Sample Type:	Field Sample	**Sample Type:**	Collocated - C1	**Sample Type:**	Collocated - C2
ID:	5032103-01	**ID:**	5051214-01	**ID:**	5062303-02
Units	ng/m3	**Units**	ng/m3	**Units**	ng/m3
Hexavalent Chromium	ND	Hexavalent Chromium	0.0290	Hexavalent Chromium	ND
Sample Date:	3/23/2005	**Sample Date:**	5/10/2005	**Sample Date:**	6/27/2005
Sample Type:	Field Sample	**Sample Type:**	Collocated - C2	**Sample Type:**	Field Sample
ID:	5032507-01	**ID:**	5051214-02	**ID:**	5062910-01
Units	ng/m3	**Units**	ng/m3	**Units**	ng/m3
Hexavalent Chromium	0.0713	Hexavalent Chromium	0.0406	Hexavalent Chromium	ND
Sample Date:	3/29/2005	**Sample Date:**	5/16/2005	**Sample Date:**	7/3/2005
Sample Type:	Field Sample	**Sample Type:**	Field Sample	**Sample Type:**	Field Sample
ID:	5033107-01	**ID:**	5051803-01	**ID:**	5070607-01
Units	ng/m3	**Units**	ng/m3	**Units**	ng/m3
Hexavalent Chromium	ND	Hexavalent Chromium	0.0198	Hexavalent Chromium	0.132
Sample Date:	4/4/2005	**Sample Date:**	5/22/2005	**Sample Date:**	7/9/2005
Sample Type:	Field Sample	**Sample Type:**	Field Sample	**Sample Type:**	Field Sample
ID:	5040606-01	**ID:**	5052401-01	**ID:**	5071214-01
Units	ng/m3	**Units**	ng/m3	**Units**	ng/m3
Hexavalent Chromium	ND	Hexavalent Chromium	ND	Hexavalent Chromium	ND
Sample Date:	4/10/2005	**Sample Date:**	5/28/2005	**Sample Date:**	7/15/2005
Sample Type:	Field Sample	**Sample Type:**	Field Sample	**Sample Type:**	Field Sample
ID:	5041201-01	**ID:**	5060302-01	**ID:**	5071905-01
Units	ng/m3	**Units**	ng/m3	**Units**	ng/m3
Hexavalent Chromium	0.0080	Hexavalent Chromium	ND	Hexavalent Chromium	ND
Sample Date:	4/16/2005	**Sample Date:**	6/3/2005	**Sample Date:**	7/21/2005
Sample Type:	Field Sample	**Sample Type:**	Field Sample	**Sample Type:**	Field Sample
ID:	5041906-01	**ID:**	5060716-01	**ID:**	5072504-01
Units	ng/m3	**Units**	ng/m3	**Units**	ng/m3
Hexavalent Chromium	ND	Hexavalent Chromium	0.0174	Hexavalent Chromium	0.0245
Sample Date:	4/22/2005	**Sample Date:**	6/9/2005	**Sample Date:**	7/27/2005
Sample Type:	Field Sample	**Sample Type:**	Field Sample	**Sample Type:**	Field Sample
ID:	5042602-01	**ID:**	5061301-01	**ID:**	5072911-01
Units	ng/m3	**Units**	ng/m3	**Units**	ng/m3
Hexavalent Chromium	ND	Hexavalent Chromium	ND	Hexavalent Chromium	ND
Sample Date:	4/28/2005	**Sample Date:**	6/15/2005	**Sample Date:**	8/2/2005
Sample Type:	Field Sample	**Sample Type:**	Field Sample	**Sample Type:**	Field Sample
ID:	5050404-01	**ID:**	5061708-01	**ID:**	5080409-01
Units	ng/m3	**Units**	ng/m3	**Units**	ng/m3
Hexavalent Chromium	ND	Hexavalent Chromium	0.0282	Hexavalent Chromium	ND
Sample Date:	5/4/2005	**Sample Date:**	6/21/2005	**Sample Date:**	8/8/2005
Sample Type:	Field Sample	**Sample Type:**	Collocated - C1	**Sample Type:**	Field Sample
ID:	5050614-01	**ID:**	5062303-01	**ID:**	5081010-01
Units	ng/m3	**Units**	ng/m3	**Units**	ng/m3
Hexavalent Chromium	ND	Hexavalent Chromium	ND	Hexavalent Chromium	0.0188

MVWI Hexavalent Chromium Sampling Results

Sample Date:	8/14/2005
Sample Type:	Field Sample
ID:	5081604-01
Units	ng/m3
Hexavalent Chromium	0.0221

Sample Date:	10/7/2005
Sample Type:	Field Sample
ID:	5101219-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	11/24/2005
Sample Type:	Collocated - C1
ID:	5113003-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	8/20/2005
Sample Type:	Field Sample
ID:	5082323-01
Units	ng/m3
Hexavalent Chromium	0.0361

Sample Date:	10/13/2005
Sample Type:	Collocated - C1
ID:	5101701-01
Units	ng/m3
Hexavalent Chromium	0.0393

Sample Date:	11/24/2005
Sample Type:	Collocated - C2
ID:	5113003-02
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	8/26/2005
Sample Type:	Field Sample
ID:	5083008-01
Units	ng/m3
Hexavalent Chromium	0.0399

Sample Date:	10/13/2005
Sample Type:	Collocated - C2
ID:	5101701-02
Units	ng/m3
Hexavalent Chromium	0.0336

Sample Date:	11/30/2005
Sample Type:	Field Sample
ID:	5120239-01
Units	ng/m3
Hexavalent Chromium	0.0142

Sample Date:	9/1/2005
Sample Type:	Field Sample
ID:	5090704-01
Units	ng/m3
Hexavalent Chromium	0.0402

Sample Date:	10/19/2005
Sample Type:	Field Sample
ID:	5102105-01
Units	ng/m3
Hexavalent Chromium	0.0101

Sample Date:	12/6/2005
Sample Type:	Field Sample
ID:	5120812-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	9/7/2005
Sample Type:	Field Sample
ID:	5090906-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	10/25/2005
Sample Type:	Field Sample
ID:	5102714-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	12/12/2005
Sample Type:	Field Sample
ID:	5121416-01
Units	ng/m3
Hexavalent Chromium	0.0084

Sample Date:	9/13/2005
Sample Type:	Field Sample
ID:	5091604-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	10/31/2005
Sample Type:	Field Sample
ID:	5110208-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	12/18/2005
Sample Type:	Field Sample
ID:	5122011-01
Units	ng/m3
Hexavalent Chromium	0.0220

Sample Date:	9/19/2005
Sample Type:	Field Sample
ID:	5092102-01
Units	ng/m3
Hexavalent Chromium	0.0345

Sample Date:	11/6/2005
Sample Type:	Field Sample
ID:	5110804-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	12/24/2005
Sample Type:	Field Sample
ID:	5122814-01
Units	ng/m3
Hexavalent Chromium	0.0181

Sample Date:	9/25/2005
Sample Type:	Field Sample
ID:	5092707-01
Units	ng/m3
Hexavalent Chromium	0.0700

Sample Date:	11/12/2005
Sample Type:	Field Sample
ID:	5111517-01
Units	ng/m3
Hexavalent Chromium	0.0117

Sample Date:	12/30/2005
Sample Type:	Field Sample
ID:	6010417-01
Units	ng/m3
Hexavalent Chromium	0.0160

Sample Date:	10/1/2005
Sample Type:	Field Sample
ID:	5100419-01
Units	ng/m3
Hexavalent Chromium	

Sample Date:	11/18/2005
Sample Type:	Field Sample
ID:	5112212-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	7/15/2005
Sample Type:	Field Sample
ID:	5071903-04
Units	ng/m3
Hexavalent Chromium	0.0407

Sample Date:	10/19/2005
Sample Type:	Field Sample
ID:	5102711-01
Units	ng/m3
Hexavalent Chromium	0.0817

Sample Date:	7/21/2005
Sample Type:	Field Sample
ID:	5072712-04
Units	ng/m3
Hexavalent Chromium	0.0723

Sample Date:	10/31/2005
Sample Type:	Field Sample
ID:	5110346-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	7/27/2005
Sample Type:	Field Sample
ID:	5072912-04
Units	ng/m3
Hexavalent Chromium	0.0997

Sample Date:	11/12/2005
Sample Type:	Field Sample
ID:	5111807-01
Units	ng/m3
Hexavalent Chromium	0.0512

Sample Date:	8/8/2005
Sample Type:	Field Sample
ID:	5081208-04
Units	ng/m3
Hexavalent Chromium	0.0793

Sample Date:	11/24/2005
Sample Type:	Collocated - C1
ID:	5113008-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	8/20/2005
Sample Type:	Field Sample
ID:	5082503-04
Units	ng/m3
Hexavalent Chromium	0.0155

Sample Date:	11/24/2005
Sample Type:	Collocated - C2
ID:	5113008-02
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	9/1/2005
Sample Type:	Field Sample
ID:	5091309-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	12/6/2005
Sample Type:	Field Sample
ID:	5120908-01
Units	ng/m3
Hexavalent Chromium	0.0181

Sample Date:	9/13/2005
Sample Type:	Field Sample
ID:	5092219-04
Units	ng/m3
Hexavalent Chromium	0.0299

Sample Date:	12/18/2005
Sample Type:	Field Sample
ID:	5122105-06
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	9/25/2005
Sample Type:	Field Sample
ID:	5100408-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	12/30/2005
Sample Type:	Field Sample
ID:	6010502-01
Units	ng/m3
Hexavalent Chromium	0.0624

Sample Date:	10/7/2005
Sample Type:	Field Sample
ID:	5101213-03
Units	ng/m3
Hexavalent Chromium	0.0163

NBIL Hexavalent Chromium Sampling Results

Sample Date:	1/11/2005
Sample Type:	Field Sample
ID:	5011302-01
Units	ng/m3
Hexavalent Chromium	0.0331

Sample Date:	1/16/2005
Sample Type:	Field Sample
ID:	5011804-01
Units	ng/m3
Hexavalent Chromium	

Sample Date:	1/22/2005
Sample Type:	Collocated - C1
ID:	5012511-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	1/22/2005
Sample Type:	Collocated - C2
ID:	5012511-02
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	1/28/2005
Sample Type:	Field Sample
ID:	5020103-01
Units	ng/m3
Hexavalent Chromium	0.0282

Sample Date:	2/6/2005
Sample Type:	Field Sample
ID:	5020805-01
Units	ng/m3
Hexavalent Chromium	0.0209

Sample Date:	2/9/2005
Sample Type:	Field Sample
ID:	5021105-01
Units	ng/m3
Hexavalent Chromium	

Sample Date:	2/15/2005
Sample Type:	Field Sample
ID:	5021711-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	2/21/2005
Sample Type:	Collocated - C1
ID:	5022305-01
Units	ng/m3
Hexavalent Chromium	

Sample Date:	2/21/2005
Sample Type:	Collocated - C2
ID:	5022305-02
Units	ng/m3
Hexavalent Chromium	

Sample Date:	2/27/2005
Sample Type:	Field Sample
ID:	5030101-01
Units	ng/m3
Hexavalent Chromium	0.112

Sample Date:	3/5/2005
Sample Type:	Field Sample
ID:	5030811-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	3/11/2005
Sample Type:	Field Sample
ID:	5031402-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	3/17/2005
Sample Type:	Field Sample
ID:	5032101-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	3/23/2005
Sample Type:	Field Sample
ID:	5032502-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	3/29/2005
Sample Type:	Field Sample
ID:	5033105-01
Units	ng/m3
Hexavalent Chromium	0.0290

Sample Date:	4/4/2005
Sample Type:	Field Sample
ID:	5040602-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	4/10/2005
Sample Type:	Field Sample
ID:	5041204-01
Units	ng/m3
Hexavalent Chromium	0.0227

Sample Date:	4/16/2005
Sample Type:	Field Sample
ID:	5041901-01
Units	ng/m3
Hexavalent Chromium	0.0601

Sample Date:	4/22/2005
Sample Type:	Field Sample
ID:	5042501-01
Units	ng/m3
Hexavalent Chromium	0.0504

Sample Date:	4/28/2005
Sample Type:	Field Sample
ID:	5050201-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	5/4/2005
Sample Type:	Field Sample
ID:	5050618-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	5/10/2005
Sample Type:	Collocated - C1
ID:	5051206-02
Units	ng/m3
Hexavalent Chromium	0.0552

Sample Date:	5/10/2005
Sample Type:	Collocated - C2
ID:	5051206-03
Units	ng/m3
Hexavalent Chromium	0.0700

Sample Date:	5/16/2005
Sample Type:	Field Sample
ID:	5051801-02
Units	ng/m3
Hexavalent Chromium	0.0423

Sample Date:	5/22/2005
Sample Type:	Field Sample
ID:	5052404-01
Units	ng/m3
Hexavalent Chromium	0.0090

Sample Date:	5/28/2005
Sample Type:	Field Sample
ID:	5060101-01
Units	ng/m3
Hexavalent Chromium	0.0549

NBIL Hexavalent Chromium Sampling Results

Sample Date:	6/3/2005
Sample Type:	Field Sample
ID:	5060601-01
Units	ng/m3
Hexavalent Chromium	0.0227

Sample Date:	7/21/2005
Sample Type:	Field Sample
ID:	5072503-01
Units	ng/m3
Hexavalent Chromium	0.0456

Sample Date:	9/13/2005
Sample Type:	Field Sample
ID:	5091504-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	6/9/2005
Sample Type:	Field Sample
ID:	5061303-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	7/27/2005
Sample Type:	Field Sample
ID:	5072913-01
Units	ng/m3
Hexavalent Chromium	0.0145

Sample Date:	9/19/2005
Sample Type:	Field Sample
ID:	5092104-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	6/15/2005
Sample Type:	Field Sample
ID:	5061707-01
Units	ng/m3
Hexavalent Chromium	0.0558

Sample Date:	8/2/2005
Sample Type:	Field Sample
ID:	5080412-01
Units	ng/m3
Hexavalent Chromium	0.0315

Sample Date:	9/25/2005
Sample Type:	Field Sample
ID:	5092706-01
Units	ng/m3
Hexavalent Chromium	0.0340

Sample Date:	6/21/2005
Sample Type:	Collocated - C1
ID:	5062307-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	8/8/2005
Sample Type:	Field Sample
ID:	5081011-01
Units	ng/m3
Hexavalent Chromium	0.0312

Sample Date:	10/1/2005
Sample Type:	Field Sample
ID:	5100417-01
Units	ng/m3
Hexavalent Chromium	0.0307

Sample Date:	6/21/2005
Sample Type:	Collocated - C2
ID:	5062307-02
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	8/14/2005
Sample Type:	Field Sample
ID:	5081614-01
Units	ng/m3
Hexavalent Chromium	0.0225

Sample Date:	10/7/2005
Sample Type:	Field Sample
ID:	5101002-01
Units	ng/m3
Hexavalent Chromium	0.0190

Sample Date:	6/27/2005
Sample Type:	Field Sample
ID:	5062911-01
Units	ng/m3
Hexavalent Chromium	0.0507

Sample Date:	8/20/2005
Sample Type:	Field Sample
ID:	5082302-07
Units	ng/m3
Hexavalent Chromium	0.0651

Sample Date:	10/13/2005
Sample Type:	Collocated - C1
ID:	5101706-01
Units	ng/m3
Hexavalent Chromium	0.0228

Sample Date:	7/3/2005
Sample Type:	Field Sample
ID:	5070606-01
Units	ng/m3
Hexavalent Chromium	0.0829

Sample Date:	8/26/2005
Sample Type:	Field Sample
ID:	5082901-01
Units	ng/m3
Hexavalent Chromium	0.0229

Sample Date:	10/13/2005
Sample Type:	Collocated - C2
ID:	5101706-02
Units	ng/m3
Hexavalent Chromium	0.0272

Sample Date:	7/9/2005
Sample Type:	Field Sample
ID:	5071217-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	9/1/2005
Sample Type:	Field Sample
ID:	5090608-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	10/19/2005
Sample Type:	Field Sample
ID:	5102106-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	7/15/2005
Sample Type:	Field Sample
ID:	5071803-03
Units	ng/m3
Hexavalent Chromium	0.0346

Sample Date:	9/7/2005
Sample Type:	Field Sample
ID:	5090901-01
Units	ng/m3
Hexavalent Chromium	0.0273

Sample Date:	10/25/2005
Sample Type:	Field Sample
ID:	5102709-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	10/31/2005
Sample Type:	Field Sample
ID:	5110207-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	11/6/2005
Sample Type:	Field Sample
ID:	5110807-01
Units	ng/m3
Hexavalent Chromium	0.0162

Sample Date:	11/12/2005
Sample Type:	Field Sample
ID:	5111510-01
Units	ng/m3
Hexavalent Chromium	0.0269

Sample Date:	11/18/2005
Sample Type:	Field Sample
ID:	5112103-01
Units	ng/m3
Hexavalent Chromium	0.0055

Sample Date:	11/24/2005
Sample Type:	Collocated - C1
ID:	5112801-01
Units	ng/m3
Hexavalent Chromium	

Sample Date:	11/24/2005
Sample Type:	Collocated - C2
ID:	5112801-02
Units	ng/m3
Hexavalent Chromium	

Sample Date:	11/30/2005
Sample Type:	Field Sample
ID:	5120218-01
Units	ng/m3
Hexavalent Chromium	0.0314

Sample Date:	12/6/2005
Sample Type:	Field Sample
ID:	5120807-01
Units	ng/m3
Hexavalent Chromium	0.0182

Sample Date:	12/12/2005
Sample Type:	Field Sample
ID:	5121419-01
Units	ng/m3
Hexavalent Chromium	0.0249

Sample Date:	12/18/2005
Sample Type:	Field Sample
ID:	5122009-01
Units	ng/m3
Hexavalent Chromium	0.0177

Sample Date:	12/24/2005
Sample Type:	Field Sample
ID:	5122812-01
Units	ng/m3
Hexavalent Chromium	0.0603

PRRI Hexavalent Chromium Sampling Results

Sample Date:	1/16/2005
Sample Type:	Field Sample
ID:	5020109-01
Units	ng/m3
Hexavalent Chromium	0.0146

Sample Date:	2/21/2005
Sample Type:	Collocated - C2
ID:	5022504-02
Units	ng/m3
Hexavalent Chromium	0.0172

Sample Date:	4/15/2005
Sample Type:	Field Sample
ID:	5042801-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	1/22/2005
Sample Type:	Collocated - C1
ID:	5020109-03
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	2/27/2005
Sample Type:	Field Sample
ID:	5030204-01
Units	ng/m3
Hexavalent Chromium	0.0352

Sample Date:	4/16/2005
Sample Type:	Field Sample
ID:	5042005-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	1/22/2005
Sample Type:	Collocated - C2
ID:	5020109-04
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	3/5/2005
Sample Type:	Field Sample
ID:	5031002-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	4/28/2005
Sample Type:	Field Sample
ID:	5050405-01
Units	ng/m3
Hexavalent Chromium	0.0131

Sample Date:	1/28/2005
Sample Type:	Collocated - C1
ID:	5020701-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	3/11/2005
Sample Type:	Field Sample
ID:	5031602-01
Units	ng/m3
Hexavalent Chromium	0.0487

Sample Date:	5/4/2005
Sample Type:	Field Sample
ID:	5051003-01
Units	ng/m3
Hexavalent Chromium	0.0287

Sample Date:	1/28/2005
Sample Type:	Collocated - C2
ID:	5020701-02
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	3/17/2005
Sample Type:	Field Sample
ID:	5032204-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	5/10/2005
Sample Type:	Collocated - C1
ID:	5051213-01
Units	ng/m3
Hexavalent Chromium	0.0389

Sample Date:	2/4/2005
Sample Type:	Field Sample
ID:	5020905-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	3/23/2005
Sample Type:	Field Sample
ID:	5033104-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	5/10/2005
Sample Type:	Collocated - C2
ID:	5051213-02
Units	ng/m3
Hexavalent Chromium	0.0296

Sample Date:	2/9/2005
Sample Type:	Field Sample
ID:	5021504-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	3/29/2005
Sample Type:	Field Sample
ID:	5040504-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	5/16/2005
Sample Type:	Field Sample
ID:	5051901-01
Units	ng/m3
Hexavalent Chromium	0.0077

Sample Date:	2/15/2005
Sample Type:	Field Sample
ID:	5021812-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	4/4/2005
Sample Type:	Field Sample
ID:	5040701-01
Units	ng/m3
Hexavalent Chromium	0.0056

Sample Date:	5/22/2005
Sample Type:	Field Sample
ID:	5052503-01
Units	ng/m3
Hexavalent Chromium	0.0176

Sample Date:	2/21/2005
Sample Type:	Collocated - C1
ID:	5022504-01
Units	ng/m3
Hexavalent Chromium	0.0229

Sample Date:	4/10/2005
Sample Type:	Field Sample
ID:	5041404-01
Units	ng/m3
Hexavalent Chromium	0.0244

Sample Date:	5/28/2005
Sample Type:	Field Sample
ID:	5060202-01
Units	ng/m3
Hexavalent Chromium	0.0192

Sample Date:	6/3/2005	**Sample Date:**	7/21/2005	**Sample Date:**	9/13/2005
Sample Type:	Field Sample	**Sample Type:**	Field Sample	**Sample Type:**	Field Sample
ID:	5061007-01	**ID:**	5072714-01	**ID:**	5091503-01
Units	ng/m3	**Units**	ng/m3	**Units**	ng/m3
Hexavalent Chromium	0.0260	Hexavalent Chromium	0.0367	Hexavalent Chromium	0.0178
Sample Date:	6/9/2005	**Sample Date:**	7/27/2005	**Sample Date:**	9/19/2005
Sample Type:	Field Sample	**Sample Type:**	Field Sample	**Sample Type:**	Field Sample
ID:	5061421-01	**ID:**	5080415-01	**ID:**	5092303-01
Units	ng/m3	**Units**	ng/m3	**Units**	ng/m3
Hexavalent Chromium	0.0334	Hexavalent Chromium	0.0132	Hexavalent Chromium	0.0179
Sample Date:	6/15/2005	**Sample Date:**	8/2/2005	**Sample Date:**	9/25/2005
Sample Type:	Field Sample	**Sample Type:**	Field Sample	**Sample Type:**	Field Sample
ID:	5062108-01	**ID:**	5080416-01	**ID:**	5092904-01
Units	ng/m3	**Units**	ng/m3	**Units**	ng/m3
Hexavalent Chromium	0.0237	Hexavalent Chromium	0.119	Hexavalent Chromium	ND
Sample Date:	6/21/2005	**Sample Date:**	8/8/2005	**Sample Date:**	10/1/2005
Sample Type:	Collocated - C1	**Sample Type:**	Field Sample	**Sample Type:**	Field Sample
ID:	5062403-01	**ID:**	5081210-01	**ID:**	5100414-01
Units	ng/m3	**Units**	ng/m3	**Units**	ng/m3
Hexavalent Chromium	0.0215	Hexavalent Chromium	ND	Hexavalent Chromium	ND
Sample Date:	6/21/2005	**Sample Date:**	8/14/2005	**Sample Date:**	10/7/2005
Sample Type:	Collocated - C2	**Sample Type:**	Field Sample	**Sample Type:**	Field Sample
ID:	5062403-02	**ID:**	5081808-01	**ID:**	5101306-01
Units	ng/m3	**Units**	ng/m3	**Units**	ng/m3
Hexavalent Chromium	0.0238	Hexavalent Chromium	0.0168	Hexavalent Chromium	0.0474
Sample Date:	6/27/2005	**Sample Date:**	8/20/2005	**Sample Date:**	10/13/2005
Sample Type:	Field Sample	**Sample Type:**	Field Sample	**Sample Type:**	Collocated - C1
ID:	5063005-01	**ID:**	5082404-01	**ID:**	5101910-01
Units	ng/m3	**Units**	ng/m3	**Units**	ng/m3
Hexavalent Chromium	ND	Hexavalent Chromium	0.0173	Hexavalent Chromium	0.0266
Sample Date:	7/3/2005	**Sample Date:**	8/26/2005	**Sample Date:**	10/13/2005
Sample Type:	Field Sample	**Sample Type:**	Field Sample	**Sample Type:**	Collocated - C2
ID:	5070608-01	**ID:**	5090107-01	**ID:**	5101910-02
Units	ng/m3	**Units**	ng/m3	**Units**	ng/m3
Hexavalent Chromium	0.0820	Hexavalent Chromium	ND	Hexavalent Chromium	0.0307
Sample Date:	7/9/2005	**Sample Date:**	9/1/2005	**Sample Date:**	10/19/2005
Sample Type:	Field Sample	**Sample Type:**	Field Sample	**Sample Type:**	Field Sample
ID:	5071301-01	**ID:**	5090706-01	**ID:**	5102116-01
Units	ng/m3	**Units**	ng/m3	**Units**	ng/m3
Hexavalent Chromium	ND	Hexavalent Chromium	ND	Hexavalent Chromium	ND
Sample Date:	7/15/2005	**Sample Date:**	9/7/2005	**Sample Date:**	10/25/2005
Sample Type:	Field Sample	**Sample Type:**	Field Sample	**Sample Type:**	Field Sample
ID:	5072001-01	**ID:**	5090904-01	**ID:**	5102715-01
Units	ng/m3	**Units**	ng/m3	**Units**	ng/m3
Hexavalent Chromium	ND	Hexavalent Chromium	ND	Hexavalent Chromium	ND

Sample Date:	10/31/2005
Sample Type:	Field Sample
ID:	5110413-01
Units	ng/m3
Hexavalent Chromium	0.0358

Sample Date:	11/6/2005
Sample Type:	Field Sample
ID:	5111006-01
Units	ng/m3
Hexavalent Chromium	0.0131

Sample Date:	11/12/2005
Sample Type:	Field Sample
ID:	5111509-01
Units	ng/m3
Hexavalent Chromium	0.0184

Sample Date:	11/18/2005
Sample Type:	Field Sample
ID:	5112203-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	11/24/2005
Sample Type:	Collocated - C1
ID:	5112924-01
Units	ng/m3
Hexavalent Chromium	0.0125

Sample Date:	11/24/2005
Sample Type:	Collocated - C2
ID:	5112924-02
Units	ng/m3
Hexavalent Chromium	0.0027

Sample Date:	11/30/2005
Sample Type:	Field Sample
ID:	5120237-01
Units	ng/m3
Hexavalent Chromium	0.0260

Sample Date:	12/6/2005
Sample Type:	Field Sample
ID:	5120914-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	12/12/2005
Sample Type:	Field Sample
ID:	5122012-02
Units	ng/m3
Hexavalent Chromium	

Sample Date:	12/18/2005
Sample Type:	Field Sample
ID:	5122121-01
Units	ng/m3
Hexavalent Chromium	0.0339

Sample Date:	12/24/2005
Sample Type:	Field Sample
ID:	5122903-01
Units	ng/m3
Hexavalent Chromium	0.0227

Sample Date:	12/30/2005
Sample Type:	Field Sample
ID:	6011007-01
Units	ng/m3
Hexavalent Chromium	0.0100

PVAL Hexavalent Chromium Sampling Results

Sample Date:	7/15/2005
Sample Type:	Field Sample
ID:	5071901-04
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	7/21/2005
Sample Type:	Field Sample
ID:	5072715-04
Units	ng/m3
Hexavalent Chromium	0.0256

Sample Date:	7/27/2005
Sample Type:	Field Sample
ID:	5072917-04
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	8/8/2005
Sample Type:	Field Sample
ID:	5081211-04
Units	ng/m3
Hexavalent Chromium	0.0226

Sample Date:	8/20/2005
Sample Type:	Field Sample
ID:	5082505-04
Units	ng/m3
Hexavalent Chromium	0.0192

Sample Date:	9/1/2005
Sample Type:	Field Sample
ID:	5091311-01
Units	ng/m3
Hexavalent Chromium	

Sample Date:	9/13/2005
Sample Type:	Field Sample
ID:	5092218-04
Units	ng/m3
Hexavalent Chromium	

Sample Date:	9/25/2005
Sample Type:	Field Sample
ID:	5100410-01
Units	ng/m3
Hexavalent Chromium	0.0243

Sample Date:	10/7/2005
Sample Type:	Field Sample
ID:	5101214-04
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	10/19/2005
Sample Type:	Field Sample
ID:	5102705-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	10/31/2005
Sample Type:	Field Sample
ID:	5110349-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	11/12/2005
Sample Type:	Field Sample
ID:	5111806-01
Units	ng/m3
Hexavalent Chromium	0.0102

Sample Date:	11/24/2005
Sample Type:	Collocated - C1
ID:	5113004-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	11/24/2005
Sample Type:	Collocated - C2
ID:	5113004-02
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	12/6/2005
Sample Type:	Field Sample
ID:	5120911-01
Units	ng/m3
Hexavalent Chromium	0.0039

Sample Date:	12/18/2005
Sample Type:	Field Sample
ID:	5122106-06
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	12/30/2005
Sample Type:	Field Sample
ID:	6010503-01
Units	ng/m3
Hexavalent Chromium	0.0037

S4MO Hexavalent Chromium Sampling Results

Sample Date:	1/28/2005
Sample Type:	Field Sample
ID:	5020403-01
Units	ng/m3
Hexavalent Chromium	0.0510

Sample Date:	3/23/2005
Sample Type:	Field Sample
ID:	5032908-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	5/16/2005
Sample Type:	Field Sample
ID:	5051902-01
Units	ng/m3
Hexavalent Chromium	0.0445

Sample Date:	2/9/2005
Sample Type:	Field Sample
ID:	5021108-01
Units	ng/m3
Hexavalent Chromium	0.0257

Sample Date:	3/29/2005
Sample Type:	Field Sample
ID:	5040107-01
Units	ng/m3
Hexavalent Chromium	0.0277

Sample Date:	5/22/2005
Sample Type:	Field Sample
ID:	5052502-01
Units	ng/m3
Hexavalent Chromium	0.0191

Sample Date:	2/15/2005
Sample Type:	Field Sample
ID:	5021803-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	4/4/2005
Sample Type:	Field Sample
ID:	5040806-01
Units	ng/m3
Hexavalent Chromium	0.0605

Sample Date:	6/3/2005
Sample Type:	Field Sample
ID:	5060710-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	2/21/2005
Sample Type:	Collocated - C1
ID:	5022503-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	4/10/2005
Sample Type:	Field Sample
ID:	5041302-01
Units	ng/m3
Hexavalent Chromium	0.0149

Sample Date:	6/9/2005
Sample Type:	Field Sample
ID:	5061404-03
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	2/21/2005
Sample Type:	Collocated - C2
ID:	5022503-02
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	4/22/2005
Sample Type:	Field Sample
ID:	5042601-01
Units	ng/m3
Hexavalent Chromium	0.0234

Sample Date:	6/15/2005
Sample Type:	Field Sample
ID:	5062101-02
Units	ng/m3
Hexavalent Chromium	

Sample Date:	2/27/2005
Sample Type:	Field Sample
ID:	5030203-01
Units	ng/m3
Hexavalent Chromium	0.0394

Sample Date:	4/28/2005
Sample Type:	Field Sample
ID:	5050406-01
Units	ng/m3
Hexavalent Chromium	0.0255

Sample Date:	6/21/2005
Sample Type:	Collocated - C1
ID:	5062406-01
Units	ng/m3
Hexavalent Chromium	0.0357

Sample Date:	3/5/2005
Sample Type:	Field Sample
ID:	5030818-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	5/4/2005
Sample Type:	Field Sample
ID:	5051101-01
Units	ng/m3
Hexavalent Chromium	0.0830

Sample Date:	6/21/2005
Sample Type:	Collocated - C2
ID:	5062406-02
Units	ng/m3
Hexavalent Chromium	0.0390

Sample Date:	3/11/2005
Sample Type:	Field Sample
ID:	5031603-01
Units	ng/m3
Hexavalent Chromium	0.0234

Sample Date:	5/10/2005
Sample Type:	Collocated - C1
ID:	5051318-01
Units	ng/m3
Hexavalent Chromium	

Sample Date:	6/27/2005
Sample Type:	Field Sample
ID:	5070116-03
Units	ng/m3
Hexavalent Chromium	0.0497

Sample Date:	3/17/2005
Sample Type:	Field Sample
ID:	5032213-01
Units	ng/m3
Hexavalent Chromium	0.0218

Sample Date:	5/10/2005
Sample Type:	Collocated - C2
ID:	5051318-02
Units	ng/m3
Hexavalent Chromium	0.0391

Sample Date:	7/3/2005
Sample Type:	Field Sample
ID:	5070803-04
Units	ng/m3
Hexavalent Chromium	ND

S4MO Hexavalent Chromium Sampling Results

Sample Date:	7/9/2005
Sample Type:	Field Sample
ID:	5071222-02
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	9/1/2005
Sample Type:	Field Sample
ID:	5090709-03
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	10/19/2005
Sample Type:	Field Sample
ID:	5102506-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	7/15/2005
Sample Type:	Field Sample
ID:	5071912-03
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	9/7/2005
Sample Type:	Field Sample
ID:	5090907-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	10/25/2005
Sample Type:	Field Sample
ID:	5102804-01
Units	ng/m3
Hexavalent Chromium	0.0494

Sample Date:	7/21/2005
Sample Type:	Field Sample
ID:	5072602-01
Units	ng/m3
Hexavalent Chromium	0.0221

Sample Date:	9/13/2005
Sample Type:	Field Sample
ID:	5091928-01
Units	ng/m3
Hexavalent Chromium	0.0725

Sample Date:	10/31/2005
Sample Type:	Field Sample
ID:	5110350-01
Units	ng/m3
Hexavalent Chromium	0.109

Sample Date:	7/27/2005
Sample Type:	Field Sample
ID:	5072918-03
Units	ng/m3
Hexavalent Chromium	0.0194

Sample Date:	9/19/2005
Sample Type:	Field Sample
ID:	5092305-01
Units	ng/m3
Hexavalent Chromium	0.0438

Sample Date:	11/6/2005
Sample Type:	Field Sample
ID:	5110909-01
Units	ng/m3
Hexavalent Chromium	0.0404

Sample Date:	8/8/2005
Sample Type:	Field Sample
ID:	5081013-04
Units	ng/m3
Hexavalent Chromium	0.0416

Sample Date:	9/25/2005
Sample Type:	Field Sample
ID:	5092902-01
Units	ng/m3
Hexavalent Chromium	0.0595

Sample Date:	11/12/2005
Sample Type:	Field Sample
ID:	5111513-01
Units	ng/m3
Hexavalent Chromium	0.0213

Sample Date:	8/11/2005
Sample Type:	Field Sample
ID:	5081602-04
Units	ng/m3
Hexavalent Chromium	0.0527

Sample Date:	10/1/2005
Sample Type:	Field Sample
ID:	5100420-01
Units	ng/m3
Hexavalent Chromium	0.0328

Sample Date:	11/18/2005
Sample Type:	Field Sample
ID:	5112211-01
Units	ng/m3
Hexavalent Chromium	0.0232

Sample Date:	8/14/2005
Sample Type:	Field Sample
ID:	5081705-01
Units	ng/m3
Hexavalent Chromium	0.0245

Sample Date:	10/7/2005
Sample Type:	Field Sample
ID:	5101107-01
Units	ng/m3
Hexavalent Chromium	0.0320

Sample Date:	11/24/2005
Sample Type:	Collocated - C1
ID:	5112916-05
Units	ng/m3
Hexavalent Chromium	

Sample Date:	8/20/2005
Sample Type:	Field Sample
ID:	5082301-22
Units	ng/m3
Hexavalent Chromium	0.0576

Sample Date:	10/13/2005
Sample Type:	Collocated - C1
ID:	5101908-01
Units	ng/m3
Hexavalent Chromium	0.0561

Sample Date:	11/24/2005
Sample Type:	Collocated - C2
ID:	5112916-06
Units	ng/m3
Hexavalent Chromium	0.0431

Sample Date:	8/26/2005
Sample Type:	Field Sample
ID:	5083007-03
Units	ng/m3
Hexavalent Chromium	0.0434

Sample Date:	10/13/2005
Sample Type:	Collocated - C2
ID:	5101908-02
Units	ng/m3
Hexavalent Chromium	0.0704

Sample Date:	11/30/2005
Sample Type:	Field Sample
ID:	5120244-02
Units	ng/m3
Hexavalent Chromium	0.0308

Sample Date:	12/6/2005
Sample Type:	Field Sample
ID:	5121306-01
Units	ng/m3
Hexavalent Chromium	0.0871

Sample Date:	12/12/2005
Sample Type:	Field Sample
ID:	5121607-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	12/18/2005
Sample Type:	Field Sample
ID:	5122110-02
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	12/24/2005
Sample Type:	Field Sample
ID:	5122817-01
Units	ng/m3
Hexavalent Chromium	0.0351

Sample Date:	12/30/2005
Sample Type:	Field Sample
ID:	6010426-01
Units	ng/m3
Hexavalent Chromium	0.0262

SDGA Hexavalent Chromium Sampling Results

Sample Date:	2/27/2005
Sample Type:	Collocated - C1
ID:	5031001-01
Units	ng/m3
Hexavalent Chromium	0.0805

Sample Date:	2/27/2005
Sample Type:	Collocated - C2
ID:	5031001-02
Units	ng/m3
Hexavalent Chromium	0.0286

Sample Date:	3/5/2005
Sample Type:	Field Sample
ID:	5031001-03
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	3/23/2005
Sample Type:	Field Sample
ID:	5032909-01
Units	ng/m3
Hexavalent Chromium	0.0482

Sample Date:	3/29/2005
Sample Type:	Field Sample
ID:	5033101-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	4/4/2005
Sample Type:	Field Sample
ID:	5040607-01
Units	ng/m3
Hexavalent Chromium	0.116

Sample Date:	4/10/2005
Sample Type:	Field Sample
ID:	5041401-01
Units	ng/m3
Hexavalent Chromium	0.0608

Sample Date:	4/16/2005
Sample Type:	Field Sample
ID:	5042001-01
Units	ng/m3
Hexavalent Chromium	0.0398

Sample Date:	4/22/2005
Sample Type:	Field Sample
ID:	5042701-01
Units	ng/m3
Hexavalent Chromium	0.0480

Sample Date:	4/28/2005
Sample Type:	Field Sample
ID:	5050407-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	5/4/2005
Sample Type:	Field Sample
ID:	5050612-01
Units	ng/m3
Hexavalent Chromium	0.0445

Sample Date:	5/10/2005
Sample Type:	Collocated - C1
ID:	5051210-01
Units	ng/m3
Hexavalent Chromium	0.0657

Sample Date:	5/10/2005
Sample Type:	Collocated - C2
ID:	5051210-02
Units	ng/m3
Hexavalent Chromium	0.0272

Sample Date:	5/16/2005
Sample Type:	Field Sample
ID:	5051807-01
Units	ng/m3
Hexavalent Chromium	0.0292

Sample Date:	5/22/2005
Sample Type:	Field Sample
ID:	5052701-01
Units	ng/m3
Hexavalent Chromium	0.0460

Sample Date:	5/28/2005
Sample Type:	Field Sample
ID:	5060107-01
Units	ng/m3
Hexavalent Chromium	0.0497

Sample Date:	6/3/2005
Sample Type:	Field Sample
ID:	5060714-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	6/9/2005
Sample Type:	Field Sample
ID:	5061416-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	6/15/2005
Sample Type:	Field Sample
ID:	5061703-01
Units	ng/m3
Hexavalent Chromium	0.0425

Sample Date:	6/21/2005
Sample Type:	Collocated - C1
ID:	5062302-01
Units	ng/m3
Hexavalent Chromium	0.0229

Sample Date:	6/21/2005
Sample Type:	Collocated - C2
ID:	5062302-02
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	6/27/2005
Sample Type:	Field Sample
ID:	5063012-01
Units	ng/m3
Hexavalent Chromium	0.0397

Sample Date:	7/3/2005
Sample Type:	Field Sample
ID:	5070702-01
Units	ng/m3
Hexavalent Chromium	0.0784

Sample Date:	7/9/2005
Sample Type:	Field Sample
ID:	5071401-01
Units	ng/m3
Hexavalent Chromium	0.0567

Sample Date:	7/15/2005
Sample Type:	Field Sample
ID:	5072006-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	7/21/2005
Sample Type:	Field Sample
ID:	5072601-01
Units	ng/m3
Hexavalent Chromium	0.0572

Sample Date:	7/27/2005
Sample Type:	Field Sample
ID:	5072919-01
Units	ng/m3
Hexavalent Chromium	0.0238

SDGA Hexavalent Chromium Sampling Results

Sample Date:	8/2/2005	**Sample Date:**	9/25/2005	**Sample Date:**	11/18/2005
Sample Type:	Field Sample	**Sample Type:**	Field Sample	**Sample Type:**	Field Sample
ID:	5080414-01	**ID:**	5100401-01	**ID:**	5112217-01
Units	ng/m3	**Units**	ng/m3	**Units**	ng/m3
Hexavalent Chromium	0.0119	Hexavalent Chromium	ND	Hexavalent Chromium	ND
Sample Date:	8/8/2005	**Sample Date:**	10/1/2005	**Sample Date:**	11/24/2005
Sample Type:	Field Sample	**Sample Type:**	Field Sample	**Sample Type:**	Field Sample
ID:	5081014-01	**ID:**	5100406-01	**ID:**	5112927-01
Units	ng/m3	**Units**	ng/m3	**Units**	ng/m3
Hexavalent Chromium	ND	Hexavalent Chromium	ND	Hexavalent Chromium	0.0101
Sample Date:	8/14/2005	**Sample Date:**	10/7/2005	**Sample Date:**	11/30/2005
Sample Type:	Field Sample	**Sample Type:**	Field Sample	**Sample Type:**	Field Sample
ID:	5081706-01	**ID:**	5101210-01	**ID:**	5120240-01
Units	ng/m3	**Units**	ng/m3	**Units**	ng/m3
Hexavalent Chromium	0.0348	Hexavalent Chromium	0.0208	Hexavalent Chromium	0.0210
Sample Date:	8/20/2005	**Sample Date:**	10/13/2005	**Sample Date:**	12/6/2005
Sample Type:	Field Sample	**Sample Type:**	Field Sample	**Sample Type:**	Field Sample
ID:	5082401-01	**ID:**	5101924-01	**ID:**	5120820-01
Units	ng/m3	**Units**	ng/m3	**Units**	ng/m3
Hexavalent Chromium	0.0527	Hexavalent Chromium	0.0230	Hexavalent Chromium	0.0278
Sample Date:	8/26/2005	**Sample Date:**	10/19/2005	**Sample Date:**	12/12/2005
Sample Type:	Field Sample	**Sample Type:**	Field Sample	**Sample Type:**	Field Sample
ID:	5090110-01	**ID:**	5102118-01	**ID:**	6010407-01
Units	ng/m3	**Units**	ng/m3	**Units**	ng/m3
Hexavalent Chromium	ND	Hexavalent Chromium	0.0460	Hexavalent Chromium	0.0254
Sample Date:	9/1/2005	**Sample Date:**	10/25/2005	**Sample Date:**	12/18/2005
Sample Type:	Field Sample	**Sample Type:**	Field Sample	**Sample Type:**	Field Sample
ID:	5090807-01	**ID:**	5102706-01	**ID:**	5122017-01
Units	ng/m3	**Units**	ng/m3	**Units**	ng/m3
Hexavalent Chromium	0.0544	Hexavalent Chromium	ND	Hexavalent Chromium	0.0167
Sample Date:	9/7/2005	**Sample Date:**	10/31/2005	**Sample Date:**	12/24/2005
Sample Type:	Field Sample	**Sample Type:**	Field Sample	**Sample Type:**	Field Sample
ID:	5090902-01	**ID:**	5110334-01	**ID:**	5122911-01
Units	ng/m3	**Units**	ng/m3	**Units**	ng/m3
Hexavalent Chromium	ND	Hexavalent Chromium	ND	Hexavalent Chromium	0.0228
Sample Date:	9/13/2005	**Sample Date:**	11/6/2005	**Sample Date:**	12/30/2005
Sample Type:	Field Sample	**Sample Type:**	Field Sample	**Sample Type:**	Field Sample
ID:	5091505-01	**ID:**	5110816-01	**ID:**	6010407-03
Units	ng/m3	**Units**	ng/m3	**Units**	ng/m3
Hexavalent Chromium	0.0272	Hexavalent Chromium	0.0389	Hexavalent Chromium	0.0221
Sample Date:	9/19/2005	**Sample Date:**	11/12/2005		
Sample Type:	Field Sample	**Sample Type:**	Field Sample		
ID:	5092306-01	**ID:**	5111518-01		
Units	ng/m3	**Units**	ng/m3		
Hexavalent Chromium		Hexavalent Chromium	0.0247		

Sample Date:	1/10/2005	**Sample Date:**	2/21/2005	**Sample Date:**	4/16/2005
Sample Type:	Field Sample	**Sample Type:**	Collocated - C2	**Sample Type:**	Field Sample
ID:	5011303-02	**ID:**	5022306-02	**ID:**	5042003-01
Units	ng/m3	**Units**	ng/m3	**Units**	ng/m3
Hexavalent Chromium	0.0116	Hexavalent Chromium	0.0917	Hexavalent Chromium	ND
Sample Date:	1/16/2005	**Sample Date:**	2/27/2005	**Sample Date:**	4/22/2005
Sample Type:	Field Sample	**Sample Type:**	Field Sample	**Sample Type:**	Field Sample
ID:	5012014-01	**ID:**	5030407-01	**ID:**	5042608-01
Units	ng/m3	**Units**	ng/m3	**Units**	ng/m3
Hexavalent Chromium		Hexavalent Chromium	0.0542	Hexavalent Chromium	0.0421
Sample Date:	1/22/2005	**Sample Date:**	3/5/2005	**Sample Date:**	4/28/2005
Sample Type:	Collocated - C1	**Sample Type:**	Field Sample	**Sample Type:**	Field Sample
ID:	5012603-01	**ID:**	5030912-01	**ID:**	5050308-01
Units	ng/m3	**Units**	ng/m3	**Units**	ng/m3
Hexavalent Chromium	0.0928	Hexavalent Chromium	0.0323	Hexavalent Chromium	0.0164
Sample Date:	1/22/2005	**Sample Date:**	3/11/2005	**Sample Date:**	5/4/2005
Sample Type:	Collocated - C2	**Sample Type:**	Field Sample	**Sample Type:**	Field Sample
ID:	5012603-02	**ID:**	5031508-01	**ID:**	5050617-01
Units	ng/m3	**Units**	ng/m3	**Units**	ng/m3
Hexavalent Chromium	0.0915	Hexavalent Chromium	0.0750	Hexavalent Chromium	0.0883
Sample Date:	1/28/2005	**Sample Date:**	3/17/2005	**Sample Date:**	5/10/2005
Sample Type:	Field Sample	**Sample Type:**	Field Sample	**Sample Type:**	Collocated - C1
ID:	5020106-01	**ID:**	5032212-01	**ID:**	5051208-01
Units	ng/m3	**Units**	ng/m3	**Units**	ng/m3
Hexavalent Chromium	0.224	Hexavalent Chromium	0.0180	Hexavalent Chromium	0.0593
Sample Date:	2/3/2005	**Sample Date:**	3/23/2005	**Sample Date:**	5/10/2005
Sample Type:	Field Sample	**Sample Type:**	Field Sample	**Sample Type:**	Collocated - C2
ID:	5020806-01	**ID:**	5032906-01	**ID:**	5051208-02
Units	ng/m3	**Units**	ng/m3	**Units**	ng/m3
Hexavalent Chromium	0.110	Hexavalent Chromium	0.0115	Hexavalent Chromium	0.0593
Sample Date:	2/9/2005	**Sample Date:**	3/29/2005	**Sample Date:**	5/16/2005
Sample Type:	Field Sample	**Sample Type:**	Field Sample	**Sample Type:**	Field Sample
ID:	5021505-01	**ID:**	5040105-01	**ID:**	5051802-01
Units	ng/m3	**Units**	ng/m3	**Units**	ng/m3
Hexavalent Chromium	0.0371	Hexavalent Chromium	0.0364	Hexavalent Chromium	0.0373
Sample Date:	2/15/2005	**Sample Date:**	4/4/2005	**Sample Date:**	5/22/2005
Sample Type:	Field Sample	**Sample Type:**	Field Sample	**Sample Type:**	Field Sample
ID:	5021802-01	**ID:**	5040805-01	**ID:**	5052501-01
Units	ng/m3	**Units**	ng/m3	**Units**	ng/m3
Hexavalent Chromium	ND	Hexavalent Chromium	0.0715	Hexavalent Chromium	0.0237
Sample Date:	2/21/2005	**Sample Date:**	4/10/2005	**Sample Date:**	5/28/2005
Sample Type:	Collocated - C1	**Sample Type:**	Field Sample	**Sample Type:**	Field Sample
ID:	5022306-01	**ID:**	5041206-01	**ID:**	5060201-01
Units	ng/m3	**Units**	ng/m3	**Units**	ng/m3
Hexavalent Chromium	0.100	Hexavalent Chromium	0.0157	Hexavalent Chromium	0.148

SEWA Hexavalent Chromium Sampling Results

Sample Date:	6/3/2005
Sample Type:	Field Sample
ID:	5060802-01
Units	ng/m3
Hexavalent Chromium	0.0232

Sample Date:	7/21/2005
Sample Type:	Field Sample
ID:	5072610-01
Units	ng/m3
Hexavalent Chromium	0.0314

Sample Date:	9/13/2005
Sample Type:	Field Sample
ID:	5091603-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	6/9/2005
Sample Type:	Field Sample
ID:	5061508-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	7/27/2005
Sample Type:	Field Sample
ID:	5072920-01
Units	ng/m3
Hexavalent Chromium	0.0177

Sample Date:	9/19/2005
Sample Type:	Field Sample
ID:	5092215-01
Units	ng/m3
Hexavalent Chromium	0.0183

Sample Date:	6/15/2005
Sample Type:	Field Sample
ID:	5061704-01
Units	ng/m3
Hexavalent Chromium	0.0415

Sample Date:	8/2/2005
Sample Type:	Field Sample
ID:	5080509-01
Units	ng/m3
Hexavalent Chromium	0.0349

Sample Date:	9/25/2005
Sample Type:	Field Sample
ID:	5092905-01
Units	ng/m3
Hexavalent Chromium	0.0237

Sample Date:	6/21/2005
Sample Type:	Collocated - C1
ID:	5062305-01
Units	ng/m3
Hexavalent Chromium	0.121

Sample Date:	8/8/2005
Sample Type:	Field Sample
ID:	5081114-01
Units	ng/m3
Hexavalent Chromium	0.0288

Sample Date:	10/1/2005
Sample Type:	Field Sample
ID:	5100542-01
Units	ng/m3
Hexavalent Chromium	0.0450

Sample Date:	6/21/2005
Sample Type:	Collocated - C2
ID:	5062305-02
Units	ng/m3
Hexavalent Chromium	0.122

Sample Date:	8/14/2005
Sample Type:	Field Sample
ID:	5081811-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	10/7/2005
Sample Type:	Field Sample
ID:	5101106-01
Units	ng/m3
Hexavalent Chromium	0.0798

Sample Date:	6/27/2005
Sample Type:	Field Sample
ID:	5062912-01
Units	ng/m3
Hexavalent Chromium	0.0742

Sample Date:	8/20/2005
Sample Type:	Field Sample
ID:	5082322-01
Units	ng/m3
Hexavalent Chromium	0.0583

Sample Date:	10/13/2005
Sample Type:	Collocated - C1
ID:	5102512-04
Units	ng/m3
Hexavalent Chromium	0.0608

Sample Date:	7/3/2005
Sample Type:	Field Sample
ID:	5070603-01
Units	ng/m3
Hexavalent Chromium	0.0470

Sample Date:	8/26/2005
Sample Type:	Field Sample
ID:	5083107-01
Units	ng/m3
Hexavalent Chromium	0.0430

Sample Date:	10/13/2005
Sample Type:	Collocated - C2
ID:	5102512-05
Units	ng/m3
Hexavalent Chromium	0.0543

Sample Date:	7/9/2005
Sample Type:	Field Sample
ID:	5071221-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	9/1/2005
Sample Type:	Field Sample
ID:	5090701-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	10/19/2005
Sample Type:	Field Sample
ID:	5102512-01
Units	ng/m3
Hexavalent Chromium	0.0777

Sample Date:	7/15/2005
Sample Type:	Field Sample
ID:	5071913-01
Units	ng/m3
Hexavalent Chromium	0.0248

Sample Date:	9/7/2005
Sample Type:	Field Sample
ID:	5091307-01
Units	ng/m3
Hexavalent Chromium	0.0565

Sample Date:	10/25/2005
Sample Type:	Field Sample
ID:	5102710-01
Units	ng/m3
Hexavalent Chromium	ND

SEWA Hexavalent Chromium Sampling Results

Sample Date:	10/31/2005
Sample Type:	Field Sample
ID:	5110409-01
Units	ng/m3
Hexavalent Chromium	0.0690

Sample Date:	11/6/2005
Sample Type:	Collocated - C1
ID:	5110907-01
Units	ng/m3
Hexavalent Chromium	0.0172

Sample Date:	11/6/2005
Sample Type:	Collocated - C2
ID:	5110907-02
Units	ng/m3
Hexavalent Chromium	0.103

Sample Date:	11/12/2005
Sample Type:	Field Sample
ID:	5111616-01
Units	ng/m3
Hexavalent Chromium	0.0101

Sample Date:	11/18/2005
Sample Type:	Field Sample
ID:	5112208-01
Units	ng/m3
Hexavalent Chromium	0.0108

Sample Date:	11/24/2005
Sample Type:	Collocated - C1
ID:	5113010-01
Units	ng/m3
Hexavalent Chromium	0.150

Sample Date:	11/24/2005
Sample Type:	Collocated - C2
ID:	5113010-02
Units	ng/m3
Hexavalent Chromium	0.202

Sample Date:	11/30/2005
Sample Type:	Field Sample
ID:	5120609-01
Units	ng/m3
Hexavalent Chromium	0.0823

Sample Date:	12/6/2005
Sample Type:	Field Sample
ID:	5120912-01
Units	ng/m3
Hexavalent Chromium	0.0147

Sample Date:	12/12/2005
Sample Type:	Field Sample
ID:	5121406-01
Units	ng/m3
Hexavalent Chromium	0.0828

Sample Date:	12/18/2005
Sample Type:	Field Sample
ID:	5122213-01
Units	ng/m3
Hexavalent Chromium	0.0131

Sample Date:	12/24/2005
Sample Type:	Field Sample
ID:	5122904-01
Units	ng/m3
Hexavalent Chromium	0.0339

Sample Date:	12/30/2005
Sample Type:	Field Sample
ID:	6010504-01
Units	ng/m3
Hexavalent Chromium	0.0172

Sample Date:	7/15/2005	**Sample Date:**	10/19/2005
Sample Type:	Field Sample	**Sample Type:**	Field Sample
ID:	5071902-04	**ID:**	5102704-01
Units	ng/m3	**Units**	ng/m3
Hexavalent Chromium	ND	Hexavalent Chromium	ND
Sample Date:	7/21/2005	**Sample Date:**	10/31/2005
Sample Type:	Field Sample	**Sample Type:**	Field Sample
ID:	5072717-04	**ID:**	5110347-01
Units	ng/m3	**Units**	ng/m3
Hexavalent Chromium	0.0450	Hexavalent Chromium	ND
Sample Date:	7/27/2005	**Sample Date:**	11/12/2005
Sample Type:	Field Sample	**Sample Type:**	Field Sample
ID:	5072922-04	**ID:**	5111808-01
Units	ng/m3	**Units**	ng/m3
Hexavalent Chromium	0.0916	Hexavalent Chromium	0.0425
Sample Date:	8/8/2005	**Sample Date:**	11/24/2005
Sample Type:	Field Sample	**Sample Type:**	Collocated - C1
ID:	5081212-04	**ID:**	5113009-01
Units	ng/m3	**Units**	ng/m3
Hexavalent Chromium	0.0437	Hexavalent Chromium	ND
Sample Date:	8/20/2005	**Sample Date:**	11/24/2005
Sample Type:	Field Sample	**Sample Type:**	Collocated - C2
ID:	5082504-04	**ID:**	5113009-02
Units	ng/m3	**Units**	ng/m3
Hexavalent Chromium	0.0329	Hexavalent Chromium	ND
Sample Date:	9/1/2005	**Sample Date:**	12/6/2005
Sample Type:	Field Sample	**Sample Type:**	Field Sample
ID:	5091310-01	**ID:**	5120910-01
Units	ng/m3	**Units**	ng/m3
Hexavalent Chromium	ND	Hexavalent Chromium	0.104
Sample Date:	9/13/2005	**Sample Date:**	12/18/2005
Sample Type:	Field Sample	**Sample Type:**	Field Sample
ID:	5092216-04	**ID:**	5122107-06
Units	ng/m3	**Units**	ng/m3
Hexavalent Chromium	0.0473	Hexavalent Chromium	ND
Sample Date:	9/25/2005	**Sample Date:**	12/30/2005
Sample Type:	Field Sample	**Sample Type:**	Field Sample
ID:	5100412-01	**ID:**	6010506-03
Units	ng/m3	**Units**	ng/m3
Hexavalent Chromium	0.0286	Hexavalent Chromium	0.0343
Sample Date:	10/7/2005		
Sample Type:	Field Sample		
ID:	5101215-04		
Units	ng/m3		
Hexavalent Chromium	ND		

SYFL Hexavalent Chromium Sampling Results

Sample Date:	1/16/2005
Sample Type:	Field Sample
ID:	5012017-02
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	1/22/2005
Sample Type:	Collocated - C1
ID:	5012506-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	1/22/2005
Sample Type:	Collocated - C2
ID:	5012506-02
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	1/28/2005
Sample Type:	Field Sample
ID:	5020107-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	2/3/2005
Sample Type:	Field Sample
ID:	5020906-01
Units	ng/m3
Hexavalent Chromium	0.0068

Sample Date:	2/9/2005
Sample Type:	Field Sample
ID:	5021804-02
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	2/15/2005
Sample Type:	Field Sample
ID:	5021804-03
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	2/21/2005
Sample Type:	Collocated - C1
ID:	5022506-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	2/21/2005
Sample Type:	Collocated - C2
ID:	5022506-02
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	2/27/2005
Sample Type:	Field Sample
ID:	5030305-01
Units	ng/m3
Hexavalent Chromium	0.0145

Sample Date:	3/5/2005
Sample Type:	Field Sample
ID:	5030816-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	3/11/2005
Sample Type:	Field Sample
ID:	5031503-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	3/17/2005
Sample Type:	Field Sample
ID:	5032208-01
Units	ng/m3
Hexavalent Chromium	0.119

Sample Date:	3/23/2005
Sample Type:	Field Sample
ID:	5032901-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	3/29/2005
Sample Type:	Field Sample
ID:	5040503-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	4/4/2005
Sample Type:	Field Sample
ID:	5040704-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	4/10/2005
Sample Type:	Field Sample
ID:	5041308-01
Units	ng/m3
Hexavalent Chromium	0.0170

Sample Date:	4/16/2005
Sample Type:	Field Sample
ID:	5041908-01
Units	ng/m3
Hexavalent Chromium	0.0452

Sample Date:	4/22/2005
Sample Type:	Field Sample
ID:	5042605-01
Units	ng/m3
Hexavalent Chromium	0.0424

Sample Date:	4/28/2005
Sample Type:	Field Sample
ID:	5050306-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	5/4/2005
Sample Type:	Field Sample
ID:	5051009-01
Units	ng/m3
Hexavalent Chromium	0.0874

Sample Date:	5/10/2005
Sample Type:	Collocated - C1
ID:	5051714-01
Units	ng/m3
Hexavalent Chromium	0.0285

Sample Date:	5/10/2005
Sample Type:	Collocated - C2
ID:	5051714-02
Units	ng/m3
Hexavalent Chromium	0.0372

Sample Date:	5/16/2005
Sample Type:	Field Sample
ID:	5052510-01
Units	ng/m3
Hexavalent Chromium	0.0205

Sample Date:	5/22/2005
Sample Type:	Field Sample
ID:	5052602-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	5/28/2005
Sample Type:	Field Sample
ID:	5060109-01
Units	ng/m3
Hexavalent Chromium	0.0671

Sample Date:	6/3/2005
Sample Type:	Field Sample
ID:	5060701-01
Units	ng/m3
Hexavalent Chromium	0.0820

SYFL Hexavalent Chromium Sampling Results

Sample Date:	6/9/2005
Sample Type:	Field Sample
ID:	5061504-02
Units	ng/m3
Hexavalent Chromium	0.0734

Sample Date:	6/15/2005
Sample Type:	Field Sample
ID:	5062202-01
Units	ng/m3
Hexavalent Chromium	0.0540

Sample Date:	6/21/2005
Sample Type:	Collocated - C1
ID:	5062402-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	6/21/2005
Sample Type:	Collocated - C2
ID:	5062402-02
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	6/27/2005
Sample Type:	Field Sample
ID:	5063006-01
Units	ng/m3
Hexavalent Chromium	0.0818

Sample Date:	7/3/2005
Sample Type:	Field Sample
ID:	5070709-01
Units	ng/m3
Hexavalent Chromium	0.134

Sample Date:	7/9/2005
Sample Type:	Field Sample
ID:	5071213-01
Units	ng/m3
Hexavalent Chromium	0.0372

Sample Date:	7/15/2005
Sample Type:	Field Sample
ID:	5071911-01
Units	ng/m3
Hexavalent Chromium	0.0334

Sample Date:	7/21/2005
Sample Type:	Field Sample
ID:	5072605-01
Units	ng/m3
Hexavalent Chromium	0.0315

Sample Date:	7/27/2005
Sample Type:	Field Sample
ID:	5080208-03
Units	ng/m3
Hexavalent Chromium	0.0374

Sample Date:	8/2/2005
Sample Type:	Field Sample
ID:	5080502-03
Units	ng/m3
Hexavalent Chromium	0.0217

Sample Date:	8/8/2005
Sample Type:	Field Sample
ID:	5081118-02
Units	ng/m3
Hexavalent Chromium	

Sample Date:	8/14/2005
Sample Type:	Field Sample
ID:	5081704-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	8/20/2005
Sample Type:	Field Sample
ID:	5082320-01
Units	ng/m3
Hexavalent Chromium	0.0278

Sample Date:	8/26/2005
Sample Type:	Field Sample
ID:	5083101-02
Units	ng/m3
Hexavalent Chromium	

Sample Date:	9/1/2005
Sample Type:	Field Sample
ID:	5090806-02
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	9/7/2005
Sample Type:	Field Sample
ID:	5091301-01
Units	ng/m3
Hexavalent Chromium	0.0440

Sample Date:	9/13/2005
Sample Type:	Field Sample
ID:	5091608-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	9/19/2005
Sample Type:	Field Sample
ID:	5092209-02
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	9/25/2005
Sample Type:	Field Sample
ID:	5092804-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	10/1/2005
Sample Type:	Field Sample
ID:	5100543-01
Units	ng/m3
Hexavalent Chromium	0.0261

Sample Date:	10/7/2005
Sample Type:	Field Sample
ID:	5101109-01
Units	ng/m3
Hexavalent Chromium	0.0318

Sample Date:	10/13/2005
Sample Type:	Collocated - C1
ID:	5101820-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	10/13/2005
Sample Type:	Collocated - C2
ID:	5101820-02
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	10/19/2005
Sample Type:	Field Sample
ID:	5102609-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	10/25/2005
Sample Type:	Field Sample
ID:	5102811-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	10/31/2005
Sample Type:	Field Sample
ID:	5110348-01
Units	ng/m3
Hexavalent Chromium	ND

SYFL Hexavalent Chromium Sampling Results

Sample Date:	11/6/2005
Sample Type:	Field Sample
ID:	5110905-01
Units	ng/m3
Hexavalent Chromium	0.0069

Sample Date:	11/12/2005
Sample Type:	Field Sample
ID:	5111709-01
Units	ng/m3
Hexavalent Chromium	0.0380

Sample Date:	11/18/2005
Sample Type:	Field Sample
ID:	5112307-01
Units	ng/m3
Hexavalent Chromium	0.0283

Sample Date:	11/24/2005
Sample Type:	Collocated - C1
ID:	5112909-04
Units	ng/m3
Hexavalent Chromium	0.0140

Sample Date:	11/24/2005
Sample Type:	Collocated - C2
ID:	5112909-05
Units	ng/m3
Hexavalent Chromium	0.0071

Sample Date:	11/30/2005
Sample Type:	Field Sample
ID:	5120709-02
Units	ng/m3
Hexavalent Chromium	0.0196

Sample Date:	12/6/2005
Sample Type:	Field Sample
ID:	5120907-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	12/12/2005
Sample Type:	Field Sample
ID:	5121508-02
Units	ng/m3
Hexavalent Chromium	0.0199

Sample Date:	12/18/2005
Sample Type:	Field Sample
ID:	5122118-03
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	12/24/2005
Sample Type:	Field Sample
ID:	6010429-01
Units	ng/m3
Hexavalent Chromium	0.0197

Sample Date:	12/30/2005
Sample Type:	Field Sample
ID:	6010429-02
Units	ng/m3
Hexavalent Chromium	0.0242

UNVT Hexavalent Chromium Sampling Results

Sample Date:	1/10/2005
Sample Type:	Field Sample
ID:	5011301-01
Units	ng/m3
Hexavalent Chromium	0.0101

Sample Date:	2/21/2005
Sample Type:	Collocated - C1
ID:	5022508-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	4/10/2005
Sample Type:	Field Sample
ID:	5041405-01
Units	ng/m3
Hexavalent Chromium	0.0126

Sample Date:	1/16/2005
Sample Type:	Field Sample
ID:	5012018-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	2/21/2005
Sample Type:	Collocated - C2
ID:	5022508-02
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	4/16/2005
Sample Type:	Field Sample
ID:	5041902-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	1/22/2005
Sample Type:	Collocated - C1
ID:	5012507-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	2/27/2005
Sample Type:	Field Sample
ID:	5030302-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	4/22/2005
Sample Type:	Field Sample
ID:	5042702-01
Units	ng/m3
Hexavalent Chromium	0.101

Sample Date:	1/22/2005
Sample Type:	Collocated - C2
ID:	5012507-02
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	3/5/2005
Sample Type:	Field Sample
ID:	5030813-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	4/28/2005
Sample Type:	Field Sample
ID:	5050402-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	1/28/2005
Sample Type:	Collocated - C1
ID:	5020204-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	3/11/2005
Sample Type:	Field Sample
ID:	5031507-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	5/4/2005
Sample Type:	Collocated - C1
ID:	5051103-01
Units	ng/m3
Hexavalent Chromium	0.0300

Sample Date:	1/28/2005
Sample Type:	Collocated - C2
ID:	5020204-02
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	3/17/2005
Sample Type:	Field Sample
ID:	5032209-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	5/4/2005
Sample Type:	Collocated - C2
ID:	5051103-02
Units	ng/m3
Hexavalent Chromium	0.0332

Sample Date:	2/3/2005
Sample Type:	Field Sample
ID:	5020802-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	3/23/2005
Sample Type:	Field Sample
ID:	5032903-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	5/10/2005
Sample Type:	Collocated - C1
ID:	5051315-01
Units	ng/m3
Hexavalent Chromium	0.0701

Sample Date:	2/9/2005
Sample Type:	Field Sample
ID:	5021609-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	3/29/2005
Sample Type:	Field Sample
ID:	5040106-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	5/10/2005
Sample Type:	Collocated - C2
ID:	5051315-02
Units	ng/m3
Hexavalent Chromium	0.0795

Sample Date:	2/15/2005
Sample Type:	Field Sample
ID:	5021808-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	4/4/2005
Sample Type:	Field Sample
ID:	5040804-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	5/16/2005
Sample Type:	Field Sample
ID:	5052003-01
Units	ng/m3
Hexavalent Chromium	ND

UNVT Hexavalent Chromium Sampling Results

Sample Date:	5/22/2005
Sample Type:	Field Sample
ID:	5052507-01
Units	ng/m3
Hexavalent Chromium	0.0076

Sample Date:	7/9/2005
Sample Type:	Field Sample
ID:	5071210-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	9/1/2005
Sample Type:	Field Sample
ID:	5090708-01
Units	ng/m3
Hexavalent Chromium	0.0560

Sample Date:	5/28/2005
Sample Type:	Field Sample
ID:	5060113-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	7/15/2005
Sample Type:	Field Sample
ID:	5072002-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	9/7/2005
Sample Type:	Field Sample
ID:	5091304-01
Units	ng/m3
Hexavalent Chromium	

Sample Date:	6/3/2005
Sample Type:	Field Sample
ID:	5060721-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	7/21/2005
Sample Type:	Field Sample
ID:	5072606-01
Units	ng/m3
Hexavalent Chromium	0.0321

Sample Date:	9/13/2005
Sample Type:	Field Sample
ID:	5091602-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	6/9/2005
Sample Type:	Field Sample
ID:	5061422-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	7/27/2005
Sample Type:	Field Sample
ID:	5080212-01
Units	ng/m3
Hexavalent Chromium	0.0181

Sample Date:	9/19/2005
Sample Type:	Field Sample
ID:	5092703-01
Units	ng/m3
Hexavalent Chromium	0.0428

Sample Date:	6/15/2005
Sample Type:	Field Sample
ID:	5062104-01
Units	ng/m3
Hexavalent Chromium	0.0506

Sample Date:	8/2/2005
Sample Type:	Field Sample
ID:	5080511-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	9/25/2005
Sample Type:	Field Sample
ID:	5092906-01
Units	ng/m3
Hexavalent Chromium	0.0376

Sample Date:	6/21/2005
Sample Type:	Collocated - C1
ID:	5062404-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	8/8/2005
Sample Type:	Field Sample
ID:	5081120-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	10/1/2005
Sample Type:	Field Sample
ID:	5100421-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	6/21/2005
Sample Type:	Collocated - C2
ID:	5062404-02
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	8/14/2005
Sample Type:	Field Sample
ID:	5081810-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	10/7/2005
Sample Type:	Field Sample
ID:	5101307-01
Units	ng/m3
Hexavalent Chromium	0.0812

Sample Date:	6/27/2005
Sample Type:	Field Sample
ID:	5063003-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	8/20/2005
Sample Type:	Field Sample
ID:	5082402-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	10/13/2005
Sample Type:	Collocated - C1
ID:	5101902-01
Units	ng/m3
Hexavalent Chromium	0.0238

Sample Date:	7/3/2005
Sample Type:	Field Sample
ID:	5070703-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	8/26/2005
Sample Type:	Field Sample
ID:	5083011-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	10/13/2005
Sample Type:	Collocated - C2
ID:	5101902-02
Units	ng/m3
Hexavalent Chromium	ND

UNVT Hexavalent Chromium Sampling Results

Sample Date:	10/19/2005
Sample Type:	Field Sample
ID:	5102606-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	10/25/2005
Sample Type:	Field Sample
ID:	5102803-01
Units	ng/m3
Hexavalent Chromium	

Sample Date:	10/31/2005
Sample Type:	Field Sample
ID:	5110410-01
Units	ng/m3
Hexavalent Chromium	

Sample Date:	11/6/2005
Sample Type:	Field Sample
ID:	5110930-01
Units	ng/m3
Hexavalent Chromium	0.0153

Sample Date:	11/12/2005
Sample Type:	Field Sample
ID:	5111506-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	11/18/2005
Sample Type:	Field Sample
ID:	5112305-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	11/24/2005
Sample Type:	Collocated - C1
ID:	5112928-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	11/24/2005
Sample Type:	Collocated - C2
ID:	5112928-02
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	11/30/2005
Sample Type:	Field Sample
ID:	5120611-01
Units	ng/m3
Hexavalent Chromium	0.0051

Sample Date:	12/6/2005
Sample Type:	Field Sample
ID:	5121413-01
Units	ng/m3
Hexavalent Chromium	0.0115

Sample Date:	12/12/2005
Sample Type:	Field Sample
ID:	5121610-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	12/18/2005
Sample Type:	Field Sample
ID:	5122120-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	12/24/2005
Sample Type:	Field Sample
ID:	6010409-01
Units	ng/m3
Hexavalent Chromium	

Sample Date:	12/30/2005
Sample Type:	Field Sample
ID:	6010409-02
Units	ng/m3
Hexavalent Chromium	0.0108

WADC Hexavalent Chromium Sampling Results

Sample Date:	3/17/2005	**Sample Date:**	5/10/2005	**Sample Date:**	6/21/2005
Sample Type:	Field Sample	**Sample Type:**	Collocated - C1	**Sample Type:**	Collocated - C2
ID:	5032202-01	**ID:**	5051211-01	**ID:**	5062309-02
Units	ng/m3	**Units**	ng/m3	**Units**	ng/m3
Hexavalent Chromium	ND	Hexavalent Chromium	0.0347	Hexavalent Chromium	ND
Sample Date:	3/23/2005	**Sample Date:**	5/10/2005	**Sample Date:**	6/27/2005
Sample Type:	Field Sample	**Sample Type:**	Collocated - C2	**Sample Type:**	Field Sample
ID:	5032506-01	**ID:**	5051211-02	**ID:**	5062908-01
Units	ng/m3	**Units**	ng/m3	**Units**	ng/m3
Hexavalent Chromium	0.0245	Hexavalent Chromium	0.0478	Hexavalent Chromium	ND
Sample Date:	3/29/2005	**Sample Date:**	5/16/2005	**Sample Date:**	7/3/2005
Sample Type:	Field Sample	**Sample Type:**	Field Sample	**Sample Type:**	Field Sample
ID:	5033103-02	**ID:**	5051804-01	**ID:**	5070604-01
Units	ng/m3	**Units**	ng/m3	**Units**	ng/m3
Hexavalent Chromium	0.0817	Hexavalent Chromium	ND	Hexavalent Chromium	0.0642
Sample Date:	4/4/2005	**Sample Date:**	5/22/2005	**Sample Date:**	7/9/2005
Sample Type:	Field Sample	**Sample Type:**	Field Sample	**Sample Type:**	Field Sample
ID:	5040605-01	**ID:**	5052402-01	**ID:**	5071218-01
Units	ng/m3	**Units**	ng/m3	**Units**	ng/m3
Hexavalent Chromium	ND	Hexavalent Chromium	0.0144	Hexavalent Chromium	ND
Sample Date:	4/10/2005	**Sample Date:**	5/28/2005	**Sample Date:**	7/15/2005
Sample Type:	Field Sample	**Sample Type:**	Field Sample	**Sample Type:**	Field Sample
ID:	5041203-01	**ID:**	5060106-01	**ID:**	5071907-01
Units	ng/m3	**Units**	ng/m3	**Units**	ng/m3
Hexavalent Chromium	0.0167	Hexavalent Chromium	0.0262	Hexavalent Chromium	0.0642
Sample Date:	4/16/2005	**Sample Date:**	6/3/2005	**Sample Date:**	7/21/2005
Sample Type:	Field Sample	**Sample Type:**	Field Sample	**Sample Type:**	Field Sample
ID:	5041904-01	**ID:**	5060718-01	**ID:**	5072612-01
Units	ng/m3	**Units**	ng/m3	**Units**	ng/m3
Hexavalent Chromium	0.0402	Hexavalent Chromium	ND	Hexavalent Chromium	0.0322
Sample Date:	4/22/2005	**Sample Date:**	6/9/2005	**Sample Date:**	7/27/2005
Sample Type:	Field Sample	**Sample Type:**	Field Sample	**Sample Type:**	Field Sample
ID:	5042609-01	**ID:**	5061419-01	**ID:**	5072925-01
Units	ng/m3	**Units**	ng/m3	**Units**	ng/m3
Hexavalent Chromium	ND	Hexavalent Chromium	ND	Hexavalent Chromium	0.0379
Sample Date:	4/28/2005	**Sample Date:**	6/15/2005	**Sample Date:**	8/2/2005
Sample Type:	Field Sample	**Sample Type:**	Field Sample	**Sample Type:**	Field Sample
ID:	5050307-01	**ID:**	5061702-01	**ID:**	5080408-01
Units	ng/m3	**Units**	ng/m3	**Units**	ng/m3
Hexavalent Chromium	0.0163	Hexavalent Chromium	ND	Hexavalent Chromium	0.0210
Sample Date:	5/4/2005	**Sample Date:**	6/21/2005	**Sample Date:**	8/8/2005
Sample Type:	Field Sample	**Sample Type:**	Collocated - C1	**Sample Type:**	Field Sample
ID:	5050619-01	**ID:**	5062309-01	**ID:**	5081016-01
Units	ng/m3	**Units**	ng/m3	**Units**	ng/m3
Hexavalent Chromium	ND	Hexavalent Chromium	ND	Hexavalent Chromium	0.0606

WADC Hexavalent Chromium Sampling Results

Sample Date:	8/14/2005
Sample Type:	Field Sample
ID:	5081613-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	8/20/2005
Sample Type:	Field Sample
ID:	5082316-01
Units	ng/m3
Hexavalent Chromium	2.97

Sample Date:	8/26/2005
Sample Type:	Field Sample
ID:	5083013-01
Units	ng/m3
Hexavalent Chromium	0.0203

Sample Date:	9/1/2005
Sample Type:	Field Sample
ID:	5090703-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	9/7/2005
Sample Type:	Field Sample
ID:	5090905-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	9/13/2005
Sample Type:	Field Sample
ID:	5091502-01
Units	ng/m3
Hexavalent Chromium	

Sample Date:	9/19/2005
Sample Type:	Field Sample
ID:	5092103-02
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	9/25/2005
Sample Type:	Field Sample
ID:	5092705-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	10/1/2005
Sample Type:	Field Sample
ID:	5100407-01
Units	ng/m3
Hexavalent Chromium	0.0328

Sample Date:	10/7/2005
Sample Type:	Field Sample
ID:	5101216-01
Units	ng/m3
Hexavalent Chromium	0.173

Sample Date:	10/13/2005
Sample Type:	Collocated - C1
ID:	5101815-01
Units	ng/m3
Hexavalent Chromium	0.0432

Sample Date:	10/13/2005
Sample Type:	Collocated - C2
ID:	5101815-02
Units	ng/m3
Hexavalent Chromium	0.0422

Sample Date:	10/19/2005
Sample Type:	Field Sample
ID:	5102108-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	10/25/2005
Sample Type:	Field Sample
ID:	5102712-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	10/31/2005
Sample Type:	Field Sample
ID:	5110412-01
Units	ng/m3
Hexavalent Chromium	0.0230

Sample Date:	11/6/2005
Sample Type:	Field Sample
ID:	5110809-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	11/12/2005
Sample Type:	Field Sample
ID:	5111511-01
Units	ng/m3
Hexavalent Chromium	0.0222

Sample Date:	11/18/2005
Sample Type:	Field Sample
ID:	5112213-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	11/24/2005
Sample Type:	Collocated - C1
ID:	5112925-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	11/24/2005
Sample Type:	Collocated - C2
ID:	5112925-02
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	11/30/2005
Sample Type:	Field Sample
ID:	5120224-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	12/6/2005
Sample Type:	Field Sample
ID:	5120814-01
Units	ng/m3
Hexavalent Chromium	0.0226

Sample Date:	12/12/2005
Sample Type:	Field Sample
ID:	5121408-01
Units	ng/m3
Hexavalent Chromium	0.0137

Sample Date:	12/18/2005
Sample Type:	Field Sample
ID:	5122013-01
Units	ng/m3
Hexavalent Chromium	ND

Sample Date:	12/24/2005
Sample Type:	Field Sample
ID:	5122906-01
Units	ng/m3
Hexavalent Chromium	0.0101

Sample Date:	12/30/2005
Sample Type:	Field Sample
ID:	6010427-01
Units	ng/m3
Hexavalent Chromium	0.0222

WETX Hexavalent Chromium Sampling Results

Sample Date:	6/27/2005	**Sample Date:**	10/1/2005
Sample Type:	Field Sample	**Sample Type:**	Field Sample
ID:	5063001-01	**ID:**	5100702-01
Units	ng/m3	**Units**	ng/m3
Hexavalent Chromium		Hexavalent Chromium	0.0288

Sample Date:	7/8/2005	**Sample Date:**	10/13/2005
Sample Type:	Field Sample	**Sample Type:**	Collocated - C1
ID:	5071418-05	**ID:**	5101917-05
Units	ng/m3	**Units**	ng/m3
Hexavalent Chromium	ND	Hexavalent Chromium	0.0191

Sample Date:	7/9/2005	**Sample Date:**	10/13/2005
Sample Type:	Field Sample	**Sample Type:**	Collocated - C2
ID:	5071418-04	**ID:**	5101917-06
Units	ng/m3	**Units**	ng/m3
Hexavalent Chromium	ND	Hexavalent Chromium	0.0266

Sample Date:	7/21/2005	**Sample Date:**	10/25/2005
Sample Type:	Field Sample	**Sample Type:**	Field Sample
ID:	5072719-03	**ID:**	5110337-01
Units	ng/m3	**Units**	ng/m3
Hexavalent Chromium	0.0348	Hexavalent Chromium	0.0216

Sample Date:	8/2/2005	**Sample Date:**	11/6/2005
Sample Type:	Field Sample	**Sample Type:**	Field Sample
ID:	5080523-04	**ID:**	5111612-01
Units	ng/m3	**Units**	ng/m3
Hexavalent Chromium	0.0530	Hexavalent Chromium	0.0455

Sample Date:	8/14/2005	**Sample Date:**	11/18/2005
Sample Type:	Field Sample	**Sample Type:**	Field Sample
ID:	5081805-07	**ID:**	5112803-01
Units	ng/m3	**Units**	ng/m3
Hexavalent Chromium	0.0282	Hexavalent Chromium	

Sample Date:	8/26/2005	**Sample Date:**	11/30/2005
Sample Type:	Field Sample	**Sample Type:**	Field Sample
ID:	5090605-04	**ID:**	5121203-03
Units	ng/m3	**Units**	ng/m3
Hexavalent Chromium		Hexavalent Chromium	0.0159

Sample Date:	9/7/2005	**Sample Date:**	12/12/2005
Sample Type:	Field Sample	**Sample Type:**	Field Sample
ID:	5091402-01	**ID:**	5121901-01
Units	ng/m3	**Units**	ng/m3
Hexavalent Chromium	ND	Hexavalent Chromium	0.0997

Sample Date:	9/19/2005	**Sample Date:**	12/24/2005
Sample Type:	Field Sample	**Sample Type:**	Field Sample
ID:	5092607-01	**ID:**	6010425-01
Units	ng/m3	**Units**	ng/m3
Hexavalent Chromium	0.0480	Hexavalent Chromium	0.0504

Appendix D

2005 Hexavalent Chromium Sampling Statistics

Hexavalent Chromium Sampling Statistics

Monitor	Analyte	# of Samples	# of Detects	# of Non-Detects	% of Detects	Minimum	Maximum	Arithmetic Mean	Standard Deviation	Coefficient of Variance
BOMA	Hexavalent Chromium	67	52	15	77.61	0.012	0.269	0.071	0.058	0.823
BTUT	Hexavalent Chromium	57	38	19	66.67	0.004	0.079	0.030	0.016	0.533
BURVT	Hexavalent Chromium	68	53	15	77.94	0.003	0.147	0.063	0.040	0.638
CHSC	Hexavalent Chromium	61	23	38	37.70	0.006	0.147	0.037	0.031	0.850
DEMI	Hexavalent Chromium	58	49	9	84.48	0.006	0.147	0.068	0.032	0.474
ETAL	Hexavalent Chromium	16	12	4	75.00	0.015	0.081	0.046	0.021	0.450
GPCO	Hexavalent Chromium	65	43	22	66.15	0.002	0.095	0.030	0.017	0.562
GPMS	Hexavalent Chromium	93	60	33	64.52	0.003	0.083	0.025	0.016	0.634
HAKY	Hexavalent Chromium	64	26	38	40.63	0.011	0.103	0.036	0.022	0.611
LAOR	Hexavalent Chromium	56	17	39	30.36	0.005	0.256	0.034	0.058	1.701
MVWI	Hexavalent Chromium	52	25	27	48.08	0.008	0.132	0.032	0.026	0.806
NBAL	Hexavalent Chromium	17	11	6	64.71	0.016	0.100	0.052	0.028	0.548
NBIL	Hexavalent Chromium	59	39	20	66.10	0.006	0.112	0.037	0.021	0.585
PRRI	Hexavalent Chromium	65	39	26	60.00	0.003	0.119	0.027	0.020	0.758
PVAL	Hexavalent Chromium	15	7	8	46.67	0.004	0.026	0.016	0.009	0.564
S4MO	Hexavalent Chromium	56	41	15	73.21	0.015	0.109	0.042	0.020	0.488
SDGA	Hexavalent Chromium	52	37	15	71.15	0.010	0.116	0.040	0.021	0.532
SEWA	Hexavalent Chromium	66	58	8	87.88	0.010	0.224	0.059	0.046	0.772
SIAL	Hexavalent Chromium	17	9	8	52.94	0.029	0.104	0.052	0.025	0.483
SYFL	Hexavalent Chromium	63	34	29	53.97	0.007	0.134	0.041	0.030	0.745
UNVT	Hexavalent Chromium	64	20	44	31.25	0.005	0.101	0.036	0.028	0.755
WADC	Hexavalent Chromium	52	27	25	51.92	0.010	2.970	0.147	0.554	3.763
WETX	Hexavalent Chromium	15	12	3	80.00	0.016	0.100	0.039	0.022	0.557

Appendix E

Additional Monitoring Site Information

Appendix E - Additional Monitoring Site Information

This section presents specific information about the 2005 hexavalent chromium monitoring sites including climate summaries, topographic maps, and emission source location maps. This appendix is divided by site and should serve as a companion to the report and Appendix A.

E.1 BOMA

BOMA is located in the Boston-Lawrence-Worcester, Massachusetts metropolitan statistical area (MSA). Figure E-1 is a topographical map showing the monitoring site in its urban location. Figure E-2 identifies chromium point source emission locations within 10 miles of this site that reported to the 2002 NEI for point sources. BOMA is located near a few chromium sources, located mainly to the north of the site. These facilities are involved in incineration and iron and steel manufacturing, or are utility boilers.

Boston's location on the East Coast ensures that the city experiences a fairly active weather pattern. Most storm systems track across the Northeast, bringing ample precipitation to the area. The proximity to the Atlantic Ocean helps moderate cold outbreaks and hot spells, while at the same time allowing winds to gust higher than they would farther inland. Winds generally flow from the northwest in the winter and southwest in the summer (Ruffner and Bair, 1987).

E.2 BTUT

BTUT is located in Bountiful, Utah, just north of Salt Lake City. Figure E-3 is a topographical map showing the monitoring site in its urban location. Figure E-4 identifies chromium point source emission locations within 10 miles of this site as reported in the 2002 NEI for point sources. There is only one chromium source near BTUT, which is located to the south of the site and is involved in fabricated metal products.

The Salt Lake City area has a semi-arid continental climate, with large seasonal variations. The area is dry, located on the west side of the Wasatch Mountains, and the Great

Salt Lake tends to have a moderating influence on the city's temperature. Moderate winds flow out of the southeast on average (Ruffner and Bair, 1987).

E.3 BURVT

BURVT is located in downtown Burlington, Vermont. Figure E-5 is a topographical map showing BURVT in its urban location. Figure E-6 identifies chromium point source emission locations within 10 miles of BURVT as reported in the 2002 NEI for point sources. Figure E-6 shows that only one chromium source is located within 10 miles of the site. This utility boiler is located about 1 mile northwest of BURVT.

The city of Burlington resides just to the east of Lake Champlain in northwest Vermont. Lake Champlain has a moderating affect on the city, keeping the city slightly warmer than it could be given its New England location. Vermont is affected by most storm systems that track across the country, producing variable weather. Average annual winds come from the south, ahead of advancing weather systems. However, these storm systems are moderated somewhat due to the Adirondacks to the west and Green Mountains to the east (Ruffner and Bair, 1987).

E.4 CHSC

CHSC is located in Chesterfield, South Carolina. The town of Chesterfield is located on the NC/SC border, north of Florence. Figure E-7 is a topographical map showing CHSC in its rural location. Figure E-8 identifies chromium point source emission locations within 10 miles of CHSC as reported in the 2002 NEI for point sources. Figure E-8 shows that no chromium sources are located within 10 miles of this site.

The Chesterfield area boasts a temperate climate, typical of its southeast location. Winters tend to be mild and snowfall is rare, while summers can be hot and humid, due in part to its proximity to the Atlantic. Chesterfield is also in a region known as the Sandhills. The sandy soils in this region allow for rapid drainage of precipitation, as well as rapid warming of the surface. As a result, thunderstorms are more common and tend to intensify over the region (www.nc-climate.ncsu.edu/climate/sandhills.html and http://wkbwradio.com/site/localitems.htm).

E.5 DEMI

DEMI is located in Detroit, Michigan. Figure E-9 is a topographical map showing the monitoring site in its urban location. Figure E-10 identifies chromium point source emission locations within 10 miles of the site that reported to the 2002 NEI for point sources. Figure E-10 shows that chromium sources are located to the northeast and south of DEMI and include incinerators, utility boilers, waste treatment and disposal sites, and petroleum and natural gas production and refining facilities.

The Detroit area is located in the Great Lakes region, a place for active weather, as storm systems typically track across the region. Hence, winters can be cold and wet, while summers are generally mild. The urbanization of the area along with Lake St. Clair to the east are two major influences on the city's weather. The lake tends to keep Detroit warmer in the winter and cooler in the summer than more inland areas. The urban heat island tends to keep the city warmer than outlying areas. Winds are often breezy and generally flow from the southwest on average (Ruffner and Bair, 1987).

E.6 ETAL

ETAL is located in Birmingham, Alabama. Figure E-11 is a topographical map showing the monitoring site in its urban location. Figure E-12 identifies chromium point source emission locations within 10 miles of the site that reported to the 2002 NEI for point sources. Figure E-12 shows that three chromium sources are located to the southwest of ETAL. These sources include an incinerator, a mineral products processor, and a fuel combustion facility. Figure E-12 also shows the other two Birmingham sites' relative location to one another.

Birmingham, Alabama is about 300 miles inland from the Gulf of Mexico. The Gulf of Mexico is a major influence in the city's climate. Winters are tempered and wet while summers are warm and humid. (Ruffner and Bair, 1987).

E.7 GPCO

GPCO is located in Grand Junction, Colorado. Figure E-13 is a topographical map showing the monitoring site in its urban location. Figure E-14 identifies chromium point source

emission locations within 10 miles of this site as reported in the 2002 NEI for point sources. The Grand Junction site is located within 10 miles of two chromium sources, both of which are to the east of the site. One source is located within one mile of GPCO.

Grand Junction is located in a mountain valley on the west side of the Rockies. This location can help protect the area from dramatic weather changes. The area tends to be rather dry and winds tend to flow out of the east-southeast on average, due to the valley breeze effect. Valley breezes occur as the sun heats up the side of a mountain. The warm air rises, creating a current that will move up the valley walls (Ruffner and Bair, 1987).

E.8 GPMS

GPMS is located in Gulfport, Mississippi. Figure E-15 is a topographical map showing the monitoring site in its urban location. Figure E-16 identifies chromium point source emission locations within 10 miles of this site as reported in the 2002 NEI for point sources. There are no chromium sources located within 10 miles of GPMS.

Gulfport is a coastal city, and GPMS is located about a mile from the Gulf of Mexico. This proximity to the Gulf of Mexico allows for mild winters and warm, muggy summers. While keeping humidity high, the Gulf also moderates hot summer temperatures and cold winter temperatures that are experienced further inland. Southerly winds prevail in the summer time due to the Bermuda high pressure. Thunderstorms are common, especially in spring and summer (www.srcc.lsu.edu/southernClimate/atlas/msdescription).

E.9 HAKY

HAKY is located in Hazard, Kentucky. Figure E-17 is a topographical map showing the monitoring site in its rural location. Figure E-18 identifies chromium point source emission locations within 10 miles of this site as reported in the 2002 NEI for point sources. There are no chromium sources located within 10 miles of HAKY.

The town of Hazard is located in southeast Kentucky, just on the outskirts of Daniel Boone National Forest. The area enjoys all four seasons, although the eastern part of the state

tends to be a little cooler than the central and western portions. Thanks to a fairly active weather patter, precipitation is fairly evenly distributed throughout the year (http://kyclim.wku.edu/climatography.htm).

E.10 LAOR

LAOR is located in La Grande, Oregon. Figure E-19 is a topographical map showing the monitoring site in its rural location. Figure E-20 identifies chromium point source emission locations within 10 miles of this site as reported in the 2002 NEI for point sources. There is one chromium source located within 10 miles of LAOR. A lumber and wood products facility is located to the west of the monitoring site.

La Grande is located in a mountain valley in northeast Oregon, wedged between the Wallowa Mountains to the east and Blue Mountains to the west. The city experiences a somewhat dry continental climate. The mountains serve to block, to some extent, any storm systems moving across the region that are still in tact after moving across the Cascades (http://www.wrcc.dri.edu/narratives/OREGON.htm).

E.11 MVWI

MVWI is located in Mayville, Wisconsin. Figure E-21 is a topographical map showing the monitoring site in its rural location. Figure E-22 identifies chromium point source emission locations within 10 miles of this site as reported in the 2002 NEI for point sources. There are three chromium source located within 10 miles of MVWI. A fabricated metal products facility is located to the south of the monitoring site, and two fuel combustion facilities are located to the west.

The town of Mayville is located to the northwest of Milwaukee. This area experiences a highly variable, continental climate as weather systems frequently push across the region. Wintertime temperature extremes are moderated somewhat by the proximity to Lake Michigan. Lake effect snows can occur with winds with an easterly component, although they are more common closer to the coast (Ruffner and Bair, 1987).

E.12 NBAL

NBAL is located in North Birmingham, Alabama. Figure E-23 is a topographical map showing the monitoring site in its urban location. Figure E-12 identified chromium point source emission locations within 10 miles of ETAL that reported to the 2002 NEI for point sources. Figure E-12 also shows the locations of NBAL and a third Birmingham site, SIAL, relative to each other. The sites form a diagonal line that runs northeast (SIAL) to southwest (ETAL), with NBAL in the middle. Figure E-23 actually shows SIAL's location as well, in the upper right corner. Figure E-12 shows that three chromium sources are located to the southwest of NBAL. These sources include an incinerator, a mineral products processor, and a fuel combustion facility.

E.13 NBIL

NBIL is located in Northbrook, Illinois near Chicago. Figure E-24 is a topographical map showing the monitoring site in its urban location. Figure E-25 identifies chromium point source emission locations within 10 miles of this site as reported in the 2002 NEI for point sources. More chromium sources are located within 10 miles of NBIL than most of the hexavalent chromium monitoring sites. Some of the industries emitting chromium near NBIL include agricultural services, incinerators, fuel combustion facilities, mineral product processors, and water transportation services.

Daily weather fluctuations are common for the Chicago area due to its location near the Great Lakes. The proximity of Chicago to Lake Michigan offers moderating effects from the continental climate of the region. In the summertime, lake breezes can cool the city when winds from the south and southwest push temperatures upward. How much and what type of winter precipitation depends on the origin of the air mass. The largest snowfalls tend to occur when cold air masses flow southward over Lake Michigan. Wind speeds average around 10 mph, but can be greater due to the winds channeling between tall buildings downtown (Ruffner and Bair, 1987).

E.14 PRRI

PRRI is located in Providence, Rhode Island. Figure E-26 is a topographical map showing the monitoring site in its urban location. Figure E-27 identifies chromium point source emission locations within 10 miles of this site as reported in the 2002 NEI for point sources. Several chromium sources are located within 10 miles of PRRI, including four mineral product processing facilities.

Providence is a coastal city owing to the waters of the Rhode Island Sound flowing northward from the Atlantic Ocean. The city's proximity to the Sound and the Atlantic temper cold air outbreaks and breezes off the ocean moderate summertime heat. On average, southerly and southwesterly winds in the summer become northwesterly in the winter. Weather is fairly variable in the region as frequent storm systems affect New England (Ruffner and Bair, 1987).

E.15 PVAL

PVAL is located in western Jefferson County, about 15 miles outside of Birmingham, Alabama. Figure E-28 is a topographical map showing the monitoring site in its rural location. Figure E-29 identifies chromium point source emission locations within 10 miles of this site as reported in the 2002 NEI for point sources. One chromium source, a utility boiler, is located within 10 miles of PVAL.

The climate of western Jefferson County will be very similar to that of Birmingham. The major difference between the two is related to rural vs. urban climate characteristics. Rural areas tend to stay a little cooler than their urban counterparts due differences in their surface properties.

E.16 S4MO

S4MO is located in St. Louis, Missouri. Figure E-30 is a topographical map showing the monitoring site in its urban location. Figure E-31 identifies chromium point source emission locations within 10 miles of this site as reported in the 2002 NEI for point sources. There are a few chromium sources near S4MO, although most of them are across the border in Illinois.

St. Louis has a climate that is continental in nature, with cold, rather dry winters, warm, somewhat wetter summers, and significant seasonal variability. It's location in the center of the country assure a fairly active weather pattern. Wind speeds are generally light and wind flows from the southeast on average (Ruffner and Bair, 1987).

E.17 SDGA

SDGA is located in Decatur, Georgia, just outside of Atlanta. Figure E-32 is a topographical map showing the monitoring site in its urban location. Figure E-33 identifies chromium point source emission locations within 10 miles of this site as reported in the 2002 NEI for point sources. Two chromium sources are located to the southwest of SDGA. One is an incinerator and the other is involved in chemical and allied products manufacturing.

Atlanta is the largest city in Georgia, and is located at the base of the Blue Ridge Mountains. The Gulf of Mexico to the south is the major moisture source for weather systems that move across the region. Both topographical features, in addition to the Atlantic Ocean to the east, exert moderating influences on the area's climate (Ruffner and Bair, 1987).

E.18 SEWA

SEWA is located in the heart of Seattle, Washington. Figure E-34 is a topographical map showing the monitoring site in its urban location. Figure E-35 identifies chromium point source emission locations within 10 miles of this site as reported in the 2002 NEI for point sources. Two chromium sources are located within 10 miles of SEWA. A fabricated metal products facility is right near the site, and a mineral product processing facility is located to the east of the site and the outer edge of the 10 mile radius.

Seattle is located between the Puget Sound and Lake Washington, and is situated between the Olympic Mountains to the west and the Cascades to the east. The city experiences a mild climate as the mountains moderate storm systems that move into the Pacific Northwest and both the mountains and the sound shield the city from the temperature extremes. Although the city is known for being rainy, the actual precipitation totals tend to be lower compared to many locations east of the Rocky Mountains (Ruffner and Bair, 1987).

E.19 SIAL

SIAL is also located in Birmingham, Alabama. Figure E-36 is a topographical map showing the monitoring site in its urban location. Its location relative to NBAL is evident on Figure E-36 (NBAL is in the lower left corner). Figure E-12 identified chromium point source emission locations within 10 miles of SIAL, NBAL, and ETAL that reported to the 2002 NEI for point sources. Figure E-12 shows that three chromium sources are located to the southwest of SIAL, although they are on the outer periphery of SIAL's 10-mile radius. These sources include an incinerator, a mineral products processor, and a fuel combustion facility.

E.20 SYFL

SYFL is located in the heart of Plant City, Florida, outside of Tampa. Figure E-37 is a topographical map showing the monitoring site in its rural location. Figure E-38 identifies chromium point source emission locations within 10 miles of this site as reported in the 2002 NEI for point sources. The site has the highest number of chromium sources are located within a 10 mile radius (16). Chromium emissions come from a variety of source types including a surface coating facility; stone, clay, glass, and concrete producers; an electrical and electronic equipment facility; a paper and allied products facility; and a non-ferrous metal producer.

Tampa is located on the west coast of Florida and experiences a subtropical climate, with very mild winters and warm, humid summers. Although land and sea breezes may affect the area, wind generally blows from an easterly direction due to high pressure offshore. The sea breeze and proximity to the Gulf help keep daytime temperatures from becoming excessively hot. Thunderstorms are frequent, especially in the summer (Ruffner and Bair, 1987).

E.21 UNVT

UNVT is located northeast of Burlington in the town of Underhill. Figure E-39 is a topographical map showing UNVT in its rural location. Figure E-6 identified chromium point source emission locations within 10 miles of BURVT, as reported in the 2002 NEI for point sources. UNVT and its location relative to BURVT are also shown in Figure E-6. Figure E-6 shows that there are no point sources located within 10 miles of UNVT.

The town of Underhill is located to the northeast of Burlington. Areas further inland do not benefit from the moderating effects of Lake Champlain like the city of Burlington does. In addition, the rural characteristics of the area allow for somewhat cooler temperatures due to the lack of the urban heat island.

E.22 WADC

WADC is located in Washington, D.C. Figure E-40 is a topographical map showing the site in its urban location. Figure E-41 identifies chromium point source emission locations within 10 miles of WADC, as reported in the 2002 NEI for point sources. Figure E-7 shows two point sources located within 10 miles of WADC. Both are located to the south-southwest of the site and are incinerators or boilers.

Located on the Potomac River that divides Virginia and Maryland, the capital enjoys all four seasons, although its weather is somewhat variable. Summers are warm and often humid, as southerly winds prevail, which can be accentuated by the urban heat island effect. Winters are typical of the Mid-Atlantic region, where cool, blustery air masses are common followed by a fairly quick return to mild temperatures (Ruffner and Bair, 1987; http://en.wikipedia.org/wiki/Washington,_D.C.).

E.23 WETX

WETX is located in Austin, Texas. Figure E-42 is a topographical map showing the site in its urban location. Figure E-43 identifies chromium point source emission locations within 10 miles of WETX, as reported in the 2002 NEI for point sources. Figure E-7 shows no chromium point sources located within 10 miles of the site.

The city of Austin experiences a modified subtropical climate, that is, mild winters with only a handful of below freezing temperatures each year, and hot muggy summers, due in part to the flow from the Gulf of Mexico. Northerly winds are prevalent in the winter and southeasterly winds are predominant in the summer. Precipitation is fairly evenly distributed throughout the year, through most frequently in the form of thunderstorms in the spring and summer (Ruffner and Bair, 1987).

Figure E-1. Boston, Massachusetts Monitoring Site (BOMA)

Figure E-2. Facilities Located within 10 Miles of BOMA

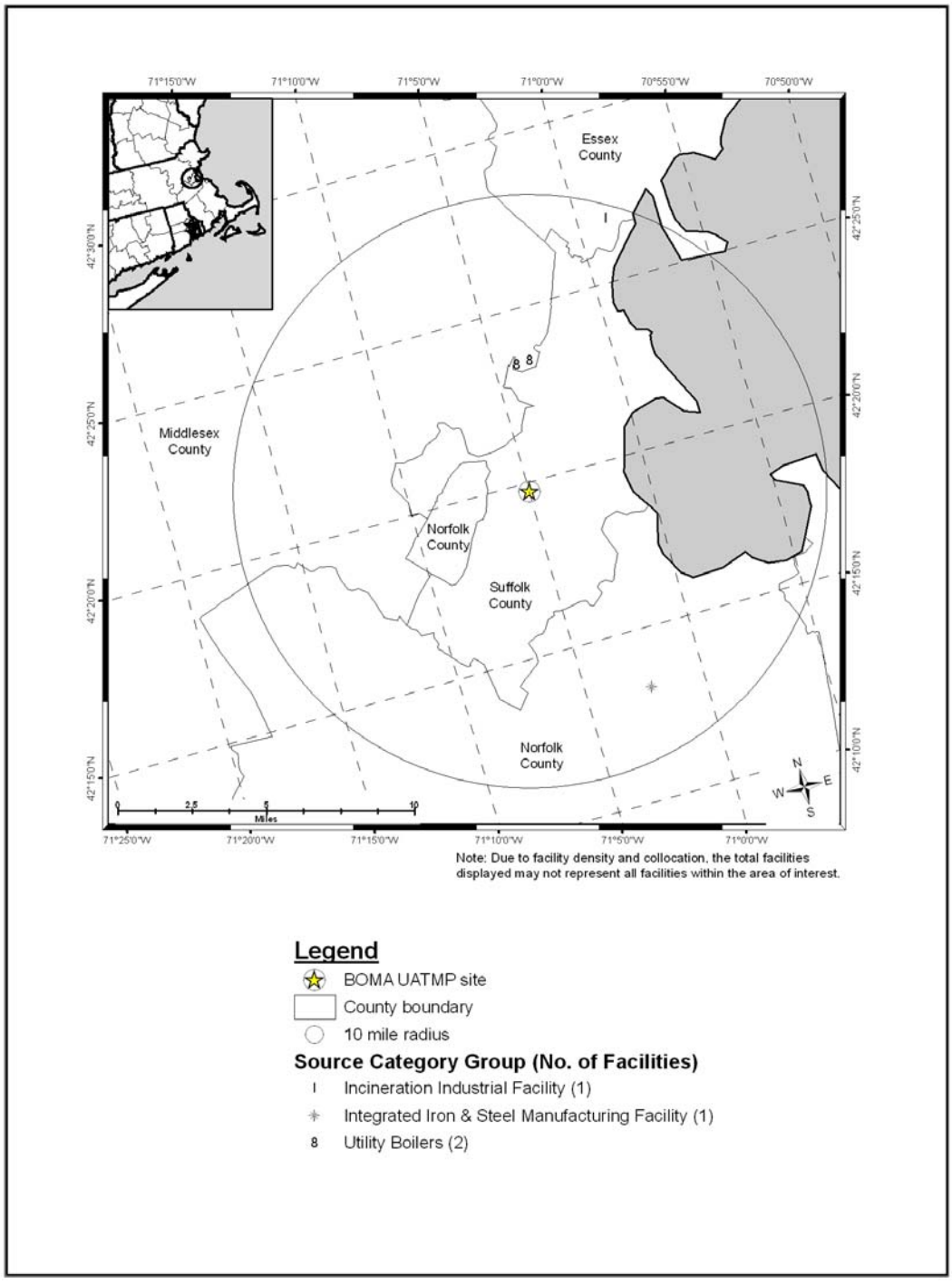


Figure E-3. Bountiful, Utah Monitoring Site (BTUT)

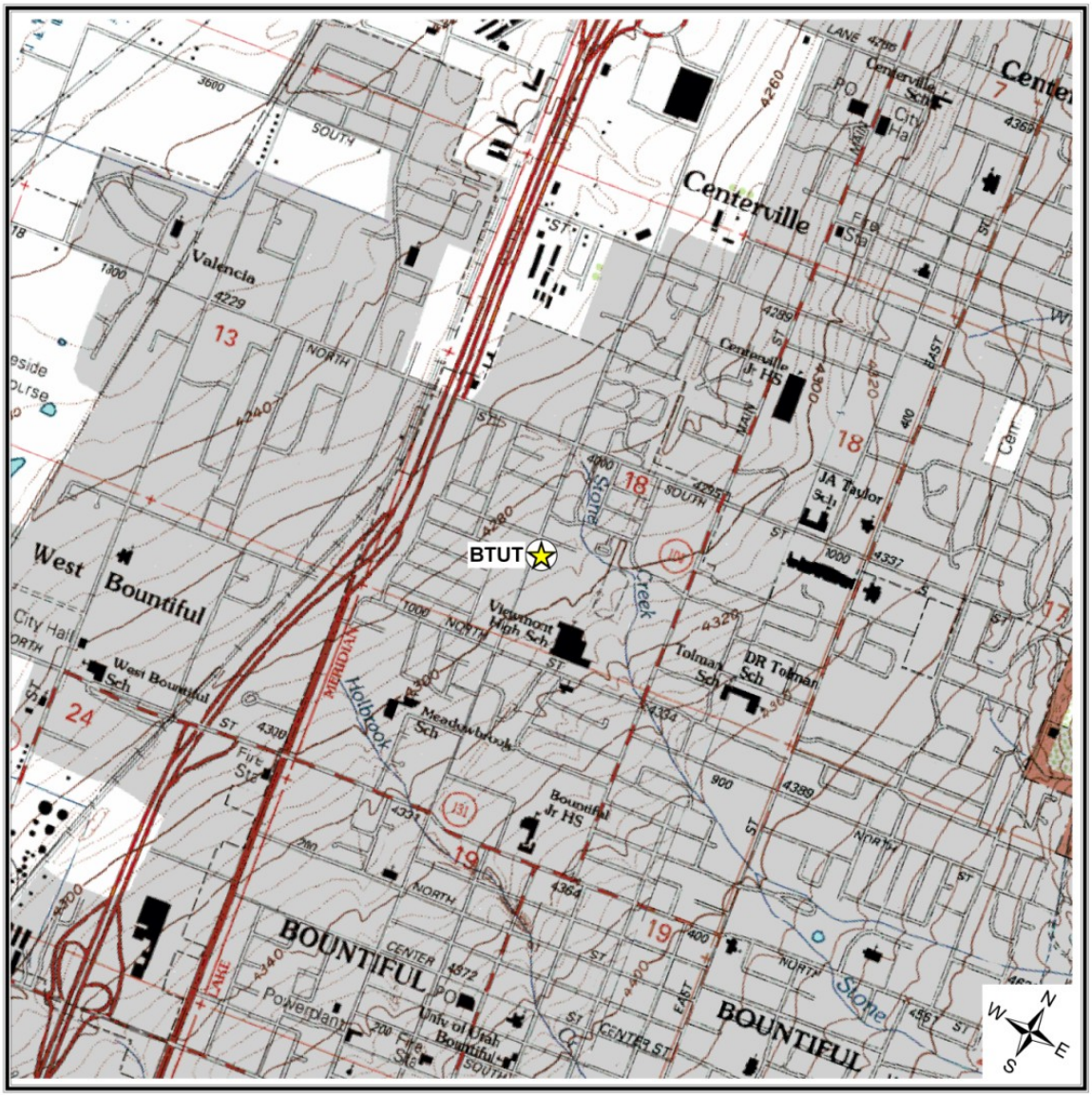


Figure E-4. Facilities Located within 10 Miles of BTUT

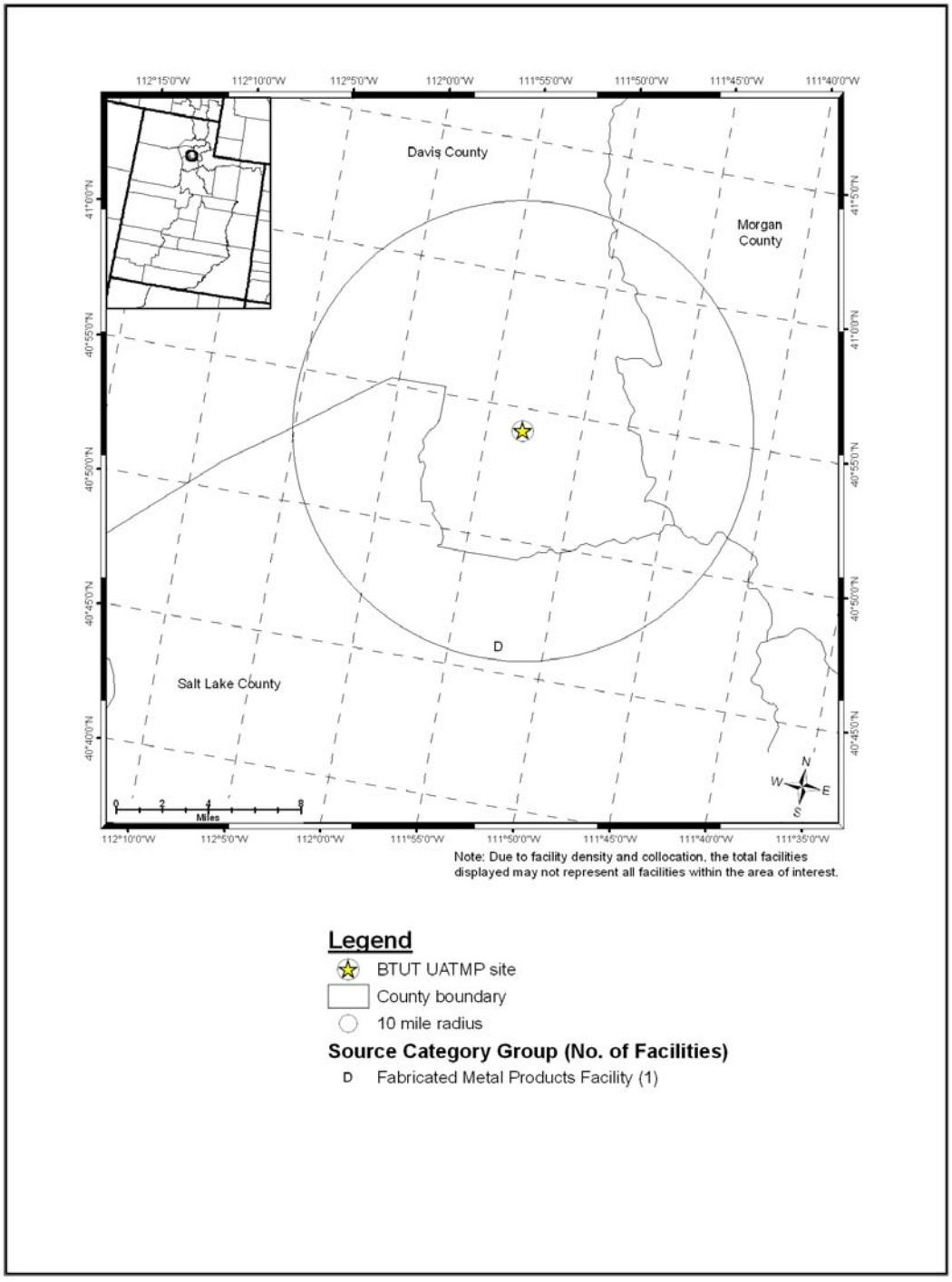


Figure E-5. Burlington, Vermont Monitoring Site (BURVT)

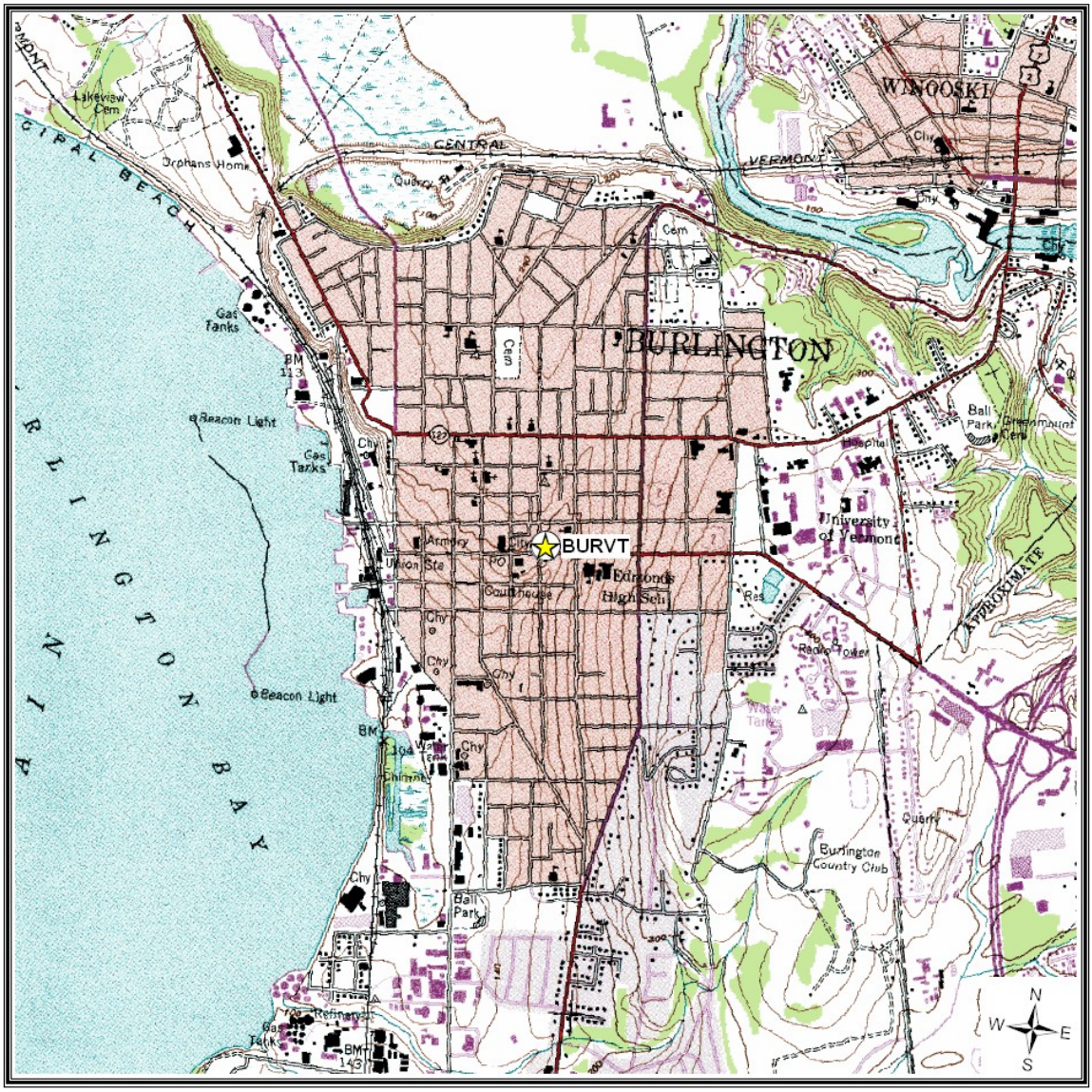


Figure E-6. Facilities Located within 10 Miles of the Burlington Monitoring Sites (BURVT and UNVT)

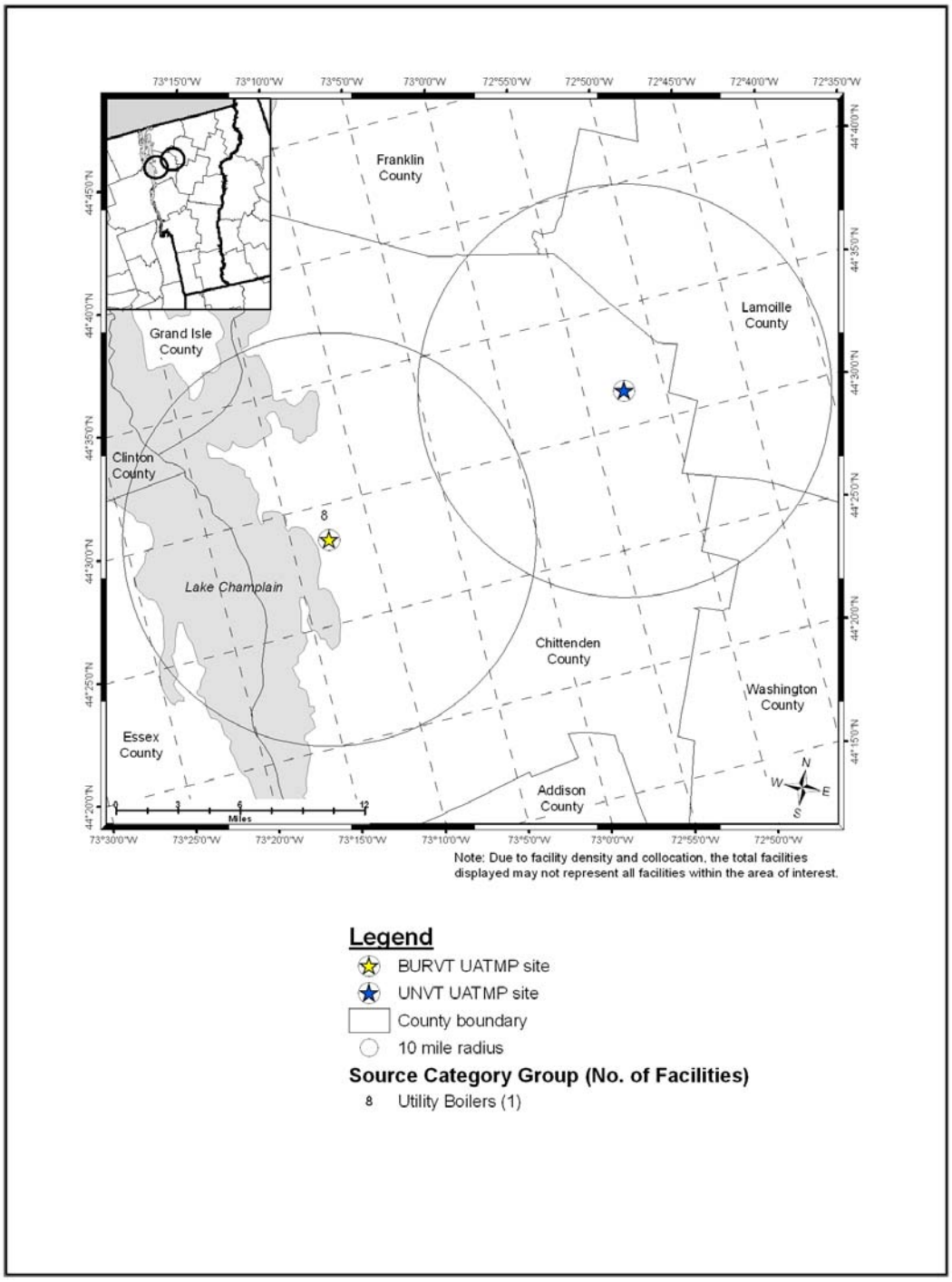


Figure E-7. Chesterfield, South Carolina Monitoring Site (CHSC)

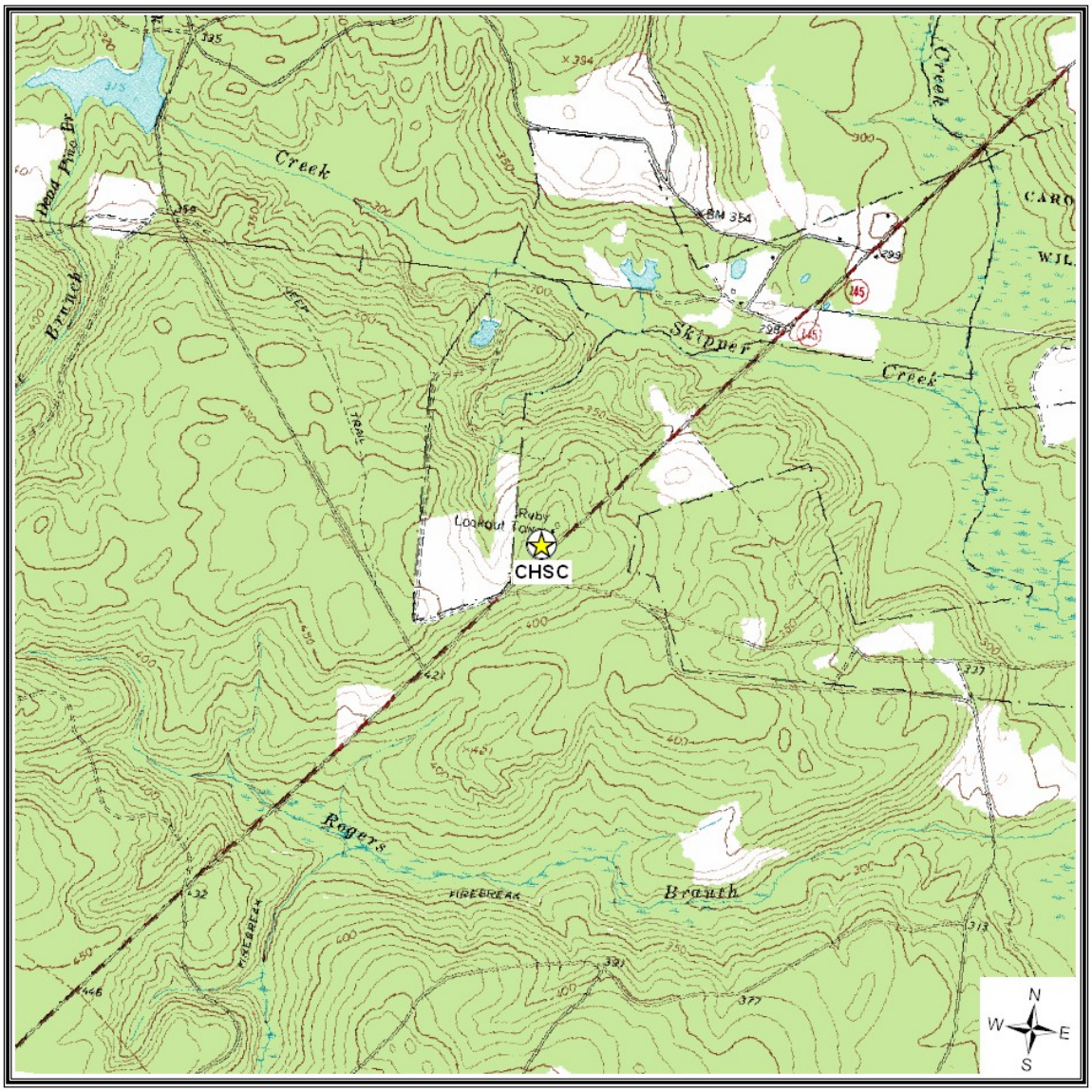
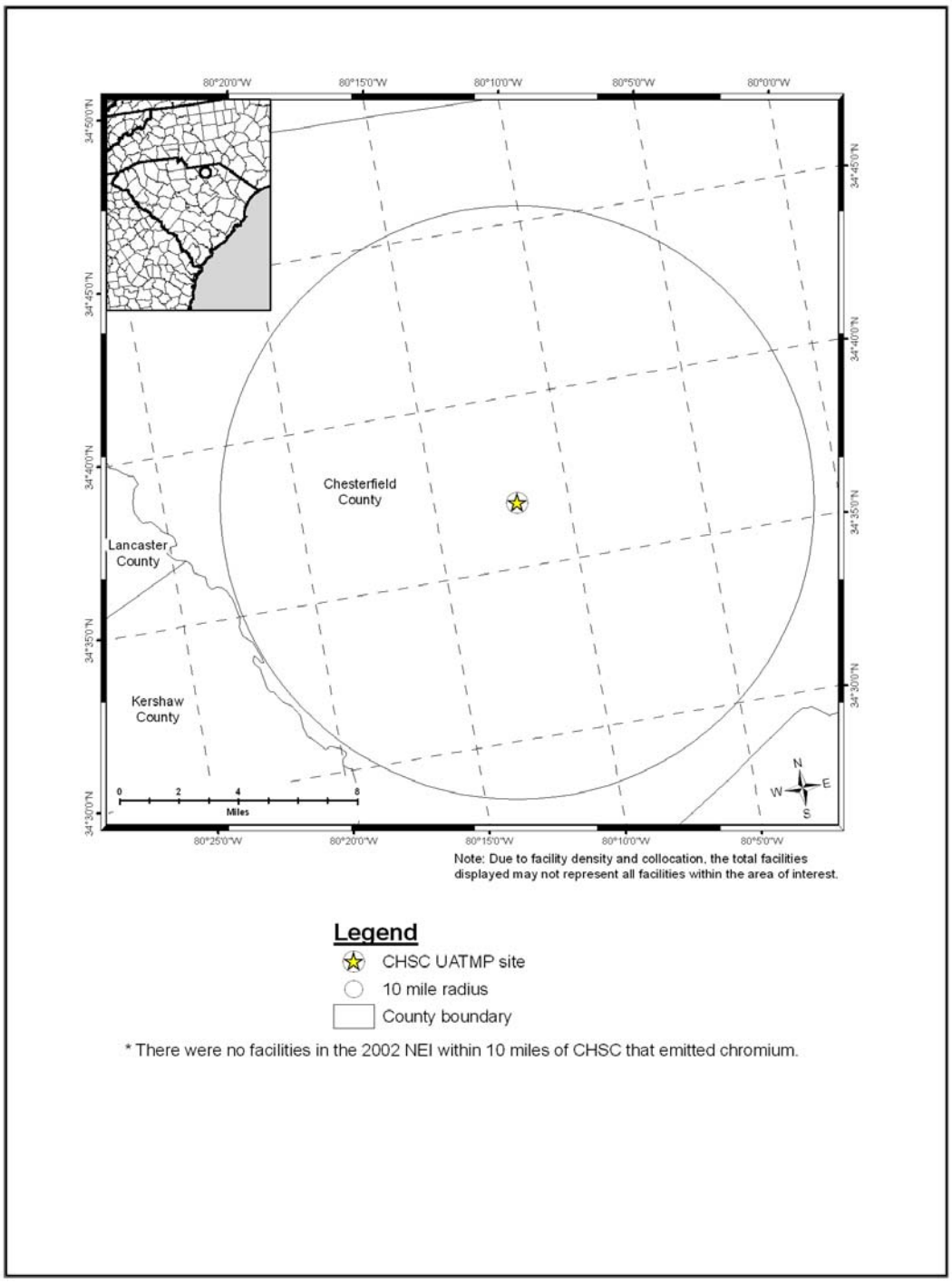


Figure E-8. Facilities Located within 10 Miles of CHSC



* There were no facilities in the 2002 NEI within 10 miles of CHSC that emitted chromium.

Figure E-9. Detroit, Michigan Monitoring Site (DEMI)

Figure E-10. Facilities Located within 10 Miles of DEMI

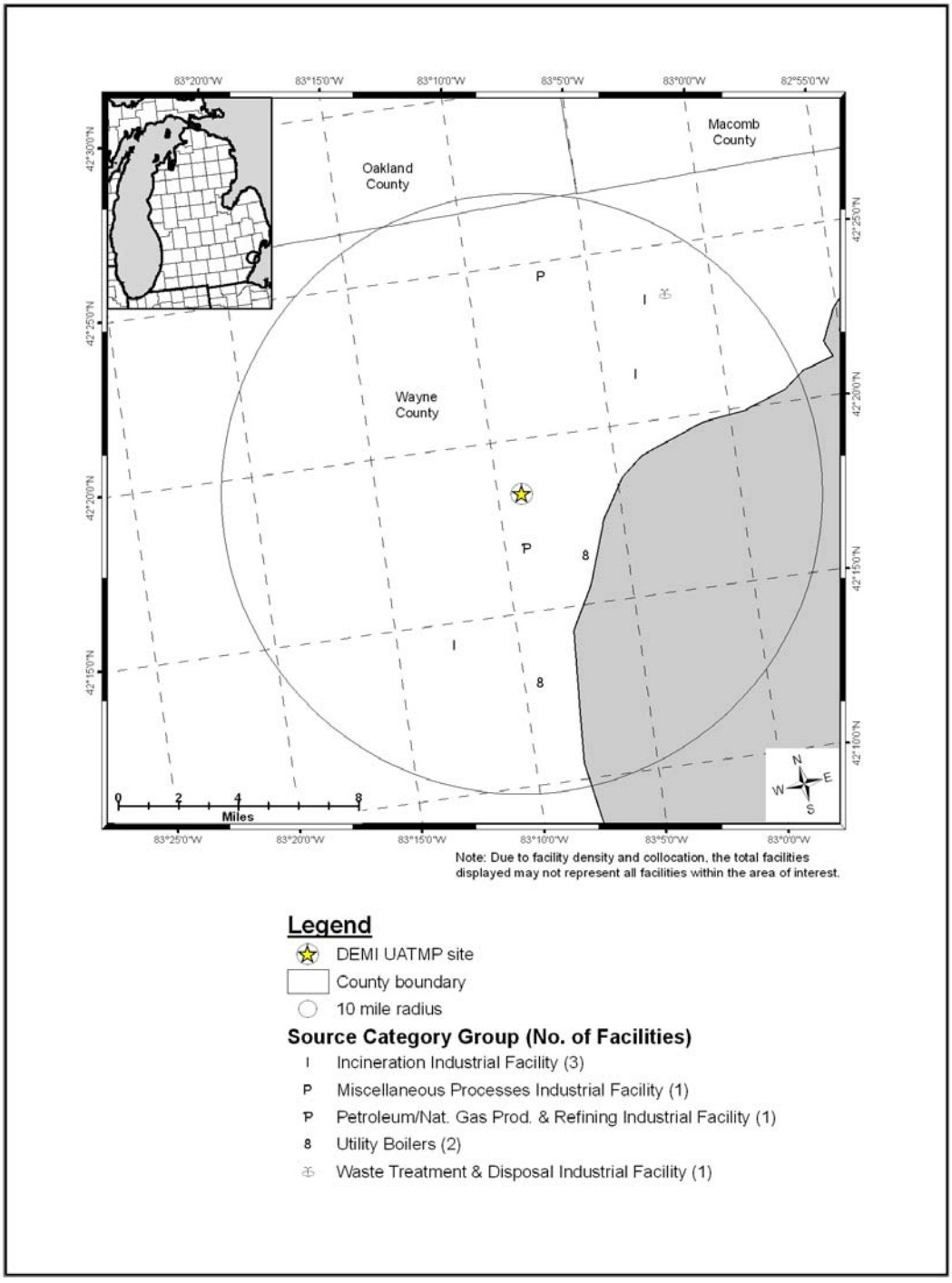


Figure E-11. East Thomas Monitoring Site in Birmingham, Alabama (ETAL)

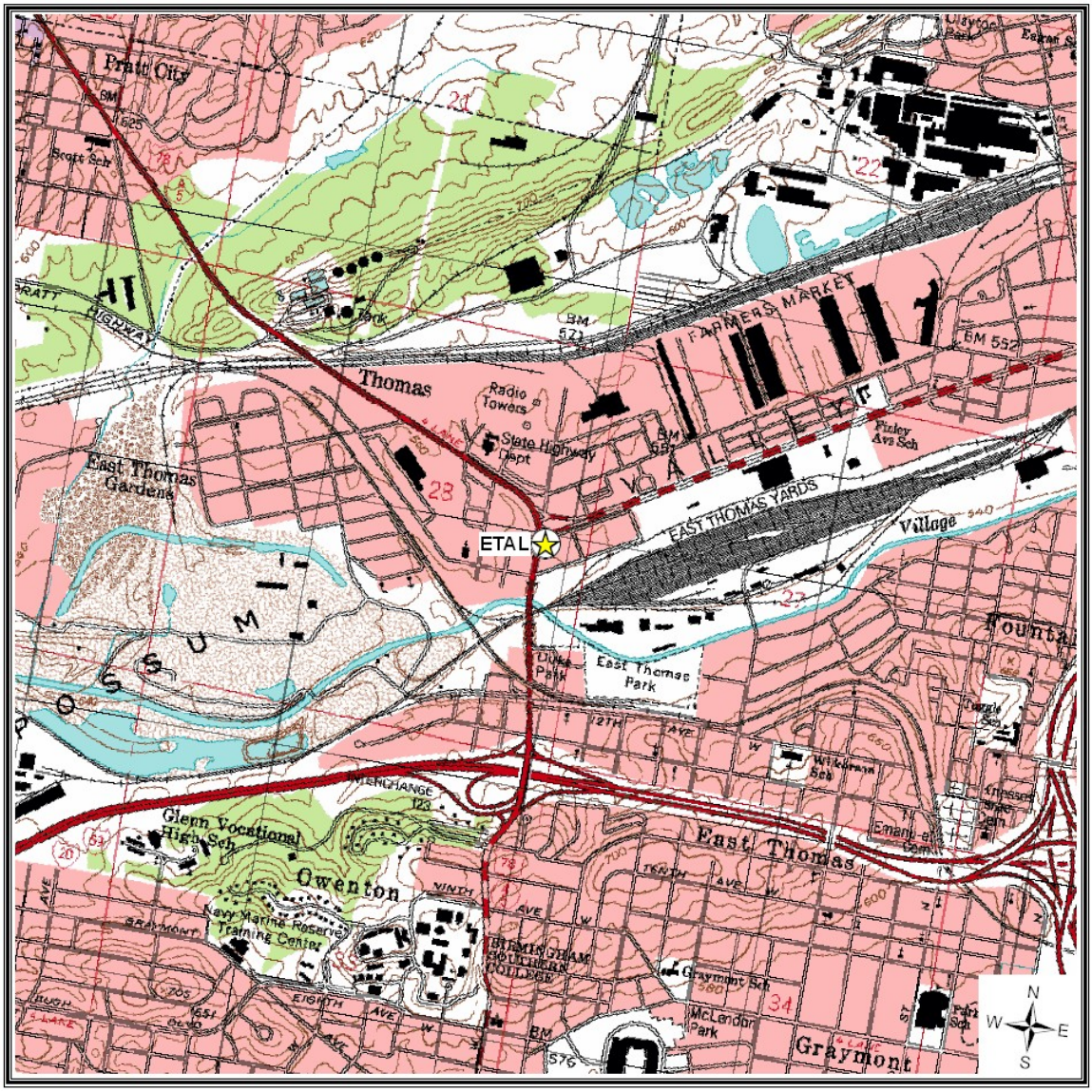


Figure E-12. Facilities Located within 10 Miles of the Birmingham Monitoring Sites (ETAL, NBAL, and SIAL)

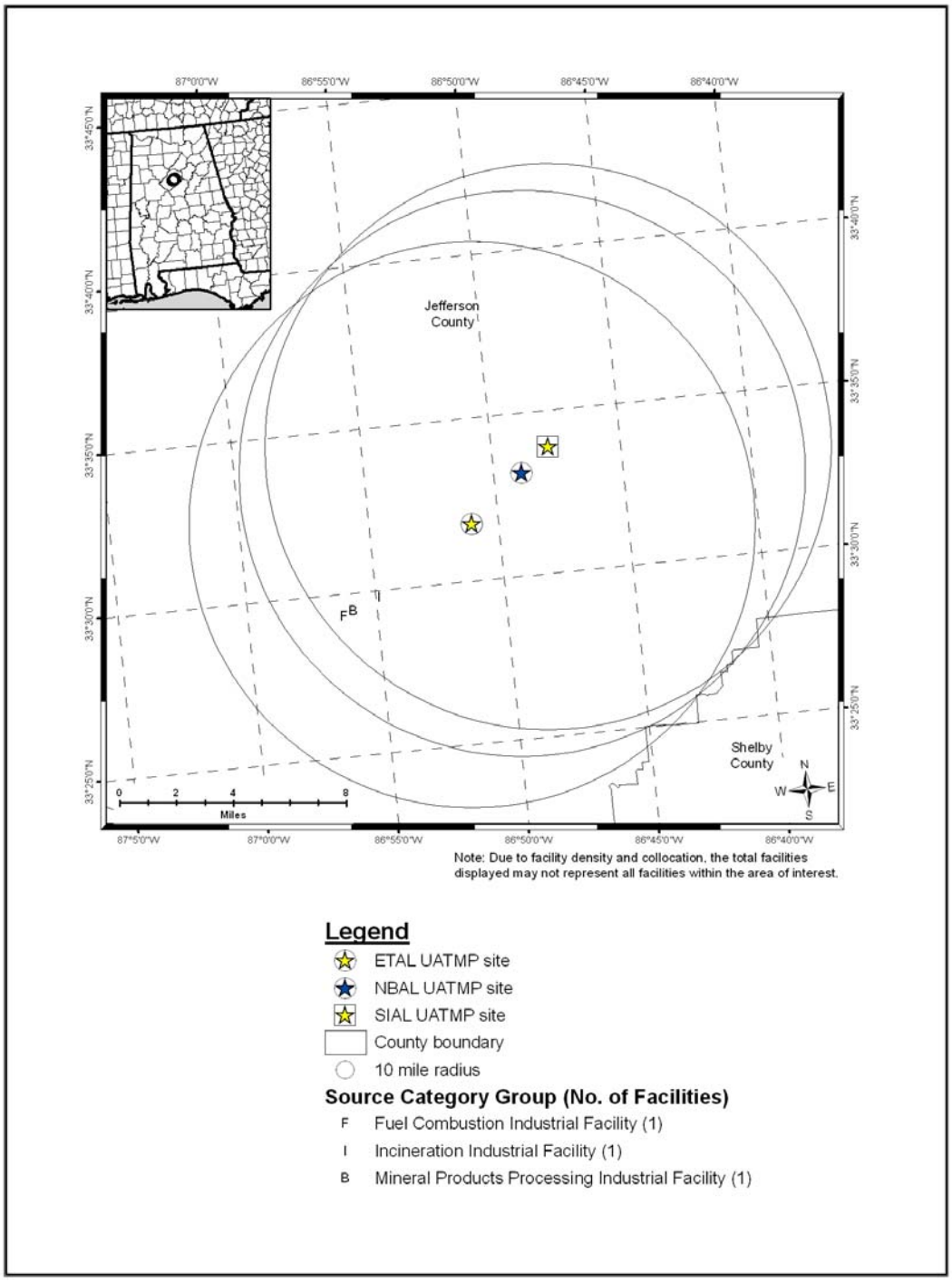


Figure E-13. Grand Junction, Colorado Monitoring Site (GPCO)

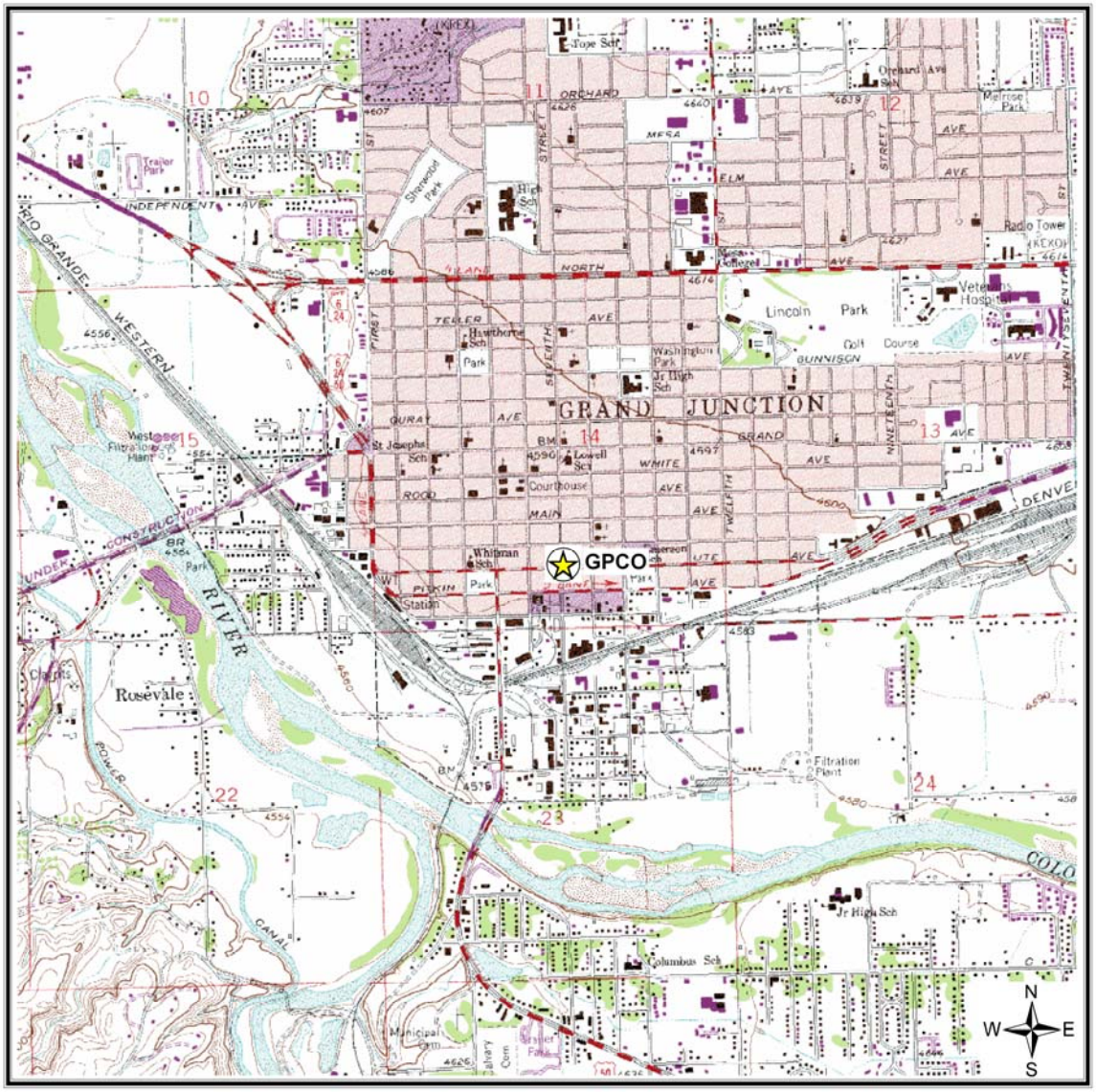


Figure E-14. Facilities Located within 10 Miles of GPCO

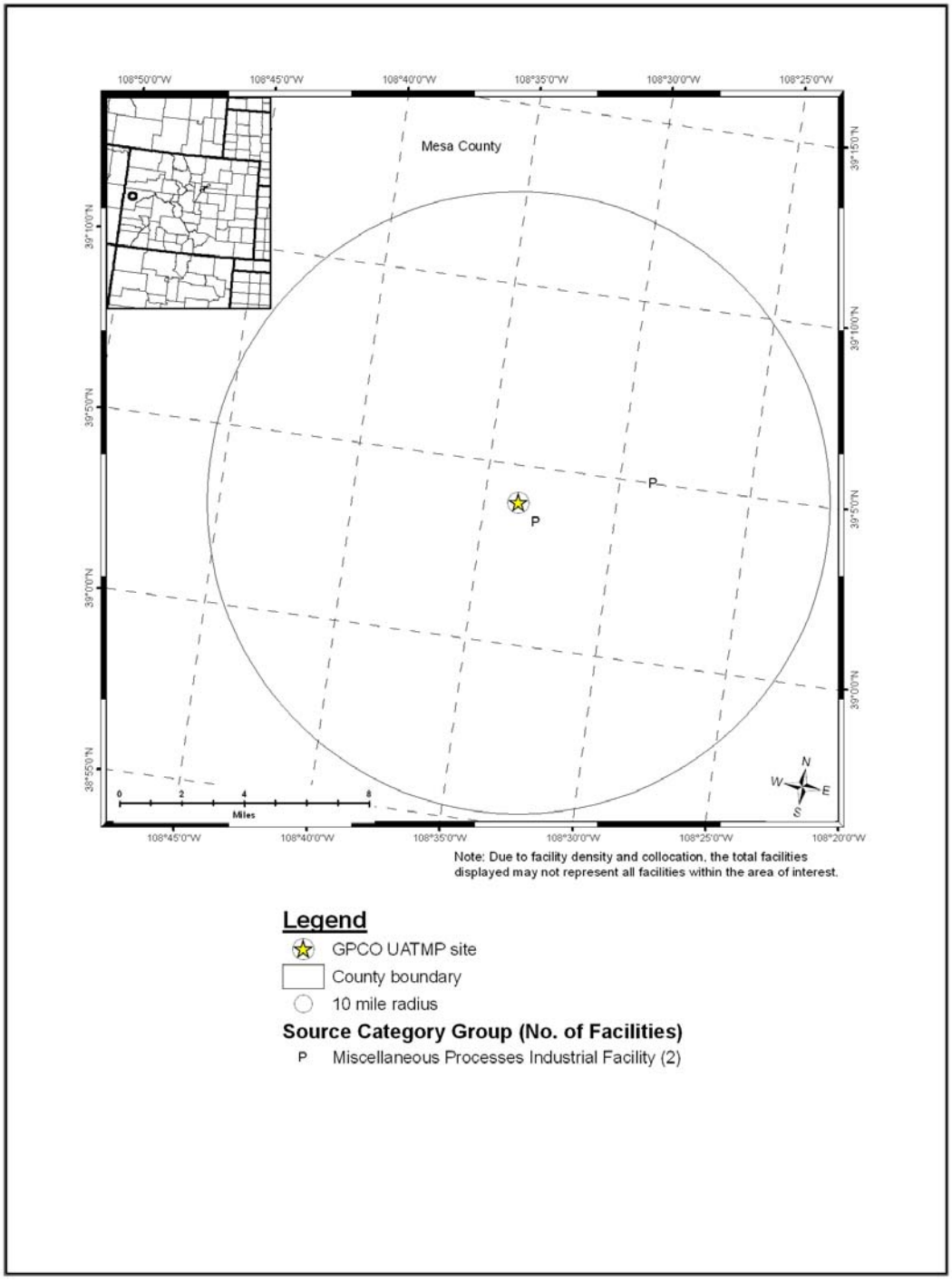


Figure E-15. Gulfport, Mississippi Monitoring Site (GPMS)

Figure E-16. Facilities Located within 10 Miles of GPMS

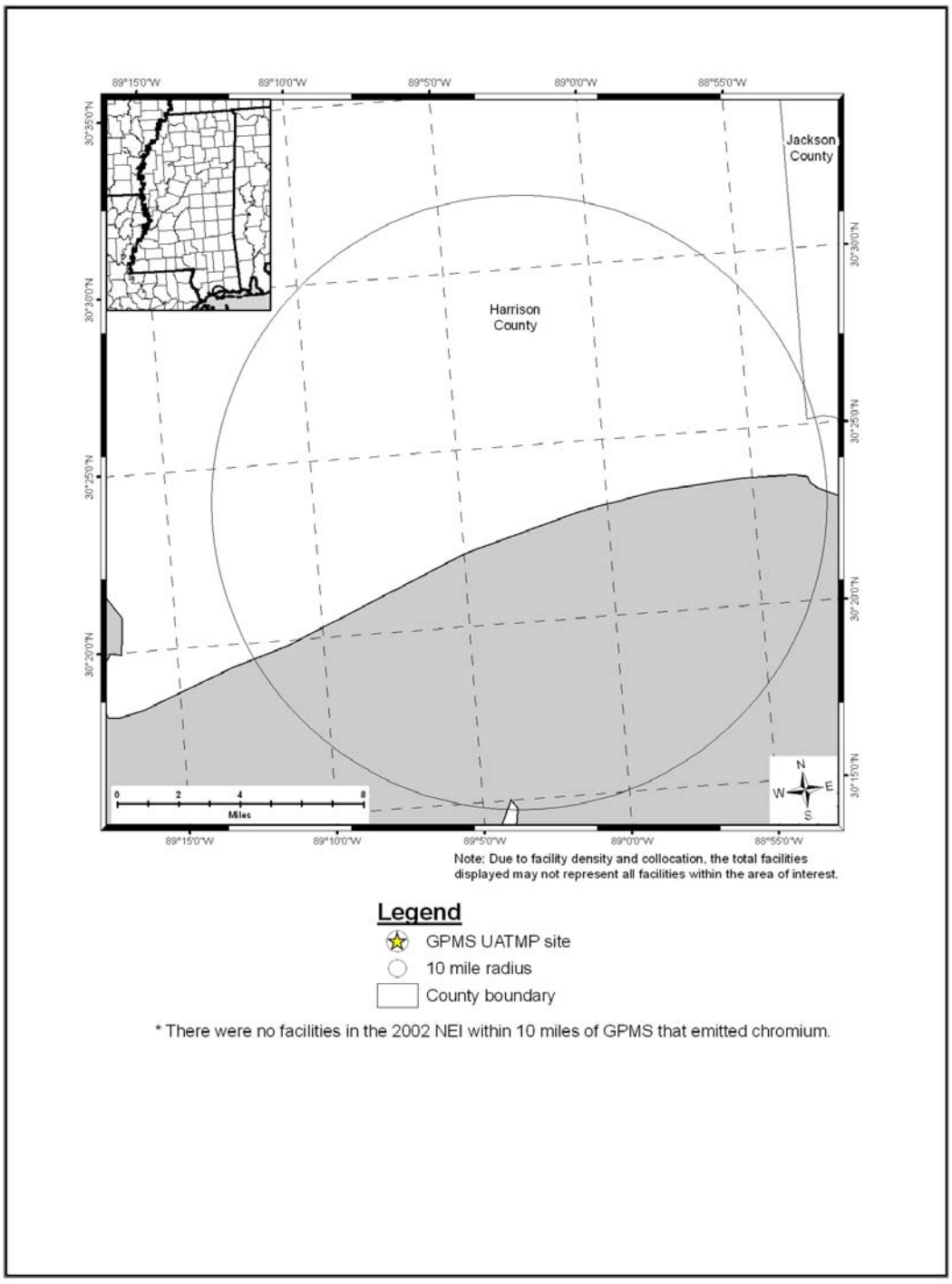


Figure E-17. Hazard, Kentucky Monitoring Site (HAKY)

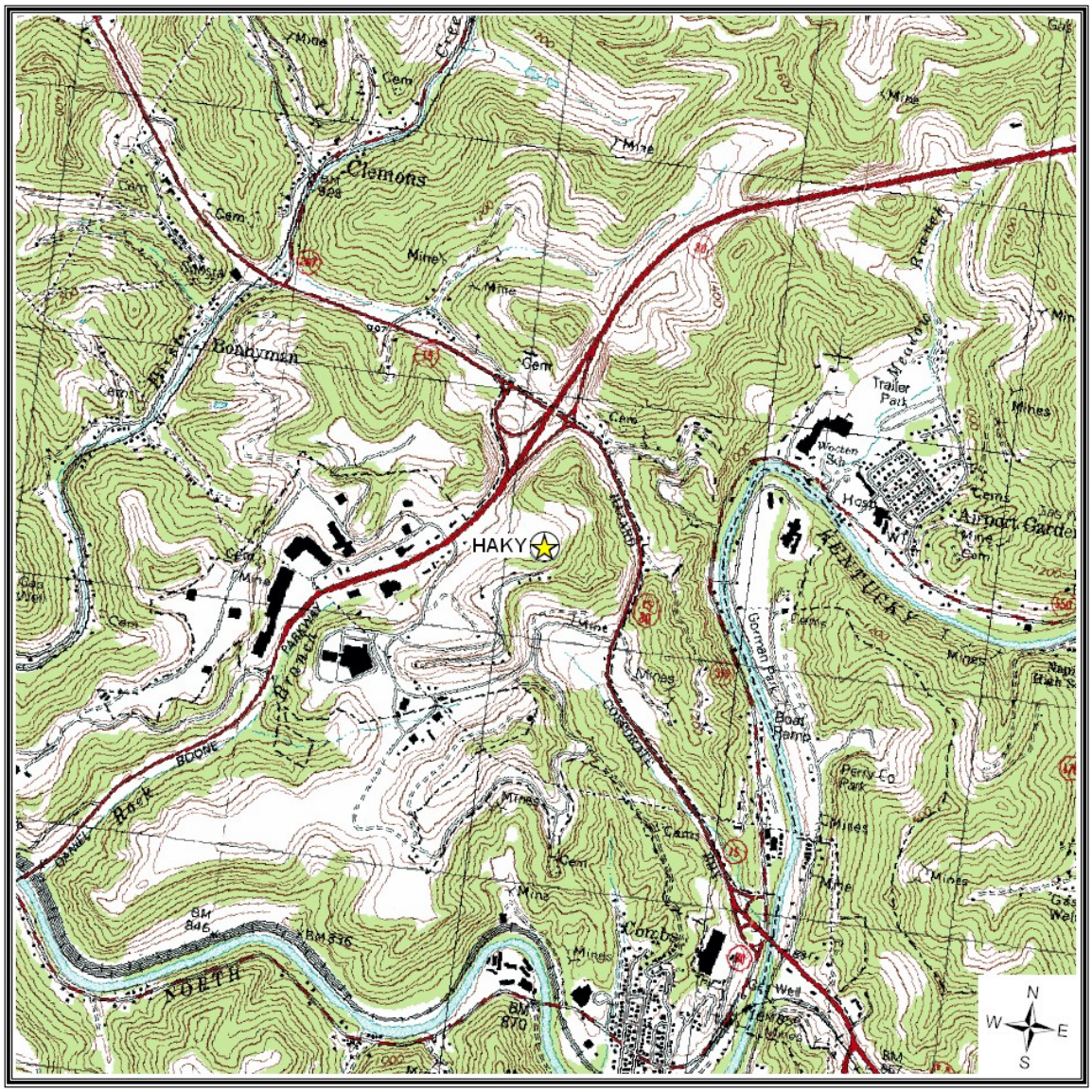
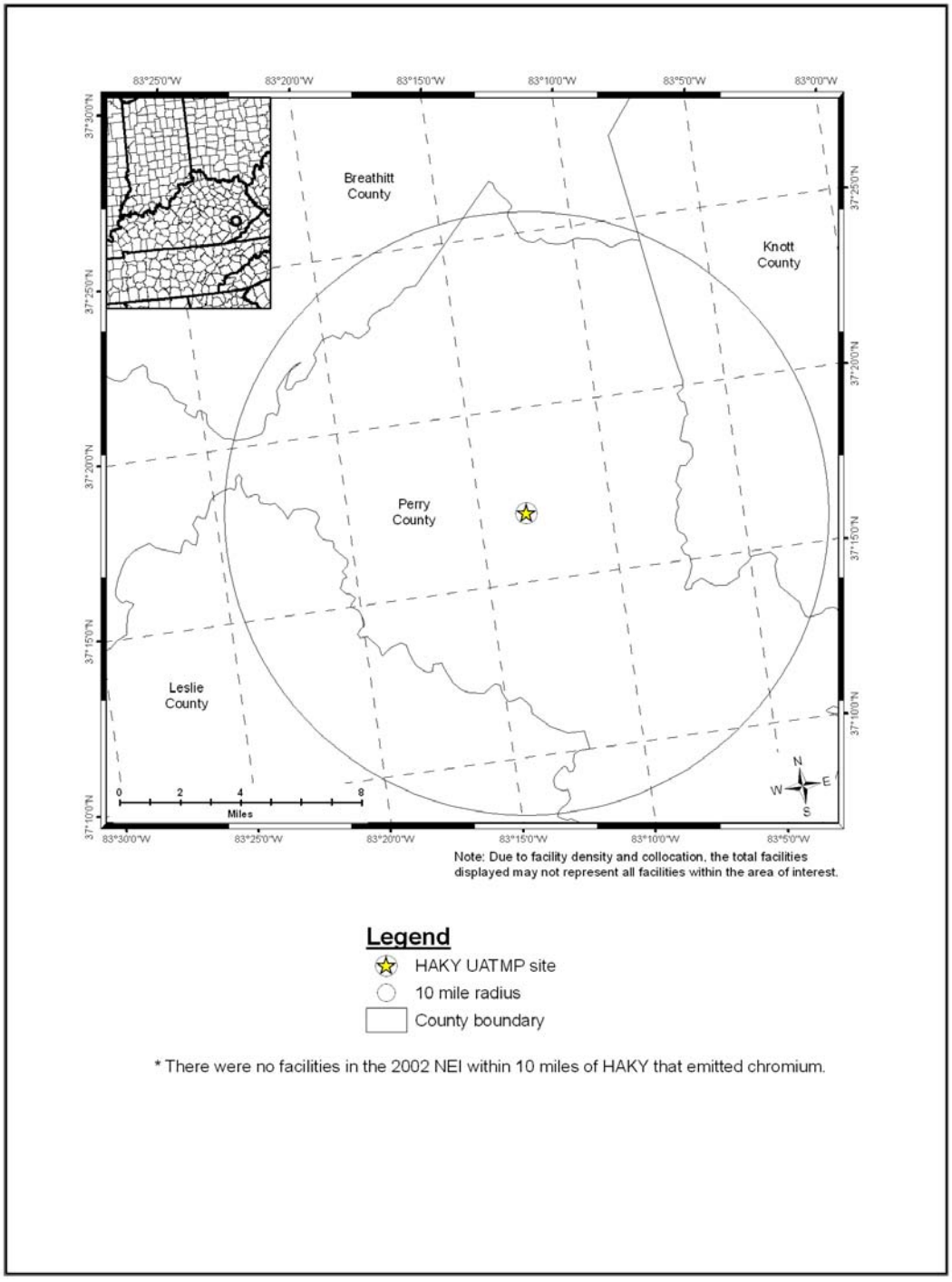


Figure E-18. Facilities Located within 10 Miles of HAKY



* There were no facilities in the 2002 NEI within 10 miles of HAKY that emitted chromium.

Figure E-19. La Grande, Oregon Monitoring Site (LAOR)

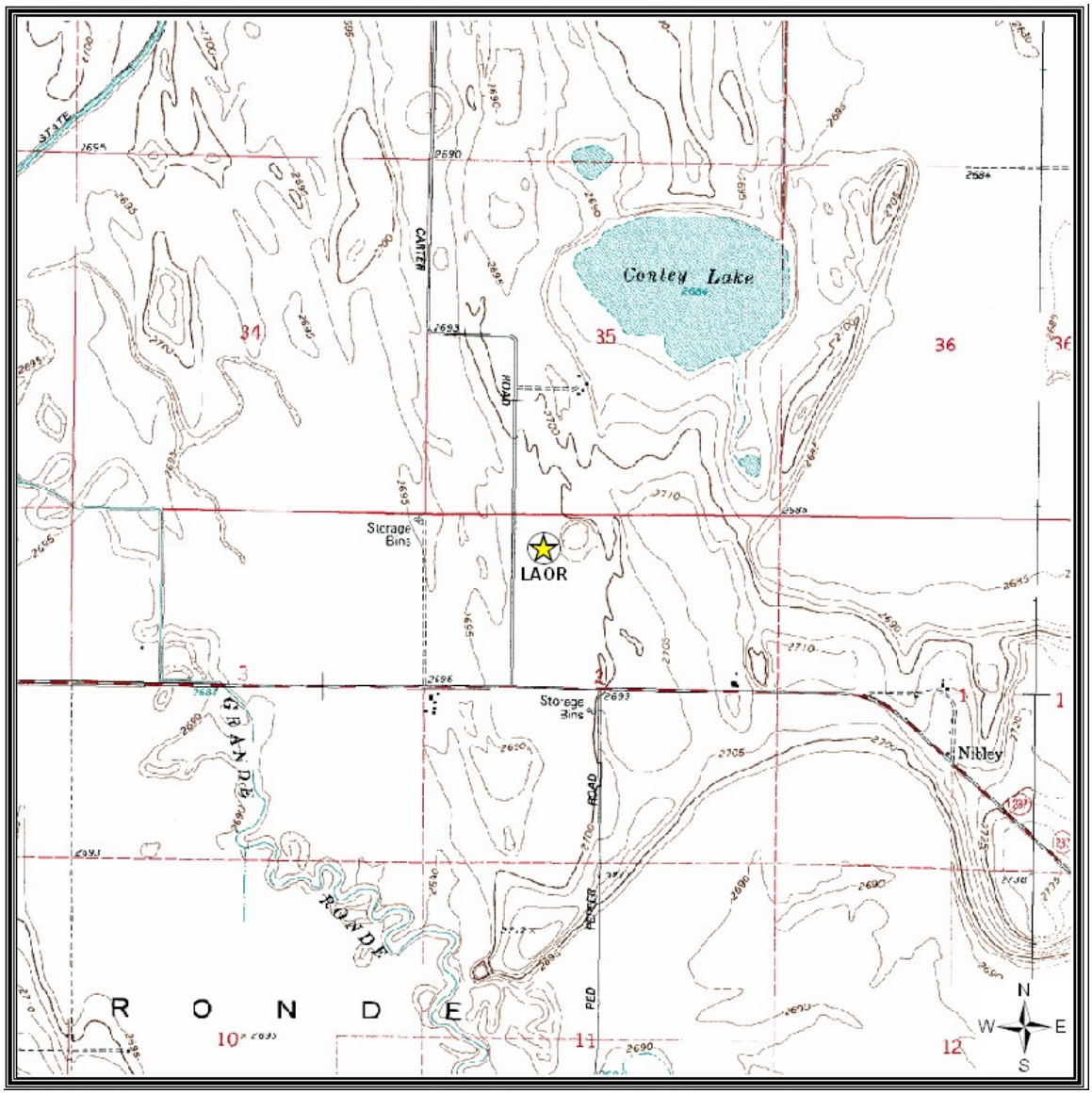


Figure E-20. Facilities Located within 10 Miles of LAOR

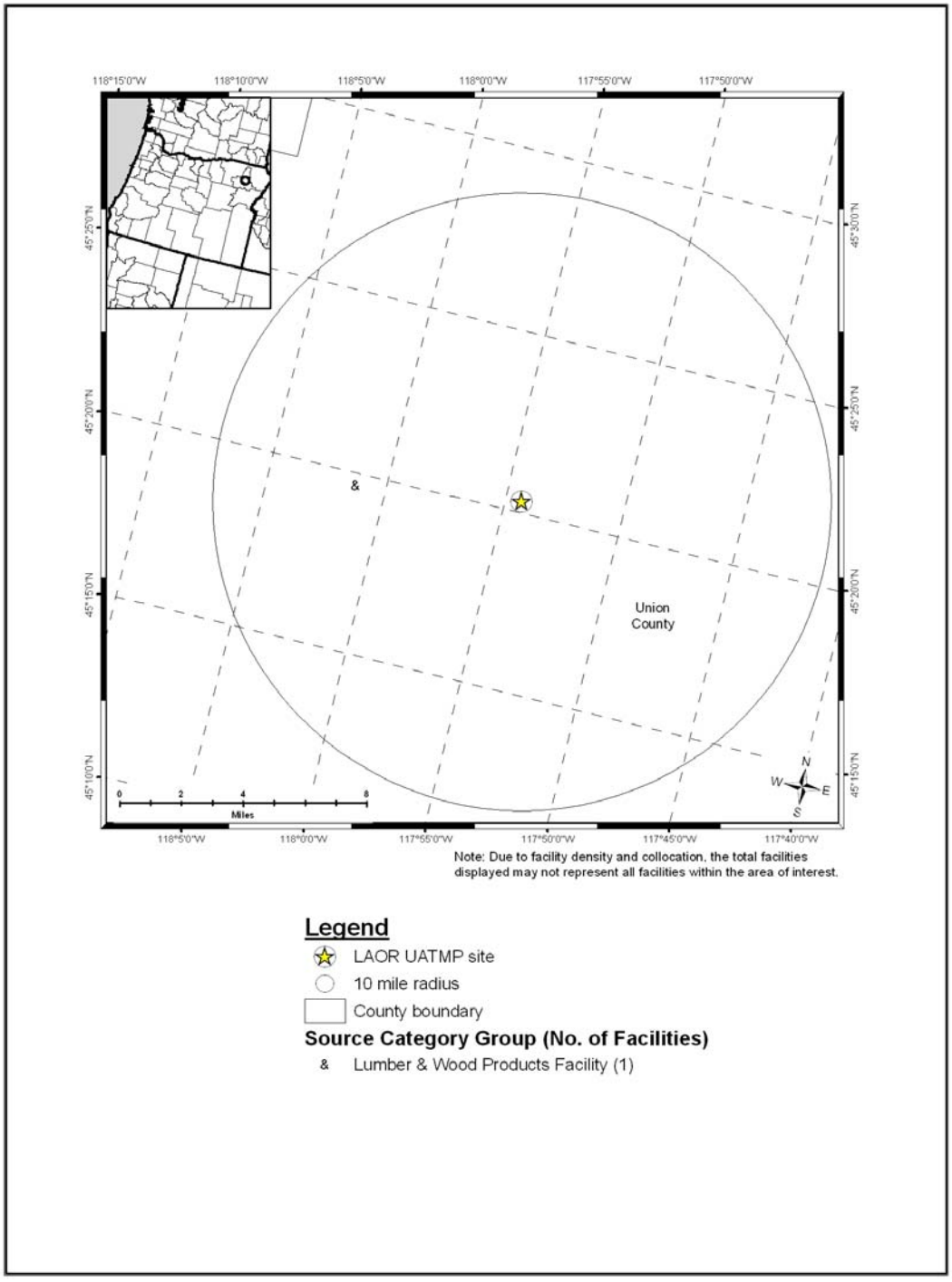


Figure E-21. Mayville, Wisconsin Monitoring Site (MVWI)

Figure E-22. Facilities Located within 10 Miles of MVWI

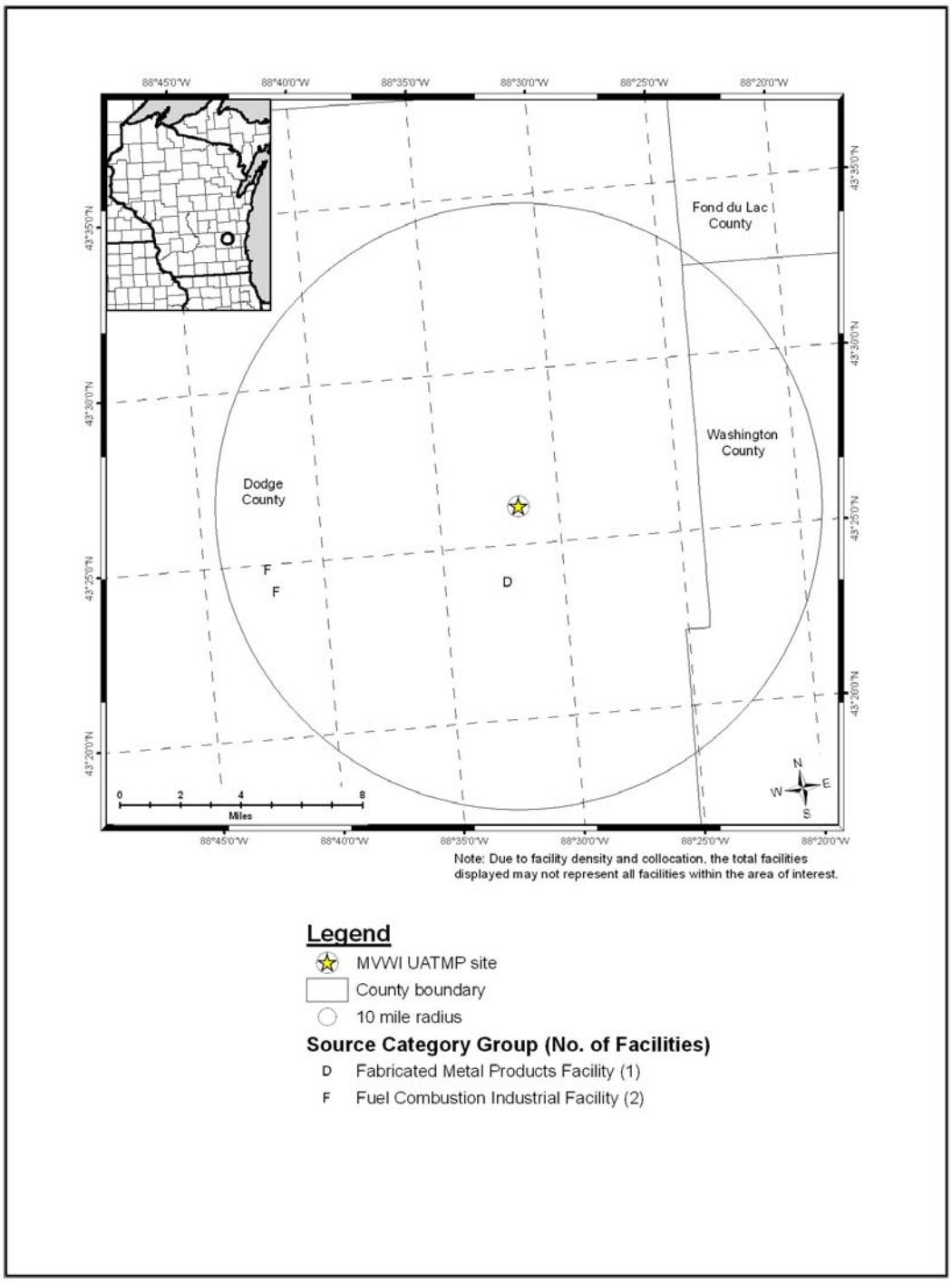


Figure E-23. North Birmingham, Alabama Monitoring Site (NBAL)

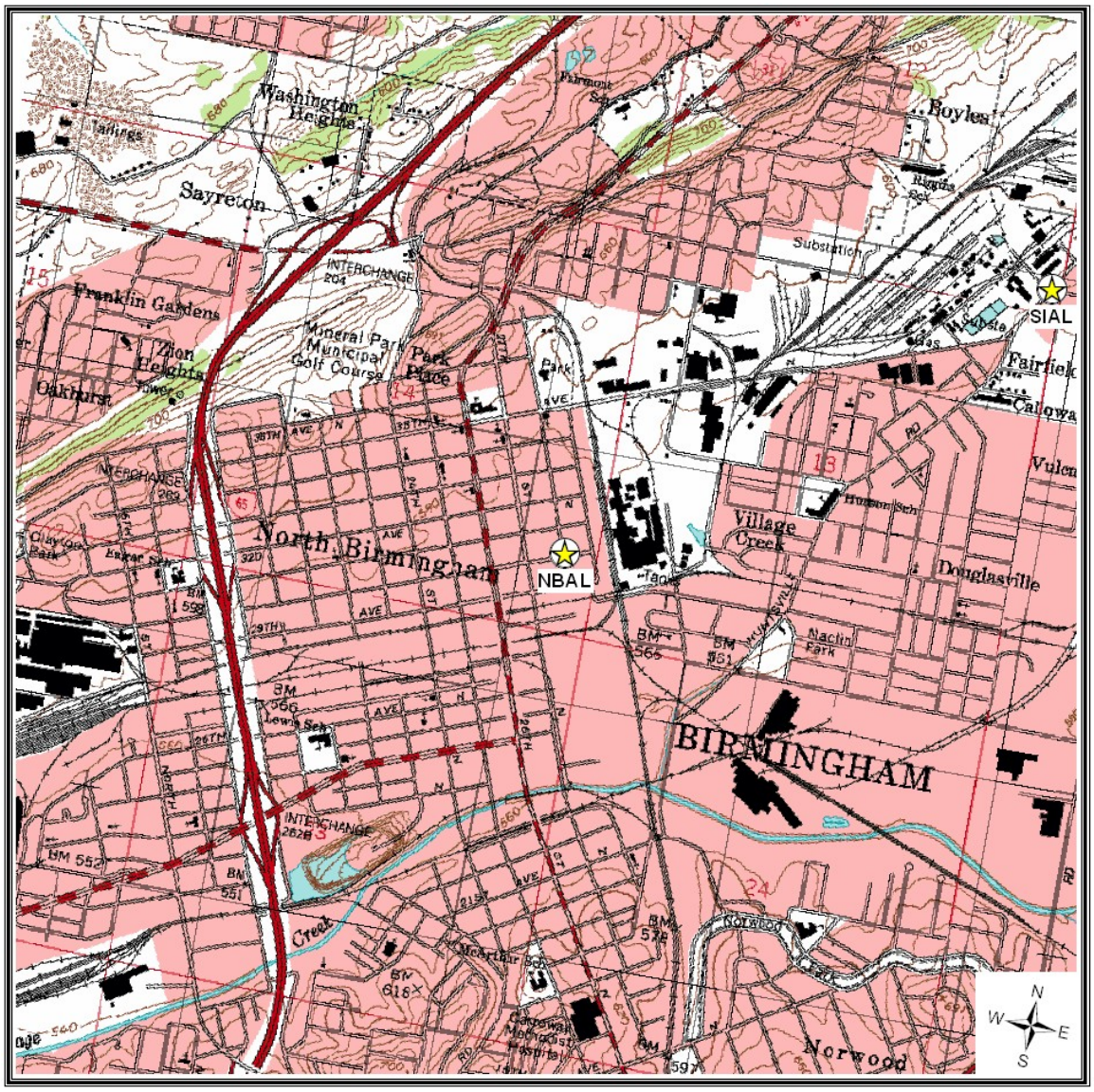


Figure E-24. Northbrook, Illinois Monitoring Site (NBIL)

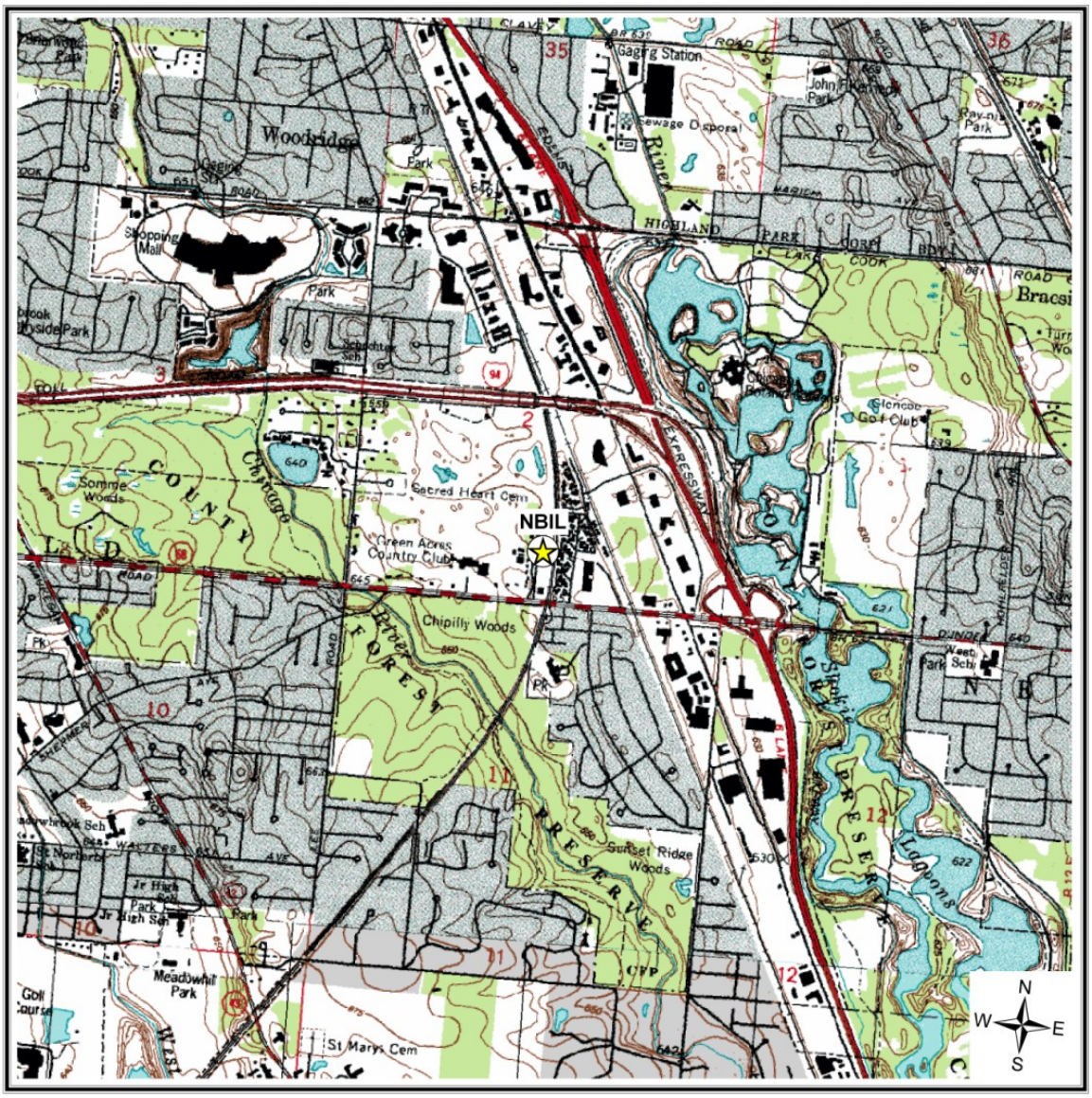


Figure E-25. Facilities Located within 10 Miles of NBIL

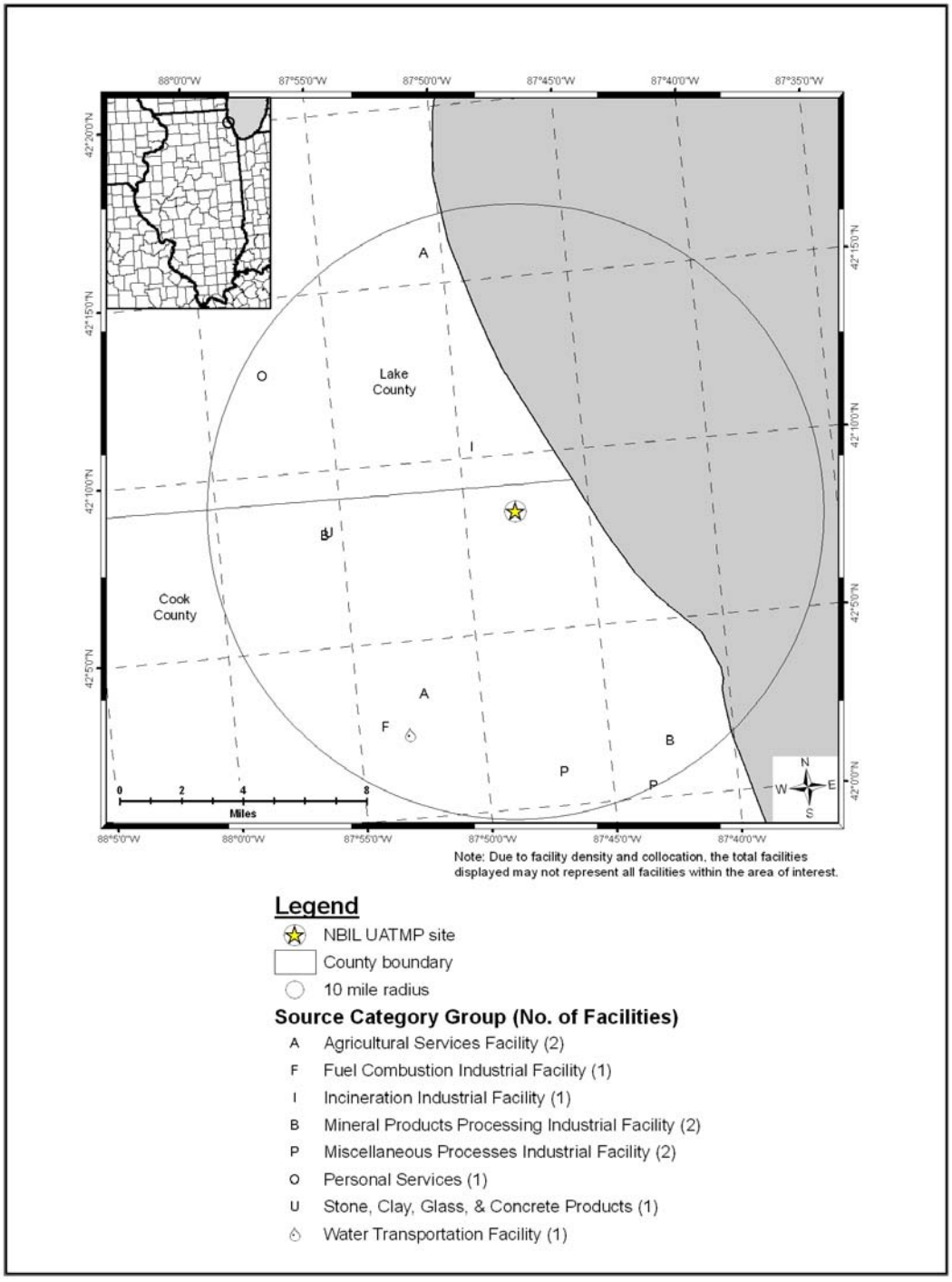


Figure E-26. Providence, Rhode Island Monitoring Site (PRRI)

Figure E-27. Facilities Located within 10 Miles of PRRI

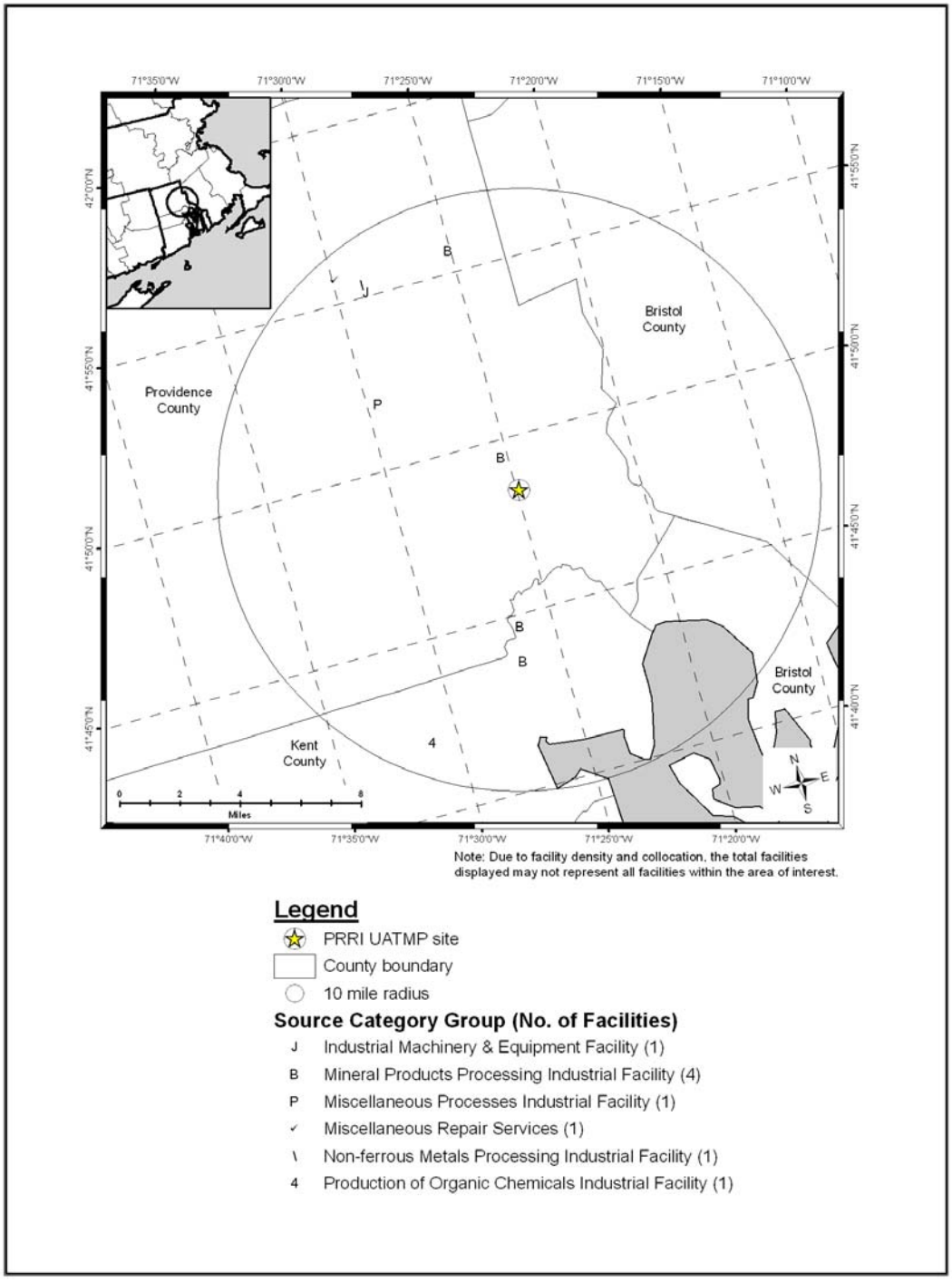


Figure E-28. Providence, Alabama Monitoring Site (PVAL)

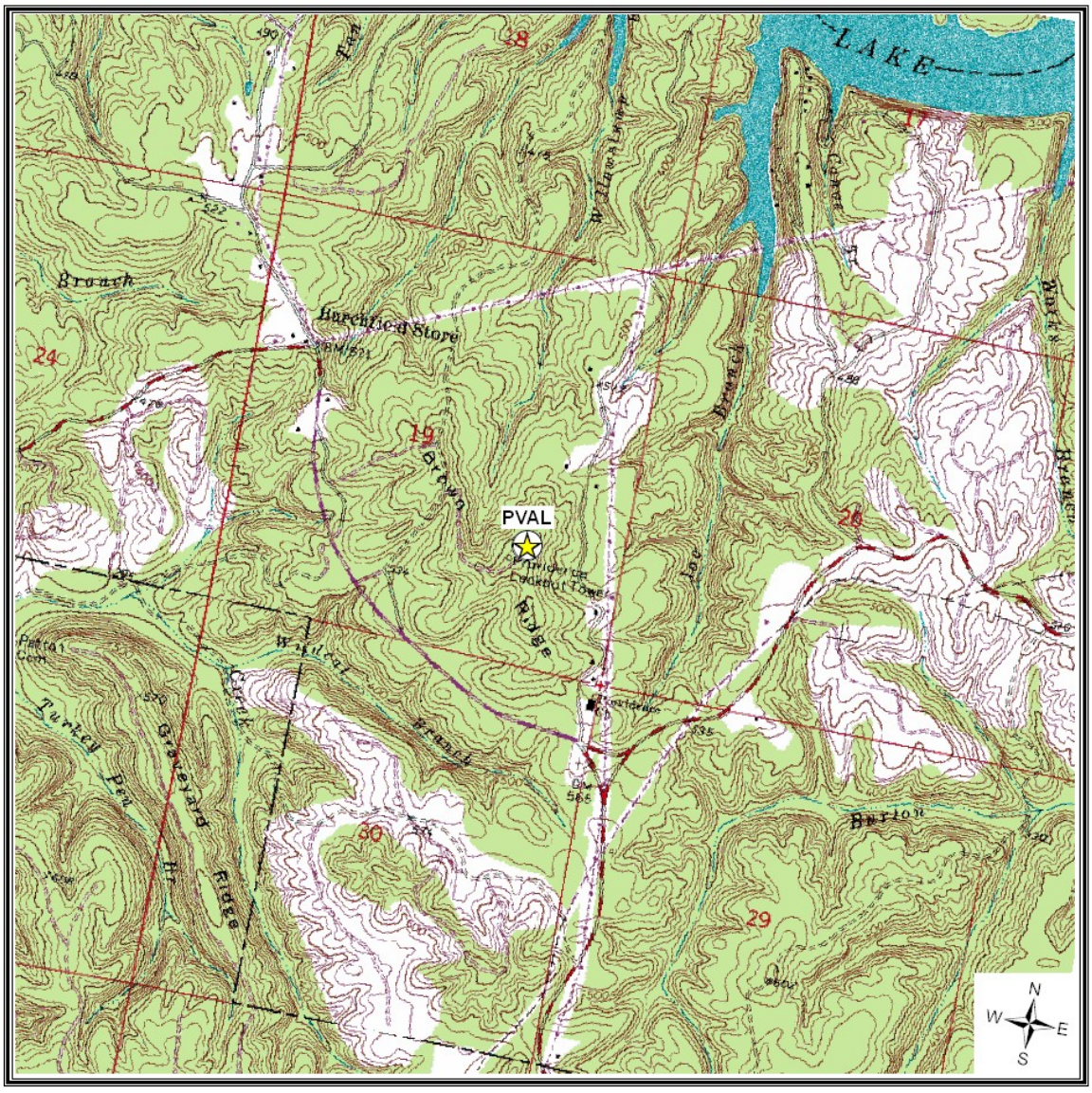


Figure E-29. Facilities Located within 10 Miles of PVAL

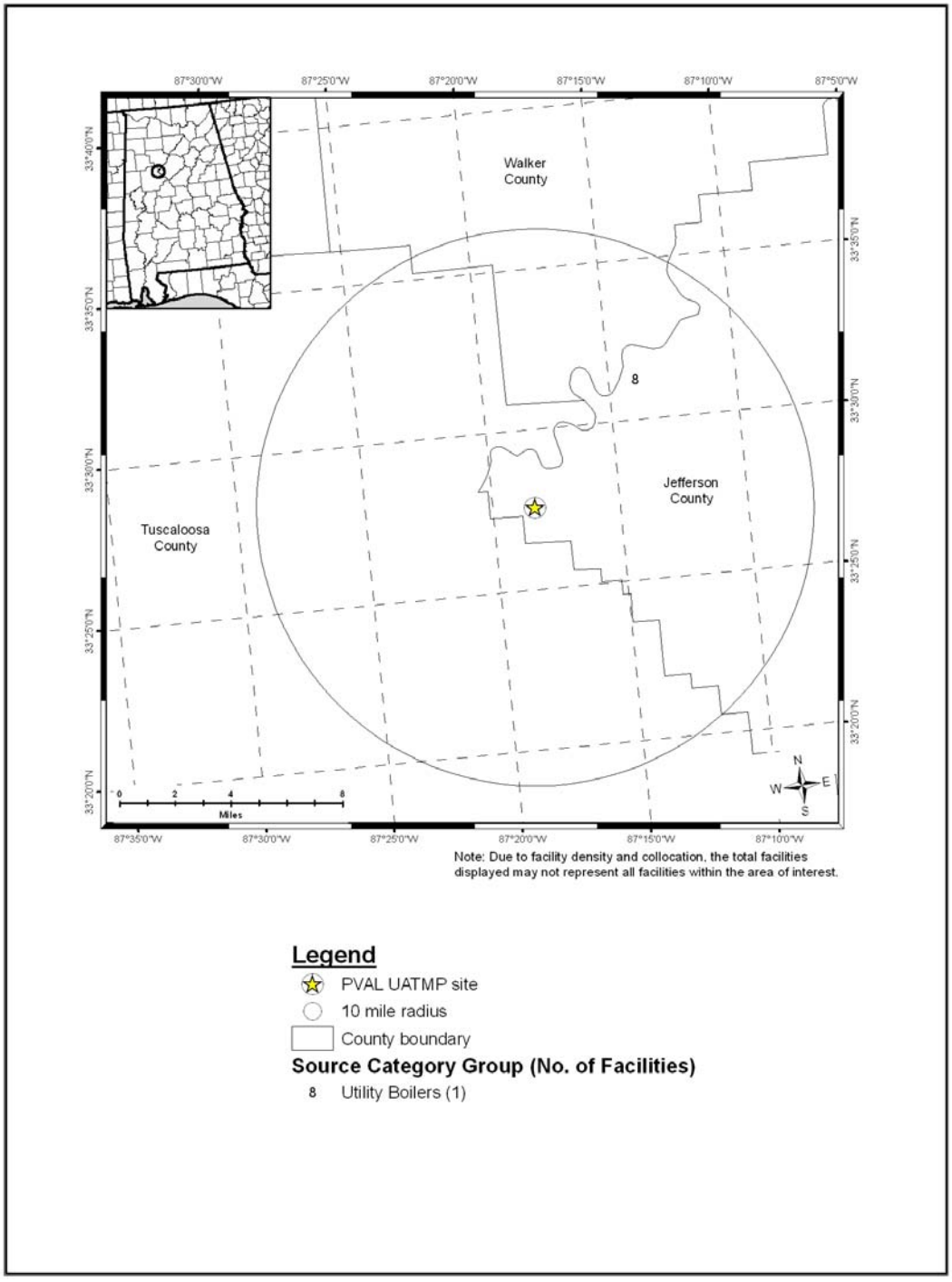


Figure E-30. St. Louis, Missouri Monitoring Site (S4MO)

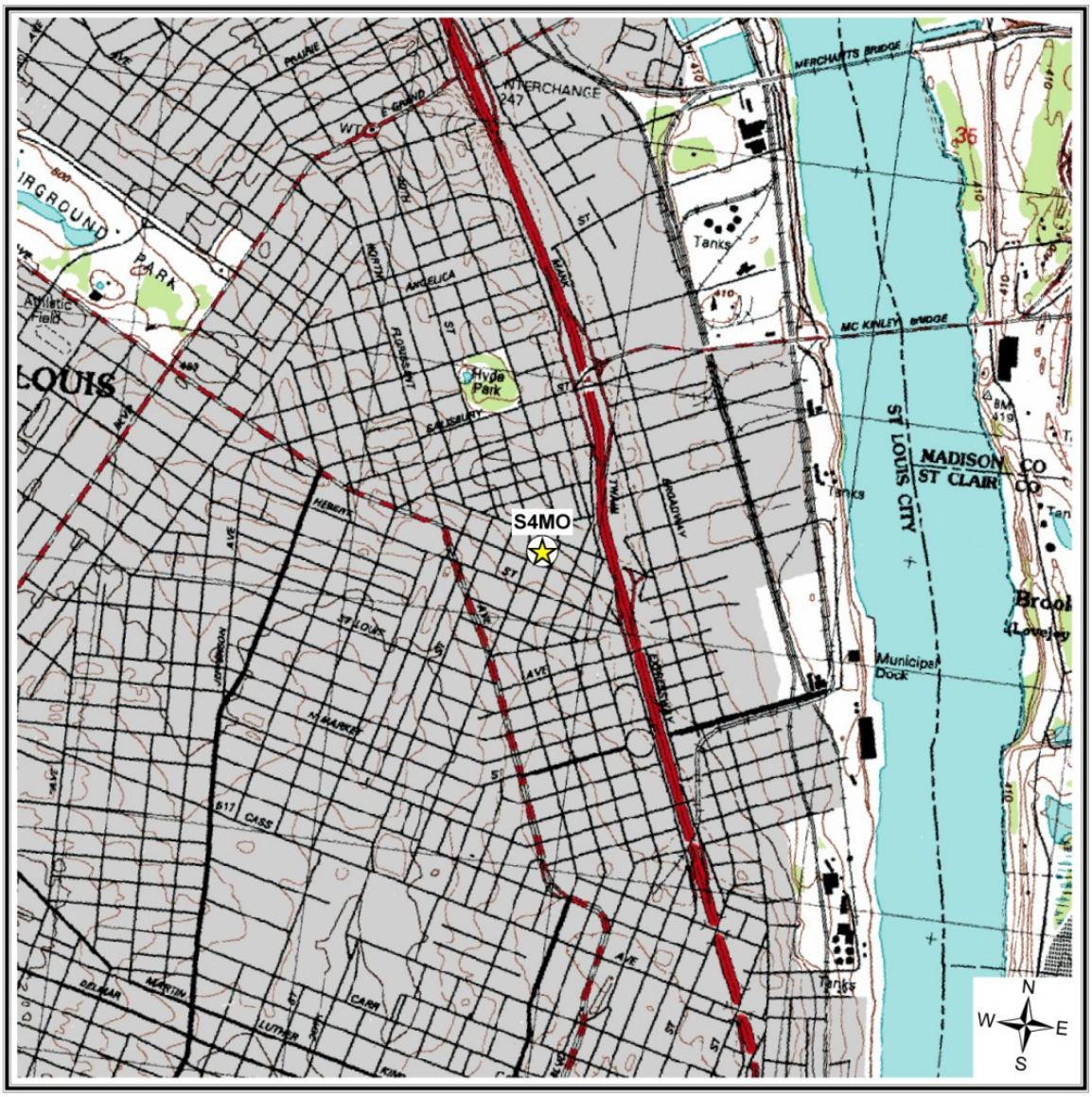


Figure E-31. Facilities Located within 10 Miles of S4MO

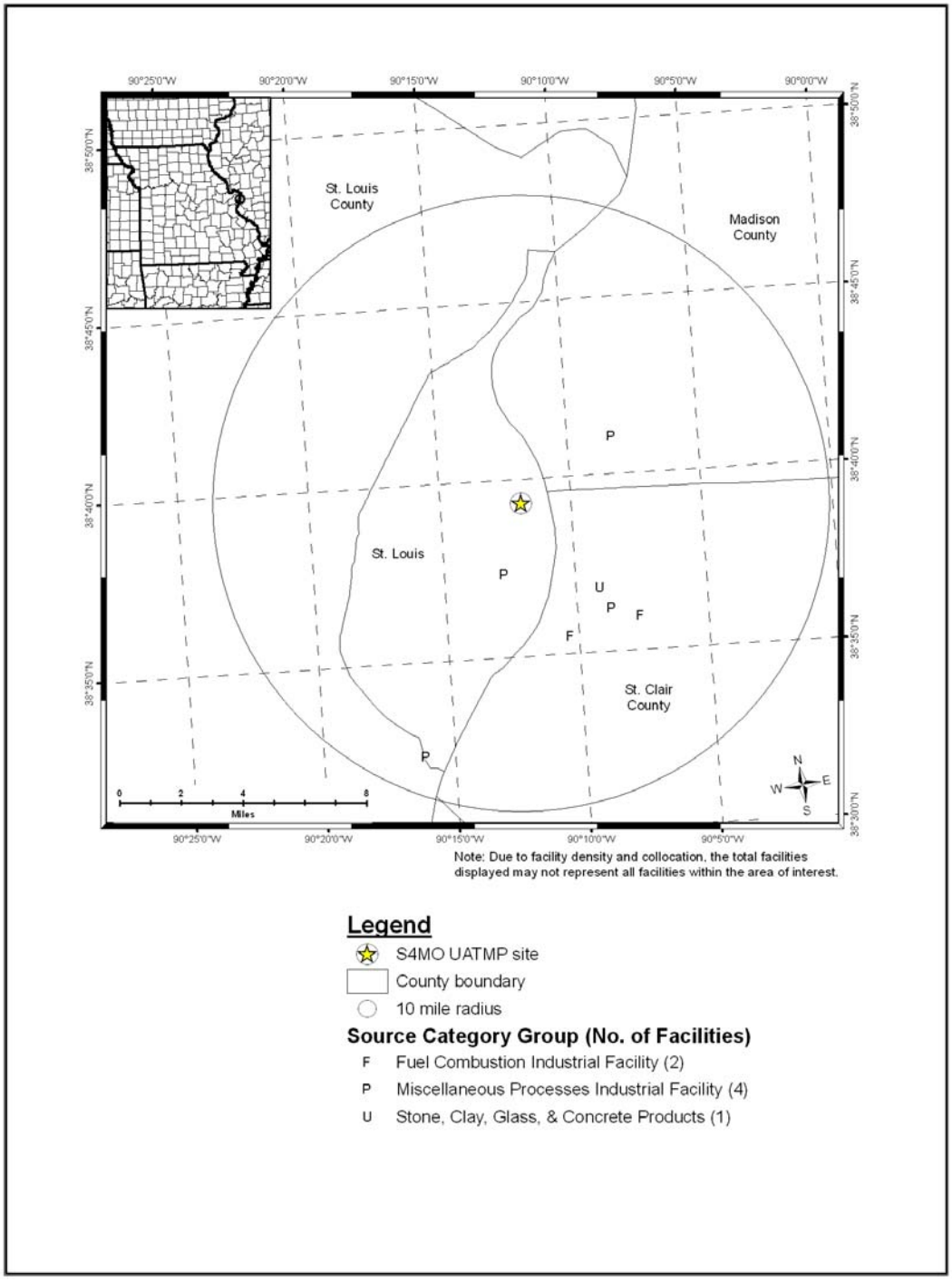


Figure E-32. Decatur, Georgia Monitoring Site (SDGA)

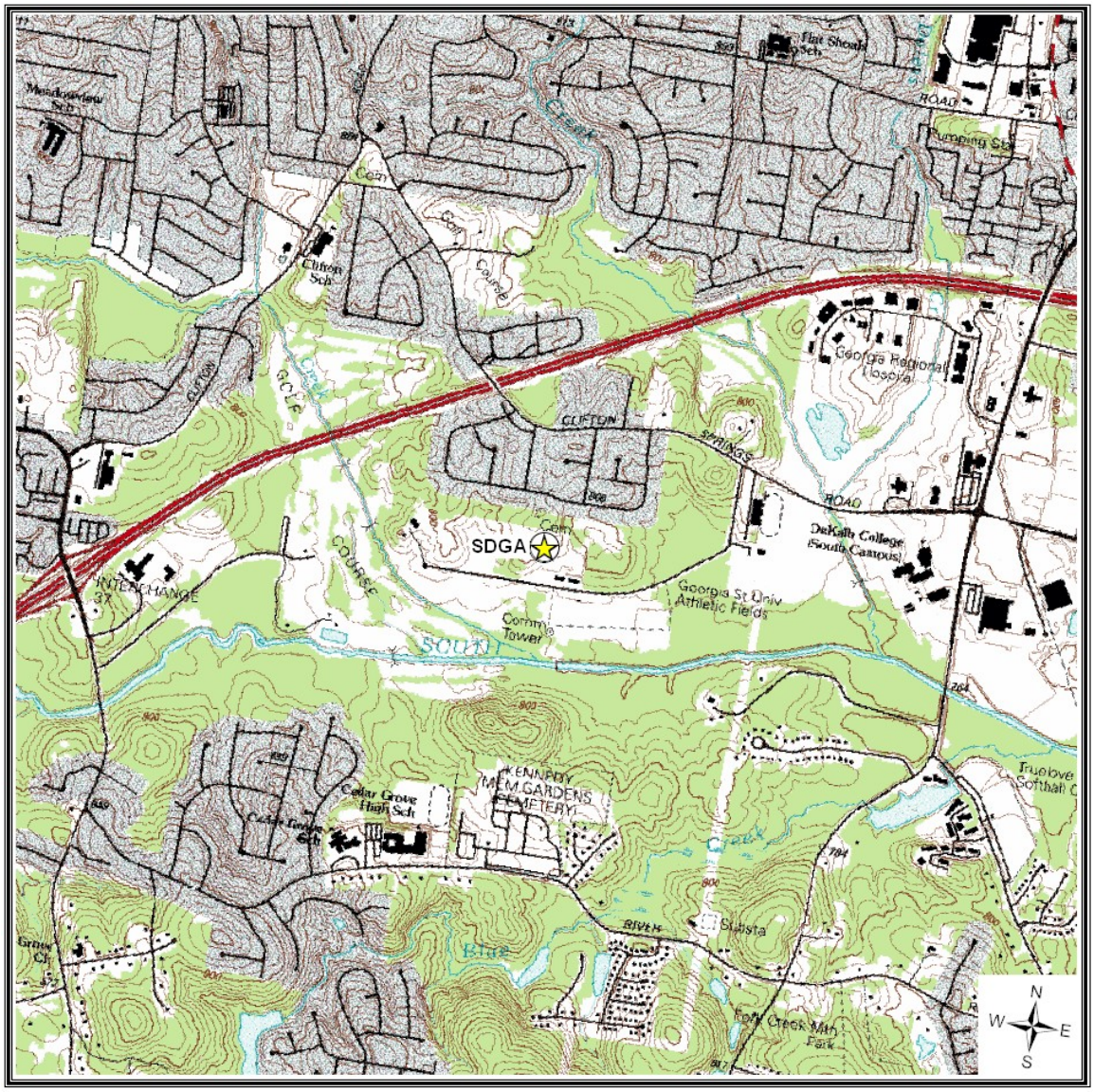


Figure E-33. Facilities Located within 10 Miles of SDGA

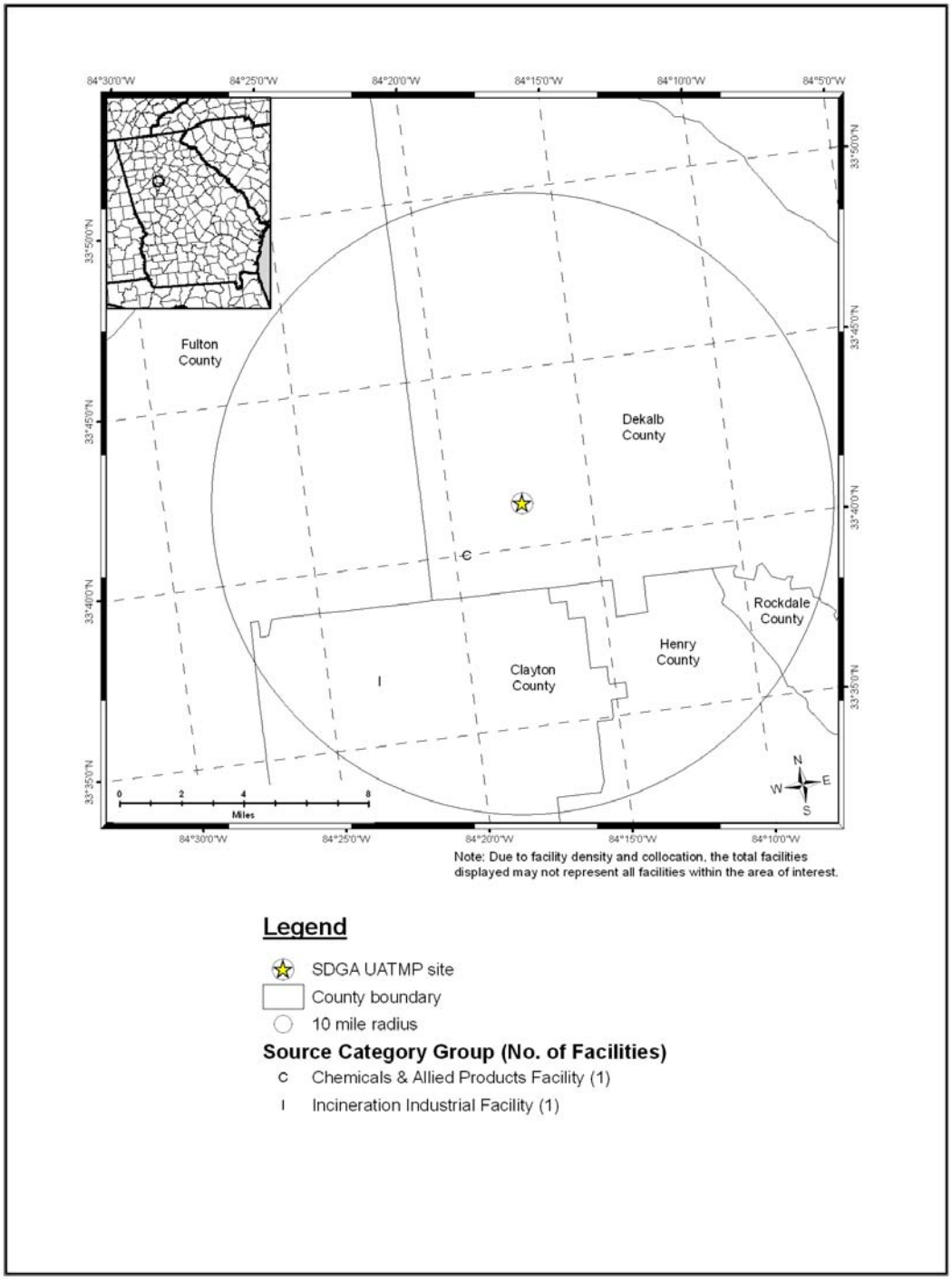


Figure E-34. Seattle, Washington Monitoring Site (SEWA)

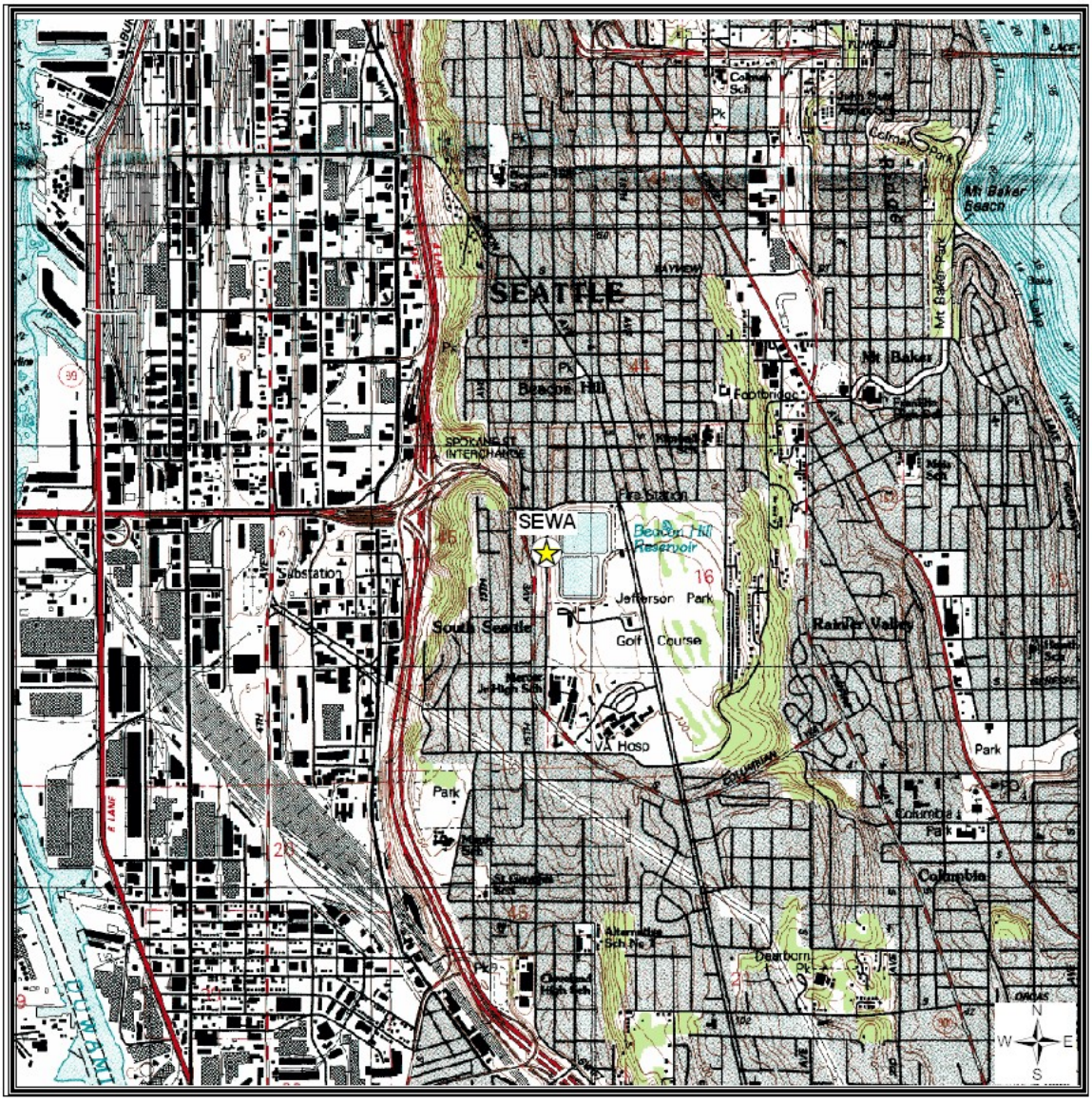


Figure E-35. Facilities Located within 10 Miles of SEWA

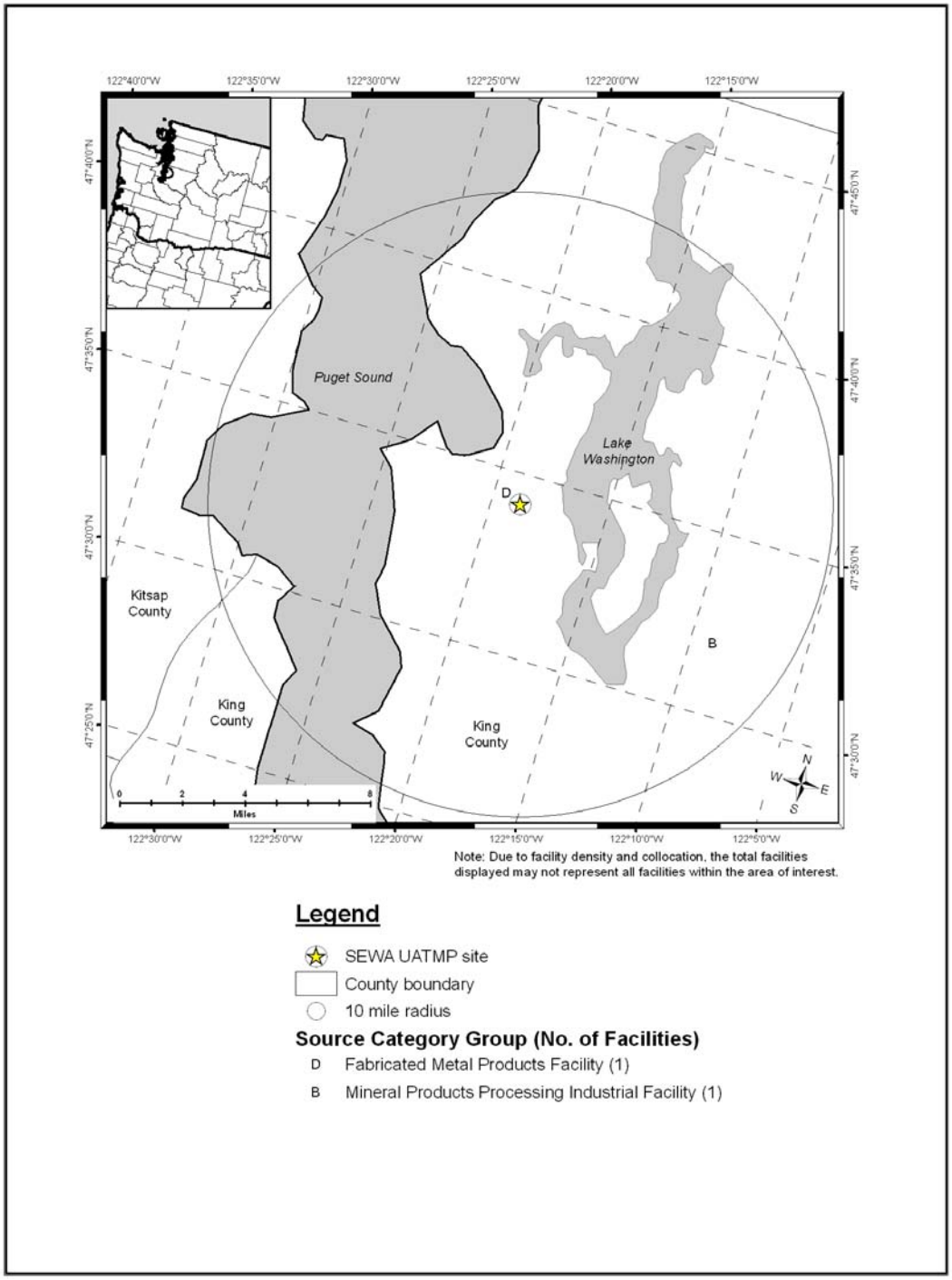


Figure E-36. Sloth Industries Monitoring Site in Birmingham, Alabama (SIAL)

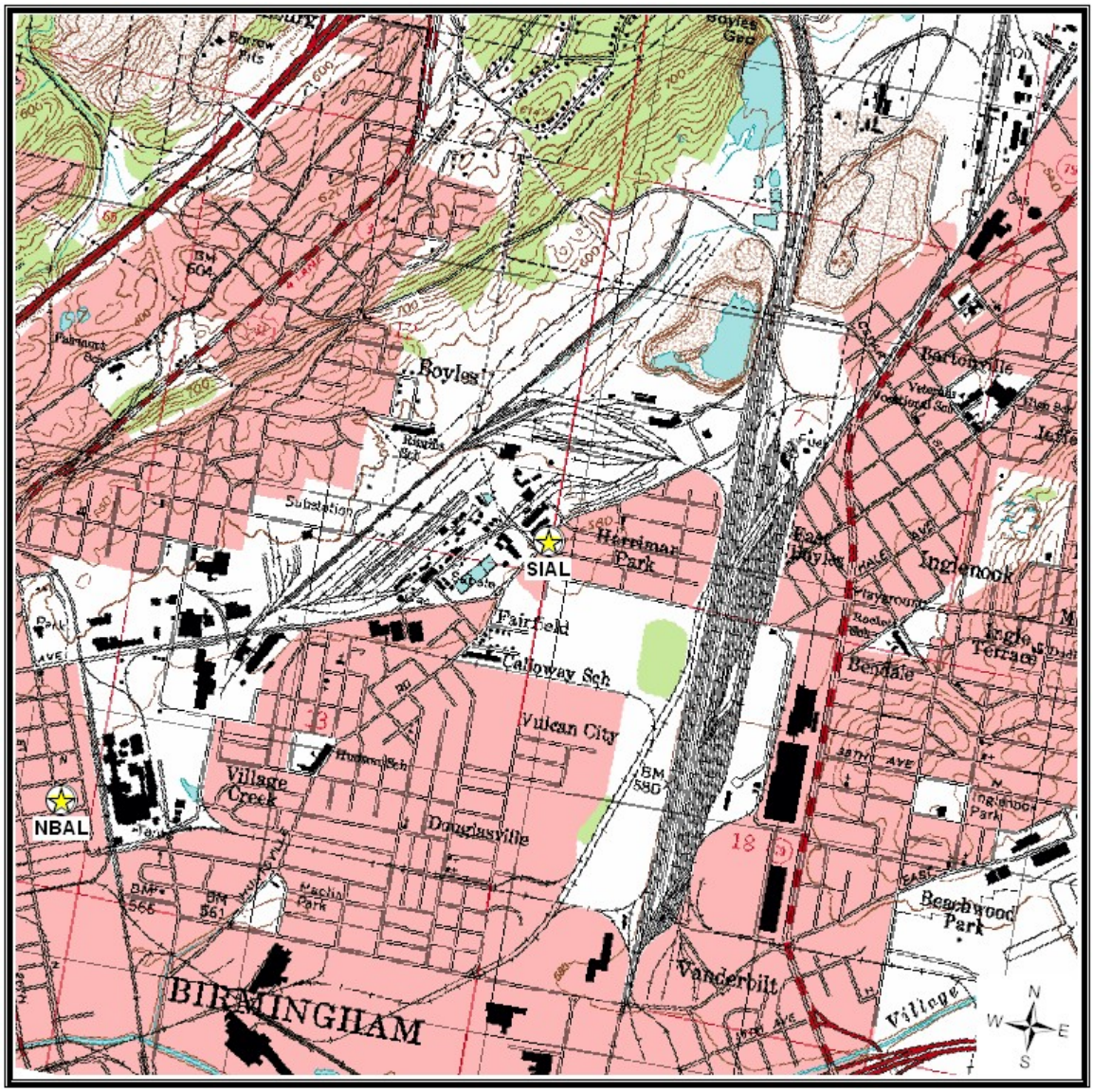


Figure E-37. Sydney Monitoring Site in Plant City, Florida (SYFL)

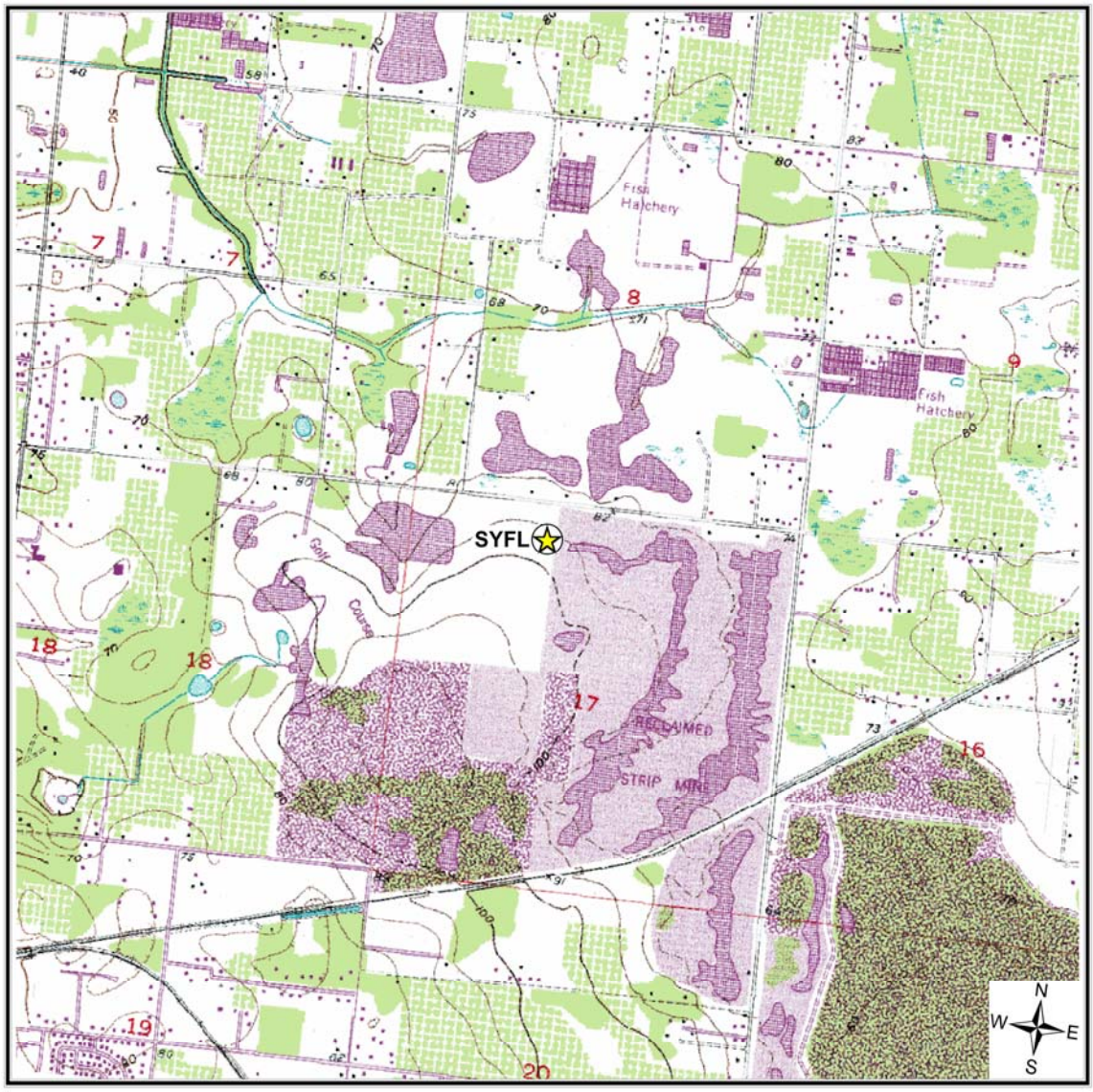


Figure E-38. Facilities Located within 10 Miles of SYFL

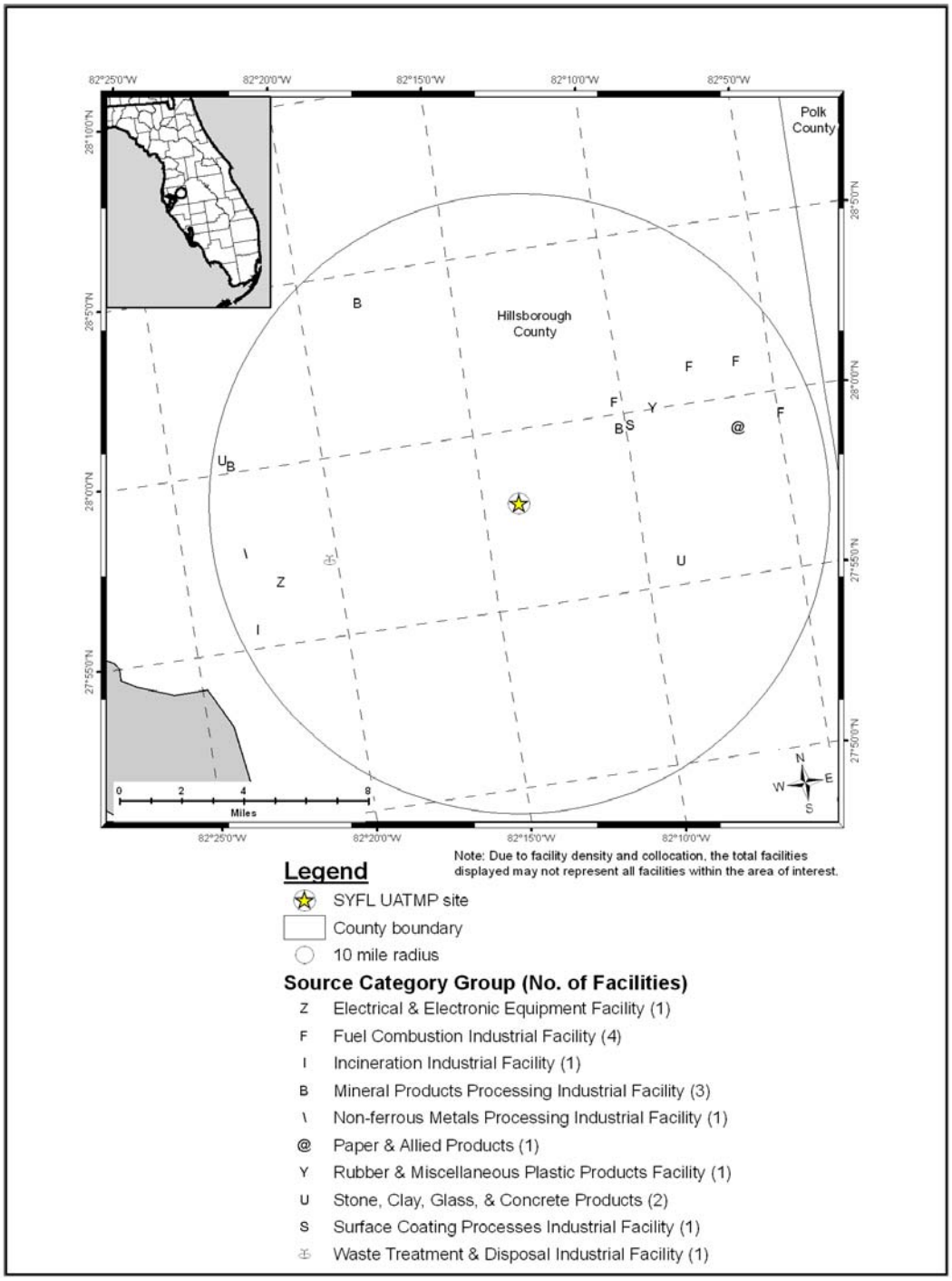


Figure E-39. Underhill, Vermont Monitoring Site (UNVT)

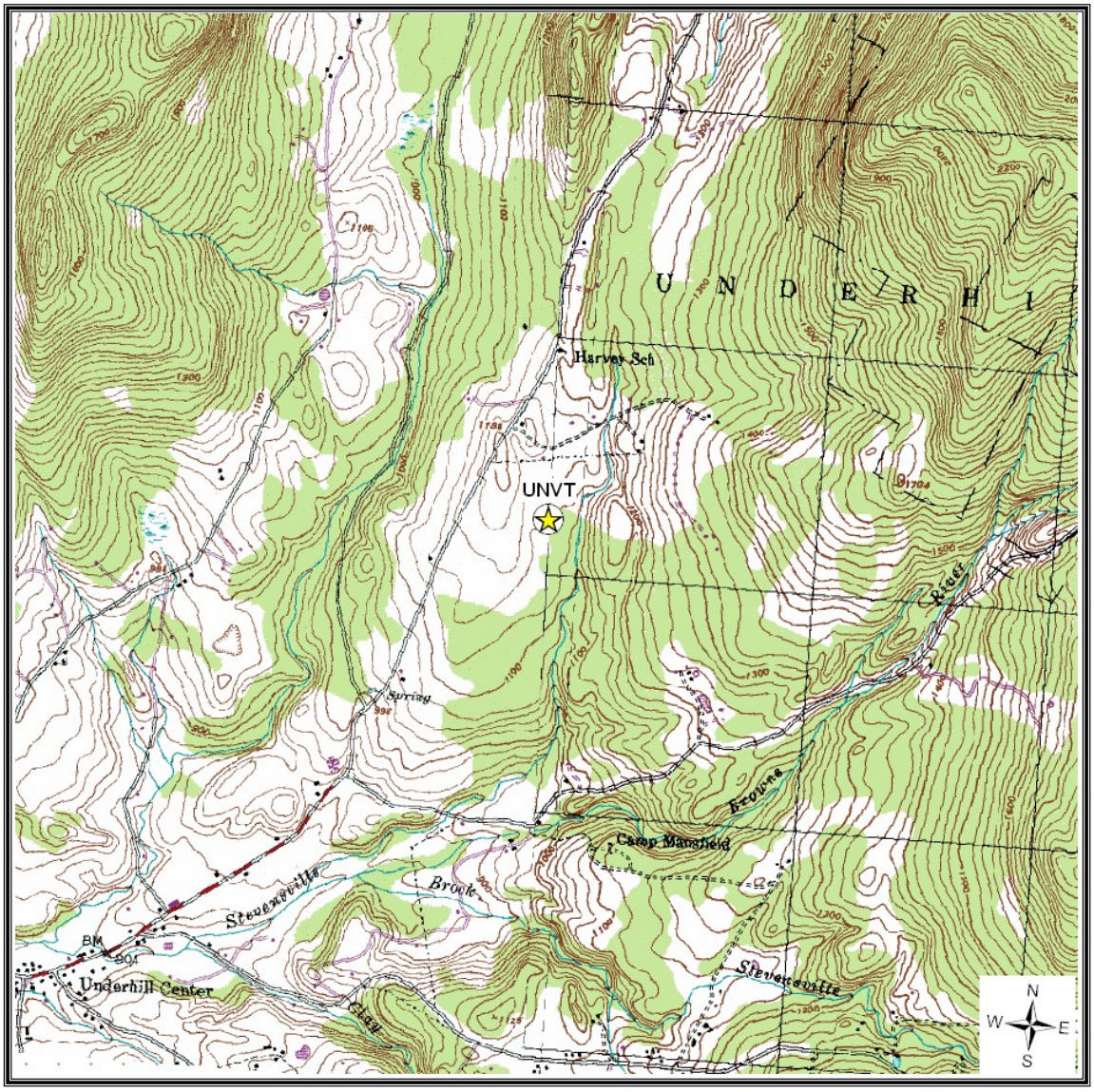


Figure E-40. Washington, D.C. Monitoring Site (WADC)

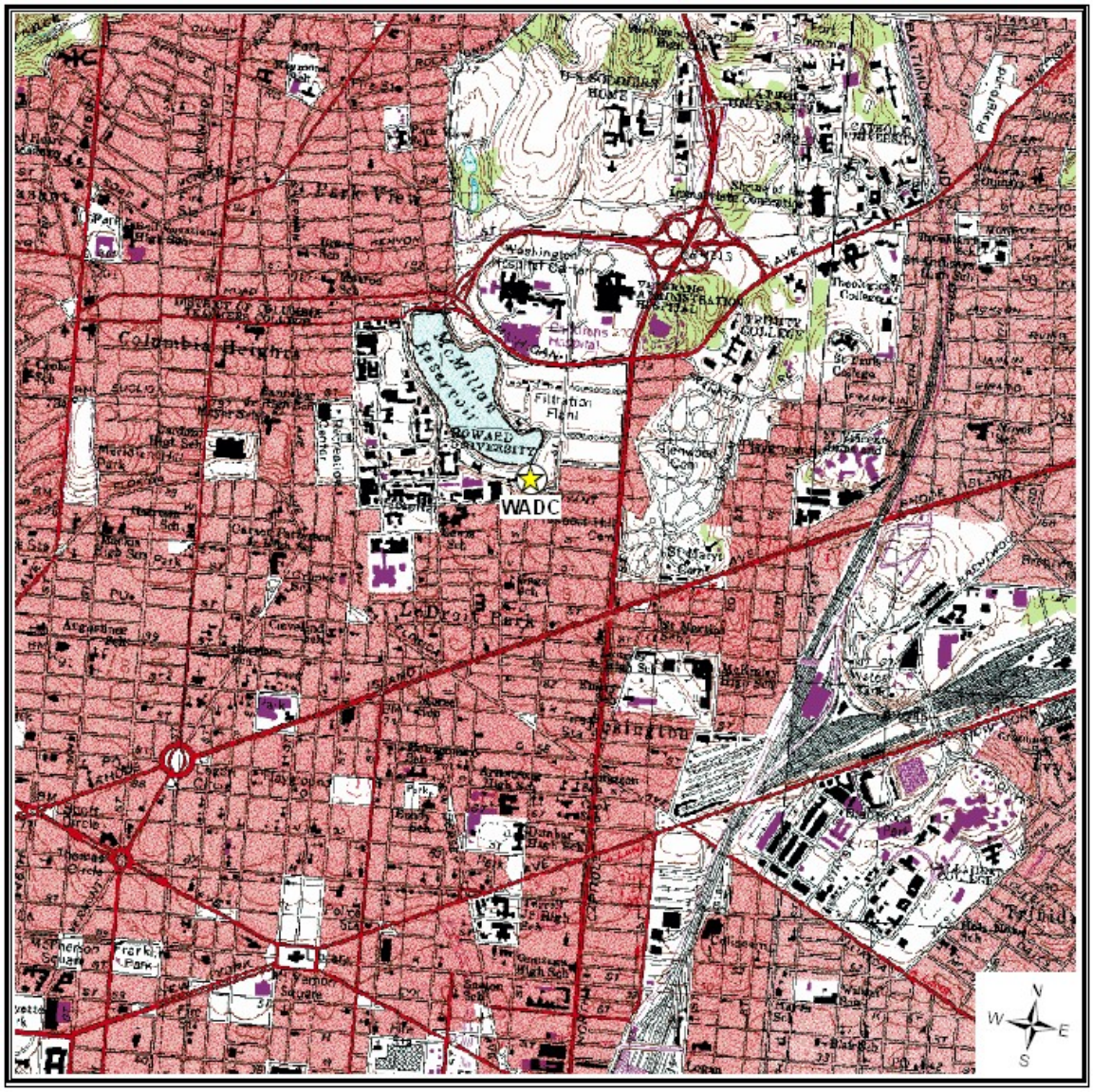


Figure E-41. Facilities Located within 10 Miles of WADC

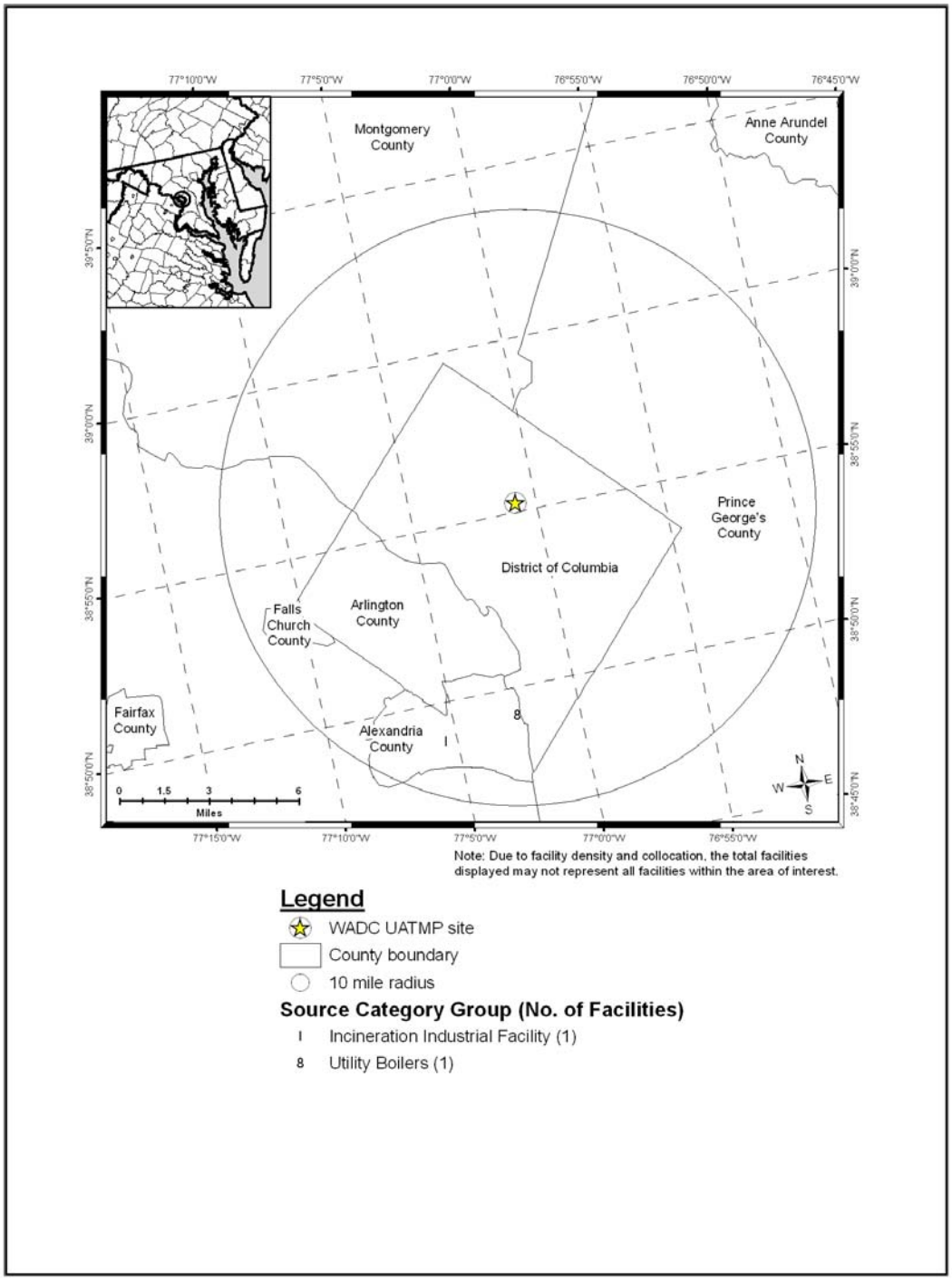


Figure E-42. Austin Texas Monitoring Site (WETX)

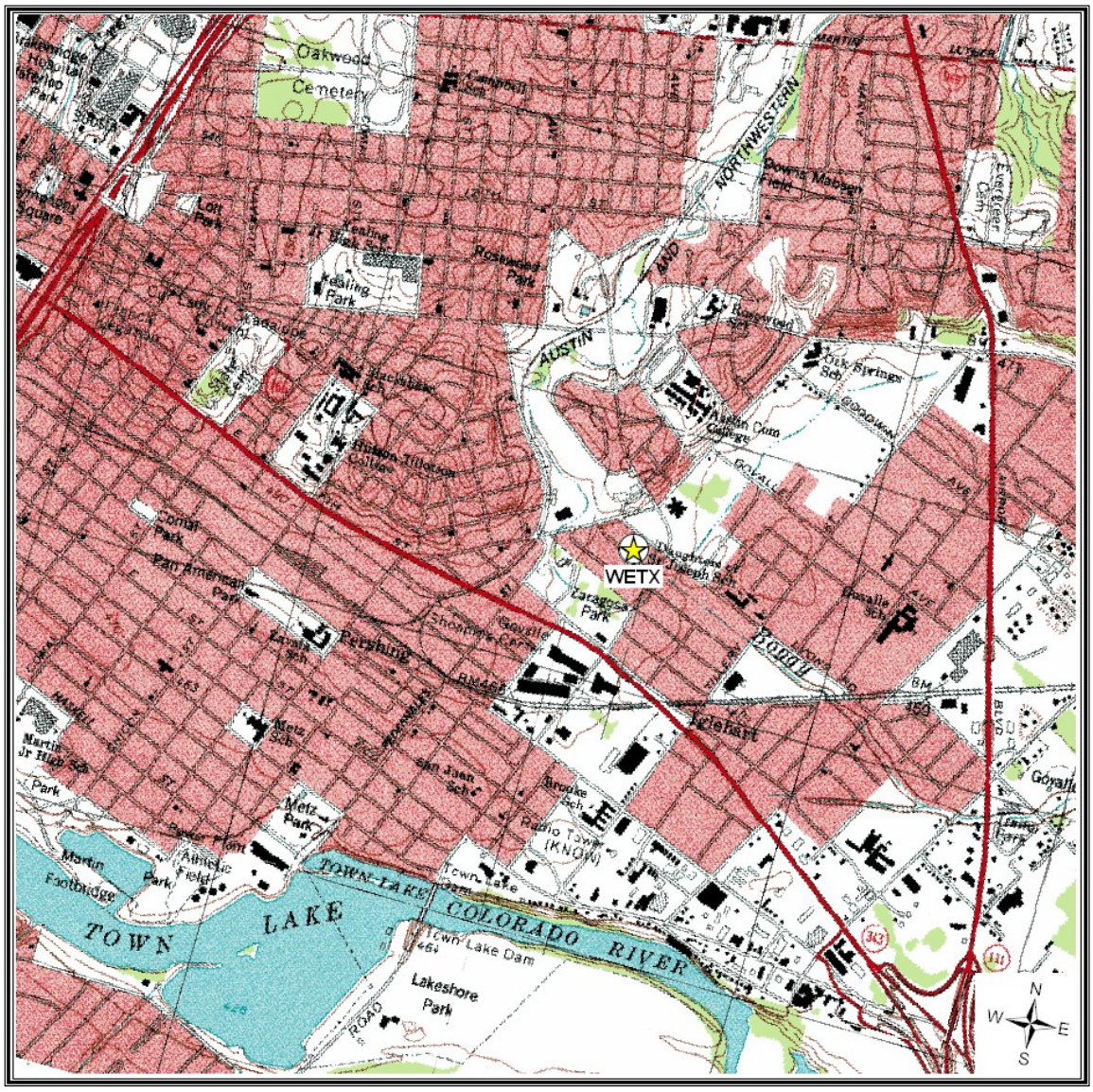
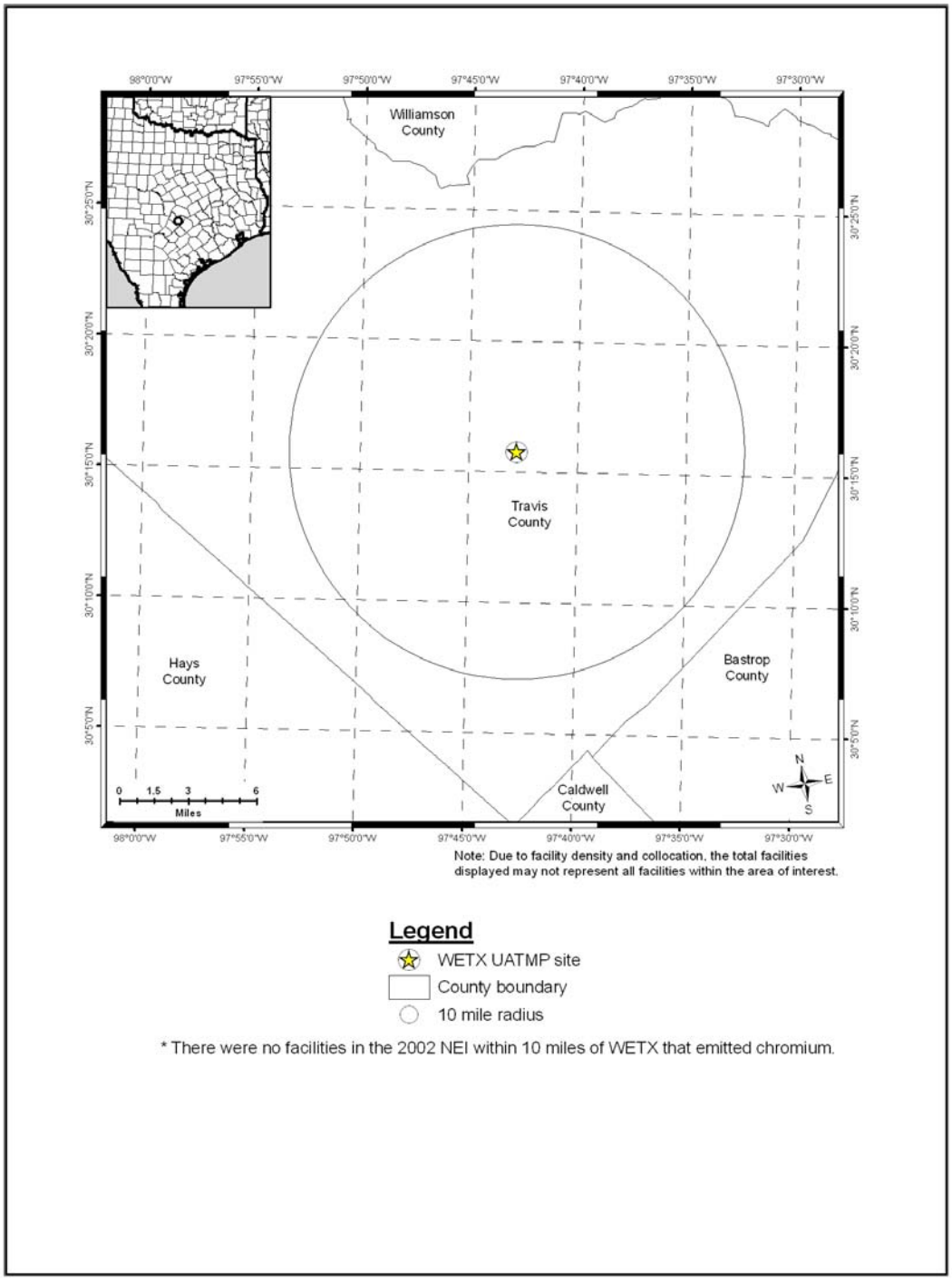


Figure E-43. Facilities Located within 10 Miles of WETX



Appendix F

Meteorological and Spatial Analysis Products

Appendix F – Meteorological and Spatial Analysis Products

This section presents the wind roses, back trajectories, and pollution roses used to conduct meteorological and spatial analyses on the 2005 hexavalent chromium data set. This appendix should serve as a companion to the report.

Figure F-1. Wind Rose of Sample Days for the BOMA Monitoring Site

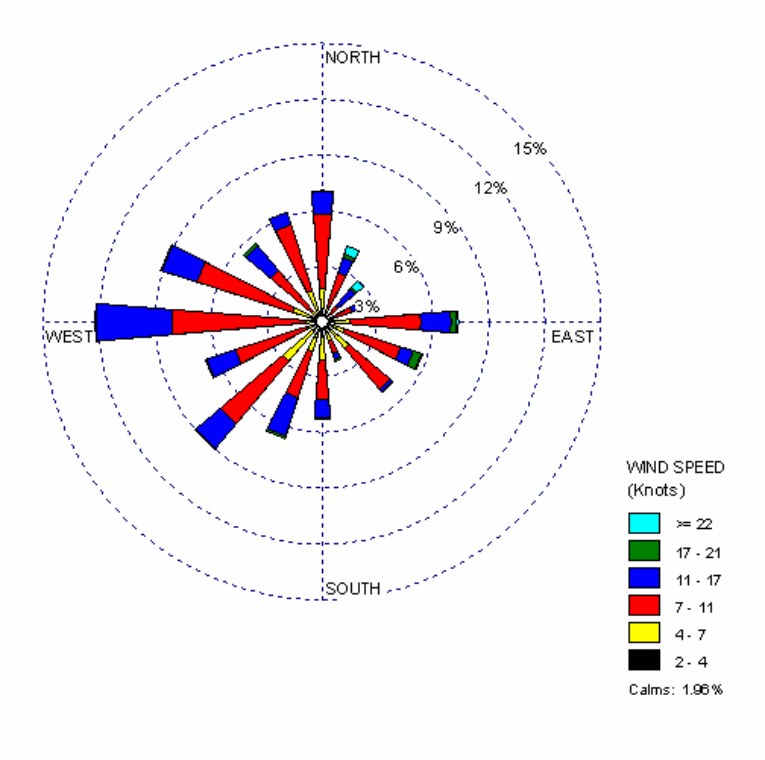


Figure F-2. Wind Rose of Sample Days for the BTUT Monitoring Site

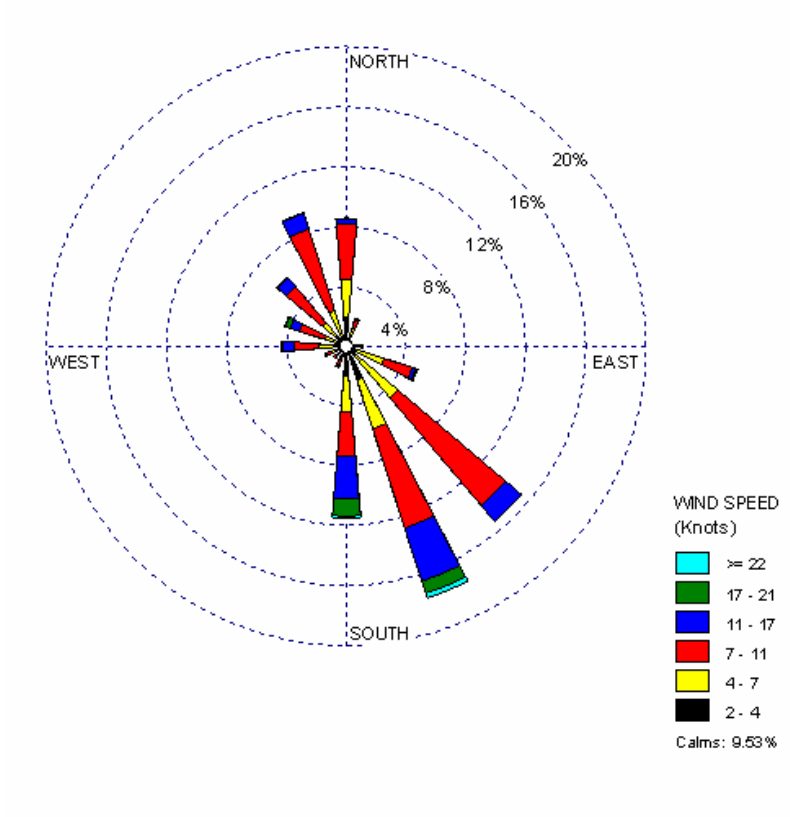


Figure F-3. Wind Rose of Sample Days for the BURVT Monitoring Site

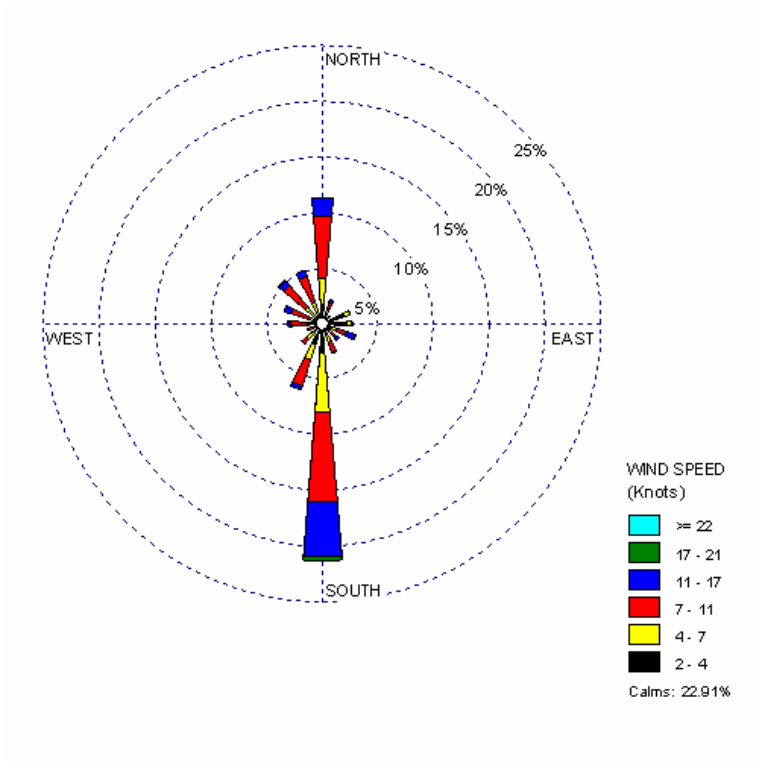


Figure F-4. Wind Rose of Sample Days for the CHSC Monitoring Site

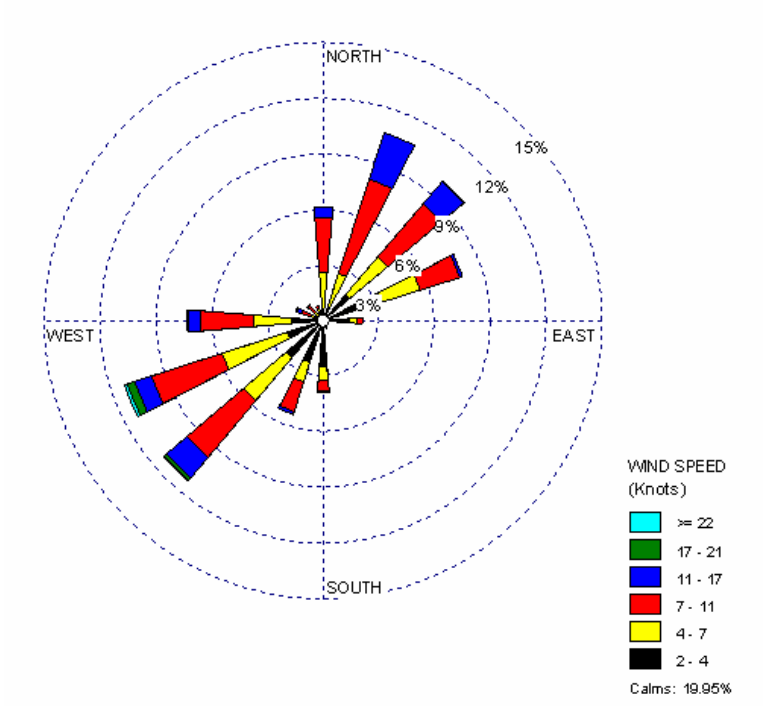


Figure F-5. Wind Rose of Sample Days for the DEMI Monitoring Site

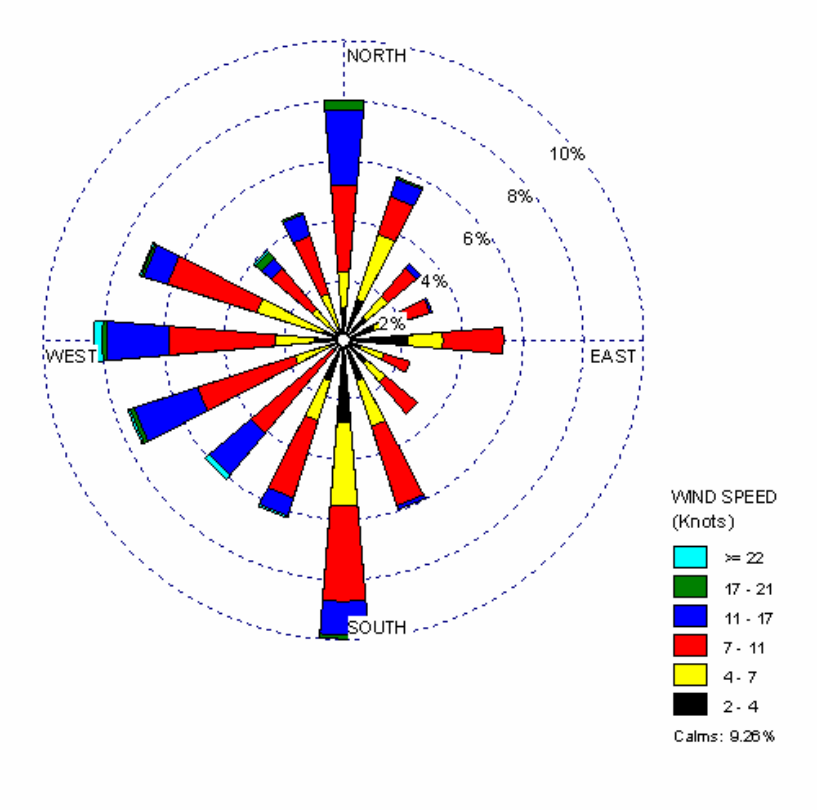


Figure F-6. Wind Rose of Sample Days for the ETAL Monitoring Site

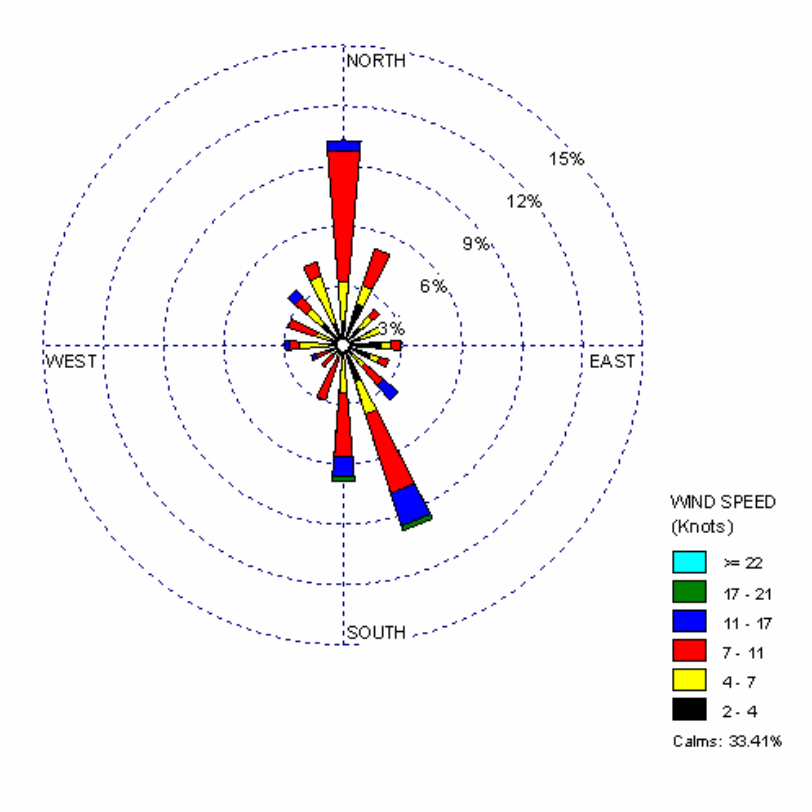


Figure F-7. Wind Rose of Sample Days for the GPCO Monitoring Site

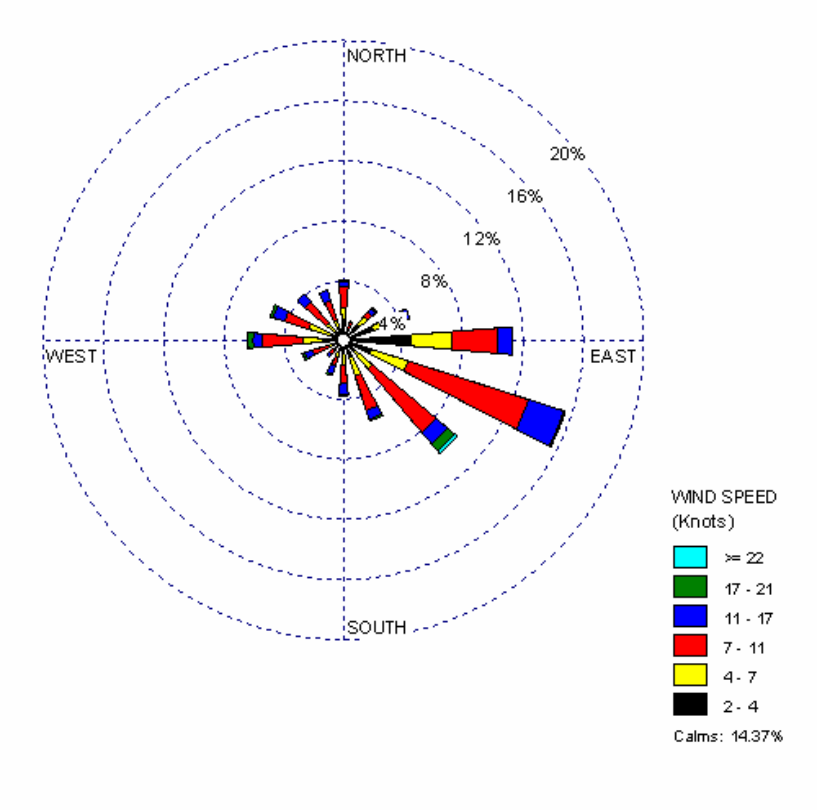


Figure F-8. Wind Rose of Sample Days for the GPMS Monitoring Site

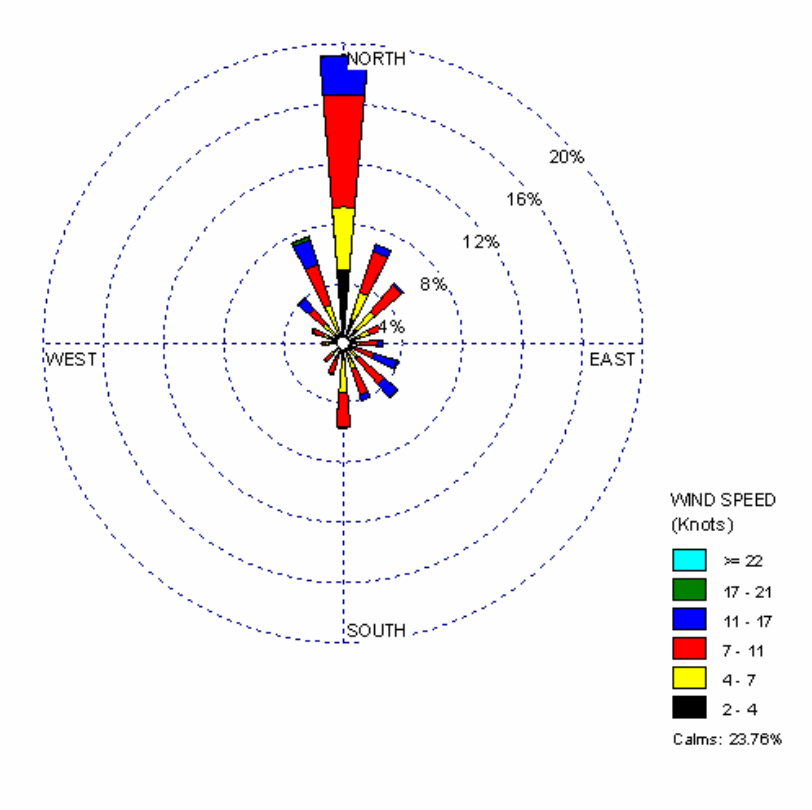


Figure F-9. Wind Rose of Sample Days for the HAKY Monitoring Site

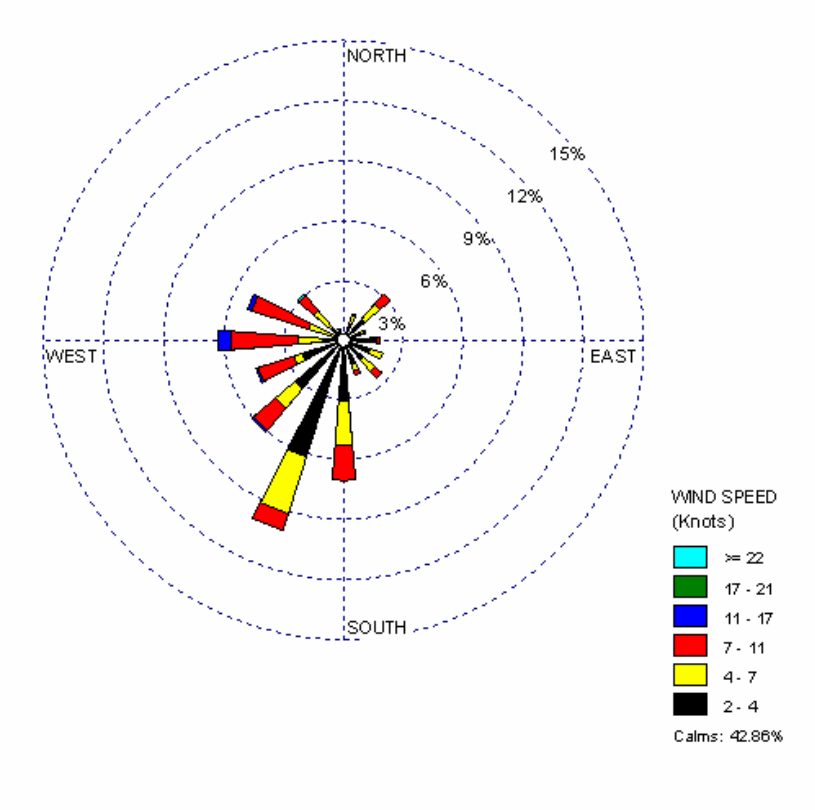


Figure F-10. Wind Rose of Sample Days for the LAOR Monitoring Site

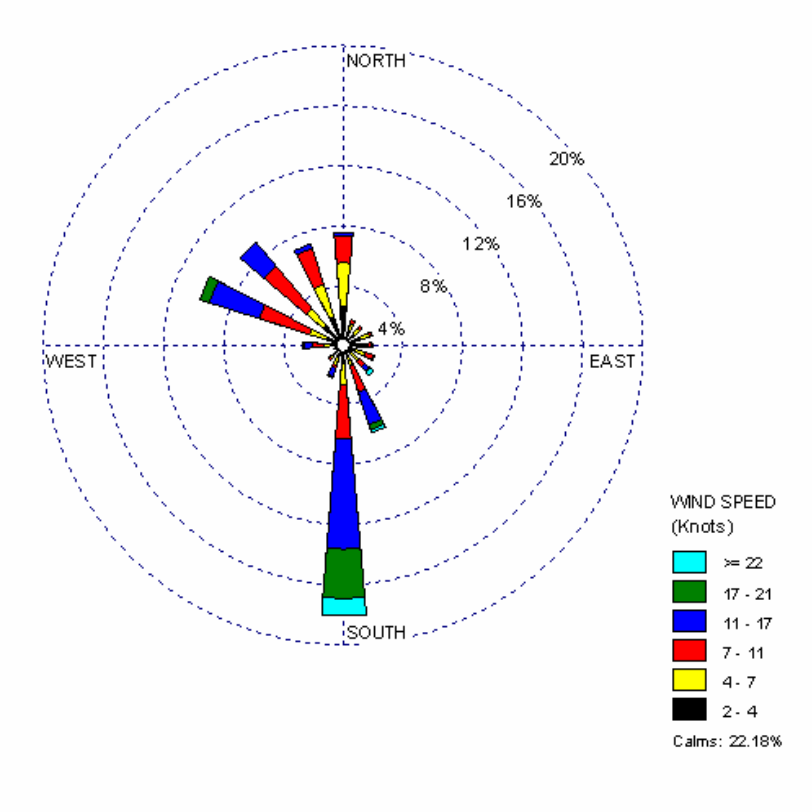


Figure F-11. Wind Rose of Sample Days for the MVWI Monitoring Site

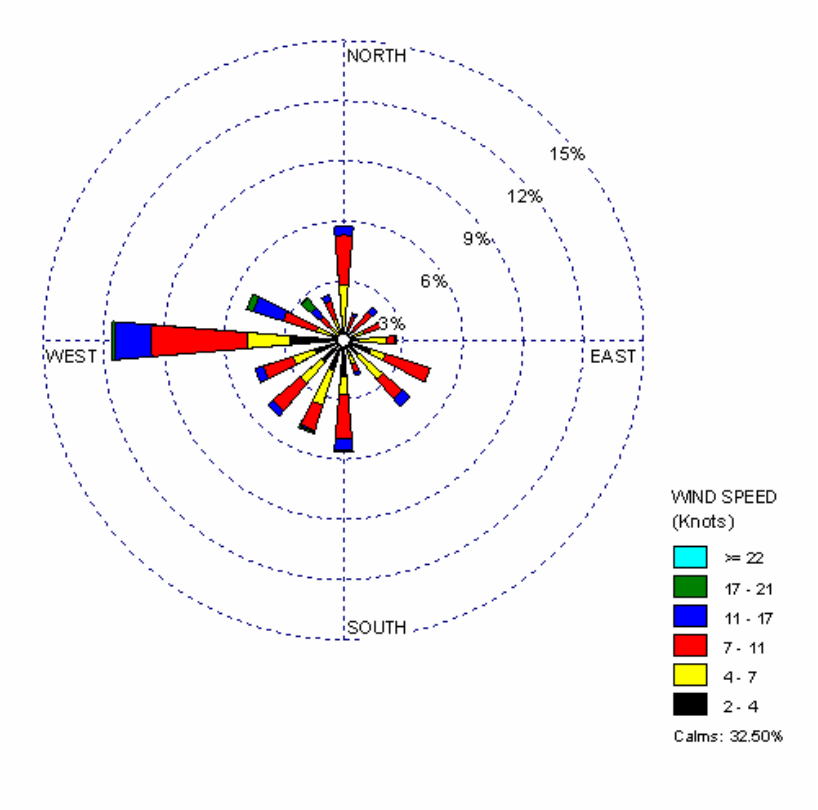


Figure F-12. Wind Rose of Sample Days for the NBAL Monitoring Site

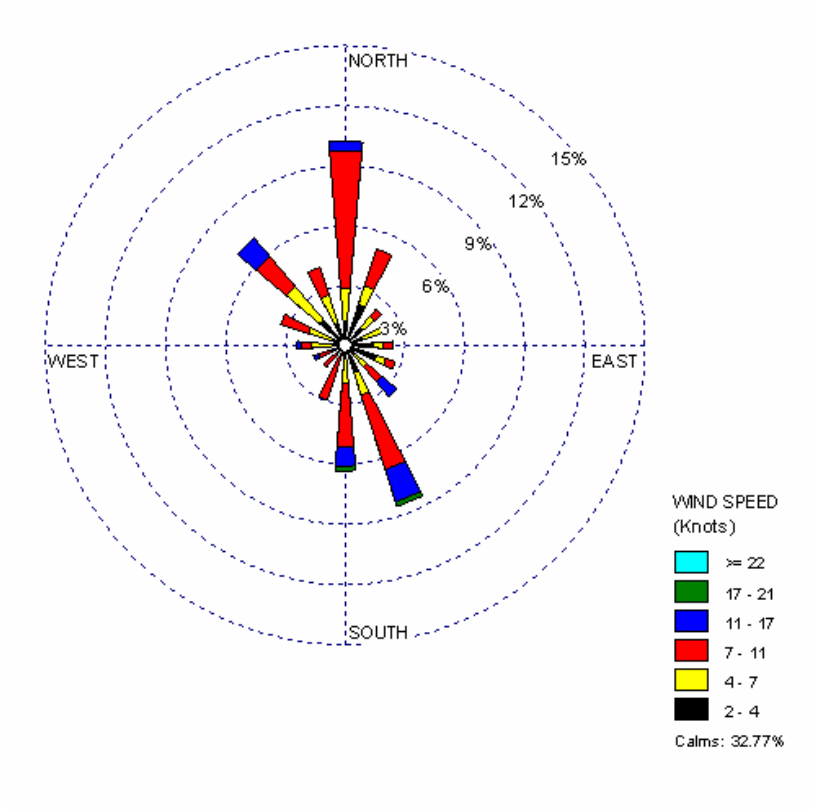


Figure F-13. Wind Rose of Sample Days for the NBIL Monitoring Site

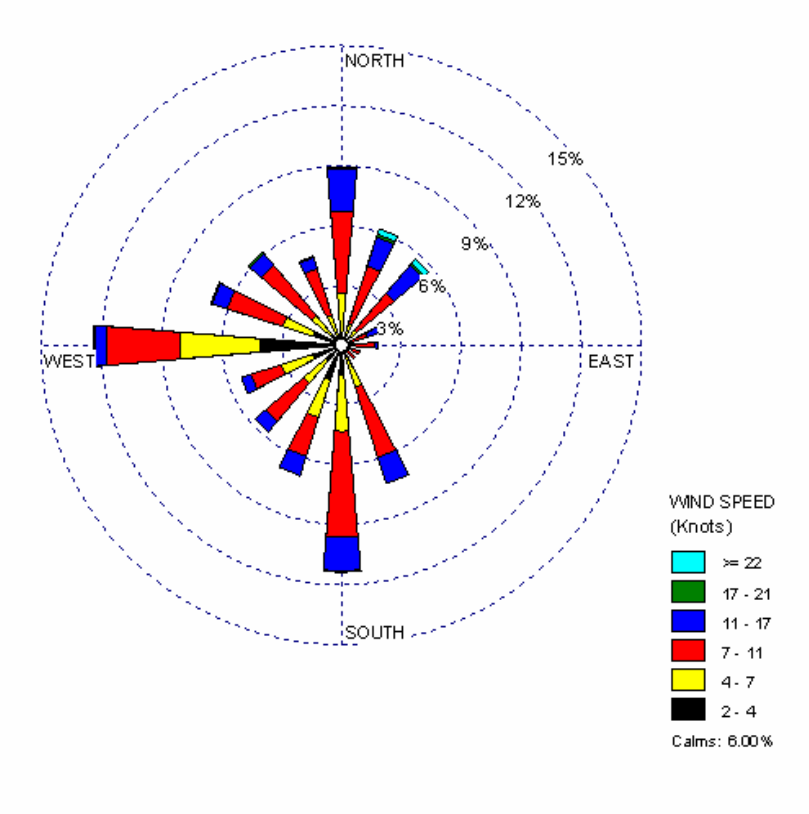


Figure F-14. Wind Rose of Sample Days for the PRRI Monitoring Site

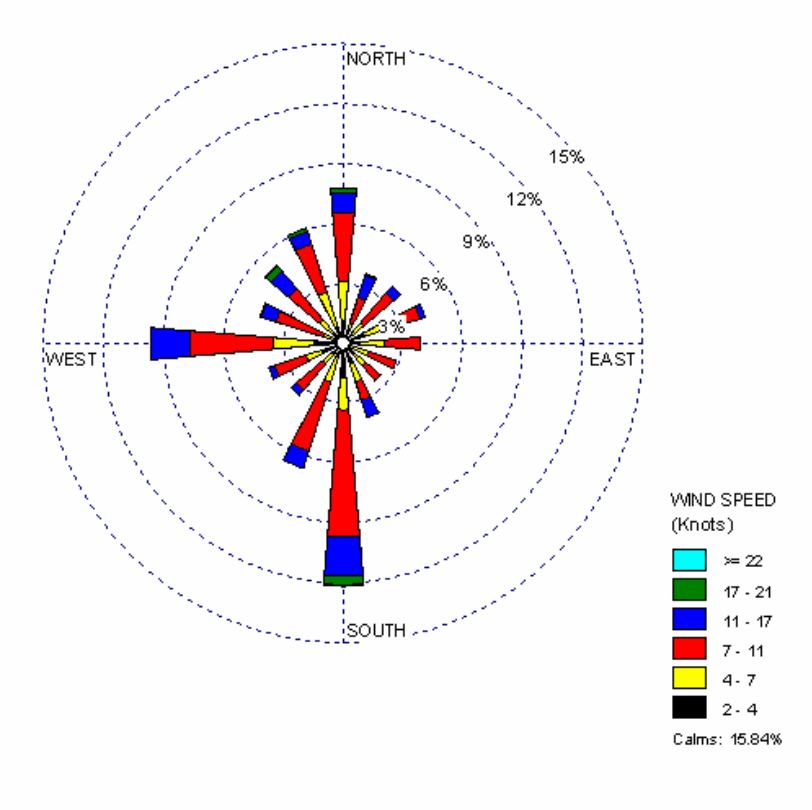


Figure F-15. Wind Rose of Sample Days for the PVAL Monitoring Site

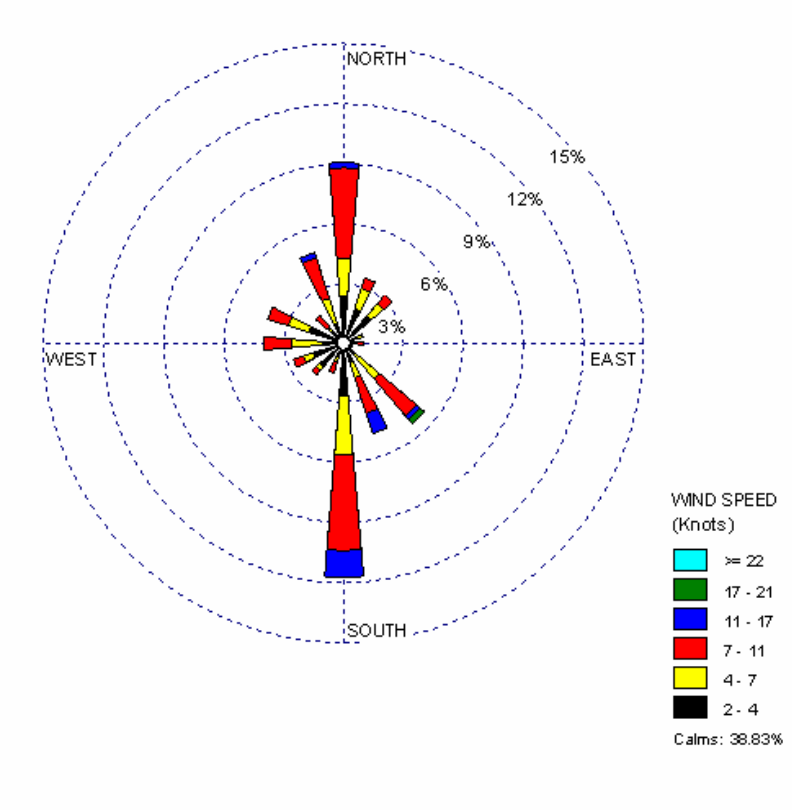


Figure F-16. Wind Rose of Sample Days for the S4MO Monitoring Site

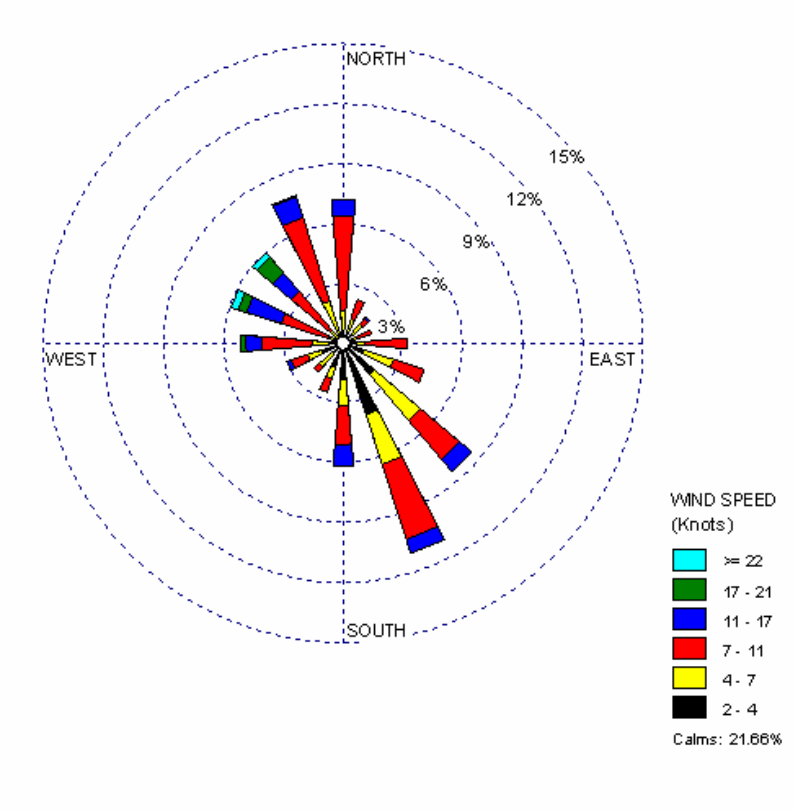


Figure F-17. Wind Rose of Sample Days for the SDGA Monitoring Site

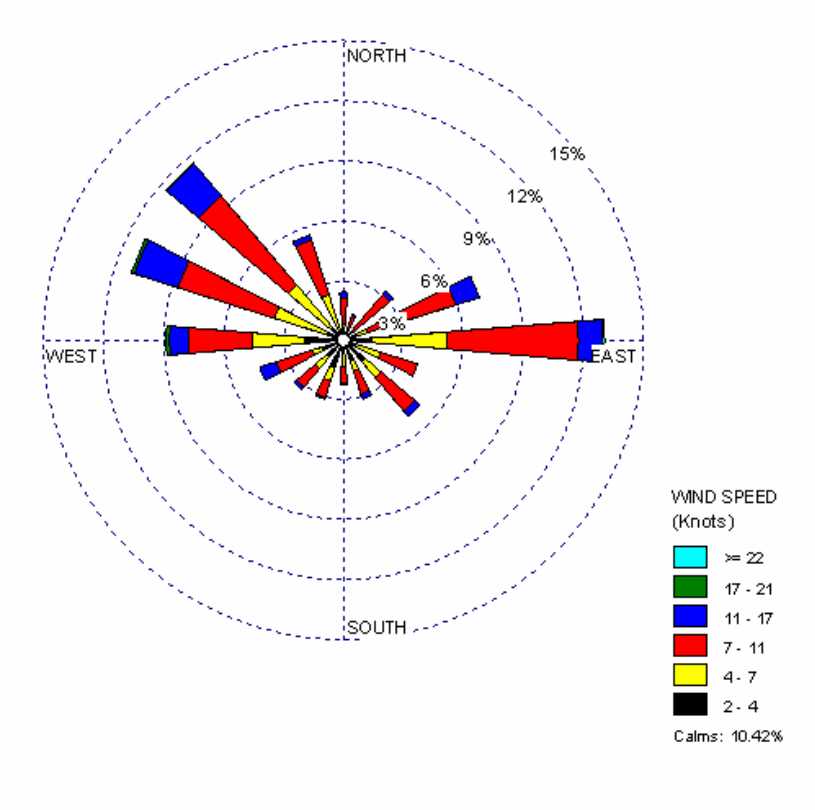


Figure F-18. Wind Rose of Sample Days for the SEWA Monitoring Site

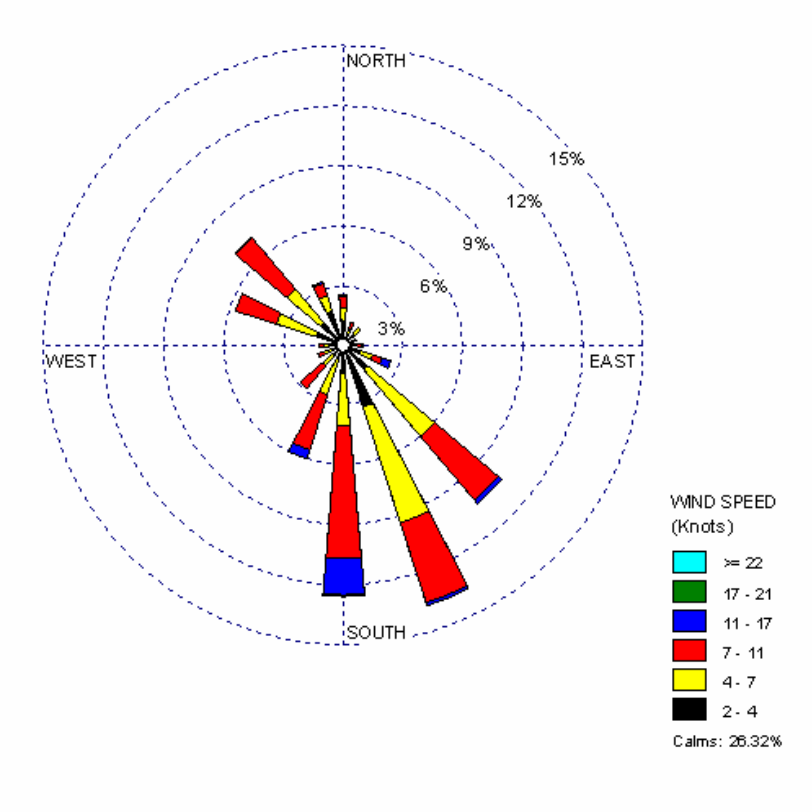


Figure F-19. Wind Rose of Sample Days for the SIAL Monitoring Site

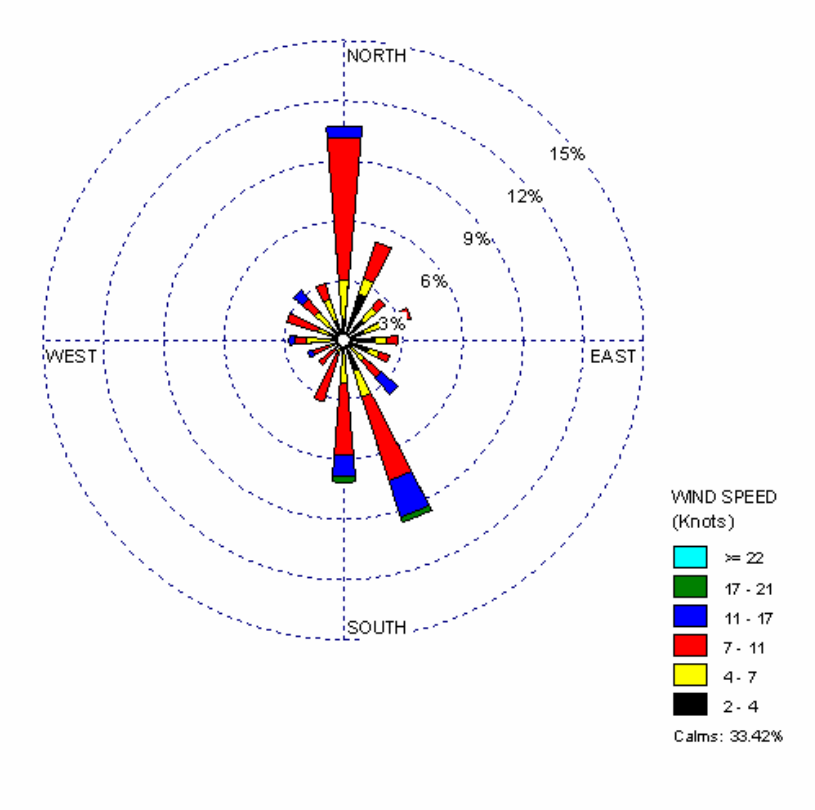


Figure F-20. Wind Rose of Sample Days for the SYFL Monitoring Site

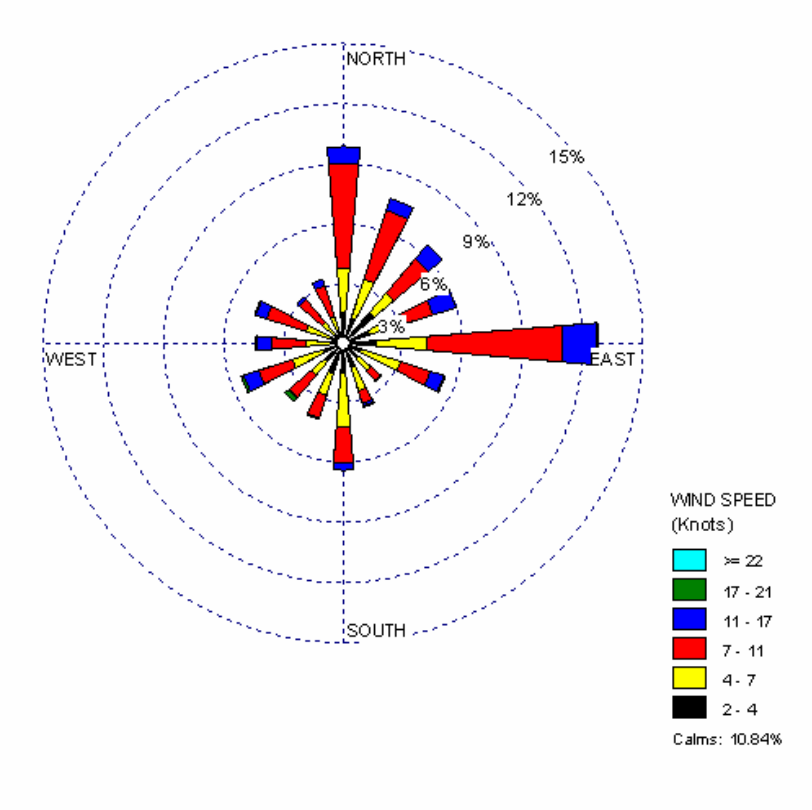


Figure F-21. Wind Rose of Sample Days for the UNVT Monitoring Site

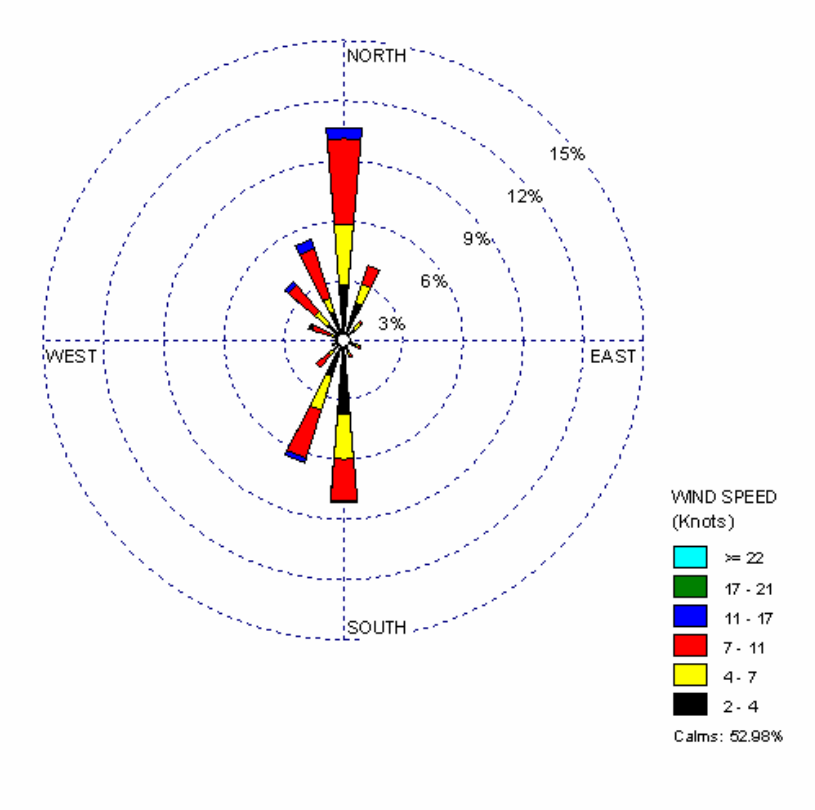


Figure F-22. Wind Rose of Sample Days for the WADC Monitoring Site

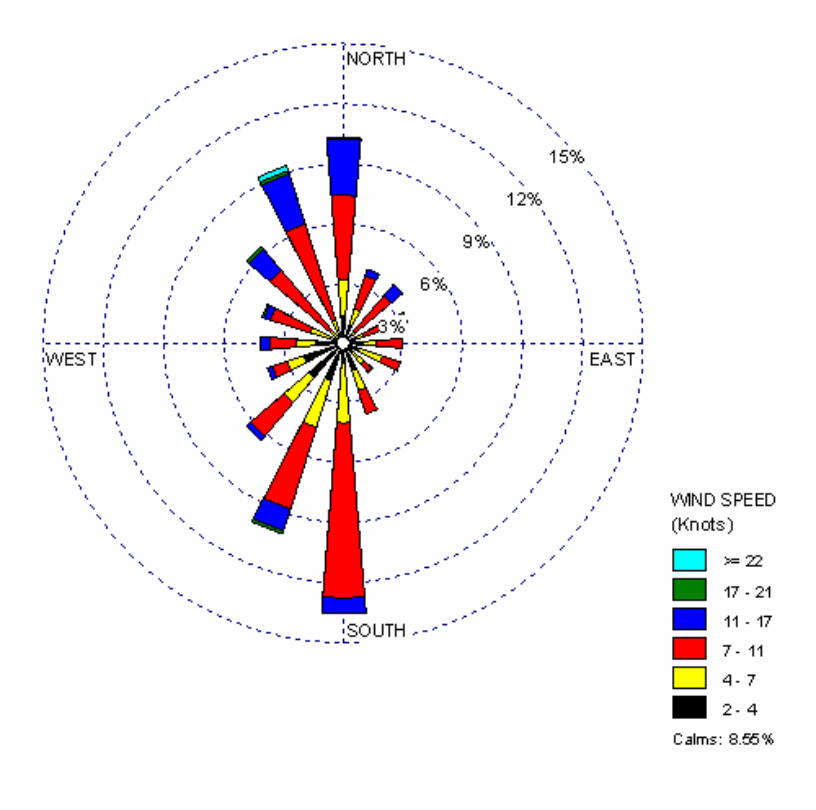


Figure F-23. Wind Rose of Sample Days for the WETX Monitoring Site

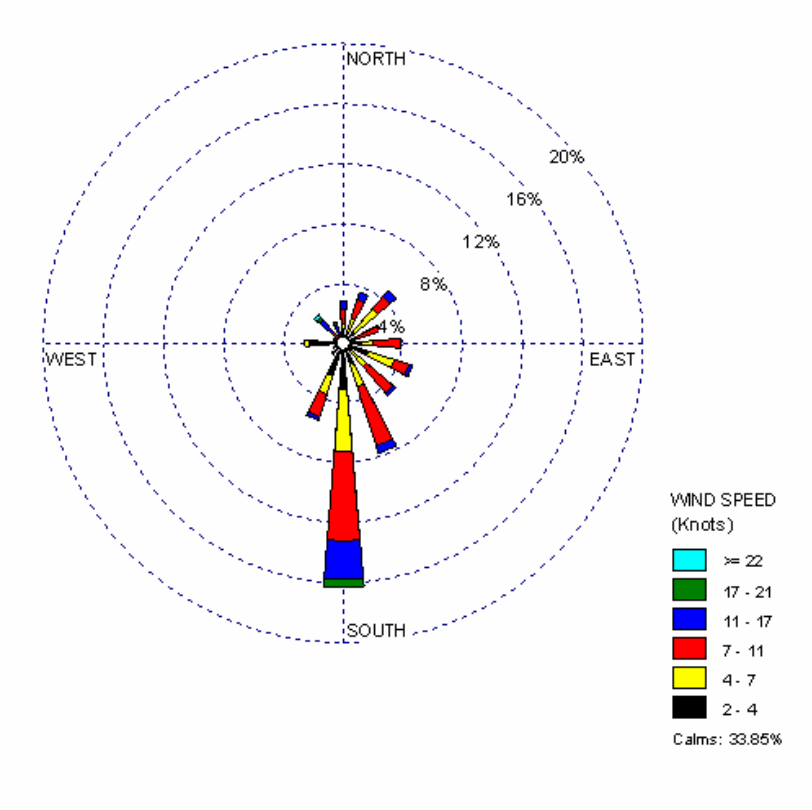


Figure F-24. Composite Back Trajectory Map for BOMA

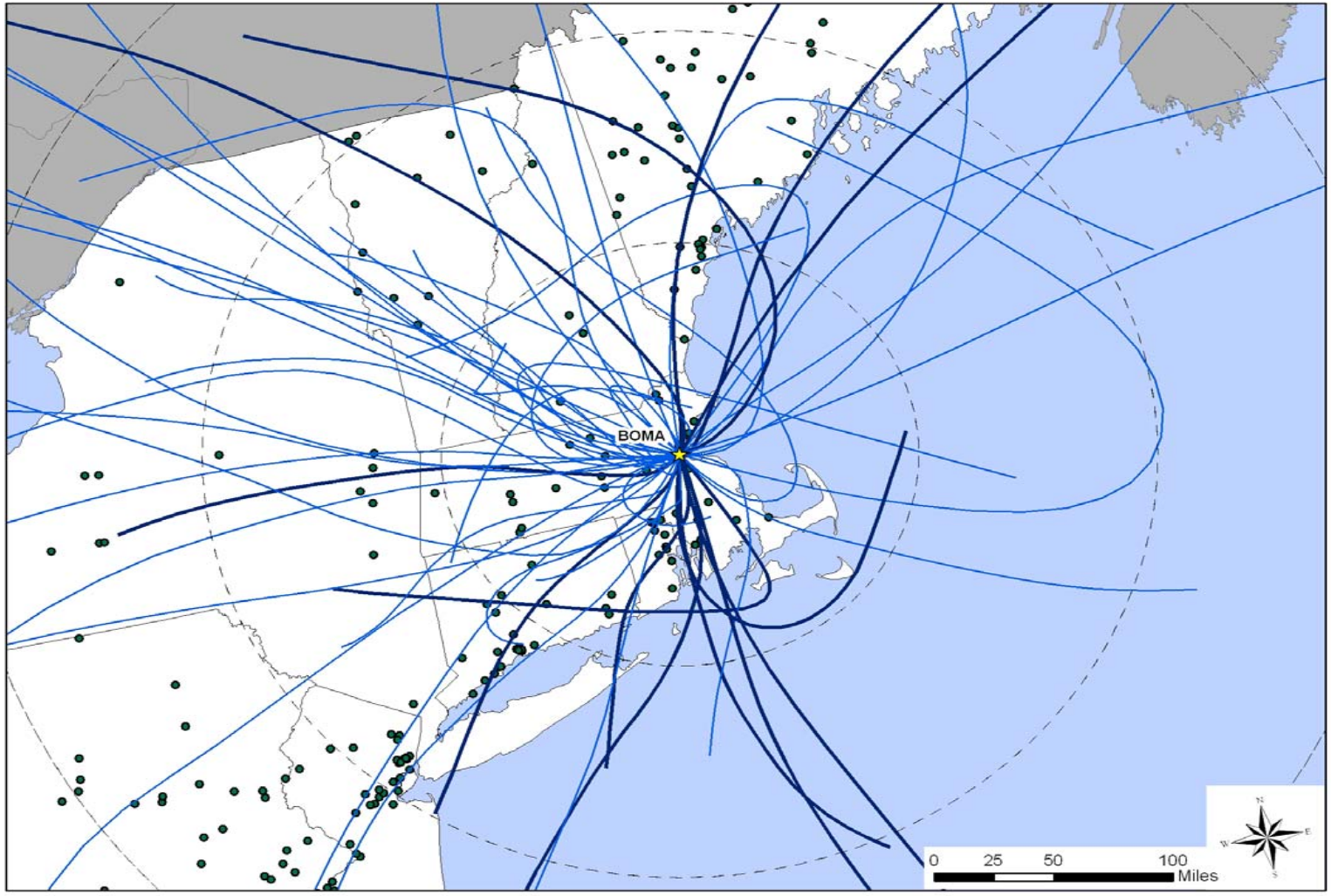


Figure F-25. Composite Back Trajectory Map for BTUT

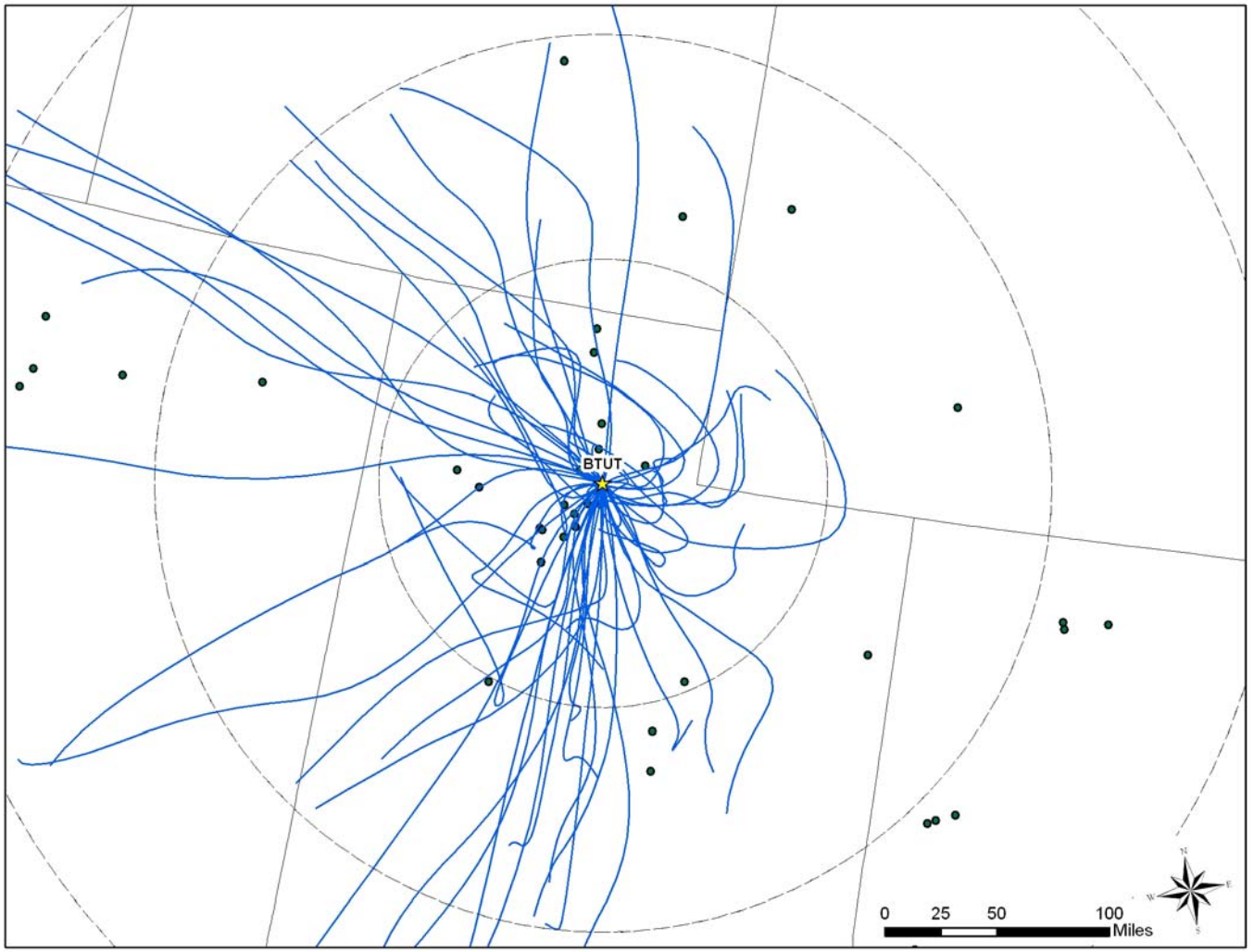


Figure F-26. Composite Back Trajectory Map for BURVT

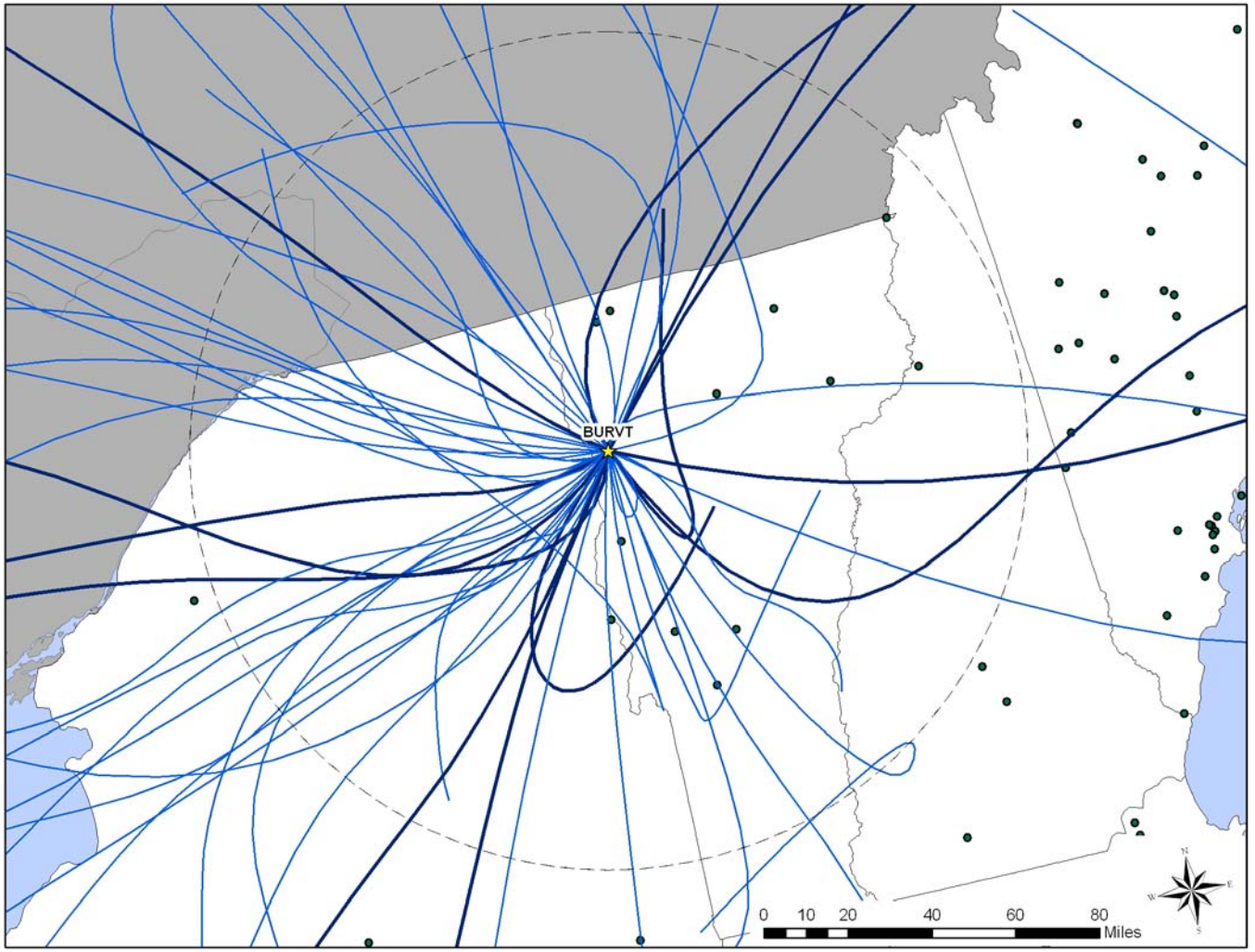


Figure F-27. Composite Back Trajectory Map for CHSC

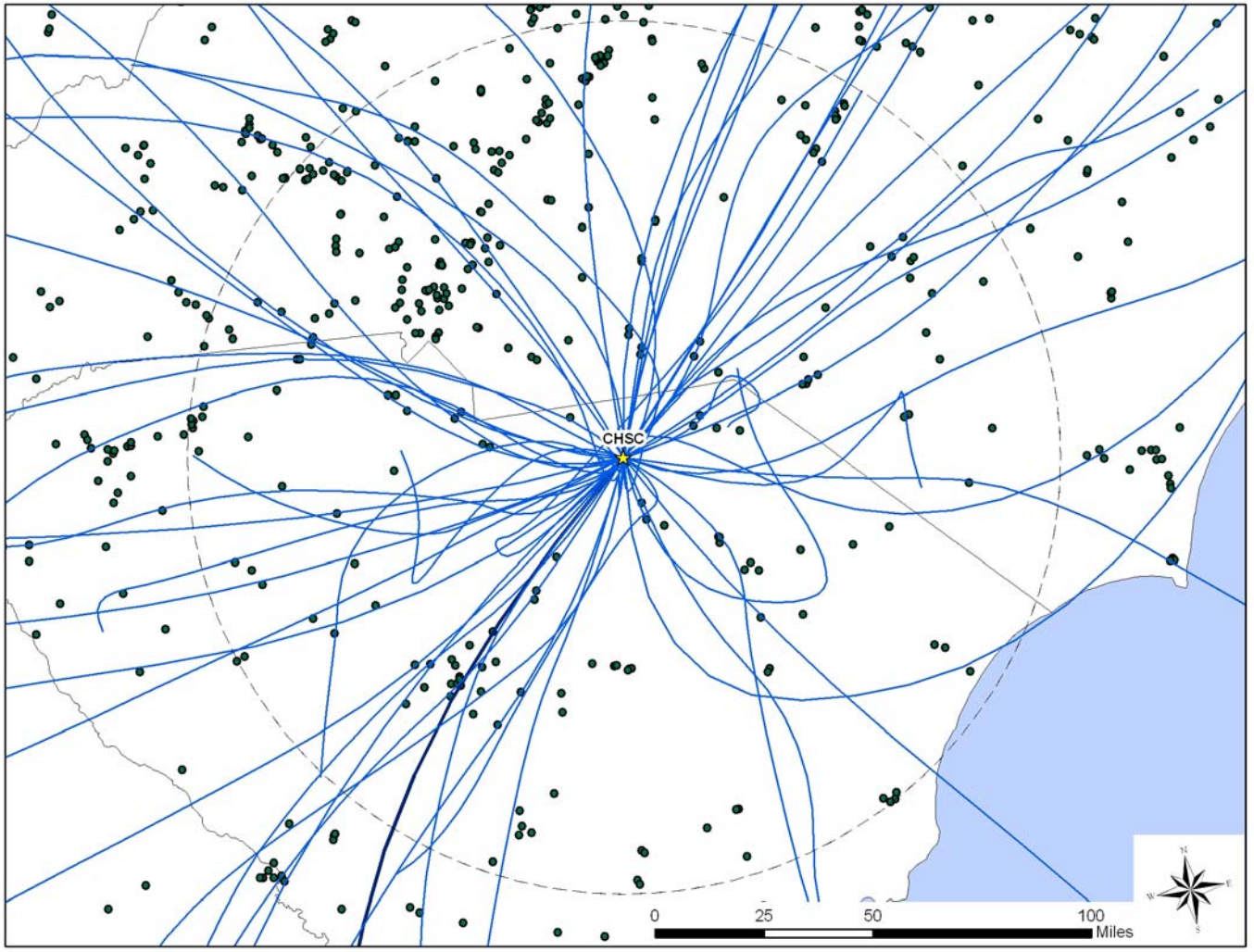


Figure F-28. Composite Back Trajectory Map for DEMI

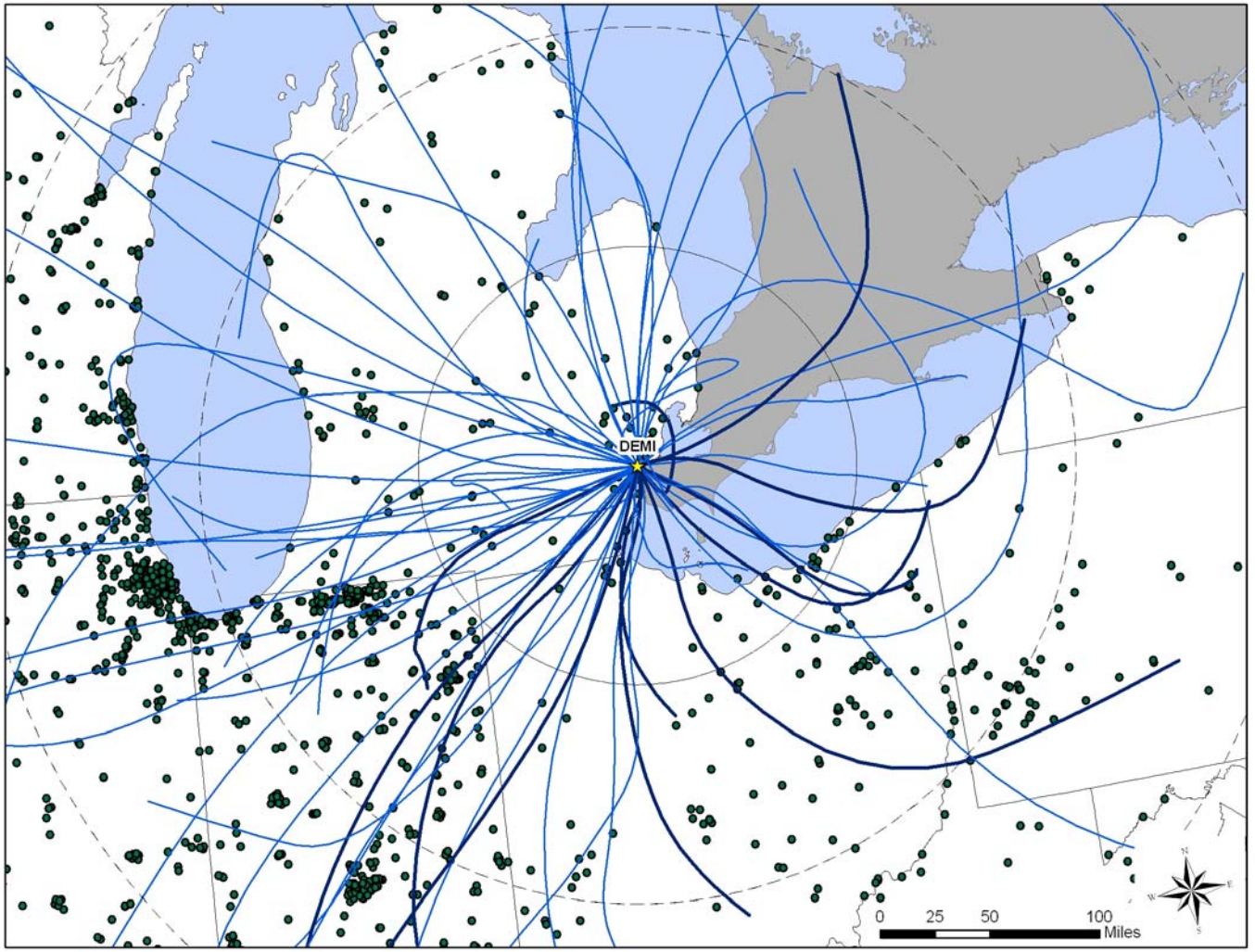


Figure F-29. Composite Back Trajectory Map for ETAL

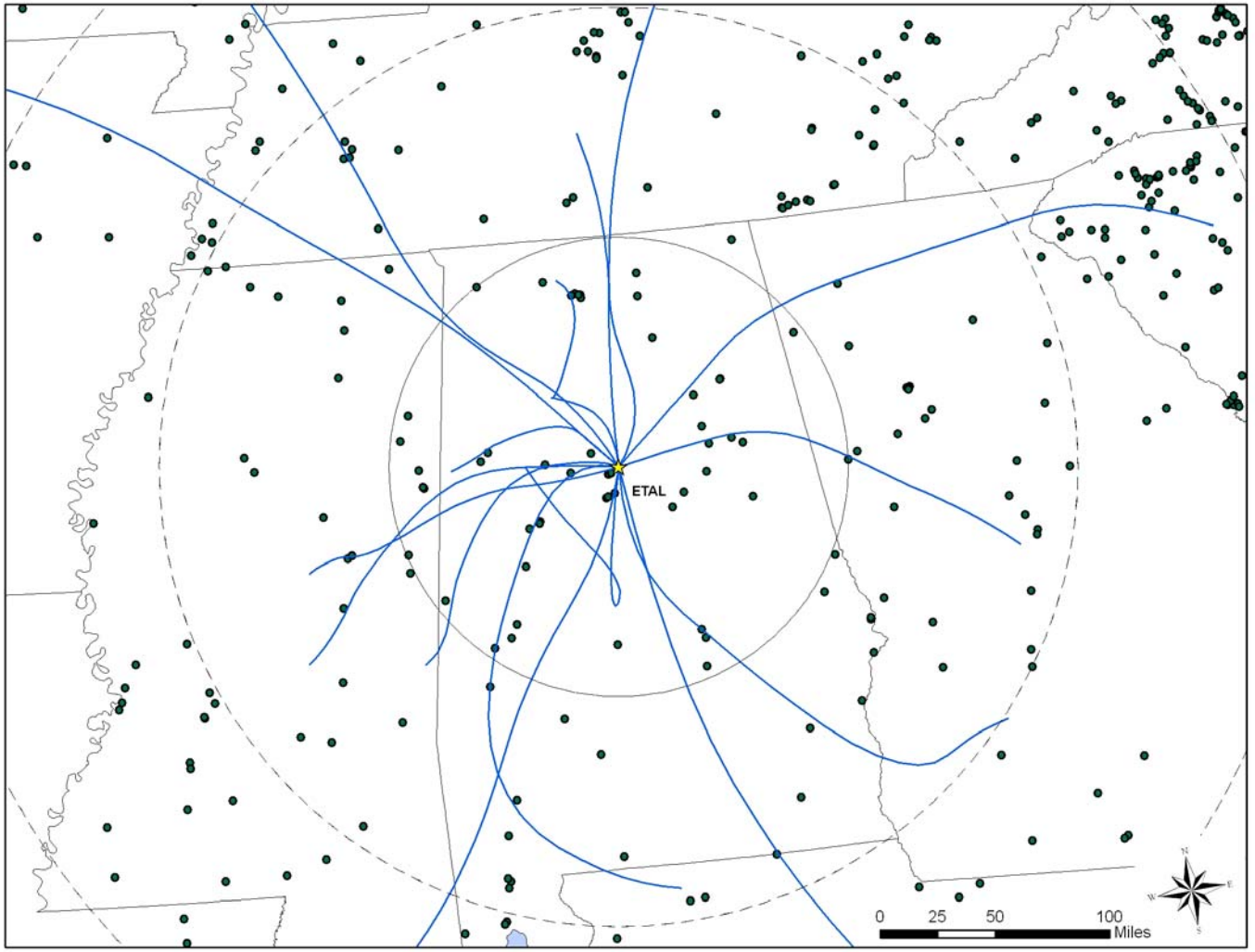


Figure F-30. Composite Back Trajectory Map for GPCO

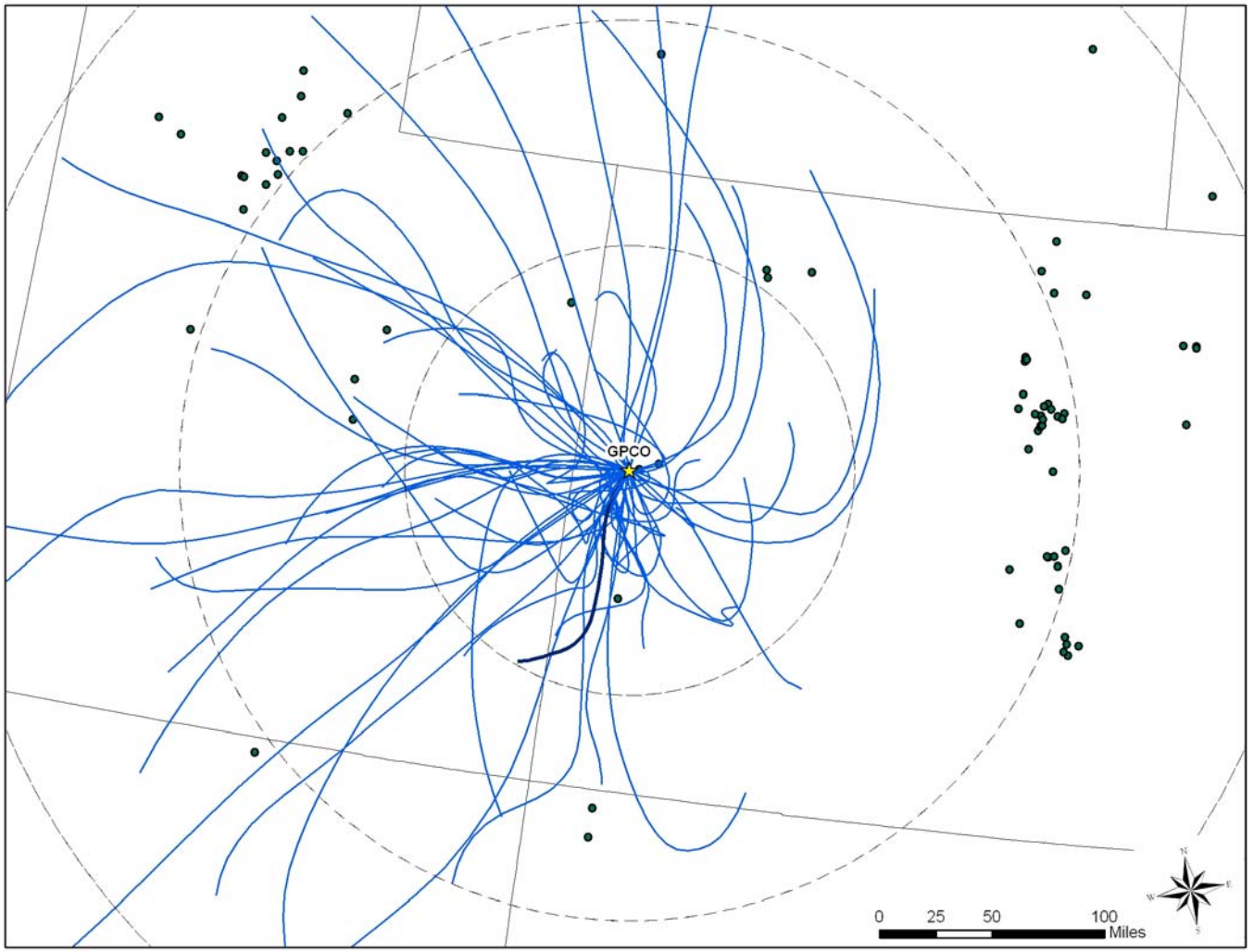


Figure F-31. Composite Back Trajectory Map for GPMS

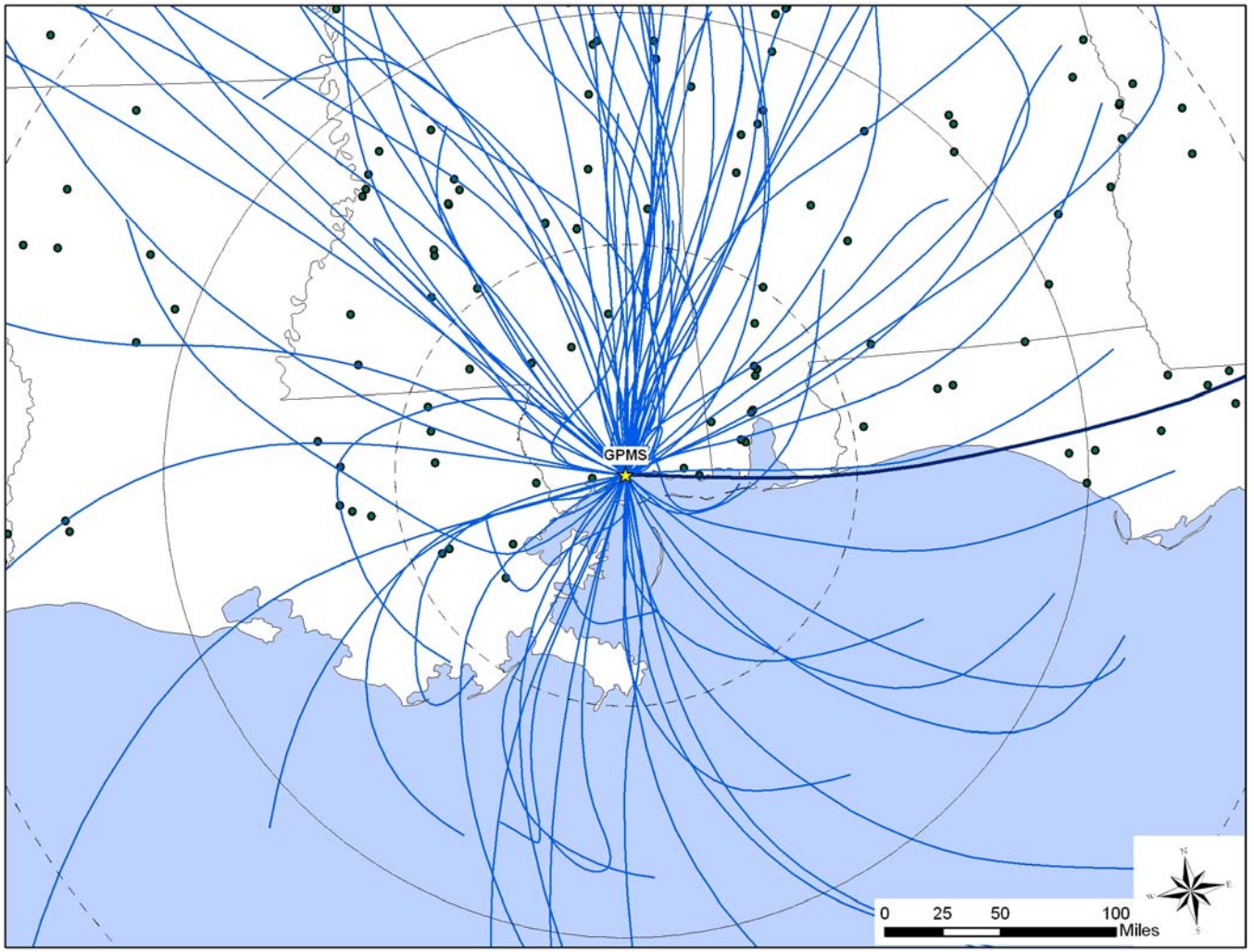


Figure F-32. Composite Back Trajectory Map for HAKY

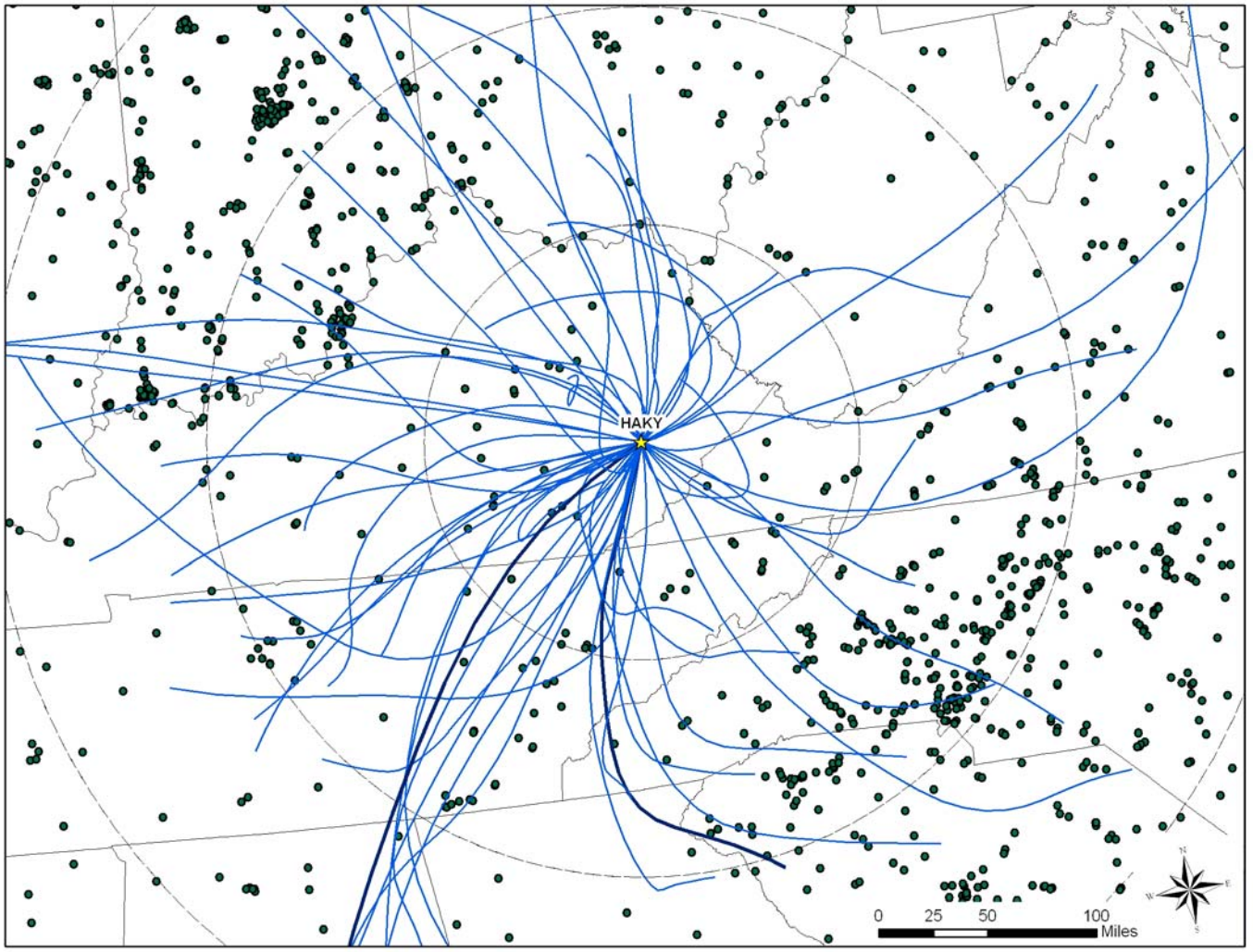


Figure F-33. Composite Back Trajectory Map for LAOR

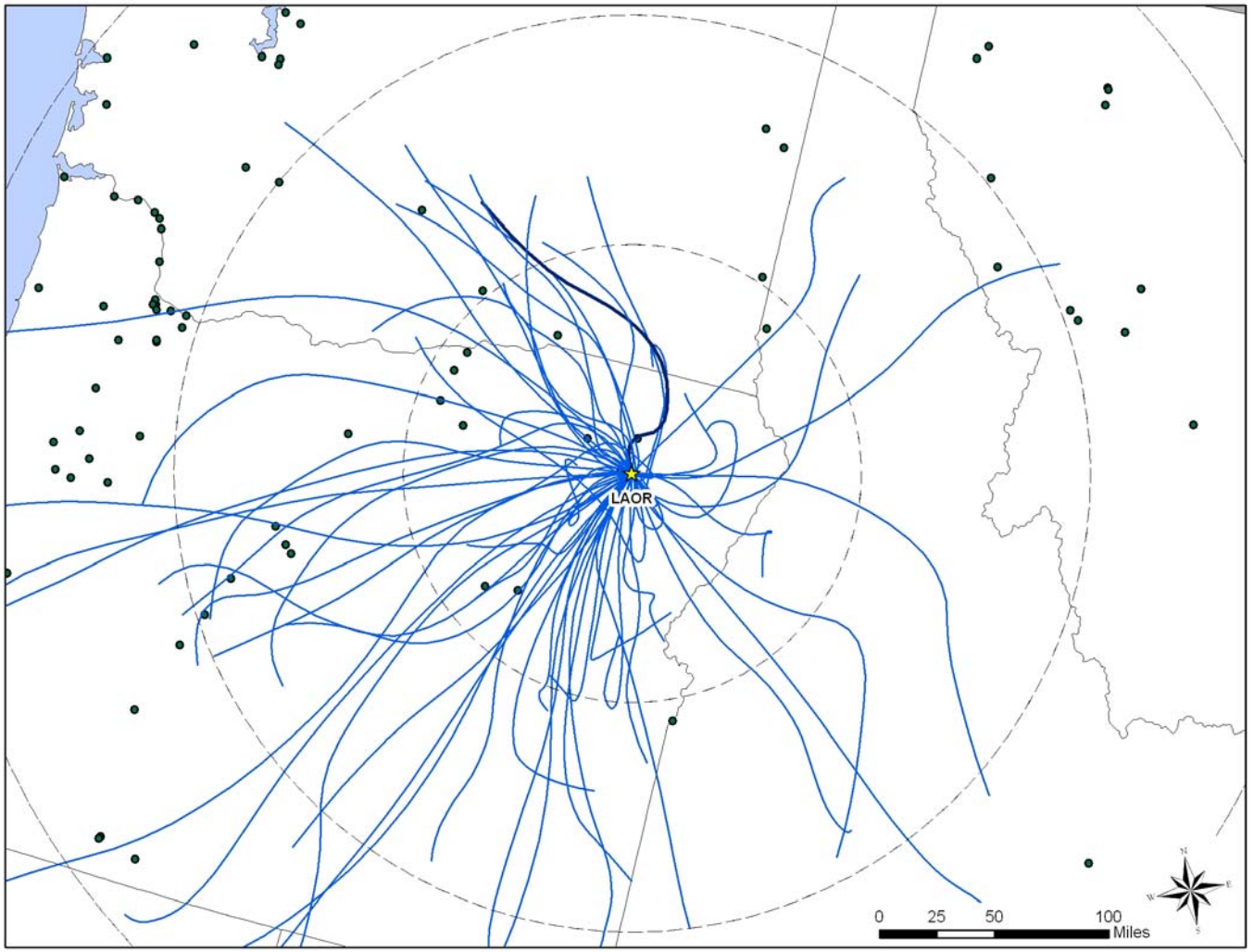


Figure F-34. Composite Back Trajectory Map for MVWI

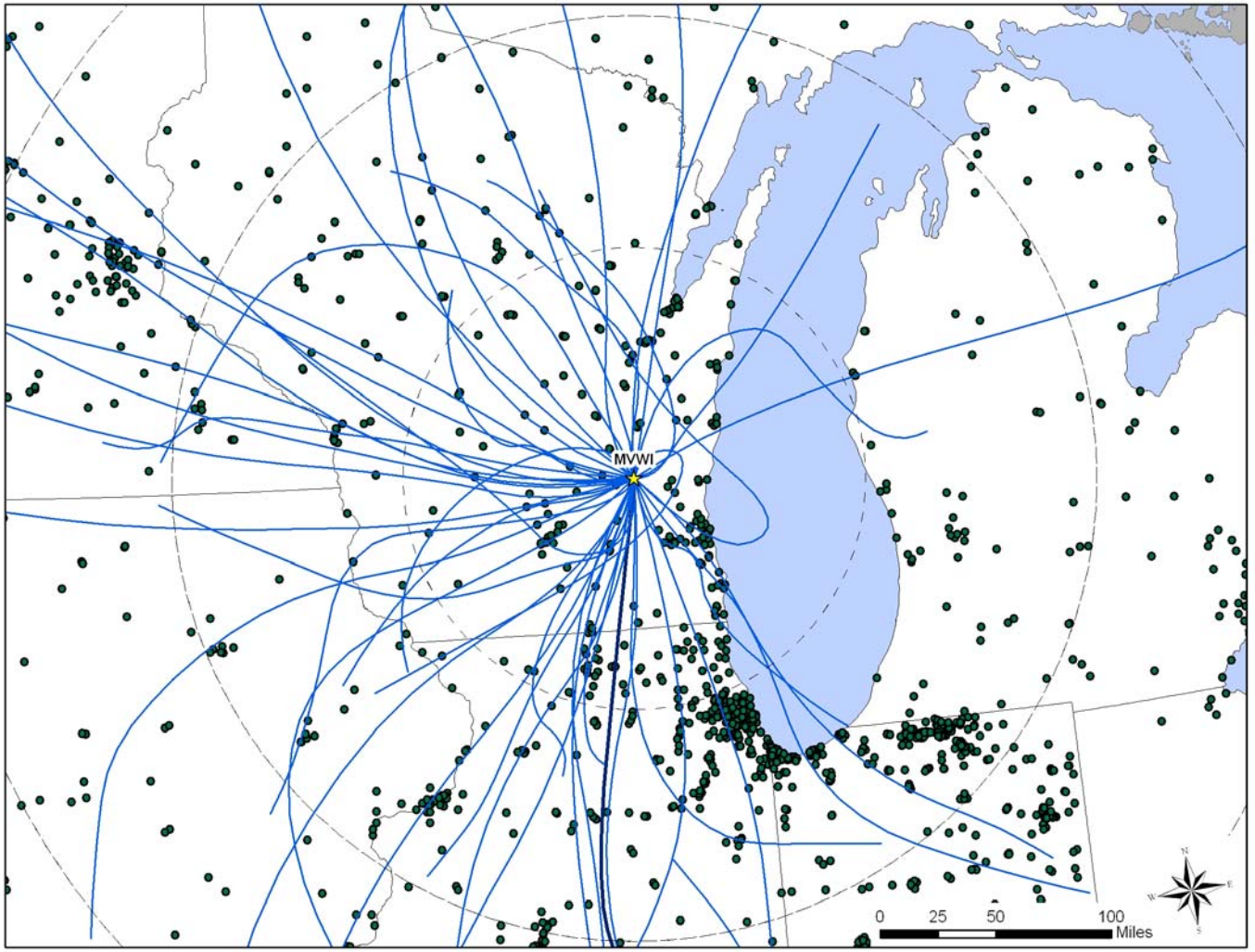


Figure F-35. Composite Back Trajectory Map for NBAL

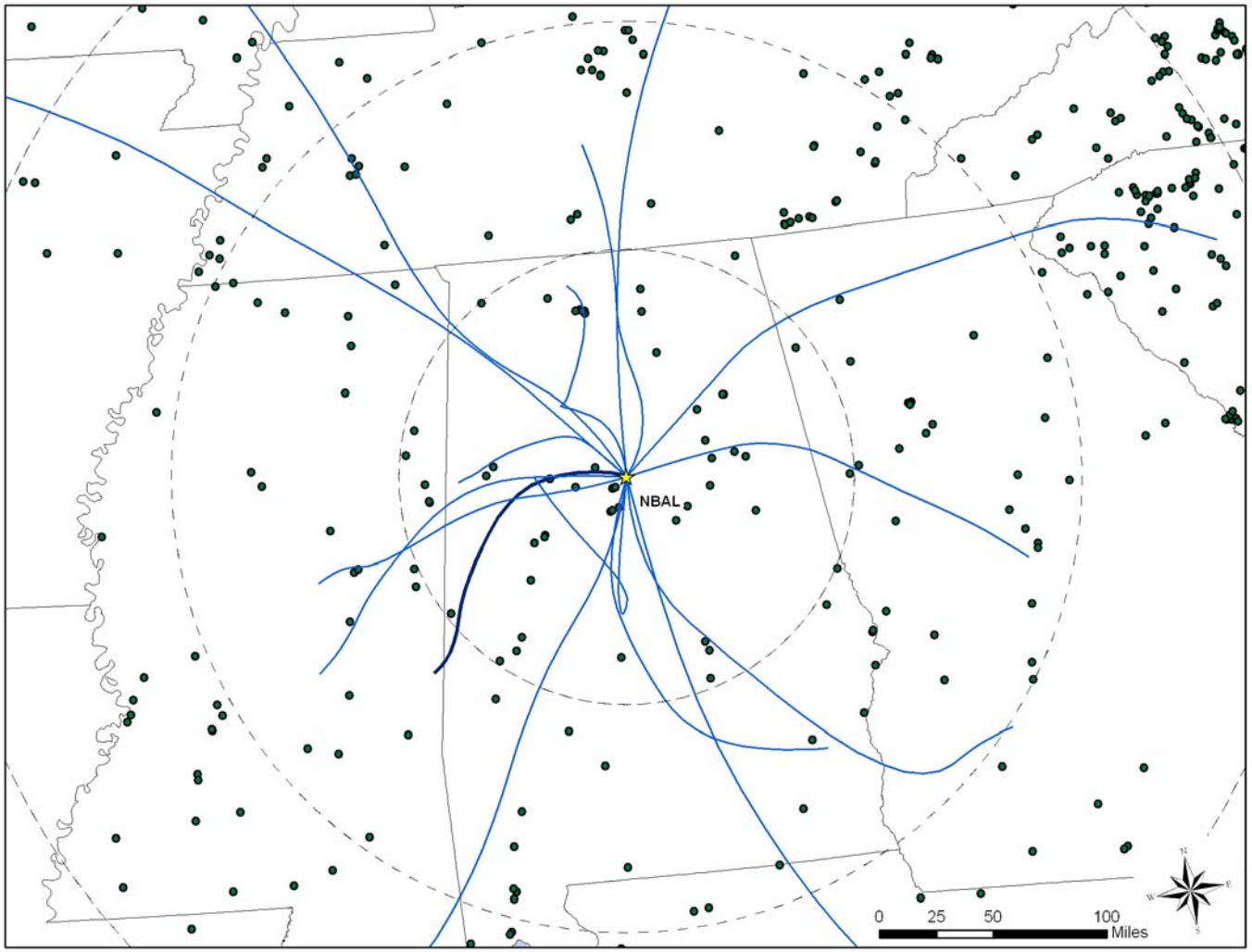


Figure F-36. Composite Back Trajectory Map for NBIL

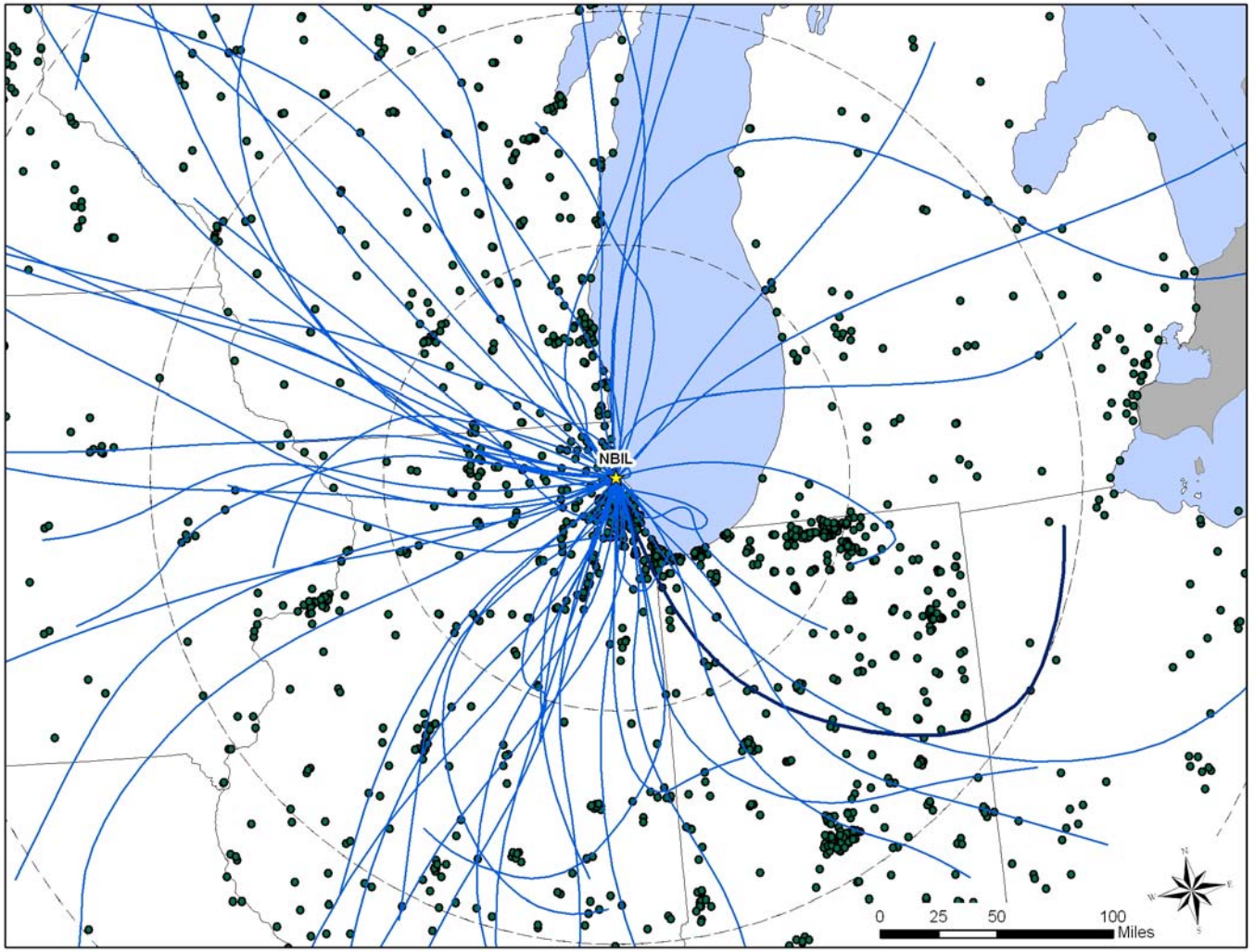


Figure F-37. Composite Back Trajectory Map for PRRI

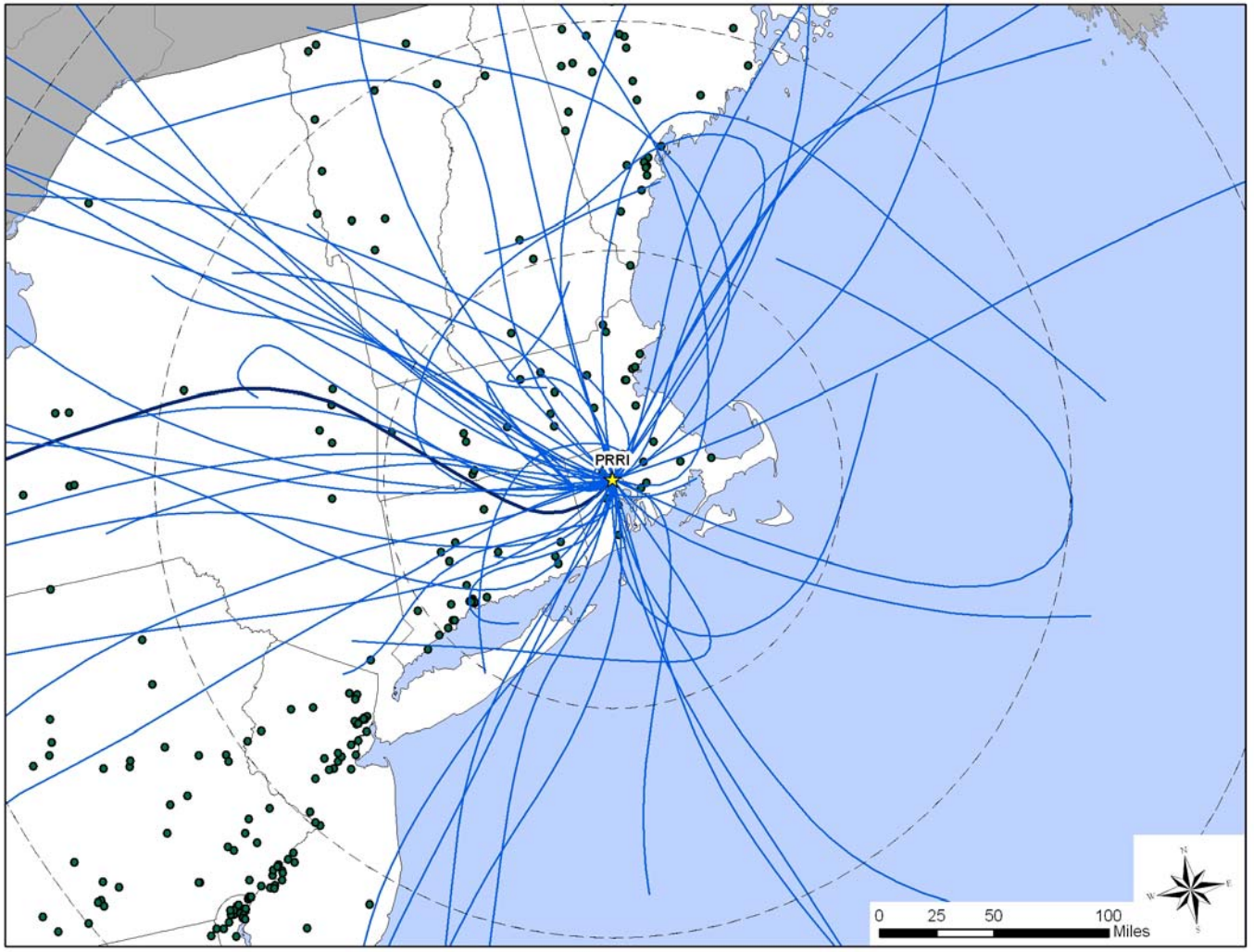


Figure F-38. Composite Back Trajectory Map for PVAL

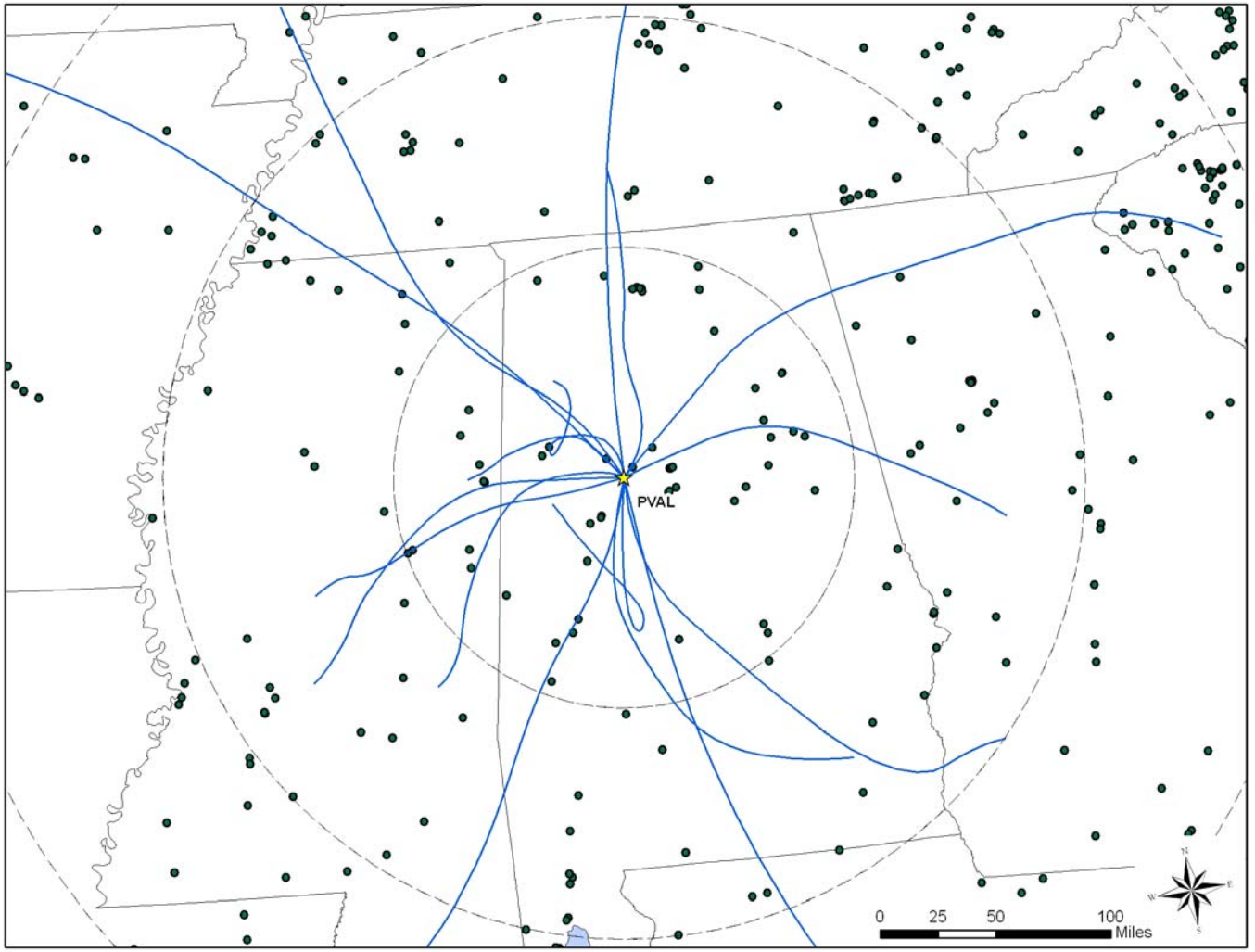


Figure F-39. Composite Back Trajectory Map for S4MO

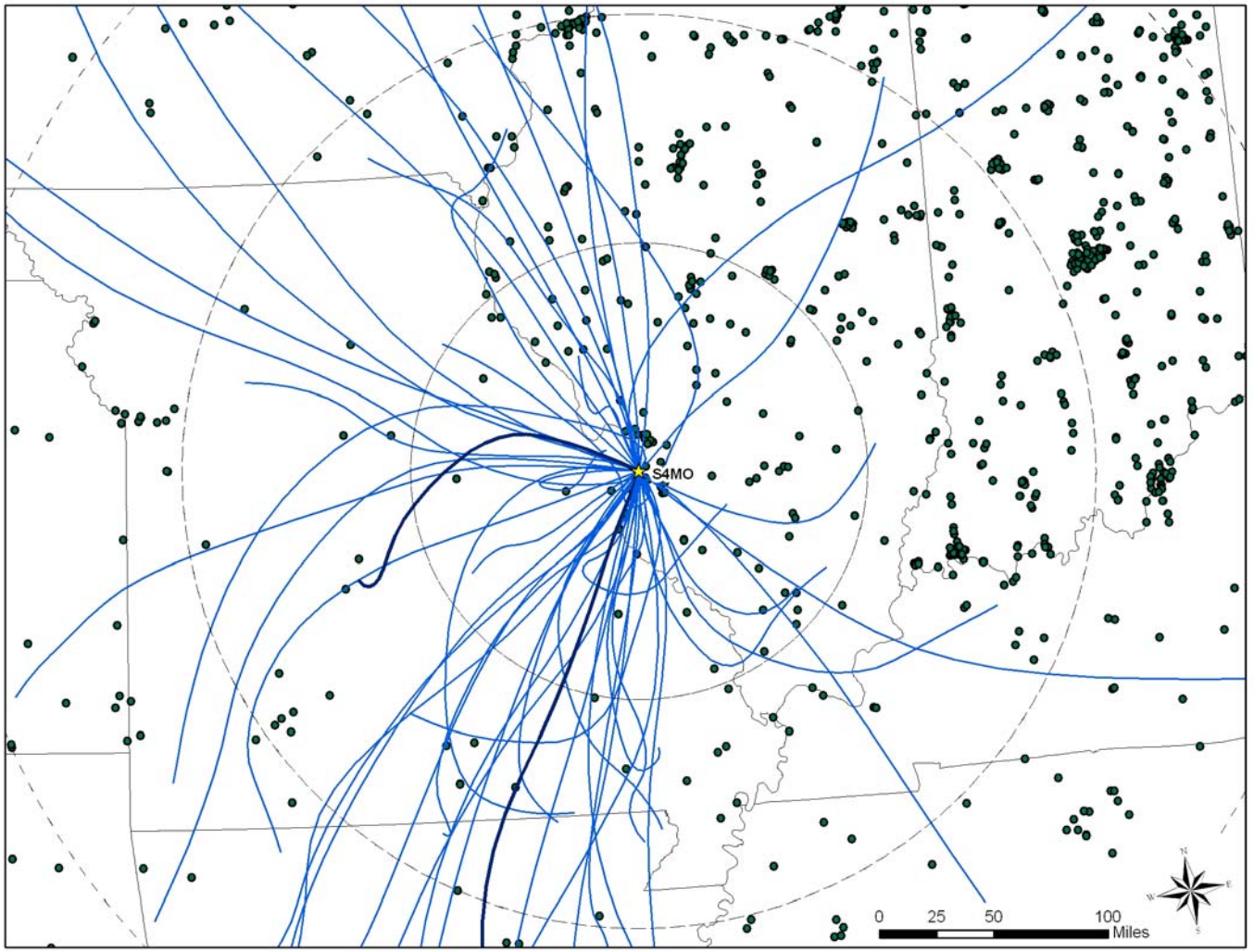


Figure F-40. Composite Back Trajectory Map for SDGA

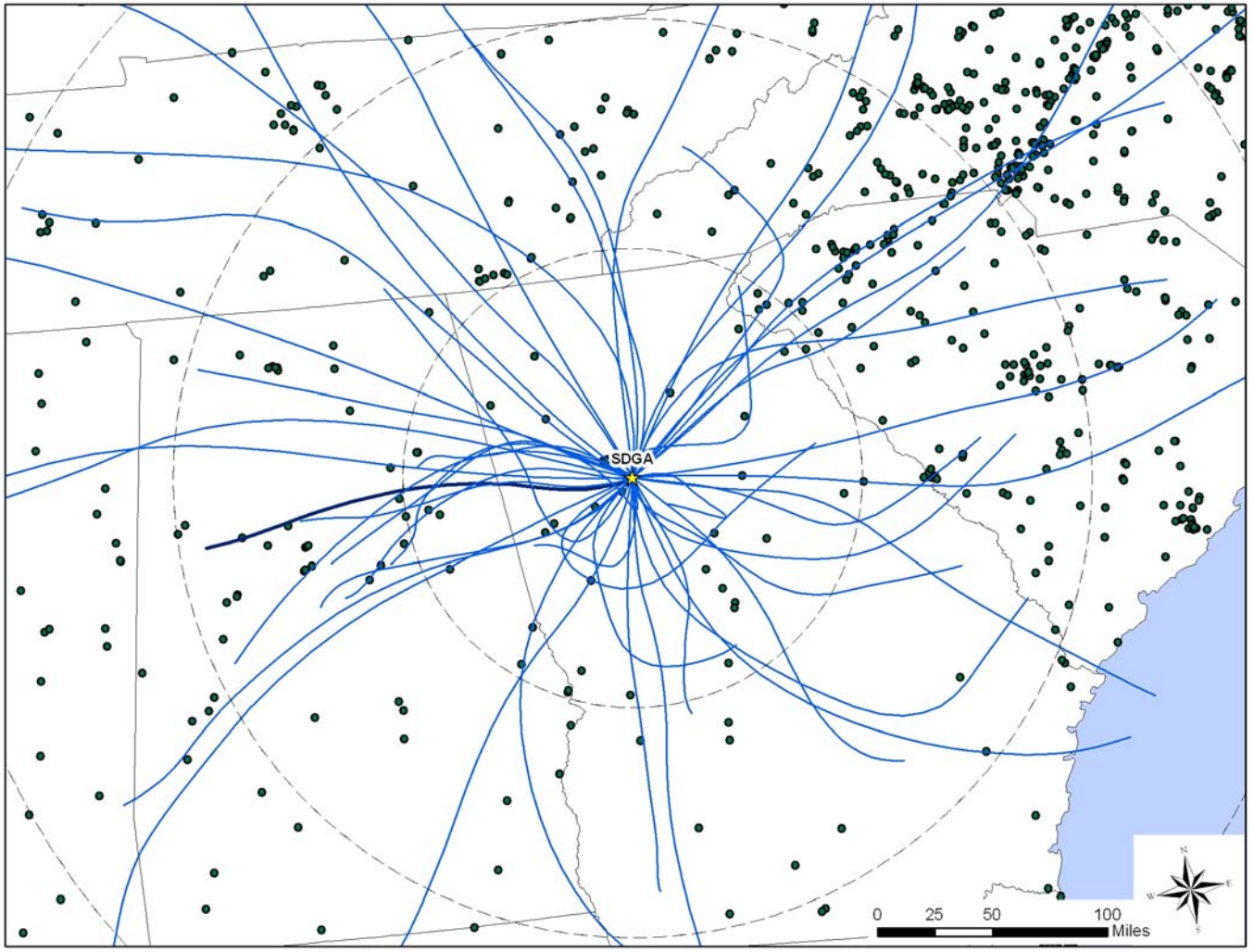


Figure F-41. Composite Back Trajectory Map for SEWA

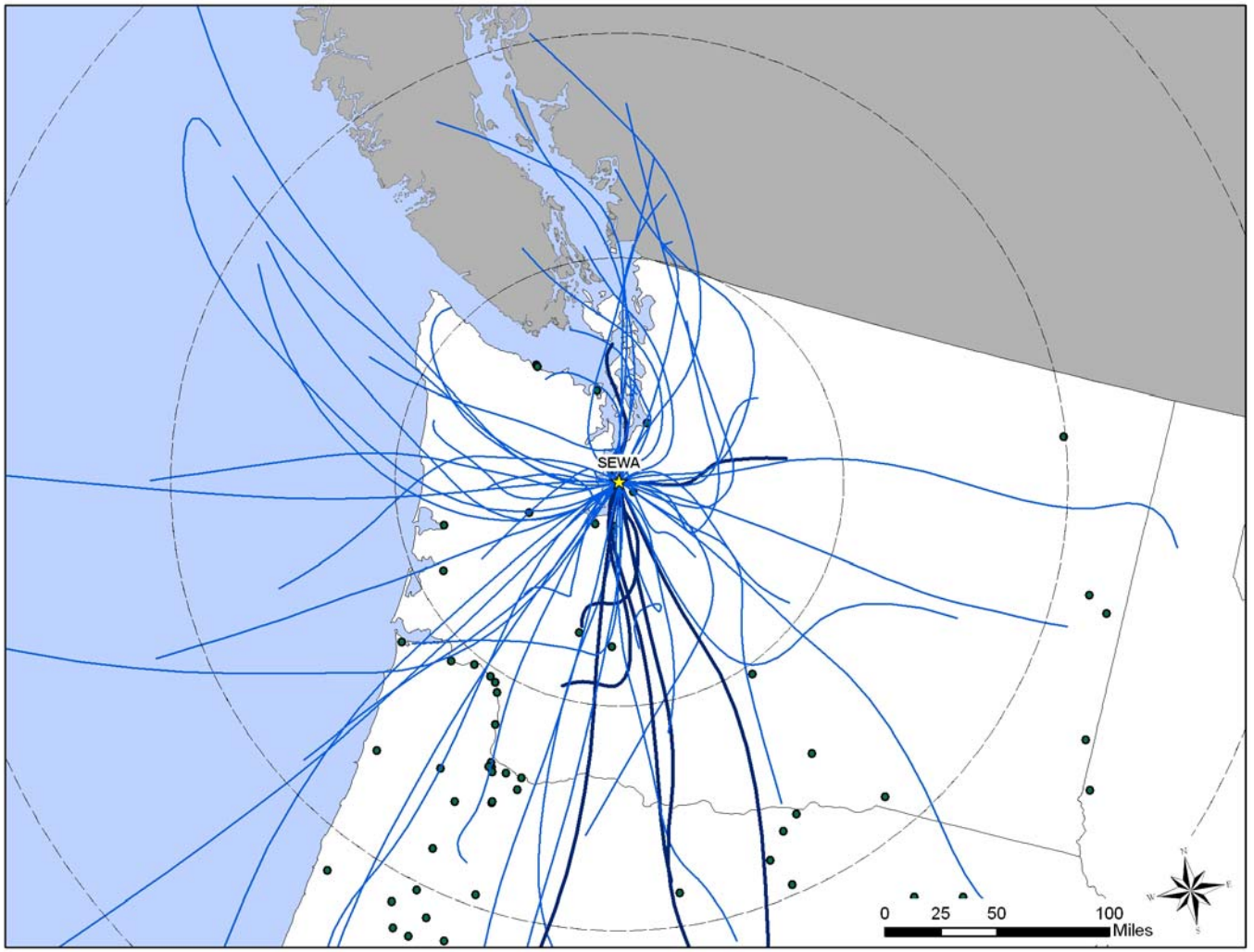


Figure F-42. Composite Back Trajectory Map for SIAL

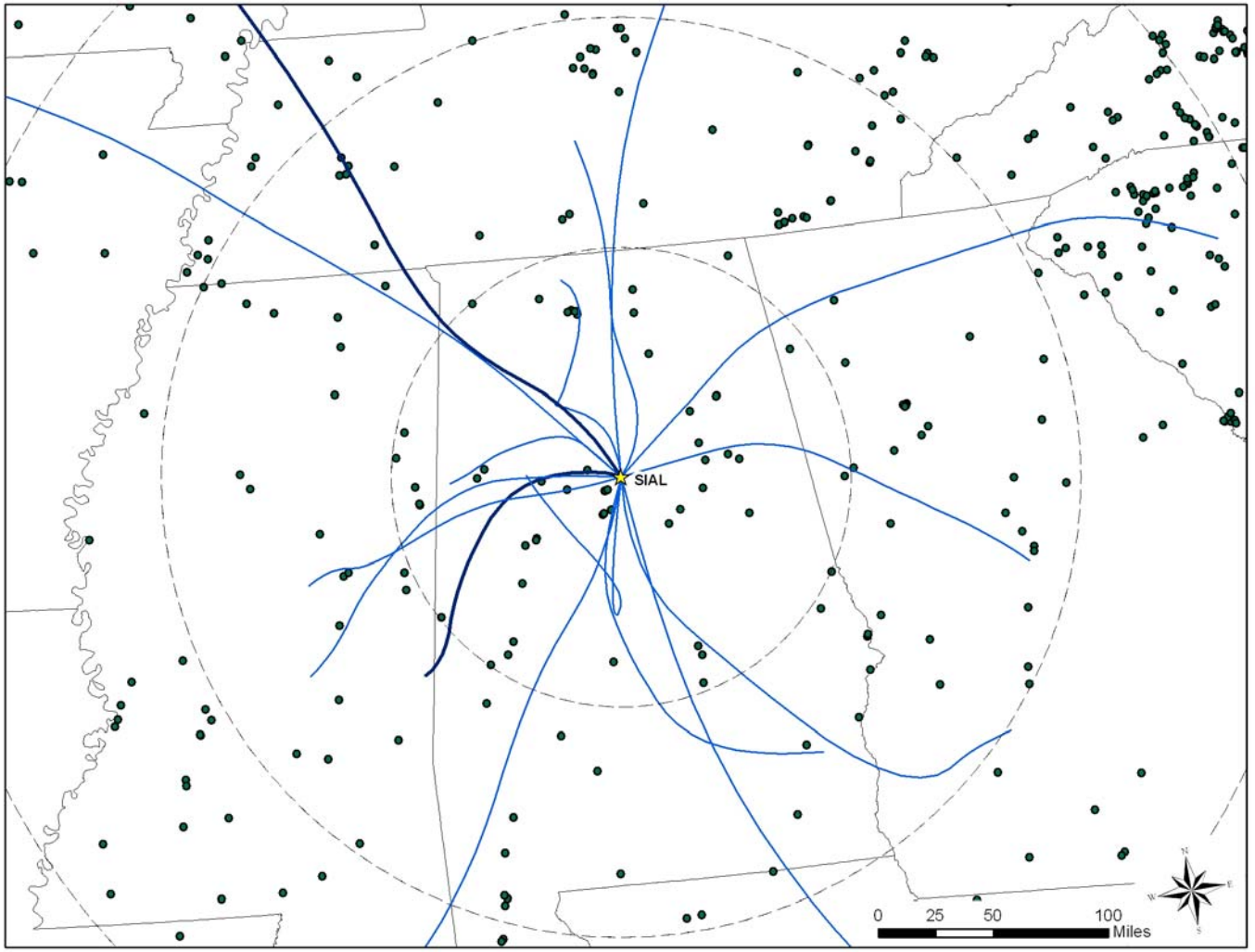


Figure F-43. Composite Back Trajectory Map for SYFL

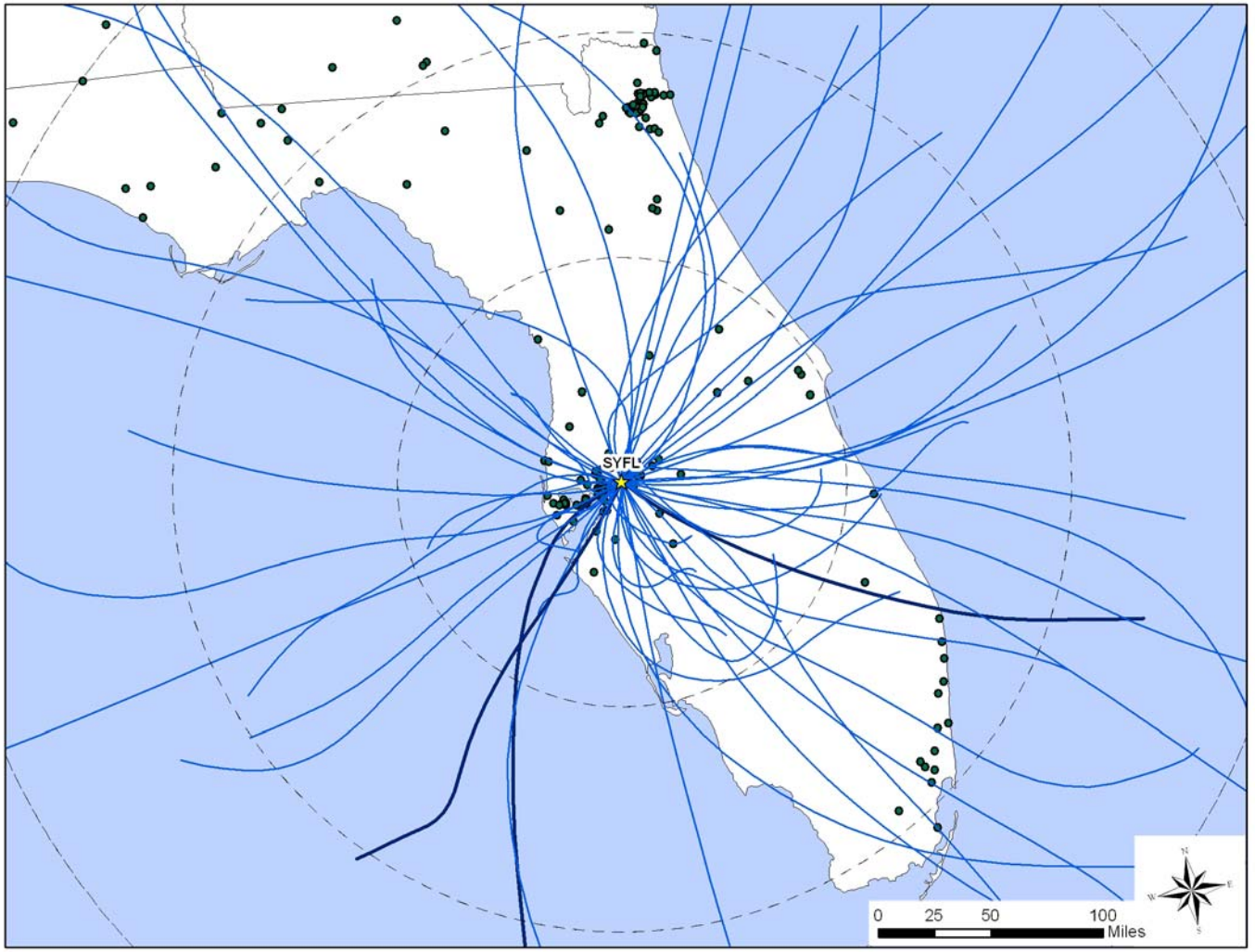


Figure F-44. Composite Back Trajectory Map for UNVT

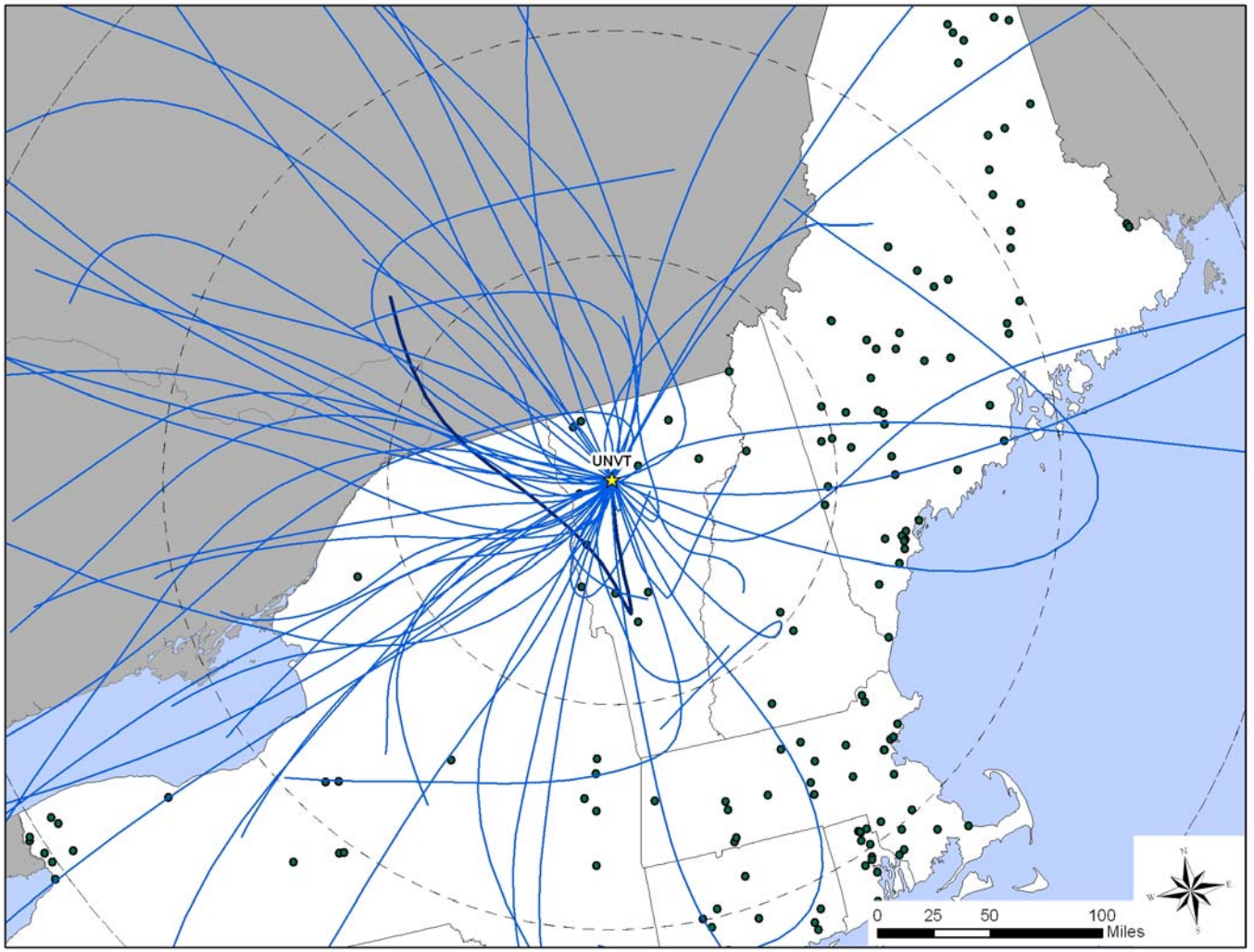


Figure F-45. Composite Back Trajectory Map for WADC

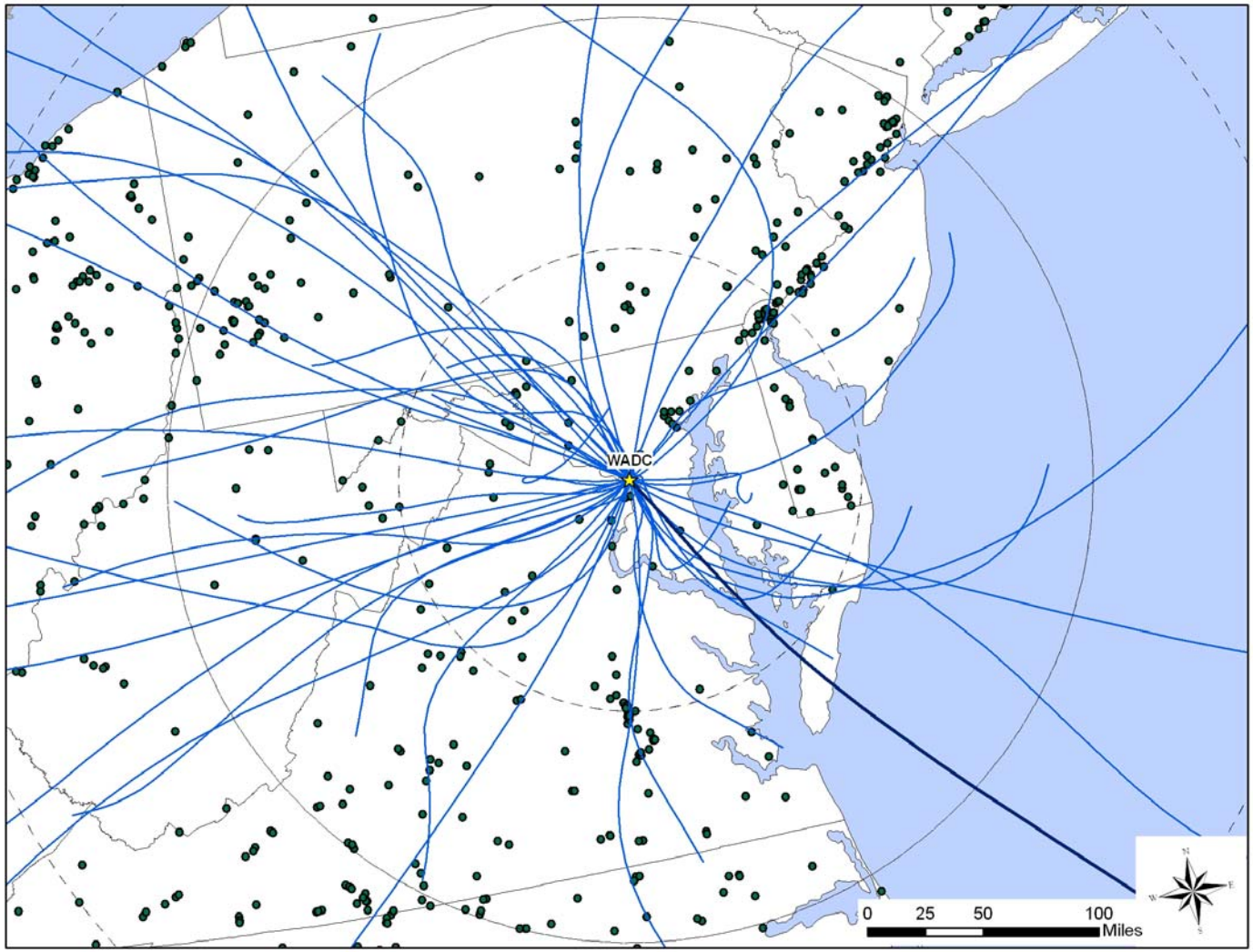


Figure F-46. Composite Back Trajectory Map for WETX

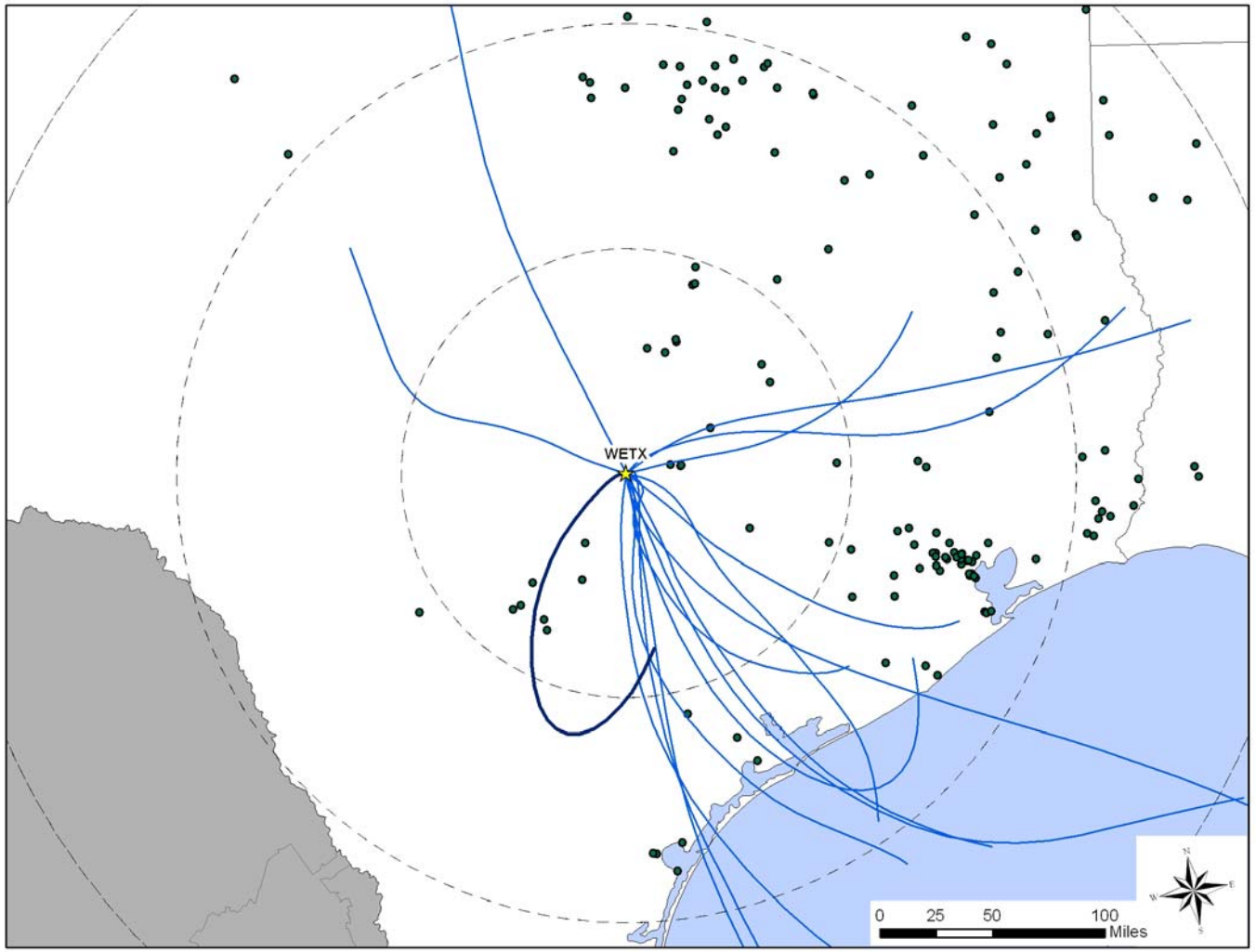


Figure F-47. Hexavalent Chromium Pollution Rose for BOMA

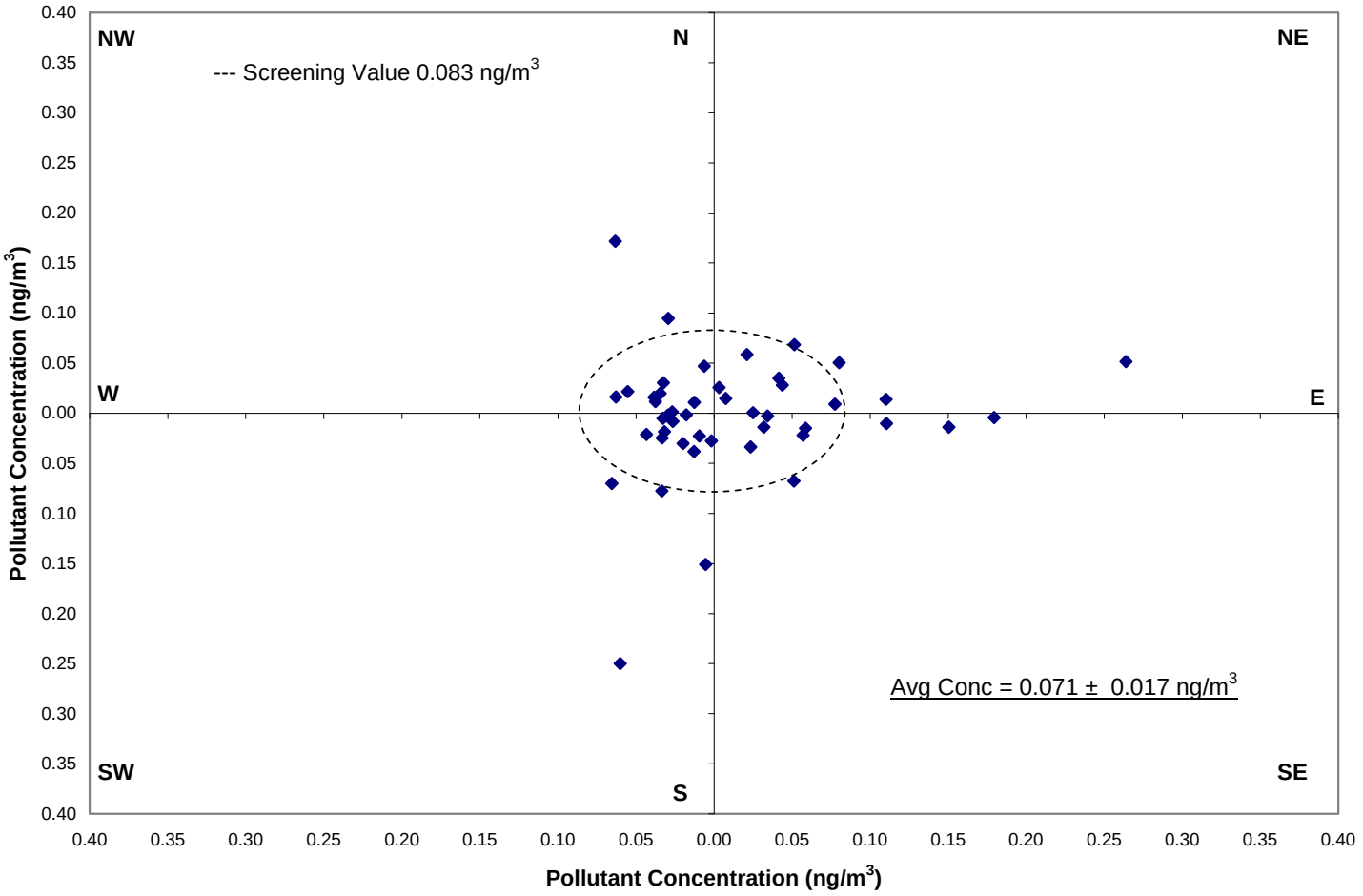


Figure F-48. Hexavalent Chromium Pollution Rose for BTUT

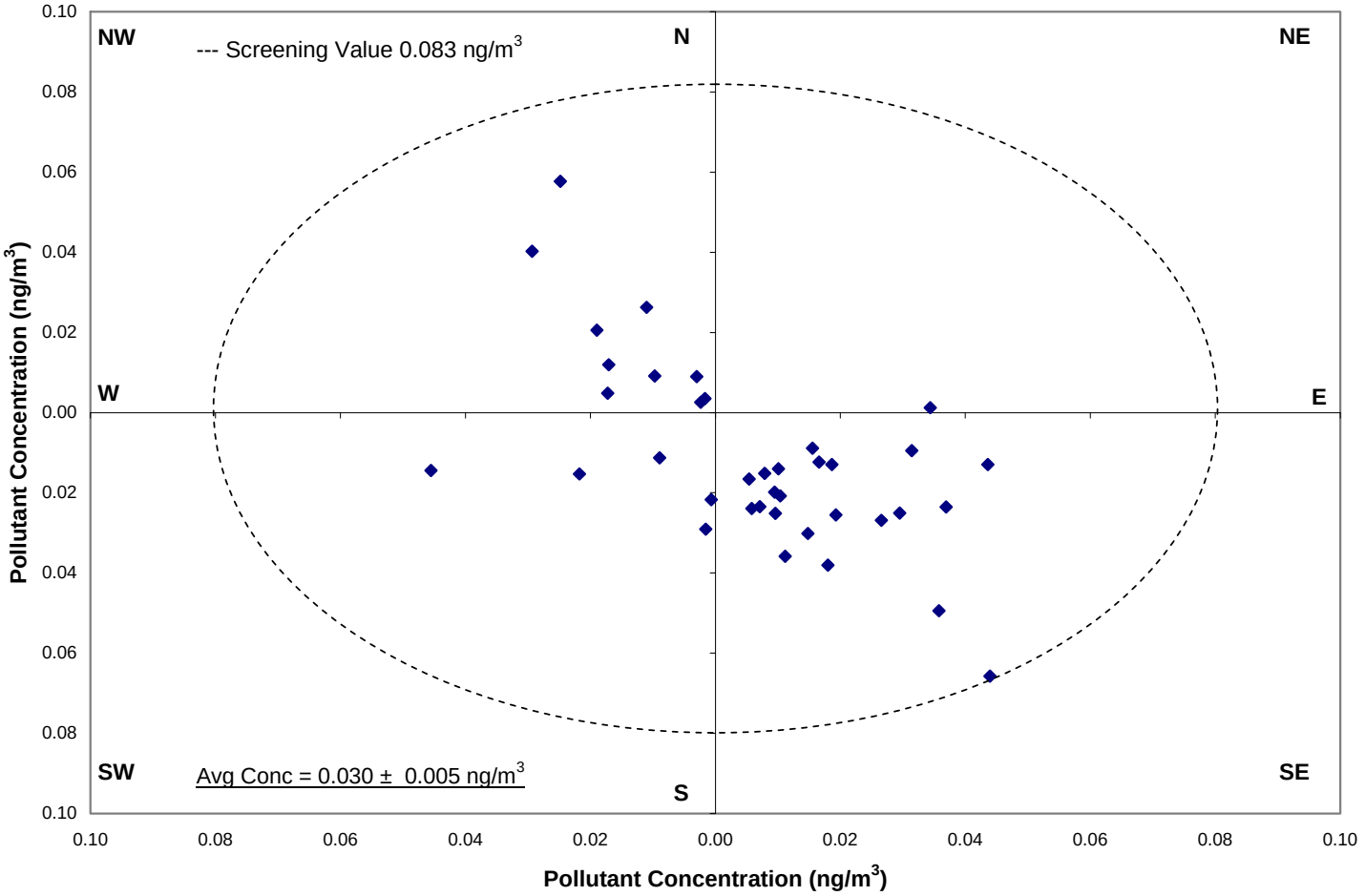


Figure F-49. Hexavalent Chromium Pollution Rose for BURVT

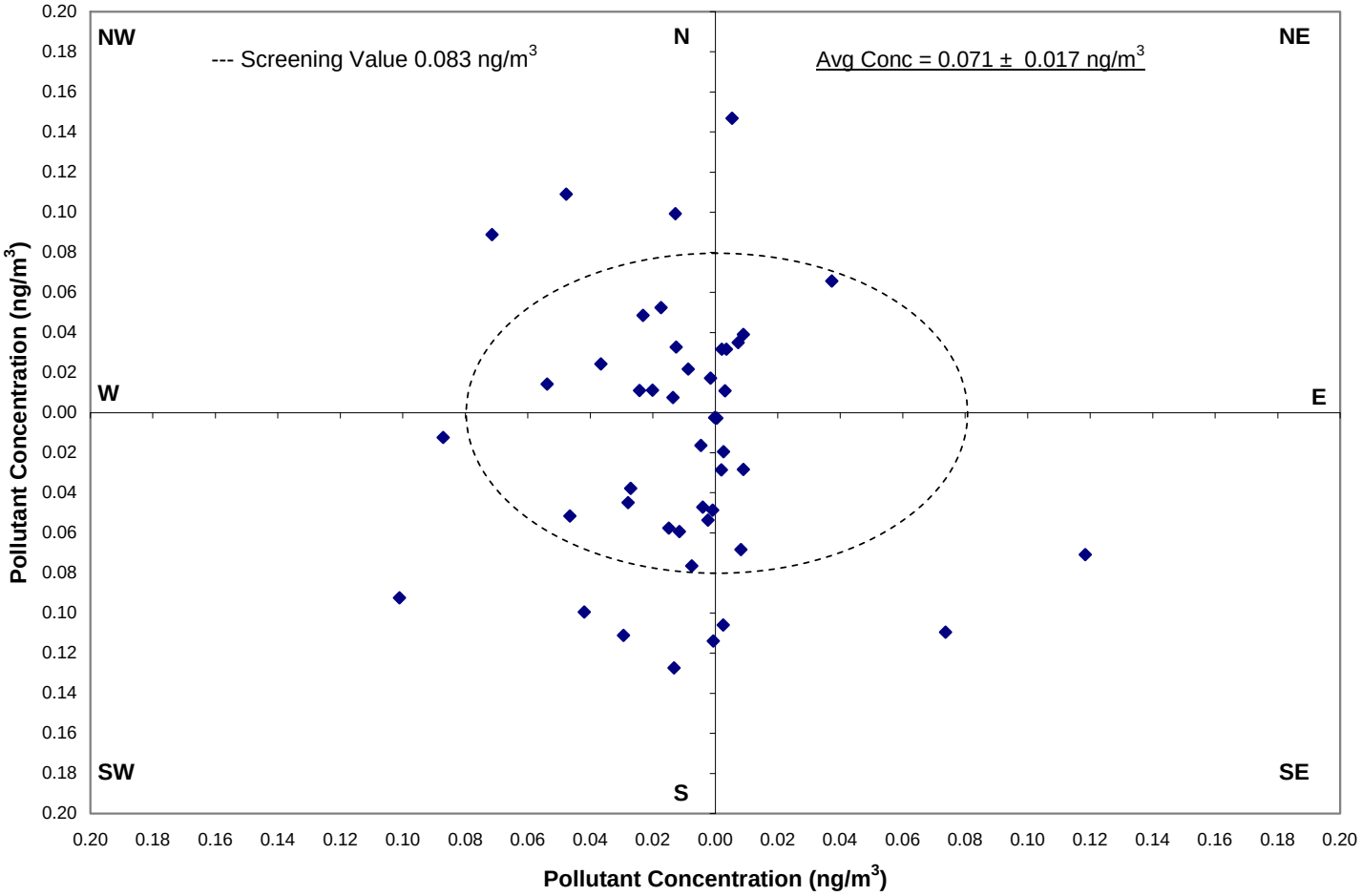


Figure F-50. Hexavalent Chromium Pollution Rose for CHSC

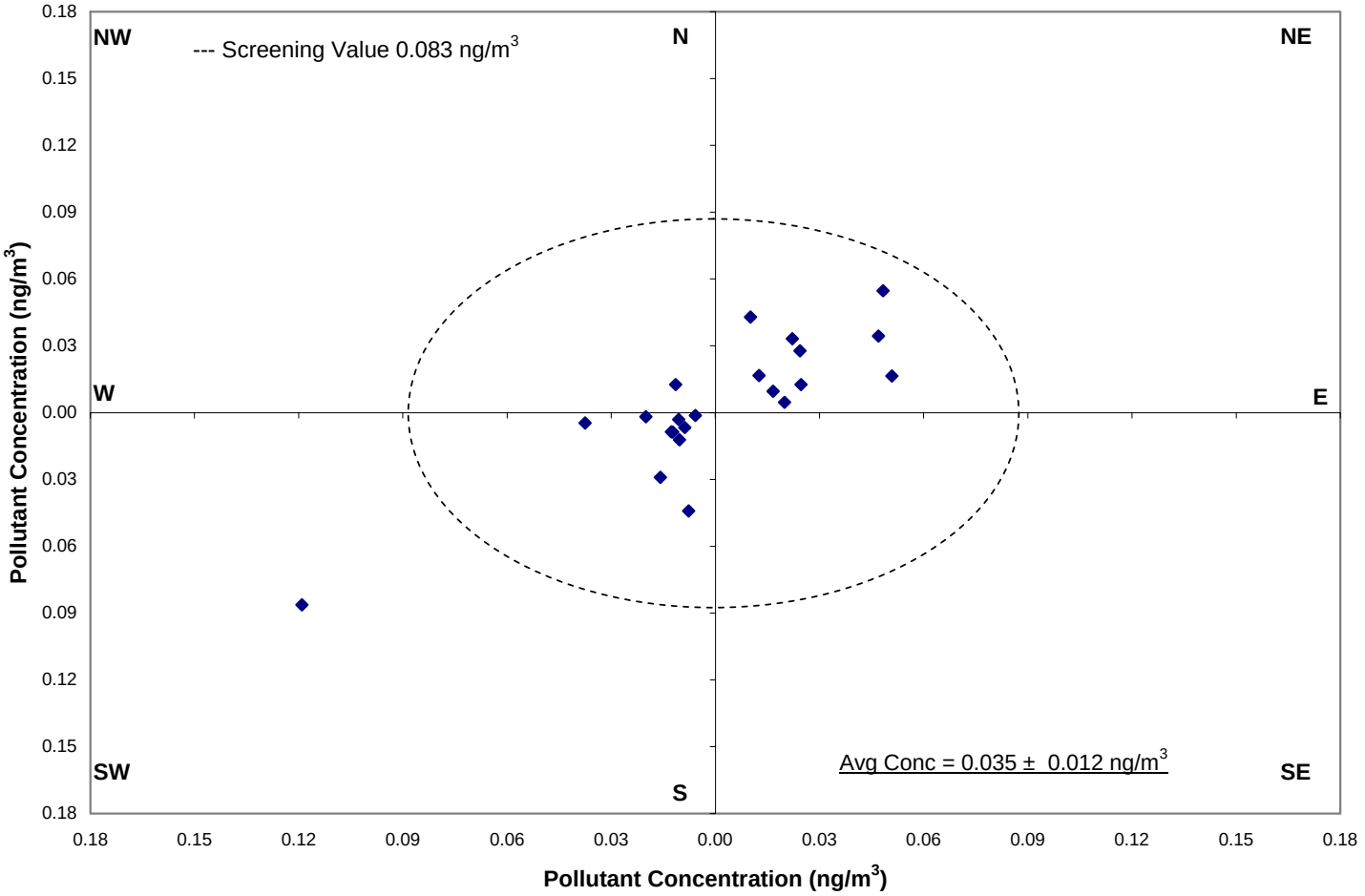


Figure F-51. Hexavalent Chromium Pollution Rose for DEMI

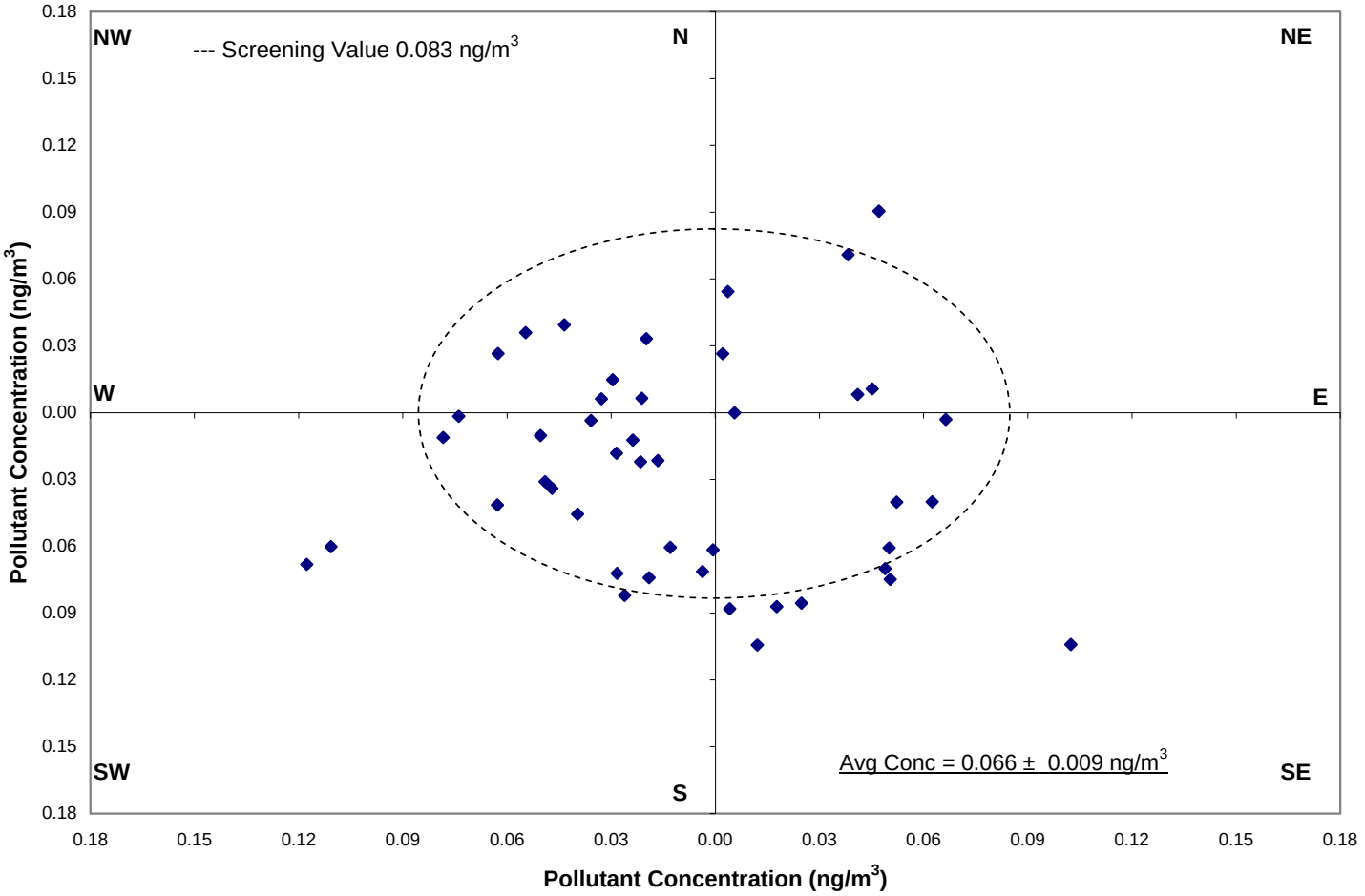


Figure F-52. Hexavalent Chromium Pollution Rose for ETAL

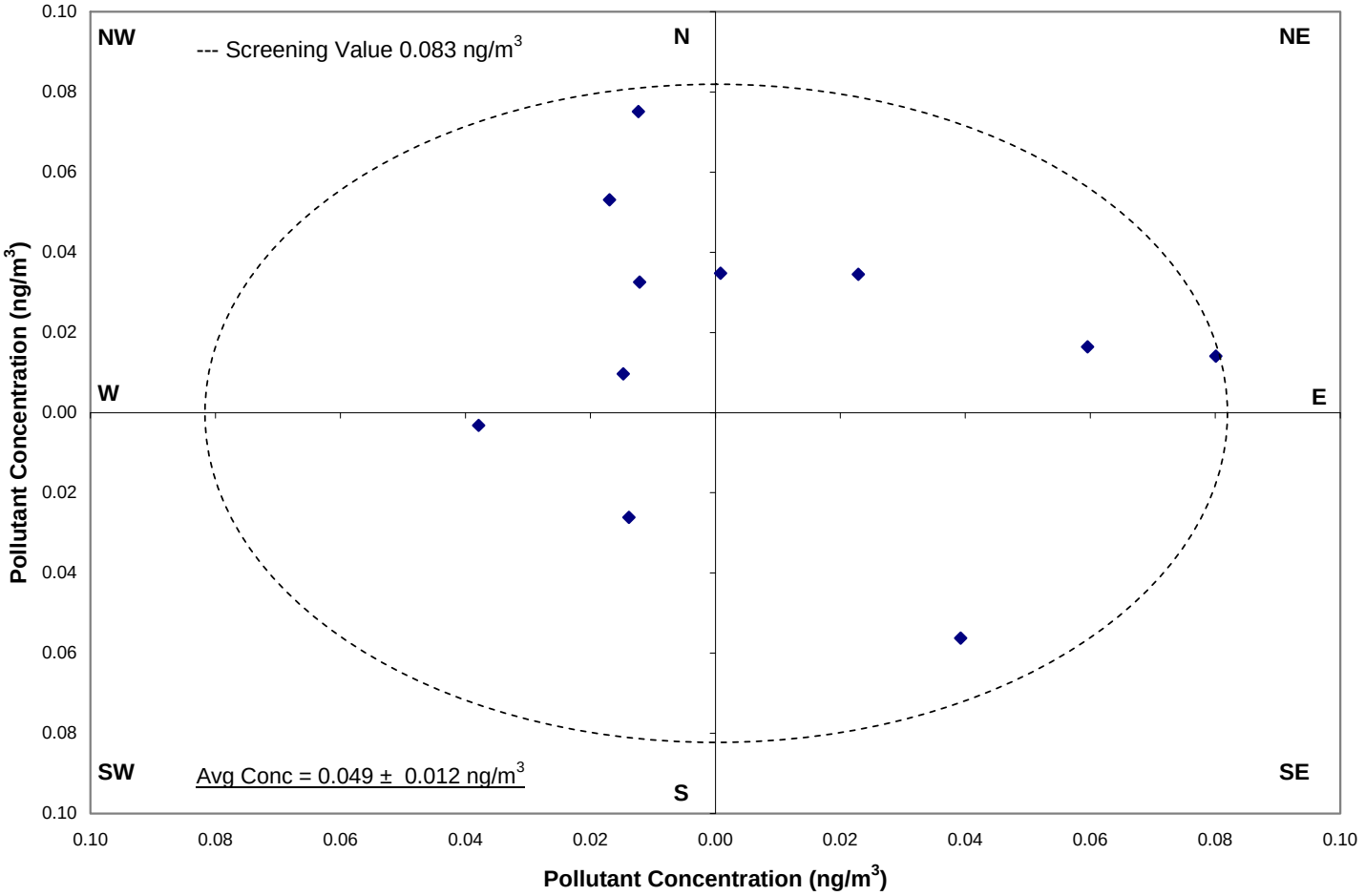


Figure F-53. Hexavalent Chromium Pollution Rose for GPCO

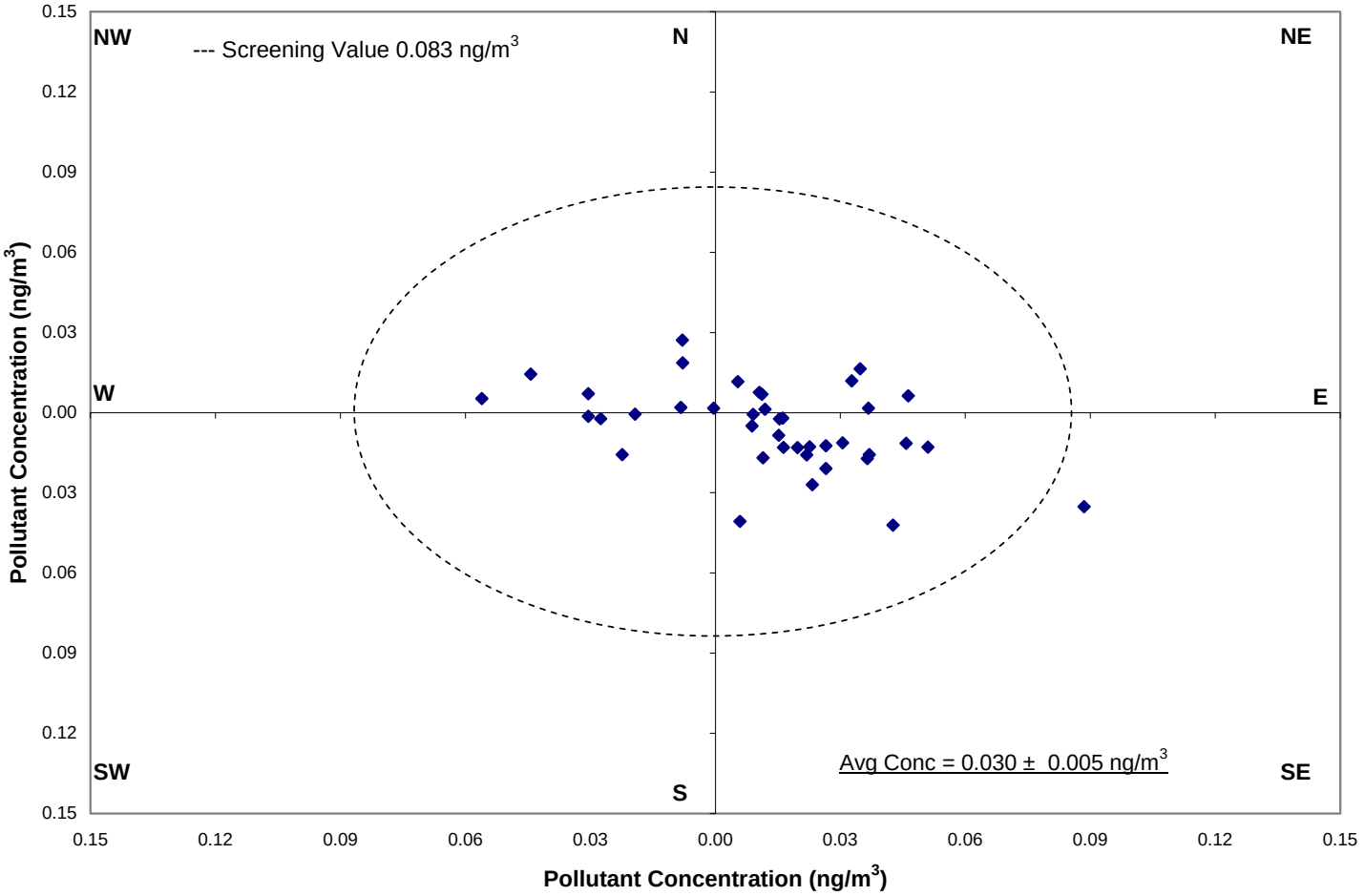


Figure F-54. Hexavalent Chromium Pollution Rose for GPMS

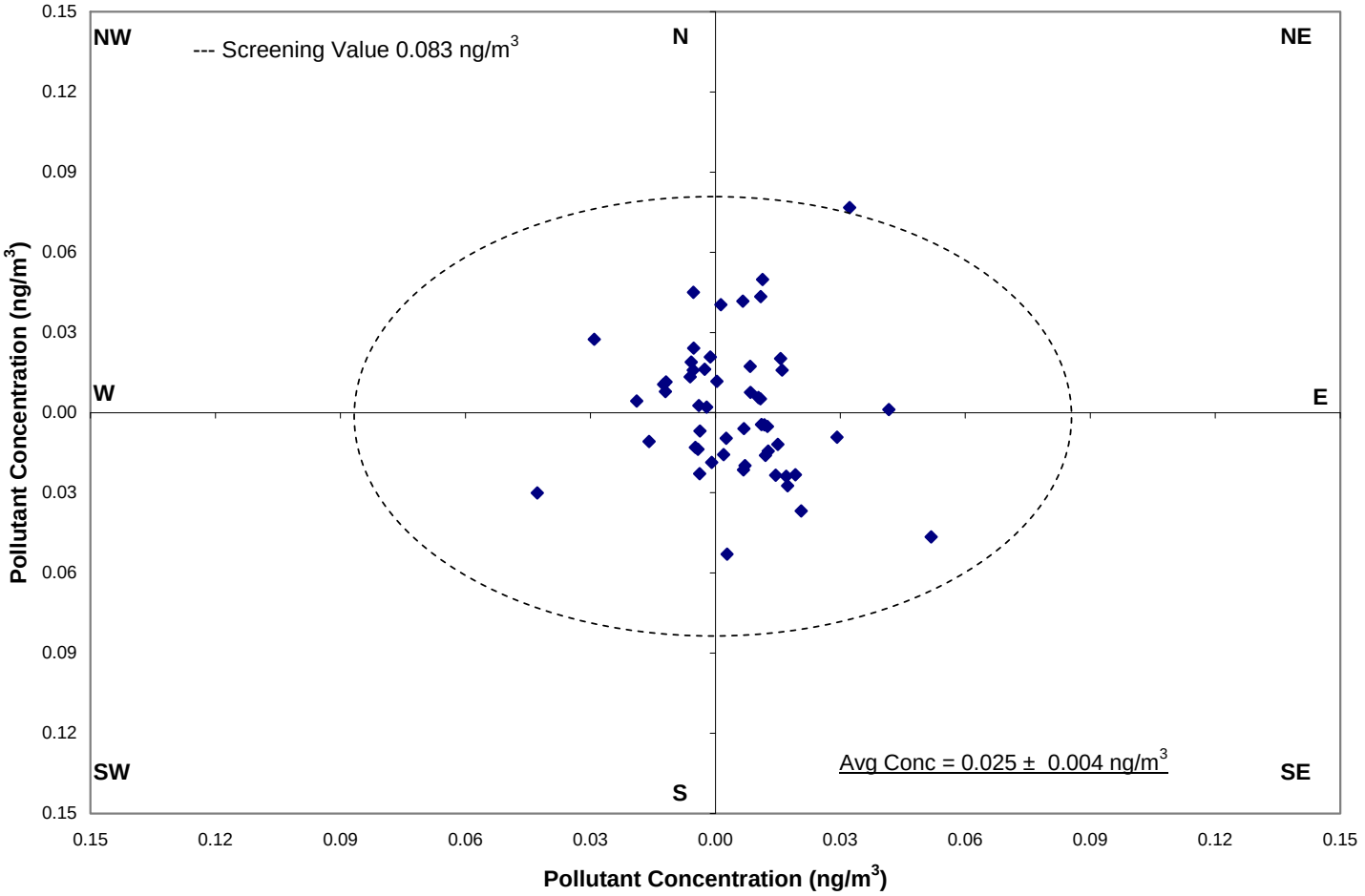


Figure F-55. Hexavalent Chromium Pollution Rose for HAKY

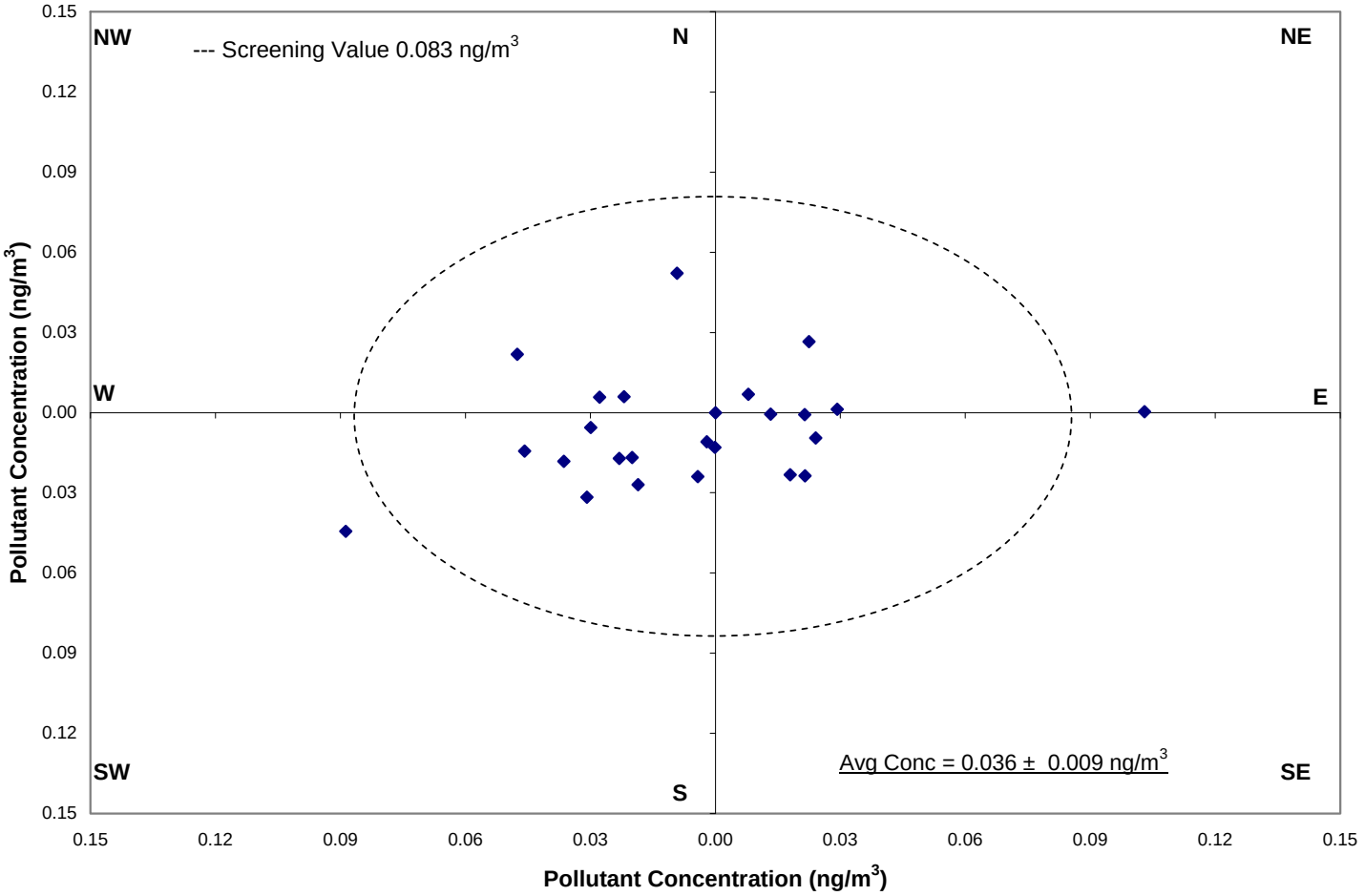


Figure F-56. Hexavalent Chromium Pollution Rose for LAOR

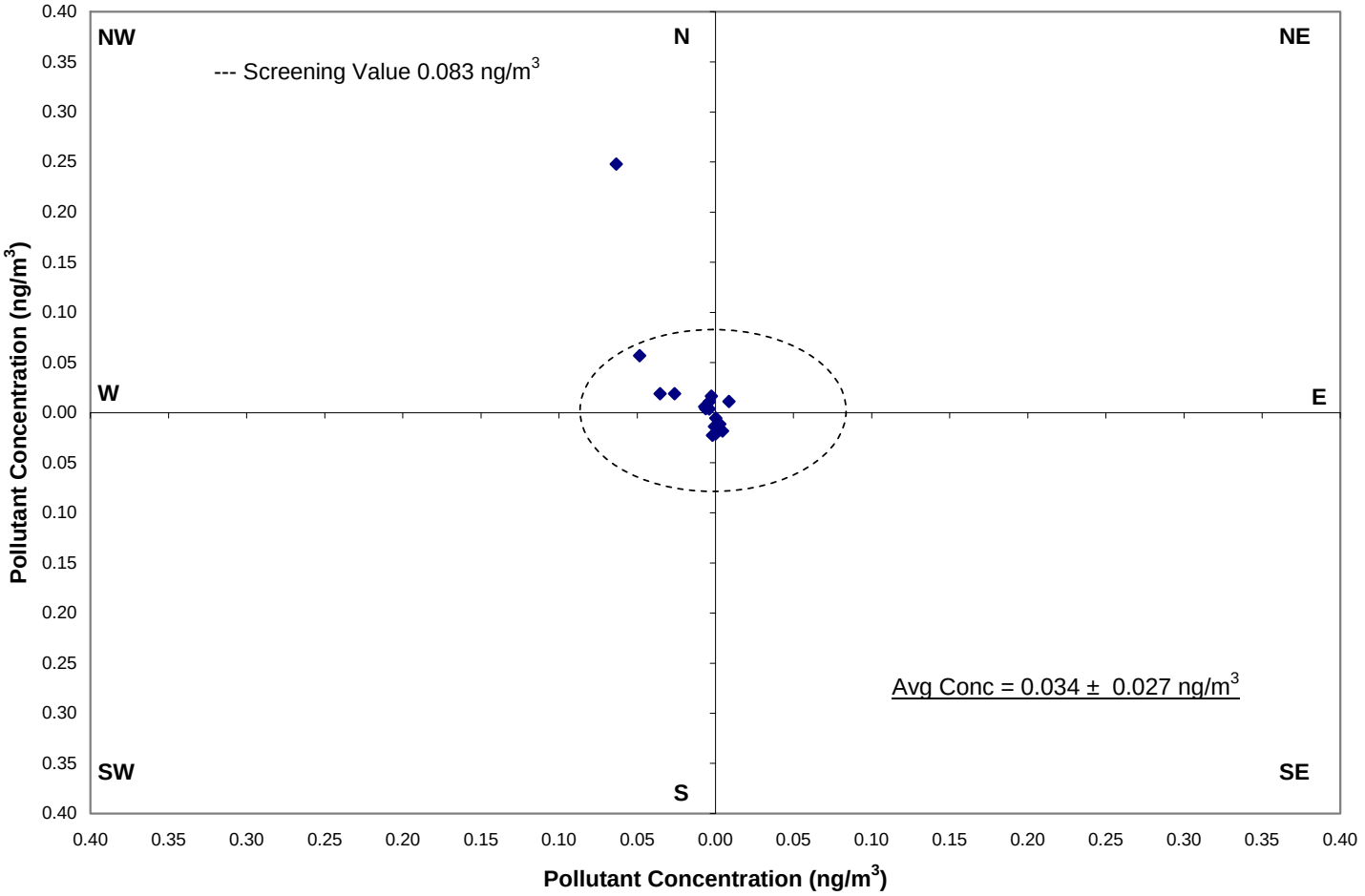


Figure F-57. Hexavalent Chromium Pollution Rose for MVWI

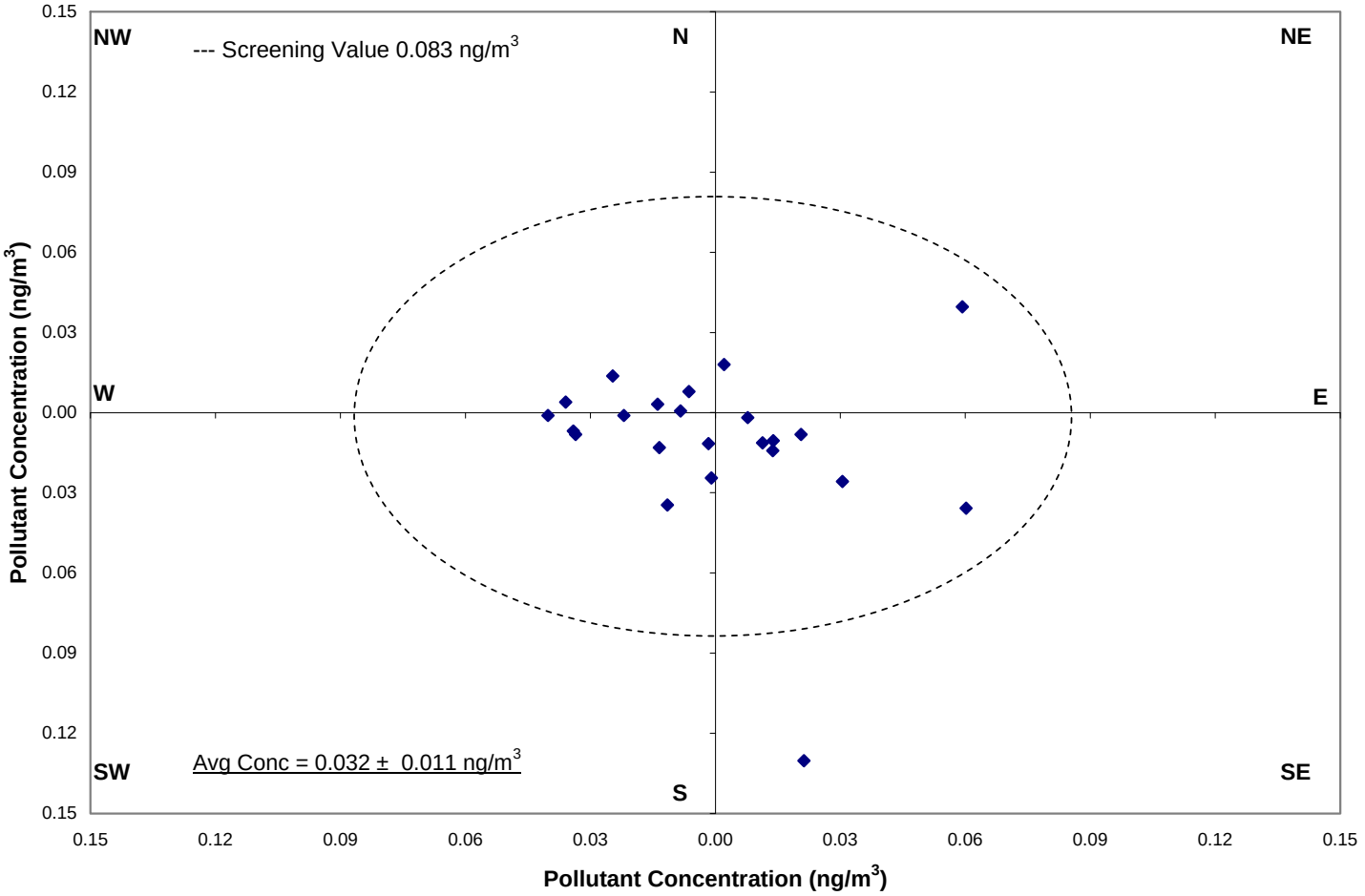


Figure F-58. Hexavalent Chromium Pollution Rose for NBAL

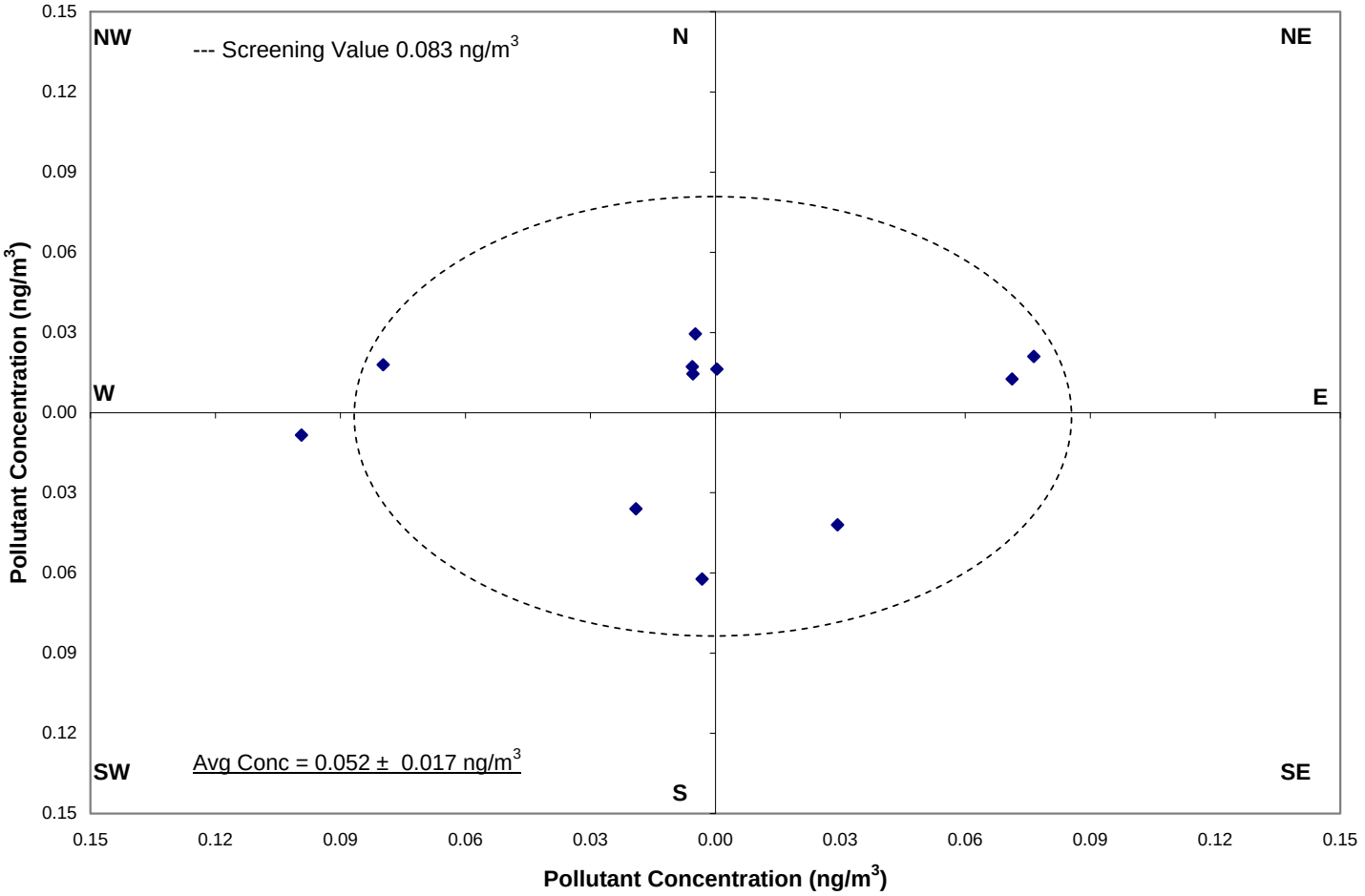


Figure F-59. Hexavalent Chromium Pollution Rose for NBIL

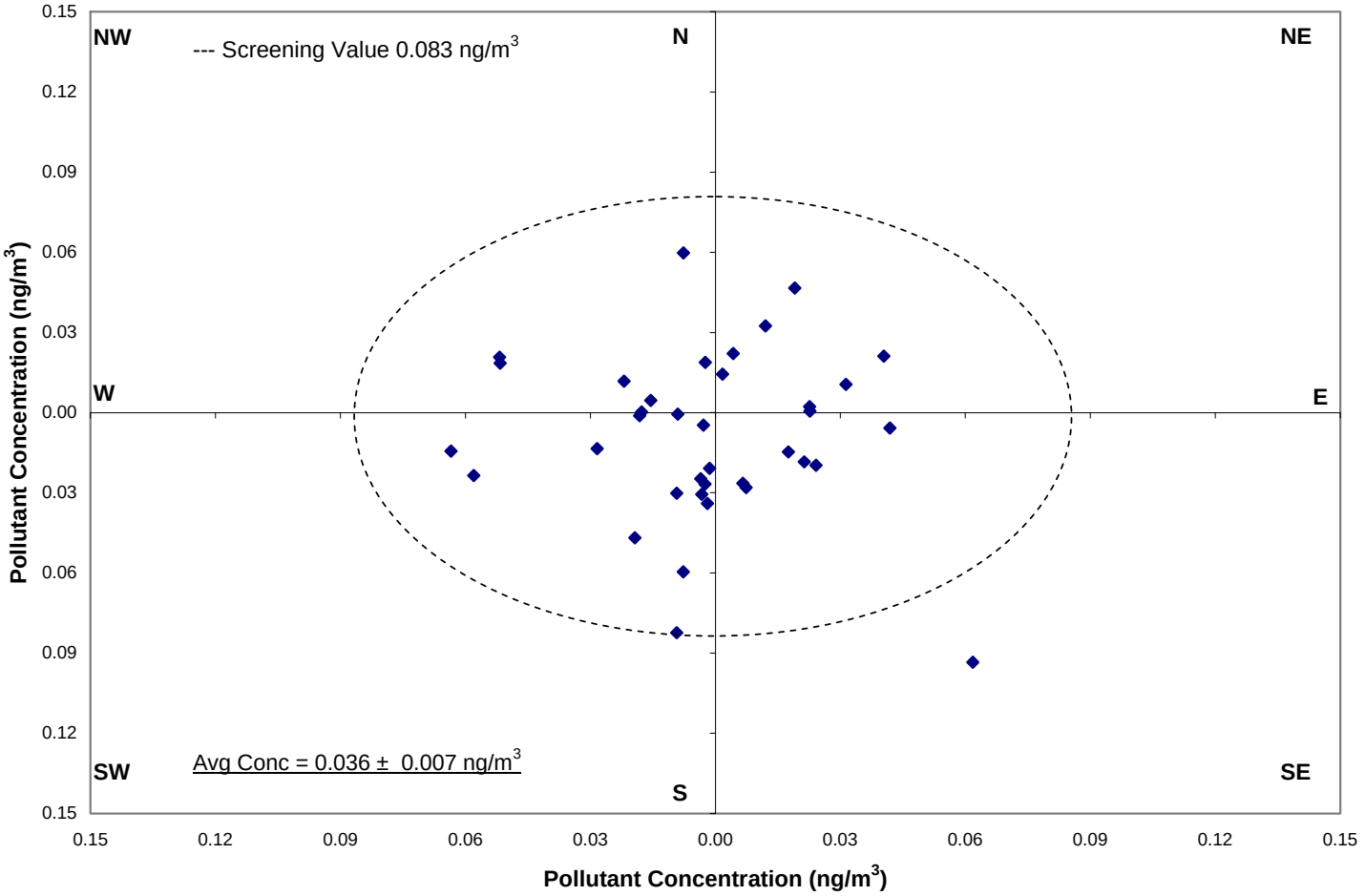


Figure F-60. Hexavalent Chromium Pollution Rose for PRRI

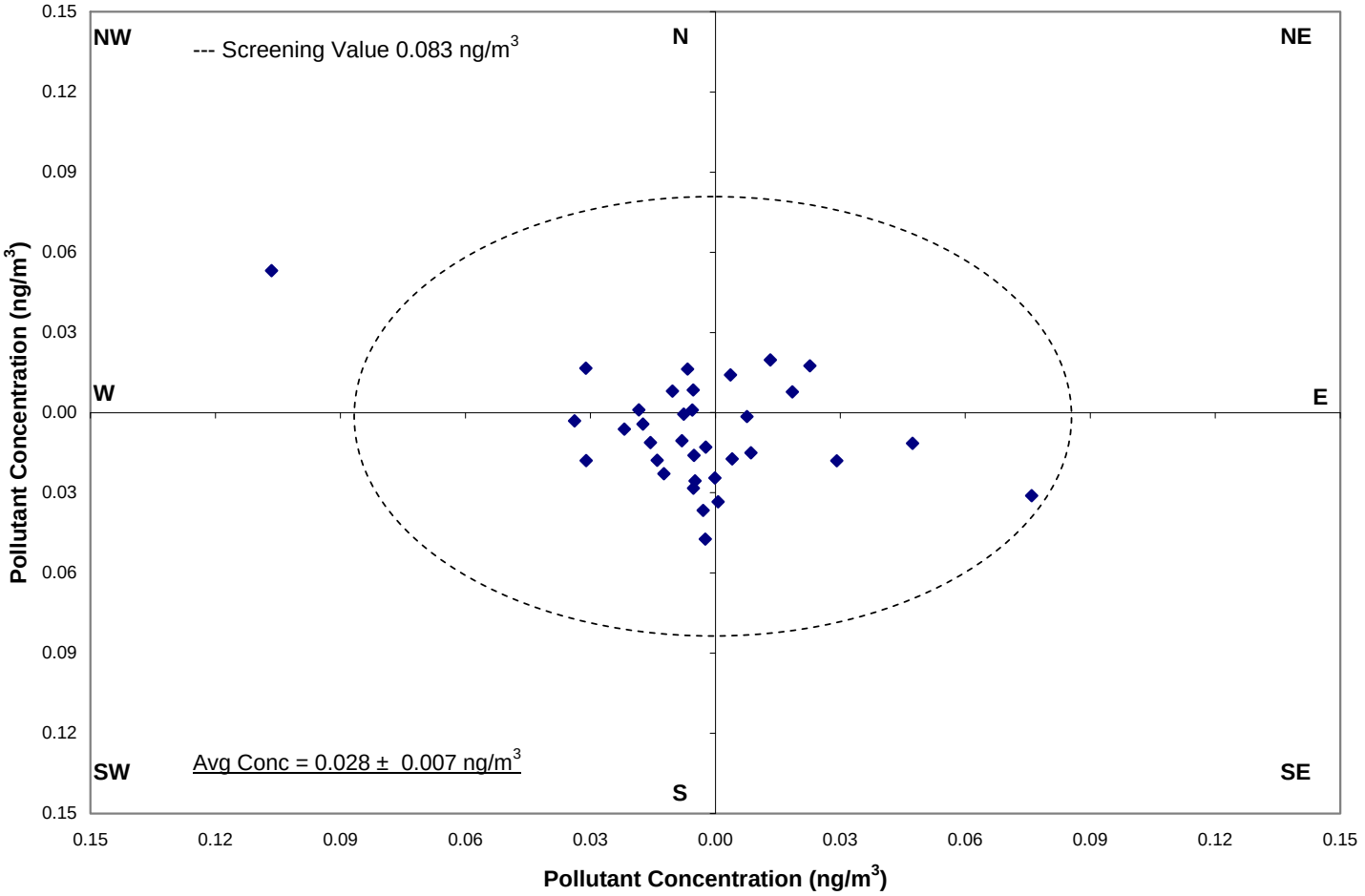


Figure F-61. Hexavalent Chromium Pollution Rose for PVAL

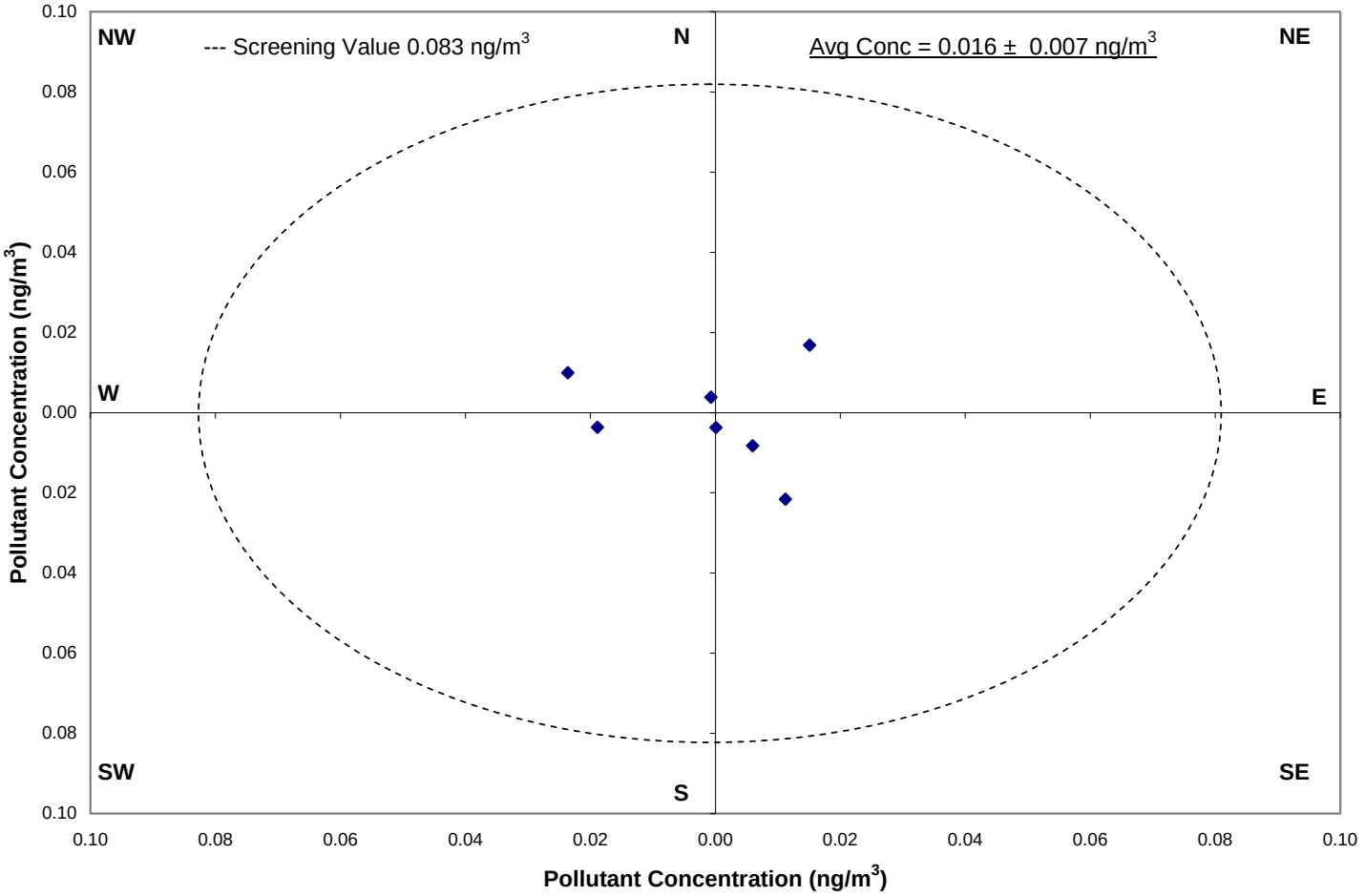


Figure F-62. Hexavalent Chromium Pollution Rose for S4MO

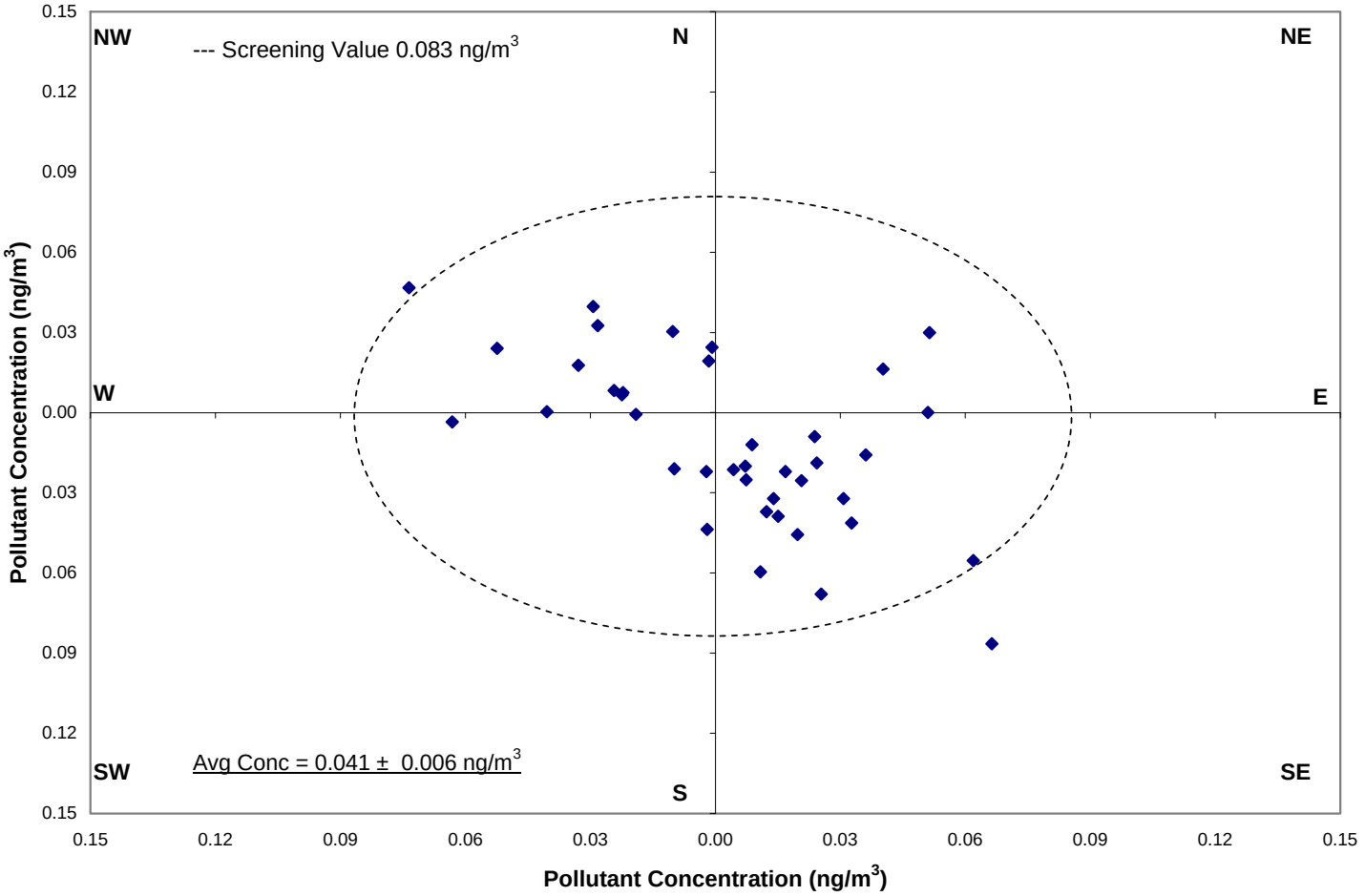


Figure F-63. Hexavalent Chromium Pollution Rose for SDGA

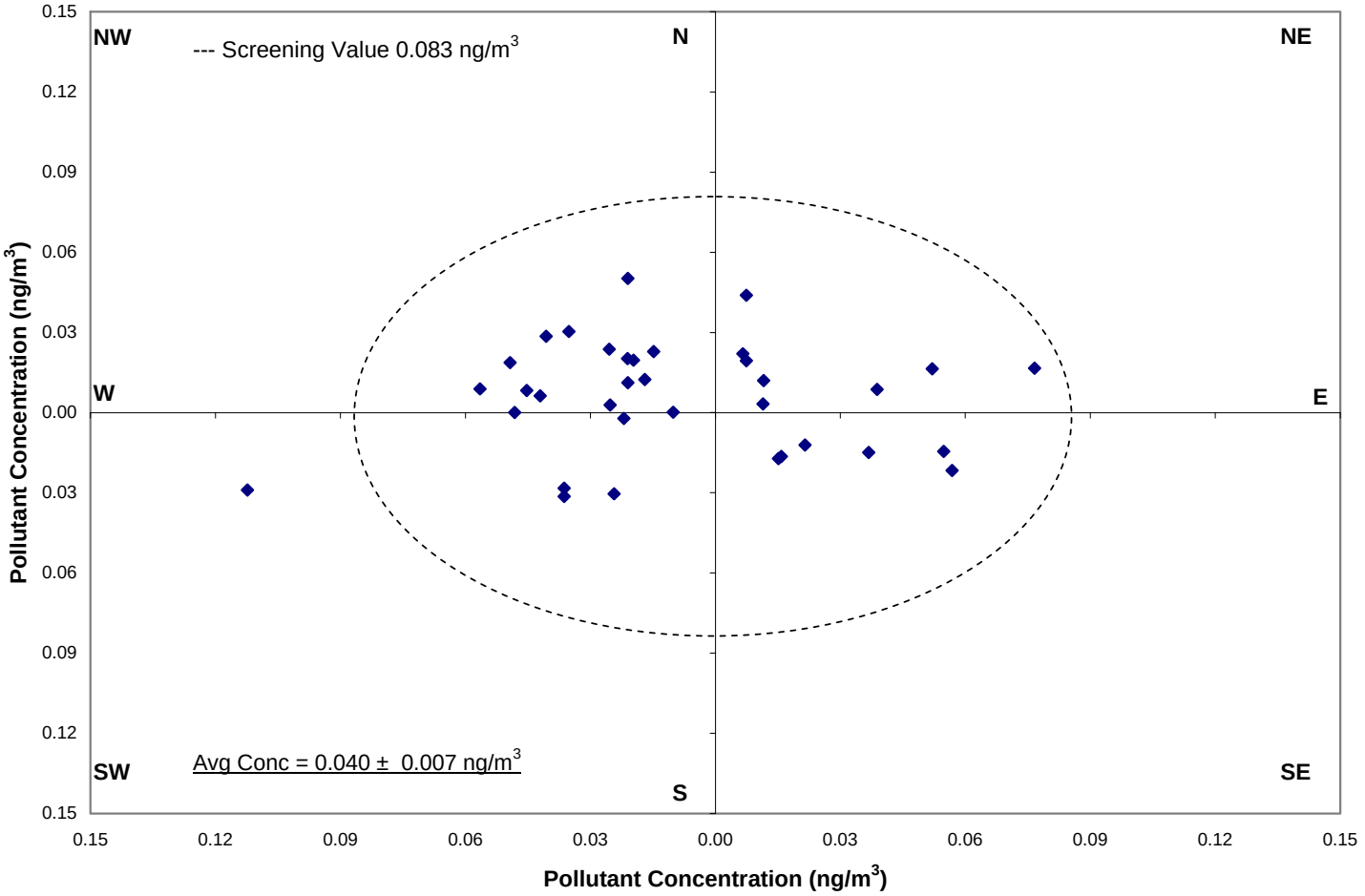


Figure F-64. Hexavalent Chromium Pollution Rose for SEWA

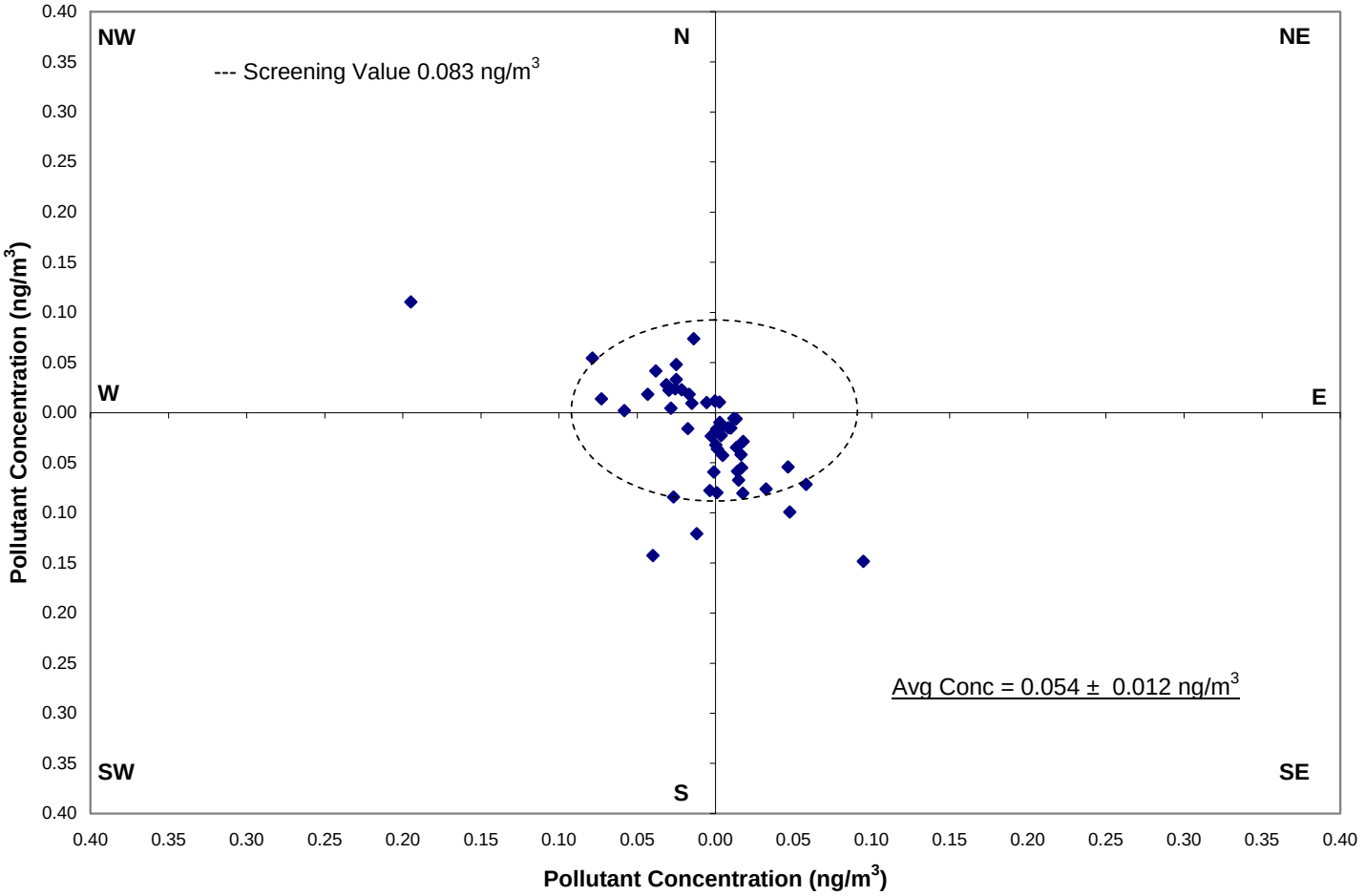


Figure F-65. Hexavalent Chromium Pollution Rose for SIAL

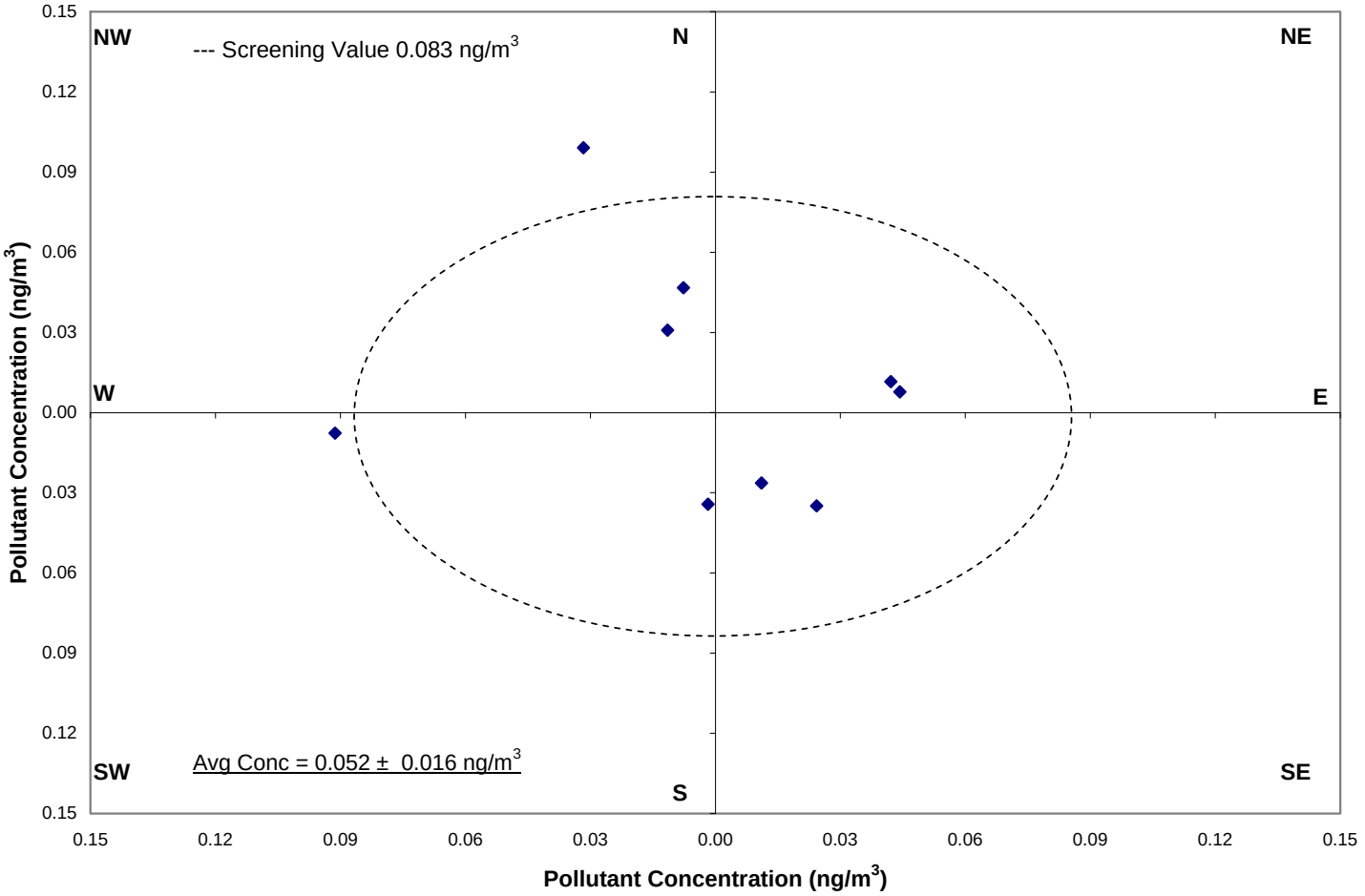


Figure F-66. Hexavalent Chromium Pollution Rose for SYFL

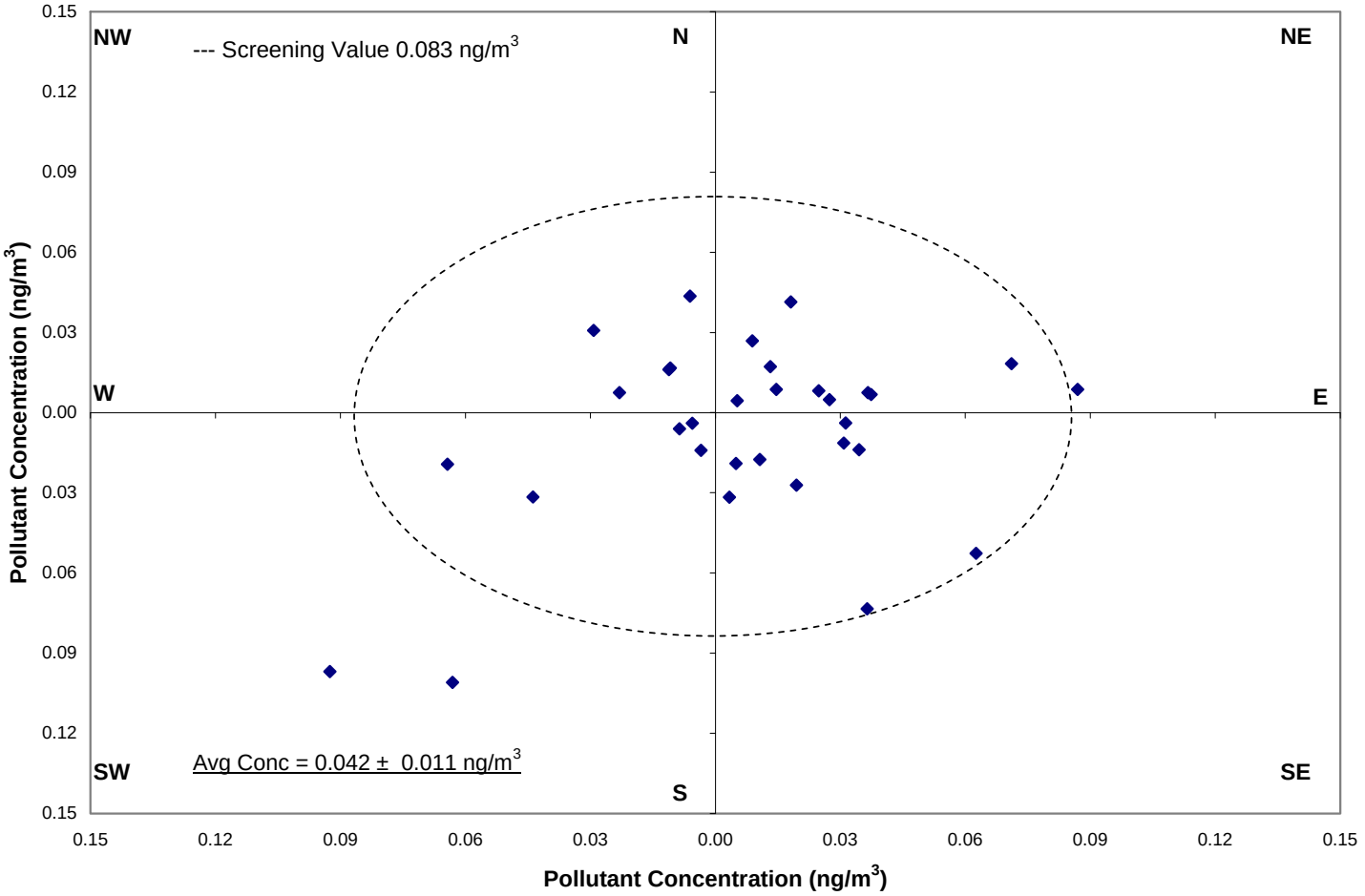


Figure F-67. Hexavalent Chromium Pollution Rose for UNVT

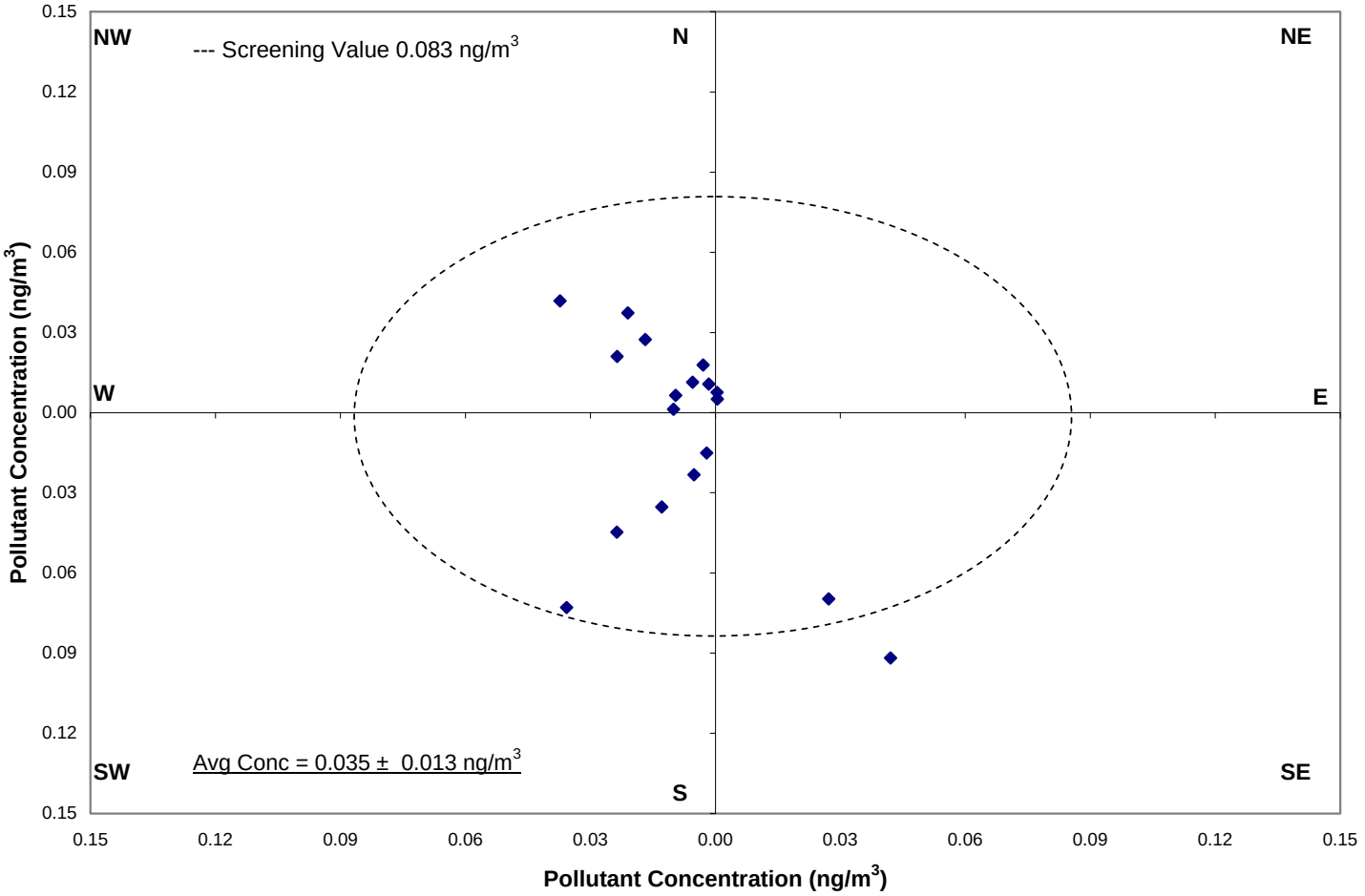


Figure F-68. Hexavalent Chromium Pollution Rose for WADC

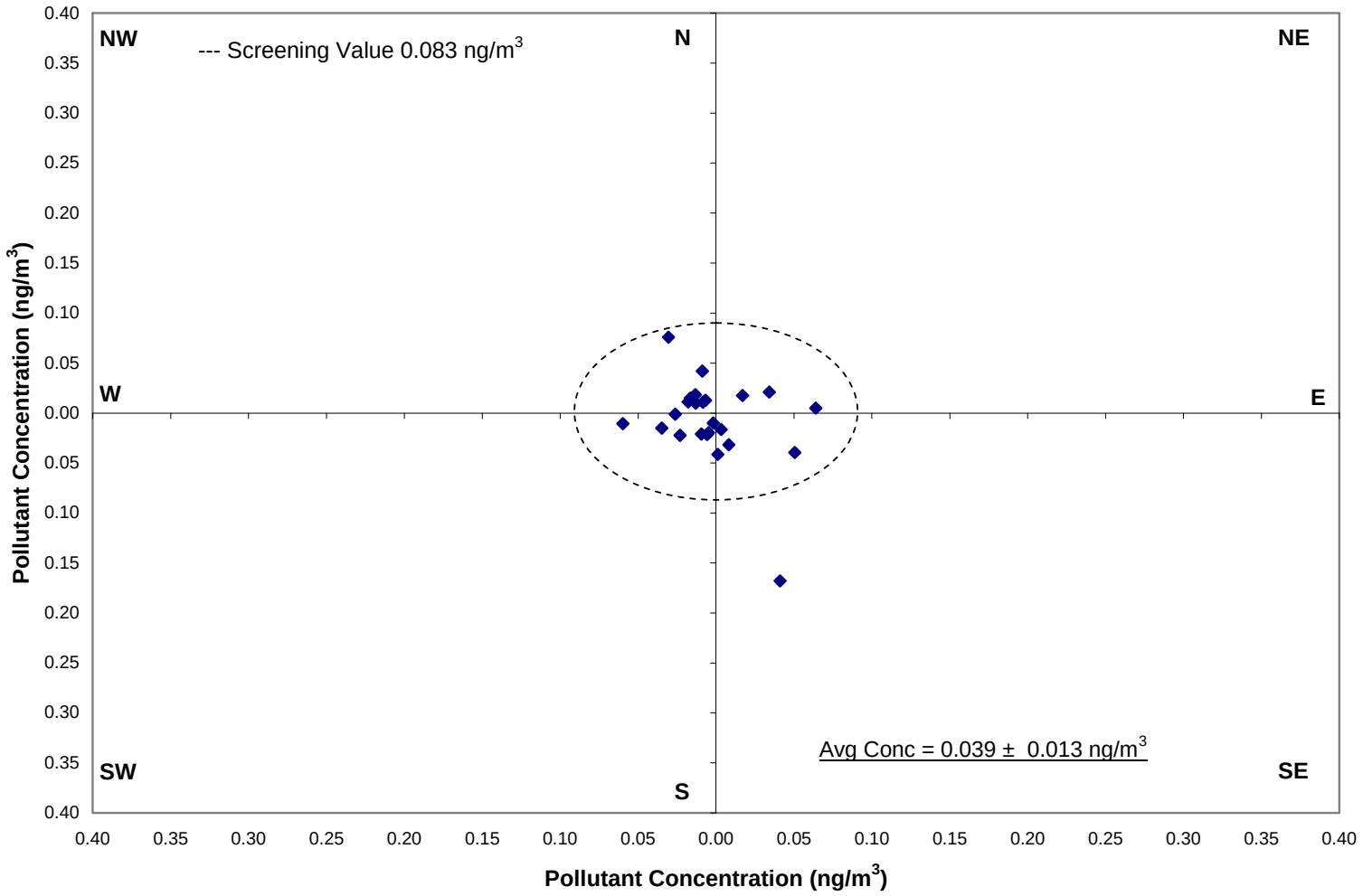
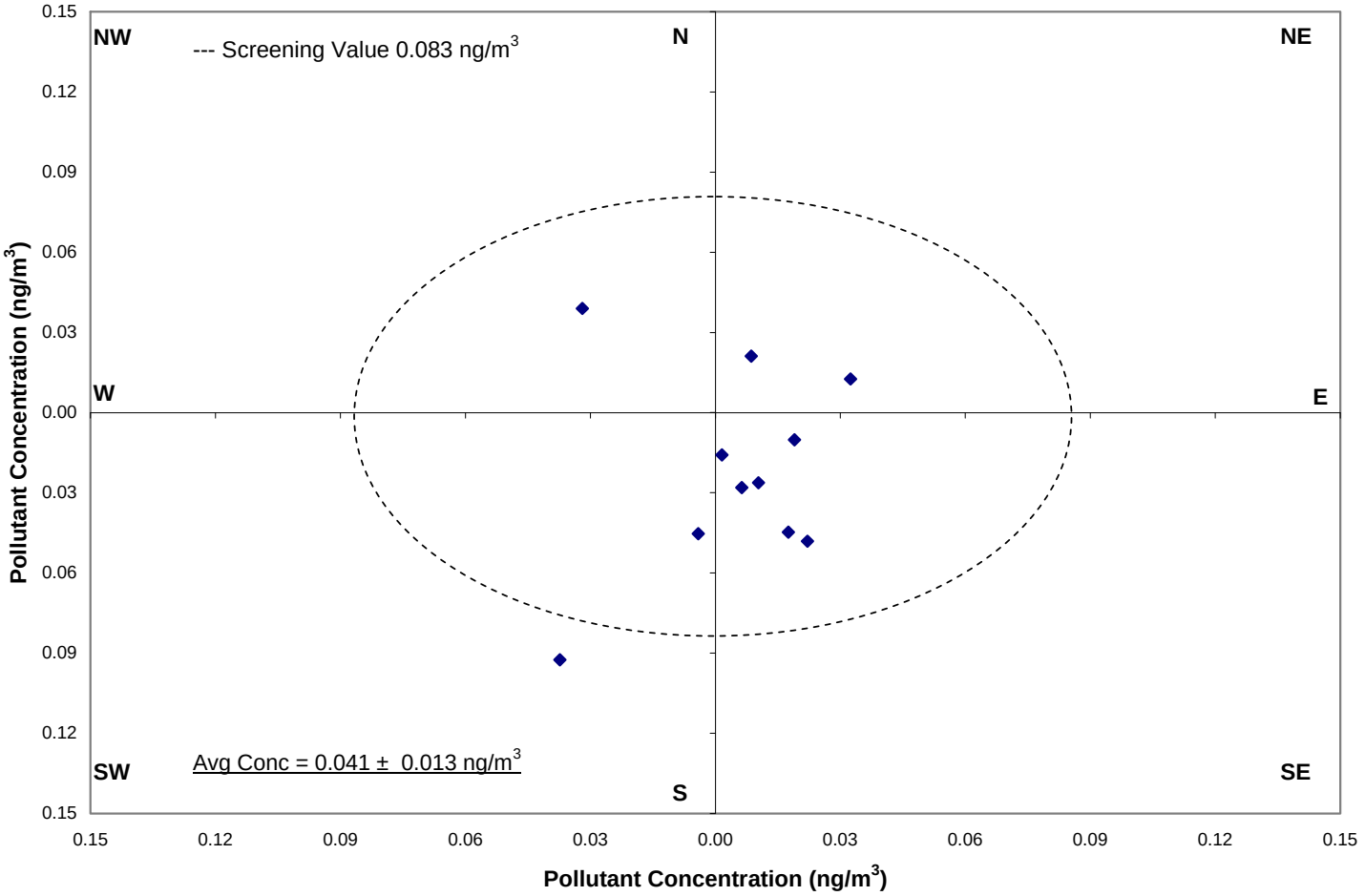


Figure F-69. Hexavalent Chromium Pollution Rose for WETX



United States
Environmental Protection
Agency

Office of Air Quality Planning and Standards
Emissions, Monitoring and Analysis Division
Research Triangle Park, NC 27711

Publication No. EPA-454/R-07-005
February 2007