

**40355 Braithwaite, LA  
Stolthaven Terminal Facility  
Onsite Summary of Air Monitoring and Sampling Results  
September 17, 2012  
PO# 12-H0408-MR**

This data report discusses real-time air monitoring data collected in the work area between September 16<sup>th</sup> 00:00 and September 16<sup>th</sup> 23:59 in support of mitigation and remediation operations conducted near Stolthaven’s facility near Braithwaite, LA.

Real-time air monitoring within the work area and during entry activities resulted in reports of detections exceeding the chemical specific action level required for donning of respiratory protection. All workers not present in respiratory protection prior to initiating these tasks were present in respiratory protection during these events until the task was completed. Workers having VOC detections above the chemical specific action level and not in respiratory protection notified CTEH<sup>®</sup> personnel and took appropriate action to prevent further exposures. Two detections of chlorobenzene and five detections of formic acid were reported within the work area. These readings were associated with their respective tank vapor scrubbing activities.

Real-time air monitoring for VOCs, LEL, chlorobenzene, formic acid, and styrene was conducted using stationary AreaRAEs and/or hand-held instruments such as the MultiRAE and colorimetric detector tubes. Table 1 and Table 2 display data summaries for hand-held instruments and AreaRAE, respectively. Table 3 highlights analytical sample counts collected in onsite air, waste, and water. Appendix 1 shows incident site maps.

**Table 1  
Hand-held MultiRAE Real-time Summary – September 16<sup>th</sup> 00:00 – 23:59**

| <b>Entry Activities</b> |                           |                             |  |                              |
|-------------------------|---------------------------|-----------------------------|--|------------------------------|
| <b>Analyte</b>          | <b>Number of Readings</b> | <b>Number of Detections</b> | <b>Average Concentration of Detections</b> | <b>Highest Concentration</b> |
| Chlorobenzene           | 2                         | 2                           | 60.0 ppm                                   | 100.0 ppm                    |
| Formic Acid             | 3                         | 3                           | 29.7 ppm                                   | 81.0 ppm                     |
| LEL                     | 545                       | 0                           | NA   | < 1.0 %                      |
| Styrene                 | 1                         | 0                           | NA   | < 0.5 ppm                    |
| VOC                     | 707                       | 19                          | 50.0 ppm                                   | 636.0 ppm                    |
| <b>Work Area</b>        |                           |                             |  |                              |
| <b>Analyte</b>          | <b>Number of Readings</b> | <b>Number of Detections</b> | <b>Average Concentration of Detections</b> | <b>Highest Concentration</b> |
| Formic Acid             | 2                         | 2                           | 2.8 ppm                                    | 5.0 ppm                      |
| LEL                     | 180                       | 0                           | NA   | < 1.0 %                      |
| VOC                     | 226                       | 0                           | NA   | < 0.1 ppm                    |

NA = not applicable

\* In addition to the tabulated real-time data, additional air monitoring for the purpose of worker protection was performed throughout the work area. These data are used for task-specific decision-making, but may not be recorded in the tabulated data represented above.

**Table 2**  
**AreaRAE Summary – September 16<sup>th</sup> 00:00 – 23:59**

| Unit    | Analyte | Number of Readings | Number Of Detections | Concentration Range |
|---------|---------|--------------------|----------------------|---------------------|
| Unit 1  | LEL     | 5464               | 0                    | 0 - 0 %             |
|         | VOC     | 5464               | 629                  | 0.1 - 2.7 ppm       |
| Unit 2  | LEL     | 5609               | 0                    | 0 - 0 %             |
|         | VOC     | 5609               | 1                    | 4.4 - 4.4 ppm       |
| Unit 3  | LEL     | 5544               | 0                    | 0 - 0 %             |
|         | VOC     | 5544               | 15                   | 0.1 - 0.8 ppm       |
| Unit 4  | LEL     | 5636               | 0                    | 0 - 0 %             |
|         | VOC     | 5636               | 0                    | 0 - 0 ppm           |
| Unit 9  | LEL     | 5642               | 0                    | 0 - 0 %             |
|         | VOC     | 5642               | 0                    | 0 - 0 ppm           |
| Unit 10 | LEL     | 1876               | 0                    | 0 - 0 %             |
|         | VOC     | 1876               | 96                   | 0.1 - 3.2 ppm       |
| Unit 11 | LEL     | 4422               | 0                    | 0 - 0 %             |
|         | VOC     | 4422               | 17                   | 0.1 - 0.1 ppm       |
| Unit 12 | LEL     | 5527               | 0                    | 0 - 0 %             |
|         | VOC     | 5527               | 0                    | 0 - 0 ppm           |
| Unit 13 | LEL     | 5571               | 0                    | 0 - 0 %             |
|         | VOC     | 5571               | 0                    | 0 - 0 ppm           |

\*Detections may include drift events - Drift is defined as any interference in the electrochemical sensor's ability to accurately report the concentration of a chemical in the atmosphere. Humidity and temperature changes throughout the monitoring period are typical sources of drift.

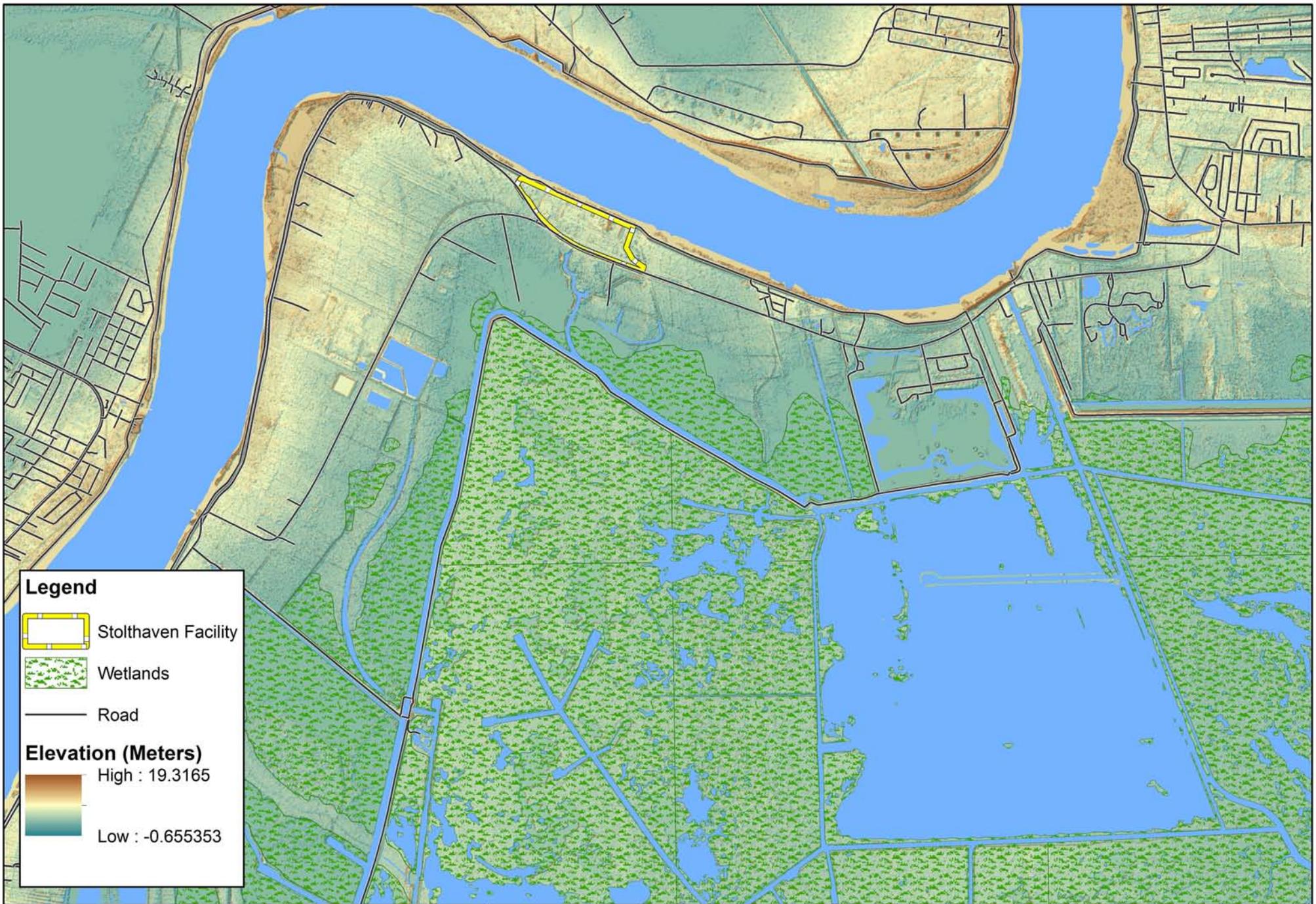
**Table 3**  
**Analytical Sample Counts – September 16<sup>th</sup> 00:00 – 23:59**

| Matrix                 | Number of Samples |
|------------------------|-------------------|
| Air                    | 28                |
| Waste Characterization | 6                 |
| Water                  | 6                 |

**References:**

LDEQ. Title 33: Environmental Quality. Part III. Air. Baton Rouge, LA: Louisiana Department of Environmental Quality; 2007 Jun.

# Appendix 1: Incident Maps



**Legend**

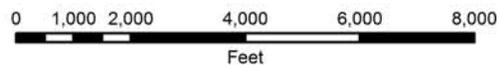
-  Stolthaven Facility
-  Wetlands
-  Road

**Elevation (Meters)**

High : 19.3165

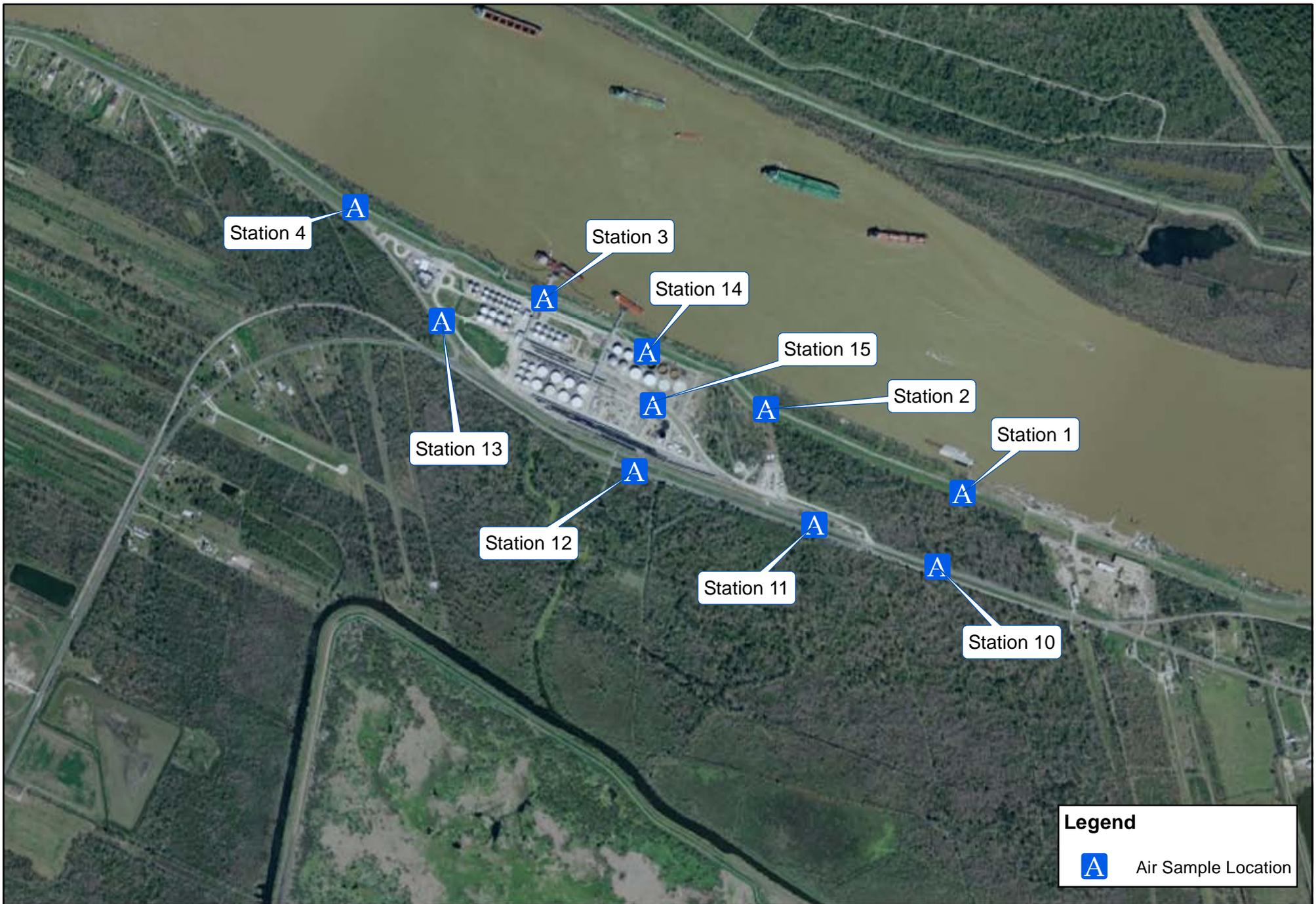
Low : -0.655353

**Stolthaven Facility  
Shaded Relief of Elevation**



|   |                           |
|---|---------------------------|
| <b>CTEH</b><br><small>Project No.<br/>40355</small> | <b>Stolthaven</b>         |
|   | <b>Braithwaite, LA</b>    |
|   | <b>Plaquemines Parish</b> |
| <b>Print Date: 9/17/2012</b>                        |                           |

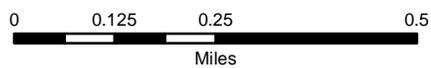




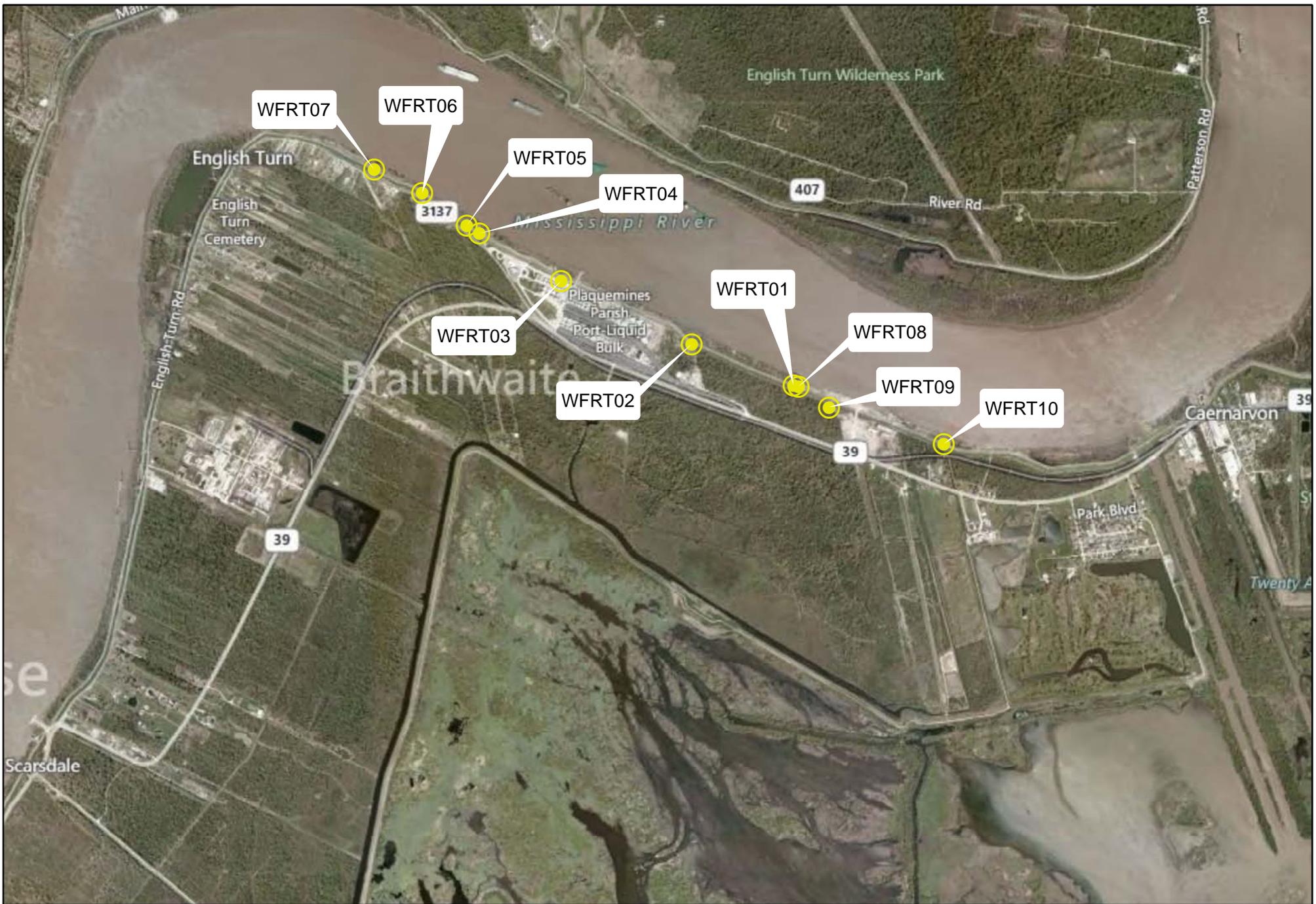
**Legend**

 Air Sample Location

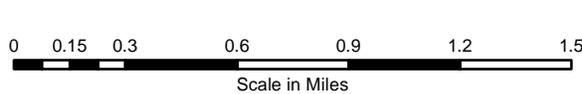
**Onsite Ambient Air Analytical Sampling Locations**



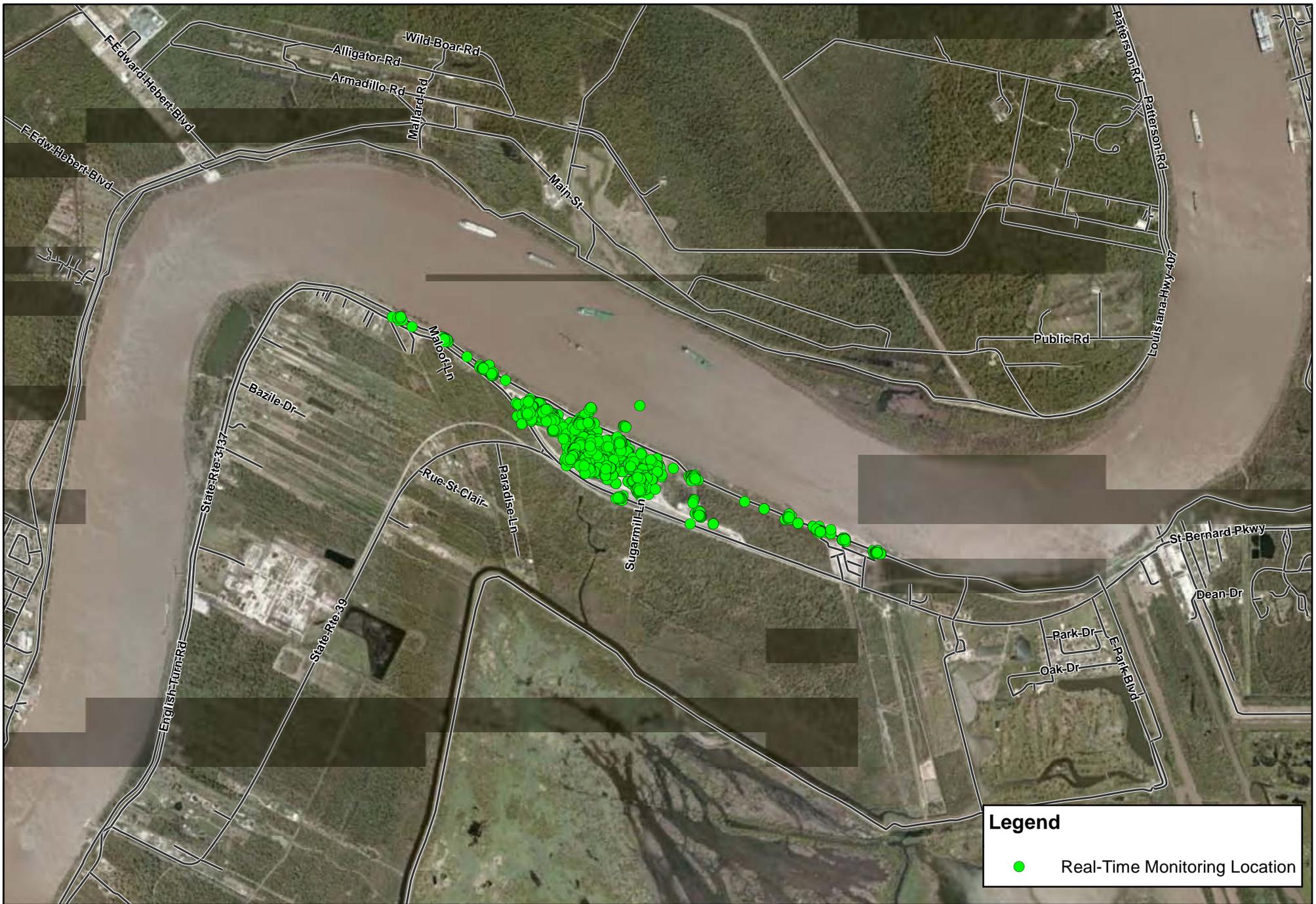
|  |  |
|--|--|
| <br>Project No.<br><b>40355</b> | <b>Stolthaven</b><br><b>Braithwaite, LA</b>        |
|  | <b>Plaquemines Parish</b><br>Print Date: 9/17/2012 |



# Work Area Fixed Real-Time Monitoring Locations

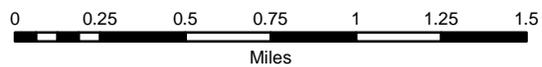


|  |                      |
|--|----------------------|
| <br>Project No.<br><b>40355</b> | Garner Environmental |
|  | Braithwaite, LA      |
|  | Plaquemines Parish   |
| Print Date: 9/11/2012  |                      |



## Work Area Real-Time Monitoring Locations

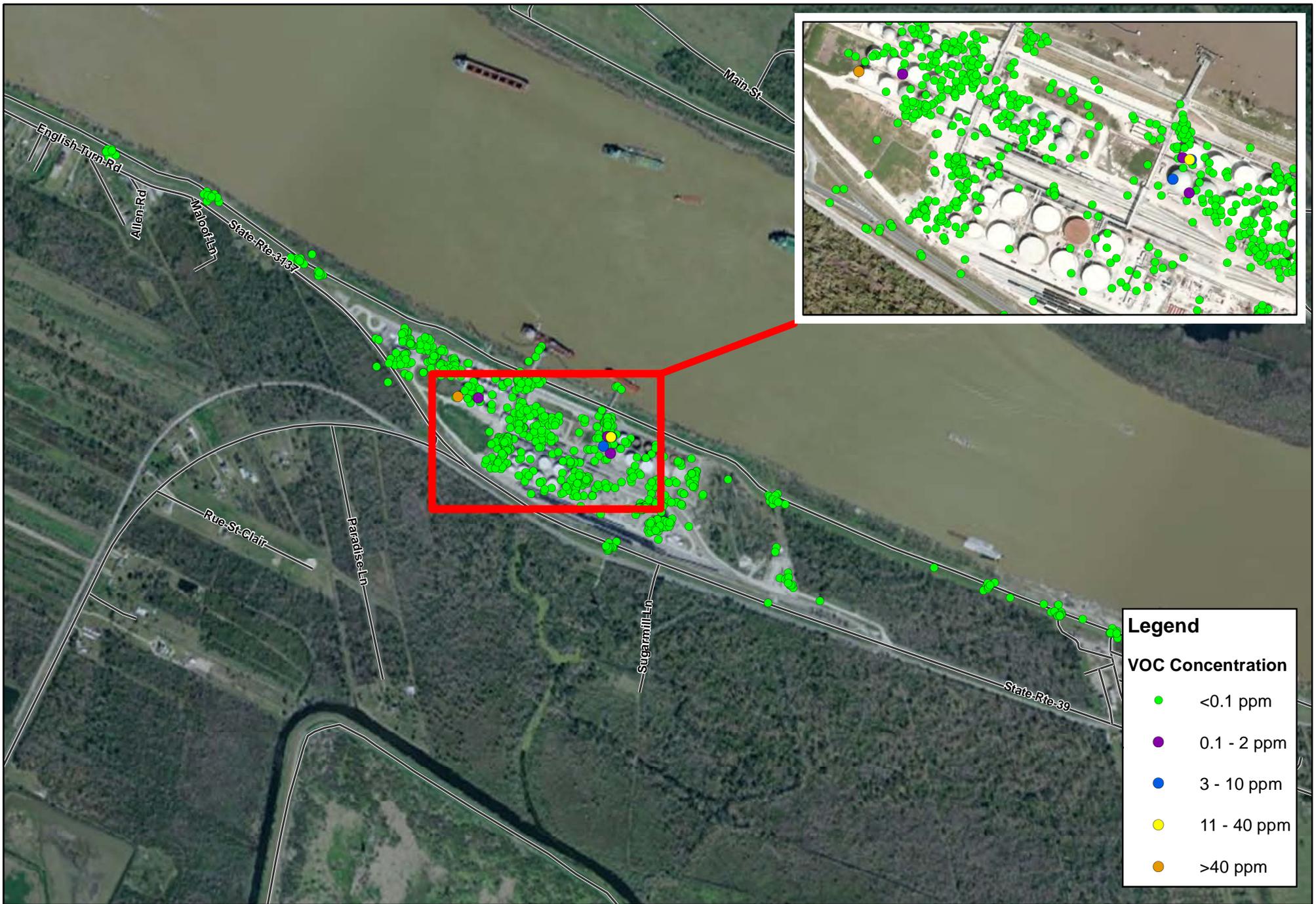
9/16/12 00:00 to 9/16/12 23:59



**Legend**

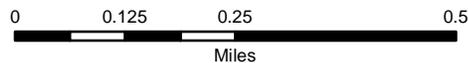
- Real-Time Monitoring Location

|  |  |
|--|--|
| <br>Project No.<br><b>40355</b> | <b>Stolthaven</b><br><b>Braithwaite, LA</b>        |
|  | <b>Plaquemines Parish</b><br>Print Date: 9/17/2012 |



**Manually-Logged  
Work Area VOC Concentrations**

9/16/12 00:00 to 9/16/12 23:59



Project No.  
**40355**

**Stolthaven  
Braithwaite, LA**

**Plaquemines Parish**

**Print Date: 9/17/2012**

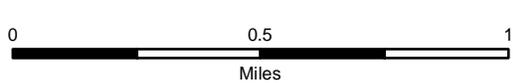


**Chlorobenzene Readings**

- Detection
- No Detection



**Chlorobenzene  
Reading Locations**  
9/16/2012



|  |                                      |
|--|--------------------------------------|
|  | <b>Stolthaven</b><br>Braithwaite, LA |
|  | Project No.<br><b>40355</b>          |
| <b>Plaquemines Parish</b><br>Print Date: 9/17/2012 |                                      |

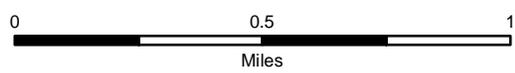


**Formic Acid Readings**

- Detection
- No Detection



**Formic Acid  
Reading Locations**  
9/16/2012



|  |  |
|--|--|
| <br>Project No.<br><b>40355</b> | <b>Stolthaven</b><br><b>Braithwaite, LA</b>        |
|  | <b>Plaquemines Parish</b><br>Print Date: 9/17/2012 |