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December 30, 2011

Ms. Shelly Lam
On-Scene Coordinator
Emergency Response Branch
U.S. Environmental Protection Agency, Region 5
2525 North Shadeland Avenue, Suite 100,
Indianapolis, IN 46219

Subject: **Final Letter Report**
Jasper Municipal Utilities Coal Fire Emergency Response
Jasper, Dubois County, Indiana
Technical Direction Document No.: S05-0001-1108-011
Document Control No.: 1564-2A-ASNH
Contract No.: EP-S5-06-04

Dear Ms. Lam:

The Weston Solutions, Inc. (WESTON®), Superfund Technical Assessment and Response Team (START) prepared this letter report in accordance with the tasks outlined in the Technical Direction Document (TDD) No. S05-0001-1108-011, which the U.S. Environmental Protection Agency (U.S. EPA) assigned to WESTON START. Under this TDD, WESTON START supported U.S. EPA's emergency response (ER) actions at the Jasper Municipal Utilities Coal Fire site in Jasper, Dubois County, Indiana (the Site). The ER was initiated when the Indiana Department of Environmental Management (IDEM) requested the help of the U.S. EPA to conduct air monitoring after the fire had started.

The scope of the TDD included the following activities:

- Generate an ER health and safety plan (HASP) and a field sampling plan
- Monitor the Site perimeter for hydrogen sulfide (H2S), nitrogen dioxide (NO2), sulfur dioxide (SO2), total particulates (PM), carbon monoxide (CO), and volatile organic compounds (VOC) using AreaRAE units and the Rapid Assessment Tool (RAT)
- Conduct static air monitoring for NO2, SO2, and VOCs using AreaRAE units
- Collect plume and post-response ambient air samples
- Provide data validation of analytical results for samples collected during the ER
- Prepare photographic documentation of Site conditions and ER activities
- Generate a final letter report

This letter report discusses the Site description, Site history, ER activities, analytical results, and conclusions based on the ER. **Attachment A** provides the figures for this letter report. **Attachment B** is a photographic log of Site conditions and ER activities. **Attachment C**

provides the tables for this letter report. **Attachment D** provides the data validation report, laboratory analytical report, and field sampling form for samples collected by WESTON START during the ER.

SITE DESCRIPTION

The Site is located at 1163 East 15th Street in Jasper, Dubois County, Indiana (**Figure 1** in **Attachment A**). Site coordinates are 38.4004480 North latitude and 86.9149630 West longitude. The Site is a power plant in southern Indiana, and surrounding land has mixed uses including industrial, residential, and agricultural areas. The Site is bordered by industrial facilities to the north, a public river walk and agricultural fields to the east, a single residence and vegetated areas to the south, and industrial facilities and residences to the west (**Figure 2** in **Attachment A**). The Site contains the power plant building, smaller support buildings, and paved and vegetated areas.

SITE HISTORY

The Site contains a municipally-owned coal power plant that operates intermittently. On August 16, 2011, approximately 200-300 tons of coal stored in a bin inside the plant building spontaneously combusted. Response efforts to extinguish the fire proved ineffective, and removing the coal from the building was not possible. Therefore, personnel from the Jasper Fire Department, City of Jasper, and Jasper Power Plant determined that the only way to stop the fire was to allow the coal to continue to burn. However, emissions from burning coal in this manner would not be directed into the installed pollution controls at the plant. In response to the decision made, IDEM immediately requested that U.S. EPA mobilize to the Site to provide air monitoring support because of increased health risks associated with the release of emissions in the immediate vicinity of the Site.

EMERGENCY RESPONSE ACTIVITIES

This section discusses air monitoring, static air monitoring, and air sampling activities conducted by WESTON START at the Site during the ER. U.S. EPA On-Scene Coordinators (OSC) Shelly Lam and Jamie Brown mobilized to the Site on August 16, 2011, met with representatives from IDEM, and tasked WESTON START to begin air monitoring operations. WESTON START personnel David Sena, Keith Hughes, Tom Binz, and Jon Colomb mobilized to the Site on August 16, 2011. All ER personnel reviewed and signed the site-specific HASP. **Attachment B** provides photographic documentation of Site conditions and activities during the ER.

WESTON START Air Monitoring Activities

From August 16 through 18, 2011, WESTON START conducted 24-hour perimeter air monitoring using RAT. Air monitoring data were collected for H2S, NO2, SO2, PM, CO, and VOCs during periodic air monitoring routes conducted throughout the city. The OSC determined the air monitoring routes. **Figures 3 through 5, 6 through 8, 9 through 11, 12 through 14, and 15 through 17** in **Attachment A** spatially summarize the monitoring data

collected for H2S, NO_2, PM, CO, and VOCs, respectively. The collected air monitoring data were compared to the Acute Exposure Guideline Levels (AEGL). According to U.S. EPA, AEGLs represent threshold exposure limits for the general public and are applicable to emergency exposure for the specified compounds. The specific exposures are assigned AEGL1, AEGL2, or AEGL3 values to distinguish varying degrees of severity of toxic effects. The recommended exposure levels are believed to apply to the general population, including infants, children, and other individuals who may be susceptible. The three AEGL value types are defined below.

- AEGL1 is the airborne concentration of a substance (expressed as parts per million [ppm] or milligrams per cubic meter [mg/m^3]) above which the general population (including susceptible individuals) is predicted to possibly experience notable discomfort, irritation, or certain asymptomatic nonsensory effects. However, the effects are not disabling and are transient and reversible upon cessation of exposure.
- AEGL2 is the airborne concentration of a substance (expressed as ppm or mg/m^3) above which the general population (including susceptible individuals) is predicted to possibly experience irreversible or other serious, long-lasting adverse health effects or an impaired ability to escape.
- AEGL3 is the airborne concentration of a substance (expressed as ppm or mg/m^3) above which the general population (including susceptible individuals) is predicted to possibly experience life-threatening health effects or death.

Results for all compounds monitored were compared to the AEGL1 values assigned by U.S. EPA as applicable. VOCs are a group of compounds and therefore do not have an assigned AEGL1. However, as benzene is a common emission from coal burning operations as well as having conservative AEGL1 values, the AEGL1 value for benzene was utilized as the standard for VOC reading comparison. CO does not have a recommended AEGL1 value. Therefore, CO results were compared to the available AEGL2 value. PM also does not have an assigned AEGL value. PM results were compared to the National Ambient Air Quality Standards (NAAQS) established in Title 40 of the *Code of Federal* Regulations (CFR), Part 50, for pollutants considered harmful to public health and the environment. U.S. EPA has set NAAQS values for six principal pollutants called "criteria" pollutants as required by the Clean Air Act last amended in 1990. PM 2.5 is one of the six "criteria" pollutants. Units of measure for the PM 2.5 standard is micrograms per cubic meter ($\mu g/m^3$) of air. The Clean Air Act also identifies two types of NAAQSs. Primary standards provide public health protection, including protection of the health of "sensitive" populations such as asthmatics, children, and the elderly. Secondary standards provide public welfare protection, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings. PM results were compared to the primary standard provided by U.S EPA for PM 2.5.

The air monitoring results for H2S, NO2, PM, CO, and VOCs are discussed below.

H2S

On August 16, 2011, a total of 2,615 readings were collected for H2S and compared to the AEGL1 standard of 0.33 ppm. The average reading was 0.1 ppm with a maximum reading of 1.3 ppm. A total of 564 readings exceeded the AEGL1 8-hour standard value over a timeframe of 88 minutes during data collection. Three readings exceeded the AEGL1 10-minute standard value of 0.75 ppm, however, the readings were isolated events and did not meet the 10-minute timeframe. No readings exceeded the AEGL2 or AEGL3 standard values.

On August 17, 2011, a total of 13,287 readings were collected for H2S and compared to the AEGL1 standard of 0.33 ppm. The average reading was 0.03 ppm, with a maximum reading of 100 ppm. A total of 19 readings exceeded the AEGL1 8-hour standard, however, these readings were not sustained for more than 2 seconds. Two readings exceeded the AEGL1 10-minute standard value of 0.75 ppm, however, the readings were isolated events and did not meet the 10-minute timeframe. The maximum reading of 100 ppm exceeded all AEGL standards, however, this reading was for a timeframe of 1 second. In addition, the 4,772 readings collected during a 200-minute timeframe before the maximum reading and the subsequent 6,218 readings collected during a 1,081-minute timeframe after the maximum reading were less than the AEGL1 standard.

On August 18, 2011, a total of 3,864 readings were collected for H2S and compared to the AEGL1 standard of 0.33 ppm. The average reading was 0.01 ppm with a maximum reading of 0.5 ppm. A total of 43 readings exceeded the AEGL1 8-hour standard value; however, the readings were not sustained over the 8-hour timeframe. No readings exceeded the AEGL1 60-minute standard of 0.51 ppm or the AEGL2 and AEGL3 standard values.

NO2

On August 16, 2011, a total of 2,270 readings were collected for NO2 and compared to the AEGL1 standard of 0.5 ppm. The average reading was 0.42 ppm with a maximum reading of 3.5 ppm. A total of 538 readings exceeded the AEGL1 standard that applies to all AEGL listed timeframes. No readings exceeded the AEGL2 and AEGL3 standard values.

On August 17, 2011, a total of 1,170 readings were collected for NO2 and compared to the AEGL1 standard of 0.5 ppm. The average reading was 4.51 ppm, with a maximum reading of 44.6 ppm. A total of 165 readings exceeded the AEGL1 standard that applies to all AEGL listed timeframes. The 165 readings also exceeded the AEGL2 10-minute standard of 20 ppm; however, the readings were not sustained over the 10-minute timeframe.

On August 18, 2011, a total of 3,864 readings were collected for NO2 and compared to the AEGL1 standard of 0.5 ppm. The average reading was 0.001 ppm with a maximum reading of 0.9 ppm. A total of two readings exceeded the AEGL1 standard that applies to all AEGL listed

timeframes. These two exceedances were isolated to 1-second timeframes each and separated by 555 minutes. No readings exceeded the AEGL2 and AEGL3 standard values.

PM

On August 16, 2011, a total of 2,593 readings were collected for PM and compared to the NAAQS PM 2.5 primary standard of 35 µg/m^3. The average reading was 29.3 µg/m^3 with a maximum reading of 37.5 µg/m^3. A total of 19 readings exceeded the primary standard. No readings exceeded the secondary standard of 150 µg/m^3.

On August 17, 2011, a total of 13,175 readings were collected for PM and compared to the NAAQS PM 2.5 standard of 35 µg/m^3. The average reading was 46.7 µg/m^3 with a maximum reading of 213.2 µg/m^3. A total of 8,536 readings exceeded the primary standard. A total of 21 readings exceeded the secondary standard of 150 µg/m^3 over a 135-minute timeframe.

On August 18, 2011, a total of 3,860 readings were collected for PM and compared to the NAAQS PM 2.5 standard of 35 µg/m^3. The average reading was 56.2 µg/m^3 with a maximum reading of 1,265.7 µg/m^3. A total of 3,128 readings exceeded the primary standard. A total of 145 readings exceeded the secondary standard of 150 µg/m^3 over a 193-minute timeframe.

CO

On August 16, 2011, a total of 2,617 readings were collected for CO and compared to the AEGL2 standard of 27 ppm. The average reading was 0.17 ppm with a maximum reading of 3.5 ppm. No readings exceeded the AEGL2 standard.

On August 17, 2011, a total of 13,285 readings were collected for CO and compared to the AEGL2 standard of 27 ppm. The average reading was 1.3 ppm with a maximum reading of 800 ppm. Four readings exceeded the AEGL2 8-hour standard value; however, the readings were not sustained over the 8-hour timeframe. One reading exceeded the AEGL2 10-minute standard value of 420 ppm, however, the reading was an isolated event sustained for no longer than 1 second.

On August 18, 2011, a total of 3,864 readings were collected for CO and compared to the AEGL2 standard of 27 ppm. All readings were below the detection limit.

VOCs

On August 16, 2011, a total of 4,888 readings were collected for VOCs and compared to the AEGL1 standard of 9 ppm for benzene. The average VOC reading was 0.2 ppm with a maximum reading of 3.5 ppm. No readings exceeded the AEGL1 standard for benzene.

On August 17, 2011, a total of 14,457 readings were collected for VOCs and compared to the AEGL1 standard of 9 ppm for benzene. The average VOC reading was 2.1 ppm with a

maximum reading of 800 ppm. The maximum reading was the only reading exceeding the AEGL1 8-hour standard value; however, the reading was an isolated event sustained for no longer than 1 second.

On August 18, 2011, a total of 7,728 readings were collected for VOCs and compared to the AEGL1 standard of 9 ppm for benzene. The average VOC reading was 0.5 ppm with a maximum reading of 3.5 ppm. No readings exceeded the AEGL1 standard for benzene.

WESTON START Static Air Monitoring Activities

In addition to the RAT air monitoring and data collection activities, static air monitoring was conducted on August 17, 2011, for NO2, SO2, and VOCs using AreaRAEs. A total of three AreaRAE units were deployed in downwind areas of the plume and nearby residential areas (**Figure 2** in **Attachment A**). AreaRAE Unit 2 was deployed near the intersection of East 15th and Royal Streets. AreaRAE Unit 3 was deployed on Knust Street near the single residence located south of the Site. AreaRAE Unit 4 was located in a gravel parking north of the Site near the InWood Office Invironments facility. **Table 1** in **Attachment C** summarizes the AreaRAE readings collected.

Units 2, 3, and 4 collected average NO2 readings of 0.05, 0.01, and 0 ppm, respectively. Unit 2 had a maximum NO2 reading of 0.4 ppm, Unit 3 had a maximum NO2 reading of 2.8 ppm, and Unit 4 had a maximum NO2 reading of 0 ppm. A total of 17 readings collected by Unit 2 exceeded the AEGL1 8-hour standard value; however, the readings were not sustained over the 8-hour timeframe. No readings from Units 3 or 4 exceeded the AEGL1 8-hour standard value. No readings exceeded the AEGL2 or AEGL3 standard values.

Units 2, 3, and 4 all collected average SO2 reading of less than 0.01 ppm. Unit 2 had a maximum SO2 reading of 0.3 ppm, Unit 3 had a maximum SO2 reading of 0.2 ppm, and Unit 4 had a maximum SO2 reading of 0.1 ppm. Three readings collected by Units 2 and 3 exceeded the AEGL1 standard value of 0.2 ppm that applies to all AEGL1 listed timeframes; however, the readings were not sustained for longer than 1 minute. No readings exceeded the AEGL2 or AEGL3 standard values.

Units 2 and 3 collected average VOC readings of 0.26 and 0.8 ppm, respectively. Unit 2 had a maximum VOC reading of 2.2 ppm, and Unit 3 had a maximum VOC reading of 5 ppm. Unit 4 experienced span calibration error before deployment. Therefore, the VOC sensor was disabled and no VOC data were collected. As previously stated, the AEGL1 value for benzene was used as the standard for comparison against VOC readings. No readings exceeded the AEGL1 standard value for benzene.

WESTON START Air Sampling Activities

On August 17, 2011, OSC Lam tasked WESTON START to collect an air sample (JM4-081711-Grab01) from within the plume emitted during the fire. WESTON START collected a grab

sample from within the plume using a 6-liter SUMMA canister and submitted the sample to a laboratory for analysis for VOCs using U.S. EPA's TO-15 Method. The sample location is shown in **Figure 18** in **Attachment A**.

On August 18, 2011, OSC Lam tasked WESTON START to collect the following samples to determine ambient air concentrations once the coal supply was consumed and the fire extinguished:

- Samples S-1, S-2, and S-3 for nitrogen oxide (NO) and NO2 analysis using National Institute for Occupational Safety and Health (NIOSH) 6014
- Samples S-4, S-5, and S-6 for total PM analysis using NIOSH 0500
- Samples S-7 and S-8 for SO2 analysis using Occupational Safety and Health Administration (OSHA) ID200 modified for SO2

Table 2 in **Attachment C** summarizes the samples collected from the Site, including the sample identification numbers, flow rate, volume, and analyses. The samples were collected from various locations near the Site as shown in **Figures 19 through 21** in **Attachment A**. WESTON START collected the samples for NO and NO2 and SO2 analysis using Gilian GilAir-5 sampling pumps and sorbent media. The samples for total PM analysis were collected using mixed cellulose ester (MCE) membrane cassettes. All sampling information was recorded in the Site logbook or field sampling form, and the samples were recorded on chain-of-custody forms. All samples, including the SUMMA canister sample, were submitted to ALS Datachem Laboratories, Inc., in Cincinnati, Ohio.

ANALYTICAL RESULTS

As discussed above, WESTON START collected nine air samples, JM4-081711-Grab01 and S-1 through S-8. **Table 3** in **Attachment C** summarizes the total VOC analytical results for sample JM4-081711-Grab01. **Table 4** in **Attachment C** summarizes the NO and NO2, total PM, and SO2 analytical results for samples S-1 through S-8. **Attachment D** provides the data validation report, validated laboratory analytical results, and field sampling form for the samples. Analytical results were compared to the AEGL1, AEGL2, or NAAQS values as applicable.

Sample JM4-0817110-Grab01 contained 2-butanone, also known as methyl ethyl ketone (MEK), at a concentration of 4.3 parts per billion by volume (ppbv). This result does not exceed the AEGL1 standard of 200,000 ppbv for MEK. The sample also contained 2-propanol and acetone at concentrations of 1.4 and 24 ppbv, respectively. There are no applicable standards for 2-propanol or acetone.

Samples S-1 through S-8 did not contain detectable concentrations of NO or NO2, total PM, or SO2.

CONCLUSIONS

From August 16 through 18, 2011, WESTON START collected 93,537 data points for H2S, NO2, PM, CO, and VOCs using RAT. Maximum readings were 100 ppm for H2S, 44.6 ppm for NO2, 800 ppm for CO, and 800 ppm for VOCs. The maximum PM reading was 1,265.7 µg/m^3. Maximum readings for all parameters except PM were obtained on August 17, 2011, when emissions were bypassing installed pollution controls at the power plant. Air monitoring readings for all parameters except PM were lowest on August 18, 2011, after the fire had consumed all available coal and was extinguished.

On August 17, 2011, 35,826 static air monitoring data points were collected for NO2, SO2, and VOCs utilizing AreaRAE units. The maximum NO2, SO2, and VOC readings were 2.8, 0.3, and 5 ppm, respectively.

On August 17, 2011, a grab sample (JM4-081711-Grab01) was collected from within the plume using a 6-liter SUMMA canister and analyzed for total VOCs. The sample contained MEK at a concentration of 4.3 ppbv. This result does not exceed the AEGL1 standard of 200,000 ppbv for MEK. The sample also contained 2-propanol and acetone at concentrations of 1.4 and 24 ppbv, respectively. There are no applicable standards for 2-propanol or acetone. On August 18, 2011, samples S-1 through S-8 were collected to determine ambient air concentrations once the coal supply was consumed and the fire extinguished. Samples S-1 through S-8 did not contain detectable concentrations of NO or NO2, total PM, or SO2.

This letter report serves as the final deliverable for this TDD. WESTON START anticipates no further activities under this TDD. If you have any questions or comments about the report or need additional copies, please contact me at (847) 918-4084.

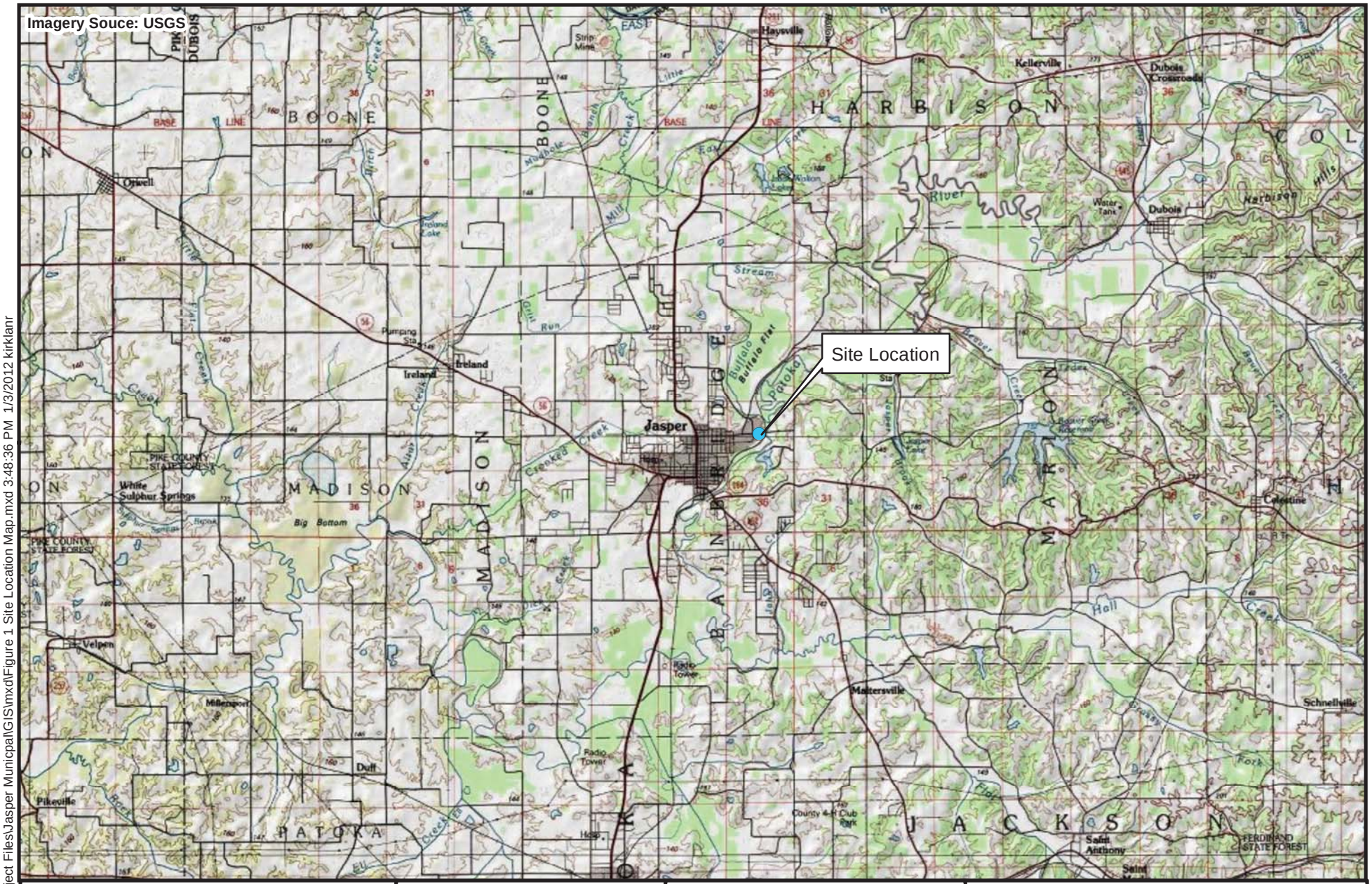
Sincerely,
WESTON SOLUTIONS, INC.

Ben Maradkel
WESTON START Project Manager

Attachments:
A – Figures
B – Photographic Documentation
C – Tables
D – Data Validation Report, Validated Analytical Results, and Field Sampling Form

cc: WESTON START DCN File

ATTACHMENT A
FIGURES



FILE: C:\START Project Files\Jasper Municipal\GIS\mxd\Figure 1 Site Location Map.mxd 3:48:36 PM 1/3/2012 kirklanr

Prepared For:
U.S. EPA REGION V
Contract No.: EP-S5-06-04
TDD: S05-0001-1108-011
DCN: 1564-2A-ASNH

Prepared By:
WESTON SOLUTIONS
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Figure 1
Site Location Map
Jasper Municipal Utilities Coal Fire
Jasper, Dubois County, Indiana

FILE: C:\START Project Files\Jasper Municipal\GIS\mxd\Figure 2 Site Layout Map.mxd 3:49:50 PM 1/3/2012 kirklanr

Legend

AreaRae Unit (*Unit #1 was not utilized)

Site Boundary

0 500 Feet

N

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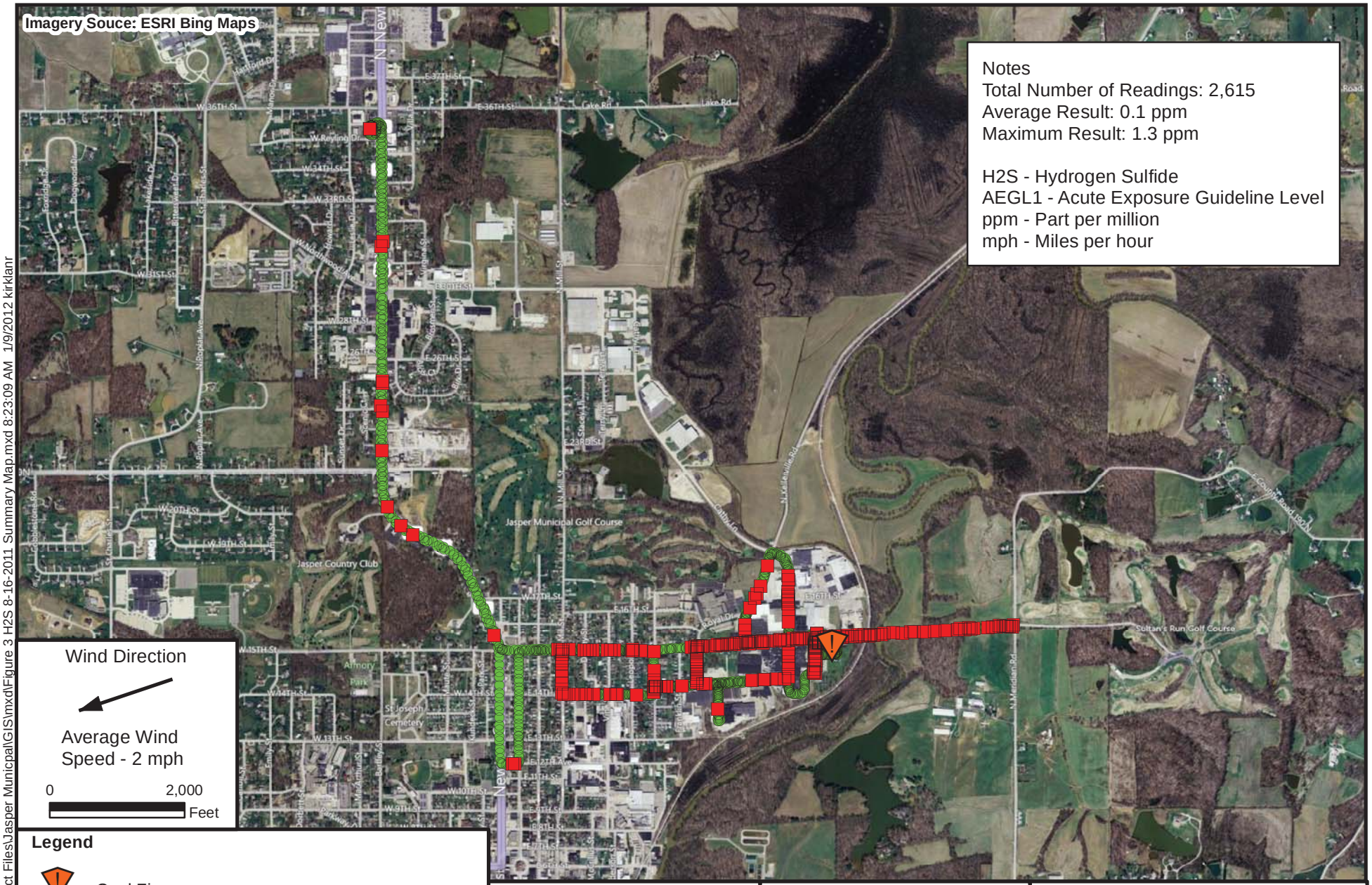
Figure 2
Site Layout Map
Jasper Municipal Utilities Coal Fire
Jasper, Dubois County, Indiana



FILE: C:\START Project Files\Jasper MunicipalGIS\mxd\Figure 3 H2S 8-16-2011 Summary Map.mxd 8:23:09 AM 1/9/2012 kirklanr

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Figure 3
RAT Summary Map for H2S Readings; 08/16/2011
Jasper Municipal Utilities Coal Fire
Jasper, Dubois County, Indiana

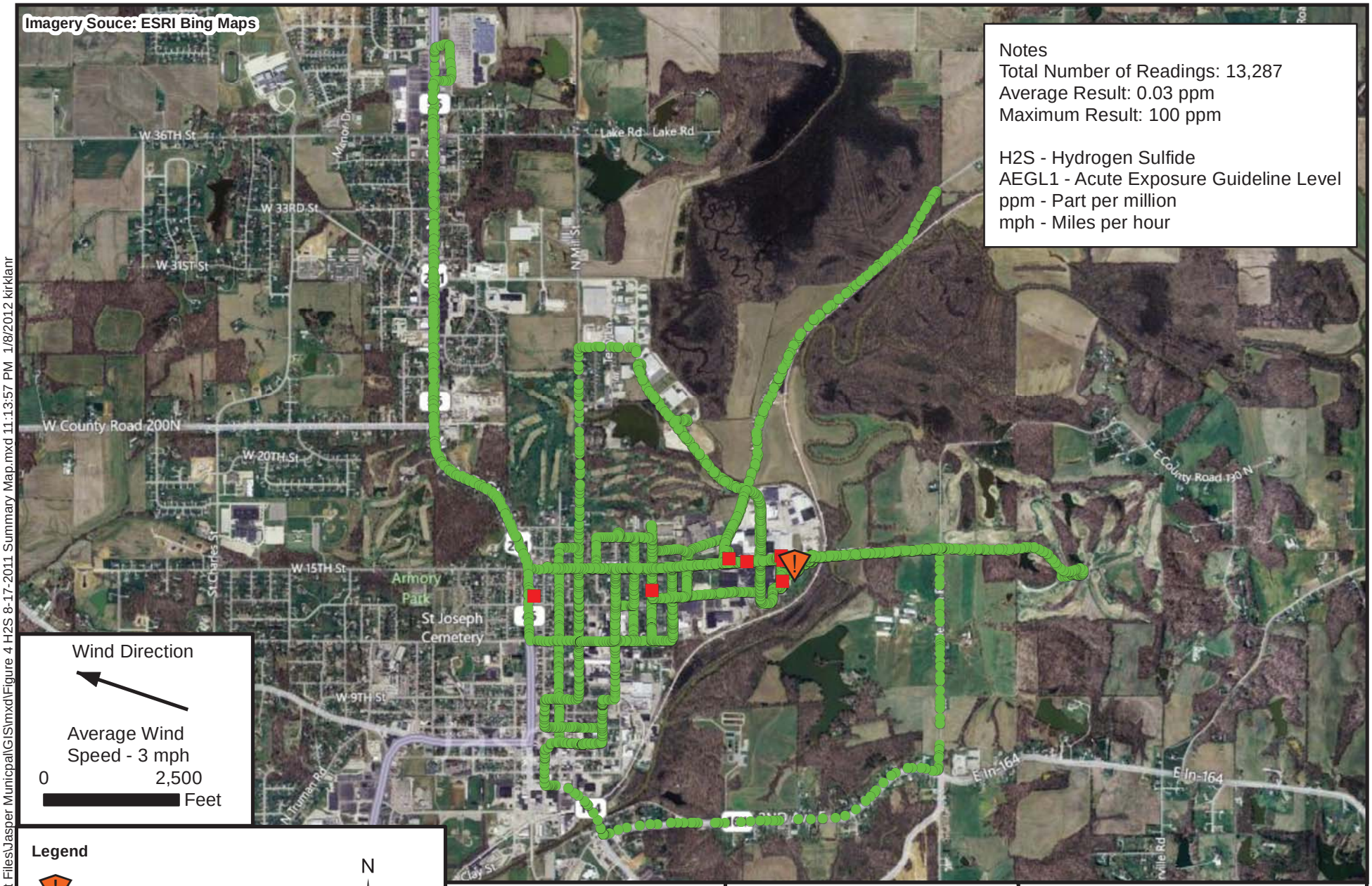

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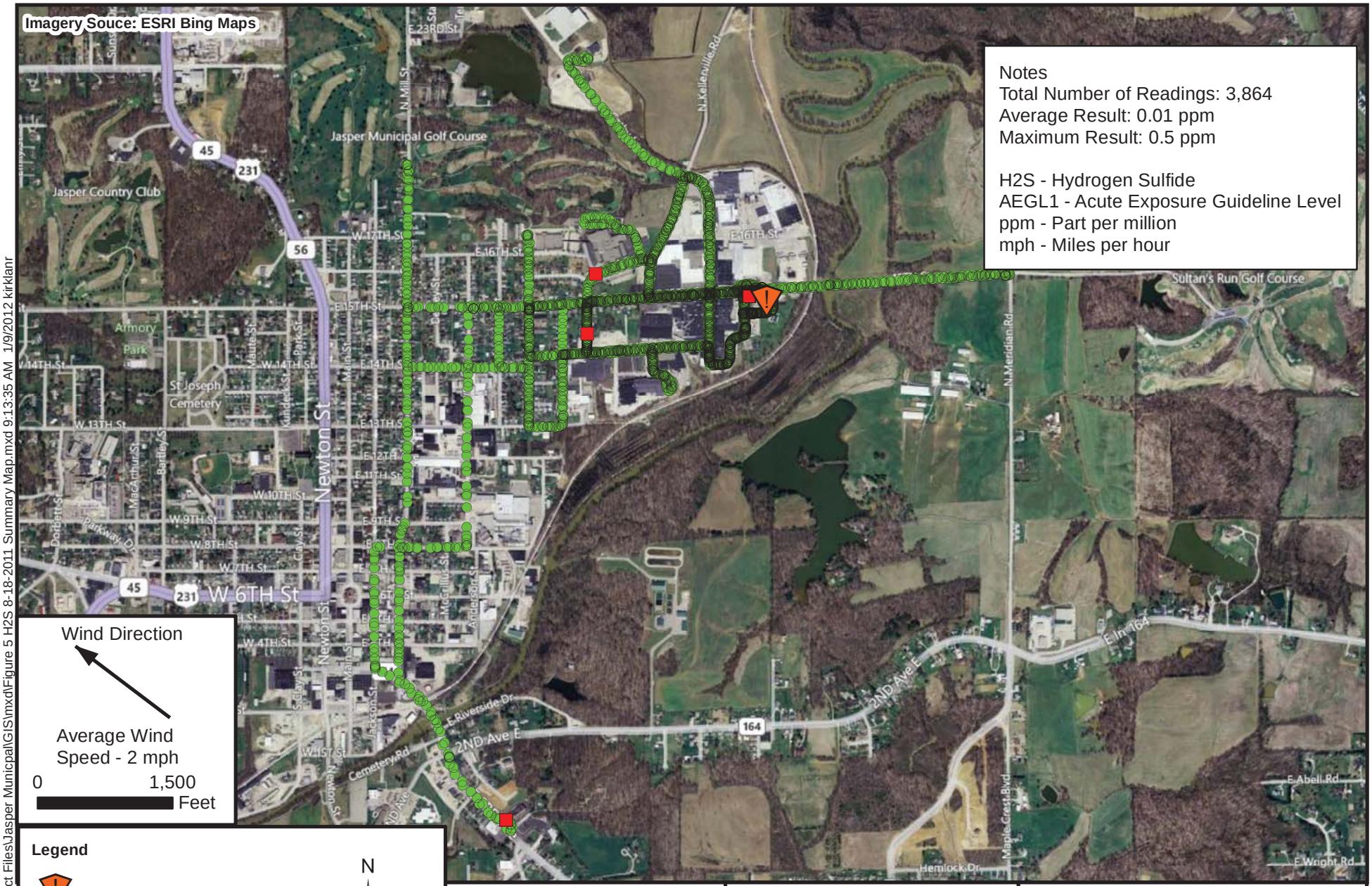
Figure 4
RAT Summary Map for H2S Readings; 08/17/2011
Jasper Municipal Utilities Coal Fire
Jasper, Dubois County, Indiana

FILE: C:\START Project Files\Jasper Municipal\GIS\mxd\Figure 4 H2S 8-17-2011 Summary Map.mxd 11:13:57 PM 1/8/2012 kirklanr



FILE: C:\START Project Files\Jasper MunicipalGIS\mxd\Figure 5 H2S 8-18-2011 Summary Map.mxd 9:13:35 AM 1/9/2012 kirklanr

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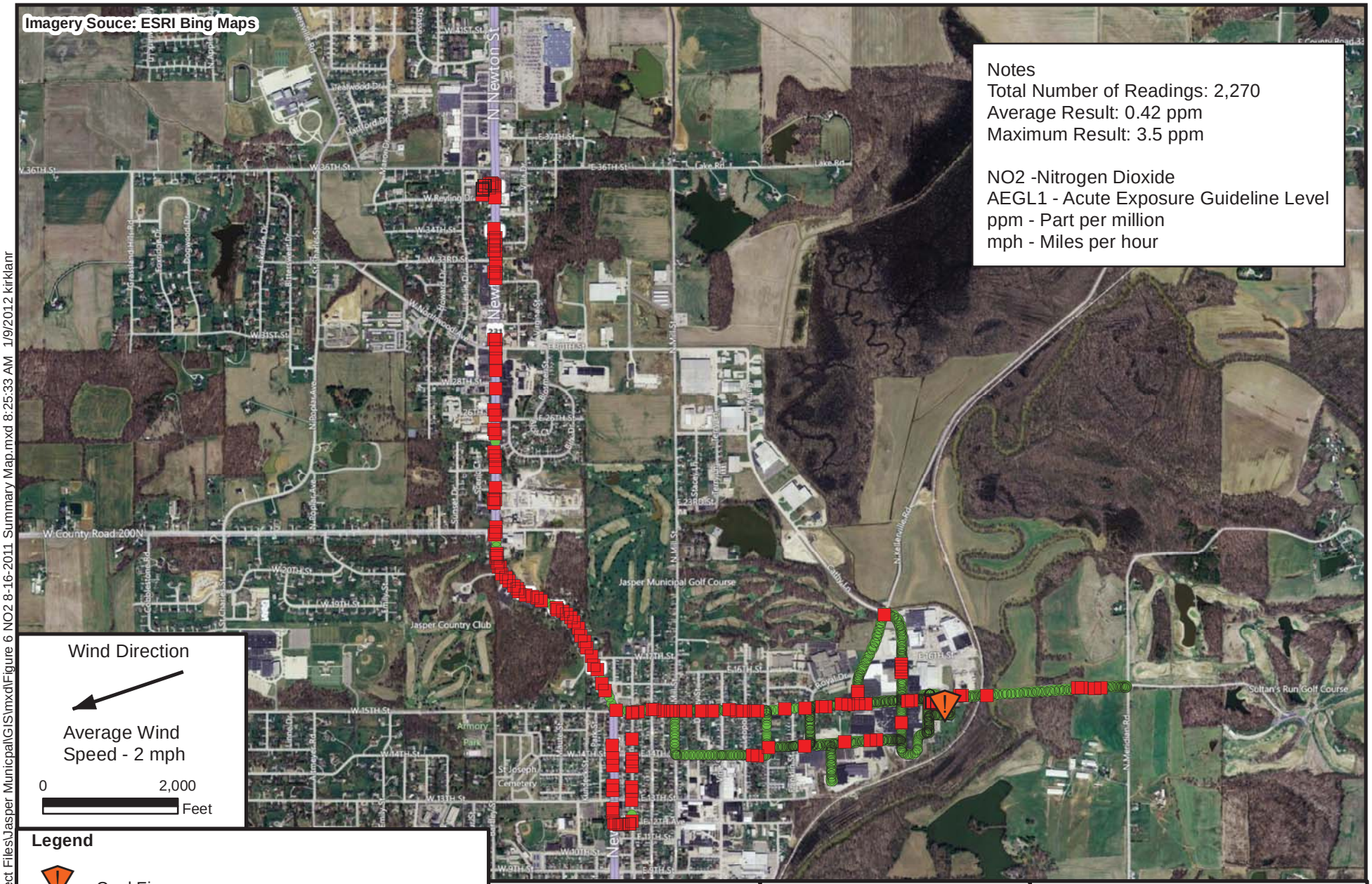
Figure 5
RAT Summary Map for H2S Readings; 08/18/2011
Jasper Municipal Utilities Coal Fire
Jasper, Dubois County, Indiana



FILE: C:\START Project Files\Jasper Municipal\GIS\mxd\Figure 6 NO2 8-16-2011 Summary Map.mxd 8:25:33 AM 1/9/2012 kirklanr

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Figure 6
RAT Summary Map for NO2
Readings; 08/16/2011
Jasper Municipal Utilities Coal Fire
Jasper, Dubois County, Indiana

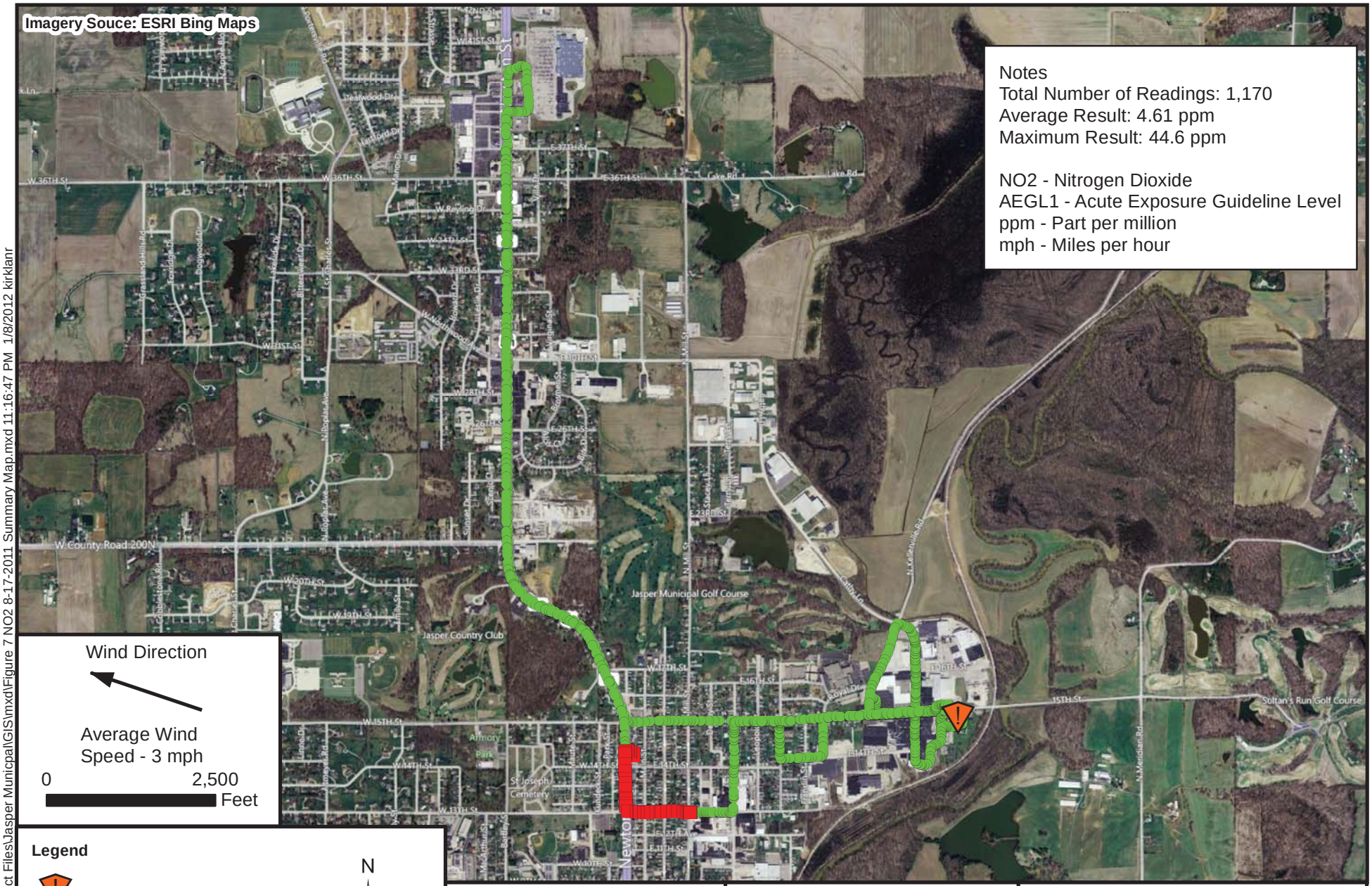

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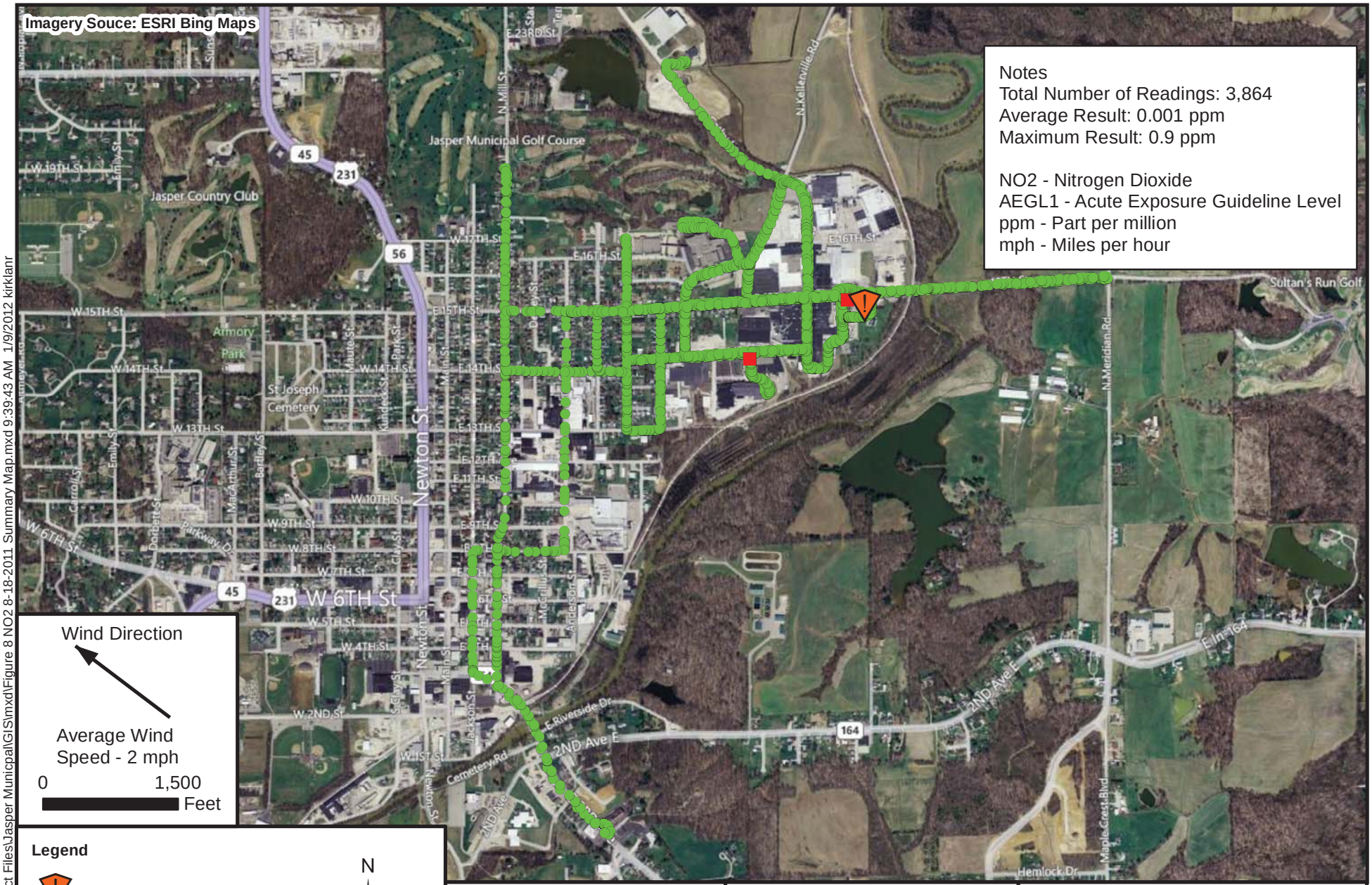
Figure 7
RAT Summary Map for NO2
Readings; 08/17/2011
Jasper Municipal Utilities Coal Fire
Jasper, Dubois County, Indiana

FILE: C:\START Project Files\Jasper Municipal\GIS\mxd\Figure 7 NO2 8-17-2011 Summary Map.mxd 11:16:47 PM 1/8/2012 kirklanr



FILE: C:\START Project Files\Jasper Municipal\GIS\mxd\Figure 8 NO2 8-18-2011 Summary Map.mxd 9:39:43 AM 1/9/2012 kirklanr

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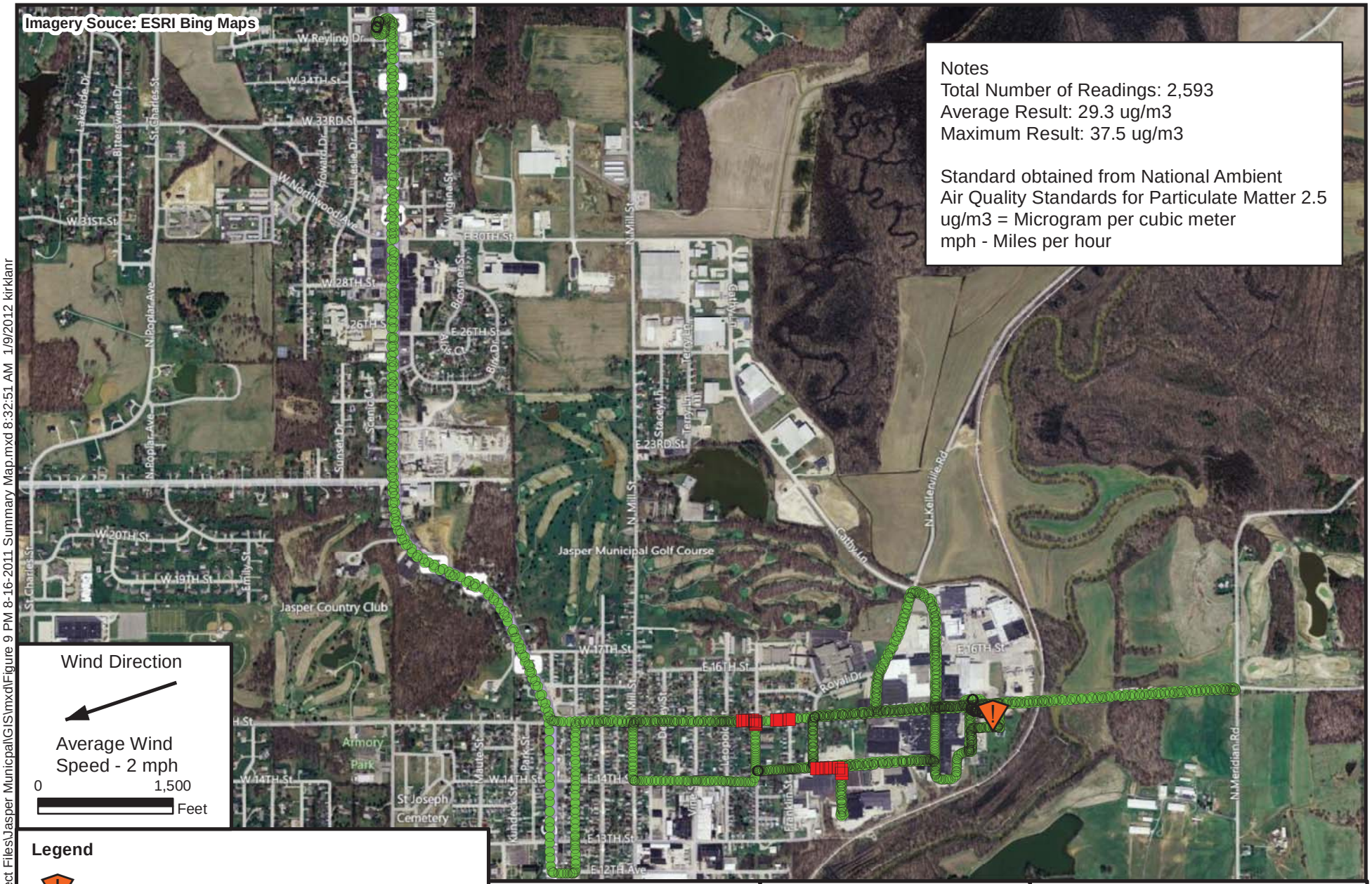
Figure 8
RAT Summary Map for NO2
Readings; 08/18/2011
Jasper Municipal Utilities Coal Fire
Jasper, Dubois County, Indiana



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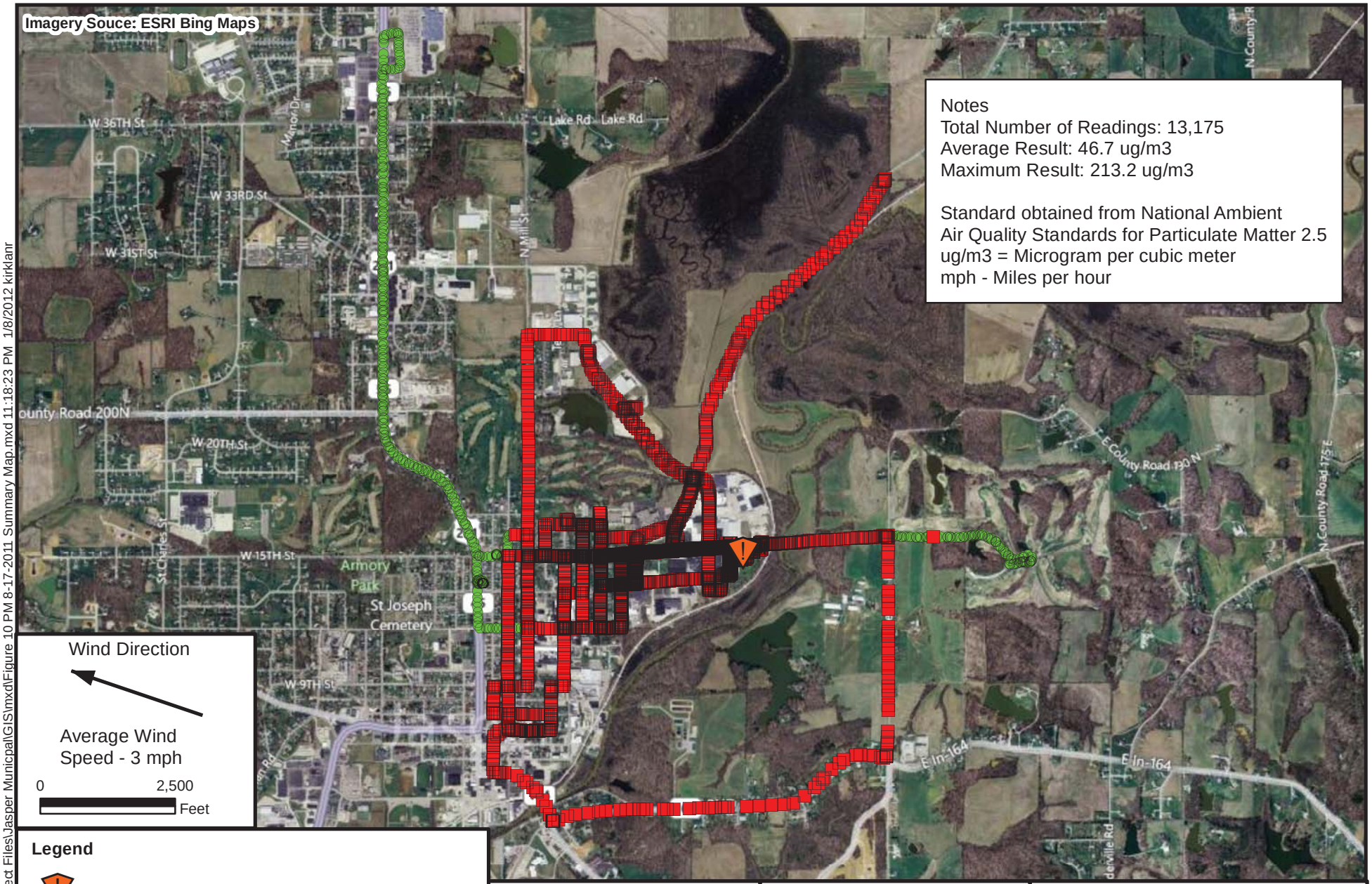

FILE: C:\START Project Files\Jasper Municpal\GIS\mxd\Figure 10 PM 8-17-2011 Summary Map.mxd 11:18:23 PM 1/8/2012 kirklanr

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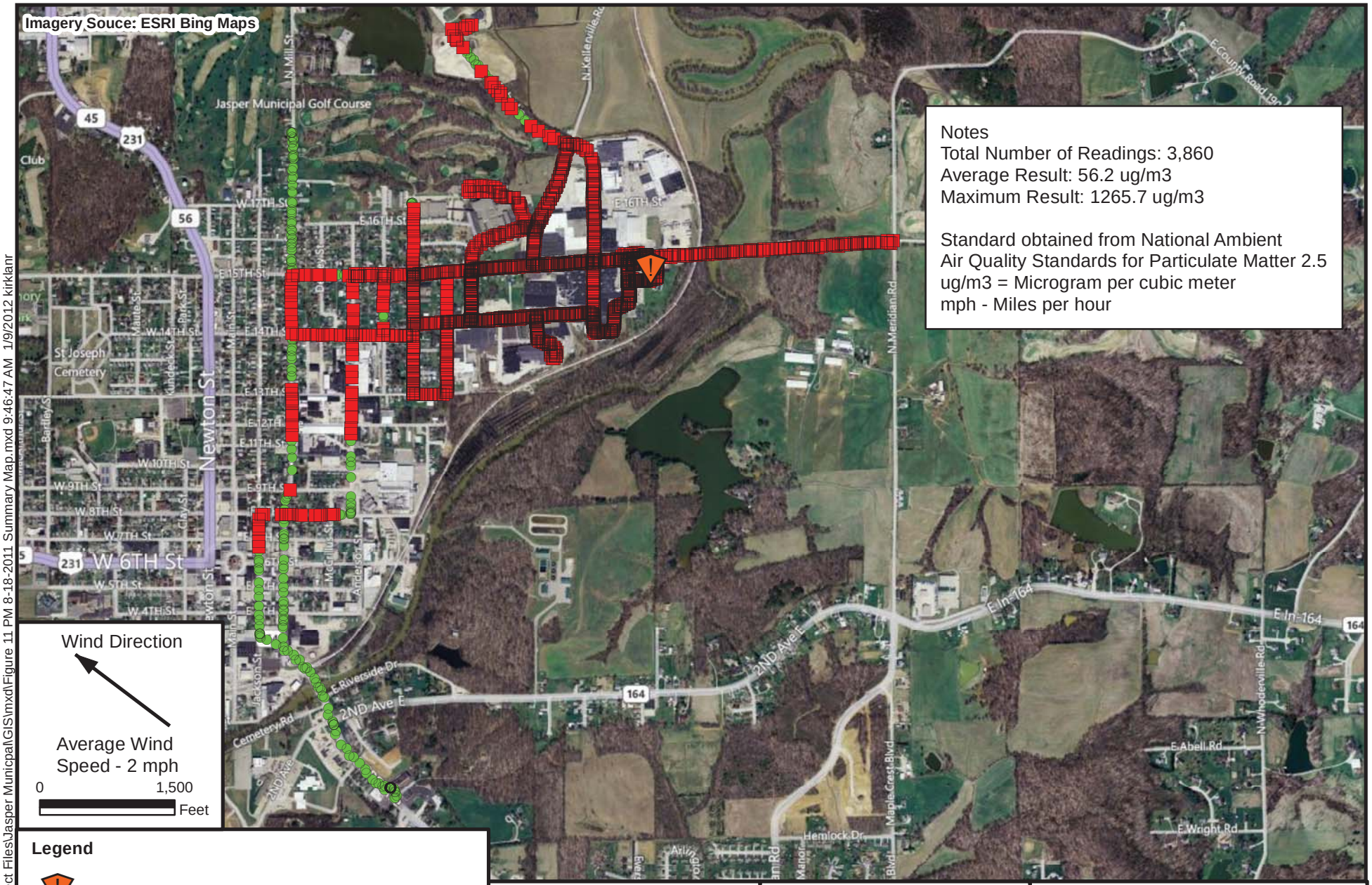
Suite 500
Vernon Hills, Illinois 60061

Figure 10
RAT Summary Map for Particulate Readings; 08/17/2011
Jasper Municipal Utilities Coal Fire
Jasper, Dubois County, Indiana



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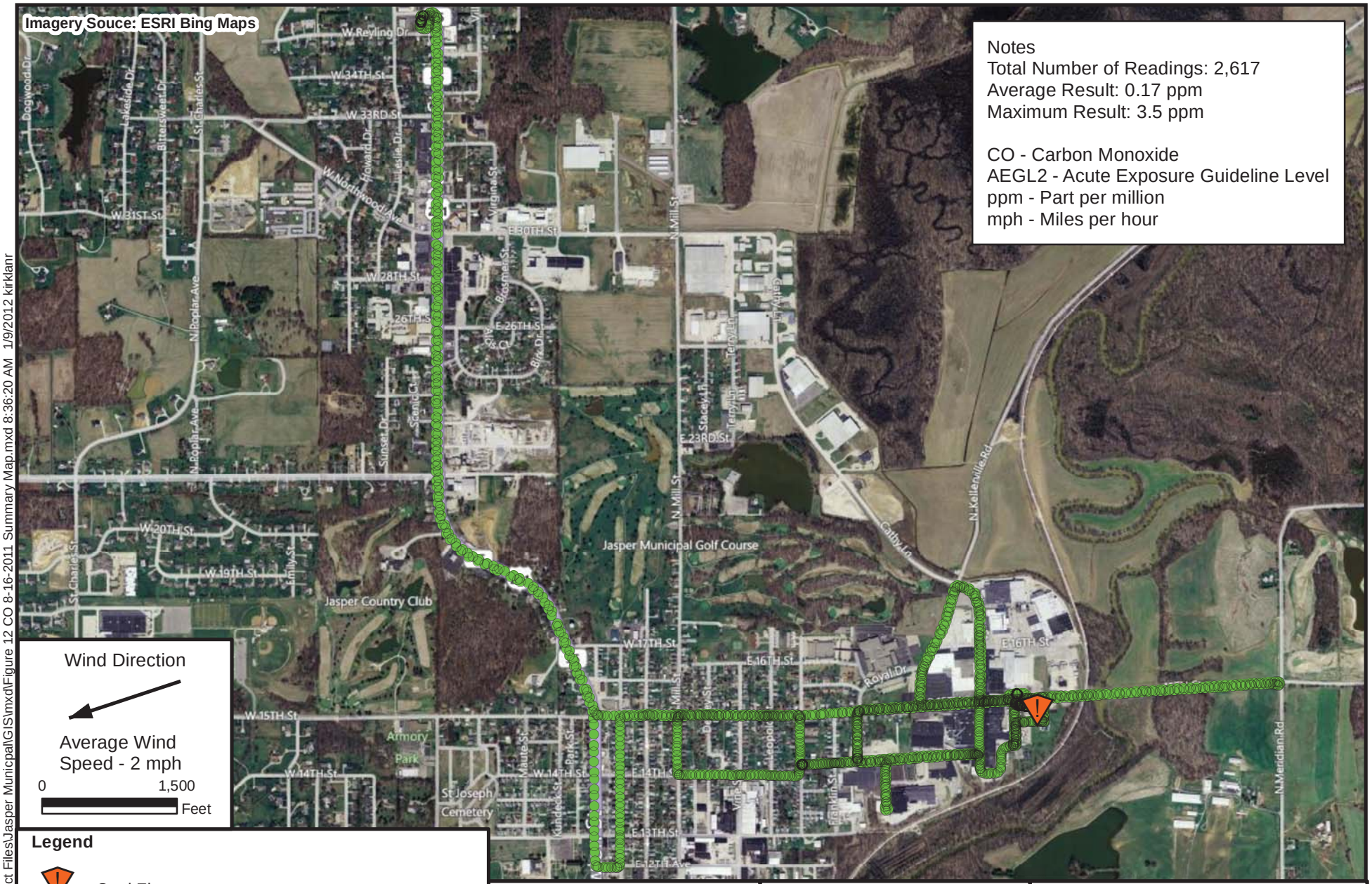
TDD: S05-0001-1108-011
DCN: 1564-2A-ASNH

Prepared By:
WESTON SOLUTIONS
750 E Bunker Ct
Suite 500
Vernon Hills, Illinois 60061

Figure 11
RAT Summary Map for Particulate Readings; 08/18/2011
Jasper Municipal Utilities Coal Fire
Jasper, Dubois County, Indiana

FILE: C:\START Project Files\Jasper Municipal\GIS\mxd\Figure 11 PM 8-18-2011 Summary Map.mxd 9:46:47 AM 1/9/2012 kirklanr

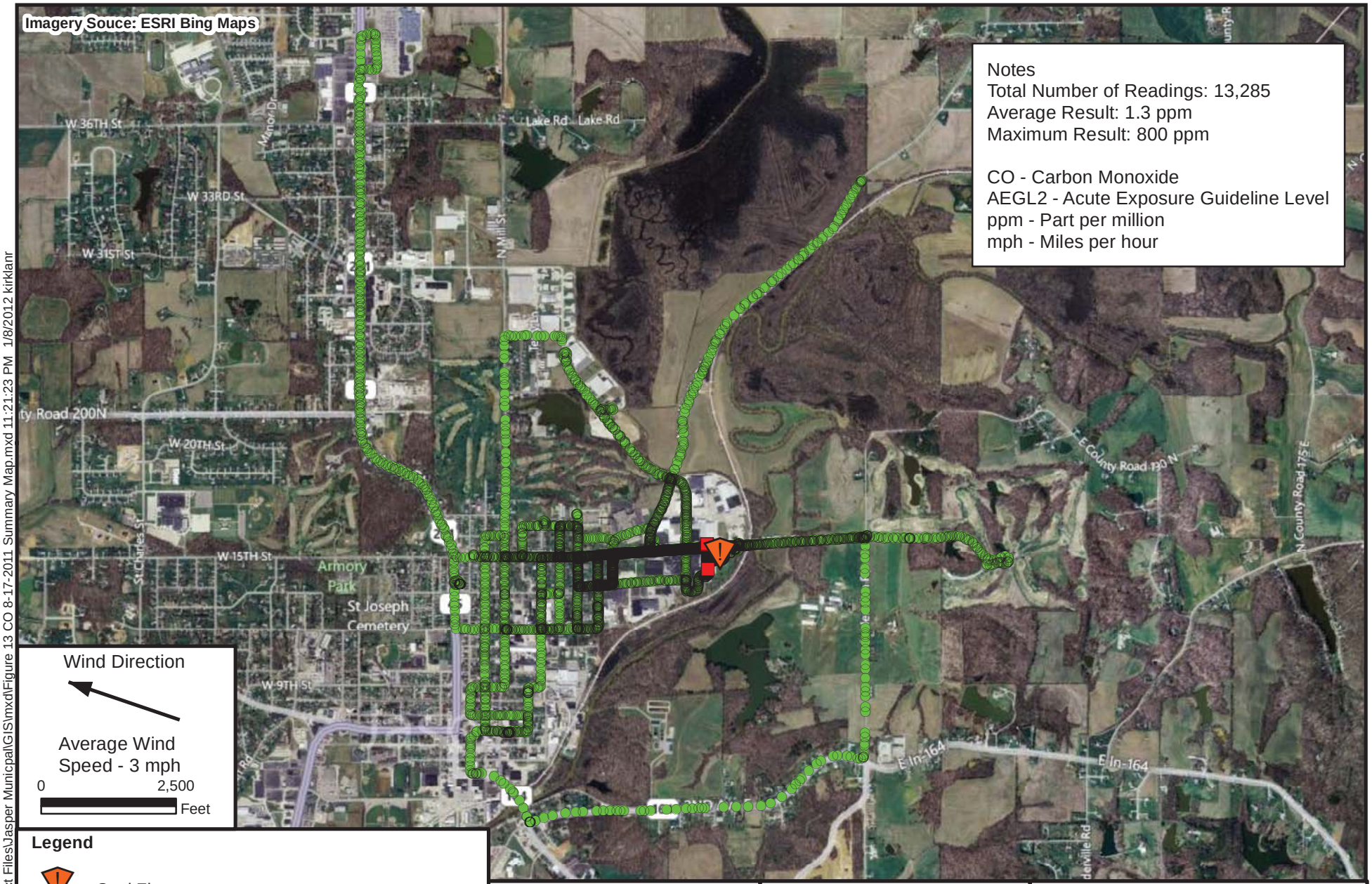


Prepared For:
U.S. EPA REGION V
Contract No.: EP-S5-06-04
TDD: S05-0001-1108-011
DCN: 1564-2A-ASNH

Prepared By:
WESTON SOLUTIONS
750 E Bunker Ct
Suite 500
Vernon Hills, Illinois 60061

Figure 12
RAT Summary Map for CO Readings; 08/16/2011
Jasper Municipal Utilities Coal Fire
Jasper, Dubois County, Indiana

FILE: C:\START Project Files\Jasper Municipal\GIS\mxd\Figure 12 CO 8-16-2011 Summary Map.mxd 8:36:20 AM 1/9/2012 kirklanr

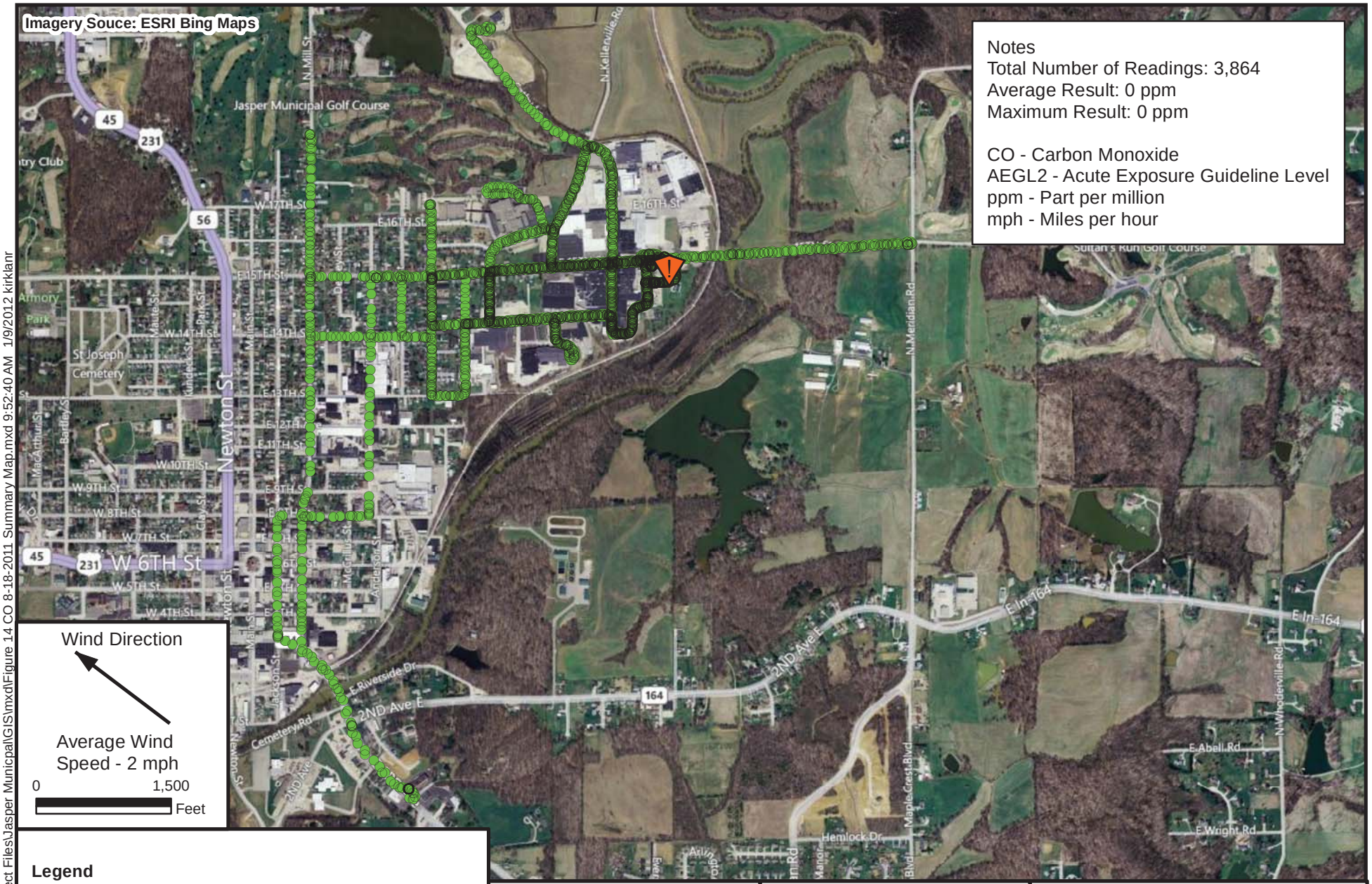


FILE: C:\START Project Files\Jasper Municpal\GIS\mxd\Figure 13 CO 8-17-2011 Summary Map.mxd 11:21:23 PM 1/8/2012 kirklanr

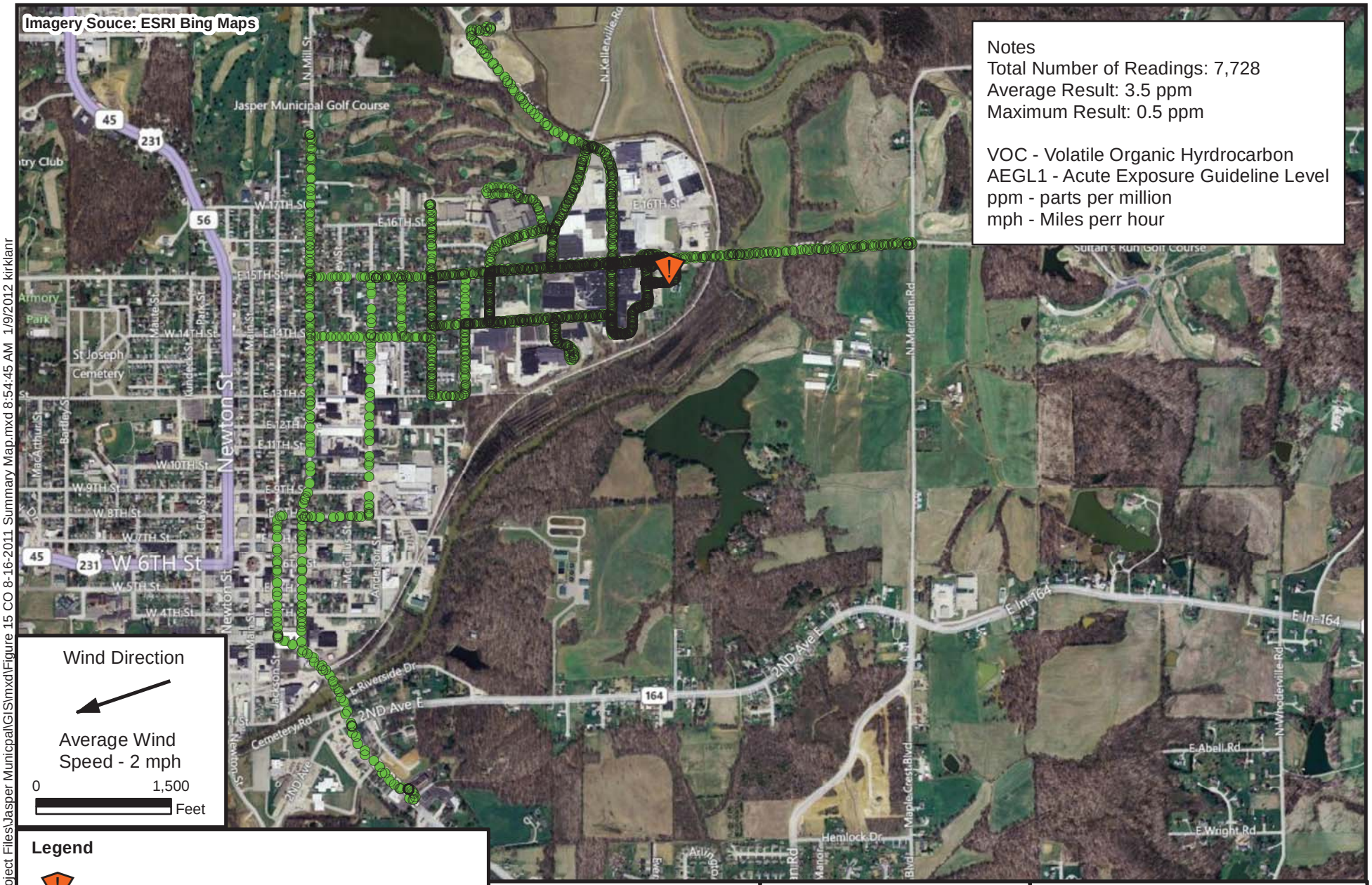
Prepared For:
U.S. EPA REGION V
Contract No.: EP-S5-06-04
TDD: S05-0001-1108-011
DCN: 1564-2A-ASNH

Prepared By:
WESTON SOLUTIONS
750 E Bunker Ct
Suite 500
Vernon Hills, Illinois 60061

Figure 13
RAT Summary Map for CO Readings; 08/17/2011
Jasper Municipal Utilities Coal Fire
Jasper, Dubois County, Indiana



FILE: C:\START Project Files\Jasper Municipal\GIS\mxd\Figure 14 CO 8-18-2011 Summary Map.mxd 9:52:40 AM 1/9/2012 kirklanr

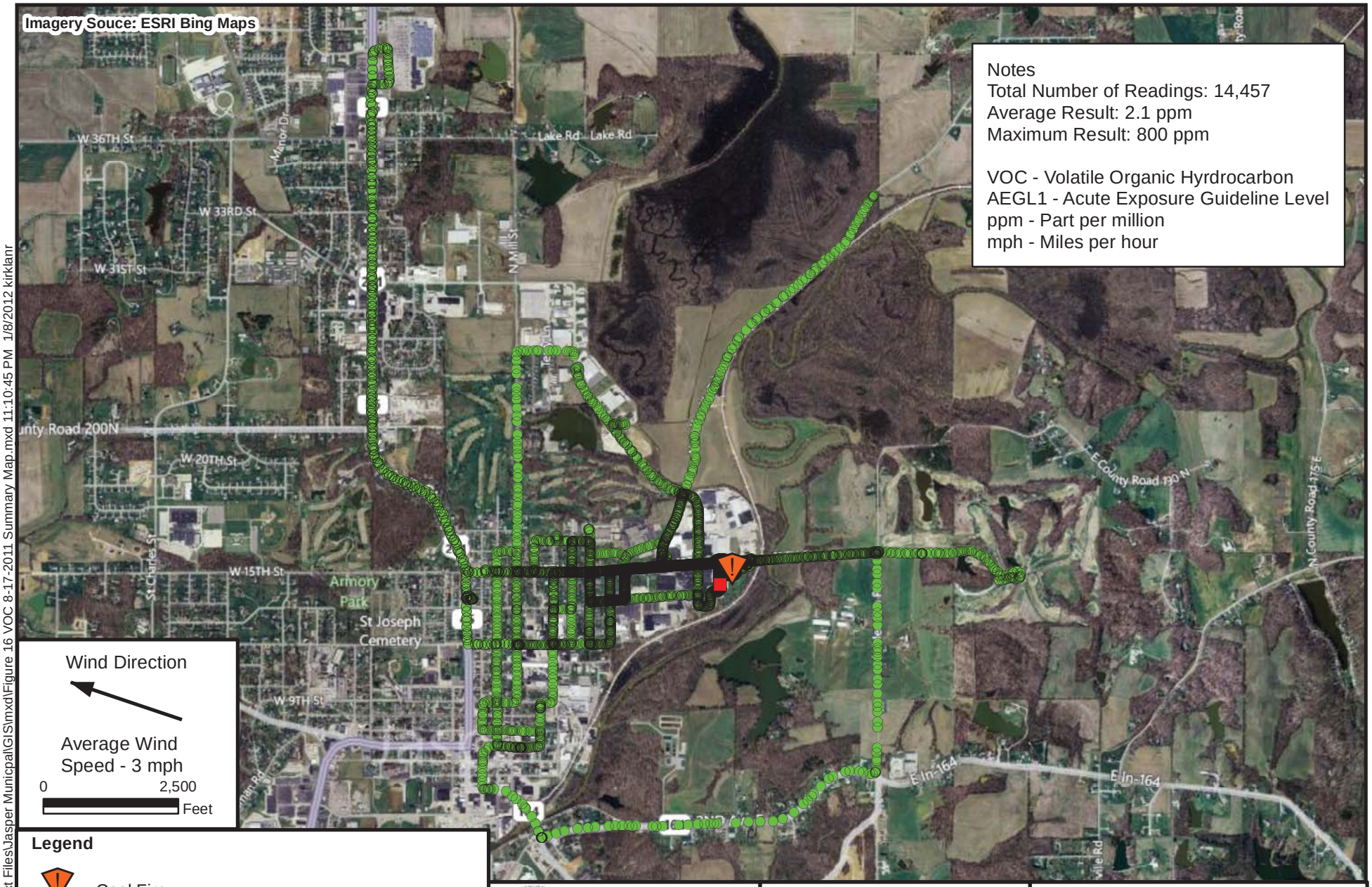


FILE: C:\START Project Files\Jasper Municipal\GIS\mxd\Figure 15 CO 8-16-2011 Summary Map.mxd 8:54:45 AM 1/9/2012 kirklanr

Prepared For:
U.S. EPA REGION V
Contract No.: EP-S5-06-04
TDD: S05-0001-1108-011
DCN: 1564-2A-ASNH

Prepared By:
WESTON SOLUTIONS
4710-A Interstate Drive
Cincinnati, Ohio 45246

Figure 15
RAT Summary Map for VOC Readings; 08/16/2011
Jasper Municipal Utilities Coal Fire
Jasper, Dubois County, Indiana

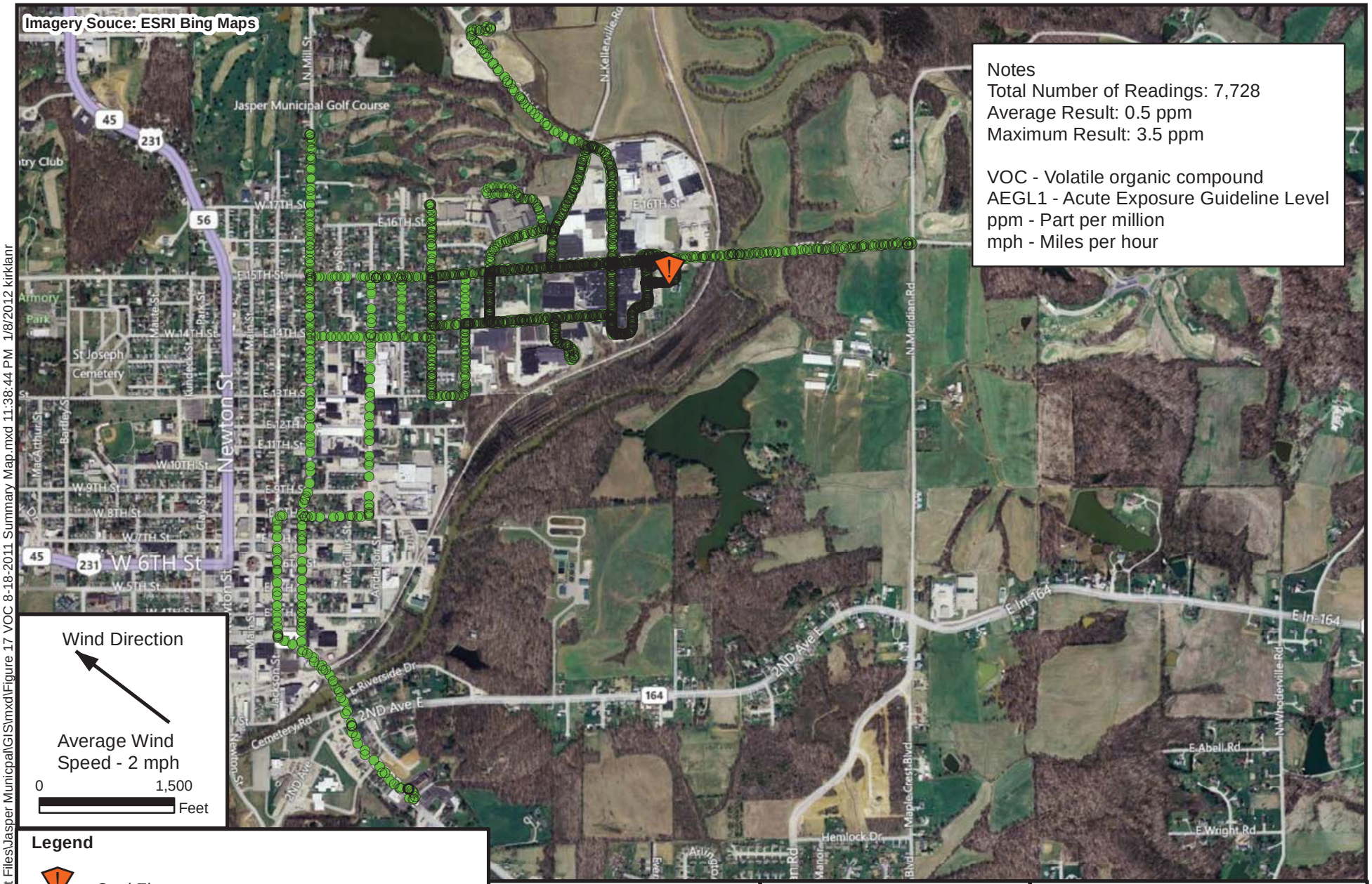


FILE: C:\START Project Files\Jasper Municpal\GIS\mxd\Figure 16 VOC 8-17-2011 Summary Map.mxd 11:10:45 PM 1/8/2012 kirklanr

Prepared For:
U.S. EPA REGION V
Contract No.: EP-S5-06-04
TDD: S05-0001-1108-011
DCN: 1564-2A-ASNH

Prepared By:
WESTON SOLUTIONS
750 E Bunker Ct
Suite 500
Vernon Hills, Illinois 60061

Figure 16
RAT Summary Map for VOC Readings; 08/17/2011
Jasper Municipal Utilities Coal Fire
Jasper, Dubois County, Indiana



Notes
Total Number of Readings: 7,728
Average Result: 0.5 ppm
Maximum Result: 3.5 ppm

VOC - Volatile organic compound
AEGL1 - Acute Exposure Guideline Level
ppm - Part per million
mph - Miles per hour

Prepared For:
U.S. EPA REGION V
Contract No.: EP-S5-06-04
TDD: S05-0001-1108-011
DCN: 1564-2A-ASNH

Prepared By:
WESTON SOLUTIONS
750 E Bunker Ct
Suite 500
Vernon Hills, Illinois 60061

Figure 17
RAT Summary Map for VOC Readings; 08/18/2011
Jasper Municipal Utilities Coal Fire
Jasper, Dubois County, Indiana

FILE: C:\START Project Files\Jasper Municipal\GIS\mxd\Figure 17 VOC 8-18-2011 Summary Map.mxd 1/8/2012 11:38:44 PM kirklanr

FILE: C:\START Project Files\Jasper Municipal\GIS\mxd\Figure 18 VOC Sampling Location Map.mxd 10:37:45 AM 1/9/2012 kirklanr

Legend

- Approximate Total VOC Sampling Location
- Site Boundary

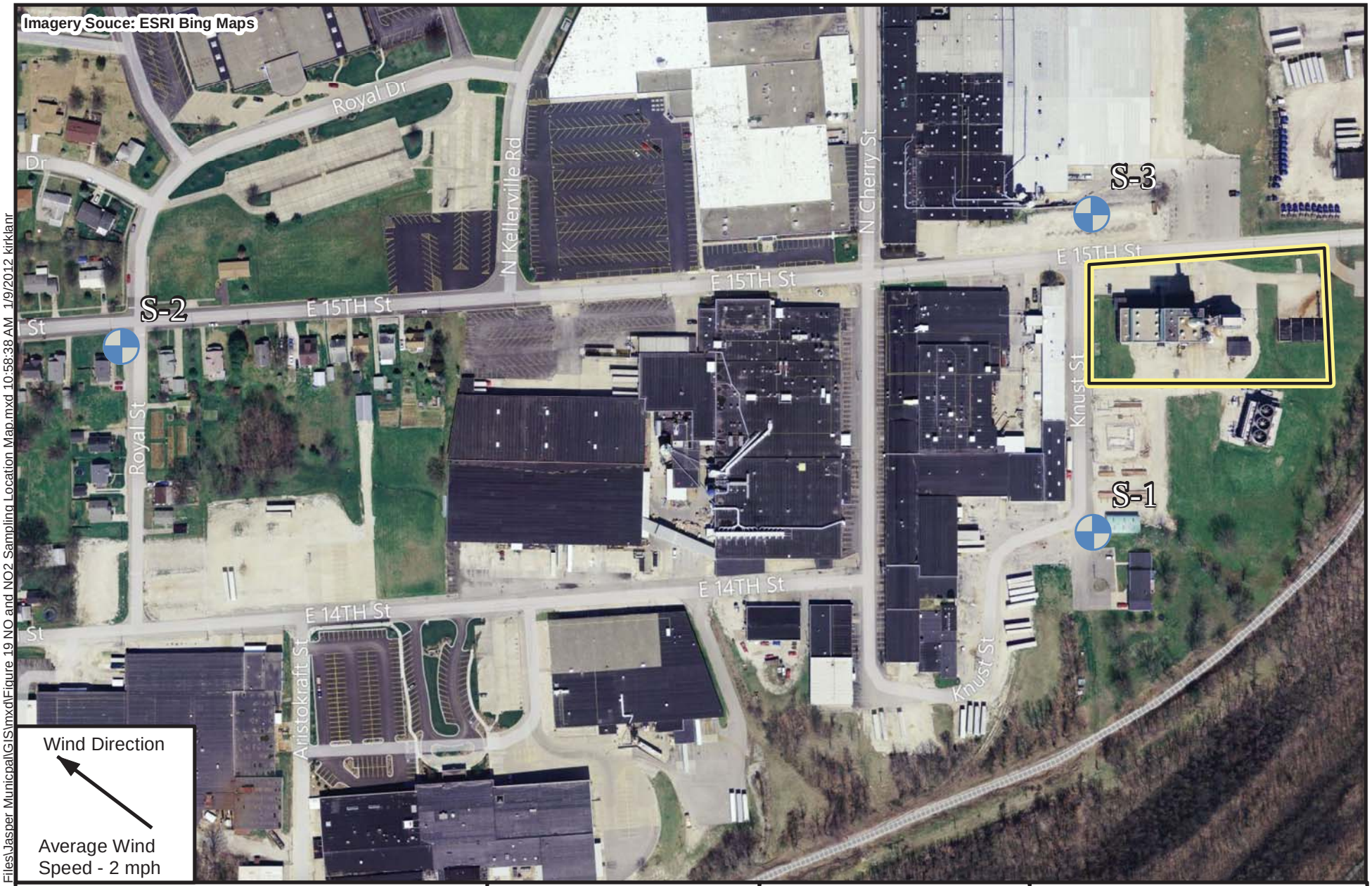
0 125 Feet

N

Prepared For:
U.S. EPA REGION V
Contract No.: EP-S5-06-04
TDD: S05-0001-1108-011
DCN: 1564-4D-ASNH

Prepared By:
WESTON SOLUTIONS
750 E Bunker Ct
Suite 500
Vernon Hills, Illinois 60061

Figure 18
Total VOC Sampling Location Map
Jasper Municipal Utilities Coal Fire
Jasper, Dubois County, Indiana



Legend

Approximate NO and NO2 Sampling Location

Site Boundary

0 250 Feet

N

Prepared For:
U.S. EPA REGION V
Contract No.: EP-S5-06-04
TDD: S05-0001-1108-011
DCN: 1564-4D-ASNH

Prepared By:
WESTON SOLUTIONS
750 E Bunker Ct
Suite 500
Vernon Hills, Illinois 60061

Figure 19
NO and NO2 Sampling Location Map
Jasper Municipal Utilities Coal Fire
Jasper, Dubois County, Indiana

FILE: C:\START Project Files\Jasper Municipal\GIS\mxd\Figure 19 NO and NO2 Sampling Location Map.mxd 10:56:38 AM 1/9/2012 kirklanr

FILE: C:\START Project Files\Jasper Municipal\GIS\mxd\Figure 20 Total PM Sampling Location Map.mxd 10:56:10 AM 1/9/2012 kirklanr

Legend

- Approximate Total PM Sampling Location
- Site Boundary

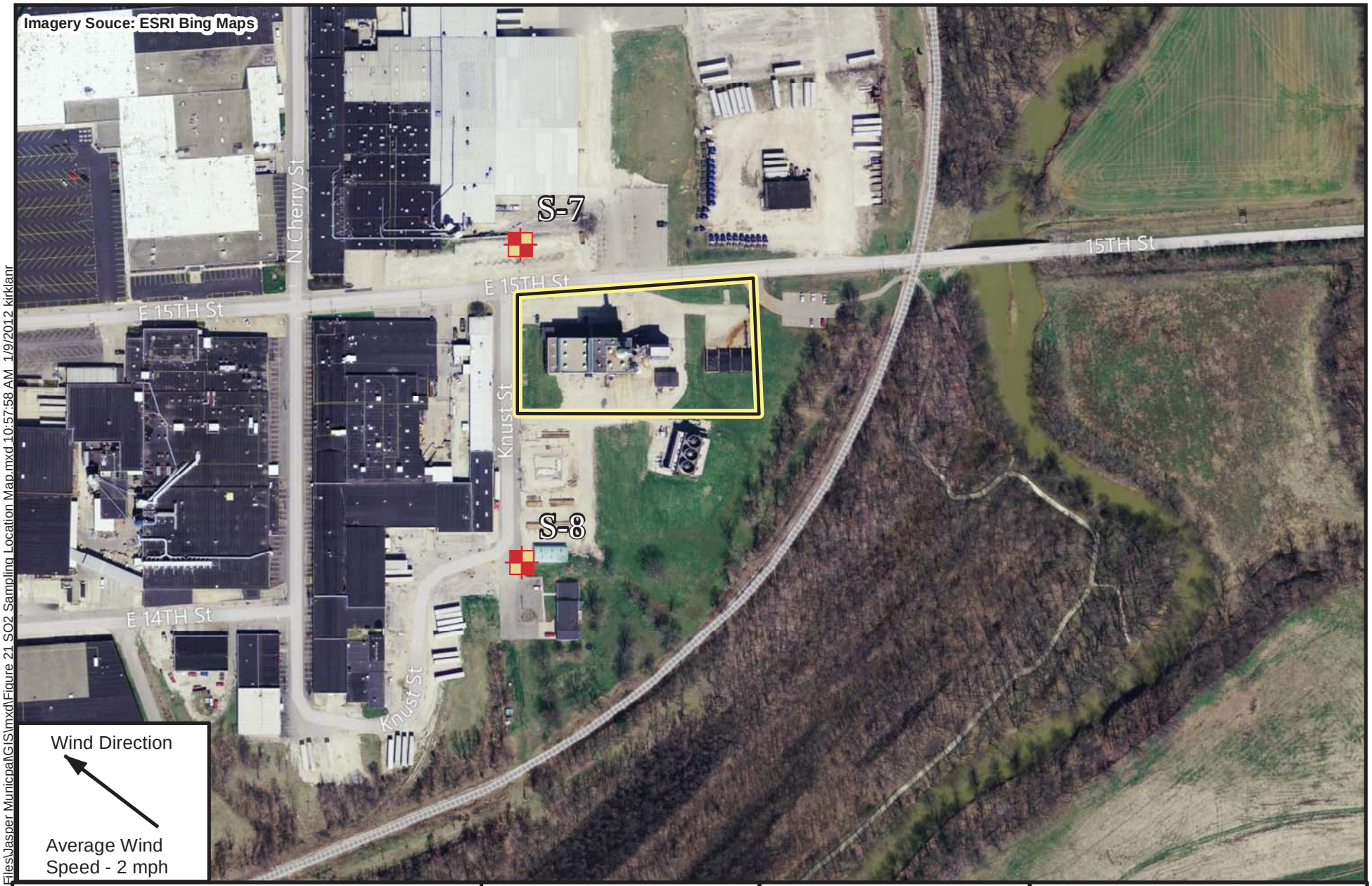
0 250 Feet

N

Prepared For:
U.S. EPA REGION V
Contract No.: EP-S5-06-04
TDD: S05-0001-1108-011
DCN: 1564-4D-APOM

Prepared By:
WESTON SOLUTIONS
750 E Bunker Ct
Suite 500
Vernon Hills, Illinois 60061

Figure 20
Total PM Sampling Location Map
Jasper Municipal Utilities Coal Fire
Jasper, Dubois County, Indiana



Legend

Approximate SO2 Sampling Location

Site Boundary

0 250 Feet

N

Prepared For:
U.S. EPA REGION V
Contract No.: EP-S5-06-04
TDD: S05-0001-1108-011
DCN: 1564-4D-APOM

Prepared By:
WESTON SOLUTIONS
750 E Bunker Ct
Suite 500
Vernon Hills, Illinois 60061

Figure 21
SO2 Sampling Location Map
Jasper Municipal Utilities Coal Fire
Jasper, Dubois County, Indiana

FILE: C:\START Project Files\Jasper Municipal\GIS\mxd\Figure 21 SO2 Sampling Location Map.mxd 10:57:58 AM 1/9/2012 kirklanr

ATTACHMENT B
PHOTOGRAPHIC DOCUMENTATION

Site: Jasper Municipal Utilities Coal Fire
Photograph No.: 1 **Date:** 8/17/11
Direction: South **Photographer:** David Sena
Subject: DataRAM with PM 2.5 impactor head installed

Site: Jasper Municipal Utilities Coal Fire
Photograph No.: 2 **Date:** 8/17/11
Direction: Southwest **Photographer:** David Sena
Subject: Power plant building

Site: Jasper Municipal Utilities Coal Fire
Photograph No.: 3 **Date:** 8/17/11
Direction: East **Photographer:** David Sena
Subject: River walk parking area east of plant

Site: Jasper Municipal Utilities Coal Fire
Photograph No.: 4 **Date:** 8/17/11
Direction: Southeast **Photographer:** David Sena
Subject: Power plant with AreaRAE unit in foreground

Site: Jasper Municipal Utilities Coal Fire
Photograph No.: 5 **Date:** 8/17/11
Direction: North **Photographer:** David Sena
Subject: AreaRAE unit outside of InWood Office Invironments facility

Site: Jasper Municipal Utilities Coal Fire
Photograph No.: 6 **Date:** 8/17/11
Direction: Up **Photographer:** David Sena
Subject: Smoke coming out of power plant building

Site: Jasper Municipal Utilities Coal Fire
Photograph No.: 7 **Date:** 8/17/11
Direction: South **Photographer:** David Sena
Subject: Smoke coming out of power plant building

Site: Jasper Municipal Utilities Coal Fire
Photograph No.: 8 **Date:** 8/17/11
Direction: North **Photographer:** Hughes
Subject: AreaRAE unit attached to telephone pole

Site: Jasper Municipal Utilities Coal Fire
Photograph No.: 9 **Date:** 8/17/11
Direction: South **Photographer:** David Sena
Subject: WESTON START personnel setting up RAT

Site: Jasper Municipal Utilities Coal Fire
Photograph No.: 10 **Date:** 8/17/11
Direction: East **Photographer:** David Sena
Subject: Power plant overview

Site: Jasper Municipal Utilities Coal Fire
Photograph No.: 11 **Date:** 8/17/11
Direction: Northwest **Photographer:** Keith Hughes
Subject: Power plant overview

Site: Jasper Municipal Utilities Coal Fire
Photograph No.: 12 **Date:** 8/16/11
Direction: South **Photographer:** Keith Hughes
Subject: Power plant entrance

ATTACHMENT C
TABLES

Table 1
AreaRAE Montoring Results Summary - August 17, 2011
Jasper Municipal Utilities Coal Fire
Jasper, Dubois County, Indiana

Unit No.	Location	Parameter	Average Reading (ppm)	Maximum Reading (ppm)	No. of Readings Collected per Parameter
2	15th and Royal Streets	NO2	0.05	0.4	4,081
		SO2	< 0.01	0.3	
		VOCs	0.26	2.2	
3	Knust Street south of Site	NO2	0.01	2.8	4,667
		SO2	< 0.01	0.2	
		VOCs	0.80	5	
4	InWood Office Invironments facility north of Site	NO2	0	0	4,791
		SO2	< 0.01	0.1	

Notes:
< = Less than
NO2 = Nitrogen dioxide
ppm = Part per million
SO2 = Sulfur dioxide
VOC = Volatile organic compound

Table 2
Air Sampling Summary - August 18, 2011
Jasper Municipal Utilities Coal Fire
Jasper, Dubois County, Indiana

Sample ID No.	Sampling Location	Analytical Parameter	Flow Rate (L/min)	Total Volume (L)
S-1	Knust Street south of Site	NO and NO2	0.0182	4.73
S-2	15th and Royal Streets		0.0277	7.09
S-3	InWood Office Invironments facility north of Site		0.02395	6.37
S-4	Knust Street south of Site	Total PM	2.324	6.04
S-5	InWood Office Invironments facility north of Site		2.186	581
S-6	15th and Royal Streets		2.06	502
S-7	InWood Office Invironments facility north of Site	SO2	0.1241	15.02
S-8	Knust Street south of Site		0.1027	12.3

Notes:
ID = Identification
L/min = Liter per minute
L = Liter
NO = Nitrogen oxide
NO2 = Nitrogen dioxide
PM = Particulate matter
SO2 = Sulfur dioxide

Table 3
Plume Sampling Analytical Summary - August 17, 2011
Jasper Municipal Utilities Coal Fire
Jasper, Dubois County, Indiana

Parameter	Screening Criterion [1]	Unit	Sample ID No. JM4-081711-Grab01
VOCs			
2-Butanone (MEK)	200,000	ppbv	4.3
2-Propanol	NA	ppbv	1.4
Acetone	NA	ppbv	24.0

Notes:
ID = Identification
MEK = Methyl ethyl ketone
NA = Not applicable
ppbv = Part per billion by volume
VOC = Volatile organic compound
1 Screening criterion based on U.S. Environmental Protection Agency Acute Exposure Guideline Levels

Table 4
Post- Response Ambient Air Sampling Analytical Summary - August 18, 2011
Jasper Municipal Utilities Coal Fire
Jasper, Dubois County, Indiana

Parameter	Screening Criterion	Unit	Sample ID No.							
			S-1	S-2	S-3	S-4	S-5	S-6	S-7	S-8
NO [1]	NA	ppm	ND (<0.17)	ND (<0.11)	ND (<0.13)	NA	NA	NA	NA	NA
NO2 [1]	0.5	ppm	ND (<0.16)	ND (<0.10)	ND (<0.12)	NA	NA	NA	NA	NA
Total PM [2]	0.150	mg/m^3	NA	NA	NA	ND (<0.083)	ND (<0.086)	ND (<0.10)	NA	NA
SO2 [1]	0.2	ppm	NA	NA	NA	NA	NA	NA	ND (<0.10)	ND (<0.12)

Notes:
ID = Identification
mg/m^3 = Milligram per cubic meter
NA = Not analyzed or not applicable
ND = Not detected
NO = Nitrogen oxide
NO2 = Nitrogen dioxide
PM = Particulate matter
ppm = Part per million
SO2 = Sulfur dioxide

1 Screening criterion based on U.S. Environmental Protection Agency (U.S. EPA) Acute Exposure Guideline Levels

2 Screening criterion based on U.S. EPA National Ambient Air Quality Standards

ATTACHMENT D
DATA VALIDATION REPORT, VALIDATED ANALYTICAL DATA, AND FIELD SAMPLING FORM

ER- JASPER MUNICIPAL UTILITY SITE
JASPER, INDIANA
DATA VALIDATION REPORT

Date: August 23, 2011
Laboratory: ALS Group USA, Corporation (ALS), Cincinnati, OH
Laboratory Project #: 1108505
Data Validation Performed By: Linda Korobka, Weston Solutions, Inc. (Weston)

This data validation report has been prepared by Weston. This report documents the data validation for an air sample collected for the ER- Jasper Municipal Utility Site, Jasper, Indiana and analyzed for the following parameters and U.S. Environmental Protection Agency (U.S. EPA) methods:

- Particulates by NIOSH Method 0500
- Nitric Oxide and Nitrogen Dioxide by NIOSH Method 6014
- Sulfur Dioxide by OSHA Method ID 200 Modified

A level II data package was requested from ALS. The data validation was conducted in general accordance with the U.S. EPA "Contract Laboratory Program National Functional Guidance for Superfund Organic Methods Data Review" dated July 2007. The Attachment contains the results summary sheets with any hand-written qualifiers applied during data validation

SULFUR DIOXIDE BY OSHA METHOD ID 200 MODIFIED

1. Samples

The following table summarizes the samples for which this data validation is being conducted.

Samples	Lab ID	Matrix	Date Collected	Date Prepared	Date Analyzed
S-7	1108505-07A	Air	8/18/2011	-	8/22/2011
S-8	1108505-08A	Air	8/18/2011	-	

2. Holding Times

The samples were prepared and analyzed within the required holding time limit.

3. **Blanks**

The method blanks were analyzed at the required frequency. The method blank associated with these samples was free of contamination.

4. **Laboratory Control Sample (LCS) Results**

All LCS and LCSD recoveries were within the laboratory QC limits.

The LCS/LCSD RPD value was acceptable.

5. **Matrix Spike (MS)/Matrix Spike Duplicate (MSD)**

A MS/MSD audit was not performed on the samples.

6. **Laboratory Duplicates**

A lab duplicate audit was not performed on the samples.

7. **Field Duplicates**

There were no field duplicate samples in this sample set.

8. **Laboratory Qualifiers**

The laboratory did not flag any of the Sulfur Dioxide results.

The data are acceptable for use. The Sulfur Dioxide in air results were not qualified based on the information provided.

NITRIC OXIDE AND NITROGEN DIOXIDE BY NIOSH METHOD 6014

Samples	Lab ID	Matrix	Date Collected	Date Prepared	Date Analyzed
S-1	1108505-01A	Air	8/18/2011	-	8/22/2011
S-2	1108505-02A	Air	8/18/2011	-	8/22/2011
S-3	1108505-03A	Air	8/18/2011	-	8/22/2011

The air samples were analyzed for Nitric Oxide and Nitrogen Dioxide according to NIOSH Method 6014 and the laboratory reported no exceptions in the case narrative.

PARTICULATES BY NIOSH METHOD 0500

Samples	Lab ID	Matrix	Date Collected	Date Prepared	Date Analyzed
S-4	1108505-04A	Air	8/18/2011	-	8/22/2011
S-5	1108505-05A	Air	8/18/2011	-	8/22/2011
S-6	1108505-06A	Air	8/18/2011	-	8/22/2011

The air samples were analyzed for particulates according to NIOSH Method 0500 and the laboratory reported no exceptions in the case narrative.

Linda Kobb 8/23/11

ALS Environmental

Date: *22-Aug-11*

Client: Weston Solutions, Inc.
Project: ER-Jasper Municipal

Work Order: 1108505

Analytical Results

Lab ID: 1108505-01A
Client Sample ID: S-1

Collection Date: 8/18/2011
Matrix: AIR

Analyses

NITRIC OXIDE AND NITROGEN DIOXIDE	Method: **N6014**	Air Volume (L): **4.73**	Analyst: **CEG**
Date Analyzed: 8/22/2011		Reporting Limit	
	µg/sample	µg/sample	ppm
Nitric oxide	ND	1.0	<0.17
Nitrogen dioxide	ND	1.4	<0.16

Lab ID: 1108505-02A
Client Sample ID: S-2

Collection Date: 8/18/2011
Matrix: AIR

Analyses

NITRIC OXIDE AND NITROGEN DIOXIDE	Method: **N6014**	Air Volume (L): **7.09**	Analyst: **CEG**
Date Analyzed: 8/22/2011		Reporting Limit	
	µg/sample	µg/sample	ppm
Nitric oxide	ND	1.0	<0.11
Nitrogen dioxide	ND	1.4	<0.10

Lab ID: 1108505-03A
Client Sample ID: S-3

Collection Date: 8/18/2011
Matrix: AIR

Analyses

NITRIC OXIDE AND NITROGEN DIOXIDE	Method: **N6014**	Air Volume (L): **6.37**	Analyst: **CEG**
Date Analyzed: 8/22/2011		Reporting Limit	
	µg/sample	µg/sample	ppm
Nitric oxide	ND	1.0	<0.13
Nitrogen dioxide	ND	1.4	<0.12

Lab ID: 1108505-04A
Client Sample ID: S-4

Collection Date: 8/18/2011
Matrix: AIR

Analyses

NIOSH 0500 PARTICULATES NOT REGULATED	Method: **N0500**	Air Volume (L): **604**	Analyst: **CTS**
Date Analyzed: 8/22/2011		Reporting Limit	
	mg/sample	mg/sample	mg/m3
Dust	ND	0.050	<0.083

Note:

8/23/11

ALS Environmental

Date: *22-Aug-11*

Client: Weston Solutions, Inc.
Project: ER-Jasper Municipal

Work Order: 1108505

Analytical Results

Lab ID: 1108505-05A
Client Sample ID: S-5

Collection Date: 8/18/2011
Matrix: AIR

Analyses

NIOSH 0500 PARTICULATES NOT REGULATED	Method: N0500	Air Volume (L): 581	Analyst: CTS
Date Analyzed: 8/22/2011		Reporting Limit	
	mg/sample	mg/sample	mg/m3
Dust	ND	0.050	<0.086

Lab ID: 1108505-06A
Client Sample ID: S-6

Collection Date: 8/18/2011
Matrix: AIR

Analyses

NIOSH 0500 PARTICULATES NOT REGULATED	Method: N0500	Air Volume (L): 502	Analyst: CTS
Date Analyzed: 8/22/2011		Reporting Limit	
	mg/sample	mg/sample	mg/m3
Dust	ND	0.050	<0.10

Lab ID: 1108505-07A
Client Sample ID: S-7

Collection Date: 8/18/2011
Matrix: AIR

Analyses

SULFUR DIOXIDE BY OSHA ID200 MOD.	Method: O200	Air Volume (L): 15	Analyst: TAR
Date Analyzed: 8/22/2011 12:26		Reporting Limit	
	µg/sample	µg/sample	ppm
Sulfur dioxide	ND	4.0	<0.10

Lab ID: 1108505-08A
Client Sample ID: S-8

Collection Date: 8/18/2011
Matrix: AIR

Analyses

SULFUR DIOXIDE BY OSHA ID200 MOD.	Method: O200	Air Volume (L): 12.3	Analyst: TAR
Date Analyzed: 8/22/2011 12:53		Reporting Limit	
	µg/sample	µg/sample	ppm
Sulfur dioxide	ND	4.0	<0.12

Note:

8/23/11

ER- JASPER MUNICIPAL UTILITY SITE
JASPER, INDIANA
DATA VALIDATION REPORT

Date: August 23, 2011
Laboratory: ALS Group USA, Corporation (ALS), Cincinnati, OH
Laboratory Project #: 1108511
Data Validation Performed By: Linda Korobka, Weston Solutions, Inc. (Weston)

This data validation report has been prepared by Weston. This report documents the data validation for an air sample collected for the ER- Jasper Municipal Utility Site, Jasper, Indiana and analyzed for the following parameters and U.S. Environmental Protection Agency (U.S. EPA) methods:

- Volatile Organic Compounds by U.S. EPA Method TO-15

A level II data package was requested from ALS. The data validation was conducted in general accordance with the U.S. EPA "Contract Laboratory Program National Functional Guidance for Superfund Organic Methods Data Review" dated July 2007. The Attachment contains the results summary sheets with any hand-written qualifiers applied during data validation

VOLATILE ORGANIC COMPOUNDS (VOCs) BY U.S. EPA METHOD TO-15

1. Samples

The following table summarizes the samples for which this data validation is being conducted.

Samples	Lab ID	Matrix	Date Collected	Date Prepared	Date Analyzed
JM4-081711-Grab01	1108511-01	Air	8/17/2011	-	8/22/2011

2. Holding Times

The sample was prepared and analyzed within the required holding time limit.

3. Blanks

The method blanks were analyzed at the required frequency. The method blank associated with this sample contained acetone (0.22 ppbv) and toluene (0.14 ppbnv). This had no affect on the associated sample.

4. Laboratory Control Sample (LCS) Results

All LCS recoveries were within the laboratory QC limits.

5. Matrix Spike (MS)/Matrix Spike Duplicate (MSD)

A MS/MSD audit was not performed on the sample.

6. Laboratory Duplicates

A lab duplicate audit was not performed on the sample.

7. Field Duplicates

There were no field duplicate samples in this sample set.

8. Laboratory Qualifiers

The laboratory did not flag any of the VOC results.

The data are acceptable for use. None of the VOC in air results were qualified based on the information provided.

David Krabel
8/23/11

ALS Environmental

Date: *22-Aug-11*

Client: Weston Solutions, Inc.
Project: Jasper Coal Mine
Work Order: 1108511
Sample ID: JM4-081711-Grab01
Lab ID: 1108511-01
Collection Date: 8/17/2011 11:55 AM
Matrix: AIR

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TO-15 BY GC/MS			**ETO-15**			Analyst: **MRJ**
1,1,1-Trichloroethane	ND		1.0	ppbv	1	8/22/2011 01:32 PM
1,1,2,2-Tetrachloroethane	ND		1.0	ppbv	1	8/22/2011 01:32 PM
1,1,2-Trichloroethane	ND		1.0	ppbv	1	8/22/2011 01:32 PM
1,1-Dichloroethane	ND		1.0	ppbv	1	8/22/2011 01:32 PM
1,1-Dichloroethene	ND		1.0	ppbv	1	8/22/2011 01:32 PM
1,2,4-Trichlorobenzene	ND		1.0	ppbv	1	8/22/2011 01:32 PM
1,2,4-Trimethylbenzene	ND		1.0	ppbv	1	8/22/2011 01:32 PM
1,2-Dibromoethane	ND		1.0	ppbv	1	8/22/2011 01:32 PM
1,2-Dichlorobenzene	ND		1.0	ppbv	1	8/22/2011 01:32 PM
1,2-Dichloroethane	ND		1.0	ppbv	1	8/22/2011 01:32 PM
1,2-Dichloropropane	ND		1.0	ppbv	1	8/22/2011 01:32 PM
1,3,5-Trimethylbenzene	ND		1.0	ppbv	1	8/22/2011 01:32 PM
1,3-Butadiene	ND		1.0	ppbv	1	8/22/2011 01:32 PM
1,3-Dichlorobenzene	ND		1.0	ppbv	1	8/22/2011 01:32 PM
1,4-Dichlorobenzene	ND		1.0	ppbv	1	8/22/2011 01:32 PM
1,4-Dioxane	ND		2.0	ppbv	1	8/22/2011 01:32 PM
2-Butanone	**4.3**		**2.0**	**ppbv**	1	8/22/2011 01:32 PM
2-Hexanone	ND		1.0	ppbv	1	8/22/2011 01:32 PM
2-Propanol	**1.4**		**1.0**	**ppbv**	1	8/22/2011 01:32 PM
4-Ethyltoluene	ND		1.0	ppbv	1	8/22/2011 01:32 PM
4-Methyl-2-pentanone	ND		1.0	ppbv	1	8/22/2011 01:32 PM
Acetone	**24**		**1.0**	**ppbv**	1	8/22/2011 01:32 PM
Benzene	ND		1.0	ppbv	1	8/22/2011 01:32 PM
Benzyl chloride	ND		1.0	ppbv	1	8/22/2011 01:32 PM
Bromodichloromethane	ND		1.0	ppbv	1	8/22/2011 01:32 PM
Bromoform	ND		1.0	ppbv	1	8/22/2011 01:32 PM
Bromomethane	ND		1.0	ppbv	1	8/22/2011 01:32 PM
Carbon disulfide	ND		1.0	ppbv	1	8/22/2011 01:32 PM
Carbon tetrachloride	ND		1.0	ppbv	1	8/22/2011 01:32 PM
Chlorobenzene	ND		1.0	ppbv	1	8/22/2011 01:32 PM
Chloroethane	ND		1.0	ppbv	1	8/22/2011 01:32 PM
Chloroform	ND		1.0	ppbv	1	8/22/2011 01:32 PM
Chloromethane	ND		1.0	ppbv	1	8/22/2011 01:32 PM
cis-1,2-Dichloroethene	ND		1.0	ppbv	1	8/22/2011 01:32 PM
cis-1,3-Dichloropropene	ND		1.0	ppbv	1	8/22/2011 01:32 PM
Cumene	ND		1.0	ppbv	1	8/22/2011 01:32 PM
Cyclohexane	ND		1.0	ppbv	1	8/22/2011 01:32 PM
Dibromochloromethane	ND		1.0	ppbv	1	8/22/2011 01:32 PM
Dichlorodifluoromethane	ND		1.0	ppbv	1	8/22/2011 01:32 PM

Note:

ZJK 8/23/11

ALS Environmental

Date: *22-Aug-11*

Client: Weston Solutions, Inc.
Project: Jasper Coal Mine
Work Order: 1108511
Sample ID: JM4-081711-Grab01
Lab ID: 1108511-01
Collection Date: 8/17/2011 11:55 AM
Matrix: AIR

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Ethyl acetate	ND		2.0	ppbv	1	8/22/2011 01:32 PM
Ethylbenzene	ND		1.0	ppbv	1	8/22/2011 01:32 PM
Freon 113	ND		1.0	ppbv	1	8/22/2011 01:32 PM
Freon 114	ND		1.0	ppbv	1	8/22/2011 01:32 PM
Heptane	ND		1.0	ppbv	1	8/22/2011 01:32 PM
Hexachlorobutadiene	ND		1.0	ppbv	1	8/22/2011 01:32 PM
Hexane	ND		1.0	ppbv	1	8/22/2011 01:32 PM
m,p-Xylene	ND		1.0	ppbv	1	8/22/2011 01:32 PM
Methylene chloride	ND		1.0	ppbv	1	8/22/2011 01:32 PM
MTBE	ND		1.0	ppbv	1	8/22/2011 01:32 PM
o-Xylene	ND		1.0	ppbv	1	8/22/2011 01:32 PM
Propene	ND		1.0	ppbv	1	8/22/2011 01:32 PM
Styrene	ND		1.0	ppbv	1	8/22/2011 01:32 PM
Tetrachloroethene	ND		1.0	ppbv	1	8/22/2011 01:32 PM
Tetrahydrofuran	ND		1.0	ppbv	1	8/22/2011 01:32 PM
Toluene	ND		1.0	ppbv	1	8/22/2011 01:32 PM
trans-1,2-Dichloroethene	ND		1.0	ppbv	1	8/22/2011 01:32 PM
trans-1,3-Dichloropropene	ND		1.0	ppbv	1	8/22/2011 01:32 PM
Trichloroethene	ND		0.40	ppbv	1	8/22/2011 01:32 PM
Trichlorofluoromethane	ND		1.0	ppbv	1	8/22/2011 01:32 PM
Vinyl acetate	ND		1.0	ppbv	1	8/22/2011 01:32 PM
Vinyl chloride	ND		1.0	ppbv	1	8/22/2011 01:32 PM
Surr: Bromofluorobenzene	*98.6*		*60-140*	*%REC*	1	8/22/2011 01:32 PM

Note:

8/23/11

AIR SAMPLING DATA SHEET
WESTON

SITE NAME: ER-Jasper Municipal

TASK/W.O.# 20405.012.001.1564.00 DATE OF SAMPLING 8 / 18 / 2011

ADDRESS 11563 E 15th Street

CITY: Jasper, IN 45354

AIR SAMPLING TECHNICIAN Randy Kirkland (START)

TEMPERATURE: (start) 82 °F (end) 76 °F BAROMETRIC PRESSURE NA mmHg

METHOD REFERENCE: NIOSH 0500, 6004, and 6014

PRIMARY CALIBRATION UNIT Bios DryCal (RWF21226)

METHOD FLOW RATE: 2, 0.1, and 0.025 L/min

SECONDARY CALIBRATION UNIT: GilAir5 Float

METHOD VOLUME: 480, 12, and 6 L

COLLECTION MEDIA: MCE, 0.5-µm, 37-mm; N02, Oxidizer, NO; and Sox

Pump ID	Sample Number	Sample Location	Initial Calibration Date	Calibrated Flow Rate	Sample Start Time	Sample Stop Time	Total Time (min)	Start Flow Rate (L/min)	Stop Flow Rate (L/min)	Average Flow Rate (L/min)	Total* Volume (Liters)
21290	S-1	J4499	8-18-11	0.0235	1908	1908	260	0.0235	0.0128	0.0182	4.73
21241	S-2	J1599		0.0266	1912		256	0.0266	0.0288	0.0277	7.09
21252	S-3	J1361		0.0241	1902		266	0.0241	0.0238	0.023995	6.37
21289	S-4	J4499		2.092	1908		260	2.092	2.556	2.324	604
21273	S-5	J1361		2.059	1902		266	2.059	2.313	2.186	581
21289	S-6	J1599	8-19-11	2.049	0006	0410	244	2.049	2.063	2.056	502
21292	S-7	J1361		0.1202	2409	0201	121	0.1202	0.1280	0.1241	15.02
21291	S-8	J4499		0.0991	0008	0208	120	0.0991	0.1062	0.1027	12.3