

**LOCKHEED MARTIN**



DATE: 29 March 2007  
TO: David B. Mickunas, U.S. EPA/ERT Work Assignment Manager  
THROUGH: Dennis A. Miller, REAC Program Manager *DM*  
FROM: John A. Wood, REAC Task Leader *Wood*  
SUBJECT: DOCUMENT TRANSMITTAL UNDER WORK ASSIGNMENT #0-234

Attached please find the following document prepared under this work assignment:

FINAL ANALYTICAL TAGA REPORT  
URBAN AIR TOXICS STUDY  
HARRIS COUNTY, TX  
MARCH 2007

cc: Central File - WA #0-234 (w/attachment)  
Electronic File - I:Archive/REAC4/0234/D/AR/032907  
Dennis A. Miller, REAC Program Manager (w/o attachment)





FINAL ANALYTICAL TAGA REPORT  
URBAN AIR TOXICS STUDY  
HARRIS COUNTY, TX  
MARCH 2007

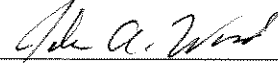
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## 1.0 INTRODUCTION

The United States Environmental Protection Agency (EPA)/Environmental Response Team (ERT) issued Work Assignment (WA) Number 0-234, Urban Air Toxics Study in Harris County, Texas (TX), to Lockheed Martin under the Response Engineering and Analytical Contract (REAC). An element of this WA was to conduct ambient air monitoring at various locations selected by EPA personnel, in Harris County, TX to assist EPA Region VI in its evaluation of urban air quality.

The air monitoring events were conducted on 12 December through 14 December 2006 (all dates and times are based on Coordinated Universal Time (UTC)) and were screening in nature. Mobile air monitoring for benzene (BNZ), toluene (TOL), xylenes (XYL), 1,3-butadiene (1,3-BDE), styrene (STYR), methyl-t-butyl ether (MTBE), and 1,2,3-trichloropropane (1,2,3-TCPA) was performed in accordance with the REAC Draft Standard Operating Procedure (SOP) # 1711, *Trace Atmospheric Gas Analyzer (TAGA) Iie Operations*. Monitoring for these target compounds was performed using a selected ion technique. Mobile air monitoring was performed using a MultiRAE<sup>®</sup> multi gas monitor equipped with a photoionization detector (PID) for volatile organic compounds (VOCs), and a toxic sensor for hydrogen sulfide (H<sub>2</sub>S) in accordance with REAC SOP #2139, *Multi Gas Monitor PGM-50/Photoionization Detector (PID) MultiRAE Plus*. Mobile air monitoring for H<sub>2</sub>S was performed using a Jerome H<sub>2</sub>S meter in accordance with manufacturer's instructions. Mobile air monitoring for mercury (Hg) using a Lumex was performed using draft REAC SOP #1729, *Operation of the Lumex RA-915 Analyzer for Measuring Mercury Vapor Concentrations in Ambient Air*. These compounds were selected based on information provided by the EPA, Region VI and ERT. Real time and position data for each monitoring period were provided by the TAGA mobile laboratory's built-in global positioning system (GPS), a Trimble model ProXRS. SUMMA<sup>®</sup> canister samples were collected from the TAGA sample stream during events selected by the work assignment manager (WAM).

## 2.0 METHODOLOGY

Air was drawn into the TAGA bus at a rate of approximately 90 liters per minute by the TAGA's sample air flow (SAF) system through a port in the top of the bus. The air then passed through a glass manifold. Air in the manifold was monitored by the TAGA, a Lumex mercury monitor, a Jerome H<sub>2</sub>S monitor, and a MultiRAE<sup>®</sup> monitor, equipped with sensors for VOCs and H<sub>2</sub>S. SUMMA<sup>®</sup> canister samples were also taken from the same manifold. Therefore, all of the monitoring instruments and the sample collection were from the same air stream. Concurrently with monitoring and sampling, the GPS position of the mobile laboratory was being recorded and displayed in real time, allowing the personnel on board to relate the monitoring data with location in real time. Meteorological data were collected by the State of Texas, Department of Environmental Quality (DEQ) and the University of Houston Institute for Multidimensional Air Quality Studies.

### 2.1 TAGA Air Monitoring

#### 2.1.1 Mass Spectrometer/Mass Spectrometer General Theory

The ECA TAGA Iie is based upon the Perkin-Elmer API 365 mass spectrometer/mass spectrometer (MS/MS) and is a direct air monitoring instrument capable of detecting, in real time, trace levels of many compounds in ambient air. The technique of triple quadrupole MS/MS is used to differentiate and quantitate compounds.

The initial step in the MS/MS process involves simultaneous chemical ionization of the compounds present in a sample of ambient air. The ionization produces both positive and negative ions by donating or removing one or more electrons. The chemical ionization is a "soft" ionization technique, which allows ions to be formed with little or no structural fragmentation. These ions are called parent ions. The parent ions with different mass-to-charge (m/z) ratios are separated by the first quadrupole (the first MS of the MS/MS system).

The quadrupole scans selected m/z ratios allowing only the parent ions with these ratios to pass through the quadrupole. Parent ions with m/z ratios different than those selected are discriminated electronically and fail to pass through the quadrupole.

The parent ions selected in the first quadrupole are accelerated through a collision cell containing uncharged nitrogen molecules in the second quadrupole. A portion of the parent ions entering the second quadrupole fragments as they collide with the nitrogen molecules. These fragment ions are called daughter ions. This process, in the second quadrupole, is called collision-induced dissociation. The daughter ions are separated according to their m/z ratios by the third quadrupole (the second MS of the MS/MS system). The quadrupole scans selected m/z ratios, allowing only the daughter ions with these ratios to pass through the quadrupole. Daughter ions with m/z ratios different than those selected are discriminated electronically and fail to pass through the quadrupole. Daughter ions with the selected m/z ratios are then counted by an electron multiplier. The resulting signals are measured in ion counts per second (icps) for each parent/daughter ion pair selected. The intensity of the icps for each parent/daughter ion pair is directly proportional to the ambient air concentration of the organic compound that produced the ion pair. All of the ions discussed in this report have a single charge. The m/z ratios of all of the ions discussed are equal to the ion masses in atomic mass units (amu). Therefore, the terms parent and daughter masses are synonymous with parent and daughter ion m/z ratios.

## 2.1.2 TAGA Procedure

### 2.1.2.1 TAGA Mass Calibration

At the beginning of the sampling day, a gas mixture containing BNZ, TOL, XYL, tetrachloroethene, trichloroethene, trans-1,2-dichloroethene and vinyl chloride was introduced by a mass flow controller into the SAF, and the tuning parameters for the first quadrupole at 30, 78, 98, 106, 130 and 164 amu, and the third quadrupole at 30, 78, 91, 105, 129 and 166 amu were optimized for sensitivity and mass assignment. The peak widths were limited between 0.55 amu and 0.85 amu. The mass assignments were set to the correct values within 0.15 amu.

### 2.1.2.2 TAGA Response Factor Measurements

The calibration system consisted of three regulated gas cylinders with associated mass flow controllers. The mass flow controllers were checked with a National Institute of Standards and Technology (NIST) traceable flow rate meter. The calibration system was used to generate the analytes' response factors (RFs), in units of ion counts per second per part per billion by volume (icps/ppbv), which were then used to quantify trace components in ambient air. The TAGA was calibrated for the target compounds at the beginning and end of the monitoring day. The average of the beginning and end of day RFs were used to generate the intermediate response factor (IRF) used for the final report.

Three gas cylinder standards, which contained known mixtures of target compounds, certified by the supplier, were regulated at preset flow rates and diluted with ambient air. The dilution of the gas cylinder standards gave known analyte concentrations. The calibrations consisted of a zero point and five known concentrations obtained by setting the mass flow controller to 0, 10, 20, 40, 80, and 90 milliliters per minute (mL/min) with the sample air flow at 1,500 milliliters per second (mL/sec). The approximate concentration range of standards introduced into the TAGA was between 1 ppbv and 25 ppbv, except for 1,3-BDE, which ranged from approximately 9 to 200 ppbv. The RFs were then determined

by using a least-square-fit algorithm to calculate the slopes of the curves. The coefficient of variation was checked for each ion pair's RF to ensure that it was greater than 0.90. The software utilized the analytes' cylinder concentrations, gas flow rates, air sampling flow rates, and atmospheric pressure to calculate the RFs. The RFs were obtained for the ion pairs of each compound of interest in the cylinder. The first cylinder calibration was used for BNZ, TOL, and XYL. The second cylinder calibration was used for STYR, MTBE and 1,2,3-TCPA. The third cylinder calibration was used for 1,3-BDE. The second and third cylinder calibrations were performed simultaneously. The certifications of the gas standards are in Appendix A.

#### 2.1.2.3 TAGA Air Monitoring

The TAGA performed mobile ambient air monitoring using a three-foot length of corrugated Teflon<sup>®</sup> sampling hose connected to a glass transfer tube passing through the roof of the TAGA bus. Air was continuously drawn through the Teflon<sup>®</sup> hose at a flow-rate of approximately 1,500 mL/sec. The air then passed through a glass splitter where the pressure gradient between the mass spectrometer core and the atmosphere caused a sample flow of approximately 10 mL/min into the ionization source through a heated transfer line. The flow into the TAGA source was controlled so that the ionization source pressure was maintained at an optimum value of approximately 1.6 torr. The remaining air flow was drawn through the air pump and vented from the TAGA.

The TAGA performed air monitoring in the parent/daughter ion monitoring mode. As the air monitoring proceeded, the operator pressed the letter keys (flags) sequentially to denote events or locations during the monitoring. This information was also recorded on the operator's log sheet. The intensity of each parent ion/daughter ion monitored by the TAGA, in turn, is recorded by the computer in a file on the hard disk. One set of measurements of all of the ions is called a sequence.

## 2.2 MultiRAE<sup>®</sup> Monitoring

RAE Systems MultiRAE Plus Monitor PGM-50 Photoionization Detector - The MultiRAE is a portable, hand-held, microprocessor controlled instrument designed for measuring the presence of photoionizable chemicals (VOC) in air at part per million levels. In addition the MultiRAE comes equipped with interchangeable electrochemical sensors for oxygen and toxic gases and a catalytic bead sensor for combustible gases. Its response depends on the chemical type as well as the concentration. As a PID, the MultiRAE does not distinguish one type of chemical from another, but displays a number indicating the total concentration of all photoionizable VOC compounds in the sample. The reporting limits are: VOC, 0.1 parts per million by volume (ppmv); H<sub>2</sub>S, 1 ppmv.

## 2.3 Jerome H<sub>2</sub>S Meter Monitoring

Jerome 631-X Hydrogen Sulfide Analyzer - The 631-X is a portable, hand-held, microprocessor controlled instrument using gold film technology to monitor for hydrogen sulfide. The 631-X can monitor for hydrogen sulfide at parts per billion levels. The reporting limit is 0.003 ppbv.

## 2.4 Lumex RA-915 Mercury Meter Monitoring

The operating principle of the Lumex RA-915 is based on the effect of differential Zeeman atomic absorption spectrometry combined with high-frequency modulation of polarized light. The radiation source (mercury lamp) is positioned in a permanent magnetic field. The resonance mercury line [at

254 nanometers (nm)] is split into three polarized Zeeman components:  $\pi$ ,  $\sigma_+$ , and  $\sigma_-$  respectively). When radiation is observed along the magnetic field lines, only the  $\sigma_+$  and  $\sigma_-$  components' radiation is registered. One  $\sigma$  component is within the mercury absorption line envelope and the other is outside it. In the absence of mercury vapor, the intensity of both  $\sigma$  components is equal. Mercury atoms cause a proportional, concentration-related difference in the intensity of the  $\sigma$  components. A polarization modulator is used to separate the  $\sigma$  components in time. Because the spectral shifts of the  $\sigma$  components are significantly smaller than the width of molecular absorption bands and scattering spectra, the background absorption caused by interfering components generally does not affect the analyzer measurement. A multi-path cell with an effective length of 10 meters (m) is used to enhance the sensitivity of analysis.

The instrument was calibrated by the manufacturer prior to arriving at the site, and the zero was checked automatically by the instrument during operation. The reporting limit is 10 nanograms per cubic meter ( $\text{ng}/\text{m}^3$ ).

## 2.5 Global Positioning System and Tracking

The mobile laboratory is equipped with a Trimble ProXRS GPS that is linked to a personal computer equipped with a geographic information system (GIS) mapping system that displays roads, satellite photographs and locations of industrial facilities onto a real-time display of the mobile laboratory's position. The display illustrates the path taken during each monitoring period, allowing the personnel on board to relate the real time monitoring data produced by on-board instrumentation to the physical location and potential sources. The instrument and computer clocks in the mobile laboratory are synchronized with the satellite data from the GPS, so the monitoring data can be directly associated with the position of the mobile laboratory as indicated by the GPS system at any time during any monitoring period.

## 2.6 Air Sample Collection

Grab samples of ambient air were collected into SUMMA<sup>®</sup> canisters from the air inlet manifold at times selected by the WAM. Grab samples are appropriate only in situations where screening samples are taken to assess for future sampling activities. These samples were generally collected when one or more of the monitoring instruments indicated the presence of an event of interest. A grab sample of ambient air was drawn through a sampling line into an evacuated SUMMA<sup>®</sup> passivated canister. Filling the canister takes about one minute. The start and end times for sample collection were entered into the TAGA log sheet and file as a pair of flags, so the sampling locations could be plotted on the GPS map. After the air sample was collected, the canister valve was closed, the inlet was capped, an identification tag was attached to the canister, and the canister was transported to a laboratory for analysis.

## 2.7 Meteorological Monitoring

Meteorological data were provided by the TX DEQ and the University of Houston Institute for Multidimensional Air Quality Studies for 12 December through 14 December 2006. TX DEQ data were collected at monitoring stations at an elevation of two meters and were operated in or near Harris County. University of Houston data were collected from a multi-level 43-meter tower in La Marque, about 10-miles south of Harris County. The wind speed and direction data from the TX DEQ monitoring location most closely associated by time, type of terrain, and location with each TAGA monitoring period are summarized in Table 1, along with the University of Houston data. The meteorological data for selected local reporting stations and the meteorological data for the University of Houston monitoring site are presented in Appendix B.

### 3.0 AIR MONITORING RESULTS

The TAGA mobile laboratory was used to conduct mobile monitoring around the Harris County, TX area.

#### 3.1 Mobile Monitoring Paths

Figures 1a, 1b, 1c, 1d, 1e, 1f, 1g, and 1h through 24a, 24b, 24c, 24d, 24e, 24f, 24g, and 24h present the monitoring paths used by the TAGA mobile laboratory as it traveled around the Harris County area. Each monitoring path is color coded to represent the concentration range of the compound of interest at various locations along the monitoring path. The compounds presented by the color-coded monitoring paths are: benzene, Figures 1a through 24a; toluene, Figures 1b through 24b; xylenes, Figures 1c through 24c; 1,2,3-trichloropropane, Figures 1d through 24d; methyl-t-butyl ether, Figures 1e through 24e; 1,3-butadiene, Figures 1f through 24 f; styrene, Figures 1g through 24g; mercury, Figures 1h through 24h. The maps representing the monitoring paths are marked with letters. These letters are the "flags" that the TAGA operator placed into the file while it was being acquired. These "flags" mark events and they are carried through the rest of the data presentation.

#### 3.2 TAGA File Event Summaries

Figures 1i through 24i present the TAGA file event summaries. The TAGA file event summaries are the observations made during the acquisition of the file by the TAGA operator, along with the times from the TAGA file and the letter "flags" used to mark the data as they were being recorded by the TAGA computer.

#### 3.3 Graphical Presentations

Figures 1j, 1k and 1l through 24j, 24k, and 24l are the graphical representations of the files. A graph of each target compound or element concentration is presented with ppbv or ng/m<sup>3</sup> plotted on the vertical axis, and time into the run, in minutes, on the horizontal axis. The target compound concentration was calculated by averaging the concentrations obtained from the ion pairs that were monitored for each target compound. In some cases, there was a positive interference with one or more ion pairs for one or more of the compounds. When the interferences occurred, the remaining ion pairs were used for the graphic representation, and the detection limits (DLs) and quantitation limits (QLs) determinations were for the remaining ion pairs. There are two horizontal lines on each graph. The lower horizontal line running through each graph is set at the detection limit for the compound. The detection limit is three times the standard deviation of the target compound concentration measured in an ambient background sample. The higher horizontal line is set at the concentration equal to the quantitation limit for the target compound. The quantitation limit is ten times the standard deviation of the target compound concentration measured in an ambient background sample. When high concentrations are represented, the lower detection limit line may not be readily discerned. Transient, momentary spikes above the quantitation limit line are occasionally observed. These spikes are electronic in nature and do not affect average concentrations and may be distinguished from elevated concentrations because these transient spikes are only present for one sequence.

#### 3.4 TAGA Target Compound Summaries

Figures 5m, 9m, 10m, 13m, 15m, 17m, 18m, and 22m present the TAGA target compound summaries. These figures contain the concentrations of the target compounds, averaged over time, at the various locations logged into the TAGA file event summaries. Target compound concentrations were averaged from the start to the end of sample collection for each SUMMA<sup>®</sup> canister sample. A comparison of the results for the TAGA with the corresponding SUMMA<sup>®</sup> canister sample is provided in Table 2.

## 4.0 DISCUSSION OF RESULTS

During each mobile monitoring period, the TAGA bus monitored continuously while moving along the roads in Harris County, Texas. In some cases, there was a positive interference with one or more ion pairs. When the interferences occurred, the remaining ion pairs were used for the graphic representations, and the DLs and QLs determinations. When the concentration profile for one or more compounds appear as an extended plume, with the peak concentration at or above the QL and the width of the plume extending at least one minute, the plume is identified in the discussion. Only the highest results above the QL are listed below. The highest concentrations that were within the calibrated range for the TAGA were approximately 200 ppbv for 1,3-butadiene, and approximately 20 ppbv for the other target substances. Values reported above these levels are considered estimated.

Wind roses are reported for the State DEQ monitoring station(s) closest to the monitoring path, along with data provided by the University of Houston Institute for Multidimensional Air Quality Studies from the 43-meter multi-level tower approximately 15-miles south of the study area. There was an inversion in place during most of the study that produced calm to very low wind speeds at 10-meters and below, but winds of 6 – 10 miles per hour (mph) at 20 meters and above. This situation can result in diffusive impact below the inversion from plumes that exist above and contact the inversion. The actual plume cannot penetrate the inversion. However, diffusion can produce elevated concentrations in the areas of calm air that are directly below the plume, and which mimic the shape of the plume that exists above the inversion, but with concentrations lower than exist within the actual plume.

Twelve grab samples were collected in SUMMA<sup>®</sup> canisters from the same manifold used by all of the monitoring instruments. The start and end of sample collection events were indicated by flags inserted into the TAGA file. The average concentration for each of the TAGA target compounds was reported in the TAGA target compound survey summaries for the time period corresponding to the collection of each of the grab samples. The analytical GC/MS results provided by EPA Region VI are presented in Appendix C.

In addition to monitoring with the TAGA, the air stream drawn past the TAGA inlet was monitored in real time using: a MultiRAE<sup>®</sup> multi gas monitor equipped with a PID for VOCs and a toxic sensor for H<sub>2</sub>S; a Jerome H<sub>2</sub>S meter; and a Lumex Hg meter. The complete graphical representations for the MultiRAE<sup>®</sup> data are presented in Appendix D. The complete graphical representations for the Jerome data are presented in Appendix E. The complete graphical representations for the Lumex data are presented with the TAGA data in Section 4, in the Figures, and in Appendix F.

The laptop used to log the data from the MultiRAE<sup>®</sup> suffered a major problem during the second day of monitoring, and those data were lost. The H<sub>2</sub>S detector in the Jerome became somewhat unstable, and signal was lost during part of each monitoring day, with the problem becoming more severe each day. It was subsequently returned to the factory for evaluation, and the detector element was replaced.

4.1 Mobile Monitoring in Harris County, HSC004 - Mobile monitoring was performed on 12 December 2006 at 02:45:46 UTC and is represented in Figures 1a through 1l, starting at location A and ending at location R along the path depicted in Figures 1a through 1h. The wind speed at the continuous air monitoring station (CAMS) station C243 (La Porte) averaged 3.2 mph from 144 degrees, and the wind speed at the 20-meter level of the University of Houston meteorological tower averaged 3.6 mph from 165 degrees, and 7.3 mph from 160 degrees at the 43-meter level. There was no precipitation during the monitoring period at the University of Houston meteorological tower. The MultiRAE<sup>®</sup> and Lumex monitors did not indicate the presence of VOC, H<sub>2</sub>S or Hg above their reporting limits. The following instantaneous maxima were highest: benzene, 16 ppbv at 30.467 minutes, on Port Road, between Highway 146 and Bay Area Boulevard, between flags O and P; toluene, 550 ppbv, and xylenes, 160 ppbv, both at 39.712 minutes, on Bay Area Boulevard, between Port Road and Choate Road, between flags P and Q; methyl-t-butyl ether, 12 ppbv at 39.782 minutes, on Bay Area Boulevard, between Port Road and



Choate Road, between flags P and Q; and styrene, 42 ppbv at 39.747 minutes, on Bay Area Boulevard, between Port Road and Choate Road, between flags P and Q. 1,2,3-Trichloropropane and 1,3-butadiene were not detected above their QLs. The following ion pairs were not included because of local interference: 1,3-butadiene, 54/54; 1,2,3-trichloropropane, 112/75. The highest instantaneous concentration of H<sub>2</sub>S registered by the Jerome monitor was 0.03 ppbv at 45.0 minutes, at the end of the monitoring period, adjacent to Huish Detergent, after flag R.

- 4.2 Mobile Monitoring in Harris County, HSC005 - Mobile monitoring was performed on 12 December 2006 at 03:35:46 UTC and is represented in Figures 2a through 2l, starting at location A and ending at location O along the path depicted in Figures 2a through 2h. The wind speed at the CAMS station C243 (La Porte) averaged 2.6 mph from 129 degrees, and the wind speed at the 20-meter level of the University of Houston meteorological tower averaged 4.1 mph from 166 degrees, and 7.2 mph from 160 degrees at the 43-meter level. There was no precipitation during the monitoring period at the University of Houston meteorological tower. The MultiRAE<sup>®</sup> monitor did not indicate the presence of VOC or H<sub>2</sub>S above their reporting limits. The following instantaneous maxima were highest: xylenes, 48 ppbv, at 34.075 minutes, on Tenth Street, between State Highway 146 and Barbours Cut Boulevard, between flags K and L; and styrene, 5.6 ppbv at 2.978 minutes, on Bay Area Boulevard, between Huish Detergent and Fairmont Parkway, between flags A and B, 12 ppbv at 14.149 minutes, on Highway 146, between Fairmont Parkway and State Highway 225, between flags C and D, and 10 ppbv at 34.075 minutes, on Tenth Street, between State Highway 146 and Barbours Cut Boulevard, between flags K and L. Benzene, Toluene, 1,2,3-trichloropropane, methyl-t-butyl ether, and 1,3-butadiene were not detected above their QLs. Apparent excursions above their QL's were momentary in nature, and could be attributed to electronic interference. The highest instantaneous concentrations of mercury were: 120 ng/m<sup>3</sup> at 11.730 minutes, on State Highway 146, just past Fairmont Parkway, near flag C, and 36 ng/m<sup>3</sup> at 38.900 minutes, on State Highway 146, between Adams Street and Fairmont Parkway, between flags M and N. The highest instantaneous concentration of H<sub>2</sub>S registered by the Jerome monitor was 0.037 ppbv at 6.967 minutes, while turning onto Fairmont Parkway at Bay Area Boulevard, at flag B.
- 4.3 Mobile Monitoring in Harris County, HSC006 - Mobile monitoring was performed on 12 December 2006 at 04:27:27 UTC and is represented in Figures 3a through 3l, starting at location A and ending at location L along the path depicted in Figures 3a through 3h. The wind speed at the CAMS station C243 (La Porte) averaged 3.6 mph from 130 degrees, and the wind speed at the 20-meter level of the University of Houston meteorological tower averaged 4.4 mph from 156 degrees, and 7.7 mph from 154 degrees at 43-meters. There was no precipitation during the monitoring period at the University of Houston meteorological tower. The MultiRAE<sup>®</sup> monitor did not indicate the presence of VOC or H<sub>2</sub>S above their reporting limits. The following instantaneous maxima were highest: benzene, 23 ppbv at 3.922 minutes, on Fairmont Parkway, between Bay Area Boulevard and Driftwood Drive, between flags A and B, 9.7 ppbv at 20.101 minutes, on Fairmont Parkway, between Driftwood Drive and Bay Area Boulevard, between flags F and G; toluene, 190 ppbv at 7.739 minutes, on Bay Park Road, between Fairmont Parkway and the railroad tracks, between flags C and D, 130 ppbv at 17.089 minutes, on Bay Park Road, between the railroad tracks and Fairmont Parkway, between flags D and E; xylenes, 26 ppbv at 7.739 minutes, on Bay Park Road, between Fairmont Parkway and the railroad tracks, between flags C and D, 20 ppbv at 16.809 minutes, on Bay Park Road, between the railroad tracks and Fairmont Parkway, between flags D and E, 63 ppbv at 30.011 minutes, on State Highway 146, between Fairmont Parkway and State Highway 225, between flags H and I; and styrene, 3.7 ppbv at 30.046 minutes, on State Highway 146, between Fairmont Parkway and State Highway 225, between flags H and I. 1,2,3-Trichloropropane, methyl-t-butyl ether, and 1,3-butadiene were not detected above their QLs. The following ion pair was not included because of local interference: 1,3-butadiene, 54/54. The highest instantaneous concentration of mercury was: 51 ng/m<sup>3</sup> at 26.000 minutes, on State Highway 146, just past Fairmont Parkway, near flag H. The highest instantaneous concentration of H<sub>2</sub>S registered by the Jerome monitor was 0.020 ppbv at 2.033

minutes, while preparing to start mobile monitoring on Fairmont Parkway at Bay Area Boulevard, before flag A.

- 4.4 Mobile Monitoring in Harris County, HSC007 - Mobile monitoring was performed on 12 December 2006 at 05:15:22 UTC and is represented in Figures 4a through 4l, starting at location A and ending at location G along the path depicted in Figures 4a through 4h. The wind speed at the CAMS station C35 (Deer Park) averaged 1.7 mph from 244 degrees, and the wind speed at the 20-meter level of the University of Houston meteorological tower averaged 4.9 mph from 157 degrees, and 8.4 mph from 149 degrees at 43-meters. There was no precipitation during the monitoring period at the University of Houston meteorological tower. The MultiRAE<sup>®</sup> and Lumex monitors did not indicate the presence of VOC, H<sub>2</sub>S or Hg above their reporting limits. The following instantaneous maxima were highest: benzene, 77 ppbv at 16.181 minutes, on Tidal Road near Battleground Road, between flags B and C, and 87 ppbv at 18.597 minutes, on Battleground Road between Tidal Road and Miller Cut Off Road, between flags C and D; toluene, 530 ppbv at 16.181 minutes, on Tidal Road near Battleground Road, between flags B and C, and 180 ppbv at 18.597 minutes, on Battleground Road between Tidal Road and Miller Cut Off Road, between flags C and D; xylenes, 130 ppbv, at 16.181 minutes, on Tidal Road near Battleground Road, between flags B and C, 1,3-butadiene, 79 ppbv at 15.936 minutes, on Tidal Road near Battleground Road, between flags B and C; and styrene, 2.0 ppbv at 16.356 minutes and 2.4 ppbv at 17.126 minutes, both on Tidal Road near Battleground Road, between flags B and C, and 3.5 ppbv at 18.632 minutes, on Battleground Road between Tidal Road and Miller Cut Off Road, between flags C and D. 1,2,3-trichloropropane and methyl-t-butyl ether were not detected above their QLs. Apparent excursions for methyl-t-butyl ether above the QL were due to a single ion pair, and could be attributed to electronic interference. The highest instantaneous concentration of H<sub>2</sub>S registered by the Jerome monitor was 0.011 ppbv at 26.133 and 27.483 minutes, just before the instrument ceased recording data at 27.817 minutes, while stopped at a railroad crossing, after flag E.
- 4.5 Mobile Monitoring in Harris County, HSC008 - Mobile monitoring was performed on 12 December 2006 at 06:46:37 UTC and is represented in Figures 5a through 5m, starting at location A and ending at location P along the path depicted in Figures 5a through 5h. The wind speed at the CAMS station C1029 (Manchester) averaged 2.2 mph from 261 degrees, and the wind speed at the 20-meter level of the University of Houston meteorological tower averaged 3.7 mph from 251 degrees, and 5.6 mph from 239 degrees at 43-meters. There was no precipitation during the monitoring period at the University of Houston meteorological tower. The MultiRAE<sup>®</sup> and Lumex monitors did not indicate the presence of H<sub>2</sub>S or Hg above their reporting limits. The Jerome monitor did not record data during this monitoring period. SUMMA<sup>®</sup> canister sample number G1567 was collected between flags K and L, and SUMMA<sup>®</sup> canister sample number K0175 was collected between flags M and N. The average target compound concentrations measured by the TAGA while collecting sample number G1567 were: benzene, 0.50J ppbv; toluene, 1.4J ppbv; xylenes, 2.4 ppbv; methyl-t-butyl ether, 9.6 ppbv; and styrene, 0.19J ppbv, while 1,2,3-trichloropropane and 1,3-butadiene were not detected above their DLs. The average target compound concentrations measured by the TAGA while collecting sample number K1075 were: benzene, 0.80J ppbv; toluene, 2.4J ppbv; xylenes, 5.0 ppbv; methyl-t-butyl ether, 27 ppbv; and styrene, 0.21J ppbv, while 1,2,3-trichloropropane and benzene were not detected above their DLs (Figure 5m and Table 2). The following instantaneous maxima were highest: benzene, 84 ppbv at 12.853 minutes; toluene, 17 ppbv, at 12.888 minutes, both on State Highway 225 West, near Allen Genoa Road, near flag E; xylenes, 18 ppbv, at 24.969 minutes, on Clinton Drive East, between Fidelity Street and the U-turn location, between flags I and J; and 20 ppbv at 41.848 minutes, on Clinton Drive East, shortly after resuming mobile monitoring at flag O; methyl-t-butyl ether, 35 ppbv at 27.911 minutes, on Clinton Drive East, between Fidelity Street and the U-turn location, between flags I and J; 20 ppbv at 31.378 and 31.518 minutes, both near flag K, at the start of collection of sample number G1567, 62 ppbv at 33.654 minutes, while stationary after collecting sample number G1567, 49 ppbv at 41.568 minutes, just after resuming mobile

monitoring on Clinton Drive East at flag O; and styrene, 1.7 ppbv at 9.491, on State Highway 225 West, between Red Bluff Road and Richey Street, between flags C and D. 1,2,3-Trichloropropane and 1,3-butadiene were not detected above their QLs. Apparent excursions above the 1,2,3-trichloropropane QL were due to a single ion pair, and could be attributed to electronic interference. The following ion pairs were not included because of local interference: 1,3-butadiene, 54/54; methyl-t-butyl ether, 89/41, 1,2,3-trichloropropane, 112/75 and 112/77. The highest concentration of VOC indicated by the MultiRae was 0.5 ppmv at 41.783 minutes, on Clinton Drive East, between flags O and P.

- 4.6 Mobile Monitoring in Harris County, HSC009 - Mobile monitoring was performed on 12 December 2006 at 07:41:53 UTC and is represented in Figures 6a through 6l, starting at location A and ending at location K along the path depicted in Figures 6a through 6h. The wind speed at the CAMS station C403 (Clinton) averaged 4.0 mph from 280 degrees, and the wind speed at the 20-meter level of the University of Houston meteorological tower averaged 3.9 mph from 256 degrees, and 6.3 mph at 248 degrees at 43-meters. There was no precipitation during the monitoring period at the University of Houston meteorological tower. The MultiRAE<sup>®</sup> and Lumex monitors did not indicate the presence of VOC, H<sub>2</sub>S, or Hg above their reporting limits. The following instantaneous maxima were highest: benzene, 2.2 ppbv at 40.413 minutes, on Market Street, between Holland Avenue and Miles Street, between flags J and K; xylenes, 11 ppbv, at 13.904 minutes, on Main Street, between Avenue K and the U-turn, between flags C and D; and styrene, 0.53 ppbv at 26.896 minutes, on State Highway 610, between Clinton Drive and Market Street, between flags G and H. Toluene, 1,2,3-trichloropropane, methyl-t-butyl ether, and 1,3-butadiene were not detected above their QLs. Apparent excursions for toluene and MTBE above their QL's were momentary in nature, and could be attributed to electronic interference. The highest instantaneous concentration of H<sub>2</sub>S registered by the Jerome monitor was 0.012 ppbv at 40.383 minutes, on Market Street, between Holland Avenue and Miles Street, between flags J and K.
- 4.7 Mobile Monitoring in Harris County, HSC010 - Mobile monitoring was performed on 12 December 2006 at 08:31:32 UTC and is represented in Figures 7a through 7l, starting at location A and ending at location J along the path depicted in Figures 7a through 7h. The wind speed at the CAMS station C403 (Clinton) averaged 2.3 mph from 246 degrees, and the wind speed at the 20-meter level of the University of Houston meteorological tower averaged 5.8 mph from 292 degrees, and 8.5 mph from 287 degrees at 43-meters. There was no precipitation during the monitoring period at the University of Houston meteorological tower. The MultiRAE<sup>®</sup> and Lumex monitors did not indicate the presence of VOC, H<sub>2</sub>S or Hg above their reporting limits. The following instantaneous maxima were highest: benzene, 2.4 ppbv at 38.487 minutes, on Sheldon Road, between Market Street and North Wood Drive, between flags H and I; xylenes, 6.8 ppbv at 21.048 minutes, on Haden Road, between the U-turn and the Interstate 10 service road, between flags E and F; and styrene, 1.2 ppbv at 7.040 minutes, on Haden Road, between flags C and D, 1.3 ppbv at 21.538 minutes, on Haden Road between flags E and F, 1.5 ppbv at 40.203 minutes, on Sheldon Road, near North Wood Drive, between flags H and I. Toluene, 1,2,3-trichloropropane, methyl-t-butyl ether, and 1,3-butadiene were not detected above their QLs. Apparent excursions for toluene and MTBE above their QL's were momentary in nature, and could be attributed to electronic interference. The highest instantaneous concentration of H<sub>2</sub>S registered by the Jerome monitor was 0.016 ppbv at 1.333 minutes, while preparing to start mobile monitoring on Market Street, before flag A.
- 4.8 Mobile Monitoring in Harris County, HSC011 - Mobile monitoring was performed on 12 December 2006 at 09:19:44 UTC and is represented in Figures 8a through 8l, starting at location A and ending at location F along the path depicted in Figures 8a through 8h. The wind speed at the CAMS station C15 (Channelview) averaged 1.2 mph from 270 degrees, and the wind speed at the 20-meter level of the University of Houston meteorological tower averaged 3.9 mph from 294 degrees, and 6.0 mph from 287 degrees at 43-meters. There was no precipitation during the

monitoring period at the University of Houston meteorological tower. The MultiRAE<sup>®</sup> and Lumex monitors did not indicate the presence of VOC, H<sub>2</sub>S or Hg above their reporting limits. The following instantaneous maxima were highest: benzene, 2.1 ppbv at 21.082 minutes, on Sheldon Road, between Miller Road Number One and the Crosby Freeway, between flags E and F; xylenes, 3.1 ppbv at 20.276 minutes, on Sheldon Road, between Miller Road Number One and the Crosby Freeway, between flags E and F; and styrene, 1.7 ppbv at 7.739 minutes, on Wallisville Road, between Sheldon Road and the U-turn, between flags B and C, 3.2 ppbv at 13.132 minutes, on Wallisville Road, between the U-turn and Sheldon Road, between flags E and F. Toluene, 1,2,3-trichloropropane, methyl-t-butyl ether, and 1,3-butadiene were not detected above their QLs. The highest instantaneous concentration of H<sub>2</sub>S registered by the Jerome monitor was 0.009 ppbv at 24.117 minutes, on Sheldon Road, just before ending the monitoring period at the Crosby Freeway, just before flag F.

- 4.9 Mobile Monitoring in Harris County, HSC017 - Mobile monitoring was performed on 13 December 2006 at 02:39:08 UTC and is represented in Figures 9a through 9m, starting at location A and ending at location Y along the path depicted in Figures 9a through 9h. The wind speed at the CAMS station C1029 (Manchester) was calm, and the wind speed at the 20-meter level of the University of Houston meteorological tower averaged 4.5 mph from 312 degrees, and 10.1 mph from 323 degrees at 43-meters. There was no precipitation during the monitoring period at the University of Houston meteorological tower. The laptop used to log the MultiRAE<sup>®</sup> data suffered a major problem and those data were lost. The Lumex monitor did not indicate the presence of Hg above its reporting limit. Xylenes were present in the range of approximately 10 ppbv to 20 ppbv throughout much of the housing area, except for the eastern end of the development, where the levels dropped below 10 ppbv. SUMMA<sup>®</sup> canister sample number F1582 was collected between flags W and X. The average target compound concentrations measured by the TAGA while collecting sample number F1582 were: toluene, 5.6J ppbv; xylenes, 5.2 ppbv; and styrene, 3.5 ppbv, while benzene, 1,2,3-trichloropropane, methyl-t-butyl ether, and 1,3-butadiene were not detected above their DLs (Figure 9m and Table 2). The following instantaneous maxima were highest: benzene, 16 ppbv, toluene, 24 ppbv, xylenes, 30 ppbv, all at 34.531 minutes, on Central Street while crossing the railroad tracks, between East Avenue I and Lawndale Street, between flags T and U. Styrene was present on Lawndale Street east of Central Street, with an instantaneous maximum of 4.8 ppbv at 42.025 minutes, while performing stationary monitoring at the sample number F1582 location. 1,2,3-Trichloropropane, methyl-t-butyl ether, and 1,3-butadiene were not detected above their QLs. The highest instantaneous concentration of H<sub>2</sub>S registered by the Jerome monitor was 0.024 ppbv at 36.867 minutes, on Lawndale Street, between Central Street and stopping for SUMMA<sup>®</sup> sampling, between flags U and V.
- 4.10 Mobile Monitoring in Harris County, HSC018 - Mobile monitoring was performed on 13 December 2006 at 03:26:36 UTC and is represented in Figures 10a through 10m, starting at location A and ending at location R along the path depicted in Figures 10a through 10h. The wind speed at the CAMS station C1029 (Manchester) was calm, and the wind speed at the 20-meter level of the University of Houston meteorological tower averaged 3.1 mph from 328 degrees, and 9.3 mph from 333 degrees at 43-meters. There was no precipitation during the monitoring period at the University of Houston meteorological tower. The laptop used to log the MultiRAE<sup>®</sup> data suffered a major problem and those data were lost. SUMMA<sup>®</sup> canister sample number A1498 was collected between flags D and E, and SUMMA<sup>®</sup> canister sample number F1496 was collected between flags I and J. The average target compound concentrations measured by the TAGA while collecting sample number A1498 were: toluene, 8.4J ppbv; xylenes, 10 ppbv; 1,3-butadiene, 3.9J; and styrene, 180 ppbv. Benzene, 1,2,3-trichloropropane, and methyl-t-butyl ether were not detected above their DLs. The average target compound concentrations measured by the TAGA while collecting sample number F1496 were: benzene, 30 ppbv; toluene, 12J ppbv; xylenes, 7.9 ppbv; 1,2,3-trichloropropane, 0.11J ppbv, methyl-t-butyl ether, 4.3 ppbv; 1,3-butadiene, 6.1J, and styrene, 5.0 ppbv (Figure 10f and Table 2). The following instantaneous maxima were highest: benzene, 60 ppbv at 16.739 minutes, on Allen Genoa Road, between Lawndale Street and Gober

Avenue, between flag H and prior to stopping to collect sample number F1496 at flag I; toluene, 19 ppbv at 27.000 minutes, on Allendale Road, between Allen Genoa Road and Flagstone Terrace, between flags M and N; xylenes, 22 ppbv at 27.000 minutes, on Allendale Road, between Allen Genoa Road and Flagstone Terrace, between flags M and N, and 24 ppbv at 43.599 minutes on Galveston Road, between Central Street and State Highway 610, between flags Q and R; methyl-t-butyl ether, 5.2 ppbv at 15.969 minutes on Allen Genoa Road, between collecting sample number F1496 and Grober Avenue, between flags J and K, and 5.5 ppbv at 28.751 minutes, on Allendale Road, while passing Flagstone Terrace, at flag N; 1,3-butadiene, 21 ppbv at 9.385 minutes, on Goodyear Drive, between the U-turn and Lawndale Street, between flags F and G; and styrene, 310 ppbv at 5.463 minutes, at flag C, on Goodyear Drive while passing State Highway 275. 1,2,3-Trichloropropane, was not detected above its QLs. The following ion pair was not included because of local interference: methyl-t-butyl ether, 89/29. The highest instantaneous concentration of mercury was: 53 ng/m<sup>3</sup> at 23.100 minutes, on Allen Genoa Road, near Southmore Avenue, near flag L. The highest instantaneous concentration of H<sub>2</sub>S registered by the Jerome monitor was 0.035 ppbv at 3.067 minutes, on Lawndale Street, between starting mobile monitoring and Goodyear Drive, between flags A and B, before the instrument ceased recording data at 7.15 minutes, while collecting SUMMA® sample A1498.

- 4.11 Mobile Monitoring in Harris County, HSC019 - Mobile monitoring was performed on 13 December 2006 at 04:17:16 UTC and is represented in Figures 11a through 11l, starting at location A and ending at location M along the path depicted in Figures 11a through 11h. The wind speed at the CAMS station C1029 (Manchester) was calm, and the wind speed at the 20-meter level of the University of Houston meteorological tower averaged 2.8 mph from 343 degrees, and 7.6 mph from 347 degrees at 43-meters. There was no precipitation during the monitoring period at the University of Houston meteorological tower. The laptop used to log the MultiRAE® data suffered a major problem and those data were lost. The Jerome monitor did not record data during this monitoring period. The following instantaneous maxima were highest: benzene, 32 ppbv at 31.027 minutes, on Lawndale Street, between Goodyear Drive and the railroad crossing, between flags H and I; toluene, 85 ppbv at 41.673 minutes, on Light Company Road, between Lawndale Street and the U-turn, between flags K and L, and 100 ppbv at 44.965 minutes, on Light Company Road at the end of the monitoring period, after flag M; xylenes, 51 ppbv at 33.829 minutes, on Lawndale Street, between Goodyear Drive and the railroad crossing, between flags H and I, 56 ppbv at 41.218 minutes, on Light Company Road, between Lawndale Street and the U-turn, between flags K and L, and 59 ppbv at 44.965 minutes, on Light Company Road at the end of the monitoring period, after flag M; methyl-t-butyl ether, 16 ppbv at 44.684 minutes on Light Company Road at the end of the monitoring period, after flag M; 1,3-butadiene, 40 ppbv at 44.86 minutes, on Light Company Road at the end of the monitoring period, after flag M; and styrene, 5.5 ppbv at 31.062 minutes, on Lawndale Street, between Goodyear Drive and the railroad crossing, between flags H and I. 1,2,3-Trichloropropane was not detected above its QLs. The highest instantaneous concentration of mercury was: 47 ng/m<sup>3</sup> at 38.600 minutes, on Lawndale Street, between the railroad crossing and Light Company Road, between flags J and K.
- 4.12 Mobile Monitoring in Harris County, HSC020 - Mobile monitoring was performed on 13 December 2006 at 05:05:55 UTC and is represented in Figures 12a through 12l, starting at location A and ending at location L along the path depicted in Figures 12a through 12h. The wind speed at the CAMS station C1015 (Lynchburg) averaged 1.9 mph from 352 degrees, and the wind speed at the 20-meter level of the University of Houston meteorological tower averaged 3.2 mph from 43 degrees, and 6.8 mph from 27 degrees at 43-meters. There was no precipitation during the monitoring period at the University of Houston meteorological tower. The Lumex monitor did not indicate the presence of Hg above its reporting limit. The laptop used to log the MultiRAE® data suffered a major problem and those data were lost. The Jerome monitor did not record data during the first 15-minutes of the monitoring period. The following instantaneous maxima were highest: benzene, 64 ppbv at 2.487 minutes, southward on Light Company Road, just after initiating mobile monitoring, between flags A and B, 130 ppbv at 23.008 minutes on State

Highway 225 while passing Center Street, between flags F and G, 720 ppbv at 42.023 minutes, and 180 ppbv at 44.754 minutes, both on Tidal Road while stopped for a train, after flag L; toluene, 120 ppbv at 0.000 minutes and at 0.350 minutes, on Light Company Road while stationary at the start of the monitoring period before flag A, 160 ppbv at 2.487 minutes, on Light Company Road between the start of mobile monitoring and West Shaw Avenue, between flags A and B, 89 ppbv at 18.490 minutes, on State Highway 225, between Red Bluff Road and Center Street, between flags E and F, and 110 ppbv at 25.879 minutes, on State Highway 225, between Tidal Road and Battleground Road, between flags G and H; xylenes, 99 ppbv at 0.000 minutes and 88 ppbv at 0.280 minutes, on Light Company Road while stationary at the start of the monitoring period before flag A, 87 ppbv at 2.487 minutes, on Light Company Road between the start of mobile monitoring and West Shaw Avenue, between flags A and B, 41 ppbv at 10.611 minutes, on Red Bluff Road, between Richey Street and State Highway 225, between flags D and E, 47 ppbv at 18.630 minutes, on State Highway 225, between Red Bluff Road and Center Street, between flags E and F, and 32 ppbv at 25.879 minutes, on State Highway 225, between Tidal Road and Battleground Road, between flags G and H; 1,2,3-Trichloropropane, 0.55 ppbv at 23.603 minutes, on State Highway 225, between Central Street and Tidal Road, between flags F and G; methyl-t-butyl ether, 11 ppbv at 0.280 minutes, on Light Company Road while stationary at the start of the monitoring period, between, before flag A, 23 ppbv at 2.522 minutes, on Light Company Road between the start of mobile monitoring and West Shaw Avenue, between flags A and B, 17 ppbv at 17.615 minutes, on State Highway 225, between Red Bluff Road and Center Street, between flags E and F, 34 ppbv at 24.478 minutes, on State Highway 225, between Tidal Road and Battleground Road, 42 ppbv at 42.093 minutes, on Tidal Road while stopped for a train, after flag L; 1,3-butadiene, 70 ppbv at 2.487 minutes, on Light Company Road between the start of mobile monitoring and West Shaw Avenue, between flags A and B; and styrene, 4.6 ppbv at 2.522 minutes, on Light Company Road between the start of mobile monitoring and West Shaw Avenue, between flags A and B, and 3.0 ppbv at 25.144 minutes, on State Highway 225, between Tidal Road and Battleground Road. The highest instantaneous concentration of H<sub>2</sub>S registered by the Jerome monitor was 0.12 ppbv at 22.967 minutes, on State Highway 225, while passing Center Street, at flag F.

- 4.13 Mobile Monitoring in Harris County, HSC021 - Mobile monitoring was performed on 13 December 2006 at 05:53:57 UTC and is represented in Figures 13a through 13m, starting at location A and ending at location I along the path depicted in Figures 13a through 13h. The wind speed at the CAMS station C1015 (Lynchburg) averaged 2.7 mph from 347 degrees, and the wind speed at the 20-meter level of the University of Houston meteorological tower averaged 3.2 mph from 59 degrees, and 4.7 mph from 44 degrees at 43-meters. There was no precipitation during the monitoring period at the University of Houston meteorological tower. The laptop used to log the MultiRAE<sup>®</sup> data suffered a major problem and those data were lost. SUMMA<sup>®</sup> canister sample number B0125 was collected between flags B and C. The average target compound concentrations measured by the TAGA while collecting SUMMA<sup>®</sup> canister sample number B0125 were: benzene, 61 ppbv; toluene, 5.7J ppbv; xylenes, 8.8 ppbv; methyl-t-butyl ether, 50 ppbv; and styrene, 0.71J ppbv, while 1,2,3-trichloropropane and 1,3-butadiene were not above their detection limits (Figure 13m and Table 2). The following instantaneous maxima were highest: benzene, 160 ppbv at 4.203 minutes, while stopped on Tidal Road collecting sample number B0125, between flags B and C, 180 ppbv at 6.515 minutes, on Tidal Road, after resuming mobile monitoring subsequent to collecting sample number B0125, between flags D and E; toluene, 57 ppbv at 24.899 minutes, on Tidal Road, near State Highway 225 Service Road, between flags F and G; xylenes, 110 ppbv at 24.794 minutes on Tidal Road, near State Highway 225 Service Road, between flags F and G; methyl-t-butyl ether, 66 ppbv at 3.153 and 3.363 minutes on Tidal Road, while stopped just prior to collecting sample number B0125, between flags A and B; 1,3-butadiene, 21 ppbv at 31.343 minutes, during the last monitoring sequence of the run, while stopped on Center Street, near State Highway 225, after flag I; and styrene, 34 ppbv at 6.550 minutes, on Tidal Road after resuming mobile monitoring subsequent to collecting sample number B0125, just after flag D. 1,2,3-Trichloropropane was not detected above its QLs. The highest

instantaneous concentration of mercury was: 28 ng/m<sup>3</sup> at 14.200 minutes, on Tidal Road, between flags D and E. The highest instantaneous concentration of H<sub>2</sub>S registered by the Jerome monitor was 0.39 ppbv at 10.433 and 11.117 minutes, on Tidal Road, between flags D and E. The following ion pairs were not included due to local interference: 1,3-butadiene, 54/54, and MTBE, 89/29.

- 4.14 Mobile Monitoring in Harris County, HSC022 - Mobile monitoring was performed on 13 December 2006 at 07:13:11 UTC and is represented in Figures 14a through 14l, starting at location A and ending at location N along the path depicted in Figures 14a through 14h. The wind speed at the CAMS station C243 (La Porte) averaged 2.7 mph from 279 degrees, and the wind speed at the 20-meter level of the University of Houston meteorological tower averaged 4.0 mph from 53 degrees, and 7.8 mph from 56 degrees at 43-meters. There was no precipitation during the monitoring period at the University of Houston meteorological tower. The Lumex monitor did not indicate the presence of Hg above its reporting limit. The laptop used to log the MultiRAE<sup>®</sup> data suffered a major problem and those data were lost. The following instantaneous maxima were highest: benzene, 36 ppbv at 2.522 minutes, on State Highway 225 East Service Road, after starting mobile monitoring, between flags A and B; toluene, 98 ppbv at 2.312 minutes, on State Highway 225 East Service Road, after starting mobile monitoring, between flags A and B; xylenes, 38 ppbv at 2.137 minutes on State Highway 225 East Service Road, after starting mobile monitoring, between flags A and B; and styrene, 14 ppbv at 11.802 minutes, on State Highway 225 East Service Road, between Miller Cut Off Road and Sens Road, between flags D and E, and 12 ppbv at 27.281 minutes, on State Highway 225, between Miller Cut Off Road and State Highway 146, between flags I and J. Methyl-t-butyl ether, 1,2,3-trichloropropane, and 1,3-butadiene were not detected above their QLs. The Jerome did not find H<sub>2</sub>S above 0.008 ppbv during the monitoring period.
- 4.15 Mobile Monitoring in Harris County, HSC023 - Mobile monitoring was performed on 13 December 2006 at 08:01:41 UTC and is represented in Figures 15a through 15m, starting at location A and ending at location P along the path depicted in Figure 15a through 15h. The wind speed at the CAMS station C148 (Baytown) was calm, and the wind speed at the 20-meter level of the University of Houston meteorological tower averaged 4.5 mph from 52 degrees, and 8.6 mph from 56 degrees at 43-meters. There was no precipitation during the monitoring period at the University of Houston meteorological tower. The Lumex monitor did not indicate the presence of Hg above its reporting limit. The laptop used to log the MultiRAE<sup>®</sup> data suffered a major problem and those data were lost. The Jerome monitor did not record data during this monitoring period. SUMMA<sup>®</sup> canister sample number H1499 was collected between flags C and D, and SUMMA<sup>®</sup> canister sample number J0165 was collected between flags O and P. The average target compound concentrations measured by the TAGA while collecting sample number H1499 were: benzene, 4.5J ppbv, toluene, 32 ppbv; xylenes, 66 ppbv, 1,2,3-trichloropropane, 0.15J, methyl-t-butyl ether, 33 ppbv, and styrene, 1.1 ppbv; 1,3-butadiene was not detected above its DL. The average target compound concentrations measured by the TAGA while collecting sample number J0165 were: xylenes, 2.0J ppbv; 1,3-butadiene, 17 ppbv, and styrene, 15 ppbv. Benzene, toluene, 1,2,3-trichloropropane and methyl-t-butyl ether were not detected above their DLs (Figure 15m and Table 2). The following instantaneous maxima were highest: benzene, 35 ppbv at 14.323 minutes, on Bayway Drive, between Market Street and Bayvilla Street, between flags H and I; toluene, 48 ppbv at 4.308 minutes, on Baytown Avenue, between Bayway Drive and stopping to collect sample number H1499, between flags B and C, 44 ppbv, at 4.938 minutes, during collection of sample number H1499, between flags C and D, 49 ppbv at 6.164 minutes, on Baytown Avenue, between resuming mobile monitoring and Finley Street, between flags E and F, and 67 ppbv at 14.148 minutes, on Bayway Drive, between Market Street and Bayvilla Street, between flags H and I; xylenes, 100 ppbv at 4.308 minutes, on Baytown Avenue, between Bayway Drive and stopping to collect sample number H1499, between flags B and C, and 210 ppbv at 14.778 minutes, on Bayway Drive, between Market Street and Bayvilla Street, between flags H and I; methyl-t-butyl ether, 56 ppbv at 4.343 minutes, on Baytown Avenue, between Bayway

Drive and stopping to collect sample number H1499, between flags B and C, and 39 ppbv at 13.483 minutes, on Bayway Drive, between Market Street and Bayvilla Street, between flags H and I; 1,3-butadiene, 45 ppbv at 42.793 minutes, while stationary on Baker Road after collecting sample number J0165; and styrene, 39 ppbv at 42.548 minutes, while stationary on Baker Road after collecting sample number J0165. 1,2,3-Trichloropropane was not detected above its QL. The following ion pairs were not included because of local interference: 1,3-butadiene, 54/54.

- 4.16 Mobile Monitoring in Harris County, HSC024 - Mobile monitoring was performed on 13 December 2006 at 08:49:34 UTC and is represented in Figures 16a through 16l, starting at location A and ending at location H along the path depicted in Figures 16a through 16h. The wind speed at the CAMS station C148 (Baytown) was calm, and the wind speed at the 20-meter level of the University of Houston meteorological tower averaged 5.1 mph from 19 degrees, and 6.3 mph from 44 degrees at 43-meters. There was no precipitation during the monitoring period at the University of Houston meteorological tower. The Lumex monitor did not indicate the presence of Hg above its reporting limit. The laptop used to log the MultiRAE<sup>®</sup> data suffered a major problem and those data were lost. The Jerome monitor did not record data during this monitoring period. The following instantaneous maxima were highest: styrene, 9.0 ppbv at 1.507 minutes, while stationary on West Baker Road, between the start of monitoring and flag A. Benzene, toluene, xylenes, 1,2,3-trichloropropane, methyl-t-butyl ether and 1,3-butadiene were not detected above their QLS.
- 4.17 Mobile Monitoring in Harris County, HSC030 - Mobile monitoring was performed on 14 December 2006 at 02:50:26 UTC and is represented in Figures 17a through 17m, starting at location A and ending at location W along the path depicted in Figures 17a through 17h. The wind speed at the CAMS station C1029 (Manchester) averaged 1.3 mph from 194 degrees, and the wind speed at the 20-meter level of the University of Houston meteorological tower averaged 5.0 mph from 156 degrees, and 11.6 mph from 149 degrees at 43-meters. There was no precipitation during the monitoring period at the University of Houston meteorological tower. The MultiRAE<sup>®</sup> and Lumex monitors did not indicate the presence of H<sub>2</sub>S or Hg above their reporting limits. SUMMA<sup>®</sup> canister sample number C1161 was collected between flags E and F, and SUMMA<sup>®</sup> canister sample number B1578 was collected between flags L and M. The average target compound concentrations measured by the TAGA while collecting sample number C1161 were: benzene, 1.3J ppbv, toluene, 4.0J ppbv; xylenes, 3.9 ppbv, methyl-t-butyl ether, 1.7J ppbv, 1,3-butadiene, 4.4J ppbv, and styrene, 30 ppbv. 1,2,3-Trichloropropane was not detected above its DL. The average target compound concentrations measured by the TAGA while collecting sample number B1578 were: benzene, 140 ppbv, toluene, 31 ppbv, xylenes, 2.8 ppbv; 1,2,3-trichloropropane, 0.047J ppbv, methyl-t-butyl ether, 9.4 ppbv, 1,3-butadiene, 12 ppbv, and styrene, 0.28J ppbv. (Figure 17m and Table 2). The following instantaneous maxima were highest: benzene, 160 ppbv at 19.121 minutes, on Lawndale Street, between State Highway 225 and Allen Genoa Road, between flags H and I, 230 ppbv at 24.198 minutes, on Lawndale Street, while stationary, just before collecting sample number B1578, between flags K and L, 240 ppbv at 27.945 minutes, while backing up on Lawndale Street, after collecting sample number B1578, between flags N and O, 200 ppbv at 33.233 minutes, after executing a U-turn on Lawndale Street, just before turning right onto Allen Genoa Road, between flags P and Q, 77 ppbv at 44.649 minutes, on Lawndale Street, between Goodyear Drive and Allen Genoa Road, between flags V and W; toluene, 29 ppbv at 19.121 minutes, on Lawndale Street, between State Highway 225 and Allen Genoa Road, between flags H and I, 47 ppbv at 24.934 minutes, on Lawndale Street, while collecting sample number B1578, between flags L and M, 51 ppbv at 27.945 minutes, on Lawndale Street, between backing up and stopping, between flags N and O, and 39 ppbv at 33.233 minutes, after executing a U-turn on Lawndale Street, just before turning right onto Allen Genoa Road between flags P and Q; xylenes, 9.7 ppbv at 14.113 minutes, while stationary on Goodyear Drive, after collecting sample number C1161, between flags F and G, 9.5 ppbv at 41.007 minutes, on Goodyear Drive, between State Highway 225 Service Road and Lawndale Street, between flags U and V; methyl-t-butyl ether, 23 ppbv at 37.155 minutes and 24 ppbv at 37.821 minutes, on State



Highway 225 Service Road, between Allen Genoa Road and Goodyear Drive, between flags R and S; 1,3-butadiene, 18 ppbv at 24.864 minutes, on Lawndale Street, while collecting sample number B1578, between flags L and M; and styrene, 47 ppbv at 6.339 minutes, while executing a U-turn on Goodyear Drive, at flag D. 1,2,3-Trichloropropane, was not detected above its QLs. The apparent instantaneous maximum for 1,2,3-trichloropropane at about 3.5 minutes was due to one sequence of one ion pair, and is attributed to electronic noise. The following ion pairs were not included because of local interference: 1,2,3-trichloropropane, 112/75 and 112/77. The highest instantaneous concentration of H<sub>2</sub>S registered by the Jerome monitor was 0.051 ppbv at 1.900 minutes, at the start of monitoring on Lawndale Street near Goodyear Drive, at flag A. The Jerome ceased recording data at 9.067 minutes, after collecting sample number C1161 and while performing stationary monitoring, between flags E and F. The highest concentration of VOC indicated by the MultiRAE<sup>®</sup> was 0.3 ppmv centered on 25.300 minutes, just before flag M; centered on 27.783 minutes, at flag N; and centered on 28.283 minutes, on Lawndale Street, between flags N and O.

- 4.18 Mobile Monitoring In Harris County, HSC031 - Mobile monitoring was performed on 14 December 2006 at 04:05:25 UTC and is represented in Figures 18a through 18m, starting at location A and ending at location J along the path depicted in Figures 18a through 18h. The wind speed at the CAMS station C35 (Deer Park) averaged 1.3 mph from 223 degrees, and the wind speed at the 20-meter level of the University of Houston meteorological tower averaged 5.0 mph from 147 degrees, and 11.1 mph from 145 degrees at 43-meters. There was no precipitation during the monitoring period at the University of Houston meteorological tower. The MultiRAE<sup>®</sup> and Lumex monitors did not indicate the presence of H<sub>2</sub>S or Hg above their reporting limits. The Jerome monitor did not record data during this monitoring period. SUMMA<sup>®</sup> canister sample number F1500 was collected between flags G and H. The average target compound concentrations measured by the TAGA while collecting sample number F1500 were: benzene, 43 ppbv; toluene, 620 ppbv; xylenes, 63 ppbv; methyl-t-butyl ether, 11 ppbv; 1,3-butadiene, 8.9 ppbv; and styrene, 4.9 ppbv. 1,2,3-Trichloropropane was not detected above its DL (Figure 18m and Table 2). The following instantaneous maxima were highest: benzene, 85 ppbv at 12.327 minutes, on Battleground Road, between Miller Cut Off Road and executing a U-turn, between flags D and E, 91 ppbv at 18.805 minutes, on Tidal Road, between Battleground Road and collecting sample F1500, between flags F and G, and 150 ppbv at 22.657 minutes while stationary after collecting sample number F1500, between flags H and I; toluene, 92 ppbv at 12.397 minutes, on Battleground Road, between Miller Cut Off Road and executing a U-turn, between flags D and E, 880 ppbv, at 19.856 minutes, on Tidal Road, during collection of sample number F1500, between flags G and H, and 1,600 ppbv at 22.167 minutes while stationary after collecting sample number F1500, between flags H and I; xylenes, 20 ppbv at 12.397 minutes, on Battleground Road, between Miller Cut Off Road and executing a U-turn, between flags D and E, 89 ppbv at 18.840 minutes, on Tidal Road, between Battleground Road and before collecting sample number F1500, between flags F and G, and 180 ppbv at 22.342 minutes, while stationary after collecting Summa sample F1500, between flags H and I; methyl-t-butyl ether, 51 ppbv at 24.198 minutes, on Tidal Road after resuming mobile monitoring subsequent to collecting sample number F1500, between flags I and J; 1,3-butadiene, 52 ppbv at 9.070 minutes, on Battleground Road, between Celanese Road and Miller Cut Off Road, between flags C and D; styrene, 22 ppbv at 22.062 minutes, while stationary after collecting sample number F1500, between flags H and I. 1,2,3-Trichloropropane was not detected above its QL, and apparent excursions above its QL were momentary in nature, and could be attributed to electronic interference. The following ion pairs were not included because of local interference: 1,3-butadiene, 54/54; methyl-t-butyl ether, 89/39; 1,2,3-trichloropropane, 112/75 and 112/77. The highest concentration of VOC indicated by the MultiRAE<sup>®</sup> was 0.4 ppmv at 24.433 minutes, on Tidal Road, between flags I and J.

- 4.19 Mobile Monitoring in Harris County, HSC032 - Mobile monitoring was performed on 14 December 2006 at 04:53:11 UTC and is represented in Figures 19a through 19l, starting at location A and ending at location K along the path depicted in Figures 19a through 19h. The wind speed at the CAMS station C35 (Deer Park) averaged 2.0 mph from 179 degrees, and the wind speed at the 20-meter level of the University of Houston meteorological tower averaged 4.0 mph from 158 degrees, and 9.2 mph from 153 degrees at 43-meters. There was no precipitation during the monitoring period at the University of Houston meteorological tower. The MultiRAE<sup>®</sup> and Lumex monitors did not indicate the presence of VOC, H<sub>2</sub>S or Hg above their reporting limits. The Jerome monitor did not record data during this monitoring period. The following instantaneous maxima were highest: benzene, 7.7 ppbv at 26.790 minutes, on State Highway 225 Access Road, between East Boulevard and Tidal Road, between flags H and I; toluene, 14 ppbv at 26.650 minutes, on State Highway 225 Access Road, between East Boulevard and Tidal Road, between flags H and I; xylenes, 15 ppbv at 5.919 minutes, on Miller Cut Off Road, between Strang Road and Old Clark Road, between flags B and C, 7.2 ppbv at 24.829 minutes, on State Highway 225 Access Road, between Battleground Road and East Boulevard, between flags G and H; 1,3-butadiene, 10 ppbv at 22.203 minutes, on Battleground Road, between Miller Cut Off Road and Celanese Road, between flags D and E; styrene, 3.7 ppbv at 2.242 minutes, on Miller Cut Off Road, between the start of mobile monitoring and Strang Road, between flags A and B. 1,2,3-Trichloropropane and methyl-t-butyl ether were not detected above their QLs. The following ion pair was not included because of local interference: 1,3-butadiene, 54/54.
- 4.20 Mobile Monitoring in Harris County, HSC033 - Mobile monitoring was performed on 14 December 2006 at 06:00:26 UTC and is represented in Figures 20a through 20l, starting at location A and ending at location O along the path depicted in Figures 20a through 20h. The wind speed at the CAMS station C403 (Clinton) averaged 1.6 mph from 266 degrees, and the wind speed at the 20-meter level of the University of Houston meteorological tower averaged 4.1 mph from 176 degrees, and 9.9 mph from 167 degrees at 43-meters. There was no precipitation during the monitoring period at the University of Houston meteorological tower. The MultiRAE<sup>®</sup> and Lumex monitors did not indicate the presence of VOC, H<sub>2</sub>S or Hg above their reporting limits. The Jerome monitor did not record data during this monitoring period. The following instantaneous maxima were highest: benzene, 23 ppbv at 8.756 minutes, on Clinton Drive, between Center Drive and Gulf Road, between flags D and E, 29 ppbv at 10.227 minutes, on Clinton Drive, between Gulf Road and Crown Street, between flags E and F, and 39 ppbv at 12.888 minutes, on Clinton Drive, between Crown Street and Federal Road, between flags F and G; toluene, 79 ppbv at 13.098 minutes, on Clinton Drive, between Crown Street and Federal Road, between flags F and G; xylenes, 290 ppbv at 12.888 minutes, on Clinton Drive, between Crown Street and Federal Road, between flags F and G; methyl-t-butyl ether, 99 ppbv at 11.242 minutes, and 21 ppbv at 13.449 minutes, both on Clinton Drive, between Crown Street and Federal Road, between flags F and G; 1,3-butadiene, 9.6 ppbv at 9.912 on Clinton Drive, between Gulf Road and Crown Street, between flags E and F; styrene, 4.6 ppbv at 6.445 minutes, on Clinton Drive, between Galena Manor and Center Drive, between flags C and D, and 22 ppbv at 12.923 minutes, on Clinton Drive, between Crown Street and Federal Road, between flags F and G. 1,2,3-Trichloropropane was not detected above its QL, and apparent excursions above its QL were momentary in nature, and could be attributed to electronic interference. The following ion pairs were not included because of local interference: 1,3-butadiene, 54/54; and 1,2,3-trichloropropane, 112/75 and 112/77.
- 4.21 Mobile Monitoring in Harris County, HSC034 - Mobile monitoring was performed on 14 December 2006 at 06:48:16 UTC and is represented in Figures 21 through 21l, starting at location A and ending at location J along the path depicted in Figures 21a through 21h. The wind speed at the CAMS station C603 (Haden Road) averaged 2.1 mph from 17 degrees, and the wind speed at the 20-meter level of the University of Houston meteorological tower averaged 1.6 mph from 24 degrees, and 5.2 mph from 161 degrees at 43-meters. There was no precipitation during the monitoring period at the University of Houston meteorological tower. The MultiRAE<sup>®</sup> monitor

did not indicate the presence of VOC, or H<sub>2</sub>S above their reporting limits. The Jerome monitor did not record data during this monitoring period. The following instantaneous maxima were highest: benzene, 24 ppbv at 44.299 minutes, on Jacintoport Boulevard, between Beltway 8 South and the end of the run, after flag J; toluene, 37 ppbv at 7.459 minutes, while turning right onto Market Street Road from Sheffield Boulevard, at flag C, 23 ppbv at 35.965 minutes, on I-10 Service Road, between Haden Road and Beltway 8 South, between flags H and I, 45 ppbv at 44.334 minutes, on Jacintoport Boulevard, between Beltway 8 South and the end of the run, after flag J; xylenes, 28 ppbv at 18.210 minutes, on Haden Road, between I-10 Service Road and executing a U-turn at the end of Haden Road, between flags F and G, 23 ppbv at 31.097 minutes, on Haden Road, between executing a U-turn at the end of Haden Road and I-10 Service Road, between flags G and H, 28 ppbv at 35.860 minutes, on I-10 Service Road, between Haden Road and Beltway 8 South, between flags H and I, and 28 ppbv at 44.229 minutes, on Jacintoport Boulevard, between Beltway 8 South and the end of the run, after flag J; styrene, 24 ppbv at 18.245 minutes, on Haden Road, between I-10 Service Road and executing a U-turn at the end of Haden Road, between flags F and G, 12 ppbv at 31.132 minutes, on Haden Road, between executing a U-turn at the end of Haden Road and I-10 Service Road, between flags G and H, and 2.8 ppbv at 35.895 minutes, on I-10 Service Road, between Haden Road and Beltway 8 South, between flags H and I. The highest concentrations of Hg registered by the Lumex were; 18 ng/m<sup>3</sup> at 11.03 minutes, on Market Street Road, between Miles street and I-10 Service Road, between flags D and E, and 24 ng/m<sup>3</sup> at 37.70 minutes, on I-10 Service Road, between Haden Road and Beltway 8 South, between flags H and I. 1,2,3-Trichloropropane, methyl-t-butyl ether and 1,3-butadiene were not detected above their QLs. The following ion pairs were not included because of local interference: 1,3-butadiene, 54/54.

- 4.22 Mobile Monitoring in Harris County, HSC035 - Mobile monitoring was performed on 14 December 2006 at 07:35:47 UTC and is represented in Figures 22 through 22m, starting at location A and ending at location H along the path depicted in Figures 22a through 22h. The wind speed at the CAMS station C1036 (Jacinto Port) was calm, and the wind speed at the 20-meter level of the University of Houston meteorological tower was calm, and 6.2 mph from 172 degrees at 43-meters. There was no precipitation during the monitoring period at the University of Houston meteorological tower. The MultiRAE<sup>®</sup> and Lumex monitors did not indicate the presence of VOC, H<sub>2</sub>S, or Hg above their reporting limits. The Jerome monitor did not record data during this monitoring period. SUMMA<sup>®</sup> canister sample number J0182 was collected between flags G and H. The average target compound concentrations measured by the TAGA while collecting canister sample number J0182 were: benzene, 13 ppbv, toluene, 31 ppbv; xylenes, 17 ppbv, methyl-t-butyl ether, 33 ppbv, 1,3-butadiene, 2.9J ppbv, and styrene, 0.40J ppbv; 1,2,3-trichloropropane was not detected above its DL (Figure 22m and Table 2). The following instantaneous maxima were highest: benzene, 23 ppbv at 2.557 minutes, on Jacintoport Boulevard, just after starting the run, near flag A, and 18 ppbv at 8.440 minutes, on Jacintoport Boulevard, between Sheldon Road and reversing at the end of Jacintoport Boulevard; toluene, 45 ppbv at 2.522 minutes, on Jacintoport Boulevard, just after starting the run, near flag A, 43 ppbv, at 24.514 minutes and at 24.794 minutes, while turning onto Jacintoport Boulevard Extension, at flag E, 39 ppbv at 43.809 minutes, on Jacintoport Boulevard Extension, between executing a U-turn and stopping to collect sample number J0182, between flags G and H; xylenes, 29 ppbv at 2.522 minutes, on Jacintoport Boulevard, between starting the run and Sheldon Road, between flags A and B, 34 ppbv at 9.806 minutes, on Jacintoport Boulevard, between Sheldon Road and reversing at the end of Jacintoport Boulevard, between flags B and C, 31 ppbv at 24.724 minutes, while turning onto Jacintoport Boulevard Extension, at flag E, and 31 ppbv at 42.863 minutes, on Jacintoport Boulevard Extension, after making a U-turn and before stopping to collect sample number J0182, between flags F and G; methyl-t-butyl ether, 30 ppbv at 8.475 minutes, on Jacintoport Boulevard, between Sheldon Road and reversing at the end of Jacintoport Boulevard, between flags B and C, 31 ppbv at 24.303 minutes, on Jacintoport Boulevard, between executing a U-turn and Jacintoport Boulevard Extension, between flags D and E, 44 ppbv at 43.704 minutes, on Jacintoport Boulevard Extension, between executing a U-turn and stopping to collect sample

number J0182, between flags F and G; styrene, 7.5 ppbv at 37.611 minutes, on Jacintoport Boulevard Extension, between executing a U-turn and stopping to collect sample J0182, between flags F and G. 1,2,3-Trichloropropane and 1,3-butadiene were not detected above their QLs. Apparent excursions for 1,2,3-trichloropropane above its QL were momentary in nature, and could be attributed to electronic interference. The following ion pairs were not included because of local interference: 1,3-butadiene, 54/54, and 1,2,3-trichloropropane, 112/75 and 112/77.

- 4.23 Mobile Monitoring in Harris County, HSC036 - Mobile monitoring was performed on 14 December 2006 at 08:54:28 UTC and is represented in Figures 23a through 23i, starting at location A and ending at location M along the path depicted in Figures 23a through 23h. The wind speed at the CAMS station C243 (La Porte) averaged 4.6 mph from 112 degrees, and the wind speed at the 20-meter level of the University of Houston meteorological tower averaged 4.4 mph from 154 degrees, and 9.6 mph from 168 degrees at 43-meters. There was no precipitation during the monitoring period at the University of Houston meteorological tower. The MultiRAE<sup>®</sup> and Lumex monitors did not indicate the presence of VOC, H<sub>2</sub>S or Hg above their reporting limits. The Jerome monitor did not record data during this monitoring period. The following instantaneous maxima were highest: benzene, 57 ppbv at 20.383 minutes, on Bayport Boulevard, between Red Bluff Road and New Port Road, between flags F and G, 24 ppbv at 41.079 minutes, on Old State Highway 146, between Red Bluff Road and New Port Road, between flags L and M; toluene, 130 ppbv at 20.383 minutes, on Bayport Boulevard, between Red Bluff Road and New Port Road, between flags F and G, 34 ppbv at 41.079 minutes, on Old State Highway 146, between Red Bluff Road and New Port Road, between flags L and M; xylenes, 79 ppbv at 20.383 minutes, on Bayport Boulevard, between Red Bluff Road and New Port Road, between flags F and G, 13 ppbv at 41.079 minutes, on Old State Highway 146, between Red Bluff Road and New Port Road, between flags L and M; styrene, 0.51 ppbv at 22.344 minutes, on New Port Road, between Bayport Boulevard and Old State Highway 146, between flags G and H, 0.78 ppbv at 42.129 minutes, on Old State Highway 146, between Red Bluff Road and New Port Road, between flags L and M. 1,2,3-Trichloropropane, methyl-t-butyl ether and 1,3-butadiene were not detected above their QLs. Apparent excursions for 1,2,3-trichloropropane above its QL were momentary in nature, and could be attributed to electronic interference. The following ion pairs were not included because of local interference: 1,3-butadiene, 54/54; and 1,2,3-trichloropropane, 112/75 and 112/77.
- 4.24 Mobile Monitoring in Harris County, HSC037 - Mobile monitoring was performed on 14 December 2006 at 09:42:01 UTC and is represented in Figures 24a through 24i, starting at location A and ending at location L along the path depicted in Figures 24a through 24h. The wind speed at the CAMS station C243 (La Porte) averaged 6.1 mph from 114 degrees, and the wind speed at the 20-meter level of the University of Houston meteorological tower averaged 3.8 mph from 107 degrees, and 8.0 mph from 145 degrees at 43-meters. There was no precipitation during the monitoring period at the University of Houston meteorological tower. The MultiRAE<sup>®</sup> and Lumex monitors did not indicate the presence of VOC, H<sub>2</sub>S or Hg above their reporting limits. The Jerome monitor did not record data during this monitoring period. The following instantaneous maxima were highest: benzene, 13 ppbv at 6.934 minutes, on New Port Road, between State Highway 146 and Bay Area Boulevard, between flags B and C; toluene, 12 ppbv at 7.915 minutes, on New Port Road, between State Highway 146 and Bay Area Boulevard, between flags B and C; xylenes, 8.5 ppbv at 8.160 minutes, on New Port Road, between State Highway 146 and Bay Area Boulevard, between flags B and C, 5.9 ppbv at 13.798 minutes, on Bay Area Boulevard, between State Highway 146 and Huish Detergent, between flags C and D; styrene, 1.3 ppbv at 7.459 minutes, on New Port Road, between State Highway 146 and Bay Area Boulevard, between flags B and C, 0.99 ppbv at 16.319 minutes, on Bay Area Boulevard, between Huish Detergent and Fairmont Parkway, between flags D and E. 1,2,3-Trichloropropane, methyl-t-butyl ether and 1,3-butadiene were not detected above their QLs. Apparent excursions above their QL were momentary in nature, and could be attributed to electronic interference. The following ion pairs were not included because of local interference: 1,3-butadiene, 54/54; and methyl-t-butyl

ether, 89/29.

## 5.0 QUALITY ASSURANCE/QUALITY CONTROL

The compound parent/daughter ion pairs used are listed below.

Compound	Parent Ion Mass	Daughter Ion Mass
Benzene	78	39
Benzene	78	52
Toluene	92	39
Toluene	92	51
Xylenes	106	65
Xylenes	106	91
1,2,3-Trichloropropane	110	75
1,2,3-Trichloropropane	110	49
1,2,3-Trichloropropane	112	75
1,2,3-Trichloropropane	112	77
Methyl-t-butyl ether	89	41
Methyl-t-butyl ether	89	39
Methyl-t-butyl ether	89	29
1,3-Butadiene	54	54
1,3-Butadiene	54	39
1,3-Butadiene	54	38
Styrene	104	103
Styrene	104	95
Styrene	104	78
Styrene	104	77

The Response Factors and Error Bars, (Sections 5.1 and 5.2, and Table 3), document the response factors, intermediate response factors and error bars generated during the calibration procedure for the individual ion pairs used to quantitate the ion pair concentrations. A calibration was performed at the beginning and end of each monitoring cycle. Each monitoring cycle began in the evening and continued through the morning of the following day. Dates and times are provided in UTC.

The summaries of the target compound detection and quantitation limits measured during the monitoring cycles (Section 5.3 and Table 4) document the concentration, in ppbv, required for each compound to be considered detectable and quantifiable. The detection and quantitation limits for a compound result from averaging the detection and quantitation limits of the compound's ion pairs.

### 5.1 Calculations for the Intermediate Response Factors

Response factors were generated from the initial and final calibration events for the mobile monitoring events, as described in the procedure (Section 2.1.2). Table 3 contains the RFs in units of icps/ppbv for the initial and final calibrations used for these events. The actual RFs were used to calculate the intermediate response factors, which were used to calculate the concentrations reported in the results.

The following equation was used to calculate the IRFs found in Table 3:

$$\text{IRF} = \frac{2(\text{RF}_1 \times \text{RF}_2)}{(\text{RF}_1 + \text{RF}_2)}$$

where:

IRF = Intermediate response factor (icps/ppbv)

RF<sub>1</sub> = The RF for an ion pair measured during the first calibration event (icps/ppbv)

RF<sub>2</sub> = The RF for the same ion pair measured during the second calibration event (icps/ppbv)

For example, the entry for the 104/78 ion pair of styrene from Table 3 for files HSC001, HSC002, HSC012, and HSC013; 12 December 2006 is:

RF<sub>1</sub> = 184.45 icps/ppbv

RF<sub>2</sub> = 226.41 icps/ppbv

therefore,

$$\text{IRF} = \frac{2(184.45 \times 226.41)}{(184.45 + 226.41)} = \frac{83,522.65}{410.86} = 203.29 \text{ icps/ppbv}$$

The result 203.29 icps/ppbv is the intermediate response factor reported in Table 3 and used in Table 4.

## 5.2 Error Bars

The potential maximum concentration percent deviations for each target compound are presented in Table 3 and are called “error bars” for simplicity. They represent the potential bias in the concentration due to changes in the sensitivity of the TAGA instrument. Errors bars were calculated using the following equation:

$$\text{error bar} = \frac{|\text{RF}_1 - \text{RF}_2|}{(\text{RF}_1 + \text{RF}_2)} \times 100$$

where:

error bar = Maximum concentration percent deviation

RF<sub>1</sub> = The RF for an ion pair measured during the first calibration event (icps/ppbv)

RF<sub>2</sub> = The RF for the same ion pair measured during the second calibration event (icps/ppbv)

For example, the entry for the 104/78 ion pair of styrene from Table 3 for files HSC001, HSC002, HSC012, and HSC013; 12 December 2006 is:

RF<sub>1</sub> = 184.45 icps/ppbv

RF<sub>2</sub> = 226.41 icps/ppbv

$$\text{error bar} = \frac{|184.45 - 226.41|}{(184.45 + 226.41)} \times 100 = 10.2\%$$

The % error bar calculated for the 104/78 ion pair of styrene is 10.2% for files HSC001, HSC002, HSC012, and HSC013; 12 December 2006.

The above calculation was repeated for each ion pair. The error bars for each compound's ions were averaged to give a single value for the compound. This averaged error bar can be applied to the samples analyzed between the two calibrations of the monitoring period.

### 5.3 Ion Pair Detection and Quantitation Limits

The DLs and QLs were calculated using the standard deviation (SD) of the compound's ion pair intensity measured in an ambient air sample and its IRF. The SD reflects the variability of the instrument's response to the ambient air sample.

The following equation was used to calculate the DLs found in Table 4:

$$DL = \frac{3 \times SD}{IRF}$$

where:

DL = Detection limit for an ion pair (ppbv)  
SD = Standard deviation of the ion intensity measured in an ambient air sample (icps)  
IRF = Intermediate response factor for an ion pair (icps/ppbv)

For example, the entry for the 104/78 ion pair of styrene from Table 4, for files HSC001, HSC002, HSC012, and HSC013; 12 December 2006 is:

SD = 6.6230 icps  
IRF = 203.29 icps/ppbv

$$DL = \frac{3 \times 6.6230}{203.29} = 0.0977 \text{ ppbv}$$

The following equation was used to calculate the quantitation limits found in Table 4:

$$QL = \frac{10 \times SD}{IRF}$$

where:

QL = Quantitation limit concentration for an ion pair (ppbv)  
SD = Standard deviation of the ion intensity measured in an ambient air sample (icps)  
IRF = Intermediate response factor for an ion pair (icps/ppbv)

For example, the entry for the 104/78 ion pair of styrene from Table 4, for files HSC001, HSC002, HSC012, and HSC013; 12 December 2006 is:

SD = 6.6230 icps  
IRF = 203.29 icps/ppbv

$$QL = \frac{10 \times 6.6230}{203.29} = 0.326 \text{ ppbv}$$

#### 5.4 Compound Detection and Quantitation Limits

Averaging the respective DLs and QLs of the target compound's ion pairs found in Table 4 generated the DLs and QLs.

The following equation was used to calculate the compound's DL:

$$DL_c = \frac{DL_1 + DL_2 + \dots + DL_n}{n}$$

where:

- DL<sub>c</sub> = Detection limit for a compound (ppbv)
- DL<sub>1</sub> = Detection limit for the first ion pair (ppbv)
- DL<sub>2</sub> = Detection limit for the second ion pair (ppbv)
- DL<sub>n</sub> = Detection limit for the n<sup>th</sup> ion pair (ppbv)
- n = Number of ion pairs to be averaged

For example, using the entries for the 104/77, 104/78, 104/95, and 104/103 ion pairs of styrene from Table 4 for files HSC001, HSC002, HSC012, and HSC013; 12 December 2006 is:

$$DL_c = \frac{0.220 + 0.0977 + 0.183 + 0.0841}{4} = \frac{0.5848}{4} = 0.146 \text{ ppbv}$$

This result, 0.146 ppbv, rounded to 0.15 ppbv is the DL for styrene found for File HSC004 on 12 December 2006 and presented in Table 4.

The following equation was used to calculate the compound's QL:

$$QL_c = \frac{QL_1 + QL_2 + \dots + QL_n}{n}$$

where:

- QL<sub>c</sub> = Quantitation limit for a compound (ppbv)
- QL<sub>1</sub> = Quantitation limit for the first ion pair (ppbv)
- QL<sub>2</sub> = Quantitation limit for the second ion pair (ppbv)
- QL<sub>n</sub> = Quantitation limit for the n<sup>th</sup> ion pair (ppbv)
- n = Number of ion pairs to be averaged

For example, using the entries for the 104/77, 104/78, 104/95 and 104/103 ion pairs of styrene from Table 4 for files HSC001, HSC002, HSC012, and HSC013; 12 December 2006 is:

$$QL_c = \frac{0.733 + 0.326 + 0.611 + 0.280}{4} = \frac{1.950}{4} = 0.488 \text{ ppbv}$$

This result, 0.488 ppbv, rounded to 0.49 ppbv is the QL for styrene found for File HSC004 on 12 December 2006 and presented in Table 4.



## **TABLES**



**TABLE 1**  
**Summary of Meteorological Conditions During Monitoring for 12 December through 14 December 2006**  
**Urban Air Toxics Study**  
**Harris County, Texas**  
**March 2007**

TAGA File	Date	Start Time (UTC)	TCEQ Continuous Air Monitoring Station <sup>(3)</sup> (CAMS)			University of Houston Meteorological Tower						Precipitation (inches) <sup>(2)</sup>
			Station	Wind Speed (mph)	Direction <sup>(1)</sup> (degrees)	10-Meter Elevation		20-Meter Elevation		43-Meter Elevation		
						Wind Speed (mph)	Direction <sup>(1)</sup> (degrees)	Wind Speed (mph)	Direction <sup>(1)</sup> (degrees)	Wind Speed (mph)	Direction <sup>(1)</sup> (degrees)	
HSC004	12/12/2006	2:45	C243	3.2	144	2.3	172	3.6	165	7.3	160	0
HSC005	12/12/2006	3:35	C243	2.6	129	2.8	168	4.1	166	7.2	160	0
HSC006	12/12/2006	4:27	C243	3.6	130	3.2	153	4.4	156	7.7	154	0
HSC007	12/12/2006	5:15	C35	1.7	244	3.7	157	4.9	157	8.4	149	0
HSC008	12/12/2006	6:46	C1029	2.2	261	3.1	252	3.7	251	5.6	239	0
HSC009	12/12/2006	7:41	C403	4.0	280	3.3	256	3.9	256	6.3	248	0
HSC010	12/12/2006	8:31	C403	2.3	246	4.9	292	5.8	292	8.5	287	0
HSC011	12/12/2006	9:19	C15	1.2	270	3.3	292	3.9	294	6.0	287	0
HSC017	12/13/2006	2:39	C1029	Calm	Calm	Calm	Calm	4.5	312	10.1	323	0
HSC018	12/13/2006	3:26	C1029	Calm	Calm	Calm	Calm	3.1	328	9.3	333	0
HSC019	12/13/2006	4:17	C1029	Calm	Calm	Calm	Calm	2.8	343	7.6	347	0
HSC020	12/13/2006	5:05	C1015	1.9	352	Calm	Calm	3.2	43	6.8	27	0

(1) Wind direction is the direction from which the wind is blowing

(2) Precipitation data collected at University of Houston meteorological tower

(3) State of Texas continuous air monitoring station most representative of the TAGA path

mph = miles per hour

UTC = coordinated universal time

TCEQ = Texas Commission of Environmental Quality

**TABLE 1 (continued)**  
**Summary of Meteorological Conditions During Monitoring for 12 December through 14 December 2006**  
**Urban Air Toxics Study**  
**Harris County, Texas**  
**March 2007**

TAGA File	Date	Start Time (UTC)	TCEQ Continuous Air Monitoring Station <sup>(3)</sup> (CAMS)			University of Houston Meteorological Tower						Precipitation <sup>(2)</sup> (inches)
			Station	Wind Speed (mph)	Direction <sup>(1)</sup> (degrees)	10-Meter Elevation		20-Meter Elevation		43-Meter Elevation		
						Wind Speed (mph)	Direction <sup>(1)</sup> (degrees)	Wind Speed (mph)	Direction <sup>(1)</sup> (degrees)	Wind Speed (mph)	Direction <sup>(1)</sup> (degrees)	
HSC021	12/13/2006	5:53	C1015	2.7	347	Calm	Calm	3.2	59	4.7	44	0
HSC022	12/13/2006	7:13	C243	2.7	279	Calm	Calm	4.0	53	7.8	56	0
HSC023	12/13/2006	8:01	C148	Calm	Calm	1.2	352	4.5	52	8.6	56	0
HSC024	12/13/2006	8:49	C148	Calm	Calm	2.9	339	5.1	19	6.3	44	0
HSC030	12/14/2006	2:50	C1029	1.3	194	1.9	169	5.0	156	11.6	149	0
HSC031	12/14/2006	4:05	C35	1.3	223	1.7	159	5.0	147	11.1	145	0
HSC032	12/14/2006	4:53	C35	2.0	179	1.1	176	4.0	158	9.2	153	0
HSC033	12/14/2006	6:00	C403	1.6	266	1.1	187	4.1	176	9.9	167	0
HSC034	12/14/2006	6:48	C603	2.1	17	1.1	355	1.6	24	5.2	161	0
HSC035	12/14/2006	7:35	C1036	Calm	Calm	Calm	Calm	Calm	Calm	6.2	172	0
HSC036	12/14/2006	8:54	C243	4.6	112	Calm	Calm	4.4	154	9.6	168	0
HSC037	12/14/2006	9:42	C243	6.1	114	Calm	Calm	3.8	107	8.0	145	0

(1) Wind direction is the direction from which the wind is blowing

(2) Precipitation data collected at University of Houston meteorological tower

(3) State of Texas continuous air monitoring station most representative of the TAGA path

mph = miles per hour

UTC = coordinated universal time

TCEQ = Texas Commission of Environmental Quality

**TABLE 2**  
**Comparison of Canister Samples with TAGA Monitoring for Target Compounds**  
**12 December through 14 December 2006**  
**Urban Air Toxics Study**  
**Harris County, Texas**  
**March 2007**

Sample ID/Flags	Method	Benzene	Toluene	Xylenes	1,2,3- Trichloropropane	MTBE	1,3-Butadiene	Styrene
HSC008 (K - L)	TAGA	0.50J	1.4J	2.4	DL=0.079	9.6	DL=3.1	0.19J
G1567	GC/MS	0.2	0.6	0.8 (1.0)	NA	U	0.2J	U
HSC008 (M - N)	TAGA	0.80J	2.4J	5.0	DL=0.079	27.	DL=3.1	0.21J
K0175	GC/MS	0.4	1.7	2.8 (3.4)	NA	0.2	U	U
HSC017 (W - X)	TAGA	DL=2.0	5.6J	5.2	DL=0.074	DL=2.6	DL=3.0	3.5
F1582	GC/MS	1.7	5.2	3.8 (4.8)	NA	U	U	2.2
HSC018 (D - E)	TAGA	DL=2.0	8.4J	10.	DL=0.074	DL=1.1	3.9J	180
A1498	GC/MS	1.8	6.7	5.5 (11.6)	NA	0.2	0.2	113
HSC018 (I - J)	TAGA	30.	12.J	7.9	0.11J	4.3	6.1J	5.0
F1496	GC/MS	8.5	6.2	4.4 (6.0)	NA	U	U	16.4
HSC021 (A - B)	TAGA	61.	5.7J	8.8	DL=0.074	50.	DL=2.9	0.71J
B1025 B0125	GC/MS	114	5.5	1.6 (1.9)	NA	22.7	U	0.7

All concentrations are in parts per billion by volume.

DL=X.X Compound not found above the specified detection limit

U = Not detected

J = Above the detection limit, but below the quantitation limit (TAGA data)

J = The identification of the analyte is acceptable; the reported value is an estimate (GC/MS data)

NA = Not analyzed

(xx) =Sum of xylenes plus ethyl benzene is given in parentheses

**TABLE 2 (continued)**  
**Comparison of Canister Samples with TAGA Monitoring for Target Compounds**  
**12 December through 14 December 2006**  
**Urban Air Toxics Study**  
**Harris County, Texas**  
**March 2007**

Sample ID/Flags	Method	Benzene	Toluene	Xylenes	1,2,3-Trichloropropane	MTBE	1,3-Butadiene	Styrene
HSC023 (C - D)	TAGA	4.5J	32.	66.	0.15J	33.	DL=2.9	1.1
H1499	GC/MS	3.1	12.5	30.2 (33.8)	NA	18.4	U	U
HSC023 (O - P)	TAGA	DL=2.0	DL=4.2	2.0J	DL=0.074	DL=2.6	17.	15.
J0165	GC/MS	1.2	2.2	1.6 (1.9)	NA	U	21.9	13.6
HSC030 (E - F)	TAGA	1.3J	4.0J	3.9	DL=0.033	1.7J	4.4J	30.
C1161	GC/MS	1.0	3.0	1.7 (3.2)	NA	0.7	3.3	16.5
HSC030 (L - M)	TAGA	140	31.	2.8	0.047J	9.4	12.	0.28J
B1578	GC/MS	88.6	15.9	1.2 (1.6)	NA	U	U	U
HSC031 (G - H)	TAGA	43.	620	63.	DL=0.033	11.	8.9	4.9
F1500	GC/MS	25.6	408	32. (40.7)	NA	5.8	2.1	2.6
HSC035 (G - H)	TAGA	13.	31.	17.	DL=0.033	33.	2.9J	0.40J
J0182	GC/MS	13.8	23.4	13.3 (16.5)	NA	32.4	U	U

All concentrations are in parts per billion by volume.

DL=X.X Compound not found above the specified detection limit

U = Not detected

J = Above the detection limit, but below the quantitation limit (TAGA data)

J = The identification of the analyte is acceptable; the reported value is an estimate (GC/MS data)

(xx) =Sum of xylenes plus ethyl benzene is given in parentheses

**TABLE 3**  
**Response Factors and Error Bars Summary for 12 December through 14 December 2006**  
**Urban Air Toxics Study**  
**Harris County, Texas**  
**March 2007**

Calibration Files: HSC001, HSC002, HSC012, and HSC013 on 12 December 2006 Used for Unit Survey File: HSC004					
Compound	PM/DM	Initial Response Factor	Final Response Factor	Intermediate Response Factor	Error Bar (%)
1,3-Butadiene	54/38	6.1950	7.0421	6.5914	6.40
1,3-Butadiene	54/39	19.983	22.983	21.378	6.98
1,3-Butadiene	54/54	N/A	N/A	N/A	N/A
				Average:	6.7
Benzene	78/39	26.738	26.257	26.495	0.908
Benzene	78/52	156.85	155.45	156.14	0.447
				Average:	0.68
MTBE	89/29	5.2689	4.4118	4.8024	8.85
MTBE	89/39	32.382	22.746	26.722	17.5
MTBE	89/41	104.11	68.981	82.981	20.3
				Average:	16.
Toluene	92/39	11.857	12.124	11.989	1.11
Toluene	92/51	21.870	22.373	22.118	1.14
				Average:	1.1
Styrene	104/77	78.660	95.021	86.070	9.42
Styrene	104/78	184.45	226.41	203.29	10.2
Styrene	104/95	75.696	94.018	83.868	10.8
Styrene	104/103	180.44	223.52	199.68	10.7
				Average:	10.
Xylenes	106/65	143.84	178.27	159.21	10.7
Xylenes	106/91	539.09	660.79	593.77	10.1
				Average:	10.
1,2,3-Trichloropropane	110/49	70.883	95.105	81.227	14.6
1,2,3-Trichloropropane	110/75	439.21	536.14	482.86	9.94
1,2,3-Trichloropropane	112/75	N/A	N/A	N/A	N/A
1,2,3-Trichloropropane	112/77	145.70	180.88	161.40	10.8
				Average:	12.

Response factors are in units of icps/ppbv.

PM/DM = Parent mass/Daughter mass

icps = ion counts per second

ppbv = part per billion by volume

% = Percent

N/A = Not available

**TABLE 3 (continued)**  
**Response Factors and Error Bars Summary for 12 December through 14 December 2006**  
**Urban Air Toxics Study**  
**Harris County, Texas**  
**March 2007**

Calibration Files: HSC001, HSC002 HSC012, and HSC013 on 12 December 2006 Used for Survey Files: HSC005, HSC007, HSC009, HSC010, and HSC011					
Compound	PM/DM	Initial Response Factor	Final Response Factor	Intermediate Response Factor	Error Bar (%)
1,3-Butadiene	54/38	6.1950	7.0421	6.5914	6.40
1,3-Butadiene	54/39	19.983	22.983	21.378	6.98
1,3-Butadiene	54/54	8.6964	10.678	9.5858	10.2
				Average:	7.9
Benzene	78/39	26.738	26.257	26.495	0.908
Benzene	78/52	156.85	155.45	156.14	0.447
				Average:	0.68
MTBE	89/29	5.2689	4.4118	4.8024	8.85
MTBE	89/39	32.382	22.746	26.722	17.5
MTBE	89/41	104.11	68.981	82.981	20.3
				Average:	16.
Toluene	92/39	11.857	12.124	11.989	1.11
Toluene	92/51	21.870	22.373	22.118	1.14
				Average:	1.1
Styrene	104/77	78.660	95.021	86.070	9.42
Styrene	104/78	184.45	226.41	203.29	10.2
Styrene	104/95	75.696	94.018	83.868	10.8
Styrene	104/103	180.44	223.52	199.68	10.7
				Average:	10.
Xylenes	106/65	143.84	178.27	159.21	10.7
Xylenes	106/91	539.09	660.79	593.77	10.1
				Average:	10.
1,2,3-Trichloropropane	110/49	70.883	95.105	81.227	14.6
1,2,3-Trichloropropane	110/75	439.21	536.14	482.86	9.94
1,2,3-Trichloropropane	112/75	141.91	180.25	158.80	11.9
1,2,3-Trichloropropane	112/77	145.70	180.88	161.40	10.8
				Average:	12.

Response factors are in units of icps/ppbv.

PM/DM = Parent mass/Daughter mass

icps = ion counts per second

ppbv = part per billion by volume

% = Percent



**TABLE 3 (continued)**  
**Response Factors and Error Bars Summary for 12 December through 14 December 2006**  
**Urban Air Toxics Study**  
**Harris County, Texas**  
**March 2007**

Calibration Files: HSC001, HSC002, HSC012, and HSC013 on 12 December 2006 Used for Survey Files: HSC006					
Compound	PM/DM	Initial Response Factor	Final Response Factor	Intermediate Response Factor	Error Bar (%)
1,3-Butadiene	54/38	6.1950	7.0421	6.5914	6.40
1,3-Butadiene	54/39	19.983	22.983	21.378	6.98
1,3-Butadiene	54/54	N/A	N/A	N/A	N/A
				Average:	6.7
Benzene	78/39	26.738	26.257	26.495	0.908
Benzene	78/52	156.85	155.45	156.14	0.447
				Average:	0.68
MTBE	89/29	5.2689	4.4118	4.8024	8.85
MTBE	89/39	32.382	22.746	26.722	17.5
MTBE	89/41	104.11	68.981	82.981	20.3
				Average:	16.
Toluene	92/39	11.857	12.124	11.989	1.11
Toluene	92/51	21.870	22.373	22.118	1.14
				Average:	1.1
Styrene	104/77	78.660	95.021	86.070	9.42
Styrene	104/78	184.45	226.41	203.29	10.2
Styrene	104/95	75.696	94.018	83.868	10.8
Styrene	104/103	180.44	223.52	199.68	10.7
				Average:	10.
Xylenes	106/65	143.84	178.27	159.21	10.7
Xylenes	106/91	539.09	660.79	593.77	10.1
				Average:	10.
1,2,3-Trichloropropane	110/49	70.883	95.105	81.227	14.6
1,2,3-Trichloropropane	110/75	439.21	536.14	482.86	9.94
1,2,3-Trichloropropane	112/75	141.91	180.25	158.80	11.9
1,2,3-Trichloropropane	112/77	145.70	180.88	161.40	10.8
				Average:	12.

Response factors are in units of icps/ppbv.

PM/DM = Parent mass/Daughter mass

icps = ion counts per second

ppbv = part per billion by volume

% = Percent

N/A = Not available

**TABLE 3 (continued)**  
**Response Factors and Error Bars Summary for 12 December through 14 December 2006**  
**Urban Air Toxics Study**  
**Harris County, Texas**  
**March 2007**

Calibration Files: HSC001, HSC002, HSC012, and HSC013 on 12 December 2006 Used for Unit Survey Files: HSC008					
Compound	PM/DM	Initial Response Factor	Final Response Factor	Intermediate Response Factor	Error Bar (%)
1,3-Butadiene	54/38	6.1950	7.0421	6.5914	6.40
1,3-Butadiene	54/39	19.983	22.983	21.378	6.98
1,3-Butadiene	54/54	N/A	N/A	N/A	N/A
				Average:	6.7
Benzene	78/39	26.738	26.257	26.495	0.908
Benzene	78/52	156.85	155.45	156.14	0.447
				Average:	0.68
MTBE	89/29	5.2689	4.4118	4.8024	8.85
MTBE	89/39	32.382	22.746	26.722	17.5
MTBE	89/41	N/A	N/A	N/A	N/A
				Average:	13.
Toluene	92/39	11.857	12.124	11.989	1.11
Toluene	92/51	21.870	22.373	22.118	1.14
				Average:	1.1
Styrene	104/77	78.660	95.021	86.070	9.42
Styrene	104/78	184.45	226.41	203.29	10.2
Styrene	104/95	75.696	94.018	83.868	10.8
Styrene	104/103	180.44	223.52	199.68	10.7
				Average:	10.
Xylenes	106/65	143.84	178.27	159.21	10.7
Xylenes	106/91	539.09	660.79	593.77	10.1
				Average:	10.
1,2,3-Trichloropropane	110/49	70.883	95.105	81.227	14.6
1,2,3-Trichloropropane	110/75	439.21	536.14	482.86	9.94
1,2,3-Trichloropropane	112/75	N/A	N/A	N/A	N/A
1,2,3-Trichloropropane	112/77	N/A	N/A	N/A	N/A
				Average:	12.

Response factors are in units of icps/ppbv.

PM/DM = Parent mass/Daughter mass

icps = ion counts per second

ppbv = part per billion by volume

% = Percent

N/A = Not available

**TABLE 3 (continued)**  
**Response Factors and Error Bars Summary for 12 December through 14 December 2006**  
**Urban Air Toxics Study**  
**Harris County, Texas**  
**March 2007**

Calibration Files: HSC014, HSC015, HSC025, and HSC026 on 13 December 2006 Used for Survey Files: HSC017, HSC019, HSC020, HSC022, and HSC024					
Compound	PM/DM	Initial Response Factor	Final Response Factor	Intermediate Response Factor	Error Bar (%)
1,3-Butadiene	54/38	12.464	14.591	13.444	7.86
1,3-Butadiene	54/39	37.193	43.448	40.078	7.76
1,3-Butadiene	54/54	17.197	20.044	18.511	7.65
				Average:	7.8
Benzene	78/39	46.353	50.856	48.500	4.63
Benzene	78/52	269.83	295.23	281.96	4.50
				Average:	4.6
MTBE	89/29	8.1744	9.1008	8.6128	5.36
MTBE	89/39	45.378	49.147	47.188	3.99
MTBE	89/41	137.96	153.83	145.47	5.44
				Average:	4.9
Toluene	92/39	24.888	26.981	25.893	4.04
Toluene	92/51	49.913	53.677	51.727	3.63
				Average:	3.8
Styrene	104/77	321.60	360.23	339.82	5.67
Styrene	104/78	640.60	695.26	666.81	4.09
Styrene	104/95	210.69	210.61	210.65	0.0183
Styrene	104/103	614.69	662.62	637.76	3.75
				Average:	3.4
Xylenes	106/65	488.70	536.79	511.62	4.69
Xylenes	106/91	1909.9	2142.0	2019.3	5.73
				Average:	5.2
1,2,3-Trichloropropane	110/49	234.03	267.88	249.81	6.74
1,2,3-Trichloropropane	110/75	1172.1	1389.1	1271.4	8.47
1,2,3-Trichloropropane	112/75	449.86	525.73	484.85	7.78
1,2,3-Trichloropropane	112/77	440.34	514.33	474.47	7.75
				Average:	7.7

Response factors are in units of icps/ppbv.

PM/DM = Parent mass/Daughter mass

icps = ion counts per second

ppbv = part per billion by volume

% = Percent

**TABLE 3 (continued)**  
**Response Factors and Error Bars Summary for 12 December through 14 December 2006**  
**Urban Air Toxics Study**  
**Harris County, Texas**  
**March 2007**

Calibration Files: HSC014, HSC015, HSC025, and HSC026 on 13 December 2006 Used for Survey Files: HSC018					
Compound	PM/DM	Initial Response Factor	Final Response Factor	Intermediate Response Factor	Error Bar (%)
1,3-Butadiene	54/38	12.464	14.591	13.444	7.86
1,3-Butadiene	54/39	37.193	43.448	40.078	7.76
1,3-Butadiene	54/54	17.197	20.044	18.511	7.65
				Average:	7.8
Benzene	78/39	46.353	50.856	48.500	4.63
Benzene	78/52	269.83	295.23	281.96	4.50
				Average:	4.6
MTBE	89/29	N/A	N/A	N/A	N/A
MTBE	89/39	45.378	49.147	47.188	3.99
MTBE	89/41	137.96	153.83	145.47	5.44
				Average:	4.7
Toluene	92/39	24.888	26.981	25.893	4.04
Toluene	92/51	49.913	53.677	51.727	3.63
				Average:	3.8
Styrene	104/77	321.60	360.23	339.82	5.67
Styrene	104/78	640.60	695.26	666.81	4.09
Styrene	104/95	210.69	210.61	210.65	0.0183
Styrene	104/103	614.69	662.62	637.76	3.75
				Average:	3.4
Xylenes	106/65	488.70	536.79	511.62	4.69
Xylenes	106/91	1909.9	2142.0	2019.3	5.73
				Average:	5.2
1,2,3-Trichloropropane	110/49	234.03	267.88	249.81	6.74
1,2,3-Trichloropropane	110/75	1172.1	1389.1	1271.4	8.47
1,2,3-Trichloropropane	112/75	449.86	525.73	484.85	7.78
1,2,3-Trichloropropane	112/77	440.34	514.33	474.47	7.75
				Average:	7.7

Response factors are in units of icps/ppbv.

PM/DM = Parent mass/Daughter mass

icps = ion counts per second

ppbv = part per billion by volume

% = Percent

N/A = Not available

**TABLE 3 (continued)**  
**Response Factors and Error Bars Summary for 12 December through 14 December 2006**  
**Urban Air Toxics Study**  
**Harris County, Texas**  
**March 2007**

Calibration Files: HSC014, HSC015, HSC025, and HSC026 on 13 December 2006 Used for Survey File: HSC021					
Compound	PM/DM	Initial Response Factor	Final Response Factor	Intermediate Response Factor	Error Bar (%)
1,3-Butadiene	54/38	12.464	14.591	13.444	7.86
1,3-Butadiene	54/39	37.193	43.448	40.078	7.76
1,3-Butadiene	54/54	N/A	N/A	N/A	N/A
				Average:	7.8
Benzene	78/39	46.353	50.856	48.500	4.63
Benzene	78/52	269.83	295.23	281.96	4.50
				Average:	4.6
MTBE	89/29	N/A	N/A	N/A	N/A
MTBE	89/39	45.378	49.147	47.188	3.99
MTBE	89/41	137.96	153.83	145.47	5.44
				Average:	4.7
Toluene	92/39	24.888	26.981	25.893	4.04
Toluene	92/51	49.913	53.677	51.727	3.63
				Average:	3.8
Styrene	104/77	321.60	360.23	339.82	5.67
Styrene	104/78	640.60	695.26	666.81	4.09
Styrene	104/95	210.69	210.61	210.65	0.0183
Styrene	104/103	614.69	662.62	637.76	3.75
				Average:	3.4
Xylenes	106/65	488.70	536.79	511.62	4.69
Xylenes	106/91	1909.9	2142.0	2019.3	5.73
				Average:	5.2
1,2,3-Trichloropropane	110/49	234.03	267.88	249.81	6.74
1,2,3-Trichloropropane	110/75	1172.1	1389.1	1271.4	8.47
1,2,3-Trichloropropane	112/75	449.86	525.73	484.85	7.78
1,2,3-Trichloropropane	112/77	440.34	514.33	474.47	7.75
				Average:	7.7

Response factors are in units of icps/ppbv.

PM/DM = Parent mass/Daughter mass

icps = ion counts per second

ppbv = part per billion by volume

% = Percent

N/A = Not available

**TABLE 3 (continued)**  
**Response Factors and Error Bars Summary for 12 December through 14 December 2006**  
**Urban Air Toxics Study**  
**Harris County, Texas**  
**March 2007**

Calibration Files: HSC014, HSC015, HSC025, and HSC026 on 13 December 2006 Used for Survey Files: HSC023					
Compound	PM/DM	Initial Response Factor	Final Response Factor	Intermediate Response Factor	Error Bar (%)
1,3-Butadiene	54/38	12.464	14.591	13.444	7.86
1,3-Butadiene	54/39	37.193	43.448	40.078	7.76
1,3-Butadiene	54/54	N/A	N/A	N/A	N/A
				Average:	7.8
Benzene	78/39	46.353	50.856	48.500	4.63
Benzene	78/52	269.83	295.23	281.96	4.50
				Average:	4.6
MTBE	89/29	8.1744	9.1008	8.6128	5.36
MTBE	89/39	45.378	49.147	47.188	3.99
MTBE	89/41	137.96	153.83	145.47	5.44
				Average:	4.9
Toluene	92/39	24.888	26.981	25.893	4.04
Toluene	92/51	49.913	53.677	51.727	3.63
				Average:	3.8
Styrene	104/77	321.60	360.23	339.82	5.67
Styrene	104/78	640.60	695.26	666.81	4.09
Styrene	104/95	210.69	210.61	210.65	0.0183
Styrene	104/103	614.69	662.62	637.76	3.75
				Average:	3.4
Xylenes	106/65	488.70	536.79	511.62	4.69
Xylenes	106/91	1909.9	2142.0	2019.3	5.73
				Average:	5.2
1,2,3-Trichloropropane	110/49	234.03	267.88	249.81	6.74
1,2,3-Trichloropropane	110/75	1172.1	1389.1	1271.4	8.47
1,2,3-Trichloropropane	112/75	449.86	525.73	484.85	7.78
1,2,3-Trichloropropane	112/77	440.34	514.33	474.47	7.75
				Average:	7.7

Response factors are in units of icps/ppbv.

PM/DM = Parent mass/Daughter mass

icps = ion counts per second

ppbv = part per billion by volume

% = Percent

N/A = Not available

**TABLE 3 (continued)**  
**Response Factors and Error Bars Summary for 12 December through 14 December 2006**  
**Urban Air Toxics Study**  
**Harris County, Texas**  
**March 2007**

Calibration Files: HSC027, HSC028, HSC109, and HSC110 on 14 December 2006 Used for Survey File: HSC030					
Compound	PM/DM	Initial Response Factor	Final Response Factor	Intermediate Response Factor	Error Bar (%)
1,3-Butadiene	54/38	16.033	11.072	13.099	18.3
1,3-Butadiene	54/39	49.385	35.184	41.092	16.8
1,3-Butadiene	54/54	24.400	16.664	19.803	18.8
				Average:	18.
Benzene	78/39	56.102	39.345	46.253	17.6
Benzene	78/52	306.46	212.44	250.93	18.1
				Average:	18.
MTBE	89/29	9.3151	7.0400	0.99842	0.135
MTBE	89/39	64.349	65.559	64.948	0.932
MTBE	89/41	155.46	166.10	160.60	3.31
				Average:	1.5
Toluene	92/39	35.317	24.385	28.850	18.3
Toluene	92/51	71.882	49.478	58.612	18.5
				Average:	18.
Styrene	104/77	570.09	383.84	458.78	19.5
Styrene	104/78	1080.0	683.63	837.29	22.5
Styrene	104/95	380.50	220.08	278.86	26.7
Styrene	104/103	1060.4	656.60	811.02	23.5
				Average:	23.
Xylenes	106/65	817.77	542.32	652.15	20.3
Xylenes	106/91	2662.0	1819.3	2161.5	18.8
				Average:	20.
1,2,3-Trichloropropane	110/49	341.83	159.35	217.37	36.4
1,2,3-Trichloropropane	110/75	1336.2	685.79	906.40	32.2
1,2,3-Trichloropropane	112/75	N/A	N/A	N/A	N/A
1,2,3-Trichloropropane	112/77	N/A	N/A	N/A	N/A
				Average:	34.

Response factors are in units of icps/ppbv.

PM/DM = Parent mass/Daughter mass

icps = ion counts per second

ppbv = part per billion by volume

% = Percent

N/A = Not available

**TABLE 3 (continued)**  
**Response Factors and Error Bars Summary for 12 December through 14 December 2006**  
**Urban Air Toxics Study**  
**Harris County, Texas**  
**March 2007**

Calibration Files: HSC027, HSC028, HSC109, and HSC110 on 14 December 2006 Used for Survey File: HSC031					
Compound	PM/DM	Initial Response Factor	Final Response Factor	Intermediate Response Factor	Error Bar (%)
1,3-Butadiene	54/38	16.033	11.072	13.099	18.3
1,3-Butadiene	54/39	49.385	35.184	41.092	16.8
1,3-Butadiene	54/54	N/A	N/A	N/A	N/A
				Average:	18.
Benzene	78/39	56.102	39.345	46.253	17.6
Benzene	78/52	306.46	212.44	250.93	18.1
				Average:	18.
MTBE	89/29	9.3151	9.2899	9.3025	0.135
MTBE	89/39	N/A	N/A	N/A	N/A
MTBE	89/41	155.46	166.10	160.60	3.31
				Average:	1.7
Toluene	92/39	35.317	24.385	28.850	18.3
Toluene	92/51	71.882	49.478	58.612	18.5
				Average:	18.
Styrene	104/77	570.09	383.84	458.78	19.5
Styrene	104/78	1080.0	683.63	837.29	22.5
Styrene	104/95	380.50	220.08	278.86	26.7
Styrene	104/103	1060.4	656.60	811.02	23.5
				Average:	23.
Xylenes	106/65	817.77	542.32	652.15	20.3
Xylenes	106/91	2662.0	1819.3	2161.5	18.8
				Average:	20.
1,2,3-Trichloropropane	110/49	341.83	159.35	217.37	36.4
1,2,3-Trichloropropane	110/75	1336.2	685.79	906.40	32.2
1,2,3-Trichloropropane	112/75	N/A	N/A	N/A	N/A
1,2,3-Trichloropropane	112/77	N/A	N/A	N/A	N/A
				Average:	34.

Response factors are in units of icps/ppbv.

PM/DM = Parent mass/Daughter mass

icps = ion counts per second

ppbv = part per billion by volume

% = Percent

N/A = Not available



**TABLE 3 (continued)**  
**Response Factors and Error Bars Summary for 12 December through 14 December 2006**  
**Urban Air Toxics Study**  
**Harris County, Texas**  
**March 2007**

Calibration Files: HSC027, HSC028, HSC109, and HSC110 on 14 December 2006 Used for Survey Files: HSC032 and HSC034					
Compound	PM/DM	Initial Response Factor	Final Response Factor	Intermediate Response Factor	Error Bar (%)
1,3-Butadiene	54/38	16.033	11.072	13.099	18.3
1,3-Butadiene	54/39	49.385	35.184	41.092	16.8
1,3-Butadiene	54/54	N/A	N/A	N/A	N/A
				Average:	18.
Benzene	78/39	56.102	39.345	46.253	17.6
Benzene	78/52	306.46	212.44	250.93	18.1
				Average:	18.
MTBE	89/29	9.3151	9.2899	9.3025	0.135
MTBE	89/39	64.349	65.559	64.948	0.932
MTBE	89/41	155.46	166.10	160.60	3.31
				Average:	1.5
Toluene	92/39	35.317	24.385	28.850	18.3
Toluene	92/51	71.882	49.478	58.612	18.5
				Average:	18.
Styrene	104/77	570.09	383.84	458.78	19.5
Styrene	104/78	1080.0	683.63	837.29	22.5
Styrene	104/95	380.50	220.08	278.86	26.7
Styrene	104/103	1060.4	656.60	811.02	23.5
				Average:	23.
Xylenes	106/65	817.77	542.32	652.15	20.3
Xylenes	106/91	2662.0	1819.3	2161.5	18.8
				Average:	20.
1,2,3-Trichloropropane	110/49	341.83	159.35	217.37	36.4
1,2,3-Trichloropropane	110/75	1336.2	685.79	906.40	32.2
1,2,3-Trichloropropane	112/75	497.25	251.03	333.63	32.9
1,2,3-Trichloropropane	112/77	497.97	250.96	333.73	33.0
				Average:	34.

Response factors are in units of icps/ppbv.

PM/DM = Parent mass/Daughter mass

icps = ion counts per second

ppbv = part per billion by volume

% = Percent

N/A = Not available

**TABLE 3 (continued)**  
**Response Factors and Error Bars Summary for 12 December through 14 December 2006**  
**Urban Air Toxics Study**  
**Harris County, Texas**  
**March 2007**

Calibration Files: HSC027, HSC028, HSC109, and HSC110 on 14 December 2006 Used for Survey Files: HSC033, HSC035, and HSC036					
Compound	PM/DM	Initial Response Factor	Final Response Factor	Intermediate Response Factor	Error Bar (%)
1,3-Butadiene	54/38	16.033	11.072	13.099	18.3
1,3-Butadiene	54/39	49.385	35.184	41.092	16.8
1,3-Butadiene	54/54	N/A	N/A	N/A	N/A
				Average:	18.
Benzene	78/39	56.102	39.345	46.253	17.6
Benzene	78/52	306.46	212.44	250.93	18.1
				Average:	18.
MTBE	89/29	9.3151	9.2899	9.3025	0.135
MTBE	89/39	64.349	65.559	64.948	0.932
MTBE	89/41	155.46	166.10	160.60	3.31
				Average:	1.5
Toluene	92/39	35.317	24.385	28.850	18.3
Toluene	92/51	71.882	49.478	58.612	18.5
				Average:	18.
Styrene	104/77	570.09	383.84	458.78	19.5
Styrene	104/78	1080.0	683.63	837.29	22.5
Styrene	104/95	380.50	220.08	278.86	26.7
Styrene	104/103	1060.4	656.60	811.02	23.5
				Average:	23.
Xylenes	106/65	817.77	542.32	652.15	20.3
Xylenes	106/91	2662.0	1819.3	2161.5	18.8
				Average:	20.
1,2,3-Trichloropropane	110/49	341.83	159.35	217.37	36.4
1,2,3-Trichloropropane	110/75	1336.2	685.79	906.40	32.2
1,2,3-Trichloropropane	112/75	N/A	N/A	N/A	N/A
1,2,3-Trichloropropane	112/77	N/A	N/A	N/A	N/A
				Average:	34.

Response factors are in units of icps/ppbv.

PM/DM = Parent mass/Daughter mass

icps = ion counts per second

ppbv = part per billion by volume

% = Percent

N/A = Not available

**TABLE 3 (continued)**  
**Response Factors and Error Bars Summary for 12 December through 14 December 2006**  
**Urban Air Toxics Study**  
**Harris County, Texas**  
**March 2007**

Calibration Files: HSC027, HSC028, HSC109 and HSC110 on 14 December 2006 Used for Unit Survey Files: HSC037					
Compound	PM/DM	Initial Response Factor	Final Response Factor	Intermediate Response Factor	Error Bar (%)
1,3-Butadiene	54/38	16.033	11.072	13.099	18.3
1,3-Butadiene	54/39	49.385	35.184	41.092	16.8
1,3-Butadiene	54/54	N/A	N/A	N/A	N/A
				Average:	18.
Benzene	78/39	56.102	39.345	46.253	17.6
Benzene	78/52	306.46	212.44	250.93	18.1
				Average:	18.
MTBE	89/29	N/A	N/A	N/A	N/A
MTBE	89/39	64.349	65.559	64.948	0.932
MTBE	89/41	155.46	166.10	160.60	3.31
				Average:	2.1
Toluene	92/39	35.317	24.385	28.850	18.3
Toluene	92/51	71.882	49.478	58.612	18.5
				Average:	18.
Styrene	104/77	570.09	383.84	458.78	19.5
Styrene	104/78	1080.0	683.63	837.29	22.5
Styrene	104/95	380.50	220.08	278.86	26.7
Styrene	104/103	1060.4	656.60	811.02	23.5
				Average:	23.
Xylenes	106/65	817.77	542.32	652.15	20.3
Xylenes	106/91	2662.0	1819.3	2161.5	18.8
				Average:	20.
1,2,3-Trichloropropane	110/49	341.83	159.35	217.37	36.4
1,2,3-Trichloropropane	110/75	1336.2	685.79	906.40	32.2
1,2,3-Trichloropropane	112/75	497.25	251.03	333.63	32.9
1,2,3-Trichloropropane	112/77	497.97	250.96	333.73	33.0
				Average:	34.

Response factors are in units of icps/ppbv.

PM/DM = Parent mass/Daughter mass

icps = ion counts per second

ppbv = part per billion by volume

% = Percent

N/A = Not available

**TABLE 4**  
**Summary of Detection and Quantitation Limit Data for 12 December through 14 December 2006**  
**Urban Air Toxics Study**  
**Harris County, Texas**  
**March 2007**

Calibration Files: HSC001, HSC002, HSC012, and HSC013 on 12 December 2006 Used for Survey Files: HSC004					
Compound	PM/DM	Intermediate Response Factor	Standard Deviation (icps)	Detection Limit (ppbv)	Quantitation Limit (ppbv)
1,3-Butadiene	54/38	6.5914	9.8491	4.48	14.9
1,3-Butadiene	54/39	21.378	9.4409	1.32	4.42
1,3-Butadiene	54/54	N/A	N/A	N/A	N/A
			Average:	2.9	9.7
Benzene	78/39	26.495	5.7189	0.648	2.16
Benzene	78/52	156.14	15.630	0.300	1.00
			Average:	0.47	1.6
MTBE	89/29	4.8024	7.8789	4.92	16.4
MTBE	89/39	26.722	5.8359	0.655	2.18
MTBE	89/41	82.981	16.413	0.593	1.98
			Average:	2.1	6.9
Toluene	92/39	11.989	6.8101	1.70	5.68
Toluene	92/51	22.118	5.7189	0.776	2.59
			Average:	1.2	4.1
Styrene	104/77	86.070	6.3131	0.220	0.733
Styrene	104/78	203.29	6.6230	0.0977	0.326
Styrene	104/95	83.868	5.1264	0.183	0.611
Styrene	104/103	199.68	5.5993	0.0841	0.280
			Average:	0.15	0.49
Xylenes	106/65	159.21	15.017	0.283	0.943
Xylenes	106/91	593.77	34.949	0.177	0.589
			Average:	0.23	0.77
1,2,3-Trichloropropane	110/49	81.227	2.4964	0.0922	0.307
1,2,3-Trichloropropane	110/75	482.86	7.5245	0.0468	0.156
1,2,3-Trichloropropane	112/75	N/A	N/A	N/A	N/A
1,2,3-Trichloropropane	112/77	161.40	11.490	0.214	0.712
			Average:	0.12	0.39

Response factors are in units of icps/ppbv.

PM/DM = Parent mass/Daughter mass

icps = ion counts per second

ppbv = part per billion by volume

% = Percent

N/A = Not available

**TABLE 4 (continued)**  
**Summary of Detection and Quantitation Limit Data for 12 December through 14 December 2006**  
**Urban Air Toxics Study**  
**Harris County, Texas**  
**March 2007**

Calibration Files: HSC001, HSC002, HSC012, and HSC013 on 12 December 2006 Used for Survey Files: HSC005, HSC007, HSC009, HSC010, and HSC011					
Compound	PM/DM	Intermediate Response Factor	Standard Deviation (icps)	Detection Limit (ppbv)	Quantitation Limit (ppbv)
1,3-Butadiene	54/38	6.5914	9.8491	4.48	14.9
1,3-Butadiene	54/39	21.378	9.4409	1.32	4.42
1,3-Butadiene	54/54	9.5858	6.5681	2.06	6.85
			Average:	2.6	8.7
Benzene	78/39	26.495	5.7189	0.648	2.16
Benzene	78/52	156.14	15.630	0.300	1.00
			Average:	0.47	1.6
MTBE	89/29	4.8024	7.8789	4.92	16.4
MTBE	89/39	26.722	5.8359	0.655	2.18
MTBE	89/41	82.981	16.413	0.593	1.98
			Average:	2.1	6.9
Toluene	92/39	11.989	6.8101	1.70	5.68
Toluene	92/51	22.118	5.7189	0.776	2.59
			Average:	1.2	4.1
Styrene	104/77	86.070	6.3131	0.220	0.733
Styrene	104/78	203.29	6.6230	0.0977	0.326
Styrene	104/95	83.868	5.1264	0.183	0.611
Styrene	104/103	199.68	5.5993	0.0841	0.280
			Average:	0.15	0.49
Xylenes	106/65	159.21	15.017	0.283	0.943
Xylenes	106/91	593.77	34.949	0.177	0.589
			Average:	0.23	0.77
1,2,3-Trichloropropane	110/49	81.227	2.4964	0.0922	0.307
1,2,3-Trichloropropane	110/75	482.86	7.5245	0.0468	0.156
1,2,3-Trichloropropane	112/75	158.80	9.7728	0.185	0.615
1,2,3-Trichloropropane	112/77	161.40	11.490	0.214	0.712
			Average:	0.13	0.45

Response factors are in units of icps/ppbv.

PM/DM = Parent mass/Daughter mass

icps = ion counts per second

ppbv = part per billion by volume

**TABLE 4 (continued)**  
**Summary of Detection and Quantitation Limit Data for 12 December through 14 December 2006**  
**Urban Air Toxics Study**  
**Harris County, Texas**  
**March 2007**

Calibration Files: HSC001, HSC002, HSC012, and HSC013 on 12 December 2006 Used for Survey Files: HSC006					
Compound	PM/DM	Intermediate Response Factor	Standard Deviation (icps)	Detection Limit (ppbv)	Quantitation Limit (ppbv)
1,3-Butadiene	54/38	6.5914	9.8491	4.48	14.9
1,3-Butadiene	54/39	21.378	9.4409	1.32	4.42
1,3-Butadiene	54/54	N/A	N/A	N/A	N/A
			Average:	2.9	9.7
Benzene	78/39	26.495	5.7189	0.648	2.16
Benzene	78/52	156.14	15.630	0.300	1.00
			Average:	0.47	1.6
MTBE	89/29	4.8024	7.8789	4.92	16.4
MTBE	89/39	26.722	5.8359	0.655	2.18
MTBE	89/41	82.981	16.413	0.593	1.98
			Average:	2.1	6.9
Toluene	92/39	11.989	6.8101	1.70	5.68
Toluene	92/51	22.118	5.7189	0.776	2.59
			Average:	1.2	4.1
Styrene	104/77	86.070	6.3131	0.220	0.733
Styrene	104/78	203.29	6.6230	0.0977	0.326
Styrene	104/95	83.868	5.1264	0.183	0.611
Styrene	104/103	199.68	5.5993	0.0841	0.280
			Average:	0.15	0.49
Xylenes	106/65	159.21	15.017	0.283	0.943
Xylenes	106/91	593.77	34.949	0.177	0.589
			Average:	0.23	0.77
1,2,3-Trichloropropane	110/49	81.227	2.4964	0.0922	0.307
1,2,3-Trichloropropane	110/75	482.86	7.5245	0.0468	0.156
1,2,3-Trichloropropane	112/75	158.80	9.7728	0.185	0.615
1,2,3-Trichloropropane	112/77	161.40	11.490	0.214	0.712
			Average:	0.13	0.45

Response factors are in units of icps/ppbv.  
 PM/DM = Parent mass/Daughter mass  
 icps = ion counts per second  
 ppbv = part per billion by volume  
 N/A = Not available

**TABLE 4 (continued)**  
**Summary of Detection and Quantitation Limit Data for 12 December through 14 December 2006**  
**Urban Air Toxics Study**  
**Harris County, Texas**  
**March 2007**

Calibration Files: HSC001, HSC002, HSC012, and HSC013 on 12 December 2006 Used for Survey Files: HSC008					
Compound	PM/DM	Intermediate Response Factor	Standard Deviation (icps)	Detection Limit (ppbv)	Quantitation Limit (ppbv)
1,3-Butadiene	54/38	6.5914	10.479	4.77	15.9
1,3-Butadiene	54/39	21.378	10.100	1.42	4.72
1,3-Butadiene	54/54	N/A	N/A	N/A	N/A
			Average:	3.1	10.
Benzene	78/39	26.495	5.6669	0.642	2.14
Benzene	78/52	156.14	15.560	0.299	0.997
			Average:	0.47	1.6
MTBE	89/29	4.8024	7.1807	4.49	15.0
MTBE	89/39	26.722	4.8158	0.541	1.80
MTBE	89/41	N/A	N/A	N/A	N/A
			Average:	2.5	8.4
Toluene	92/39	11.989	6.8858	1.72	5.74
Toluene	92/51	22.118	5.7838	0.784	2.61
			Average:	1.3	4.2
Styrene	104/77	86.070	6.9078	0.241	0.803
Styrene	104/78	203.29	7.2995	0.108	0.359
Styrene	104/95	83.868	5.6798	0.203	0.677
Styrene	104/103	199.68	6.1964	0.0931	0.310
			Average:	0.16	0.54
Xylenes	106/65	159.21	16.622	0.313	1.04
Xylenes	106/91	593.77	38.494	0.194	0.648
			Average:	0.25	0.84
1,2,3-Trichloropropane	110/49	81.227	2.8607	0.106	0.352
1,2,3-Trichloropropane	110/75	482.86	8.2723	0.0514	0.171
1,2,3-Trichloropropane	112/75	N/A	N/A	N/A	N/A
1,2,3-Trichloropropane	112/77	N/A	N/A	N/A	N/A
			Average:	0.079	0.26

Response factors are in units of icps/ppbv.

PM/DM = Parent mass/Daughter mass

icps = ion counts per second

ppbv = part per billion by volume

N/A = Not available

**TABLE 4 (continued)**  
**Summary of Detection and Quantitation Limit Data for 12 December through 14 December 2006**  
**Urban Air Toxics Study**  
**Harris County, Texas**  
**March 2007**

Calibration Files: HSC014, HSC015, HSC025, and HSC026 on 13 December 2006 Used for Survey Files: HSC017, HSC019, HSC020, HSC022, and HSC024					
Compound	PM/DM	Intermediate Response Factor	Standard Deviation (icps)	Detection Limit (ppbv)	Quantitation Limit (ppbv)
1,3-Butadiene	54/38	13.444	17.318	3.86	12.9
1,3-Butadiene	54/39	40.078	26.303	1.97	6.56
1,3-Butadiene	54/54	18.511	20.278	3.29	11.0
			Average:	3.0	10.
Benzene	78/39	48.500	39.818	2.46	8.21
Benzene	78/52	281.96	140.41	1.49	4.98
			Average:	2.0	6.6
MTBE	89/29	8.6128	16.412	5.72	19.1
MTBE	89/39	47.188	21.988	1.40	4.66
MTBE	89/41	145.47	35.915	0.741	2.47
			Average:	2.6	8.7
Toluene	92/39	25.893	44.149	5.12	17.1
Toluene	92/51	51.727	55.167	3.20	10.7
			Average:	4.2	14.
Styrene	104/77	339.82	39.329	0.347	1.16
Styrene	104/78	666.81	54.328	0.244	0.815
Styrene	104/95	210.65	30.314	0.432	1.44
Styrene	104/103	637.76	53.280	0.251	0.835
			Average:	0.32	1.1
Xylenes	106/65	511.62	258.34	1.51	5.05
Xylenes	106/91	2019.3	900.24	1.34	4.46
			Average:	1.4	4.8
1,2,3-Trichloropropane	110/49	249.81	1.7678	0.0212	0.0708
1,2,3-Trichloropropane	110/75	1271.4	12.889	0.0304	0.101
1,2,3-Trichloropropane	112/75	484.85	29.674	0.184	0.612
1,2,3-Trichloropropane	112/77	474.47	9.7551	0.0617	0.206
			Average:	0.074	0.25

Response factors are in units of icps/ppbv.

PM/DM = Parent mass/Daughter mass

icps = ion counts per second

ppbv = part per billion by volume



**TABLE 4 (continued)**  
**Summary of Detection and Quantitation Limit Data for 12 December through 14 December 2006**  
**Urban Air Toxics Study**  
**Harris County, Texas**  
**March 2007**

Calibration Files: HSC014, HSC015, HSC025, and HSC026 on 13 December 2006 Used for Survey File: HSC018					
Compound	PM/DM	Intermediate Response Factor	Standard Deviation (icps)	Detection Limit (ppbv)	Quantitation Limit (ppbv)
1,3-Butadiene	54/38	13.444	17.318	3.86	12.9
1,3-Butadiene	54/39	40.078	26.303	1.97	6.56
1,3-Butadiene	54/54	18.511	20.278	3.29	11.0
			Average:	3.0	10.
Benzene	78/39	48.500	39.818	2.46	8.21
Benzene	78/52	281.96	140.41	1.49	4.98
			Average:	2.0	6.6
MTBE	89/29	N/A	N/A	N/A	N/A
MTBE	89/39	47.188	21.988	1.40	4.66
MTBE	89/41	145.47	35.915	0.741	2.47
			Average:	1.1	3.6
Toluene	92/39	25.893	44.149	5.12	17.1
Toluene	92/51	51.727	55.167	3.20	10.7
			Average:	4.2	14.
Styrene	104/77	339.82	39.329	0.347	1.16
Styrene	104/78	666.81	54.328	0.244	0.815
Styrene	104/95	210.65	30.314	0.432	1.44
Styrene	104/103	637.76	53.280	0.251	0.835
			Average:	0.32	1.1
Xylenes	106/65	511.62	258.34	1.51	5.05
Xylenes	106/91	2019.3	900.24	1.34	4.46
			Average:	1.4	4.8
1,2,3-Trichloropropane	110/49	249.81	1.7678	0.0212	0.0708
1,2,3-Trichloropropane	110/75	1271.4	12.889	0.0304	0.101
1,2,3-Trichloropropane	112/75	484.85	29.674	0.184	0.612
1,2,3-Trichloropropane	112/77	474.47	9.7551	0.0617	0.206
			Average:	0.074	0.25

Response factors are in units of icps/ppbv.  
 PM/DM = Parent mass/Daughter mass  
 icps = ion counts per second  
 ppbv = part per billion by volume  
 N/A = Not available

**TABLE 4 (continued)**  
**Summary of Detection and Quantitation Limit Data for 12 December through 14 December 2006**  
**Urban Air Toxics Study**  
**Harris County, Texas**  
**March 2007**

Calibration Files: HSC014, HSC015, HSC025, and HSC026 on 13 December 2006 Used for Survey Files: HSC021					
Compound	PM/DM	Intermediate Response Factor	Standard Deviation (icps)	Detection Limit (ppbv)	Quantitation Limit (ppbv)
1,3-Butadiene	54/38	13.444	17.318	3.86	12.9
1,3-Butadiene	54/39	40.078	26.303	1.97	6.56
1,3-Butadiene	54/54	N/A	N/A	N/A	N/A
			Average:	2.9	9.7
Benzene	78/39	48.500	39.818	2.46	8.21
Benzene	78/52	281.96	140.41	1.49	4.98
			Average:	2.0	6.6
MTBE	89/29	N/A	N/A	N/A	N/A
MTBE	89/39	47.188	21.988	1.40	4.66
MTBE	89/41	145.47	35.915	0.741	2.47
			Average:	1.1	3.6
Toluene	92/39	25.893	44.149	5.12	17.1
Toluene	92/51	51.727	55.167	3.20	10.7
			Average:	4.2	14.
Styrene	104/77	339.82	39.329	0.347	1.16
Styrene	104/78	666.81	54.328	0.244	0.815
Styrene	104/95	210.65	30.314	0.432	1.44
Styrene	104/103	637.76	53.280	0.251	0.835
			Average:	0.32	1.1
Xylenes	106/65	511.62	258.34	1.51	5.05
Xylenes	106/91	2019.3	900.24	1.34	4.46
			Average:	1.4	4.8
1,2,3-Trichloropropane	110/49	249.81	1.7678	0.0212	0.0708
1,2,3-Trichloropropane	110/75	1271.4	12.889	0.0304	0.101
1,2,3-Trichloropropane	112/75	484.85	29.674	0.184	0.612
1,2,3-Trichloropropane	112/77	474.47	9.7551	0.0617	0.206
			Average:	0.074	0.25

Response factors are in units of icps/ppbv.  
 PM/DM = Parent mass/Daughter mass  
 icps = ion counts per second  
 ppbv = part per billion by volume  
 N/A = Not available

**TABLE 4 (continued)**  
**Summary of Detection and Quantitation Limit Data for 12 December through 14 December 2006**  
**Urban Air Toxics Study**  
**Harris County, Texas**  
**March 2007**

Calibration Files: HSC014, HSC015, HSC025, and HSC026 on 13 December 2006 Used for Survey Files: HSC023					
Compound	PM/DM	Intermediate Response Factor	Standard Deviation (icps)	Detection Limit (ppbv)	Quantitation Limit (ppbv)
1,3-Butadiene	54/38	13.444	17.318	3.86	12.9
1,3-Butadiene	54/39	40.078	26.303	1.97	6.56
1,3-Butadiene	54/54	N/A	N/A	N/A	N/A
			Average:	2.9	9.7
Benzene	78/39	48.500	39.818	2.46	8.21
Benzene	78/52	281.96	140.41	1.49	4.98
			Average:	2.0	6.6
MTBE	89/29	8.6128	16.412	5.72	19.1
MTBE	89/39	47.188	21.988	1.40	4.66
MTBE	89/41	145.47	35.915	0.741	2.47
			Average:	2.6	8.7
Toluene	92/39	25.893	44.149	5.12	17.1
Toluene	92/51	51.727	55.167	3.20	10.7
			Average:	4.2	14.
Styrene	104/77	339.82	39.329	0.347	1.16
Styrene	104/78	666.81	54.328	0.244	0.815
Styrene	104/95	210.65	30.314	0.432	1.44
Styrene	104/103	637.76	53.280	0.251	0.835
			Average:	0.32	1.1
Xylenes	106/65	511.62	258.34	1.51	5.05
Xylenes	106/91	2019.3	900.24	1.34	4.46
			Average:	1.4	4.8
1,2,3-Trichloropropane	110/49	249.81	1.7678	0.0212	0.0708
1,2,3-Trichloropropane	110/75	1271.4	12.889	0.0304	0.101
1,2,3-Trichloropropane	112/75	484.85	29.674	0.184	0.612
1,2,3-Trichloropropane	112/77	474.47	9.7551	0.0617	0.206
			Average:	0.074	0.25

Response factors are in units of icps/ppbv.  
 PM/DM = Parent mass/Daughter mass  
 icps = ion counts per second  
 ppbv = part per billion by volume  
 N/A = Not available

**TABLE 4 (continued)**  
**Summary of Detection and Quantitation Limit Data for 12 December through 14 December 2006**  
**Urban Air Toxics Study**  
**Harris County, Texas**  
**March 2007**

Calibration Files: HSC027, HSC028, HSC109, and HSC110 on 14 December 2006 Used for Survey Files: HSC030					
Compound	PM/DM	Intermediate Response Factor	Standard Deviation (icps)	Detection Limit (ppbv)	Quantitation Limit (ppbv)
1,3-Butadiene	54/38	13.099	15.862	3.63	12.1
1,3-Butadiene	54/39	41.092	16.046	1.17	3.90
1,3-Butadiene	54/54	19.803	11.769	1.78	5.94
			Average:	2.2	7.3
Benzene	78/39	46.253	15.013	0.974	3.25
Benzene	78/52	250.93	43.052	0.515	1.72
			Average:	0.74	2.5
MTBE	89/29	9.3025	11.725	3.78	12.6
MTBE	89/39	64.948	9.9655	0.460	1.53
MTBE	89/41	160.60	21.645	0.404	1.35
			Average:	1.5	5.2
Toluene	92/39	28.850	20.186	2.10	7.00
Toluene	92/51	58.612	37.147	1.90	6.34
			Average:	2.0	6.7
Styrene	104/77	458.78	21.324	0.139	0.465
Styrene	104/78	837.29	23.577	0.0845	0.282
Styrene	104/95	278.86	17.499	0.188	0.628
Styrene	104/103	811.02	31.479	0.116	0.388
			Average:	0.13	0.44
Xylenes	106/65	652.15	104.89	0.482	1.61
Xylenes	106/91	2161.5	198.99	0.276	0.921
			Average:	0.38	1.3
1,2,3-Trichloropropane	110/49	217.37	2.5371	0.0350	0.117
1,2,3-Trichloropropane	110/75	906.40	9.3526	0.0310	0.103
1,2,3-Trichloropropane	112/75	N/A	N/A	N/A	N/A
1,2,3-Trichloropropane	112/77	N/A	N/A	N/A	N/A
			Average:	0.033	0.11

Response factors are in units of icps/ppbv.

PM/DM = Parent mass/Daughter mass

icps = ion counts per second

ppbv = part per billion by volume

**TABLE 4 (continued)**  
**Summary of Detection and Quantitation Limit Data for 12 December through 14 December 2006**  
**Urban Air Toxics Study**  
**Harris County, Texas**  
**March 2007**

Calibration Files: HSC027, HSC028, HSC109, and HSC110 on 14 December 2006 Used for Survey File: HSC031					
Compound	PM/DM	Intermediate Response Factor	Standard Deviation (icps)	Detection Limit (ppbv)	Quantitation Limit (ppbv)
1,3-Butadiene	54/38	13.099	15.862	3.63	12.1
1,3-Butadiene	54/39	41.092	16.046	1.17	3.90
1,3-Butadiene	54/54	N/A	N/A	N/A	N/A
			Average:	2.4	8.0
Benzene	78/39	46.253	15.013	0.974	3.25
Benzene	78/52	250.93	43.052	0.515	1.72
			Average:	0.74	2.5
MTBE	89/29	9.3025	11.725	3.78	12.6
MTBE	89/39	N/A	N/A	N/A	N/A
MTBE	89/41	160.60	21.645	0.404	1.35
			Average:	2.1	7.0
Toluene	92/39	28.850	20.186	2.10	7.00
Toluene	92/51	58.612	37.147	1.90	6.34
			Average:	2.0	6.7
Styrene	104/77	458.78	21.324	0.139	0.465
Styrene	104/78	837.29	23.577	0.0845	0.282
Styrene	104/95	278.86	17.499	0.188	0.628
Styrene	104/103	811.02	31.479	0.116	0.388
			Average:	0.13	0.44
Xylenes	106/65	652.15	104.89	0.482	1.61
Xylenes	106/91	2161.5	198.99	0.276	0.921
			Average:	0.38	1.3
1,2,3-Trichloropropane	110/49	217.37	2.5371	0.0350	0.117
1,2,3-Trichloropropane	110/75	906.40	9.3526	0.0310	0.103
1,2,3-Trichloropropane	112/75	N/A	N/A	N/A	N/A
1,2,3-Trichloropropane	112/77	N/A	N/A	N/A	N/A
			Average:	0.033	0.11

Response factors are in units of icps/ppbv.  
 PM/DM = Parent mass/Daughter mass  
 icps = ion counts per second  
 ppbv = part per billion by volume  
 N/A = Not available

**TABLE 4 (continued)**  
**Summary of Detection and Quantitation Limit Data for 12 December through 14 December 2006**  
**Urban Air Toxics Study**  
**Harris County, Texas**  
**March 2007**

Calibration Files: HSC027, HSC028, HSC109 and HSC110 on 14 December 2006 Used for Survey Files: HSC032 and HSC034					
Compound	PM/DM	Intermediate Response Factor	Standard Deviation (icps)	Detection Limit (ppbv)	Quantitation Limit (ppbv)
1,3-Butadiene	54/38	13.099	15.862	3.63	12.1
1,3-Butadiene	54/39	41.092	16.046	1.17	3.90
1,3-Butadiene	54/54	N/A	N/A	N/A	N/A
			Average:	2.4	8.0
Benzene	78/39	46.253	15.013	0.974	3.25
Benzene	78/52	250.93	43.052	0.515	1.72
			Average:	0.74	2.5
MTBE	89/29	9.3025	11.725	3.78	12.6
MTBE	89/39	64.948	9.9655	0.460	1.53
MTBE	89/41	160.60	21.645	0.404	1.35
			Average:	1.5	5.2
Toluene	92/39	28.850	20.186	2.10	7.00
Toluene	92/51	58.612	37.147	1.90	6.34
			Average:	2.0	6.7
Styrene	104/77	458.78	21.324	0.139	0.465
Styrene	104/78	837.29	23.577	0.0845	0.282
Styrene	104/95	278.86	17.499	0.188	0.628
Styrene	104/103	811.02	31.479	0.116	0.388
			Average:	0.13	0.44
Xylenes	106/65	652.15	104.89	0.482	1.61
Xylenes	106/91	2161.5	198.99	0.276	0.921
			Average:	0.38	1.3
1,2,3-Trichloropropane	110/49	217.37	2.5371	0.0350	0.117
1,2,3-Trichloropropane	110/75	906.40	9.3526	0.0310	0.103
1,2,3-Trichloropropane	112/75	333.63	15.916	0.143	0.477
1,2,3-Trichloropropane	112/77	333.73	7.8492	0.0706	0.235
			Average:	0.070	0.23

Response factors are in units of icps/ppbv.

PM/DM = Parent mass/Daughter mass

icps = ion counts per second

ppbv = part per billion by volume

N/A = Not available

**TABLE 4 (continued)**  
**Summary of Detection and Quantitation Limit Data for 12 December through 14 December 2006**  
**Urban Air Toxics Study**  
**Harris County, Texas**  
**March 2007**

Calibration Files: HSC027, HSC028, HSC109 and HSC110 on 14 December 2006 Used for Survey Files: HSC033, HSC035, and HSC036					
Compound	PM/DM	Intermediate Response Factor	Standard Deviation (icps)	Detection Limit (ppbv)	Quantitation Limit (ppbv)
1,3-Butadiene	54/38	13.099	15.862	3.63	12.1
1,3-Butadiene	54/39	41.092	16.046	1.17	3.90
1,3-Butadiene	54/54	N/A	N/A	N/A	N/A
			Average:	2.4	8.0
Benzene	78/39	46.253	15.013	0.974	3.25
Benzene	78/52	250.93	43.052	0.515	1.72
			Average:	0.74	2.5
MTBE	89/29	9.3025	11.725	3.78	12.6
MTBE	89/39	64.948	9.9655	0.460	1.53
MTBE	89/41	160.60	21.645	0.404	1.35
			Average:	1.5	5.2
Toluene	92/39	28.850	20.186	2.10	7.00
Toluene	92/51	58.612	37.147	1.90	6.34
			Average:	2.0	6.7
Styrene	104/77	458.78	21.324	0.139	0.465
Styrene	104/78	837.29	23.577	0.0845	0.282
Styrene	104/95	278.86	17.499	0.188	0.628
Styrene	104/103	811.02	31.479	0.116	0.388
			Average:	0.13	0.44
Xylenes	106/65	652.15	104.89	0.482	1.61
Xylenes	106/91	2161.5	198.99	0.276	0.921
			Average:	0.38	1.3
1,2,3-Trichloropropane	110/49	217.37	2.5371	0.0350	0.117
1,2,3-Trichloropropane	110/75	906.40	9.3526	0.0310	0.103
1,2,3-Trichloropropane	112/75	N/A	N/A	N/A	N/A
1,2,3-Trichloropropane	112/77	N/A	N/A	N/A	N/A
			Average:	0.033	0.11

Response factors are in units of icps/ppbv.  
 PM/DM = Parent mass/Daughter mass  
 icps = ion counts per second  
 ppbv = part per billion by volume  
 N/A = Not available

**TABLE 4 (continued)**  
**Summary of Detection and Quantitation Limit Data for 12 December through 14 December 2006**  
**Urban Air Toxics Study**  
**Harris County, Texas**  
**March 2007**

Calibration Files: HSC027, HSC028, HSC109, and HSC110 on 14 December 2006 Used for Survey File: HSC037					
Compound	PM/DM	Intermediate Response Factor	Standard Deviation (icps)	Detection Limit (ppbv)	Quantitation Limit (ppbv)
1,3-Butadiene	54/38	13.099	15.862	3.63	12.1
1,3-Butadiene	54/39	41.092	16.046	1.17	3.90
1,3-Butadiene	54/54	N/A	N/A	N/A	N/A
			Average:	2.4	8.0
Benzene	78/39	46.253	15.013	0.974	3.25
Benzene	78/52	250.93	43.052	0.515	1.72
			Average:	0.74	2.5
MTBE	89/29	N/A	N/A	N/A	N/A
MTBE	89/39	64.948	9.9655	0.460	1.53
MTBE	89/41	160.60	21.645	0.404	1.35
			Average:	0.43	1.4
Toluene	92/39	28.850	20.186	2.10	7.00
Toluene	92/51	58.612	37.147	1.90	6.34
			Average:	2.0	6.7
Styrene	104/77	458.78	21.324	0.139	0.465
Styrene	104/78	837.29	23.577	0.0845	0.282
Styrene	104/95	278.86	17.499	0.188	0.628
Styrene	104/103	811.02	31.479	0.116	0.388
			Average:	0.13	0.44
Xylenes	106/65	652.15	104.89	0.482	1.61
Xylenes	106/91	2161.5	198.99	0.276	0.921
			Average:	0.38	1.3
1,2,3-Trichloropropane	110/49	217.37	2.5371	0.0350	0.117
1,2,3-Trichloropropane	110/75	906.40	9.3526	0.0310	0.103
1,2,3-Trichloropropane	112/75	333.63	15.916	0.143	0.477
1,2,3-Trichloropropane	112/77	333.73	7.8492	0.0706	0.235
			Average:	0.070	0.23

Response factors are in units of icps/ppbv.  
 PM/DM = Parent mass/Daughter mass  
 icps = ion counts per second  
 ppbv = part per billion by volume  
 N/A = Not available



## FIGURES



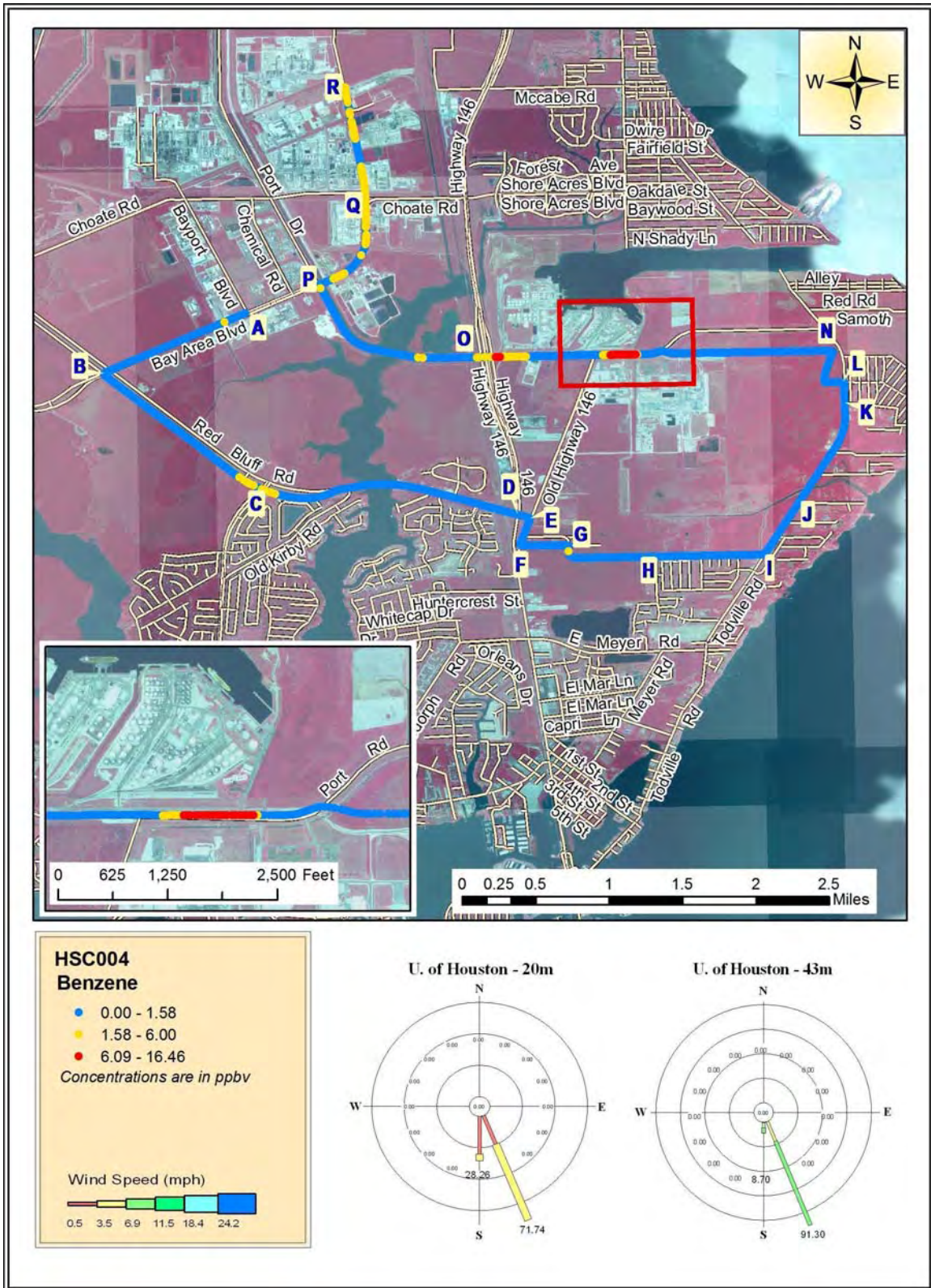


Figure 1a Mobile Monitoring Path for Benzene in Harris County



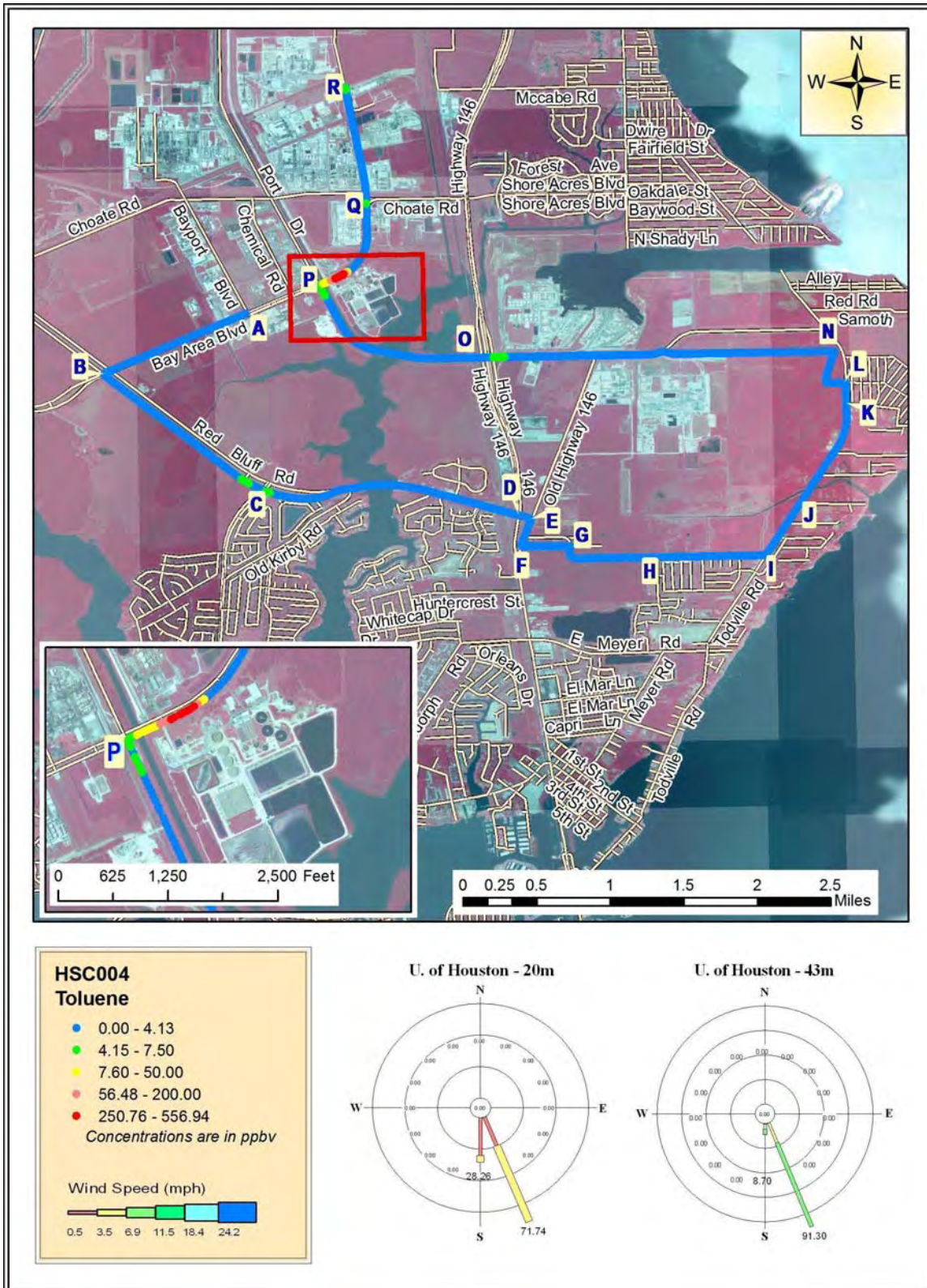


Figure 1b Mobile Monitoring Path for Toluene in Harris County



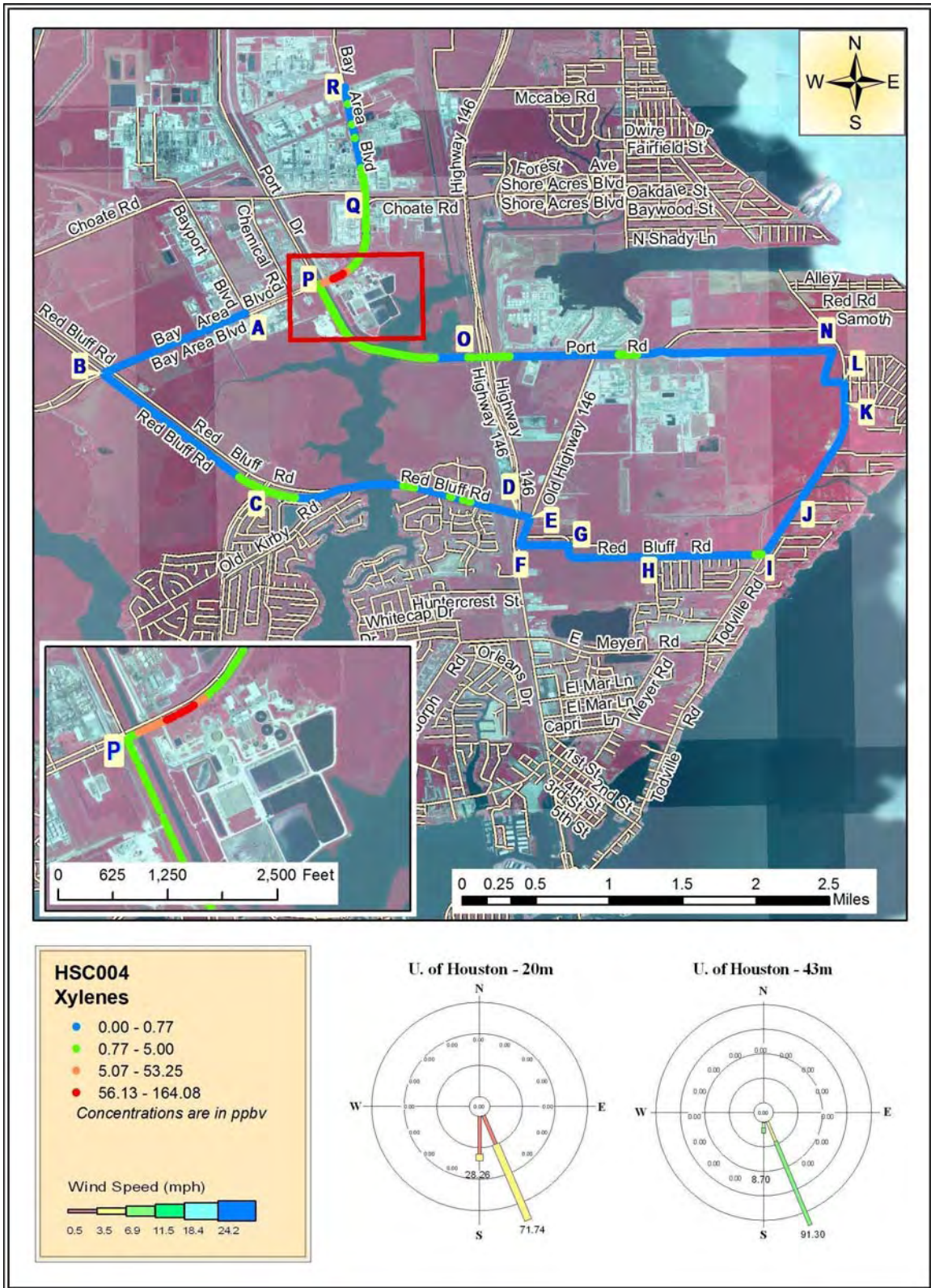


Figure 1c Mobile Monitoring Path for Xylenes in Harris County



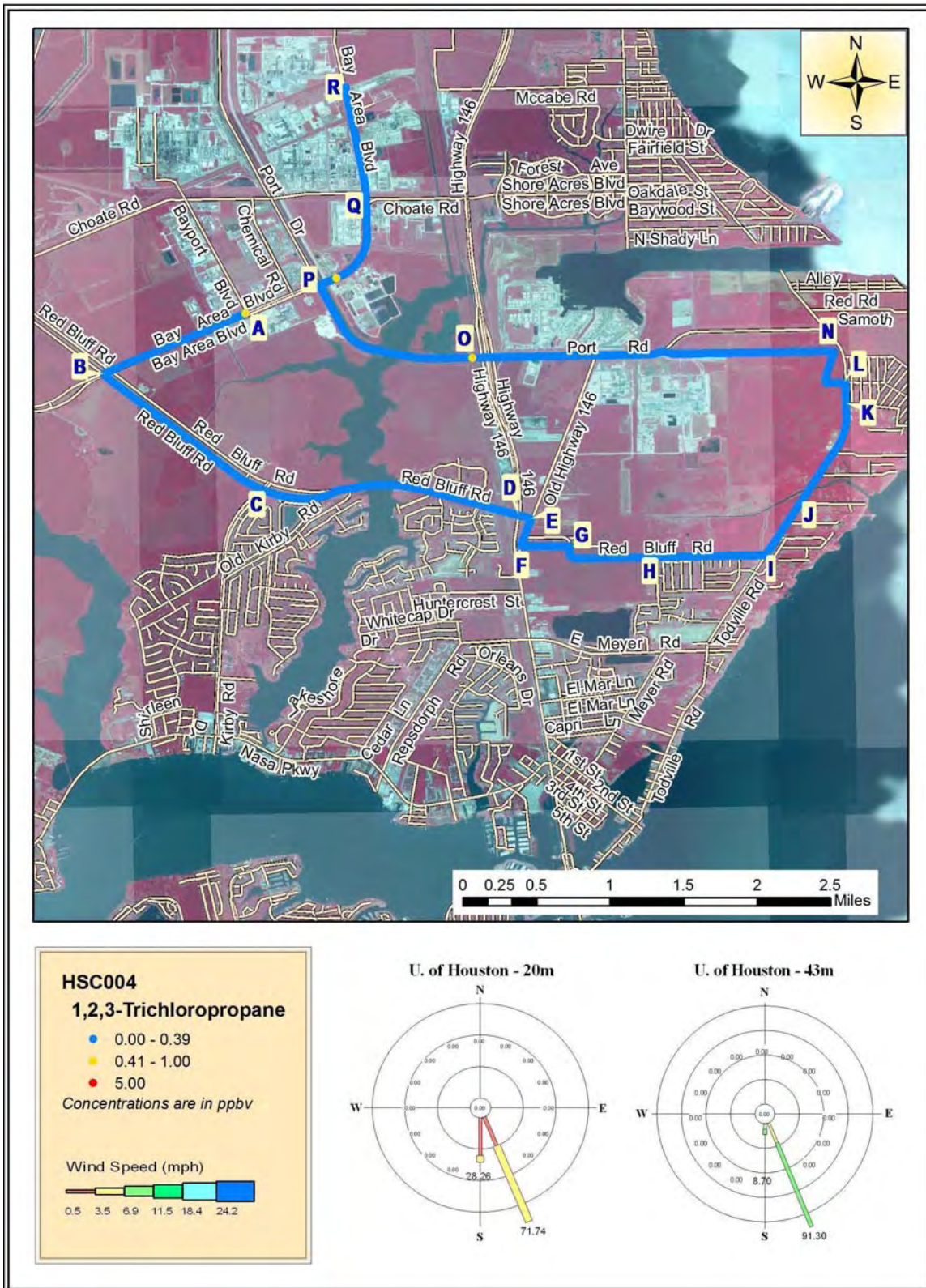


Figure 1d Mobile Monitoring Path for 1,2,3-Trichloropropane in Harris County



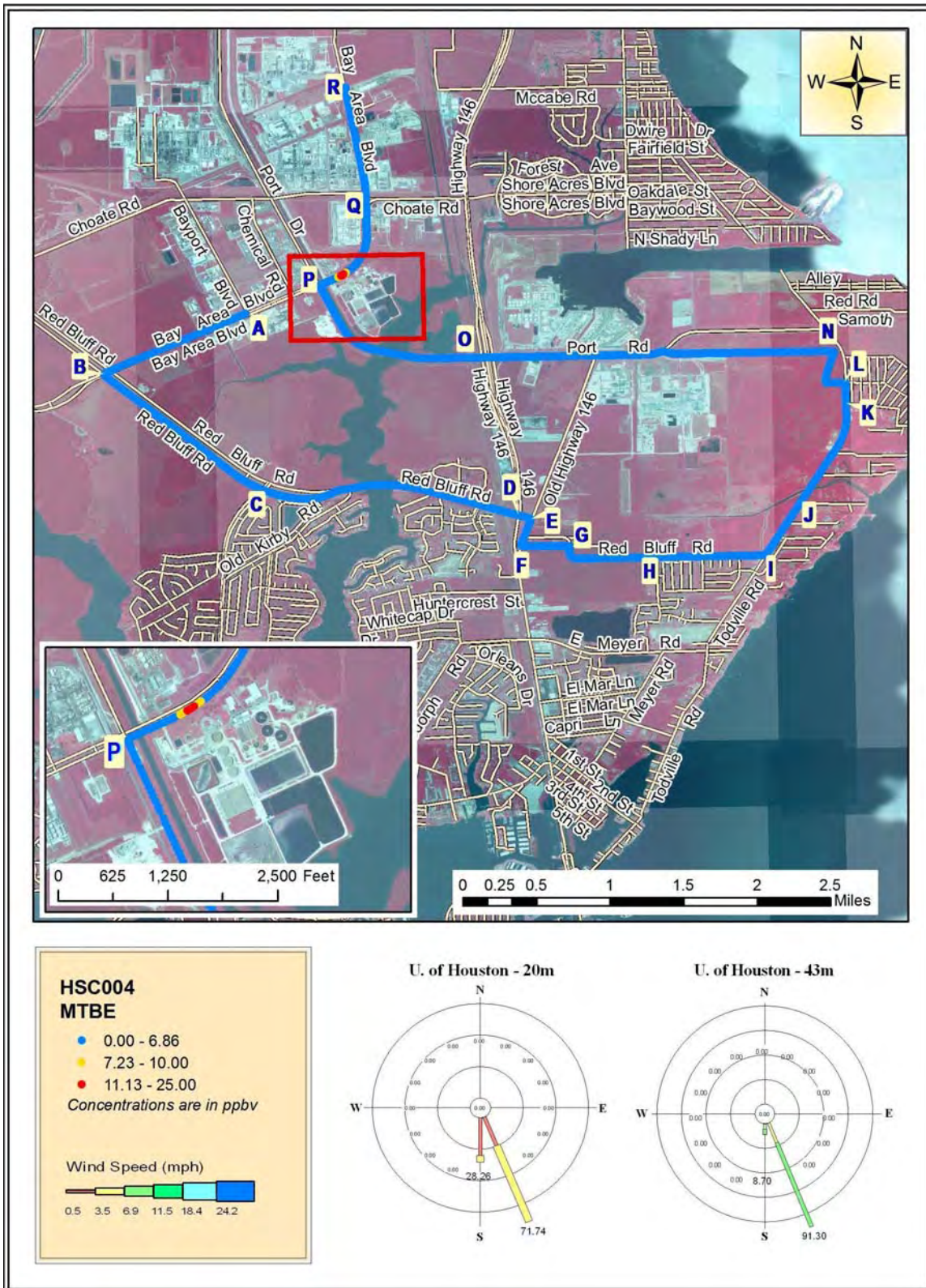


Figure 1e Mobile Monitoring Path for Methyl-t-butyl ether in Harris County



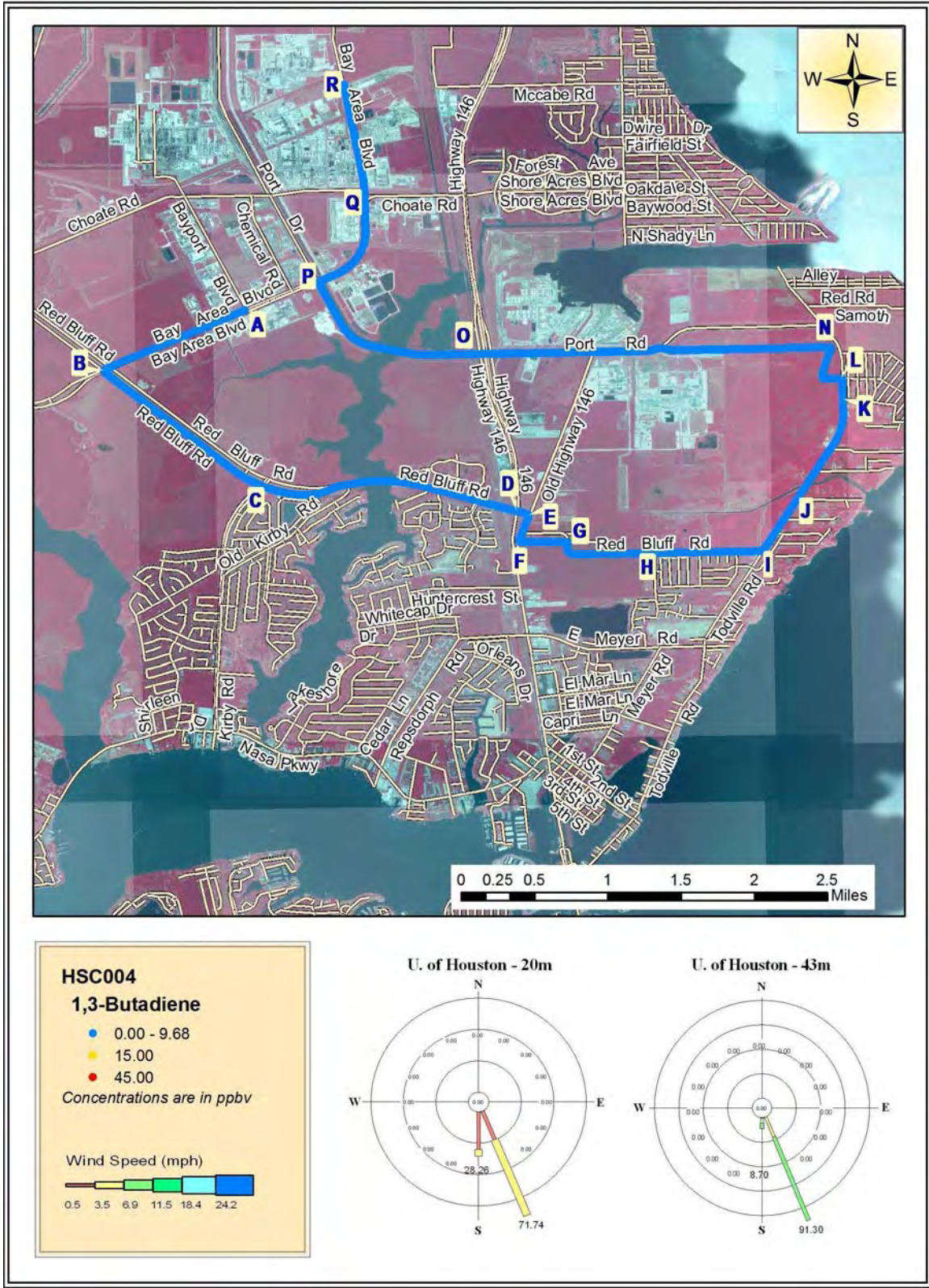


Figure 1f Mobile Monitoring Path for 1,3-Butadiene in Harris County



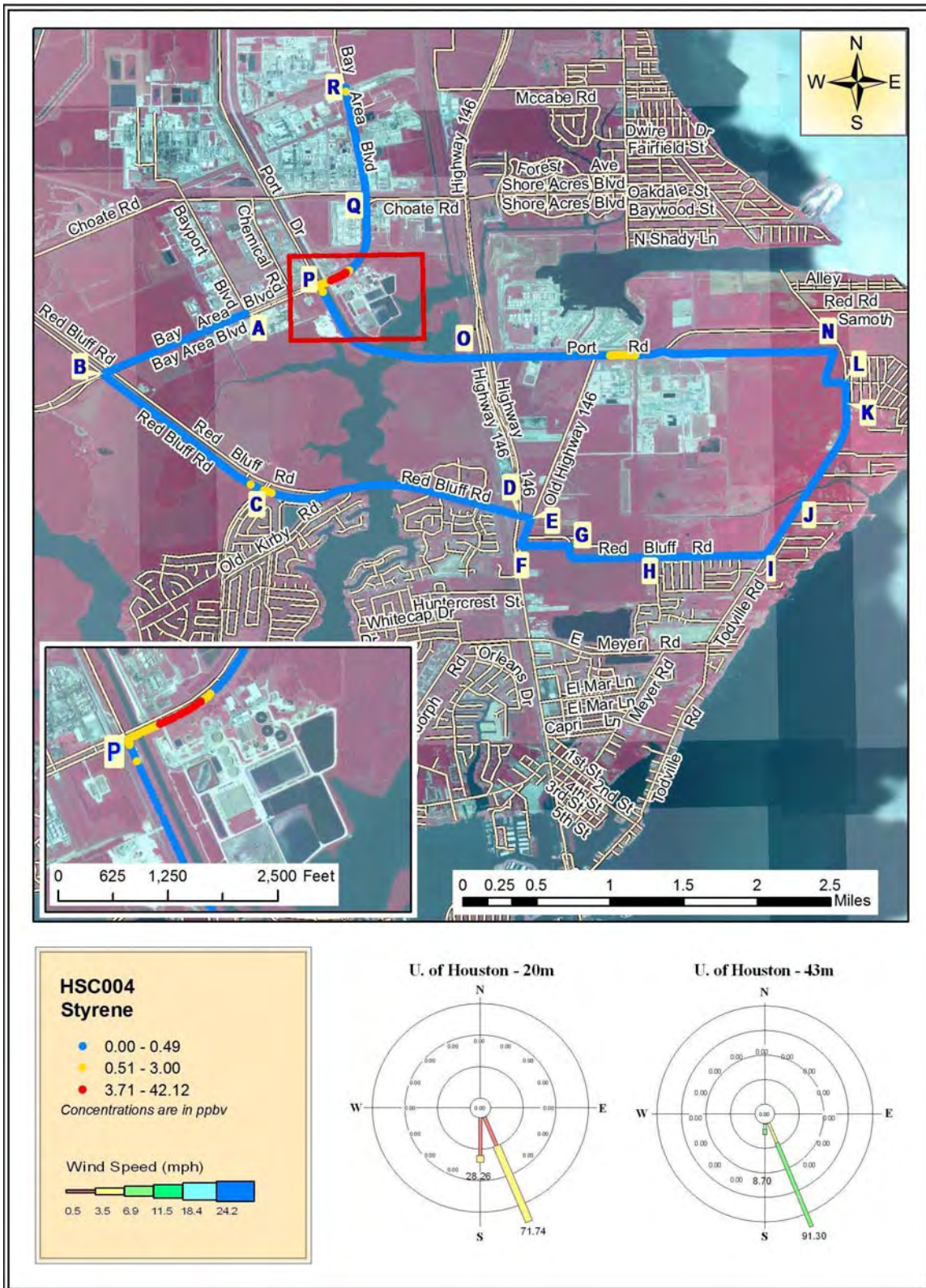


Figure 1g Mobile Monitoring Path for Styrene in Harris County



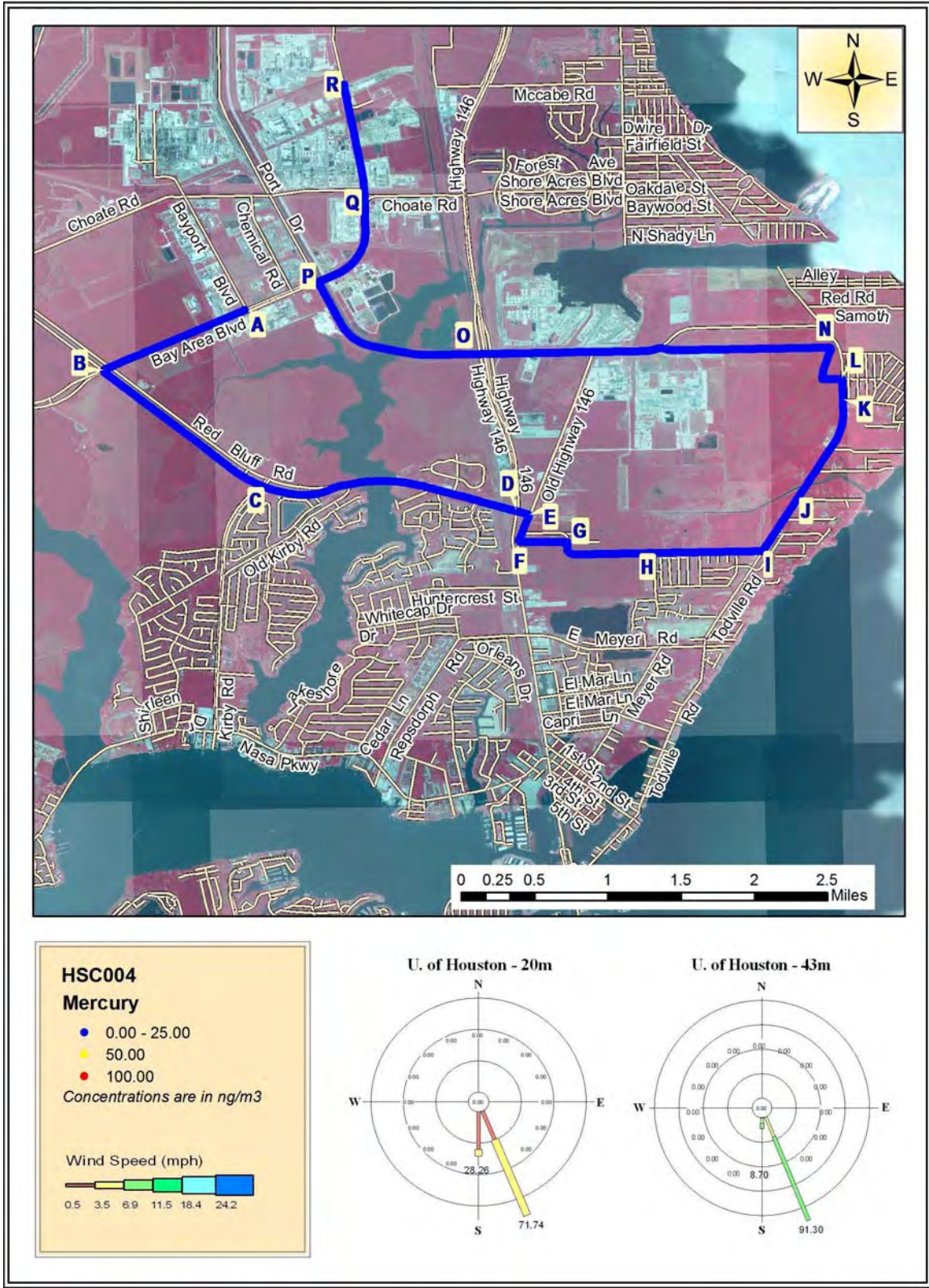
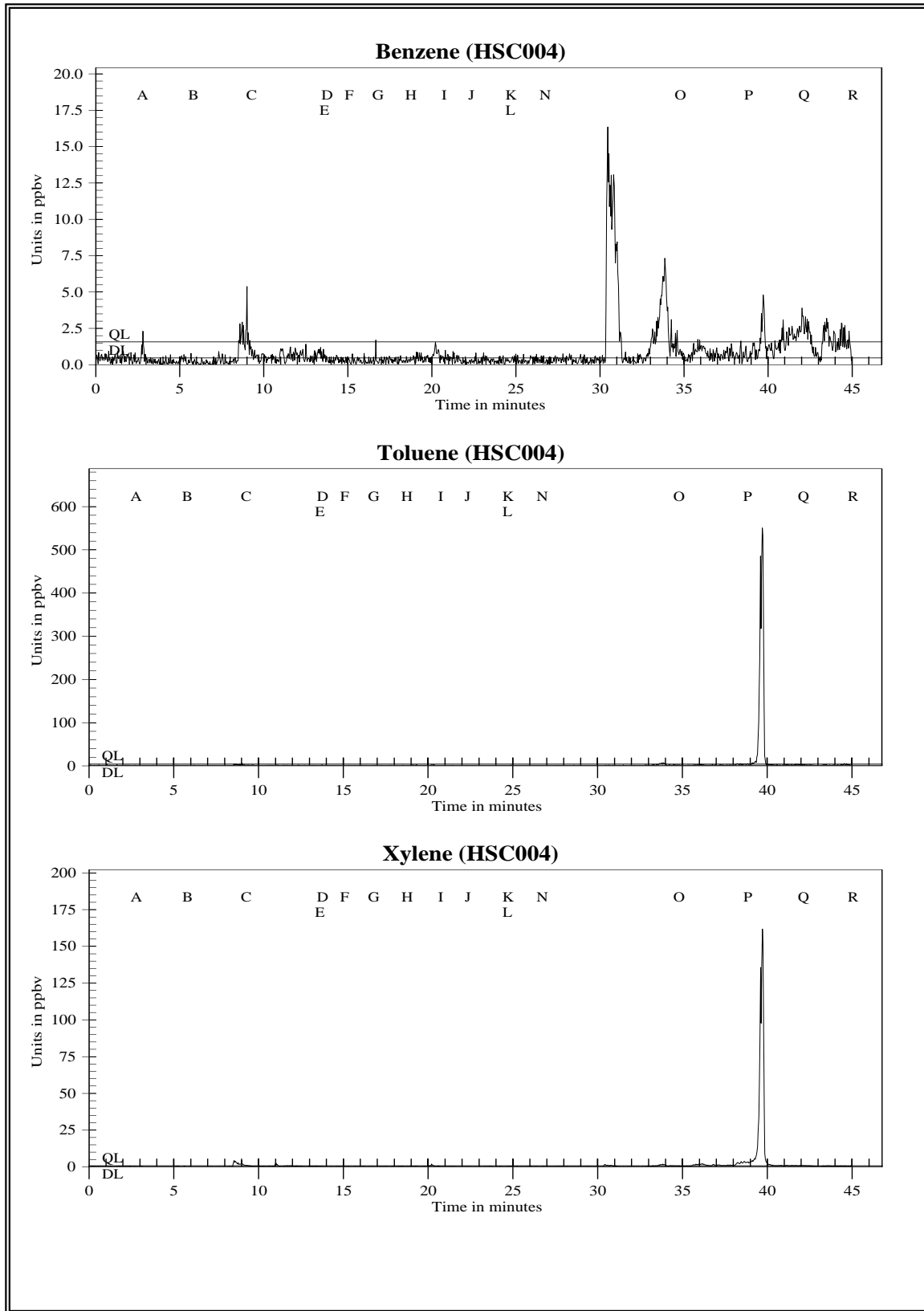


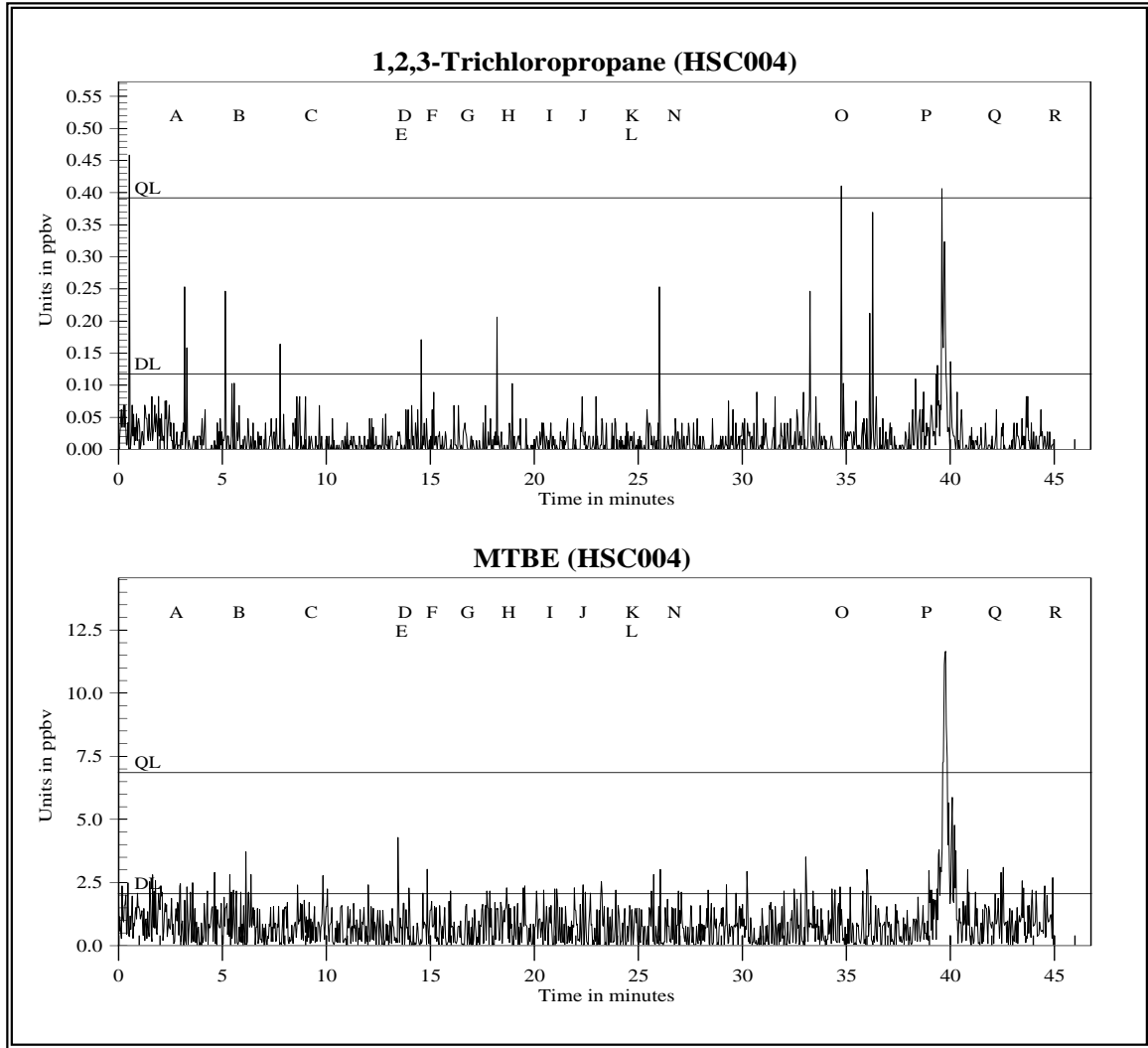
Figure 1h Mobile Monitoring Path for Mercury in Harris County

**Figure 1i**

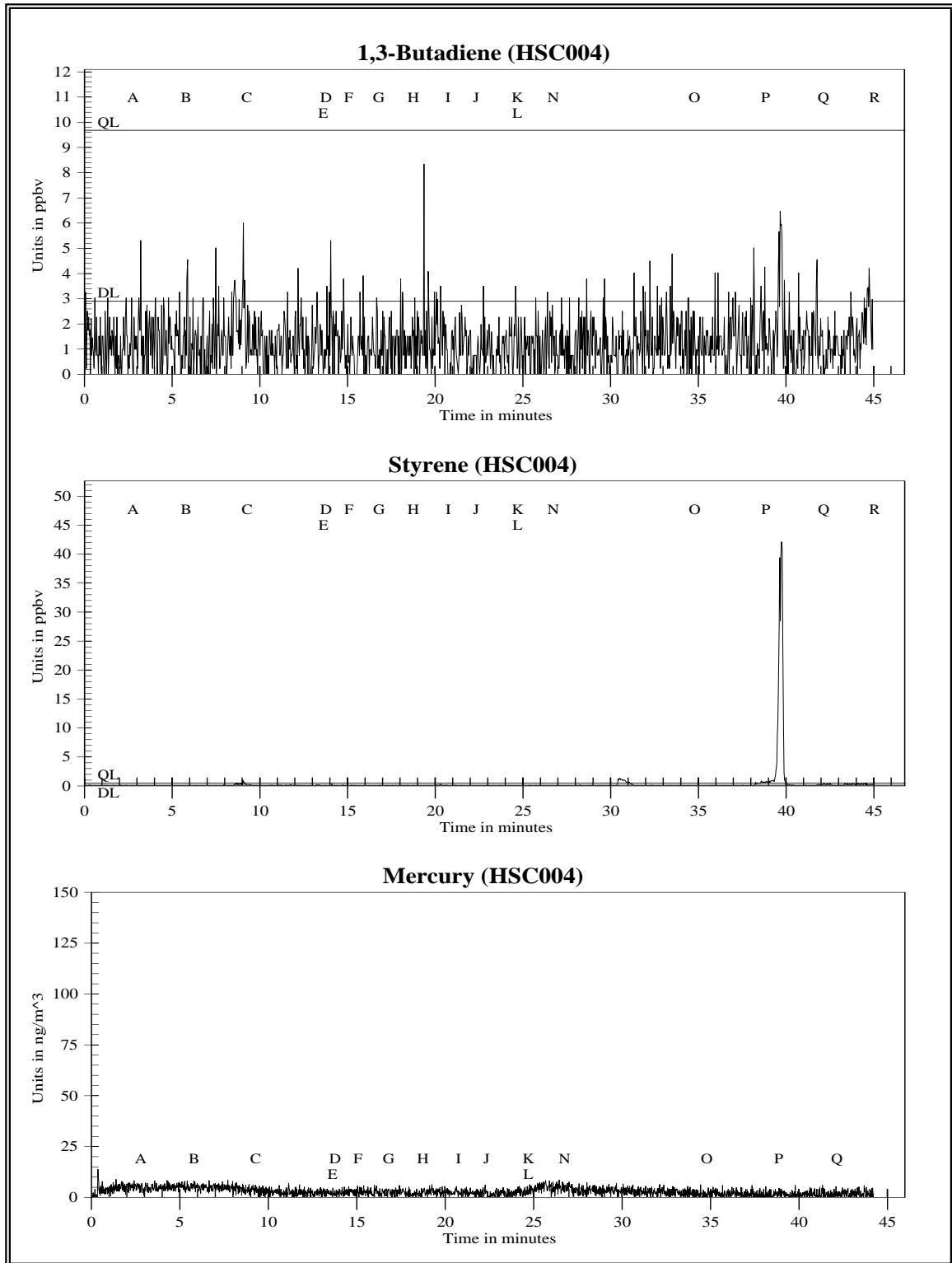
TAGA File Event Summary			
File: HSC004 Acquired on 12 December 2006 at 02:45:46 UTC			
Title: Mobile Monitoring in Harris County			
Flag	Time	Sequence	Description
A	2.5	71	Start monitoring westward on Bay Area Boulevard at Bayport Boulevard
B	5.5	158	Turning left onto Red Bluff Road
C	9.0	257	Passing Kirby Boulevard
D	13.4	385	Passing State Highway 146
E	13.9	398	Turning right onto Old State Highway 146
F	14.8	424	Turning left onto Bayview Drive
G	16.5	471	Turning right onto Red Bluff Road
H	18.4	527	Passing Park Drive
I	20.6	589	Turning left onto Todville Road
J	22.2	634	Passing Surf Oak Drive
K	24.4	697	Passing Youpon Drive
L	25.0	714	Turning left onto El Jardon Drive
N	25.5	730	Turning left onto New Port Road
O	26.4	755	Passing Highway 146
P	38.6	1103	Turning right Bay Area Boulevard
Q	41.8	1195	Passing Choate Road
R	44.8	1279	Stopping at Huish Detergent



**Figure 1j** Mobile Monitoring in Harris County for Benzene, Toluene, and Xylenes



**Figure 1k** Mobile Monitoring in Harris County for 1,2,3-Trichloropropane and Methyl t-butyl ether



**Figure 11** Mobile Monitoring in Harris County for 1,3-Butadiene, Styrene, and Mercury



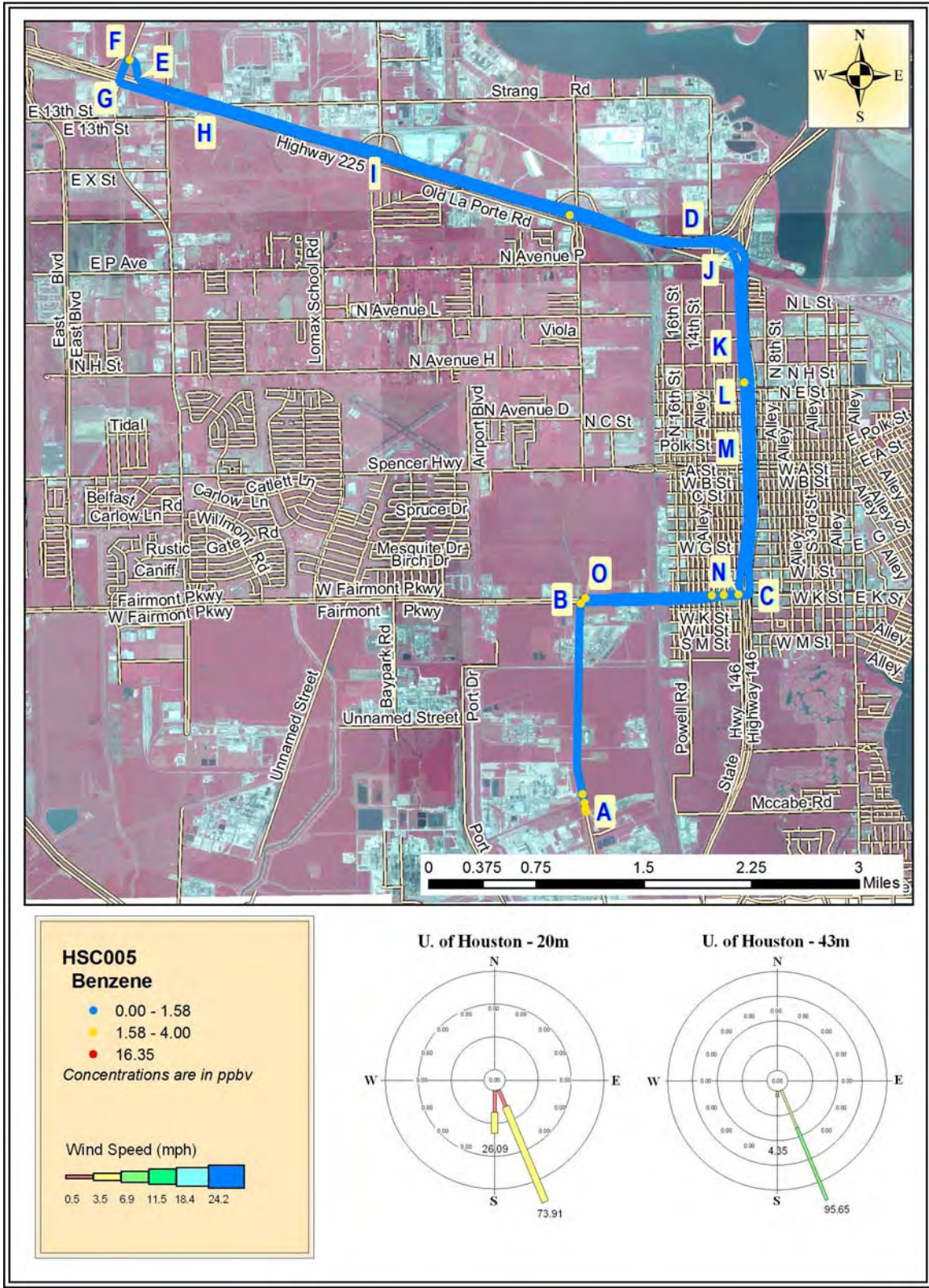


Figure 2a Mobile Monitoring Path for Benzene in Harris County



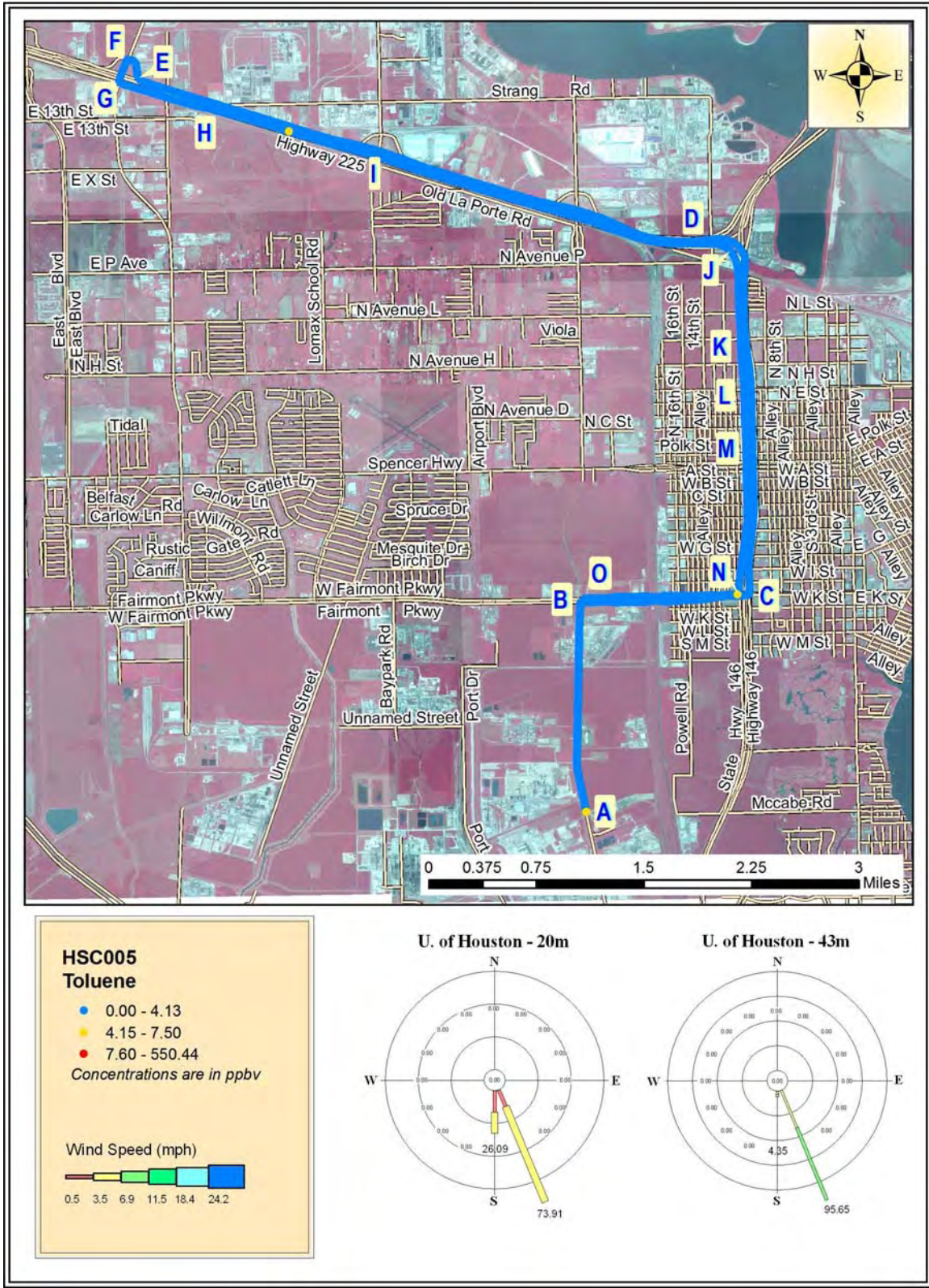


Figure 2b Mobile Monitoring Path for Toluene in Harris County



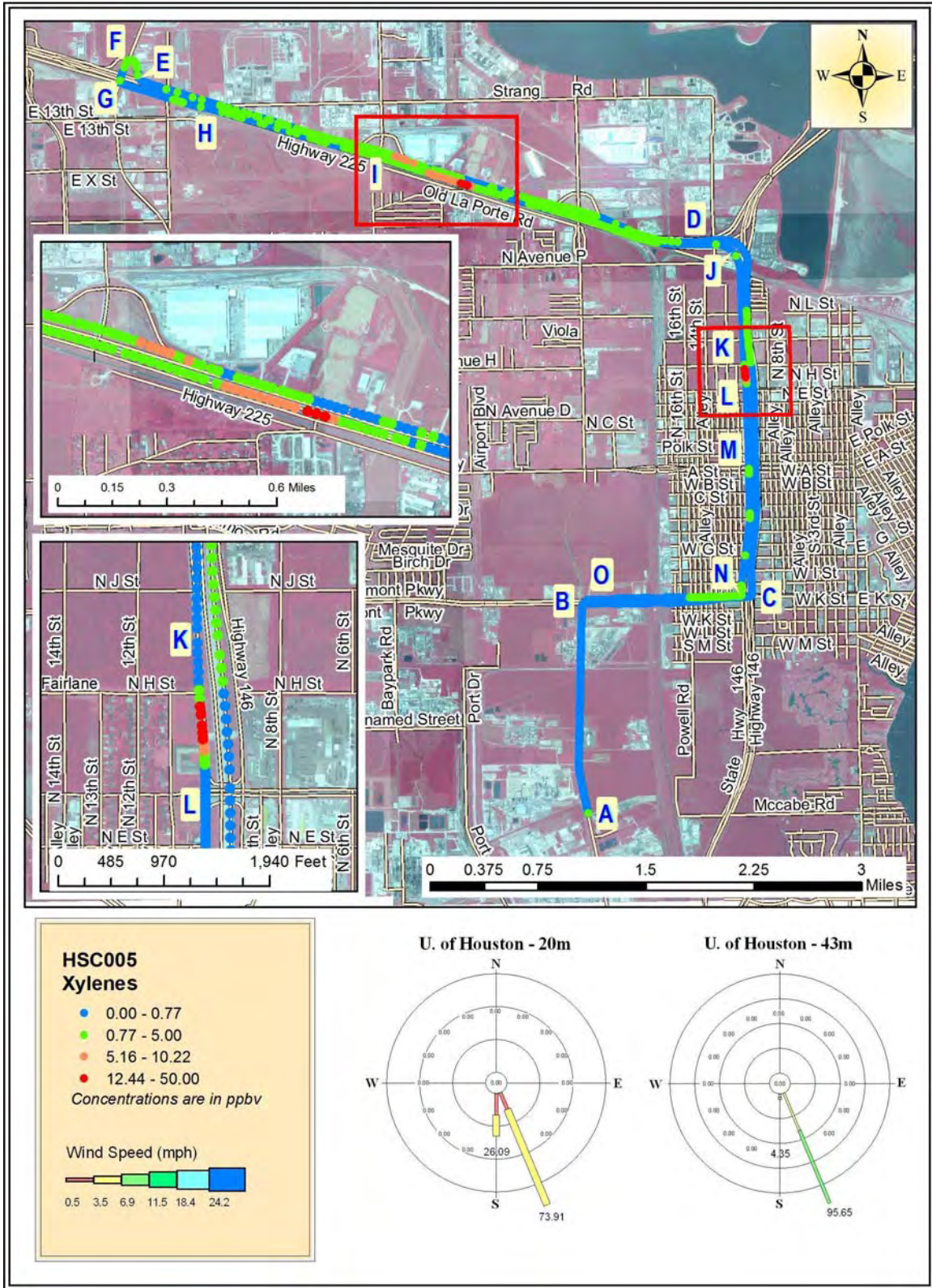


Figure 2c Mobile Monitoring Path for Xylenes in Harris County



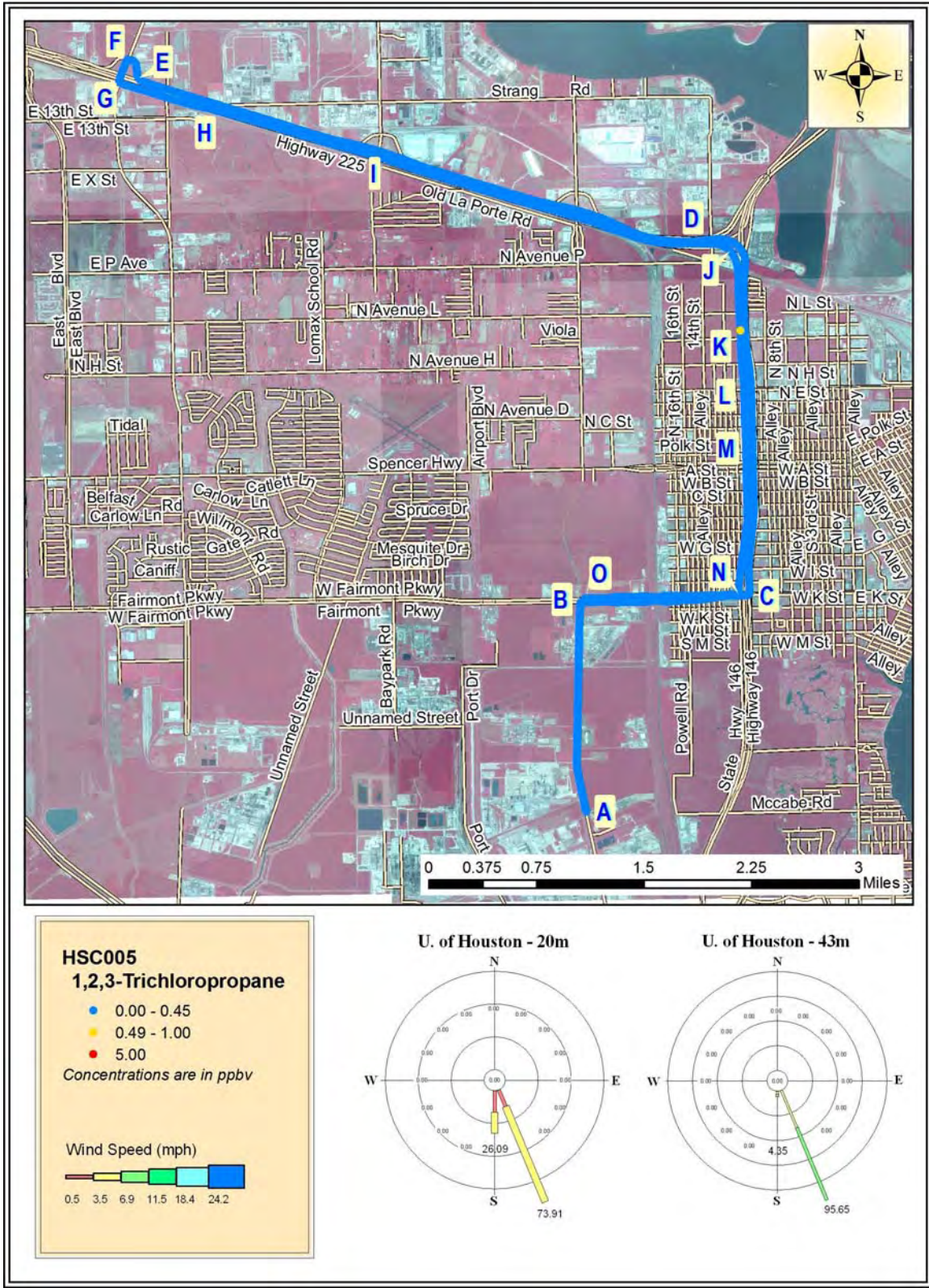


Figure 2d Mobile Monitoring Path for 1,2,3-Trichloropropane in Harris County



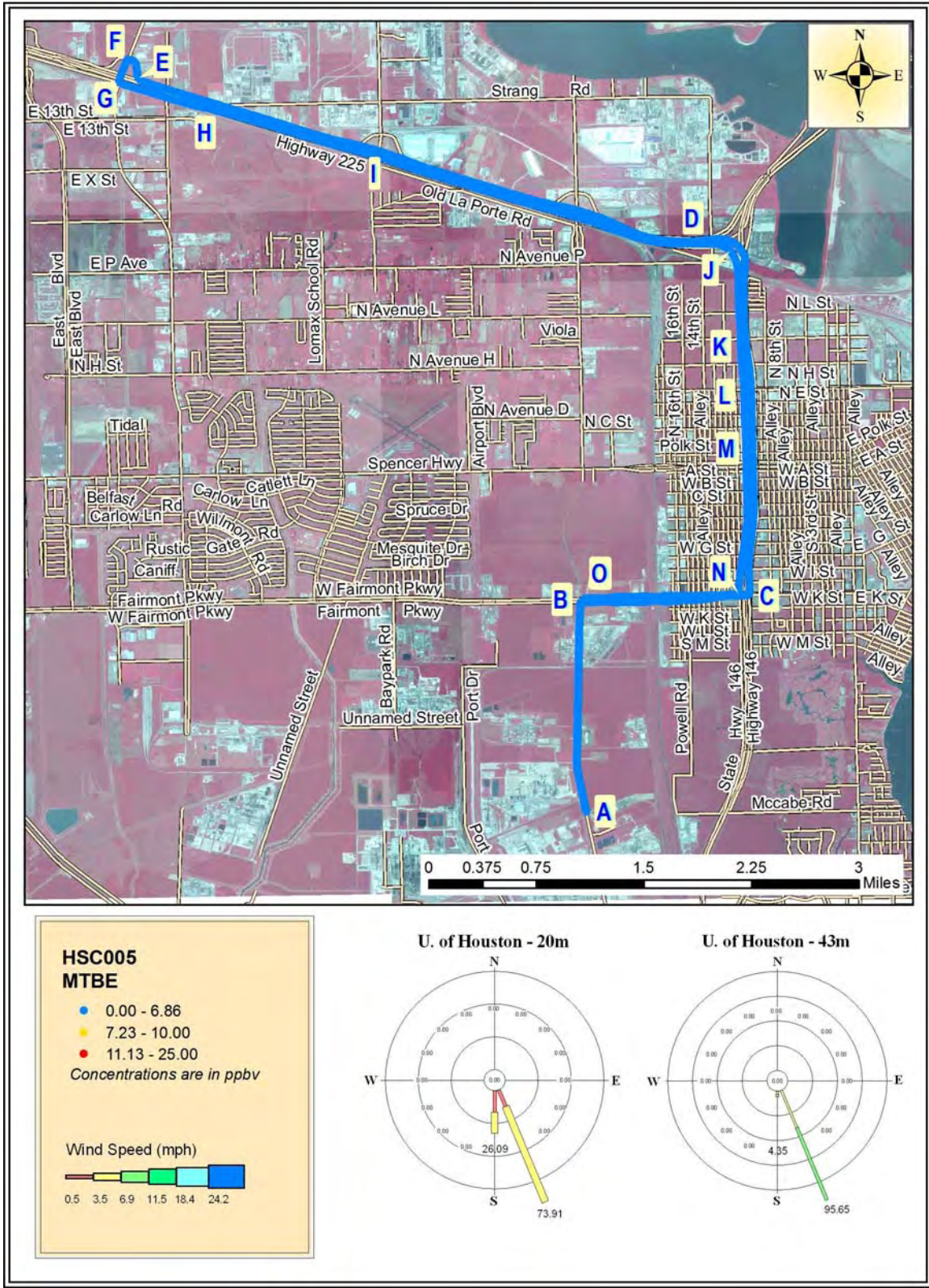


Figure 2e Mobile Monitoring Path for Methyl-t-butyl ether in Harris County



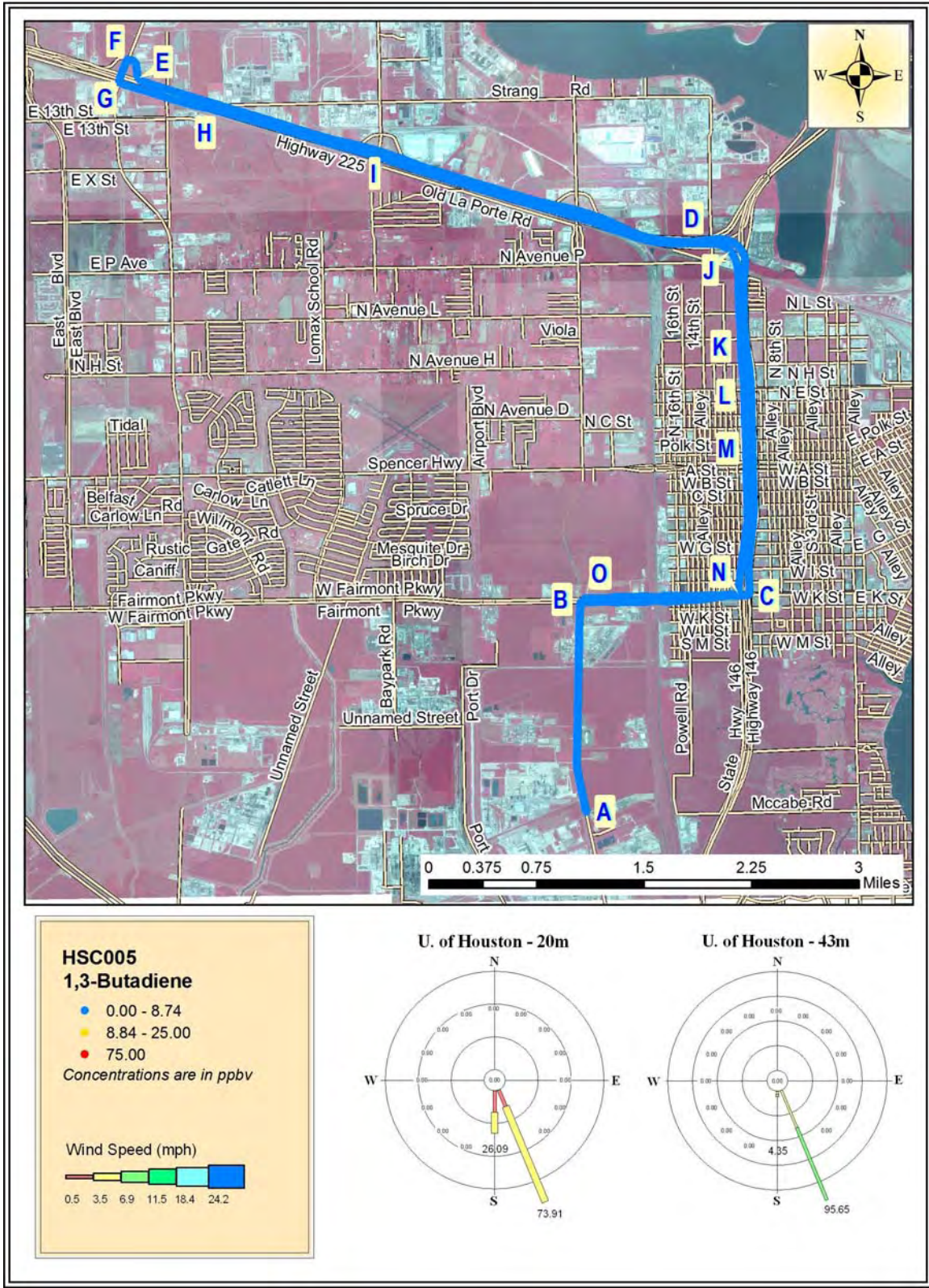


Figure 2f Mobile Monitoring Path for 1,3-Butadiene in Harris County



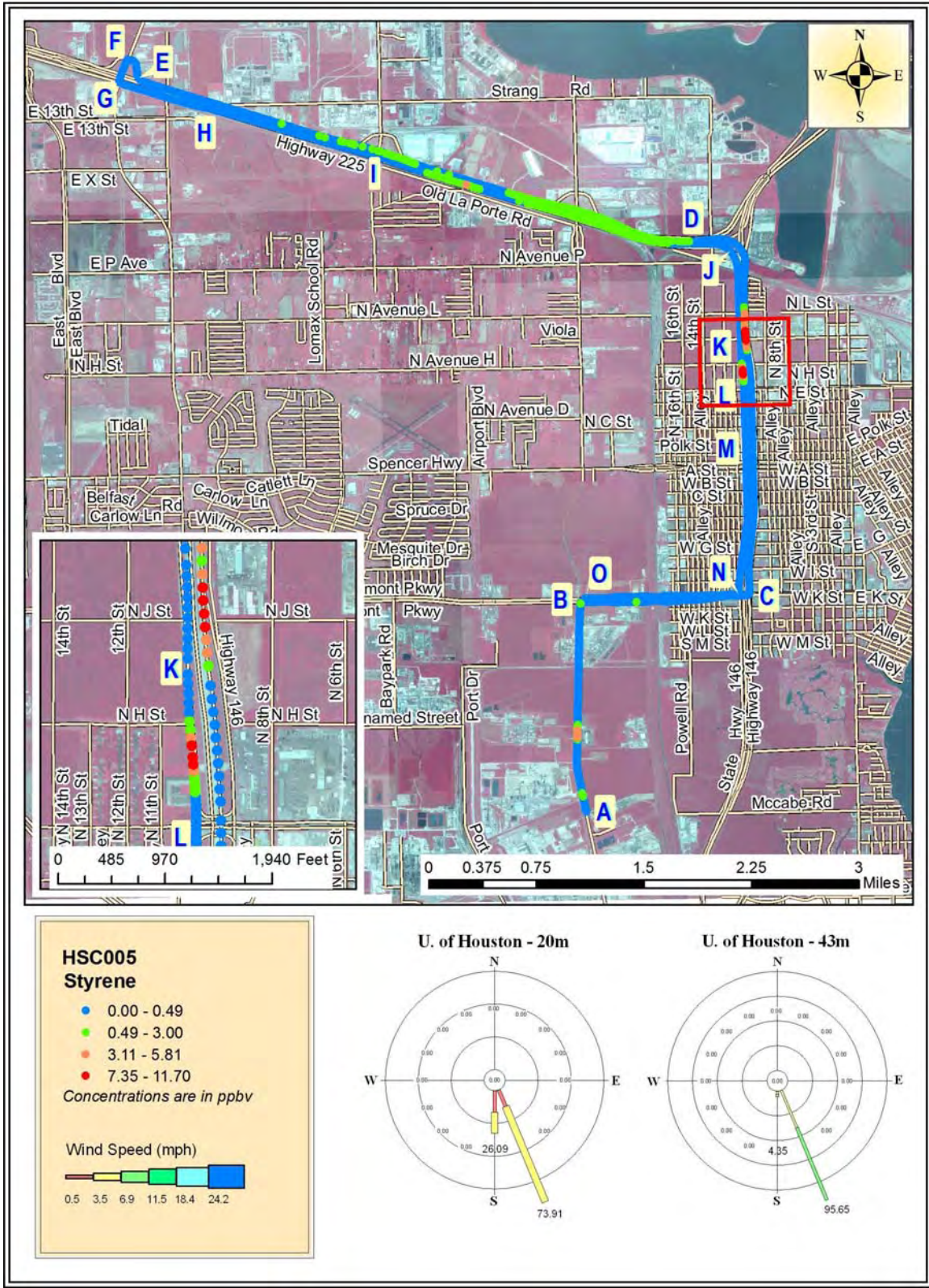


Figure 2g Mobile Monitoring Path for Styrene in Harris County



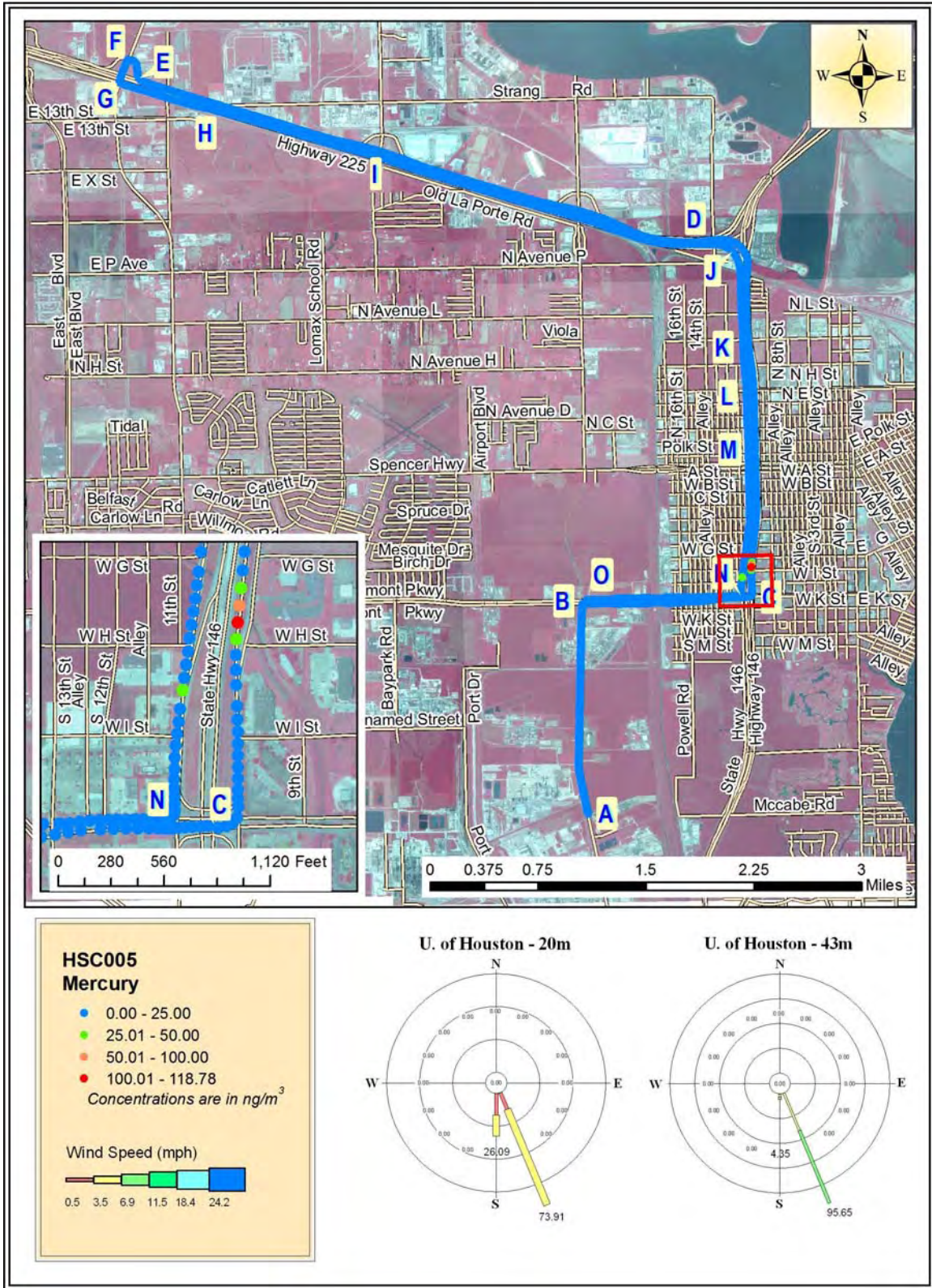
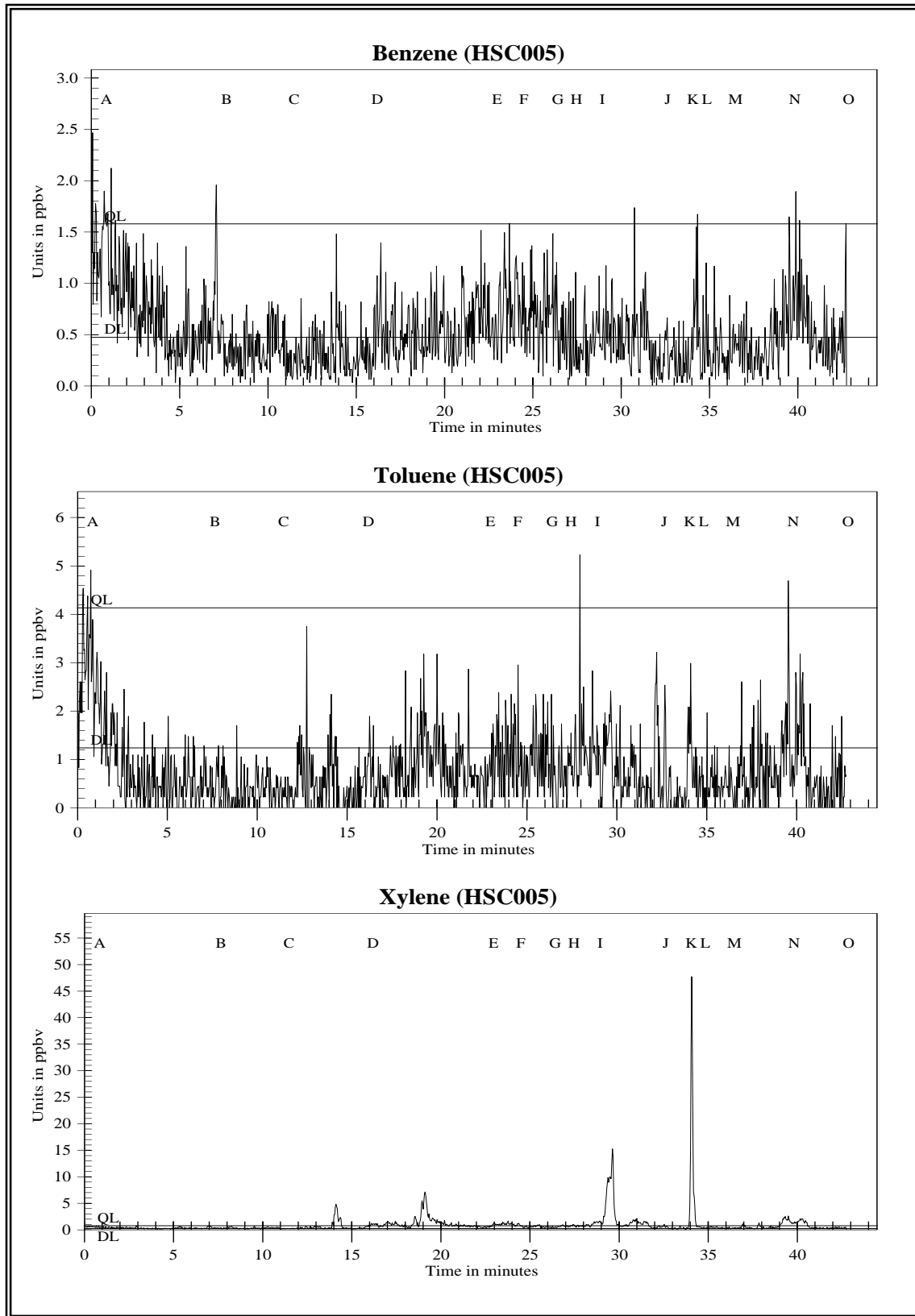


Figure 2h Mobile Monitoring Path for Mercury in Harris County

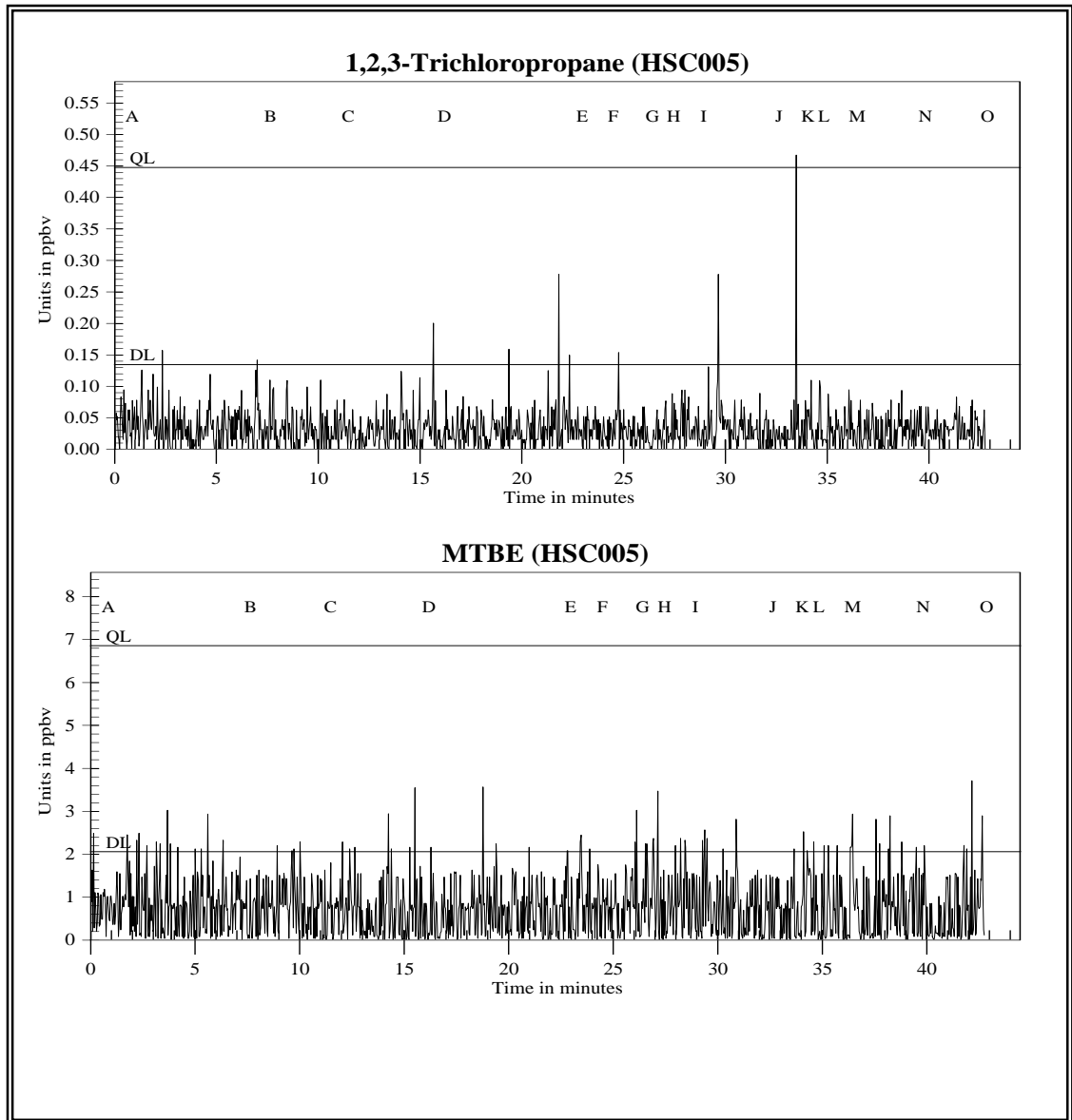
**Figure 2i**

TAGA File Event Summary			
File: HSC005 Acquired on 12 December 2006 at 03:35:46 UTC			
Title: Mobile Monitoring in Harris County			
Flag	Time	Sequence	Description
A	0.5	16	Start monitoring northward onto Bay Area Boulevard at Huish Detergent
B	7.4	211	Turning right onto Fairmont Parkway
C	11.2	320	Turning left onto State Highway 146
D	15.9	454	Turning onto State Highway 225 West
E	22.7	649	Exiting onto Battleground Road
F	24.2	693	Turning left onto State Highway 134
G	26.1	746	Turning left onto State Highway 225 Service Road
H	27.1	776	Entering onto State Highway 225 East
I	28.8	823	Passing Miller Cut Off Road
J	32.5	928	Turning right onto State Highway 146 South
K	33.7	964	Exiting onto Tenth Street
L	34.6	988	Passing Barbours Cut Boulevard
M	36.1	1031	Passing Adams Street
N	39.5	1129	Turning right onto Fairmont Parkway
O	42.5	1216	Stopping on Bay Area Boulevard

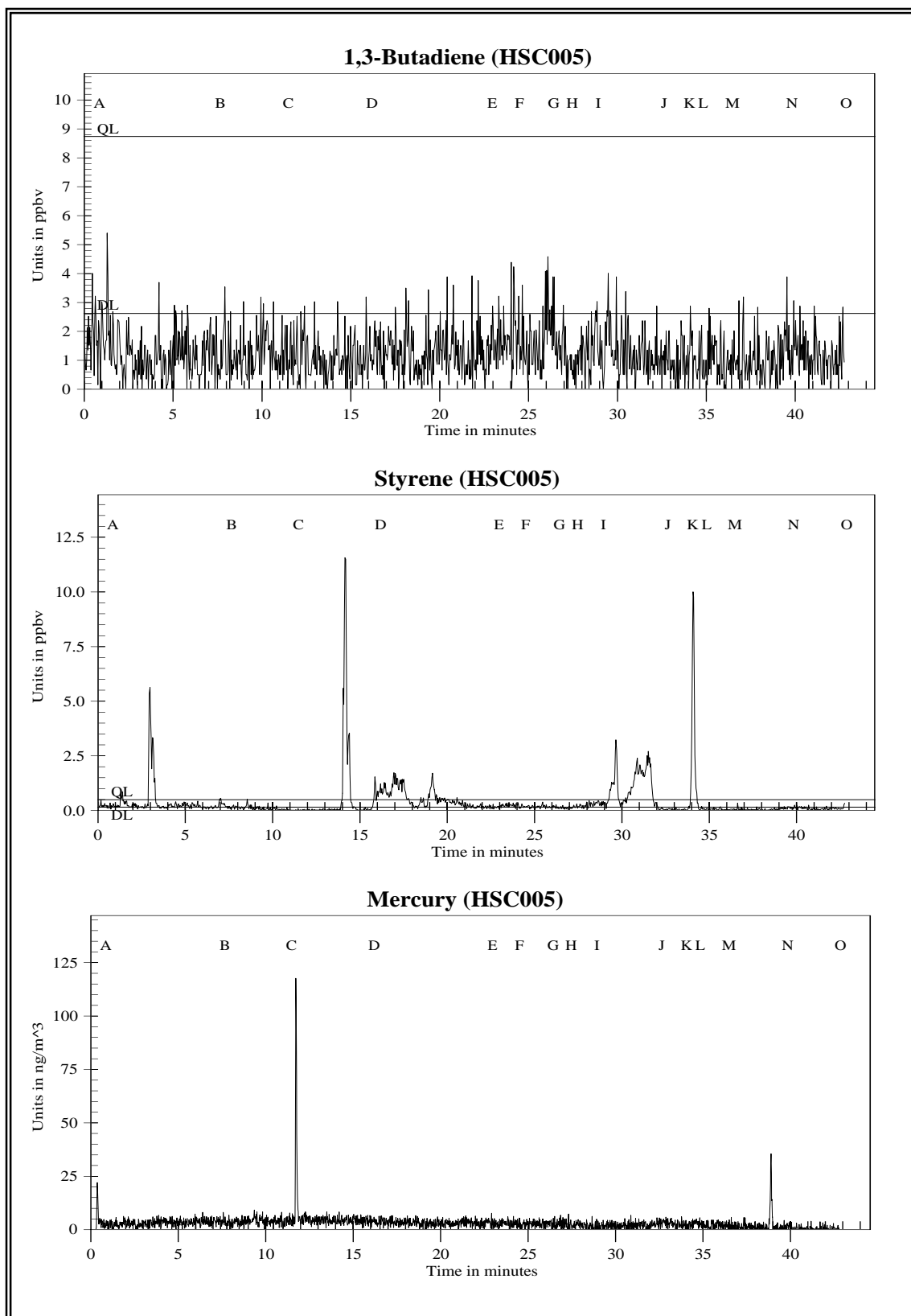


**Figure 2j** Mobile Monitoring in Harris County for Benzene, Toluene, and Xylenes





**Figure 2k** Mobile Monitoring in Harris County for 1,2,3-Trichloropropane and Methyl-t-butyl ether



**Figure 21** Mobile Monitoring in Harris County for 1,3-Butadiene, Styrene, and Mercury

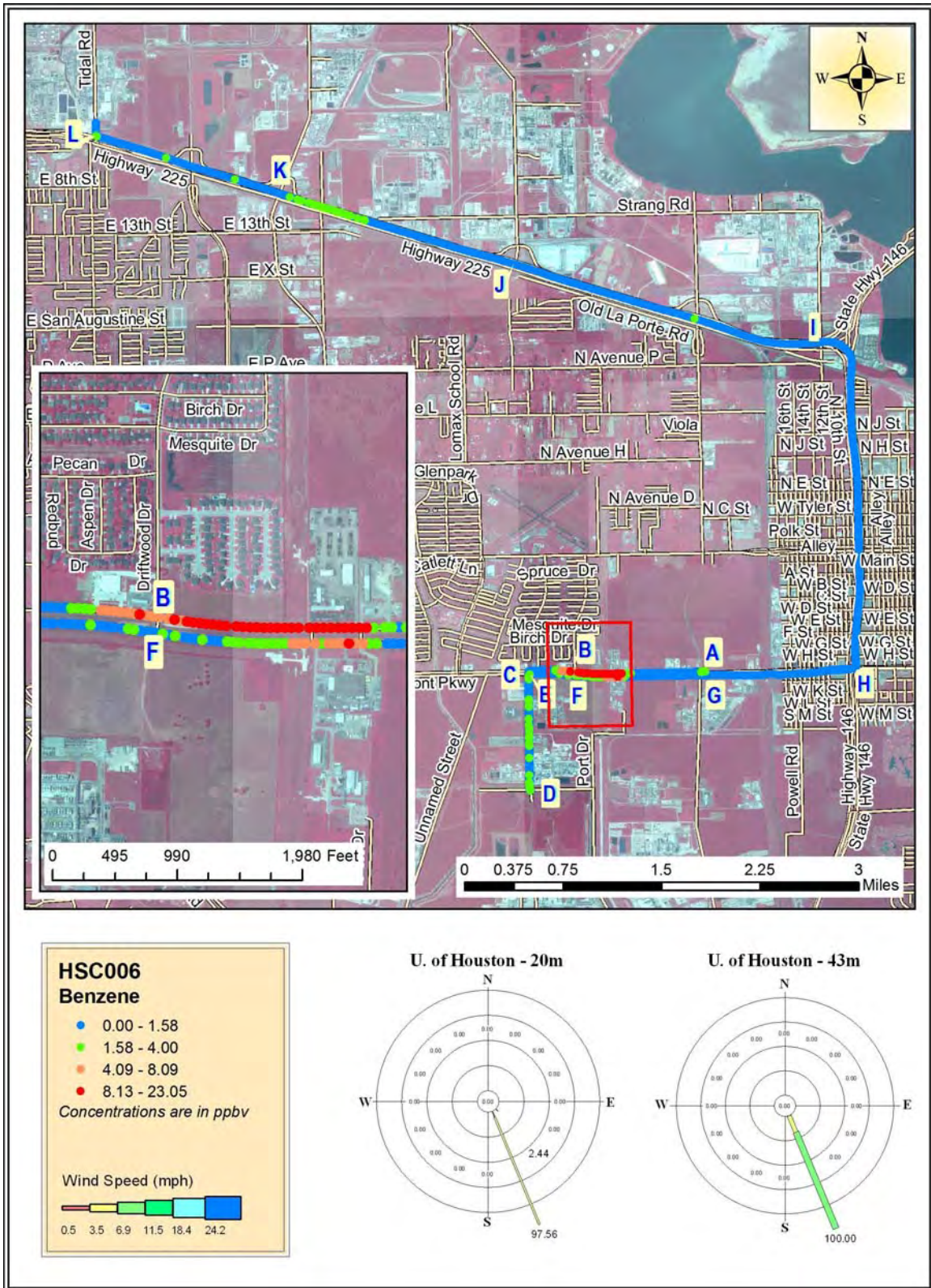


Figure 3a Mobile Monitoring Path for Benzene in Harris County



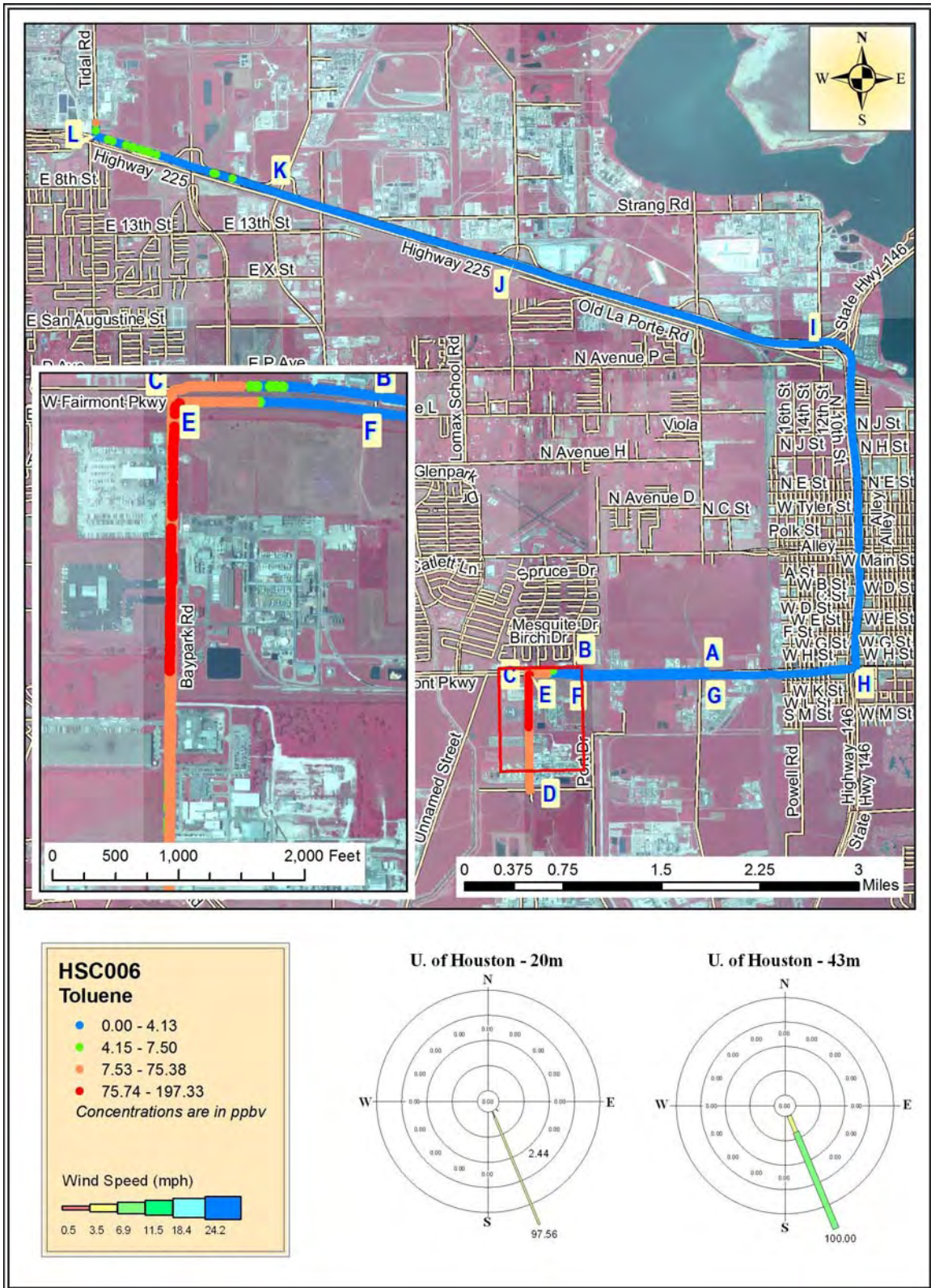


Figure 3b Mobile Monitoring Path for Toluene in Harris County



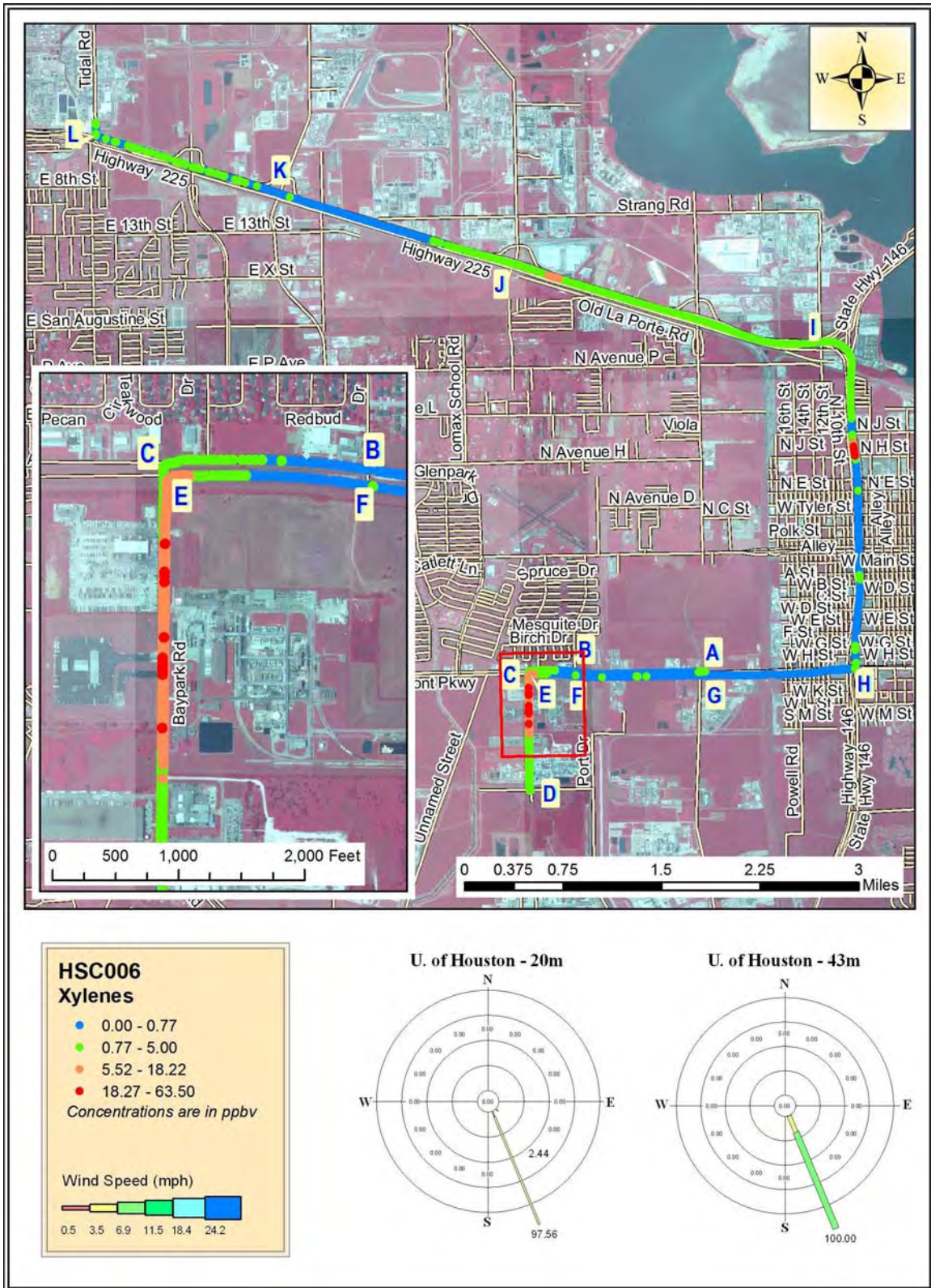
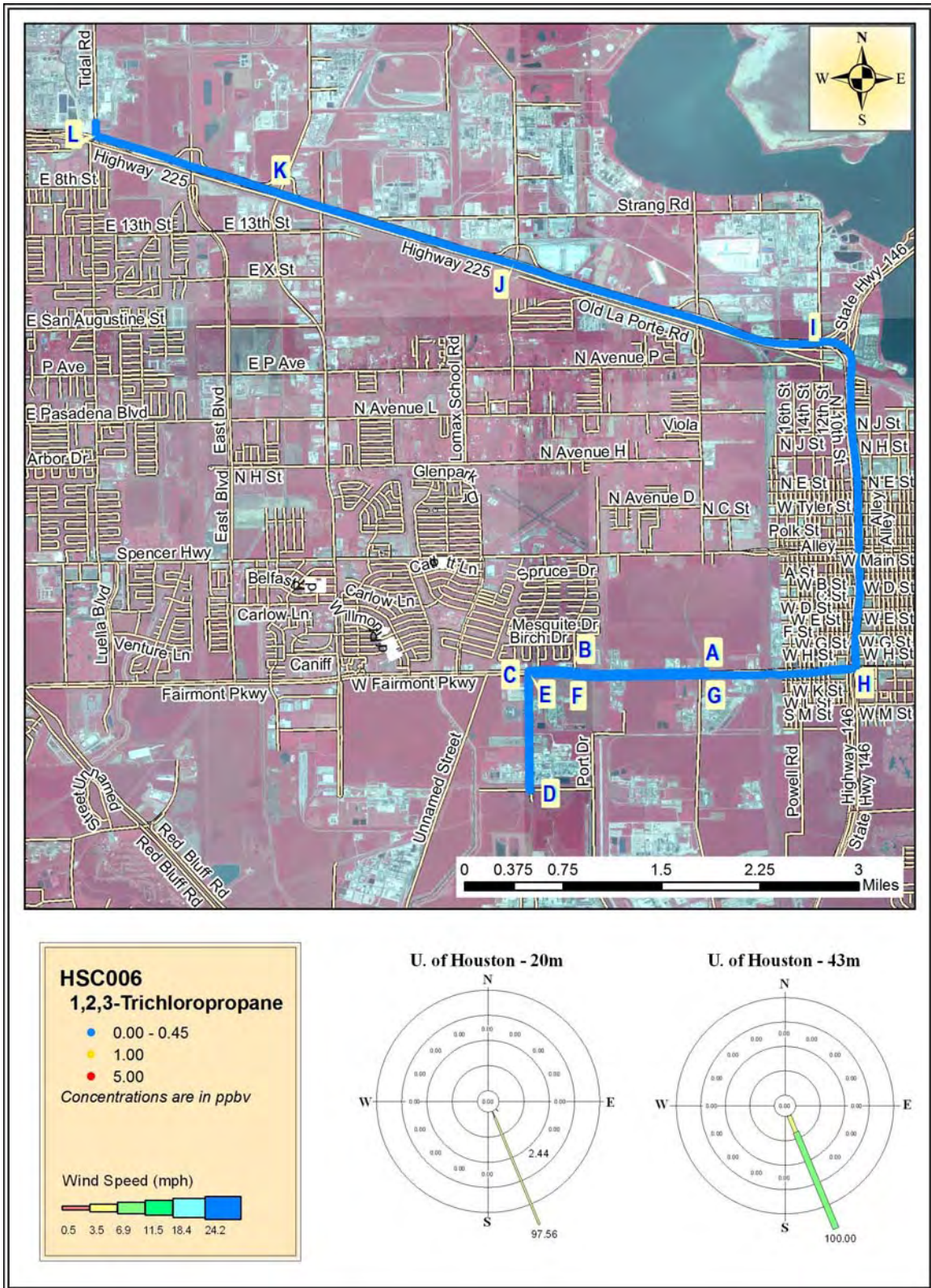


Figure 3c Mobile Monitoring Path for Xylenes in Harris County





**Figure 3d** Mobile Monitoring Path for 1,2,3-Trichloropropane in Harris County



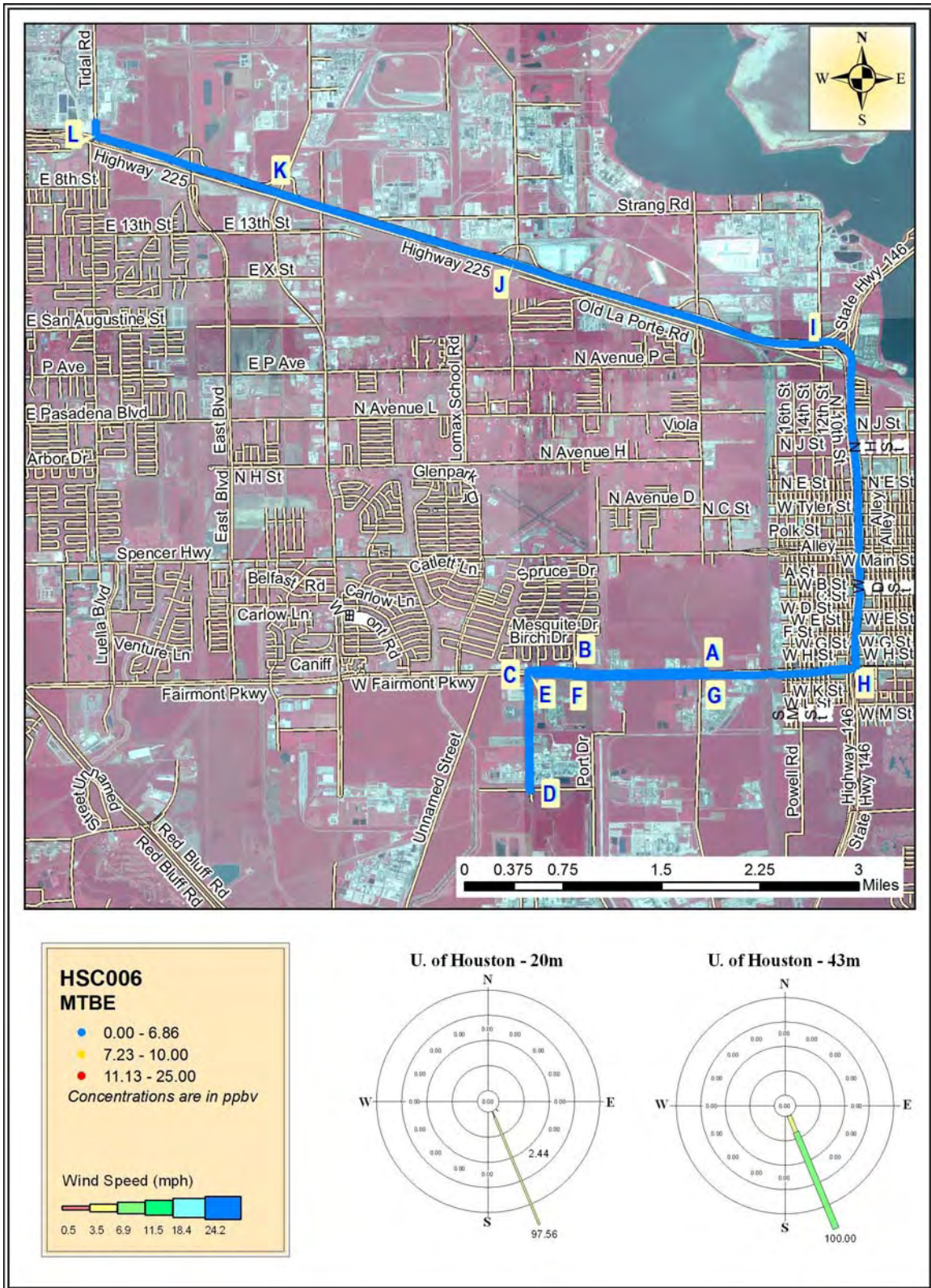


Figure 3e Mobile Monitoring Path for Methyl-t-butyl ether in Harris County



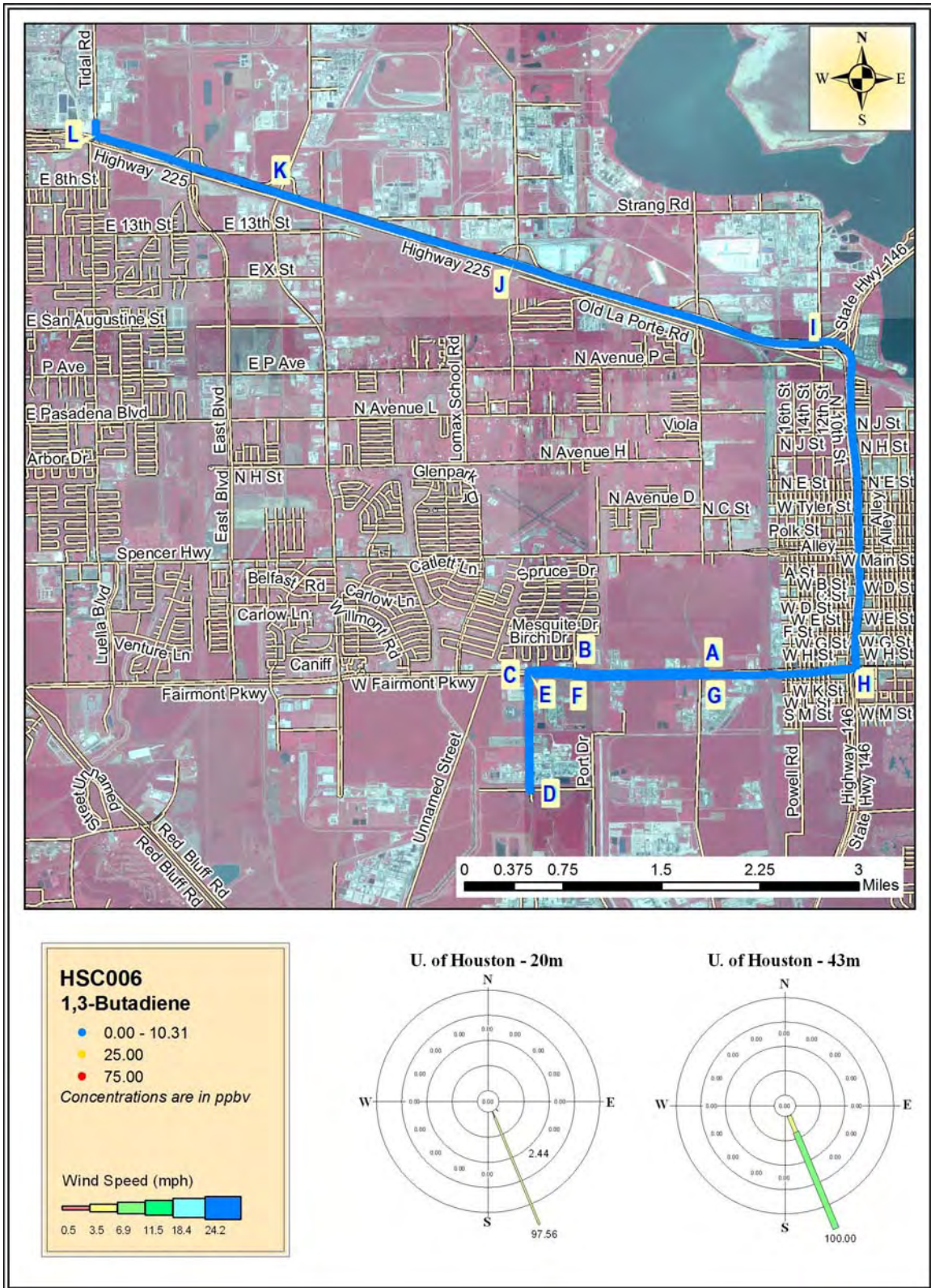


Figure 3f Mobile Monitoring Path for 1,3-Butadiene in Harris County



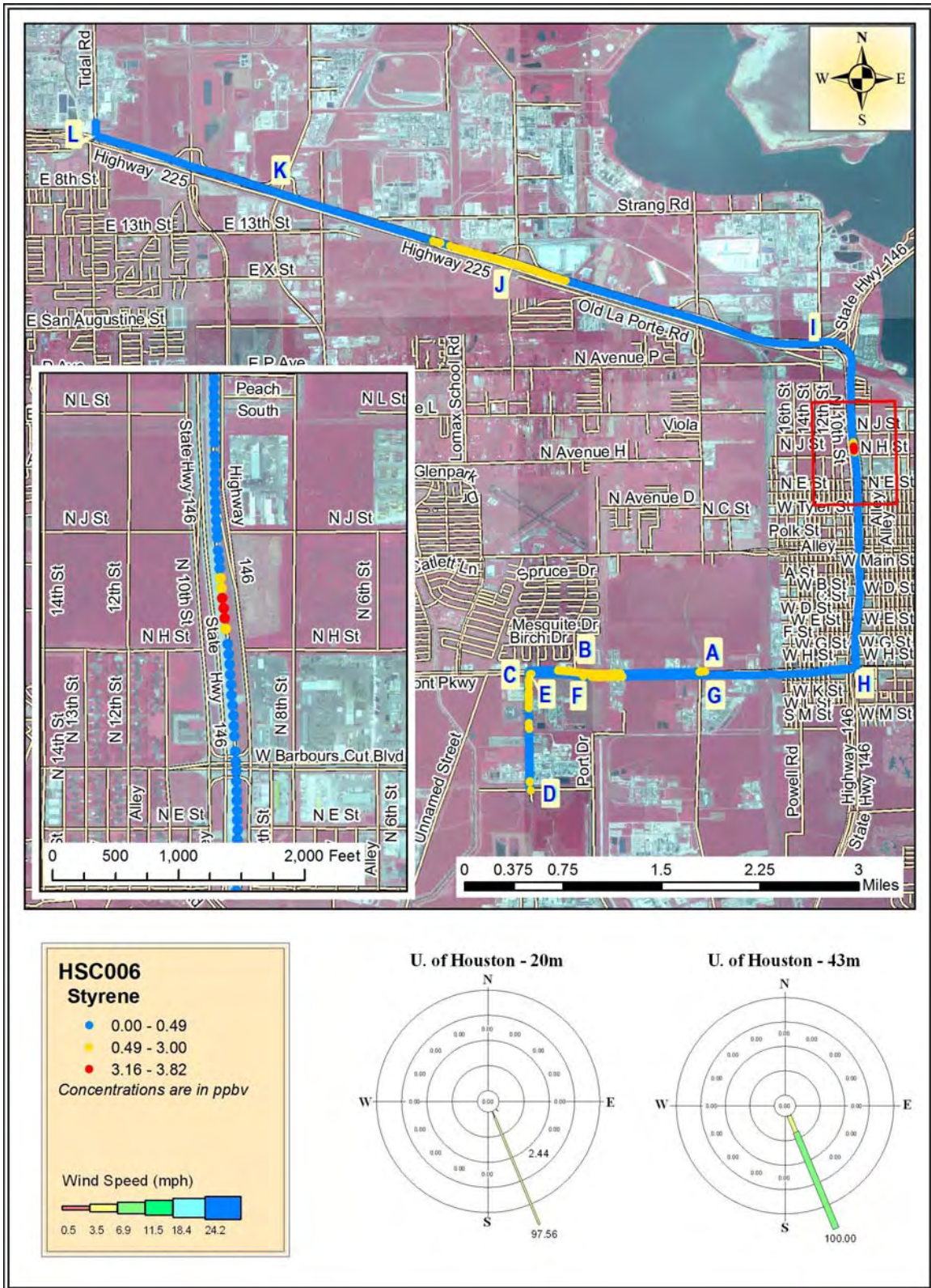


Figure 3g Mobile Monitoring Path for Styrene in Harris County



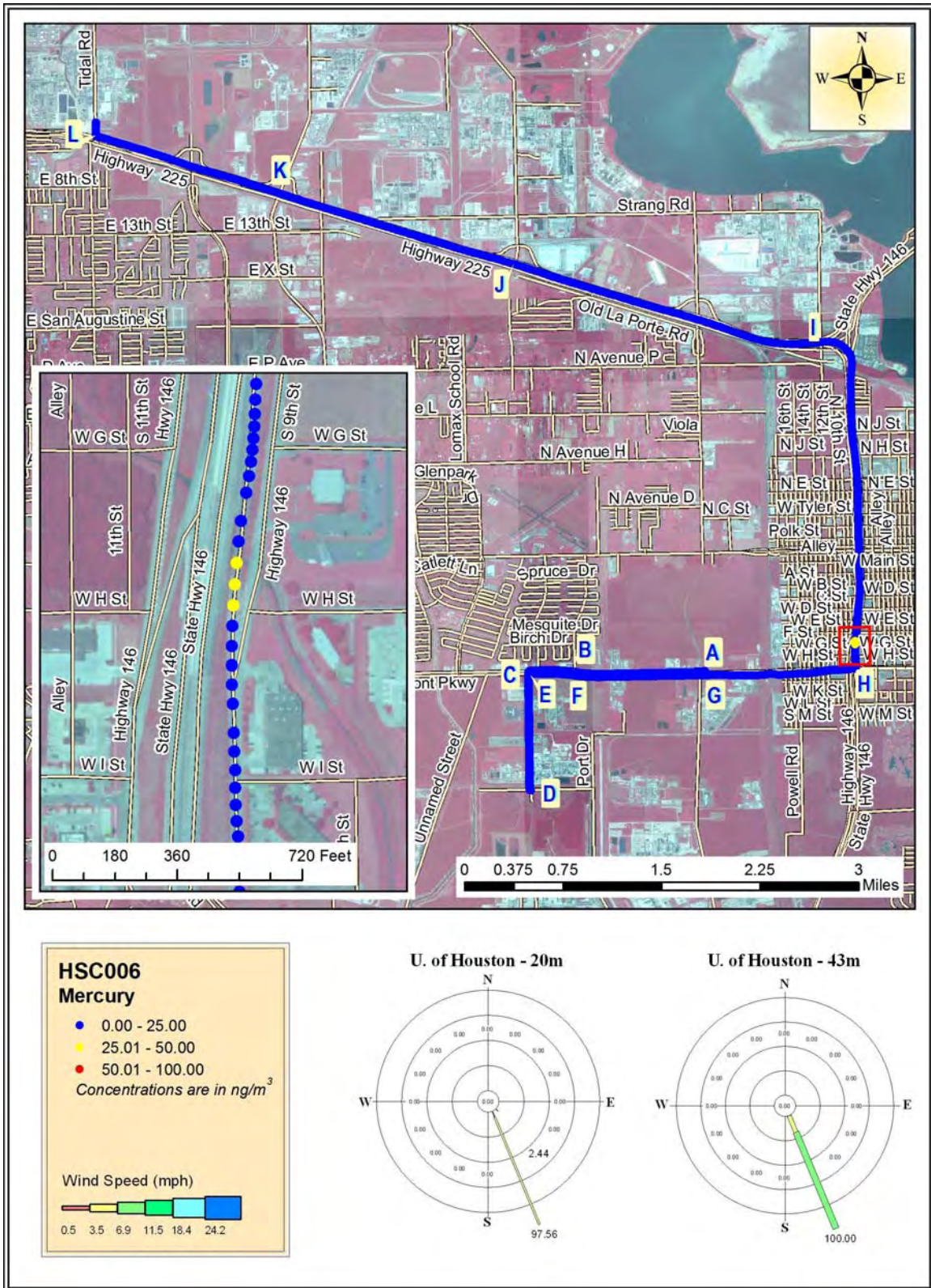
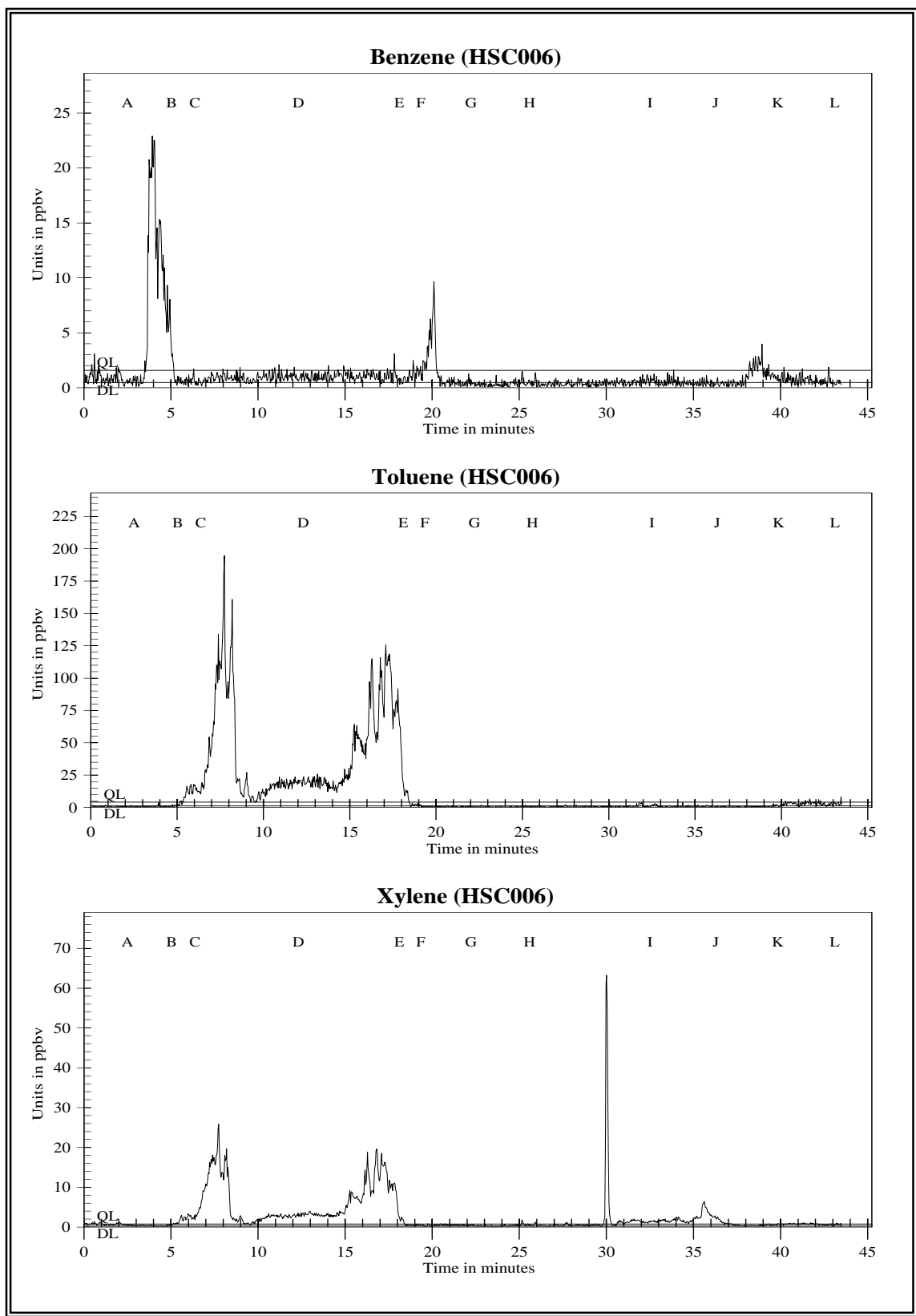


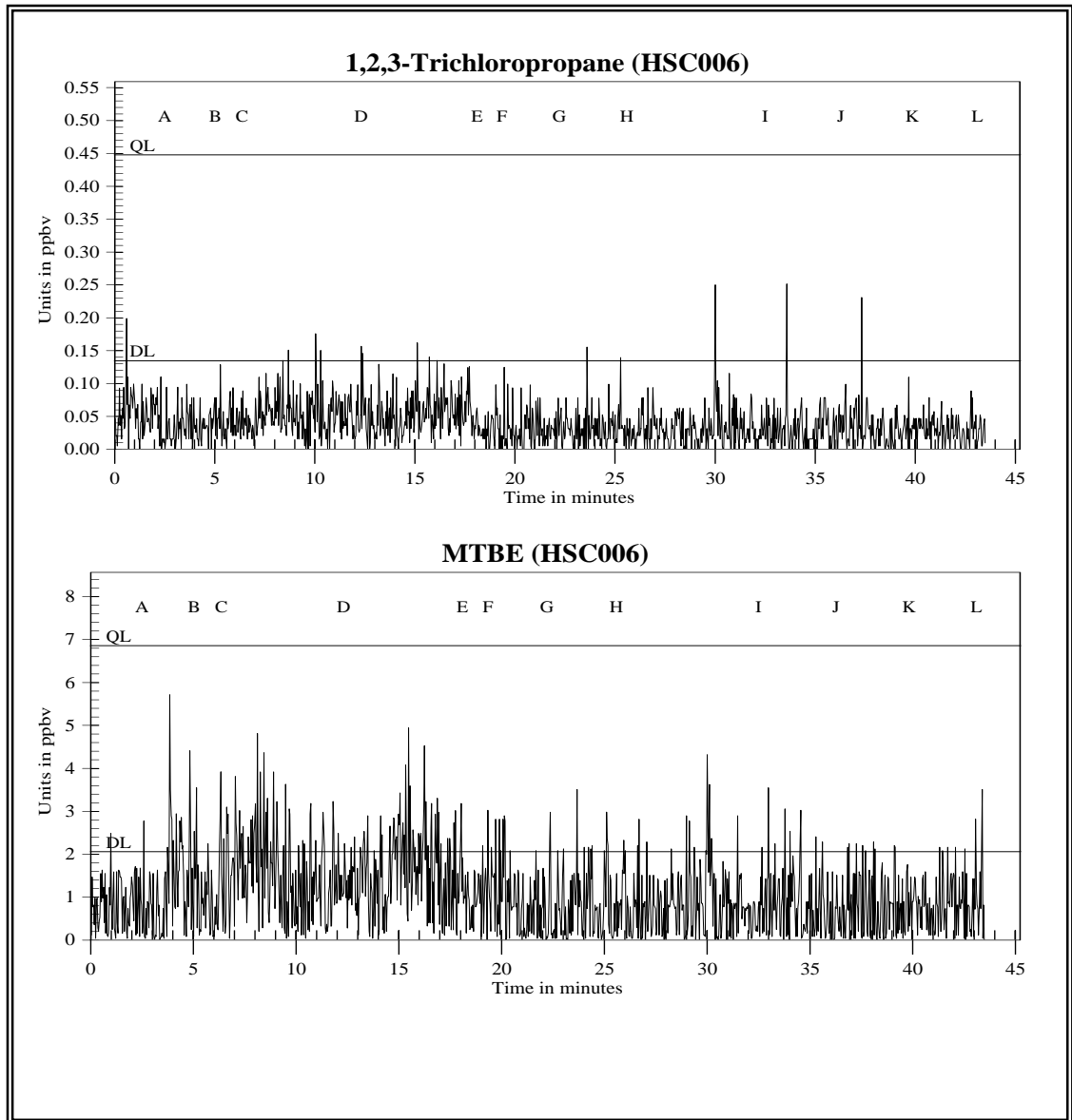
Figure 3h Mobile Monitoring Path for Mercury in Harris County

**Figure 3i**

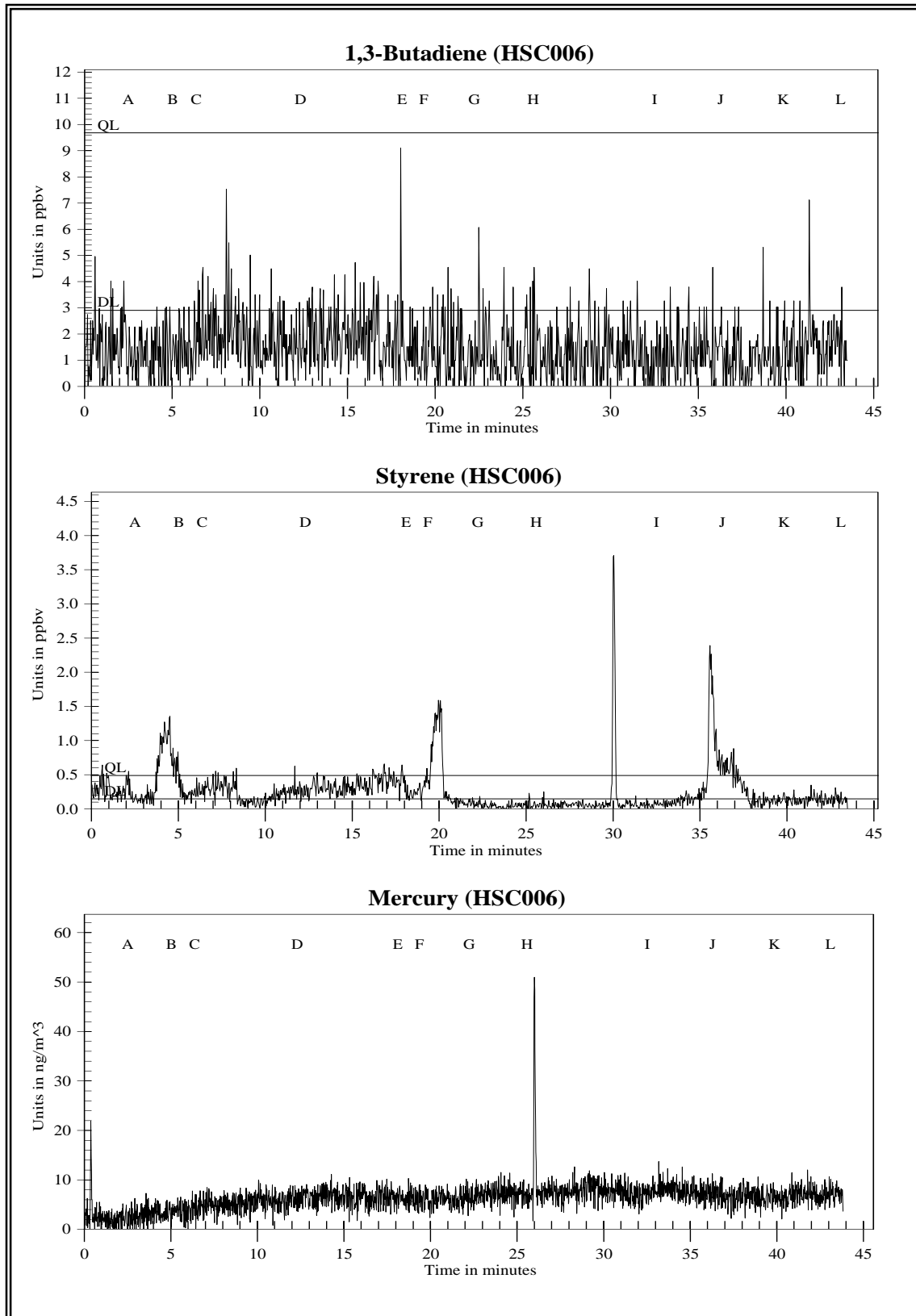
TAGA File Event Summary			
File: HSC006 Acquired on 12 December 2006 at 04:27:27 UTC			
Title: Mobile Monitoring in Harris County			
Flag	Time	Sequence	Description
A	2.2	63	Start monitoring westward on Fairmont Parkway at Bay Area Boulevard
B	4.7	136	Passing Driftwood Drive
C	6.1	174	Turning left onto Bay Park Road
D	12.0	343	Executing U-turn at the railroad tracks
E	17.8	510	Turning right onto Fairmont Parkway
F	19.1	546	Passing Driftwood Drive
G	21.9	626	Passing Bay Area Boulevard
H	25.2	722	Turning left onto State Highway 146 North
I	32.4	925	Turning onto State Highway 225 West
J	36.1	1032	Passing Miller Cut Off Road
K	39.5	1129	Passing Battleground Road
L	42.8	1224	Turning right onto Tidal Road



**Figure 3j** Mobile Monitoring in Harris County for Benzene, Toluene, and Xylenes

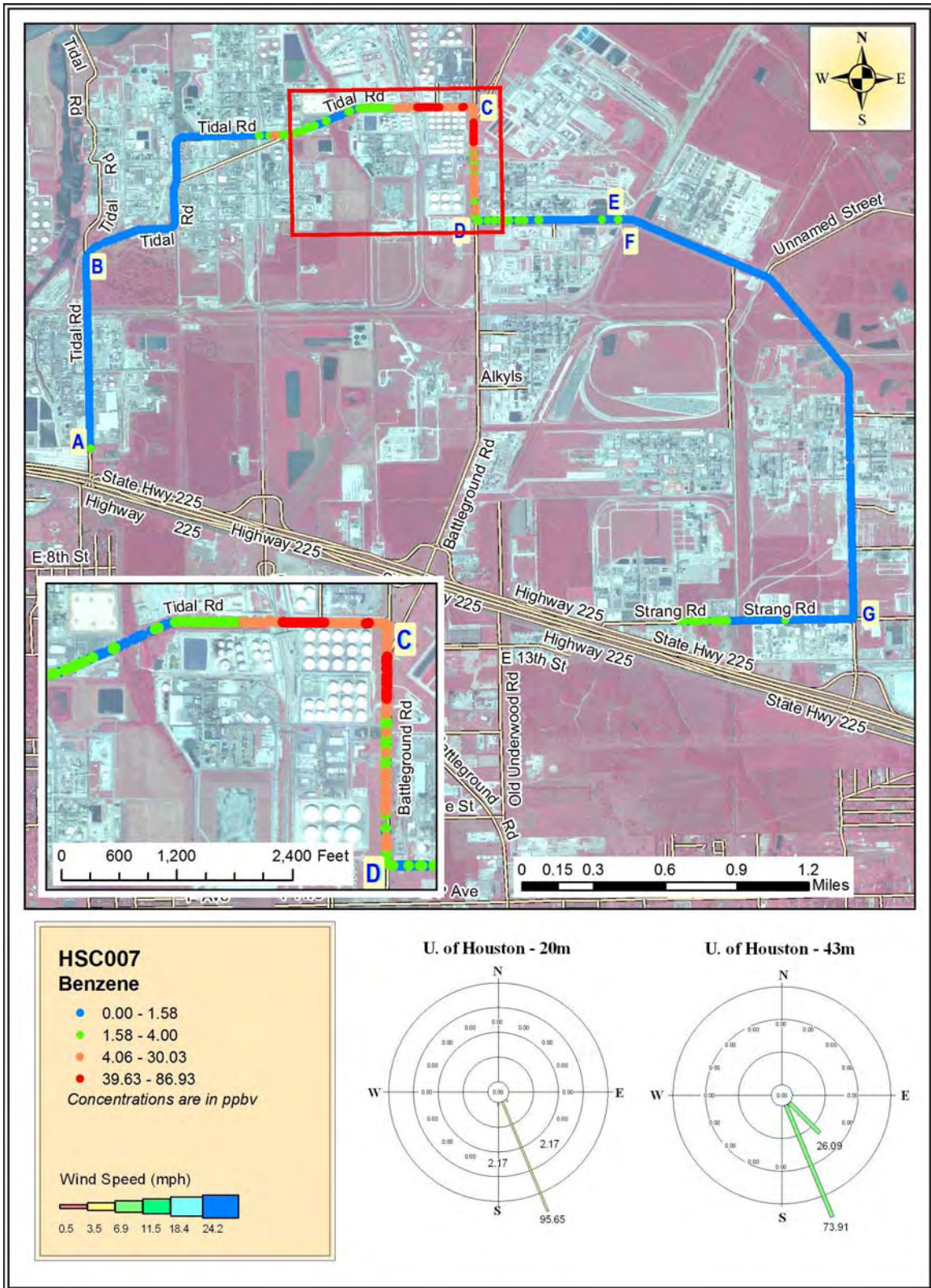


**Figure 3k** Mobile Monitoring in Harris County for 1,2,3-Trichloropropane and Methyl-t-butyl ether

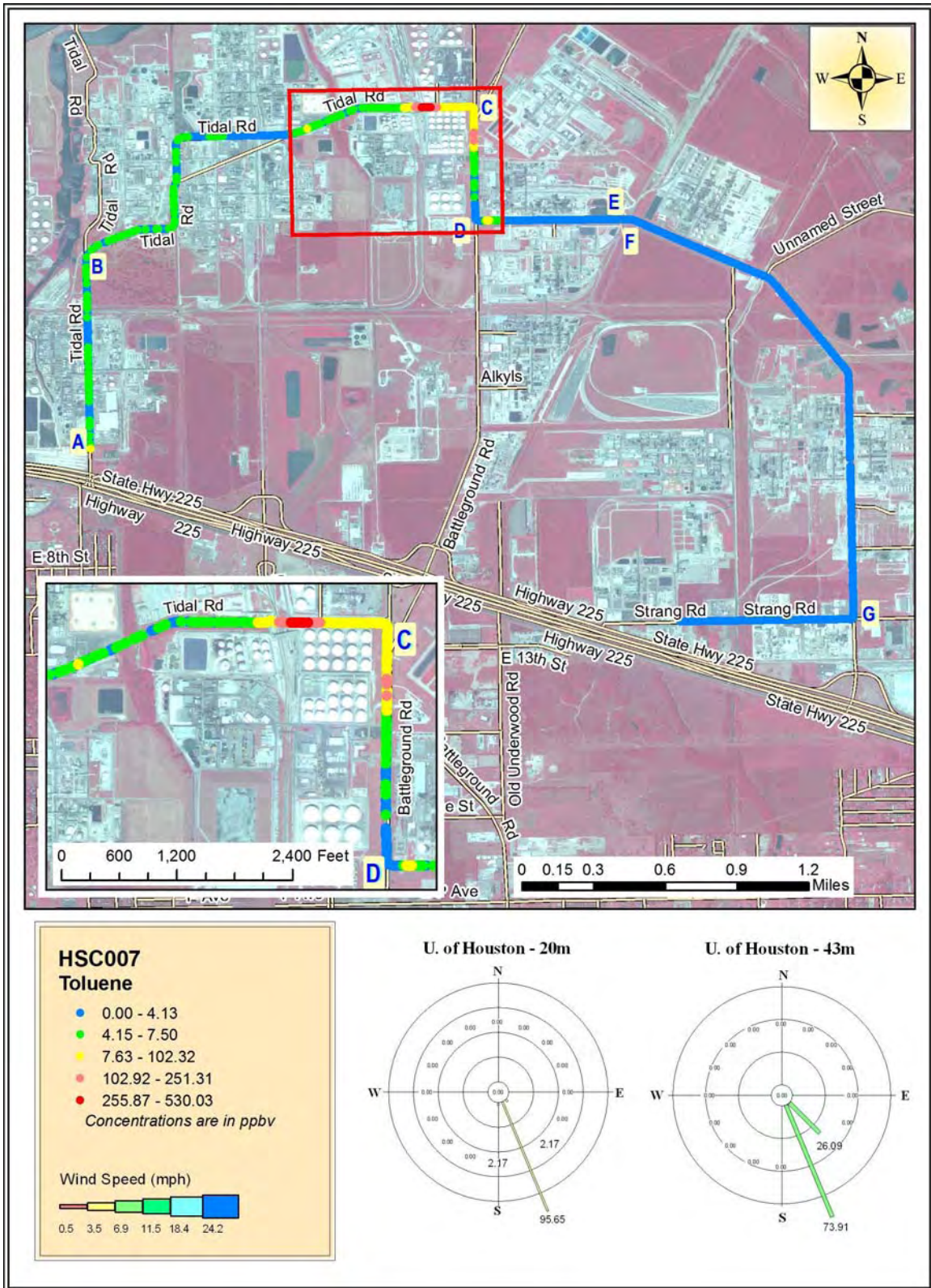


**Figure 31** Mobile Monitoring in Harris County for 1,3-Butadiene, Styrene, and Mercury

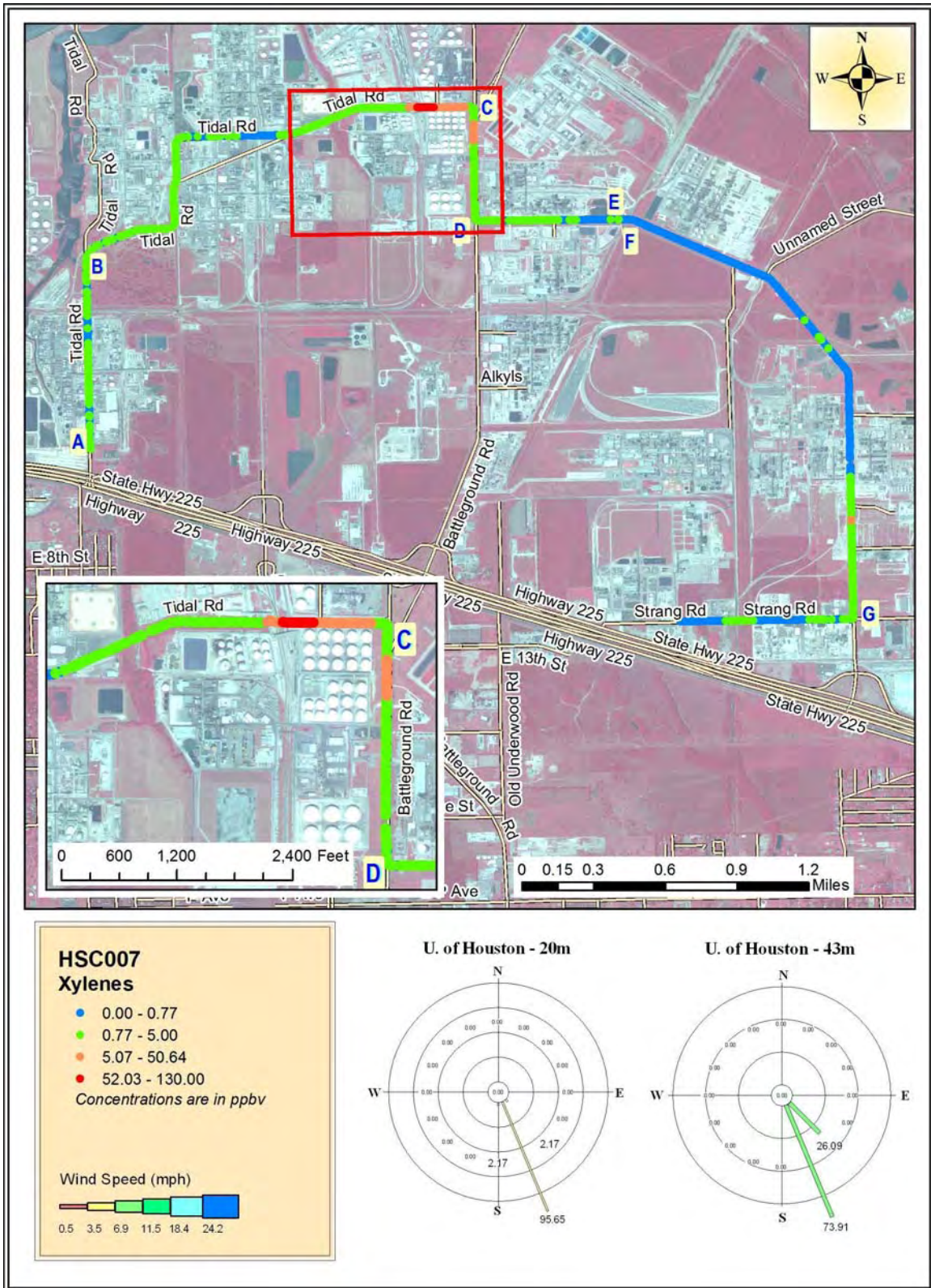








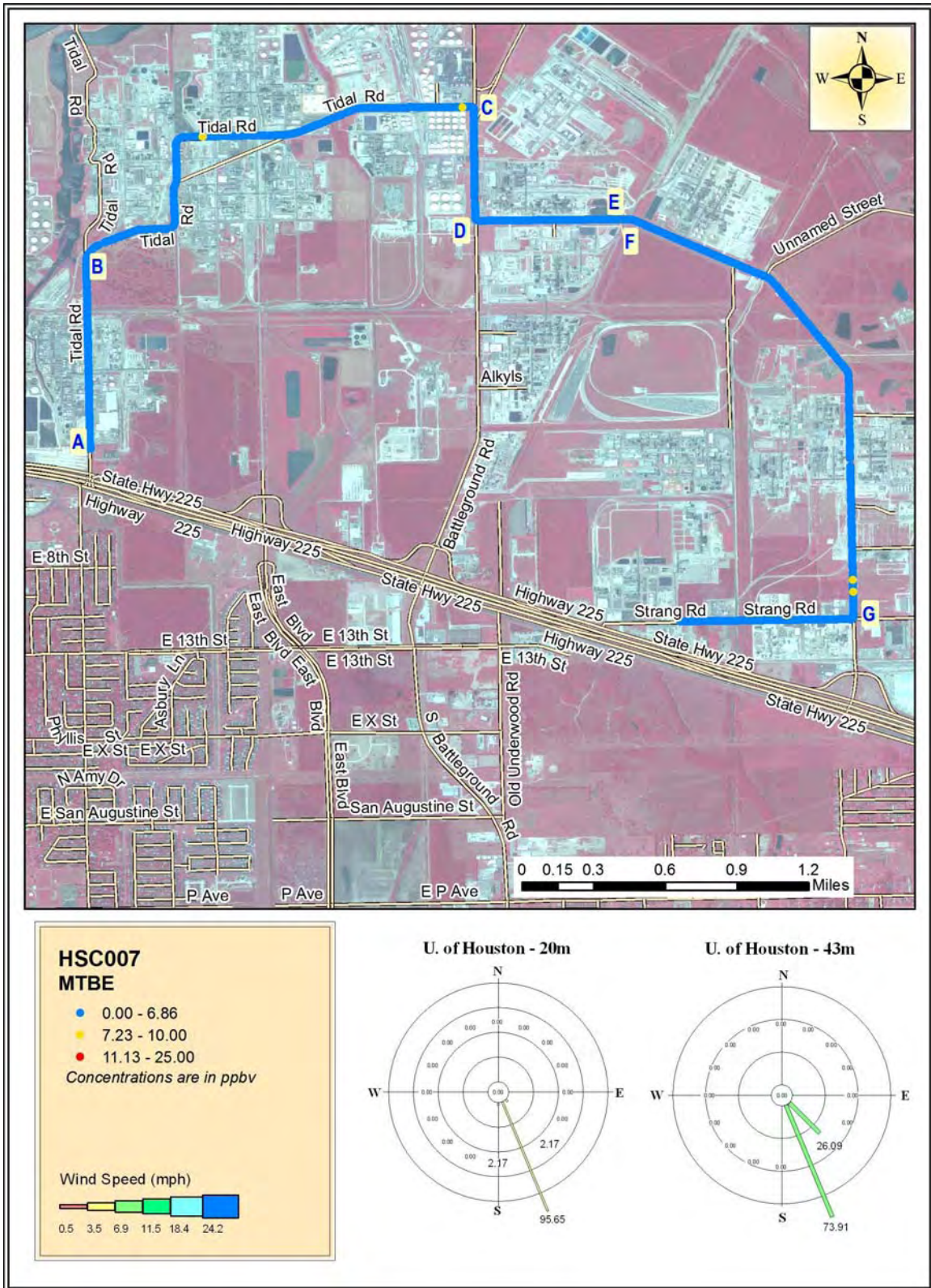






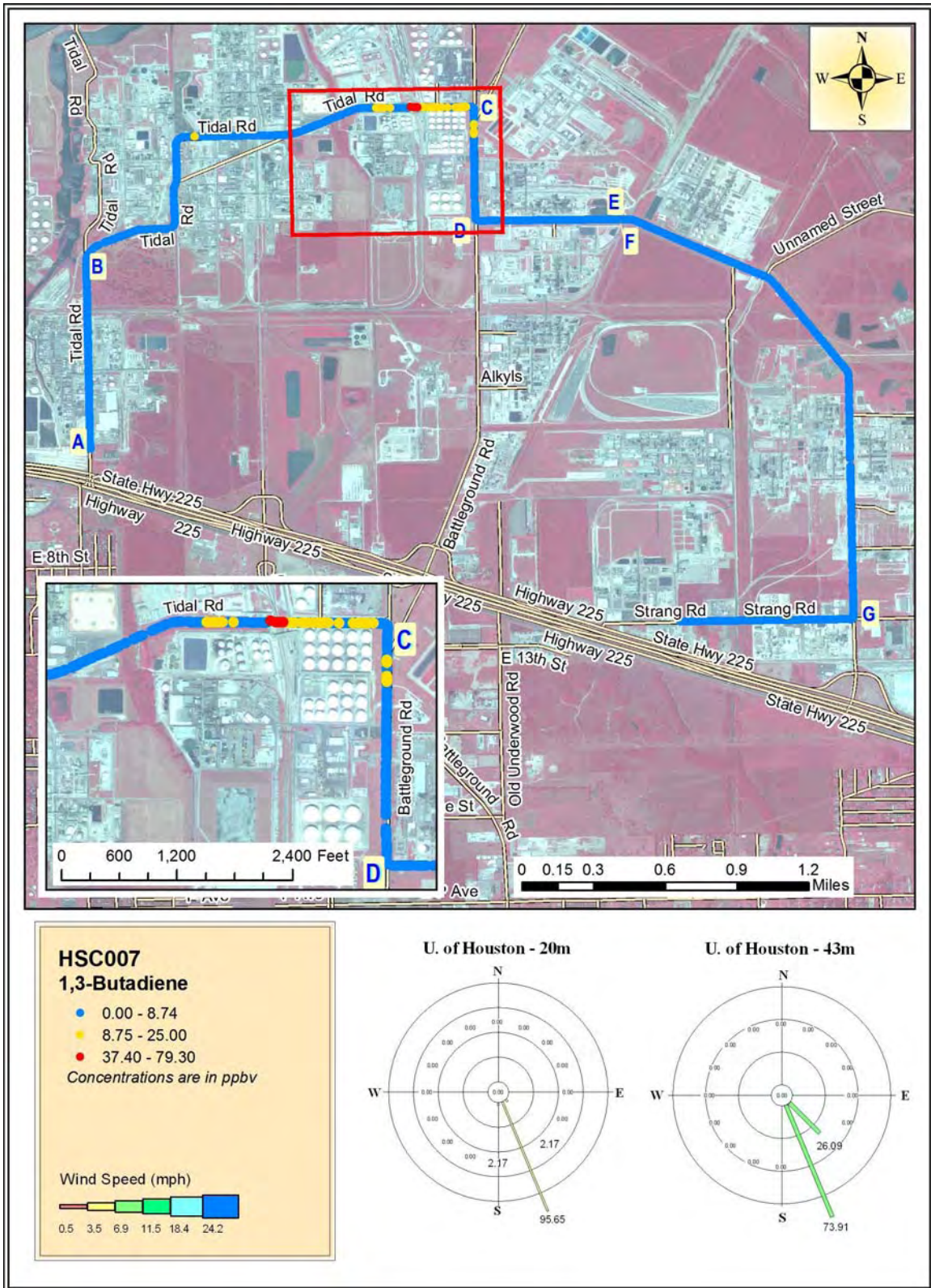






**Figure 4e** Mobile Monitoring Path for Methyl-t-butyl ether in Harris County





**Figure 4f** Mobile Monitoring Path for 1,3-Butadiene in Harris County



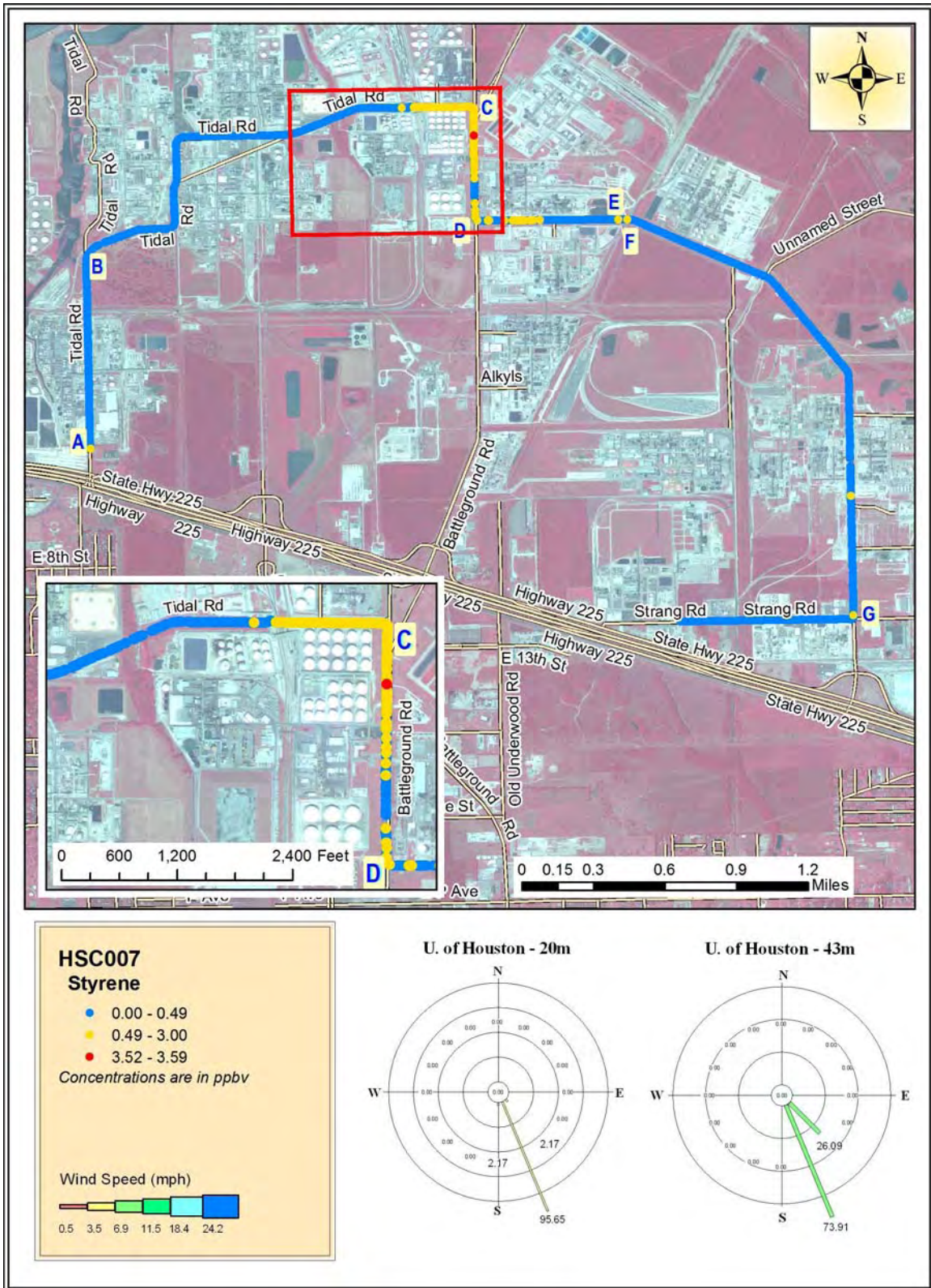
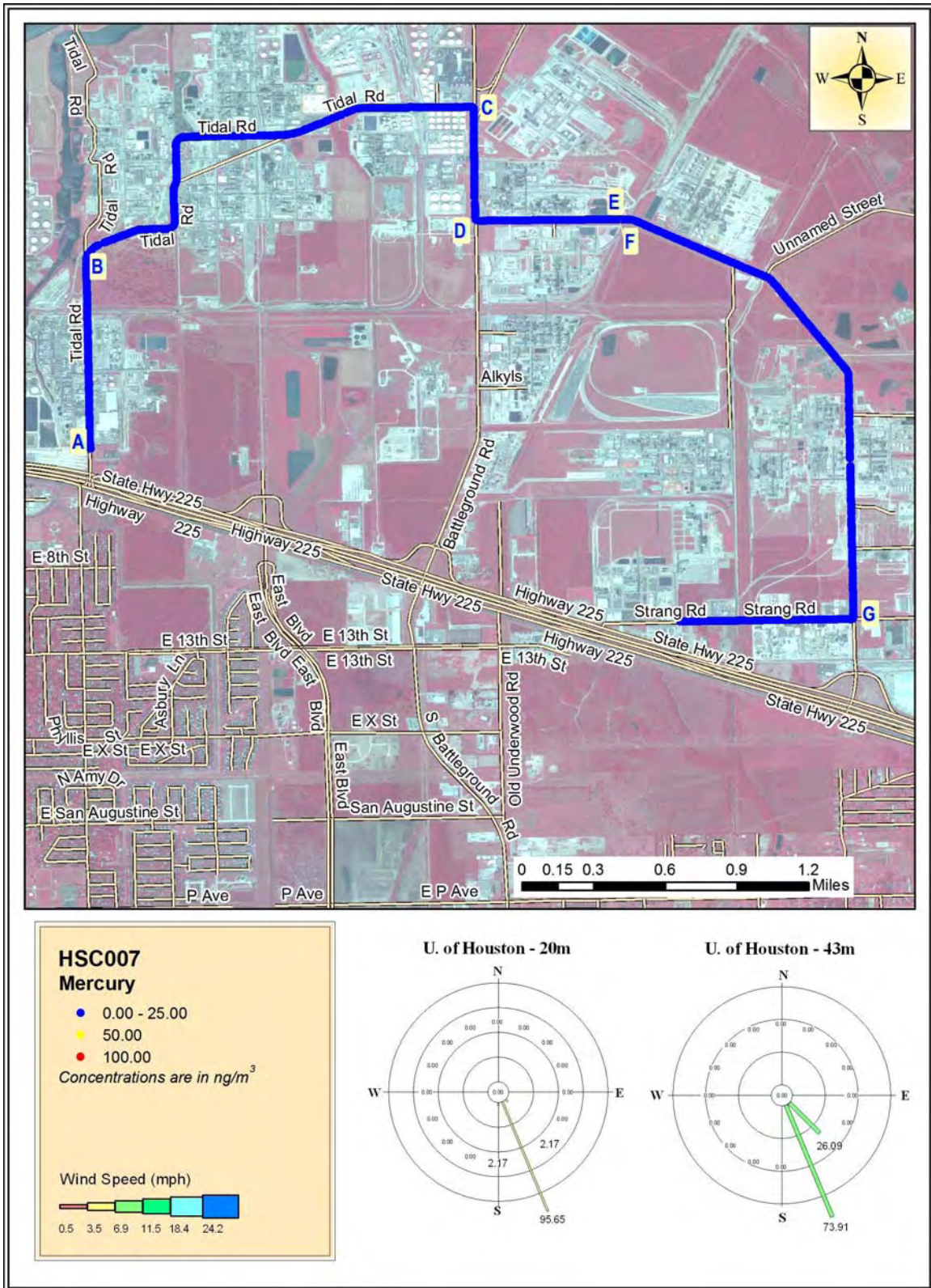


Figure 4g Mobile Monitoring Path for Styrene in Harris County

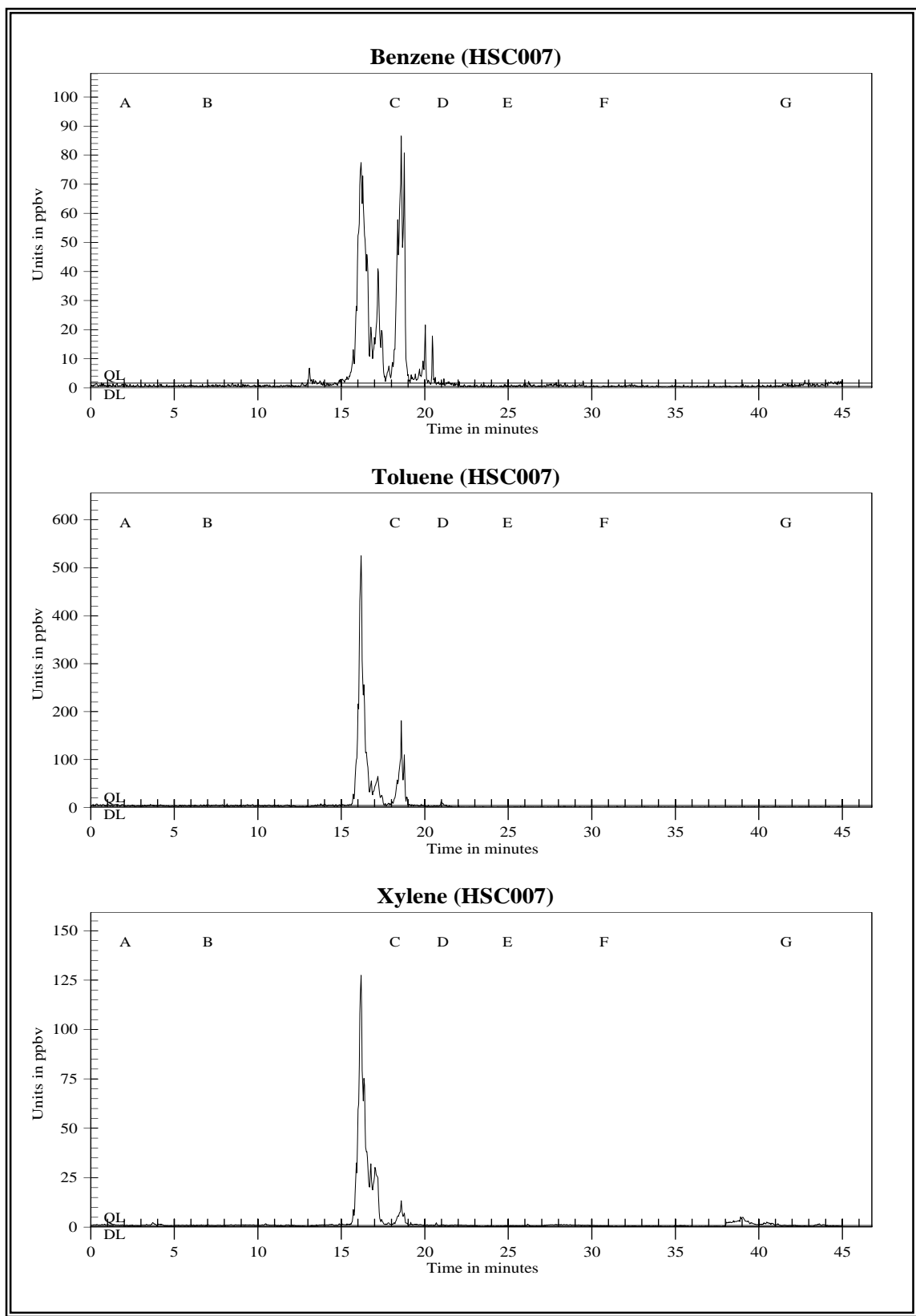




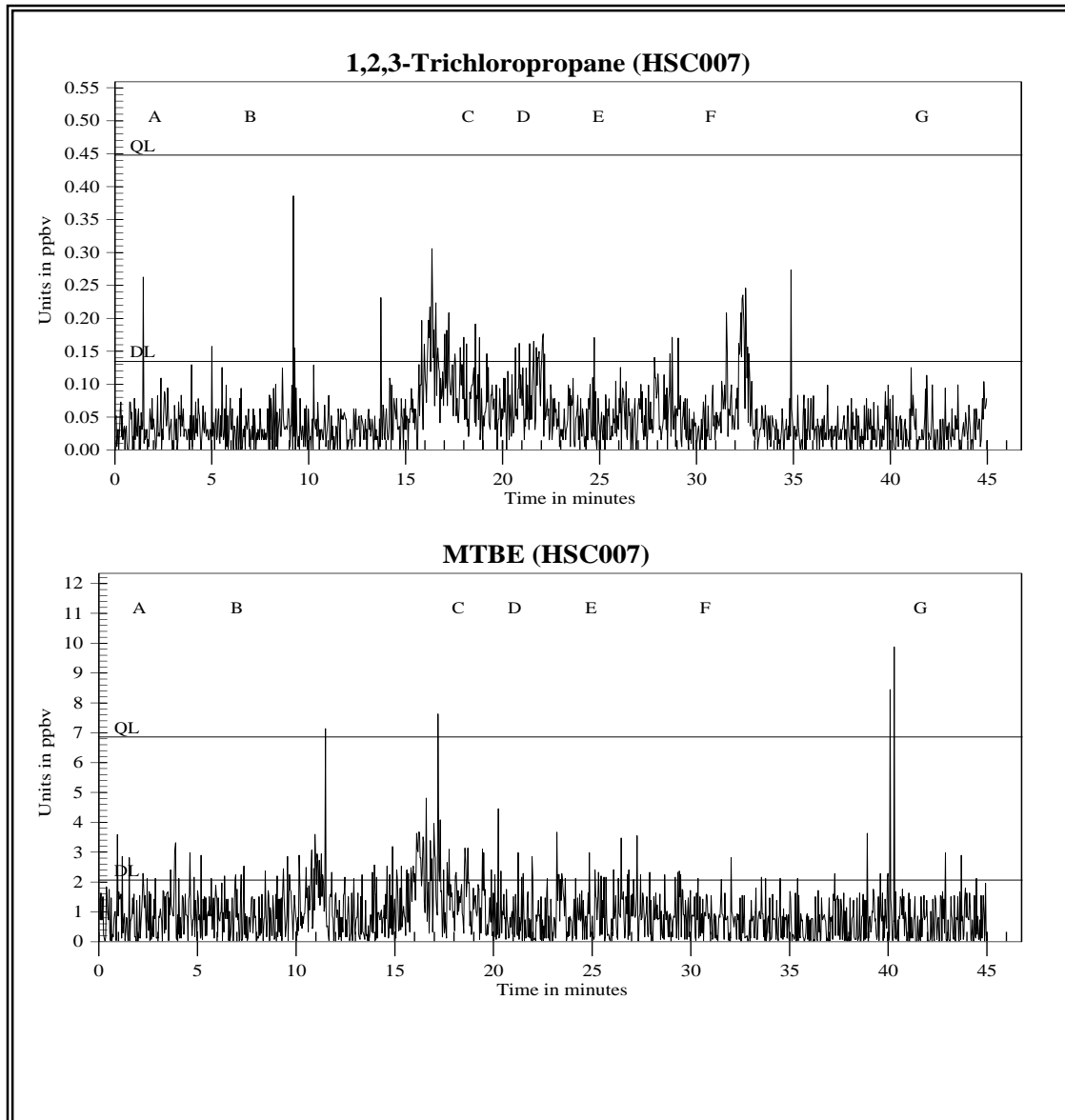
**Figure 4h** Mobile Monitoring Path for Mercury in Harris County

**Figure 4i**

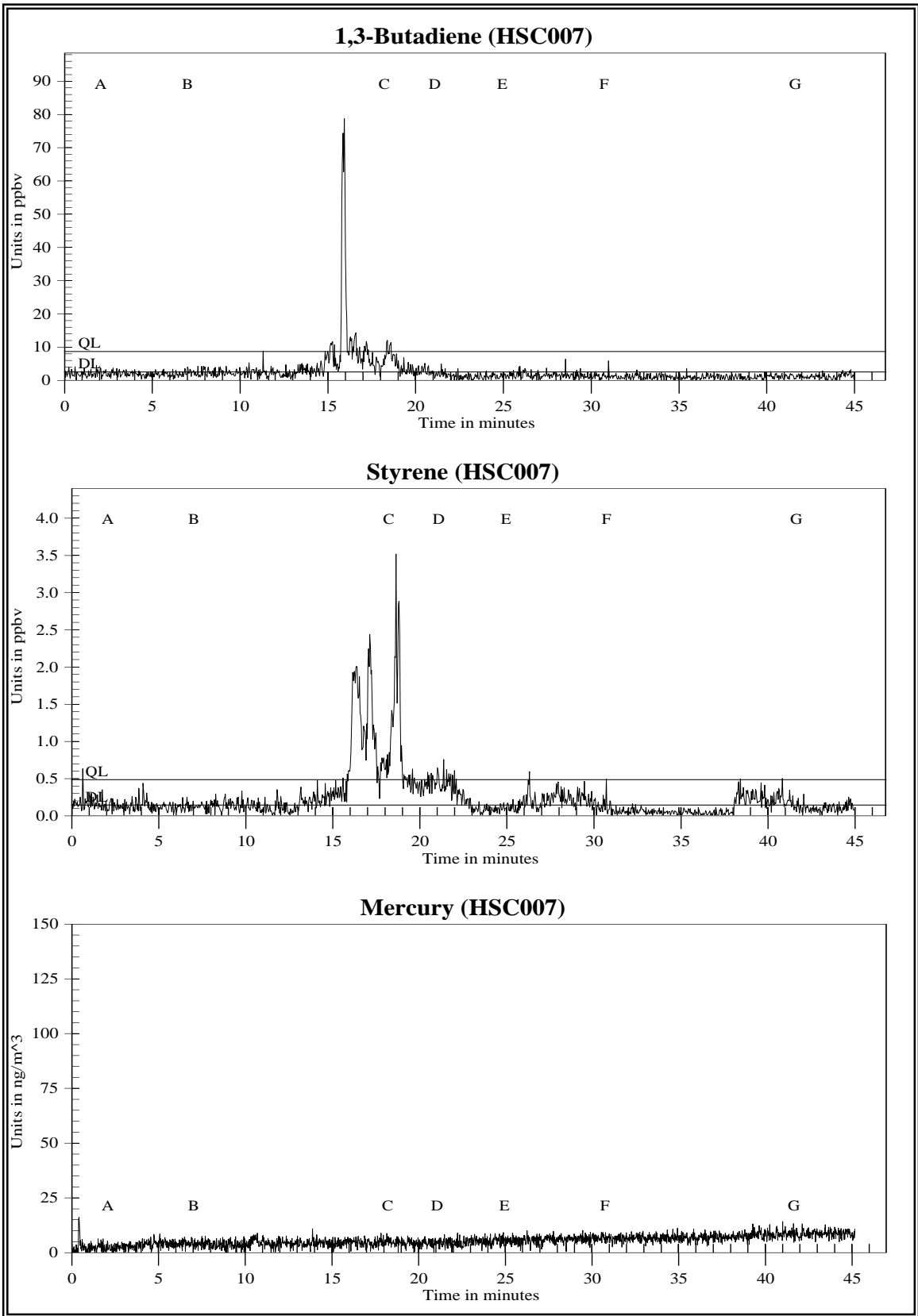
TAGA File Event Summary			
File: HSC007 Acquired on 12 December 2006 at 05:15:22 UTC			
Title: Mobile Monitoring in Harris County			
Flag	Time	Sequence	Description
A	1.7	50	Start monitoring northward on Tidal Road
B	6.7	192	Turning right on Tidal Road
C	17.9	512	Turning right onto Battleground Road
D	20.7	593	Turning left onto Miller Cut Off Road
E	24.7	705	Stopping at a railroad crossing
F	30.5	871	Resuming mobile monitoring
G	41.3	1180	Turning right onto Strang Road



**Figure 4j** Mobile Monitoring in Harris County for Benzene, Toluene, and Xylenes



**Figure 4k** Mobile Monitoring in Harris County for 1,2,3-Trichloropropane and Methyl-t-butyl ether



**Figure 4I** Mobile Monitoring in Harris County for 1,3-Butadiene, Styrene, and Mercury



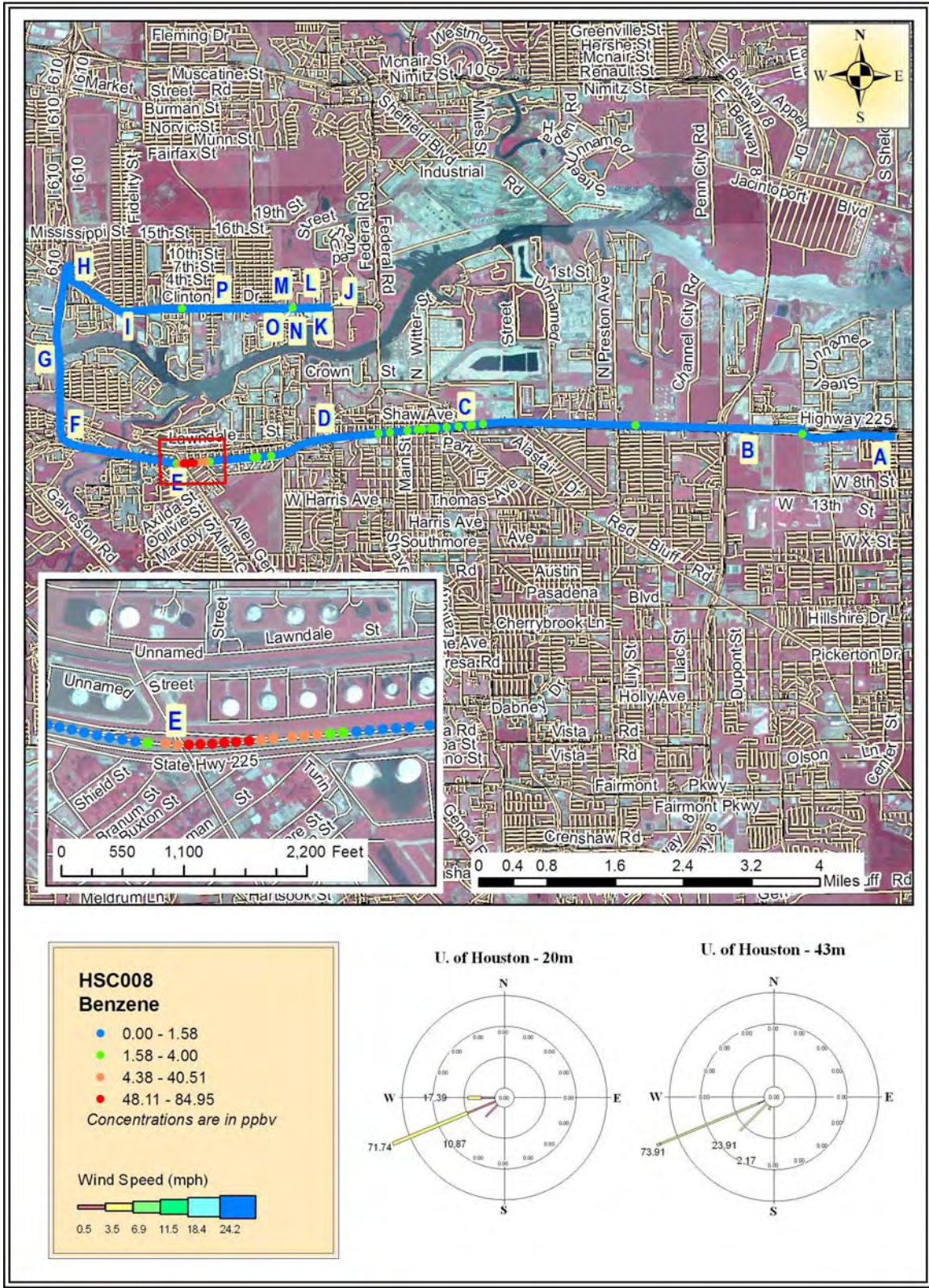


Figure 5a Mobile Monitoring Path for Benzene in Harris County



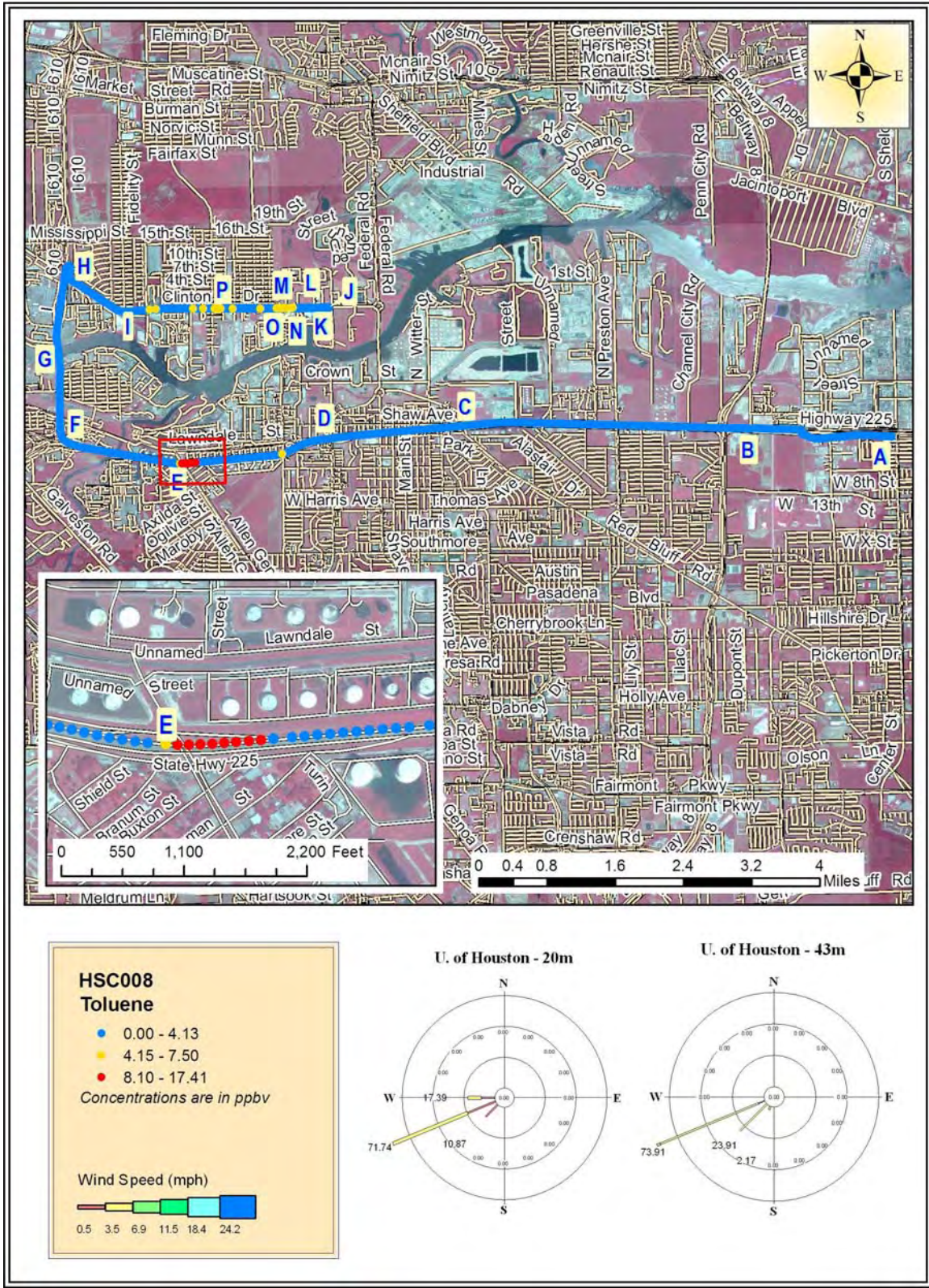


Figure 5b Mobile Monitoring Path for Toluene in Harris County



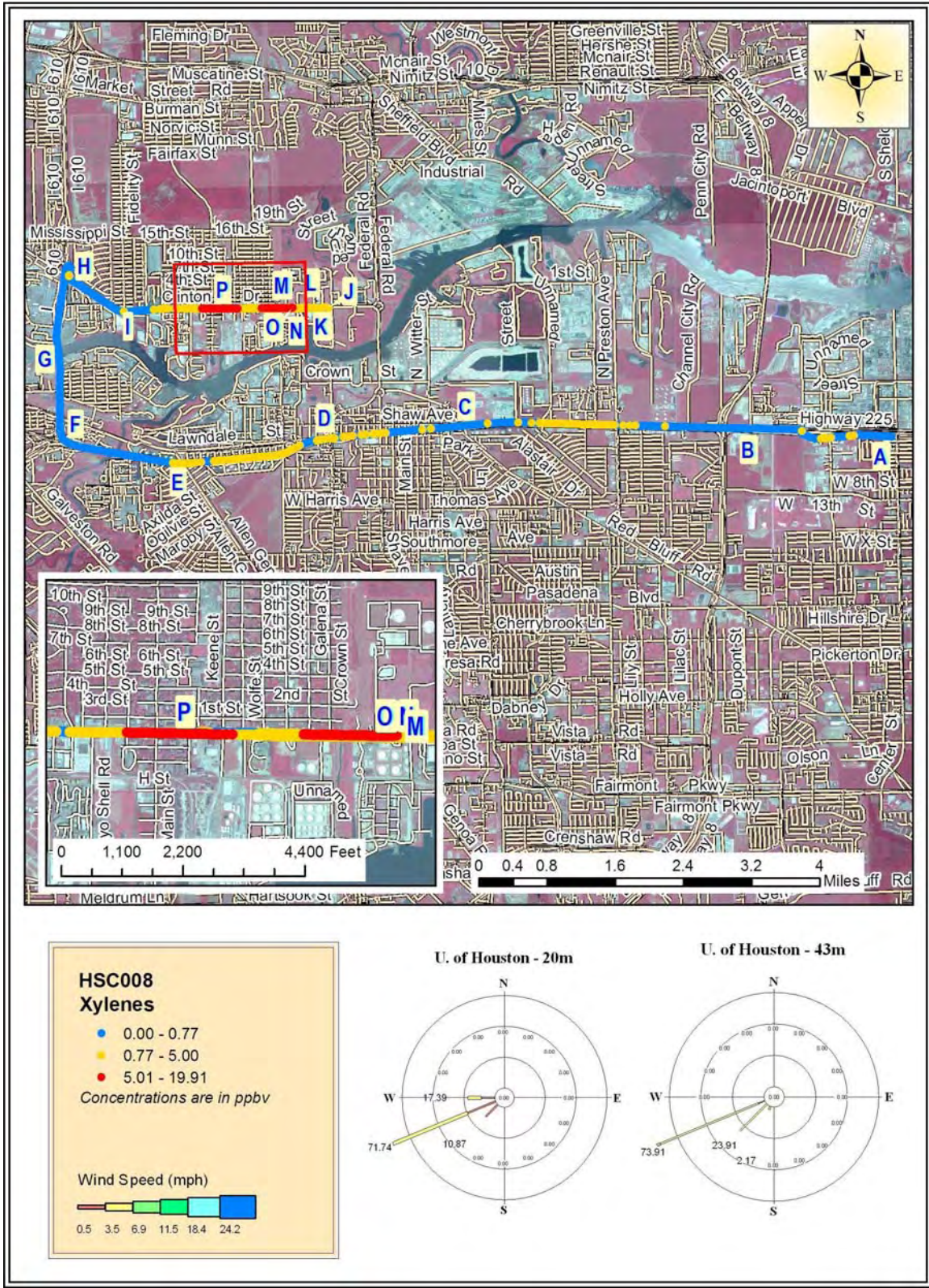


Figure 5c Mobile Monitoring Path for Xylenes in Harris County







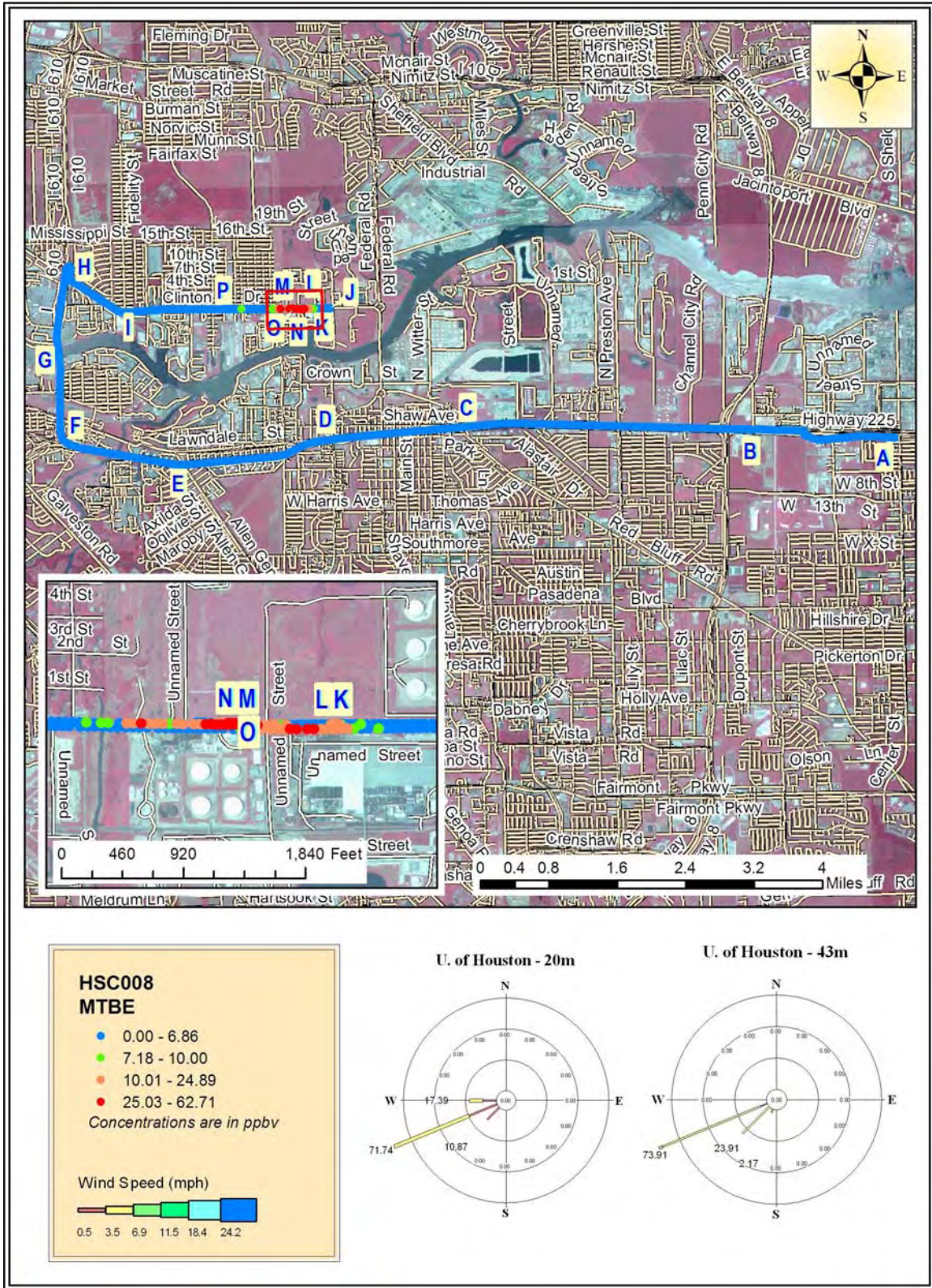


Figure 5e Mobile Monitoring Path for Methyl-t-butyl ether in Harris County



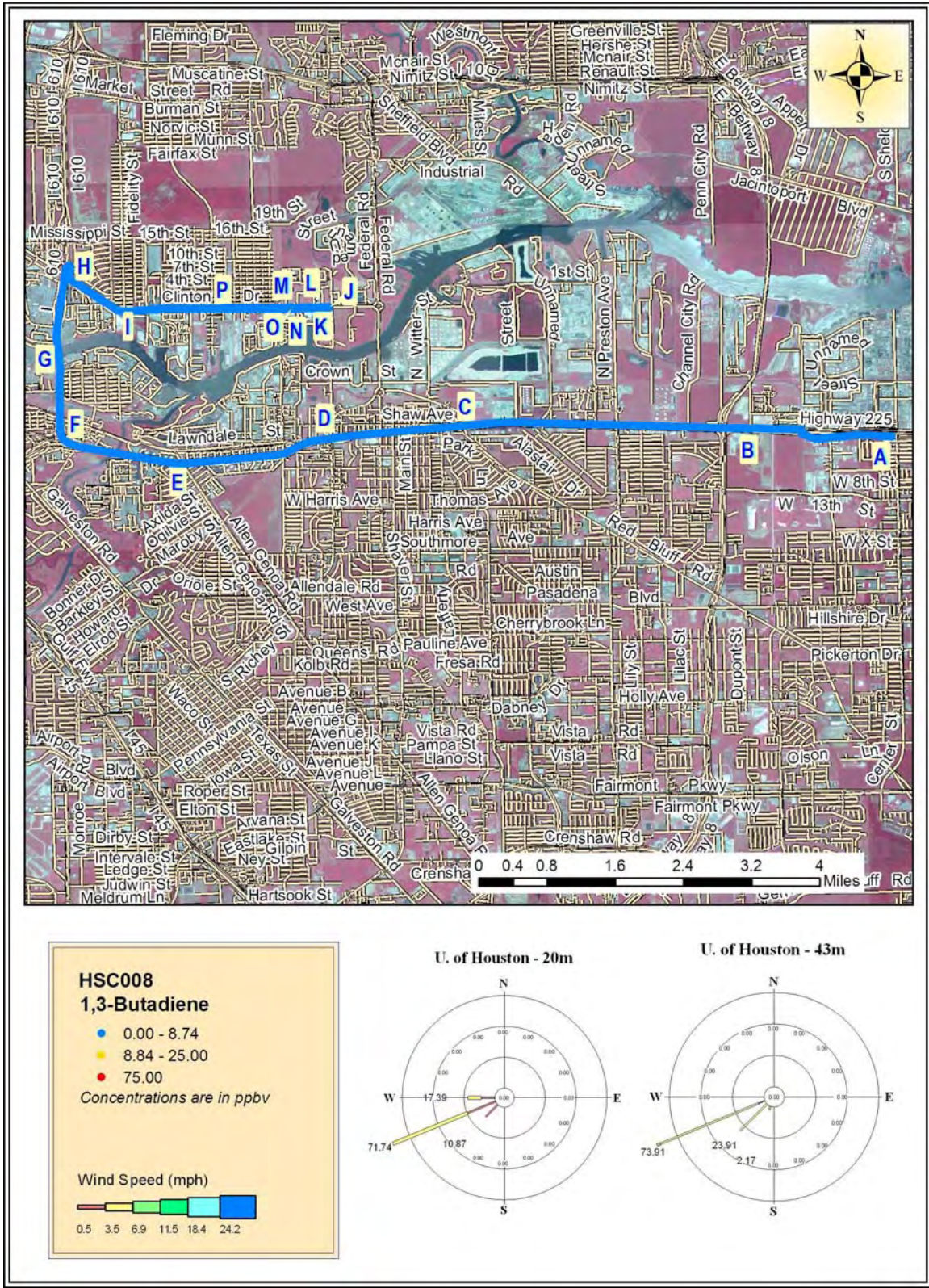


Figure 5f Mobile Monitoring Path for 1,3-Butadiene in Harris County



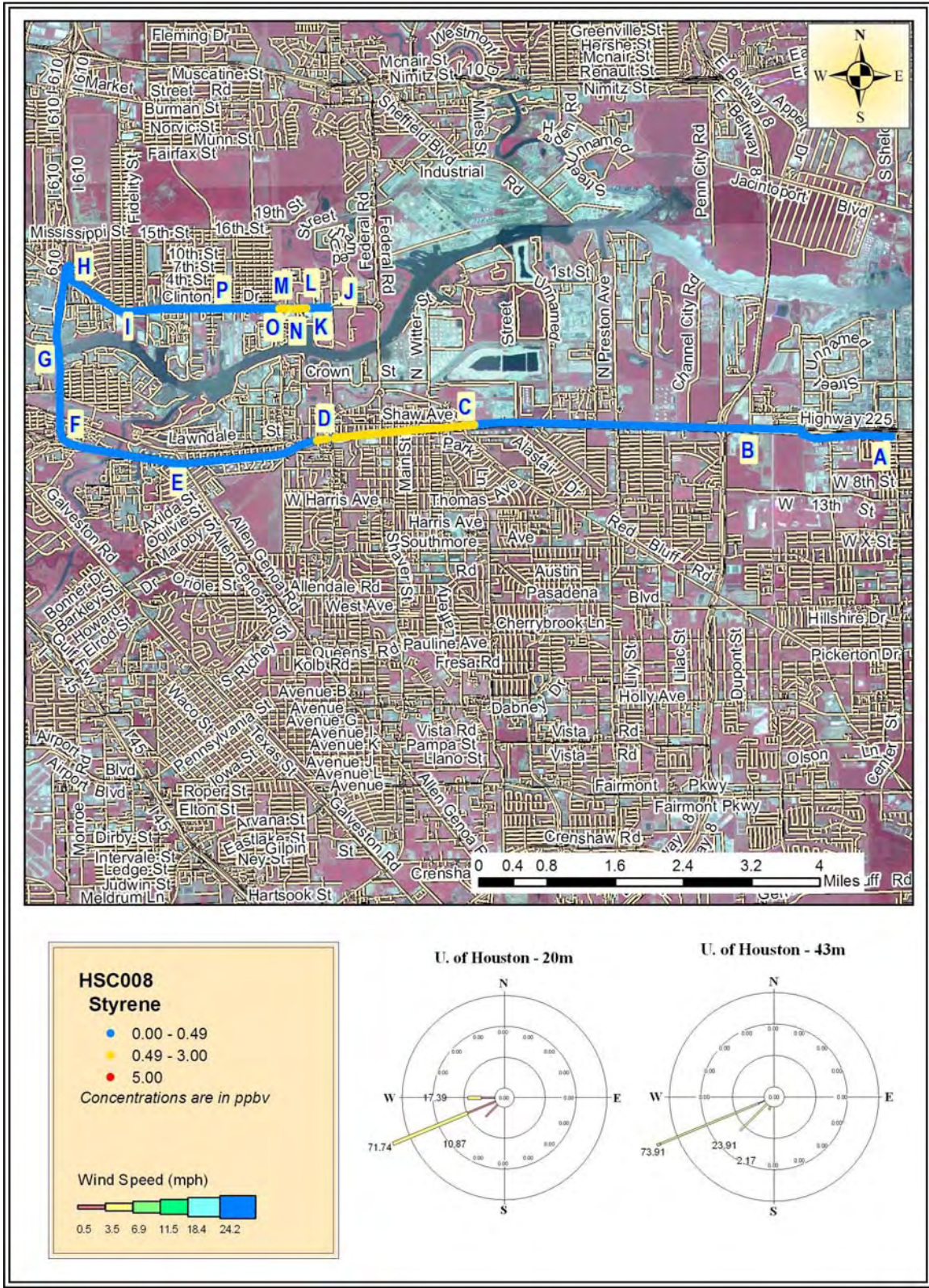


Figure 5g Mobile Monitoring Path for Styrene in Harris County



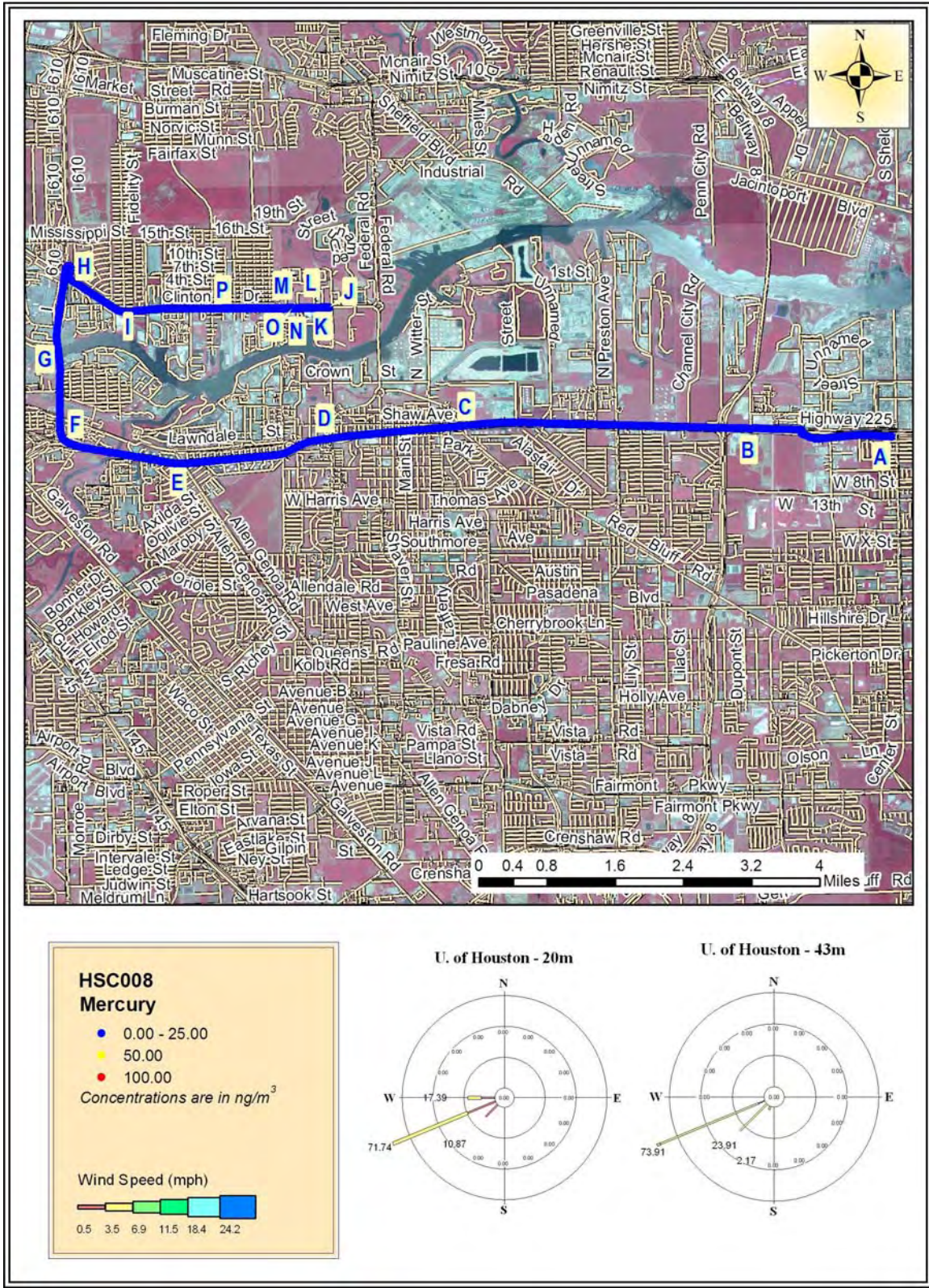
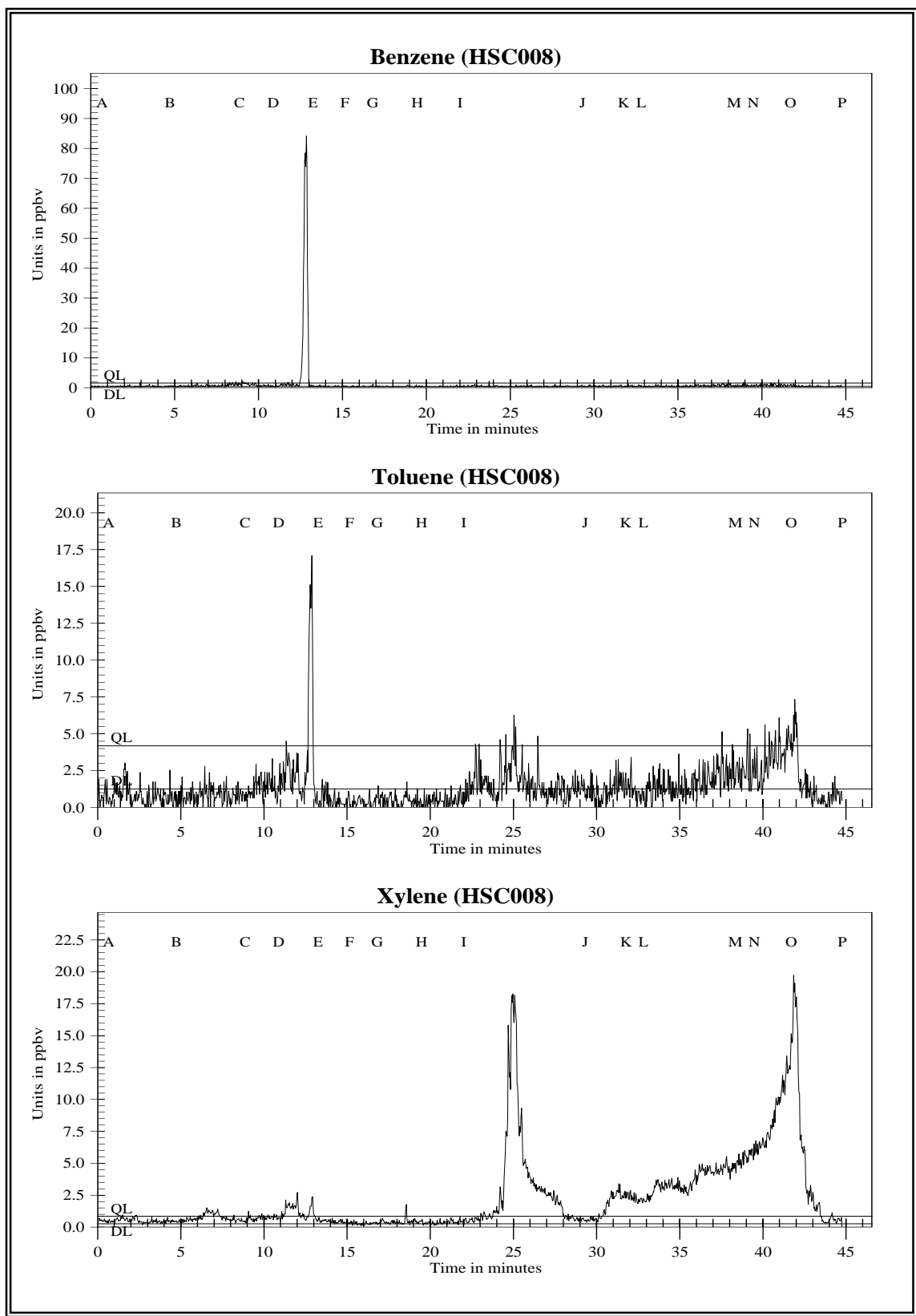


Figure 5h Mobile Monitoring Path for Mercury in Harris County

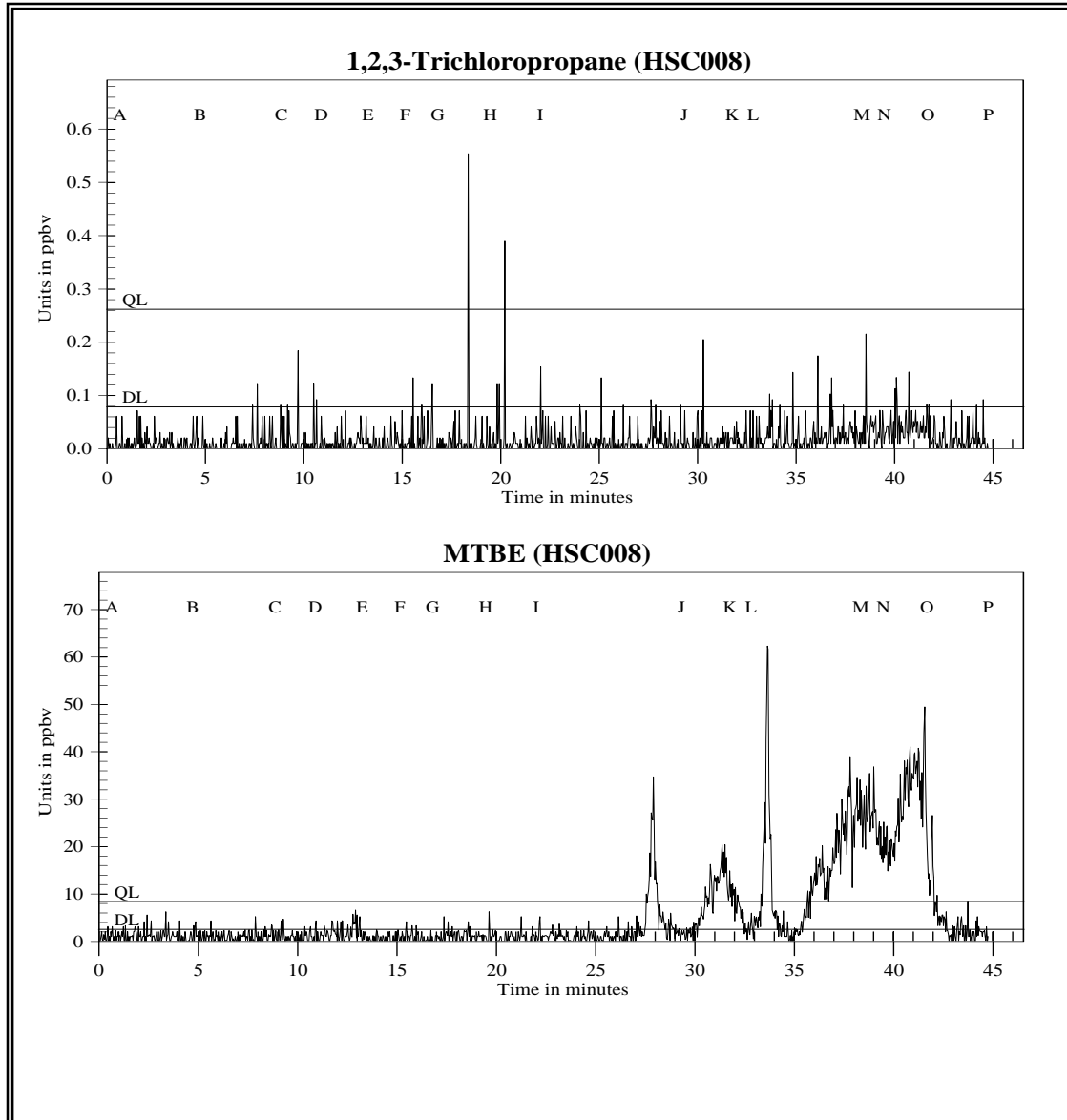
**Figure 5i**

TAGA File Event Summary			
File: HSC008 Acquired on 12 December 2006 at 06:46:37 UTC			
Title: Mobile Monitoring in Harris County			
Flag	Time	Sequence	Description
A	0.3	10	Start monitoring westward on Railroad Street
B	4.4	127	Entering State Highway 225 West
C	8.5	245	Passing Red Bluff Road
D	10.5	302	Passing Richey Street
E	13.0	371	Passing Allen Genoa Road
F	14.9	426	Turning onto Highway 610 North
G	16.5	471	Passing Houston Ship Channel
H	19.1	547	Turning onto Clinton Drive East
I	21.9	625	Passing Fidelity Street
J	29.1	833	Executing a U-turn
K	31.4	898	Start of SUMMA <sup>®</sup> G1567
L	32.5	930	End of SUMMA <sup>®</sup> G1567
M	37.9	1084	Start of SUMMA <sup>®</sup> K0175
N	39.2	1119	End of SUMMA <sup>®</sup> K0175
O	41.4	1182	Resuming mobile monitoring
P	44.5	1272	Ending at Stewart Street

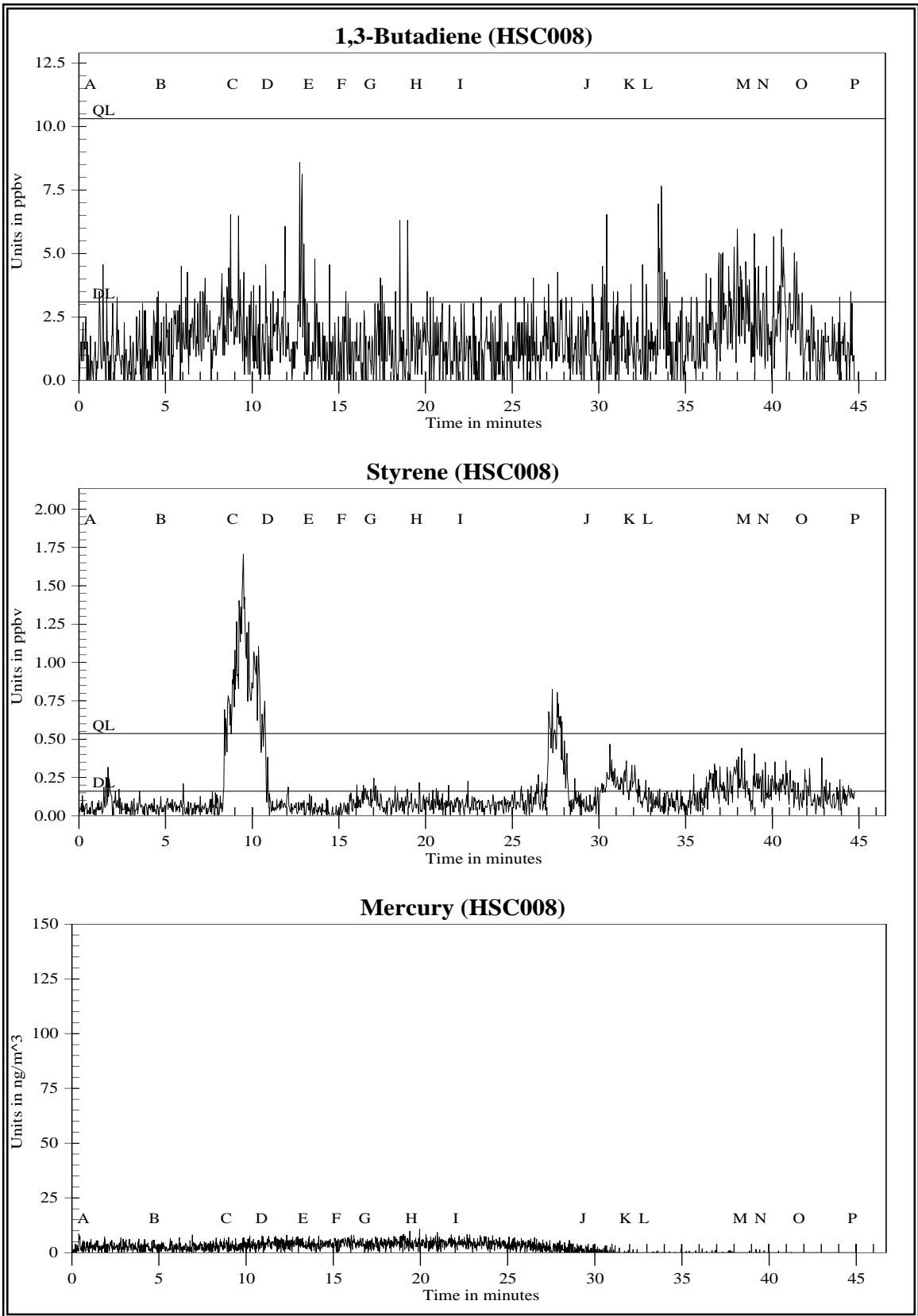


**Figure 5j** Mobile Monitoring in Harris County for Benzene, Toluene, and Xylenes





**Figure 5k** Mobile Monitoring in Harris County for 1,2,3-Trichloropropane and Methyl-t-butyl ether



**Figure 51** Mobile Monitoring in Harris County for 1,3-Butadiene, Styrene, and Mercury

**Figure 5m**

TAGA Target Compound Averages during Sample Collection					
File: HSC008 Acquired on 12 December 2006 at 06:46:37 UTC					
		Benzene	Toluene	Xylenes	1,2,3-Trichloro- propane
	Detection Limits (DL):	0.47	1.3	0.25	0.079
	Quantitation Limits (QL):	1.6	4.2	0.85	0.26
Flags	Description	Benzene	Toluene	Xylenes	1,2,3-Trichloro- propane
K - L	SUMMA <sup>®</sup> G1567	0.50J	1.4J	2.4	DL=0.079
M - N	SUMMA <sup>®</sup> K0175	0.80J	2.4J	5.0	DL=0.079
		Methyl-t-butyl ether	1,3-Butadiene	Styrene	
	Detection Limits (DL):	2.5	3.1	0.16	
	Quantitation Limits (QL):	8.4	10.	0.54	
Flags	Description	Methyl-t-butyl ether	1,3-Butadiene	Styrene	
K - L	SUMMA <sup>®</sup> G1567	9.6	DL=3.1	0.19J	
M - N	SUMMA <sup>®</sup> K0175	27.	DL=3.1	0.21J	

Concentrations are in parts per billion by volume (ppbv)

J = Below quantitation limit

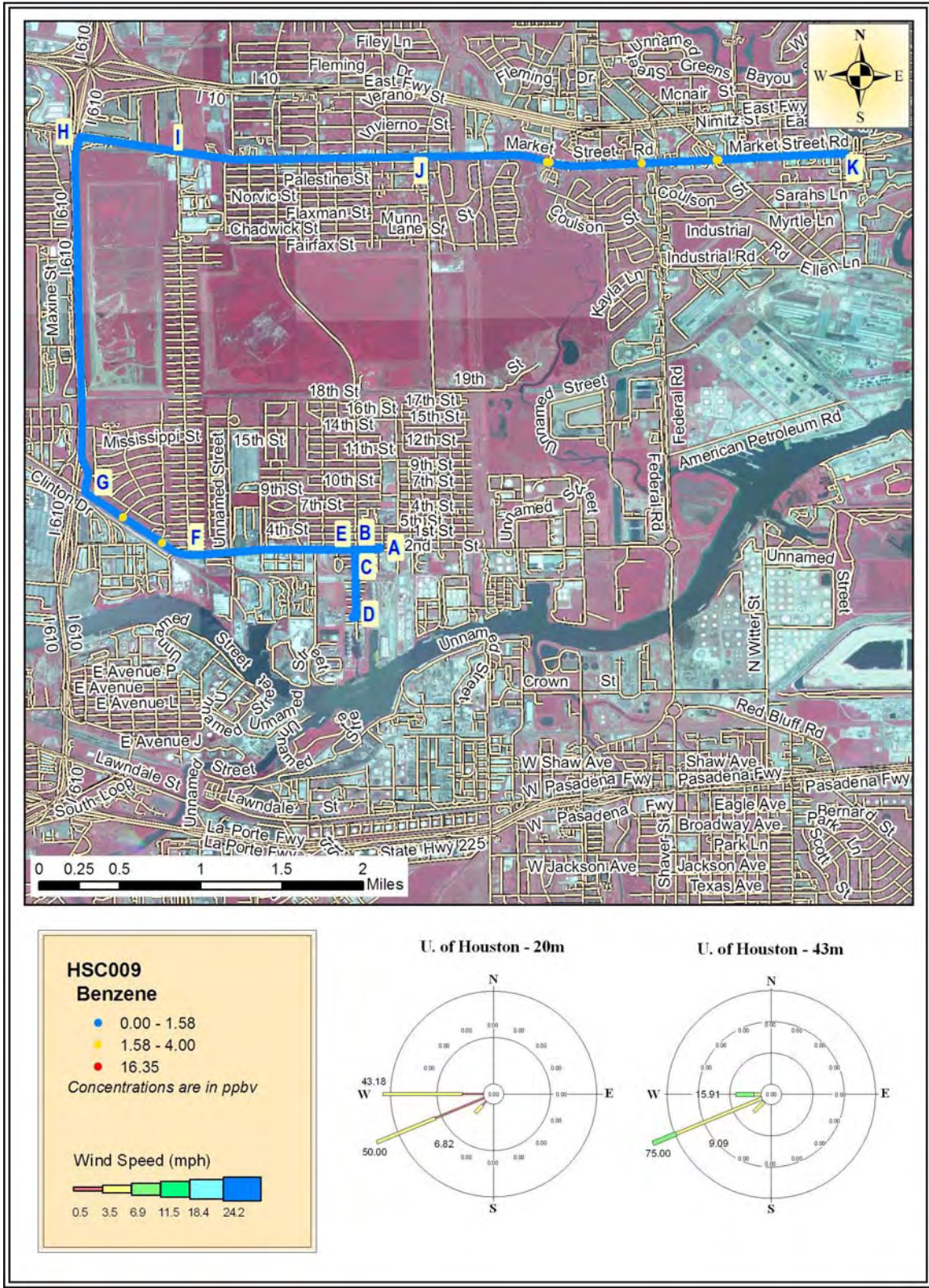


Figure 6a Mobile Monitoring Path for Benzene in Harris County



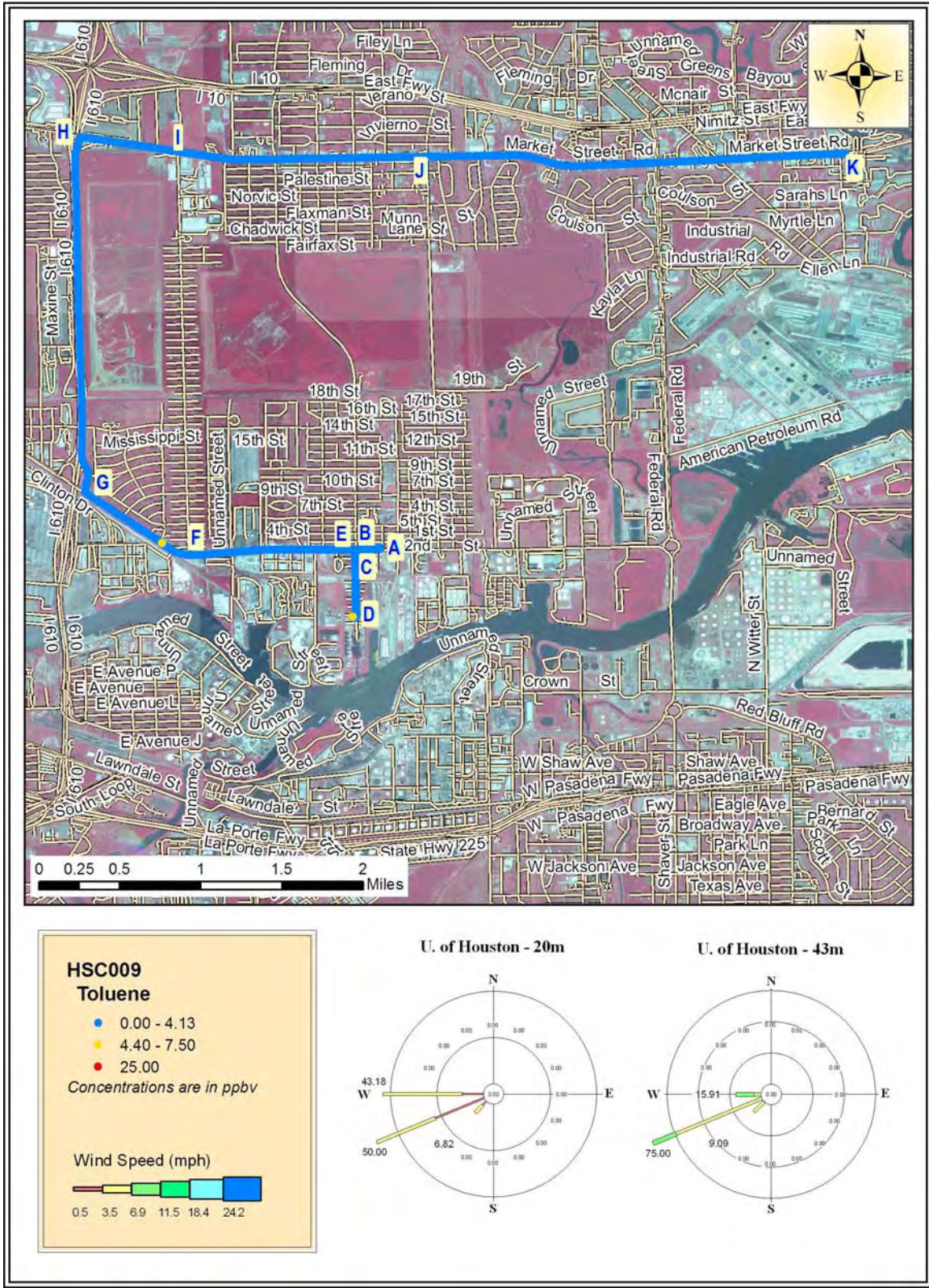


Figure 6b Mobile Monitoring Path for Toluene in Harris County



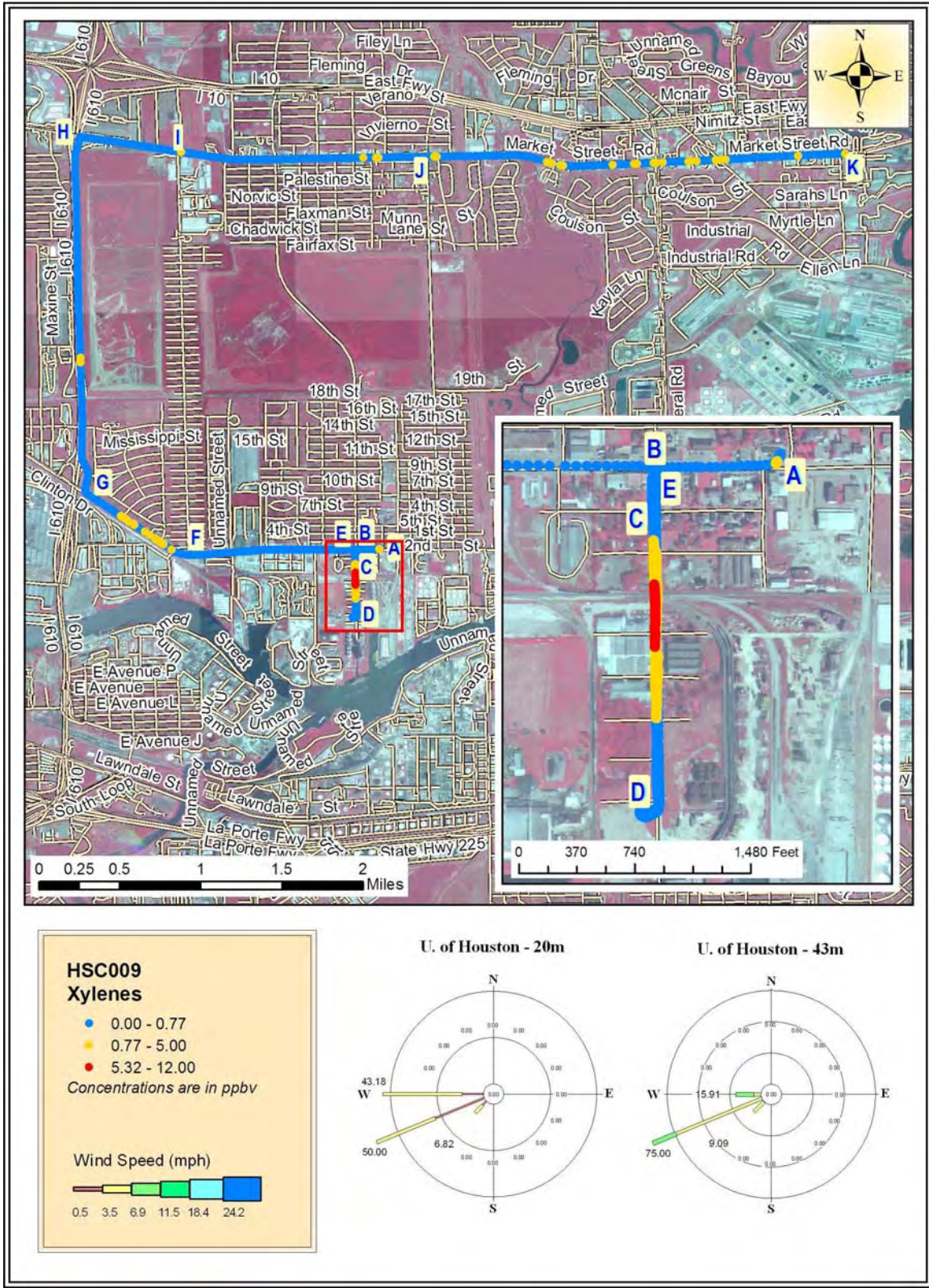


Figure 6c Mobile Monitoring Path for Xylenes in Harris County



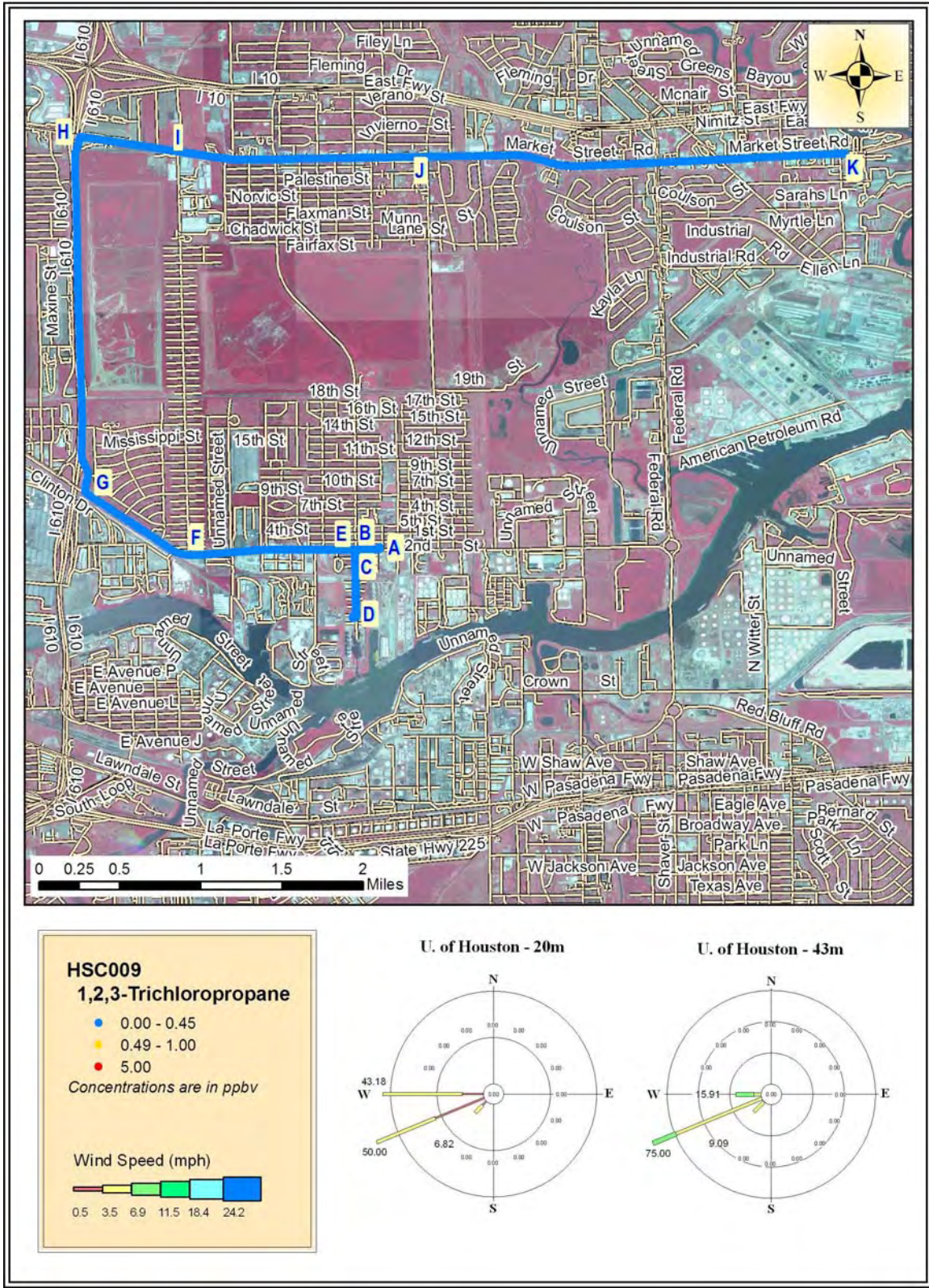


Figure 6d Mobile Monitoring Path for 1,2,3-Trichloropropane in Harris County



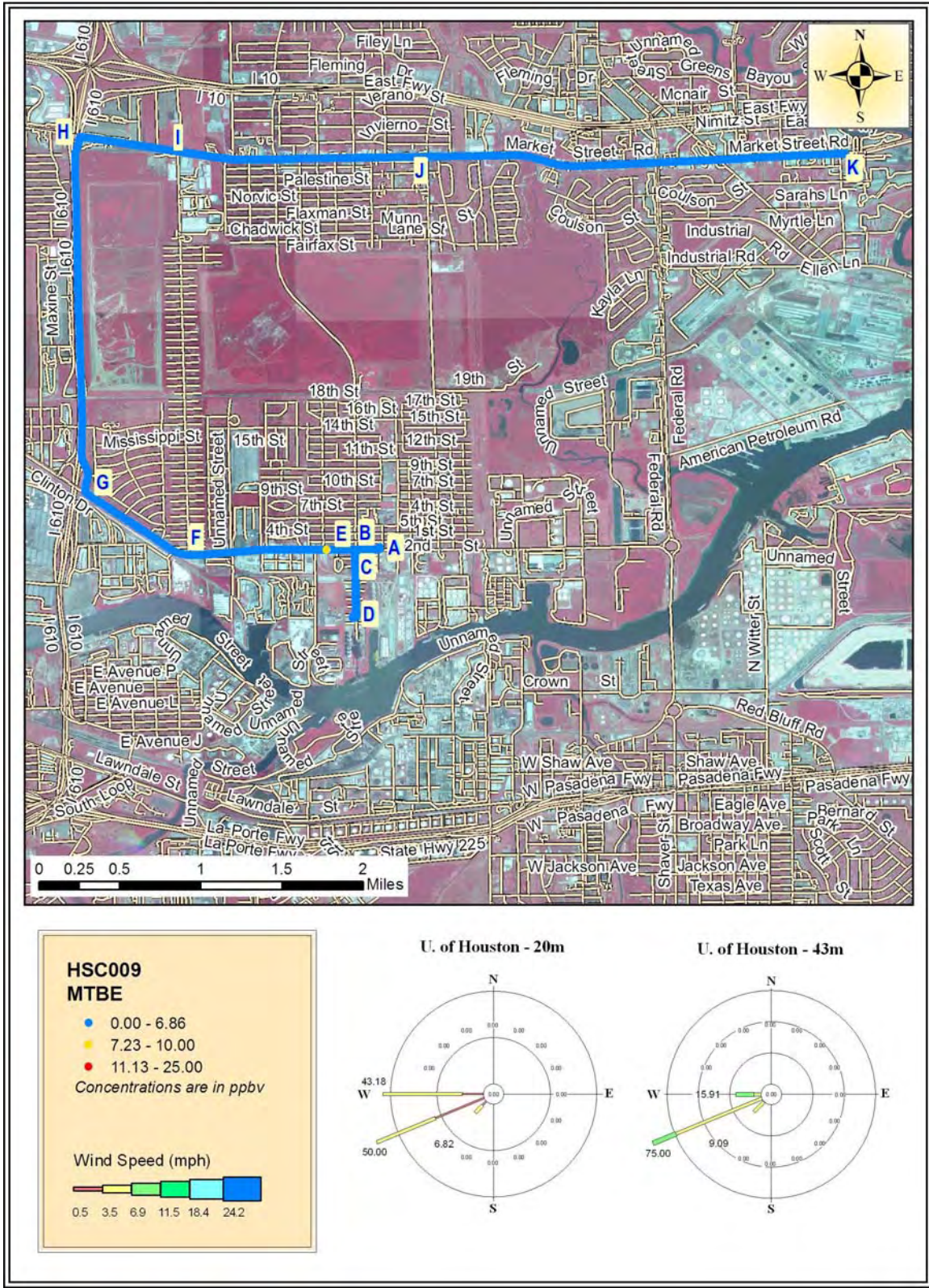


Figure 6e Mobile Monitoring Path for Methyl-t-butyl ether in Harris County



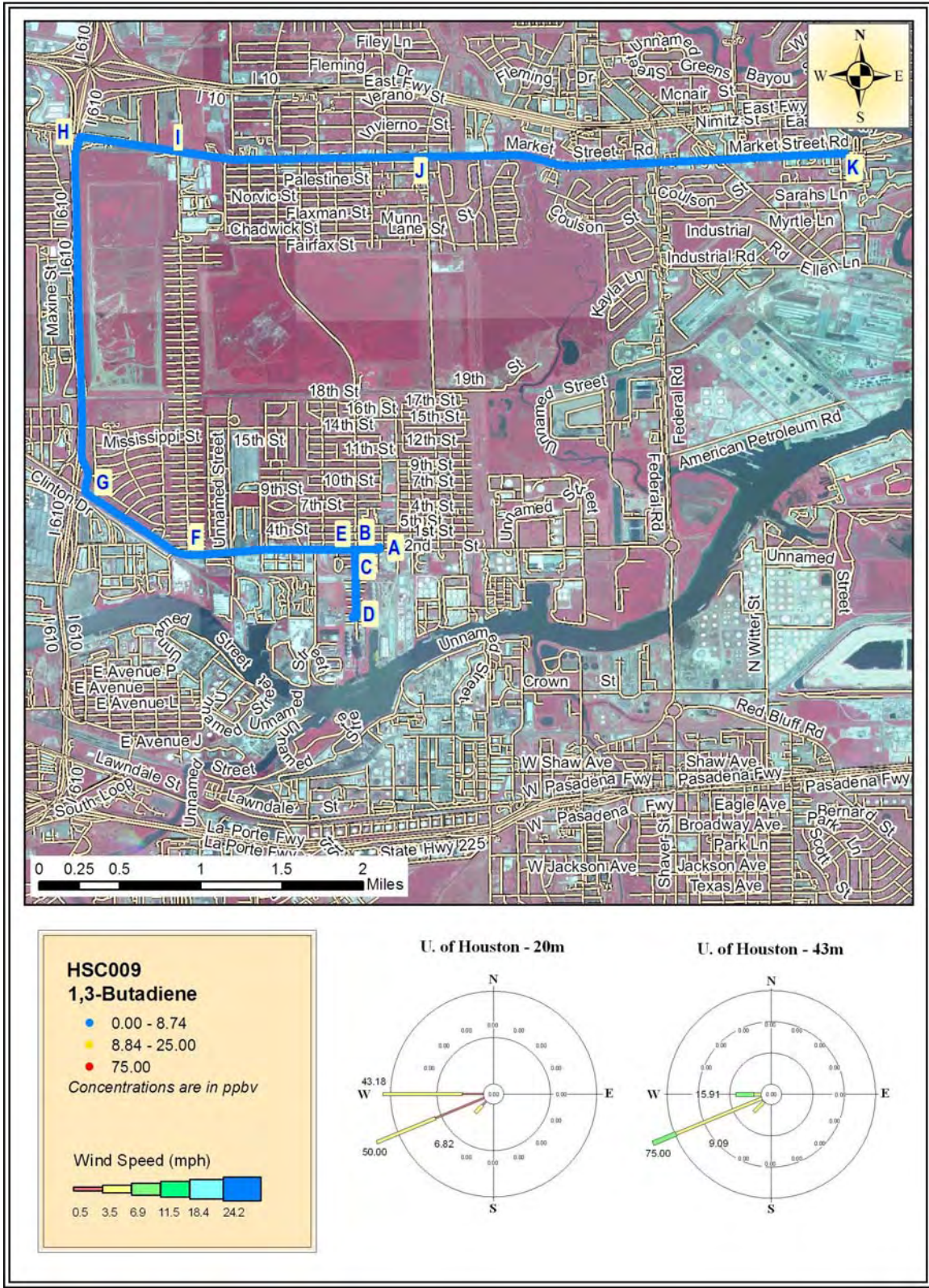


Figure 6f Mobile Monitoring Path for 1,3-Butadiene in Harris County



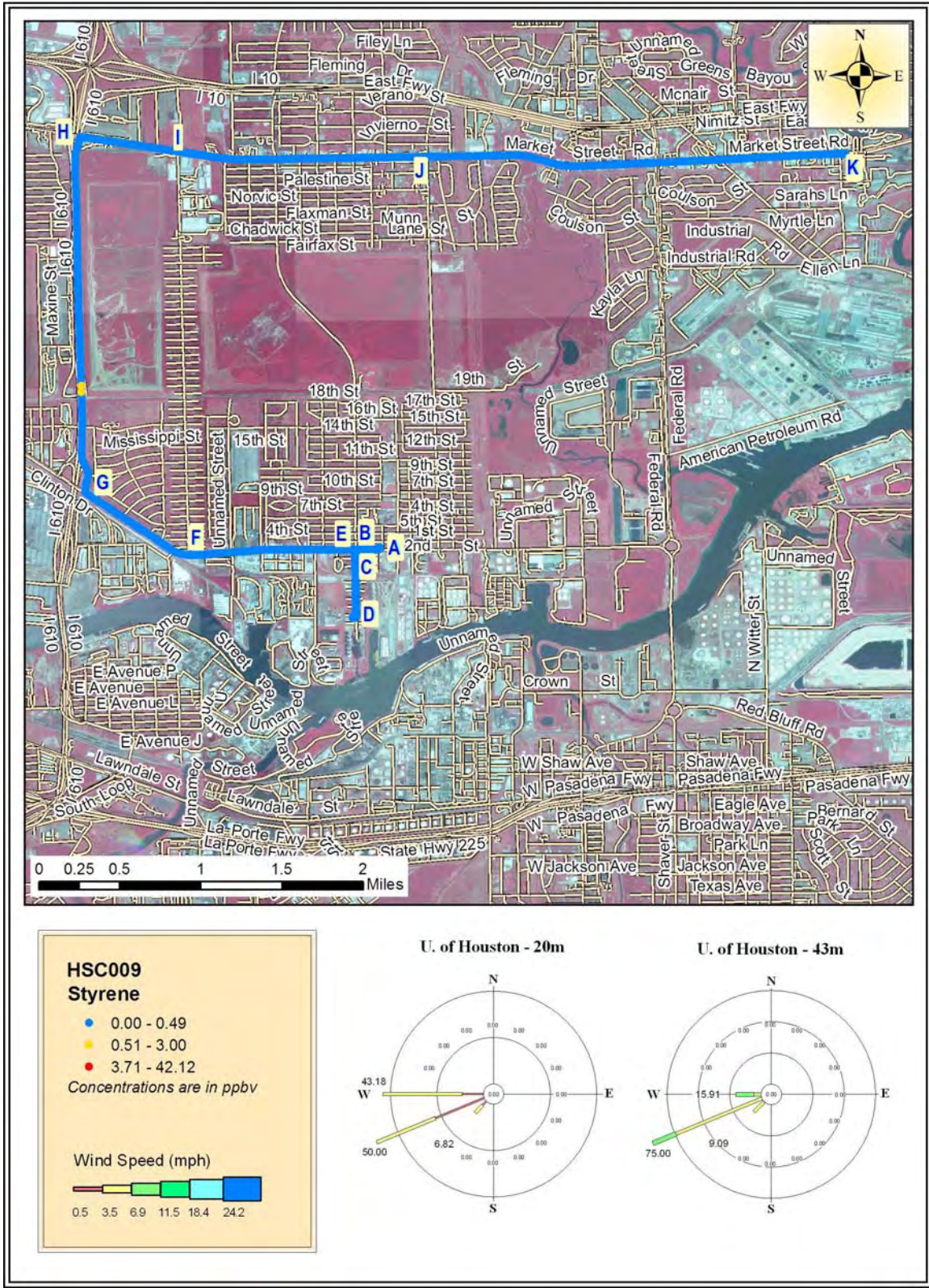


Figure 6g Mobile Monitoring Path for Styrene in Harris County



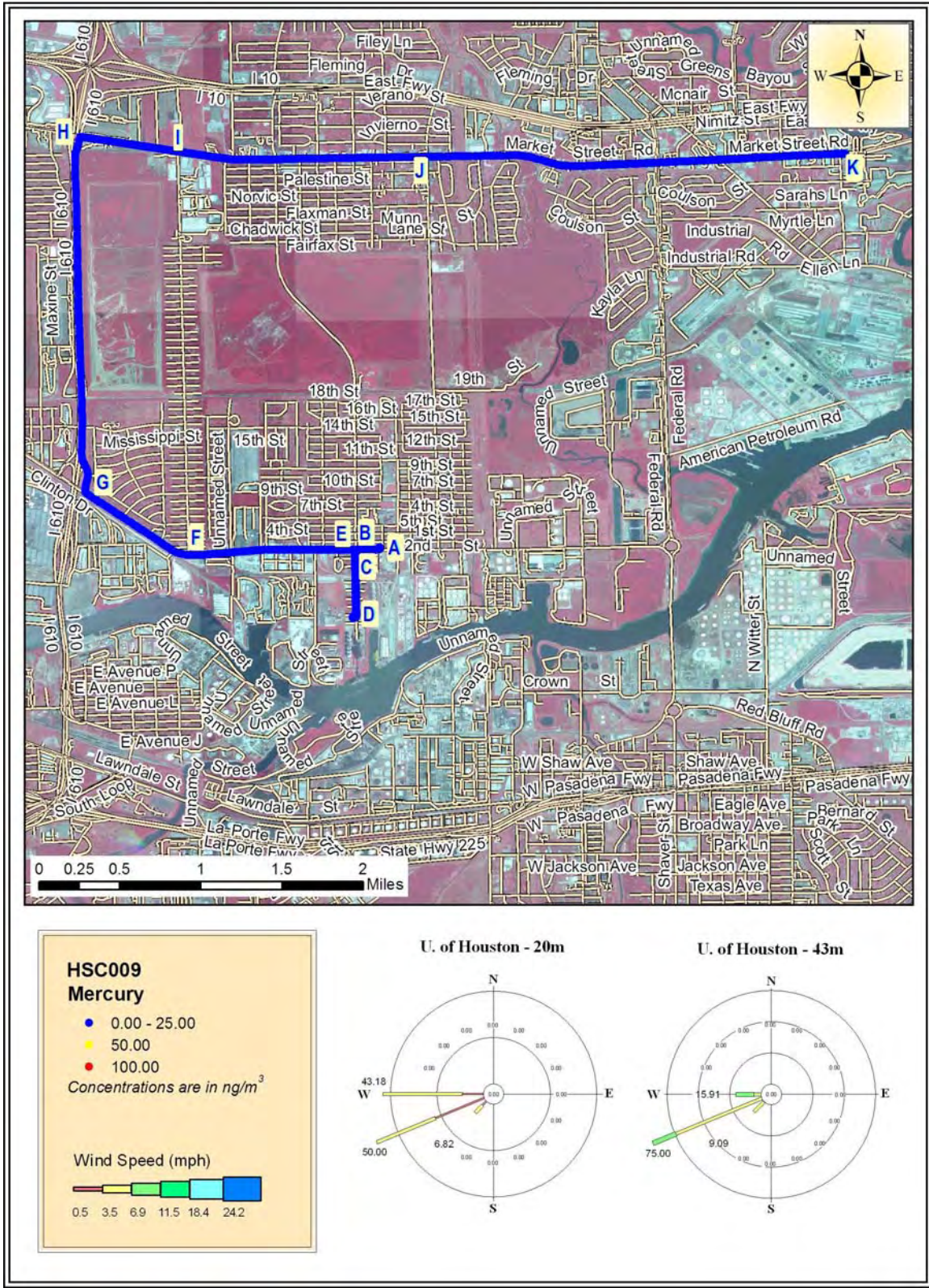
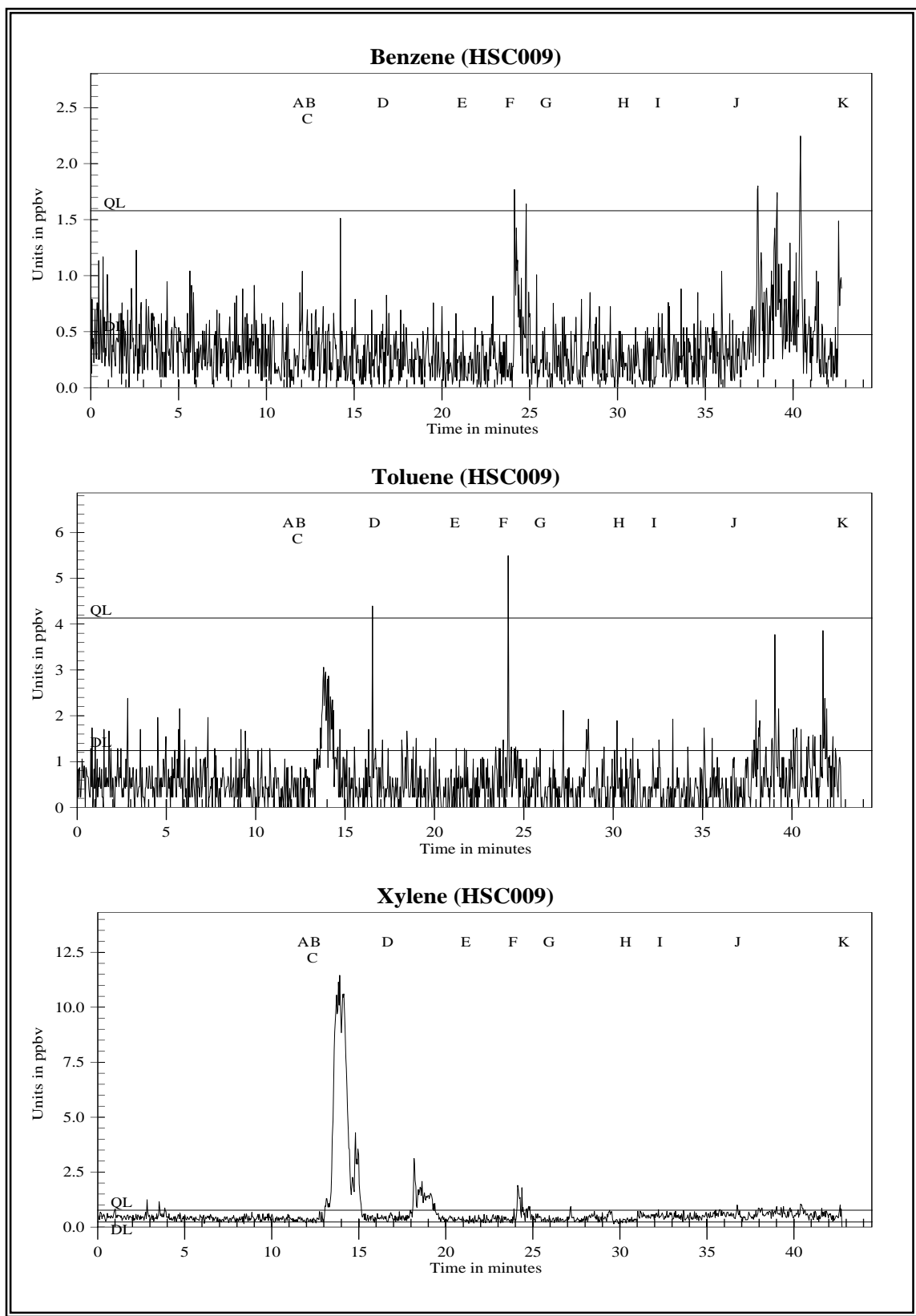


Figure 6h Mobile Monitoring Path for Mercury in Harris County

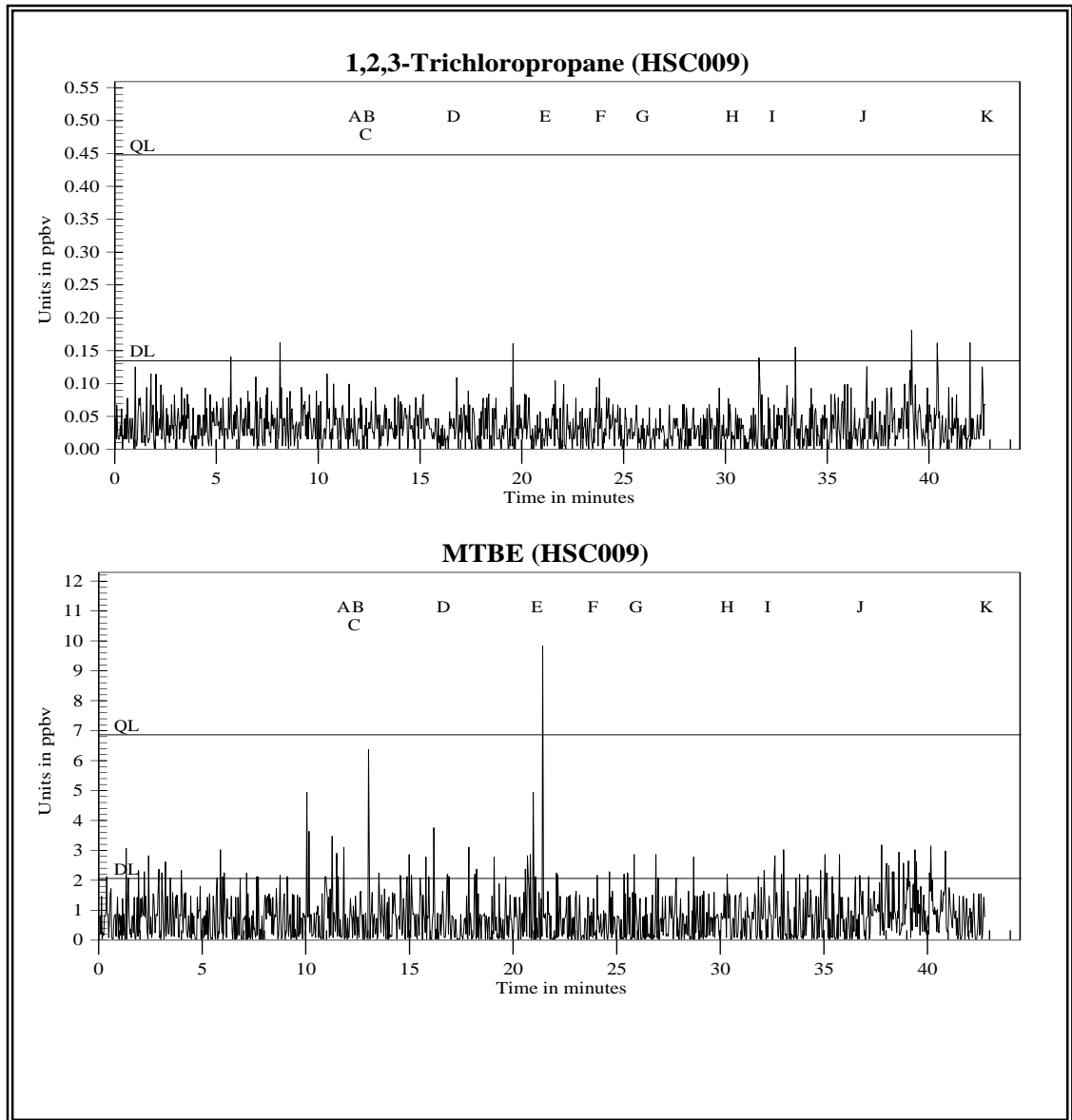
**Figure 6i**

TAGA File Event Summary			
File: HSC009 Acquired on 12 December 2006 at 07:41:53 UTC			
Title: Mobile Monitoring in Harris County			
Flag	Time	Sequence	Description
A	11.5	329	Start monitoring westward on Clinton Drive
B	12.2	350	Turning left onto Main Street
C	12.6	362	Passing Avenue K
D	16.3	467	Executing a U-turn
E	20.9	597	Turning left onto Clinton Drive
F	23.6	675	Passing Fidelity Street
G	25.6	732	Turning north onto State Highway 610
H	30.0	858	Exiting east onto Market Street
I	32.1	919	Passing Fidelity Street
J	36.6	1046	Passing Holland Avenue
K	42.5	1215	Ending at Miles Street

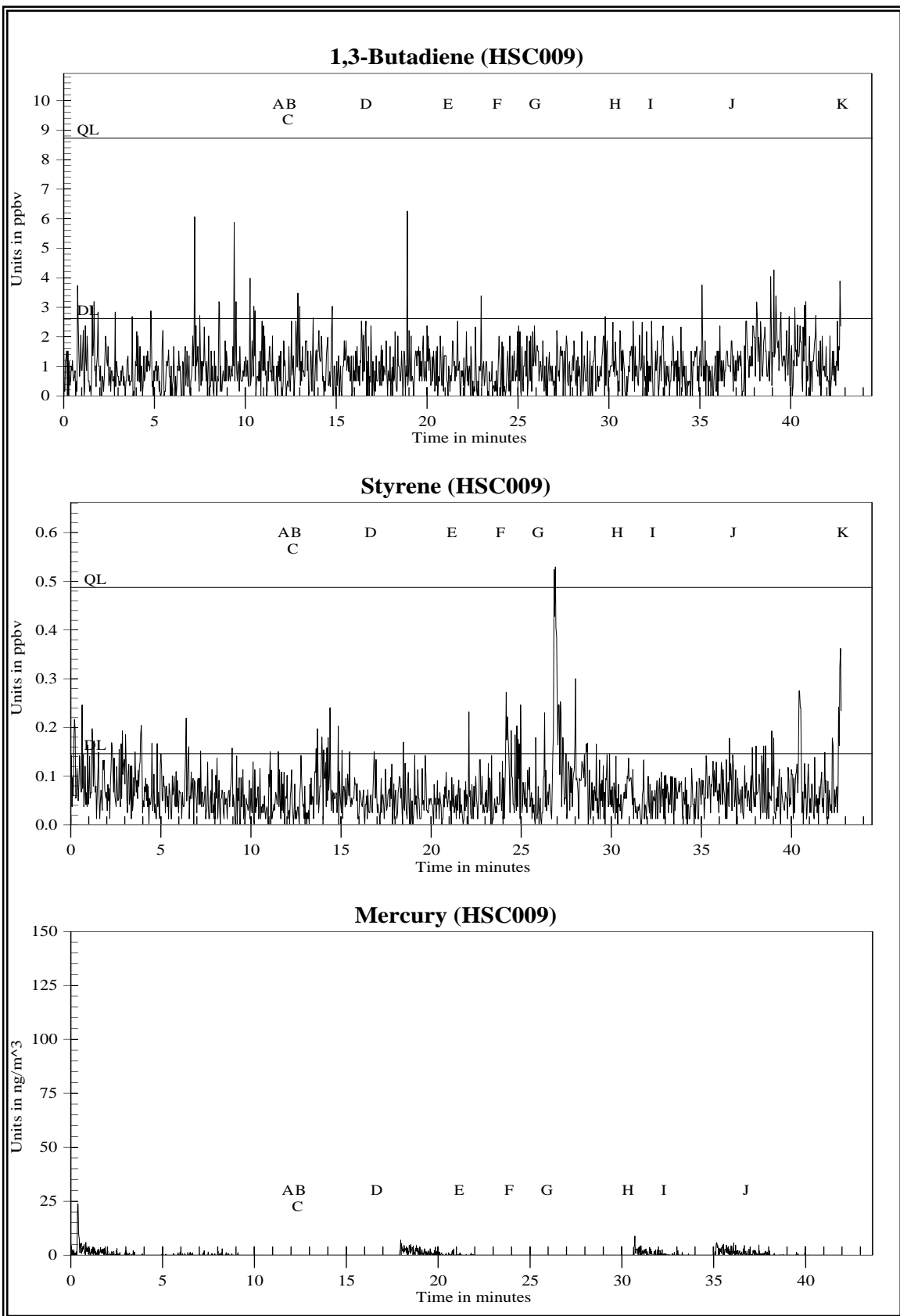




**Figure 6j** Mobile Monitoring in Harris County for Benzene, Toluene, and Xylenes



**Figure 6k** Mobile Monitoring in Harris County for 1,2,3-Trichloropropane and Methyl-t-butyl ether



**Figure 61** Mobile Monitoring in Harris County for 1,3-Butadiene, Styrene, and Mercury

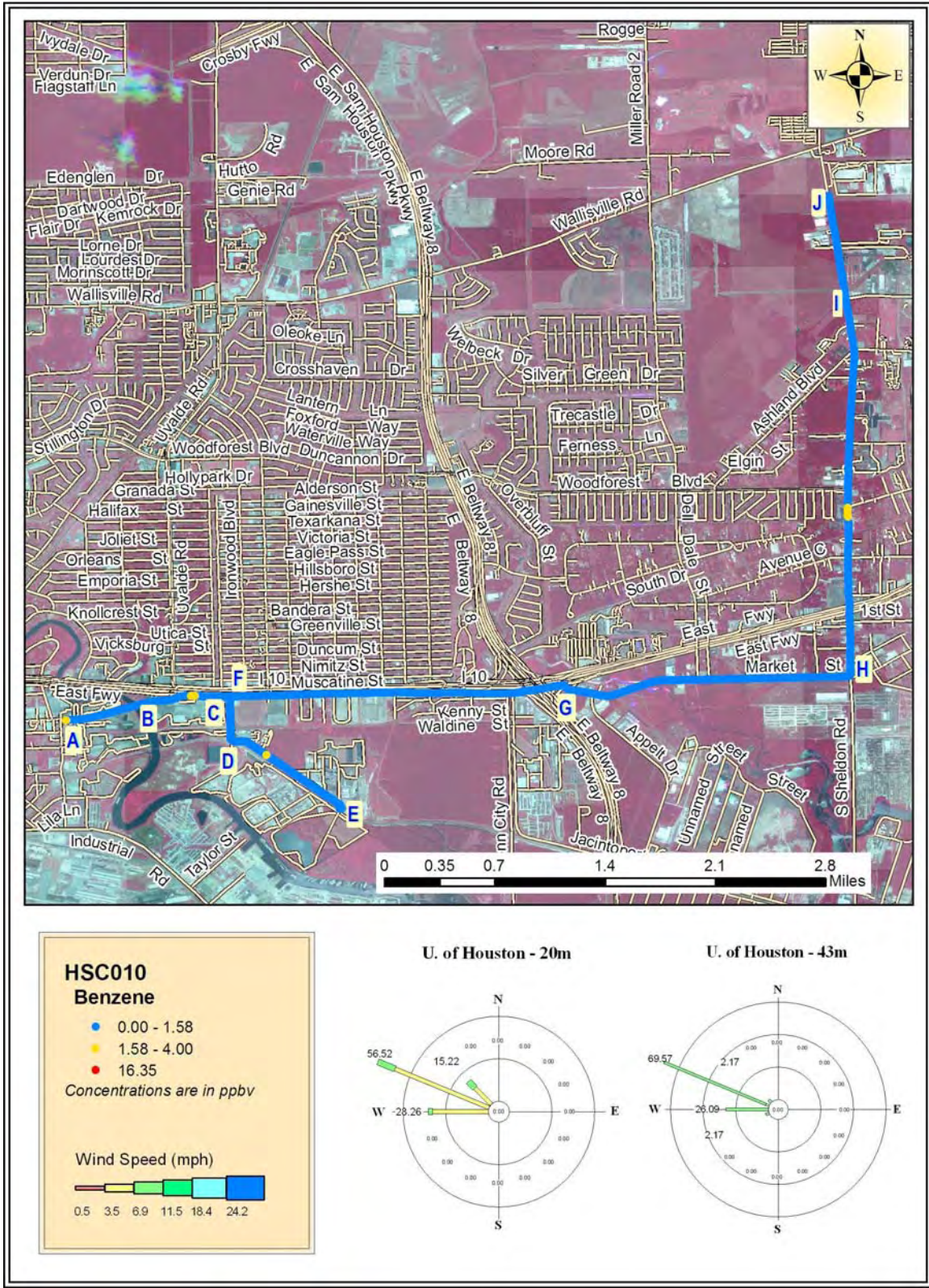


Figure 7a Mobile Monitoring Path for Benzene in Harris County



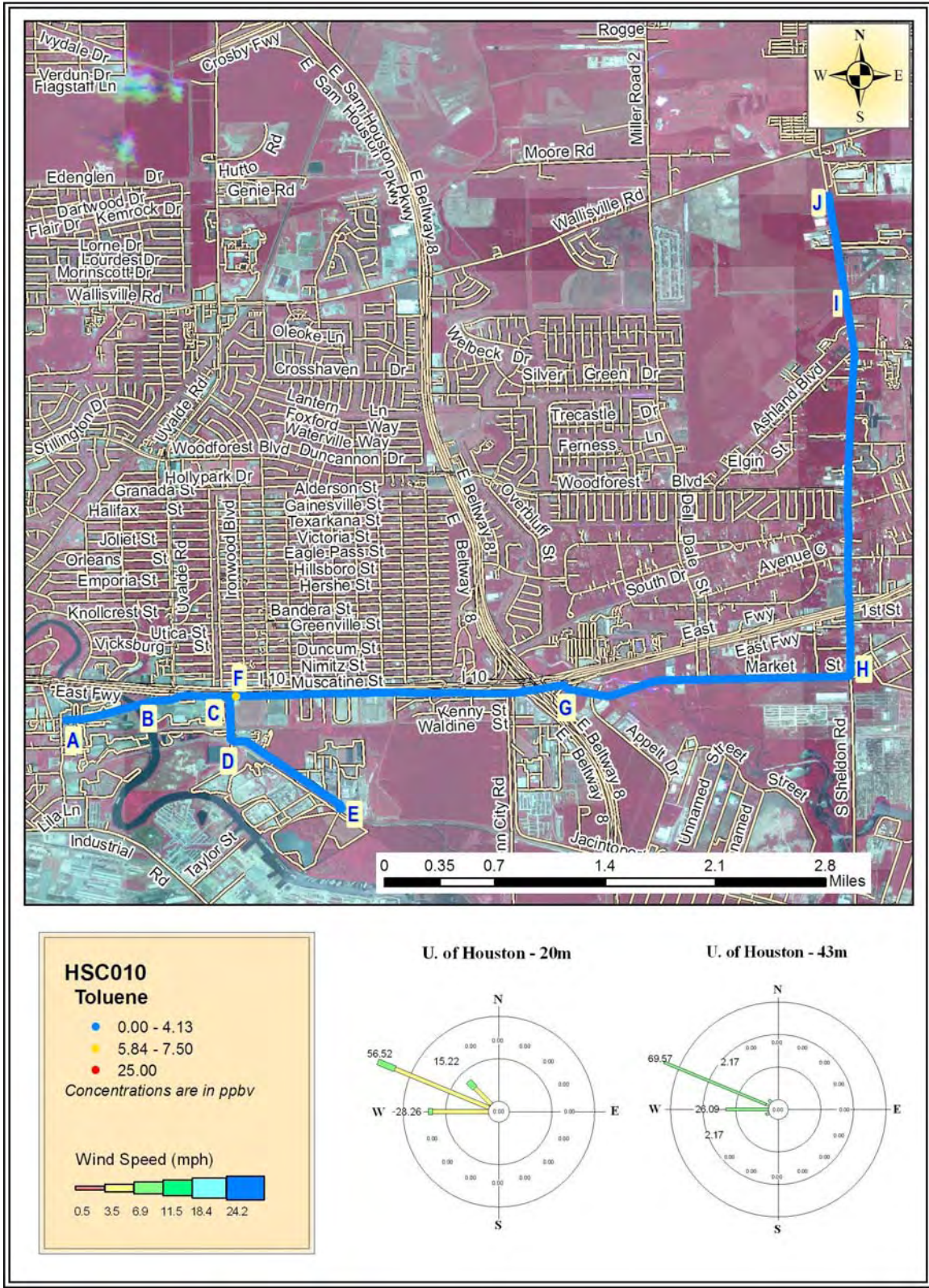


Figure 7b Mobile Monitoring Path for Toluene in Harris County



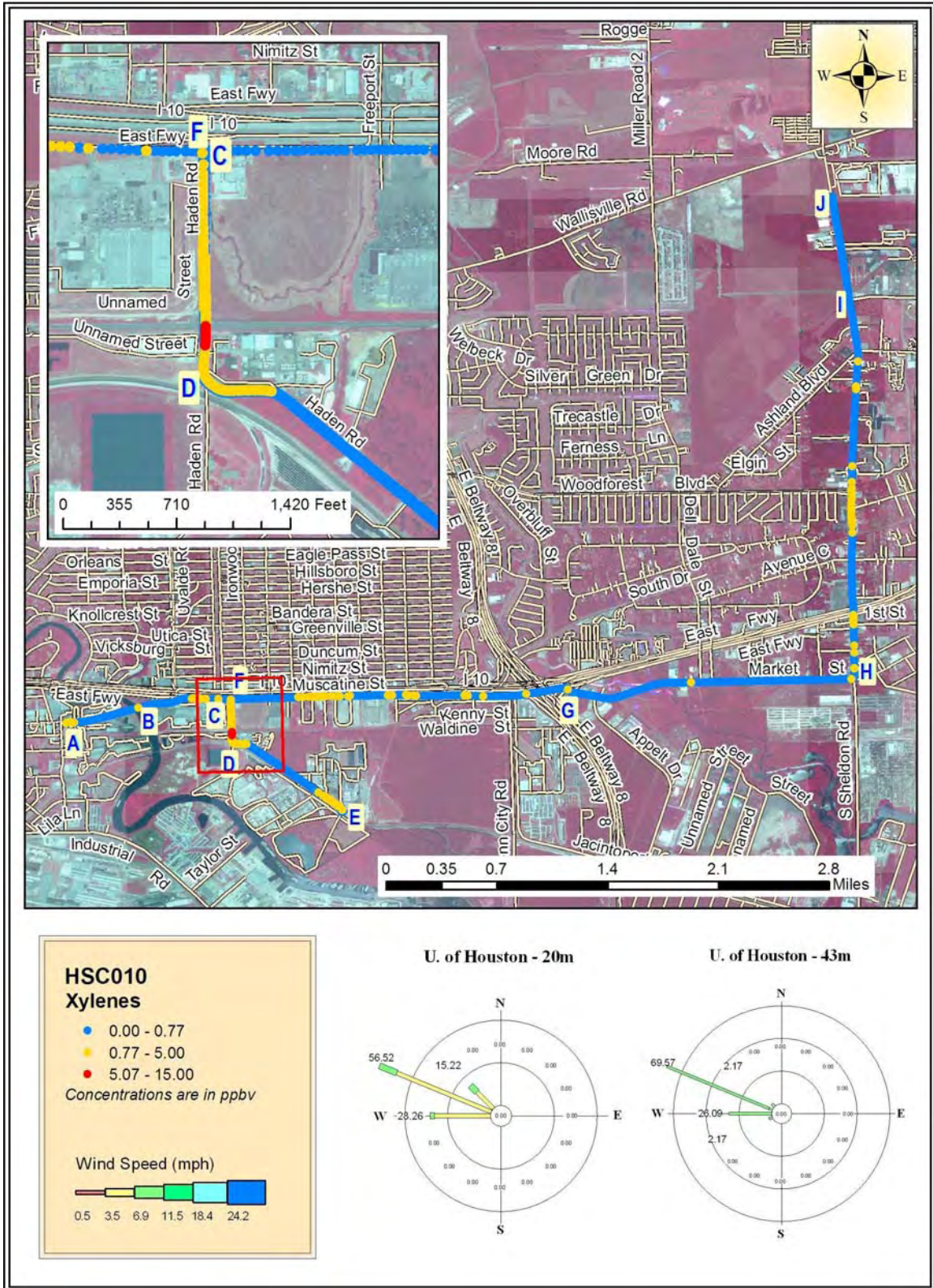


Figure 7c Mobile Monitoring Path for Xylenes in Harris County



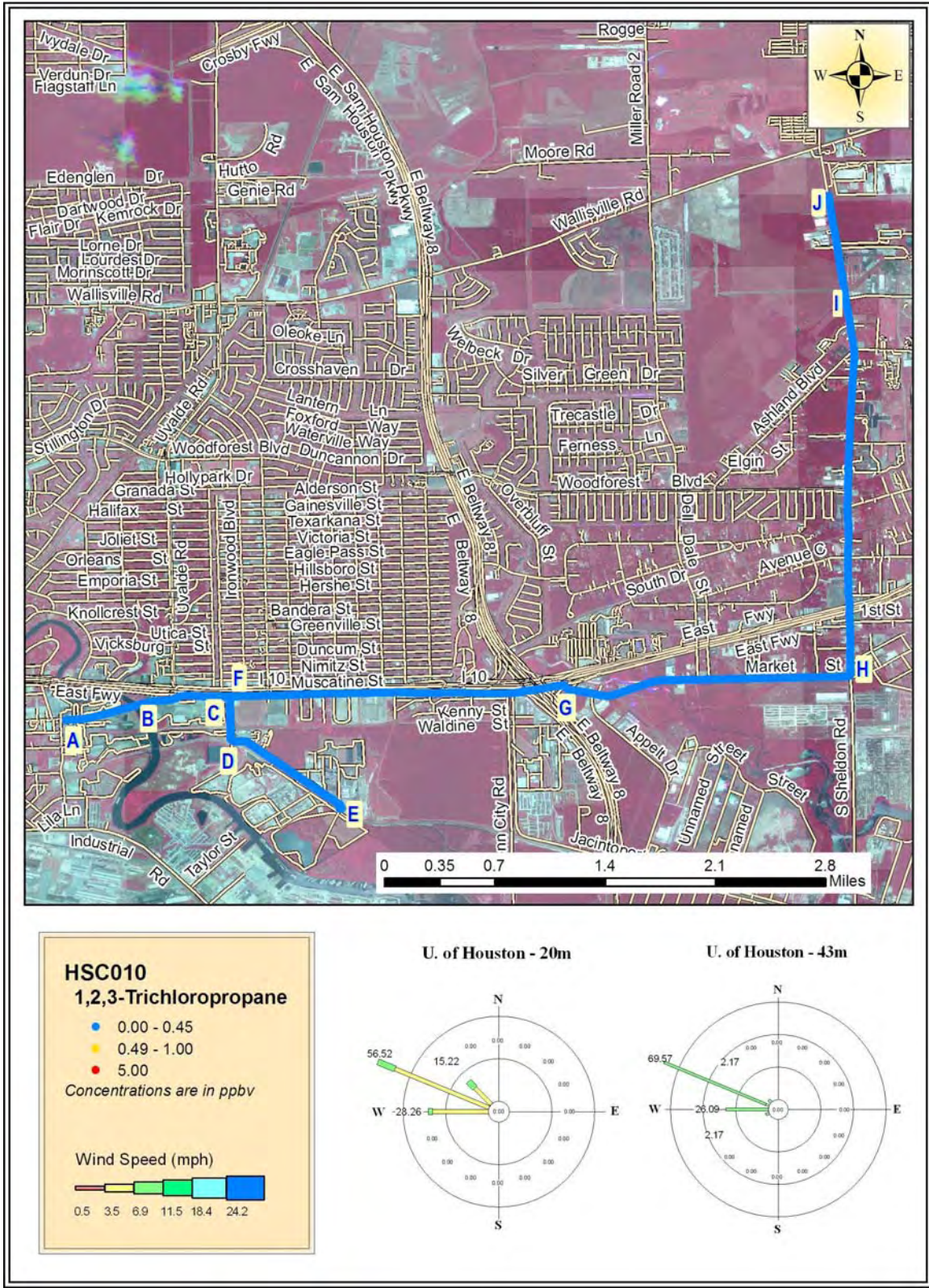


Figure 7d Mobile Monitoring Path for 1,2,3-Trichloropropane in Harris County



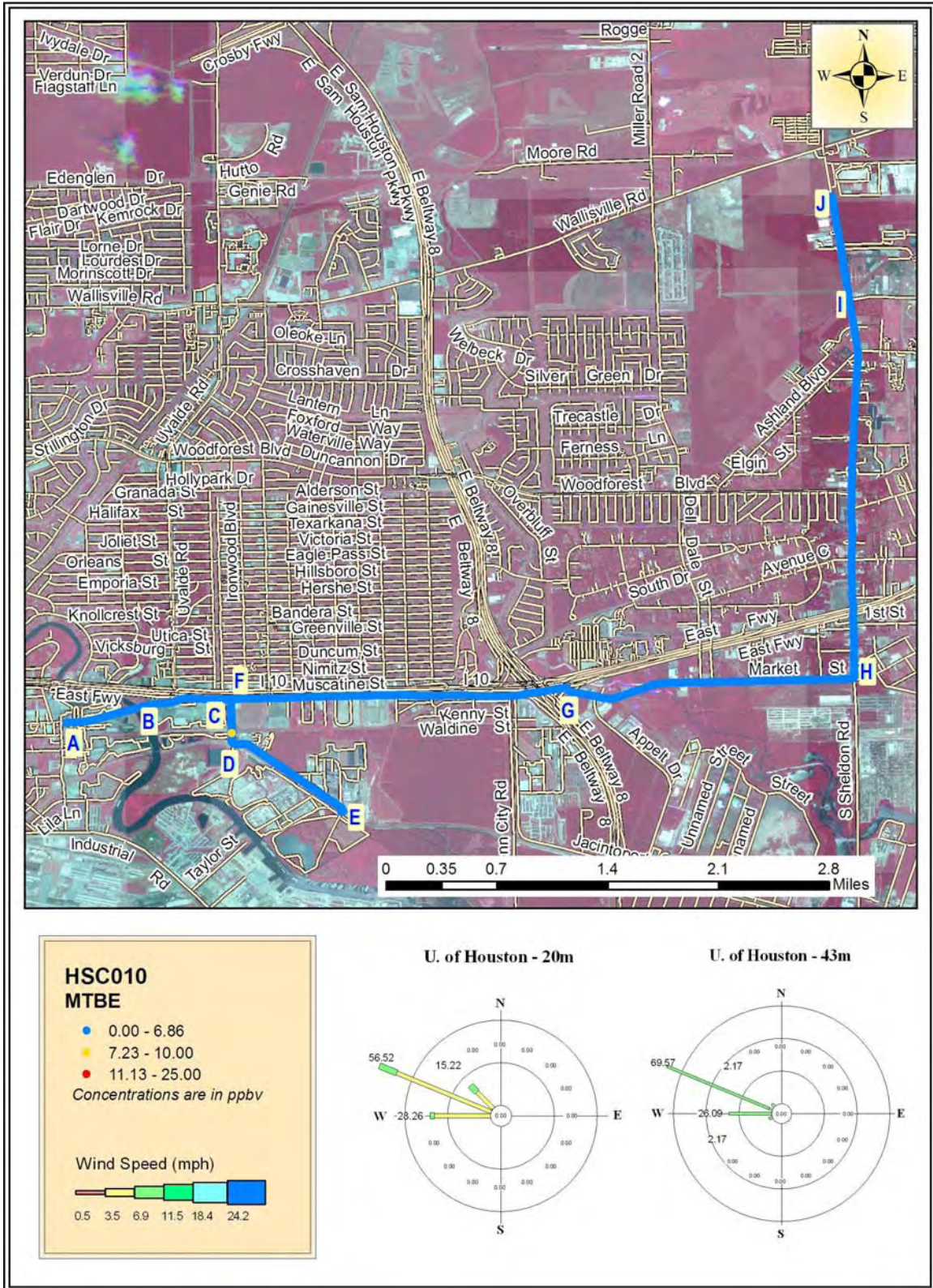


Figure 7e Mobile Monitoring Path for Methyl-t-butyl ether in Harris County



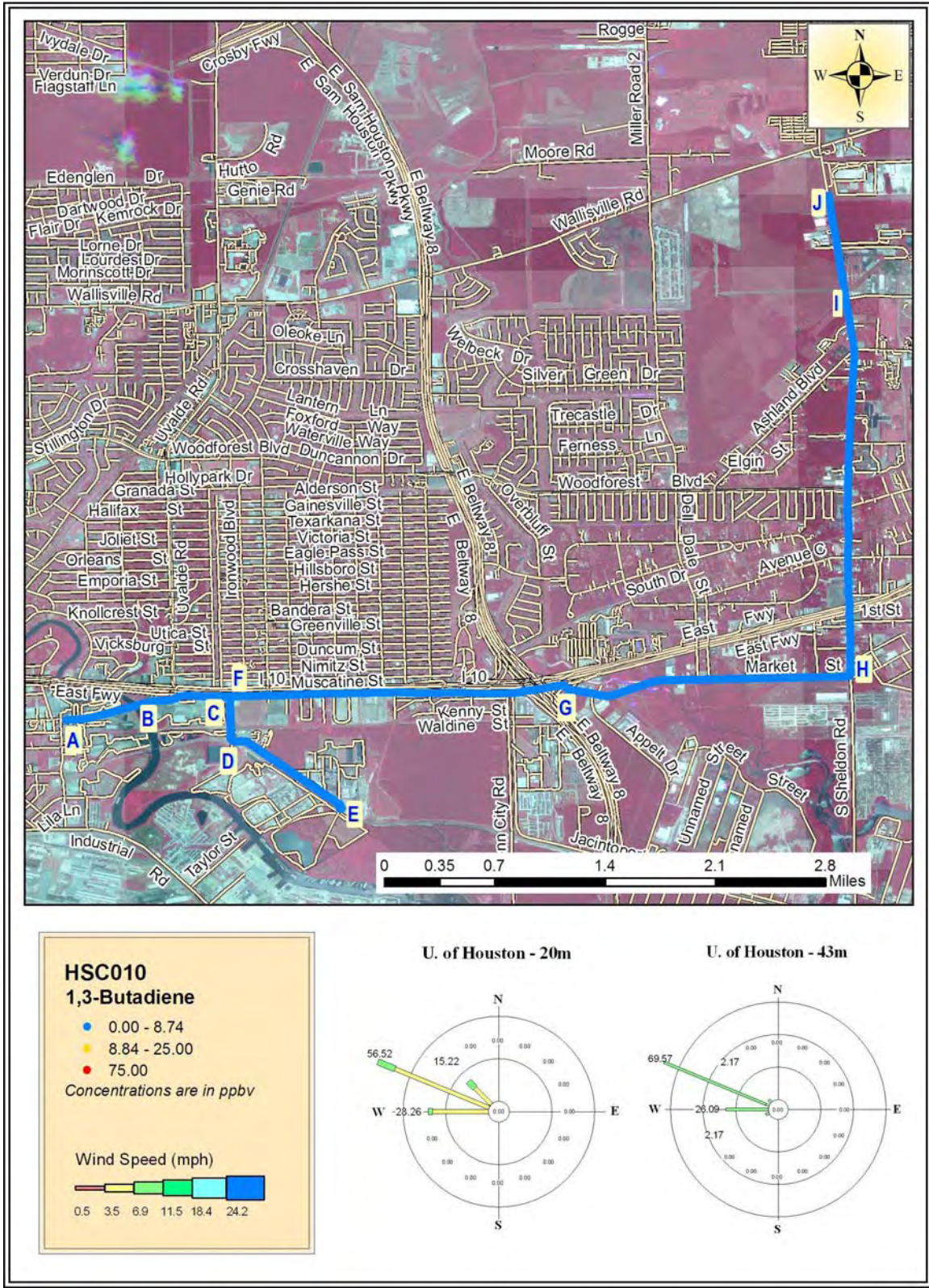


Figure 7f Mobile Monitoring Path for 1,3-Butadiene in Harris County



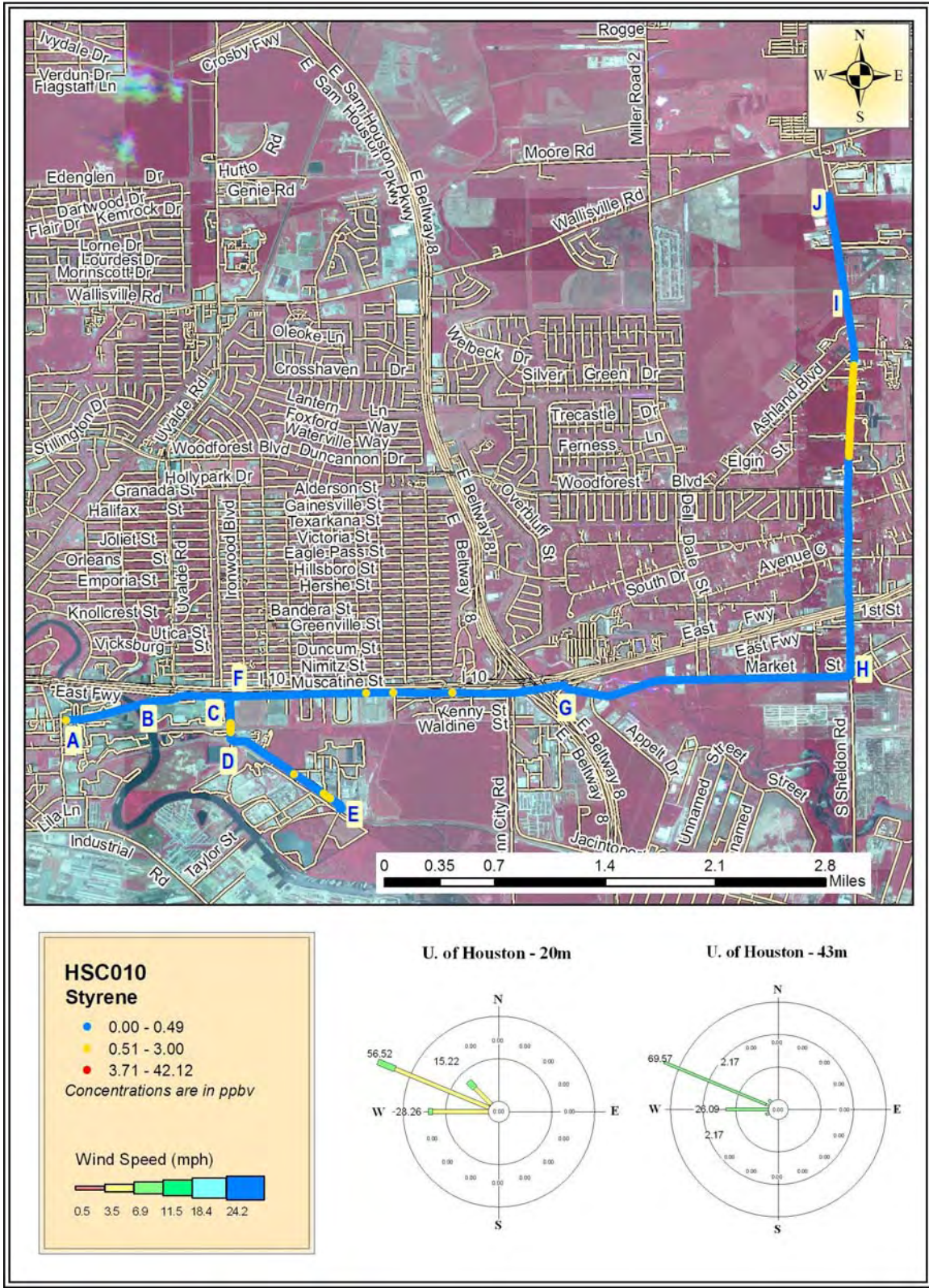


Figure 7g Mobile Monitoring Path for Styrene in Harris County



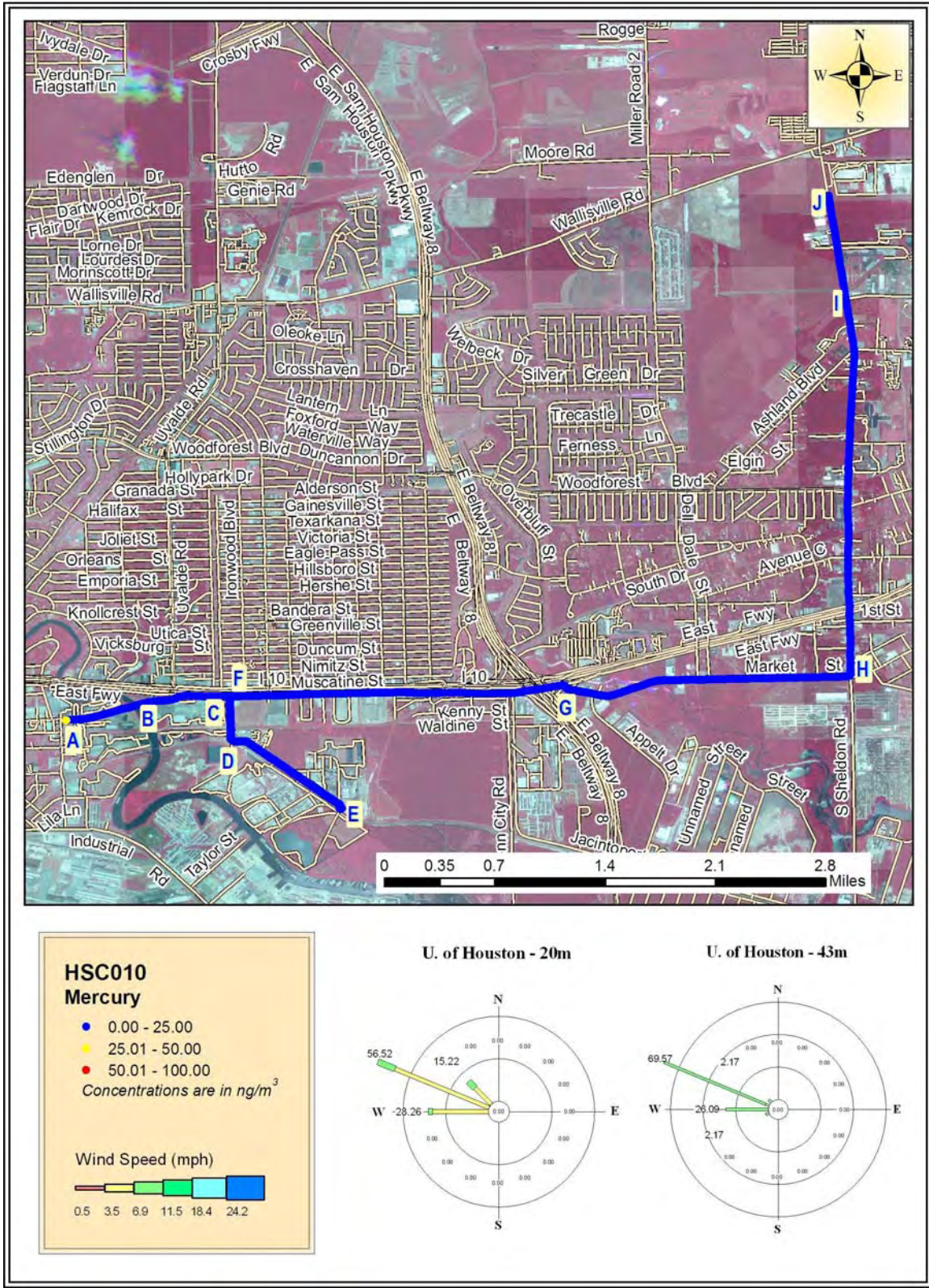
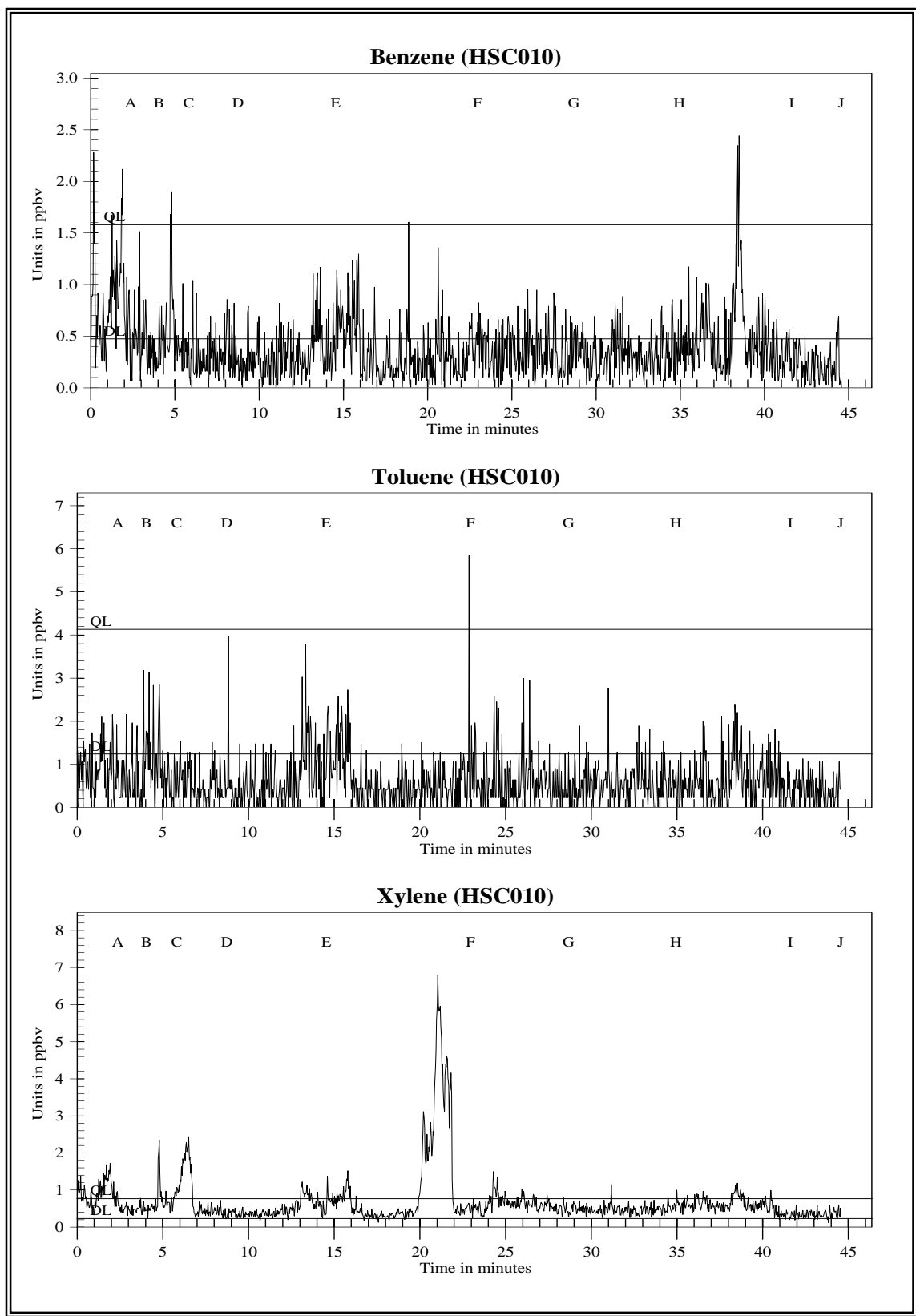


Figure 7h Mobile Monitoring Path for Mercury in Harris County

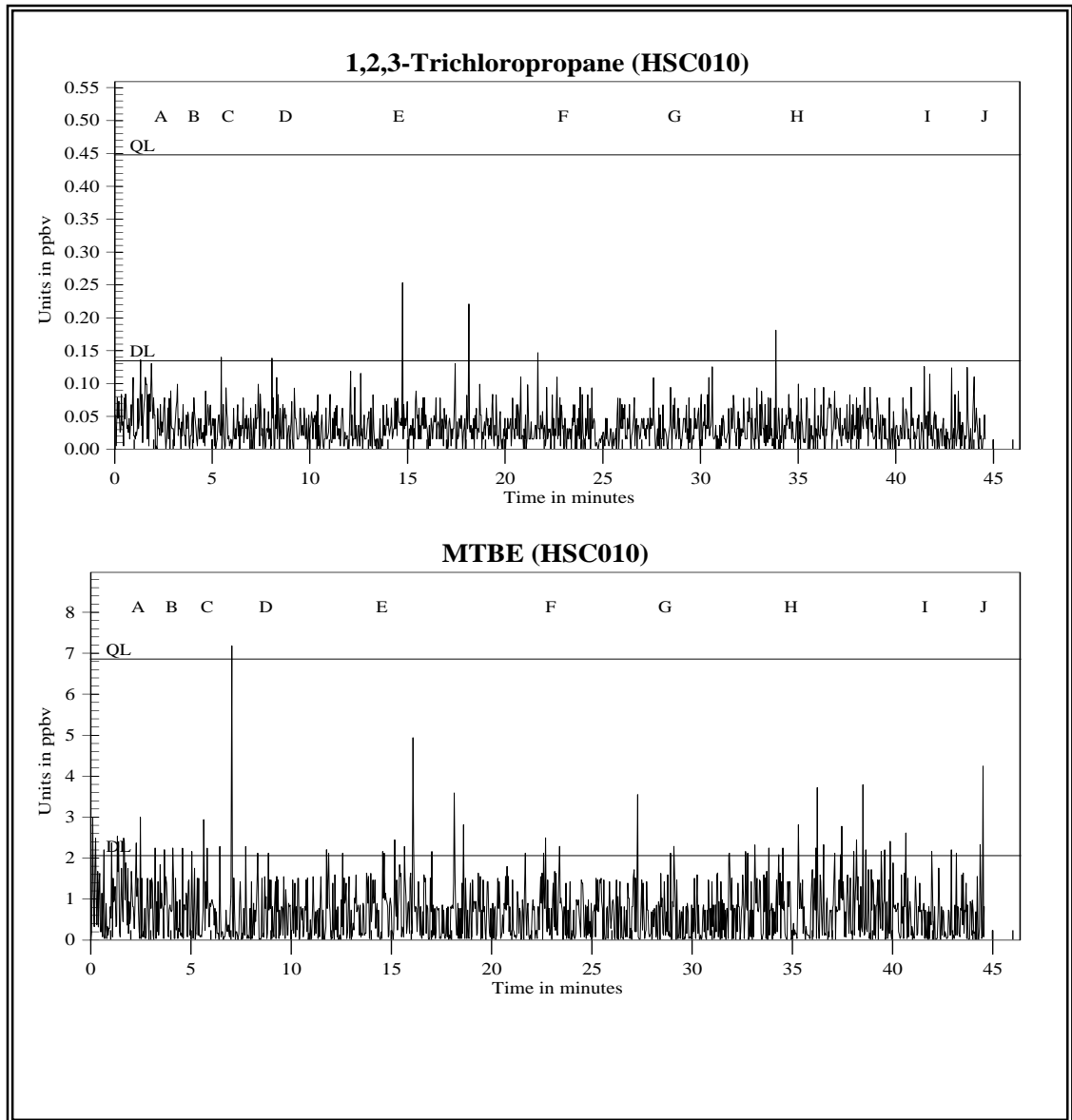
**Figure 7i**

TAGA File Event Summary			
File: HSC010 Acquired on 12 December 2006 at 08:31:32 UTC			
Title: Mobile Monitoring in Harris County			
Flag	Time	Sequence	Description
A	2.0	59	Start monitoring eastward on Market Street
B	3.7	108	Passing Greens Bayou
C	5.5	158	Turning right onto Haden Road
D	8.4	241	Bearing left on Haden Road
E	14.3	408	Executing a U-turn
F	22.7	649	Turning right onto Interstate 10 Service Road
G	28.3	810	Turning right onto Market Street
H	34.6	989	Turning left onto Sheldon Road
I	41.5	1185	Passing North Wood Drive
J	44.4	1268	Stopping at Wallisville Road

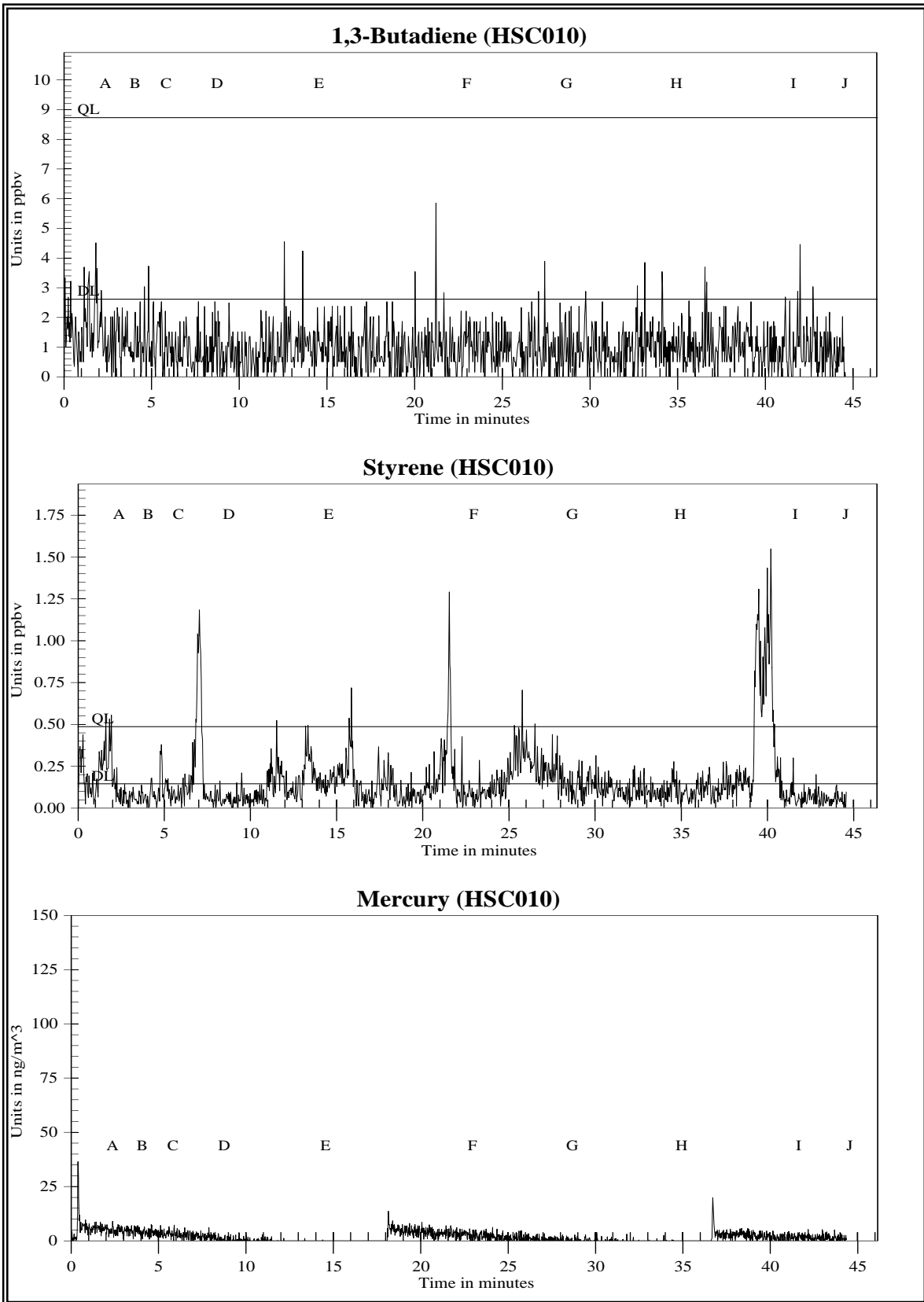




**Figure 7j** Mobile Monitoring in Harris County for Benzene, Toluene, and Xylenes



**Figure 7k** Mobile Monitoring in Harris County for 1,2,3-Trichloropropane and Methyl-t-butyl ether



**Figure 71** Mobile Monitoring in Harris County for 1,3-Butadiene, Styrene, and Mercury

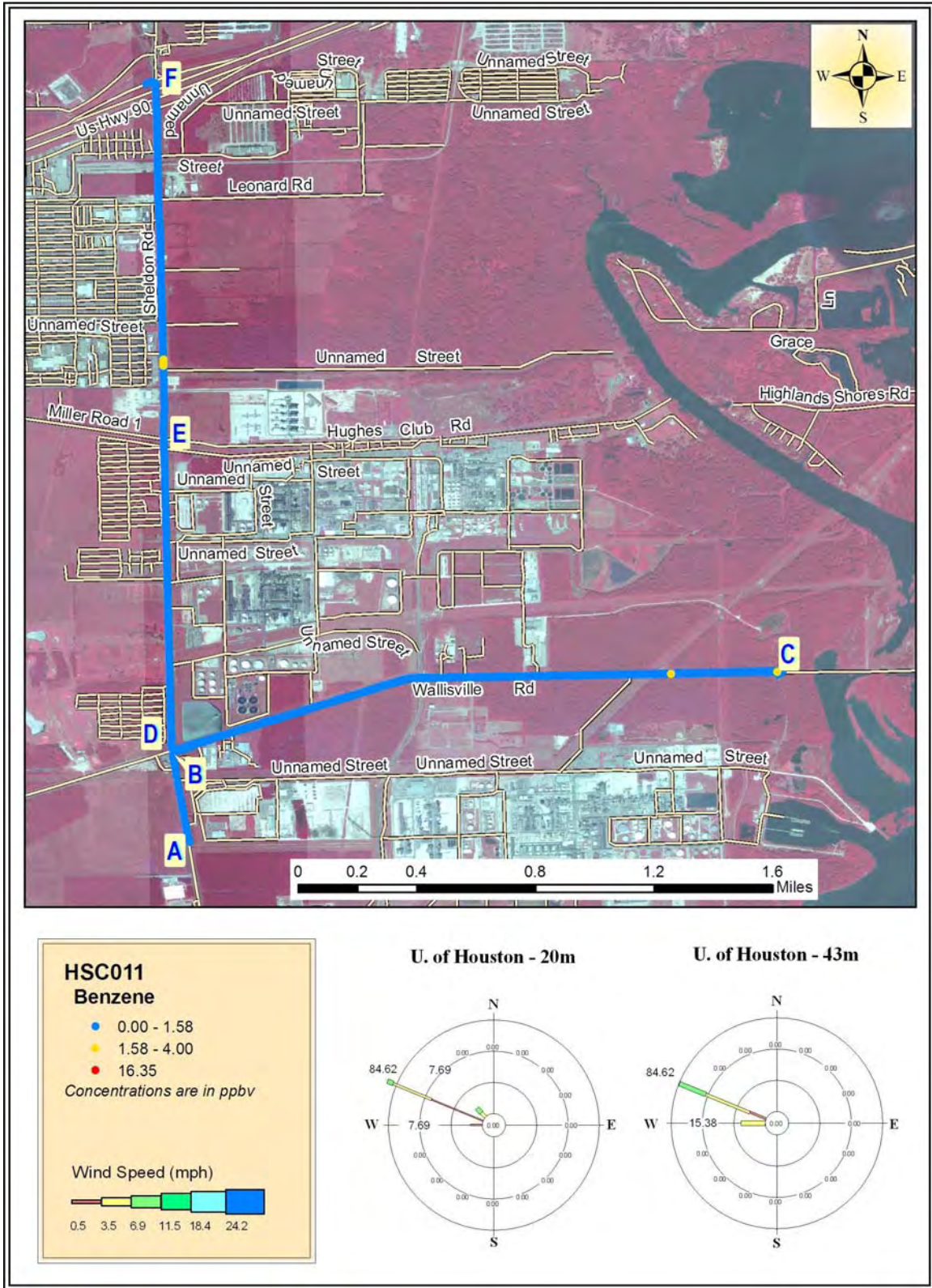


Figure 8a Mobile Monitoring Path for Benzene in Harris County







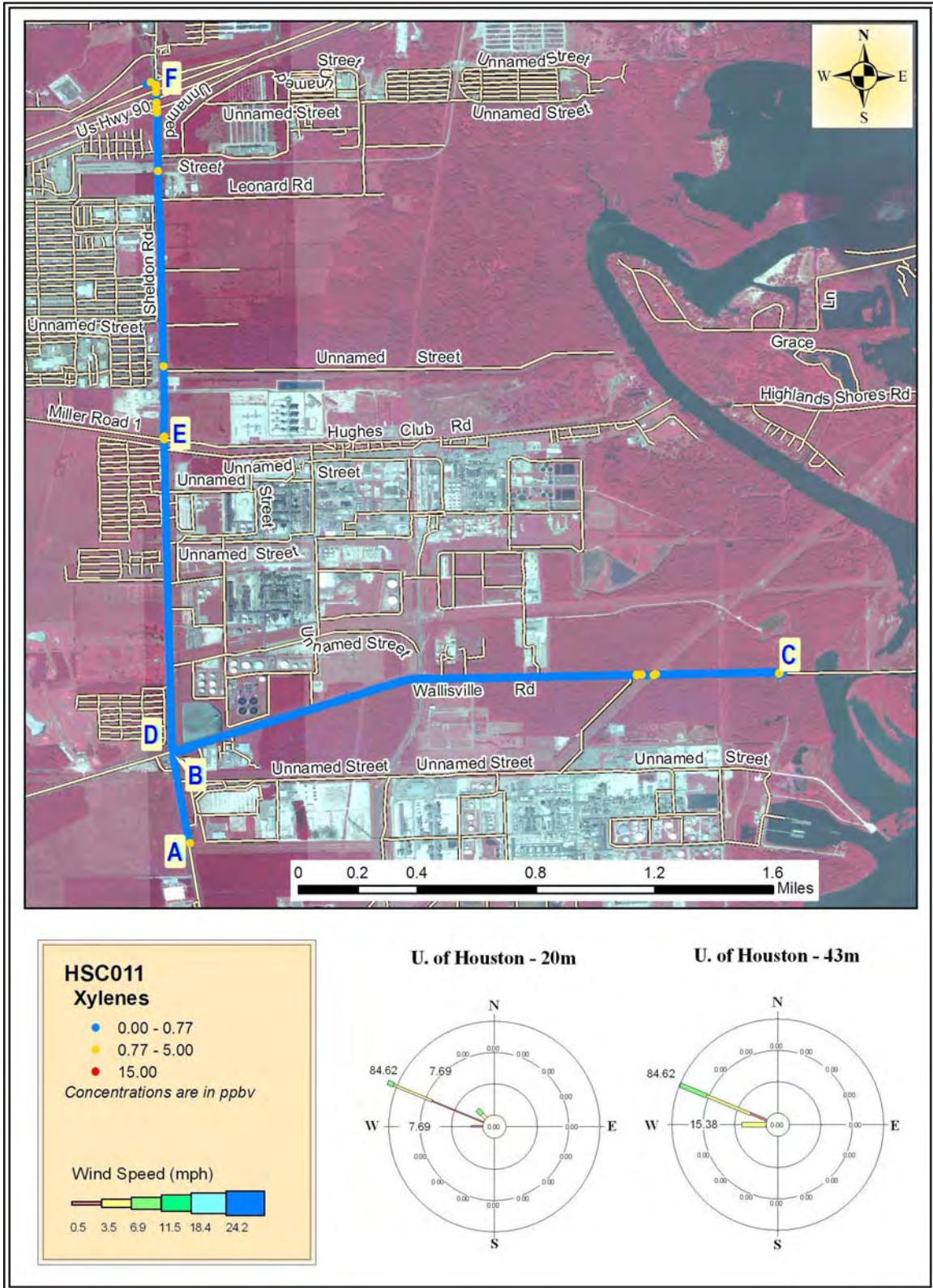


Figure 8c Mobile Monitoring Path for Xylenes in Harris County





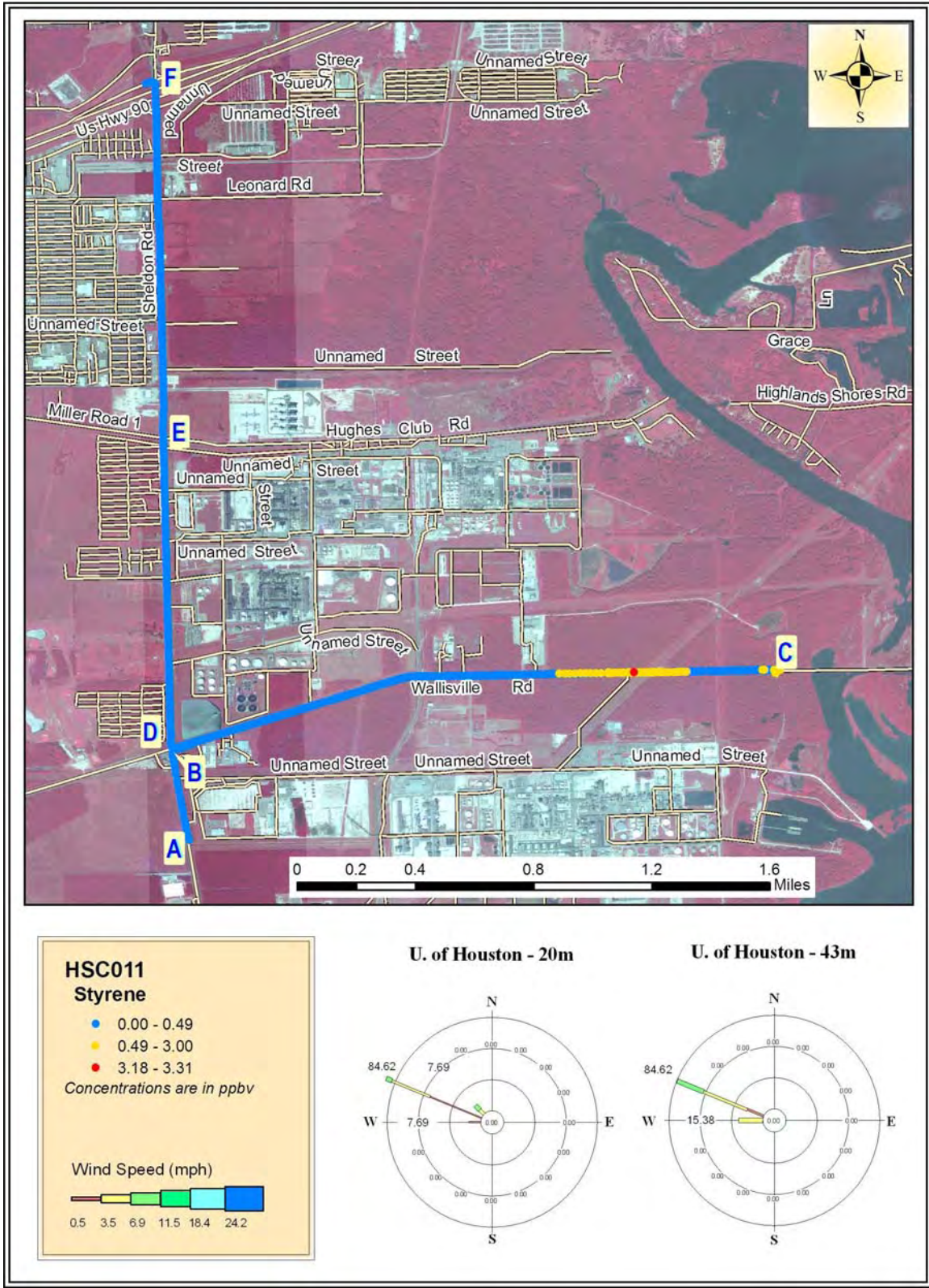












**Figure 8g** Mobile Monitoring Path for Styrene in Harris County

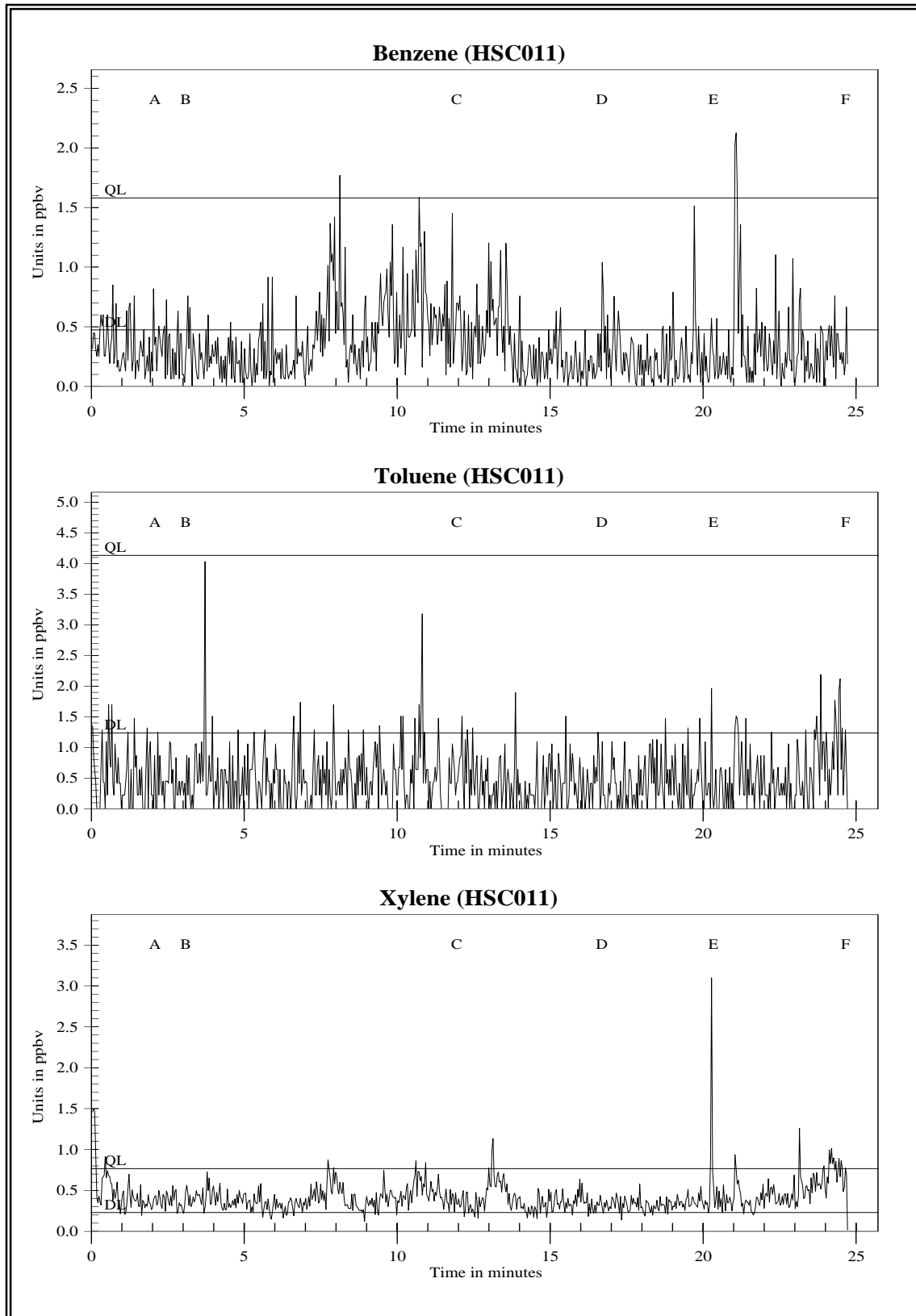




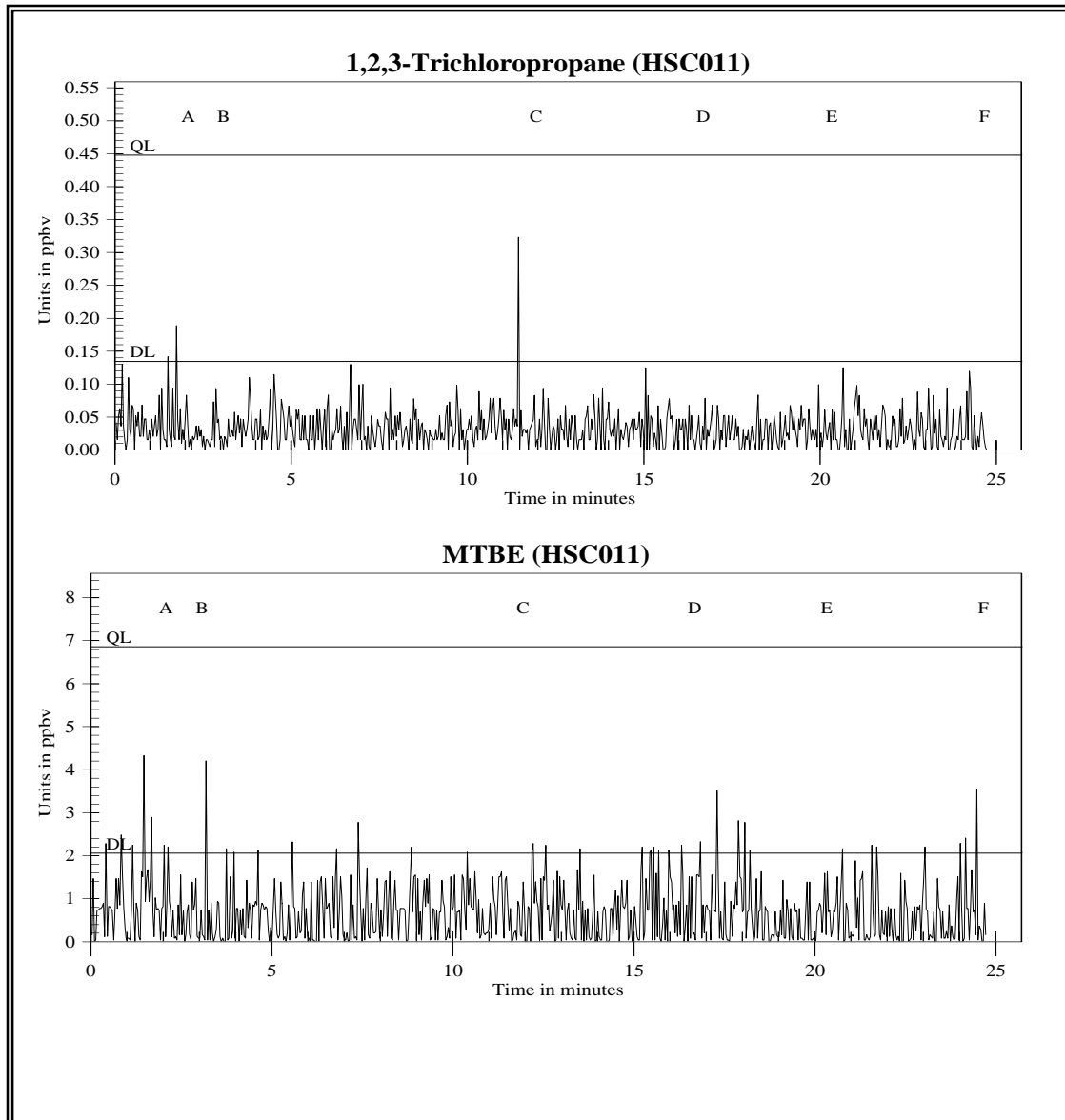
**Figure 8i**

TAGA File Event Summary			
File: HSC011 Acquired on 12 December 2006 at 09:19:44 UTC			
Title: Mobile Monitoring in Harris County			
Flag	Time	Sequence	Description
A	1.9	55	Start monitoring northward on Sheldon Road at Wallisville Road
B	2.9	84	Turning right onto Wallisville Road
C	11.8	337	Executing a U-turn
D	16.5	472	Turning right onto Sheldon Road
E	20.2	577	Passing Miller Road Number One
F	24.5	701	Ending at Crosby Freeway (Interstate 90)

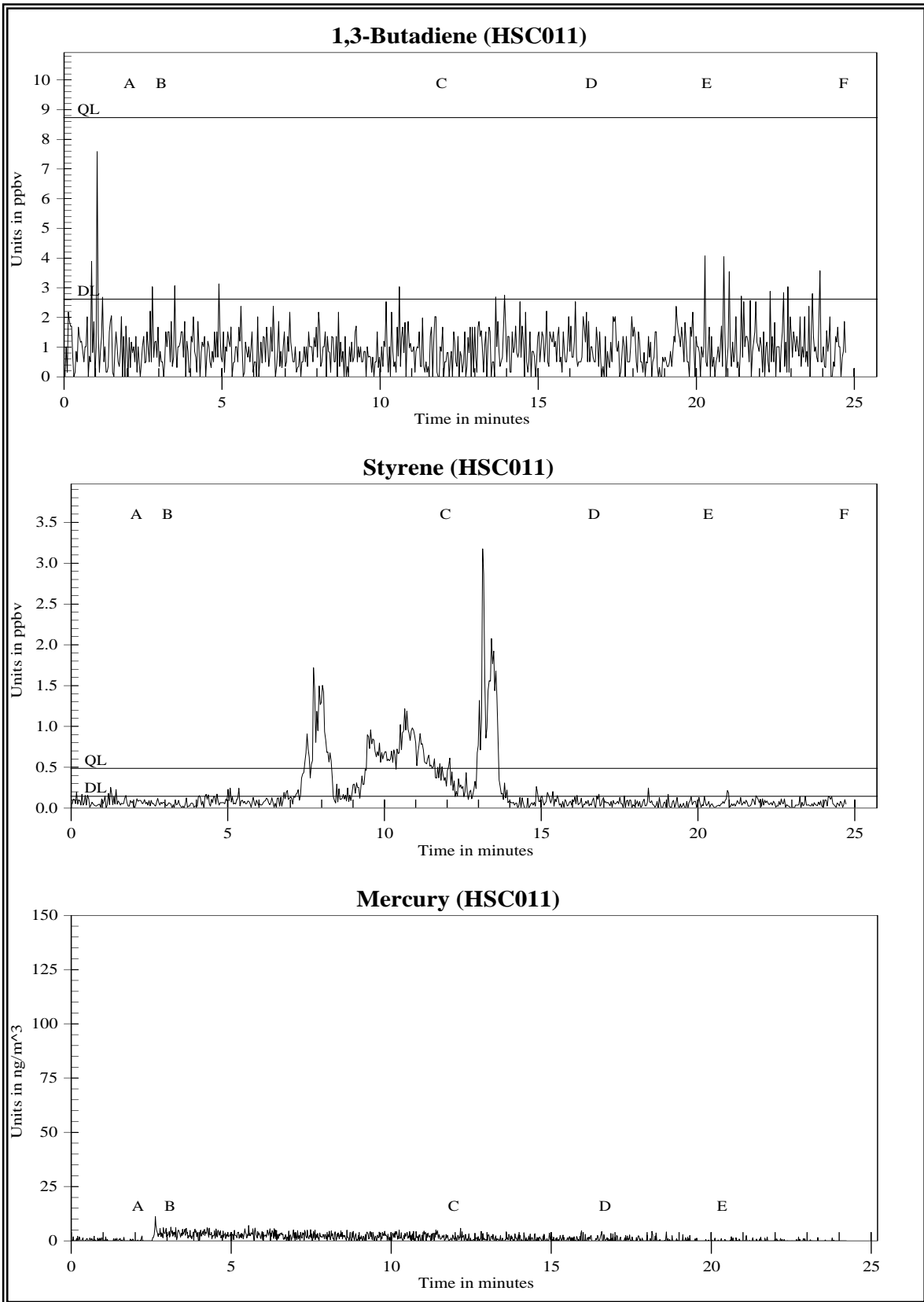




**Figure 8j** Mobile Monitoring in Harris County for Benzene, Toluene, and Xylenes



**Figure 8k** Mobile Monitoring in Harris County for 1,2,3-Trichloropropane and Methyl-t-butyl ether



**Figure 81** Mobile Monitoring in Harris County for 1,3-Butadiene, Styrene, and Mercury

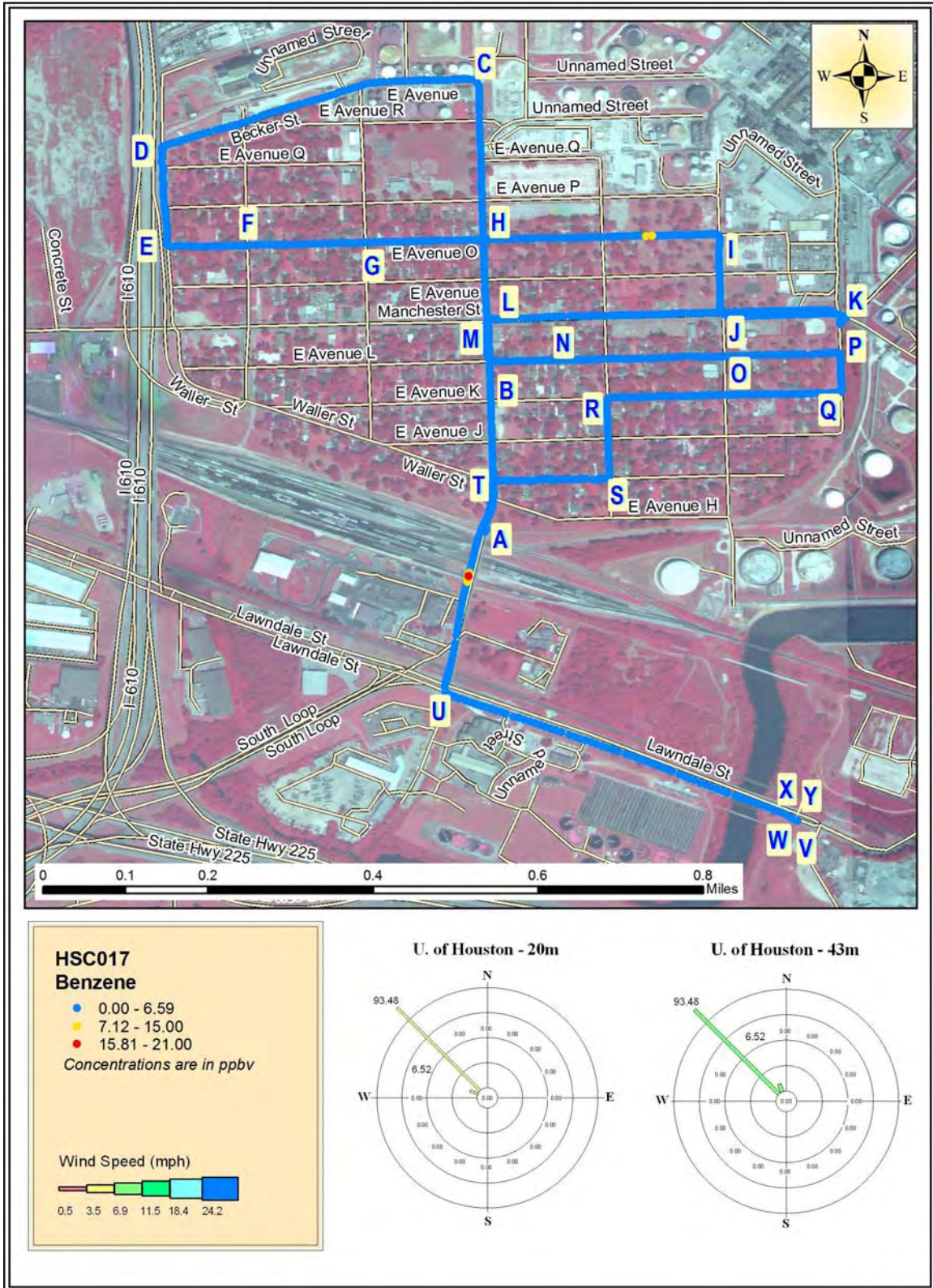


Figure 9a Mobile Monitoring Path for Benzene in Harris County



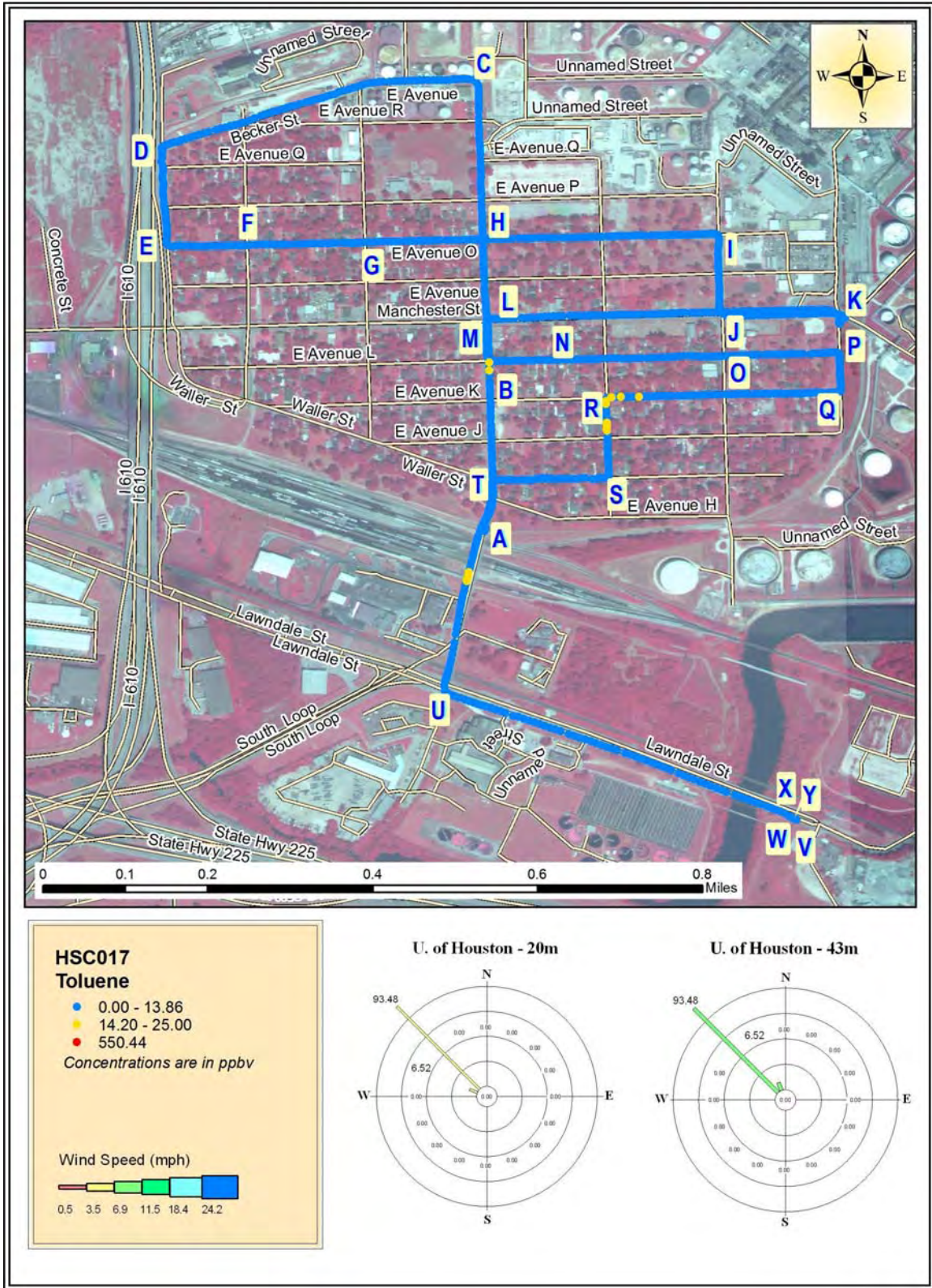


Figure 9b Mobile Monitoring Path for Toluene in Harris County



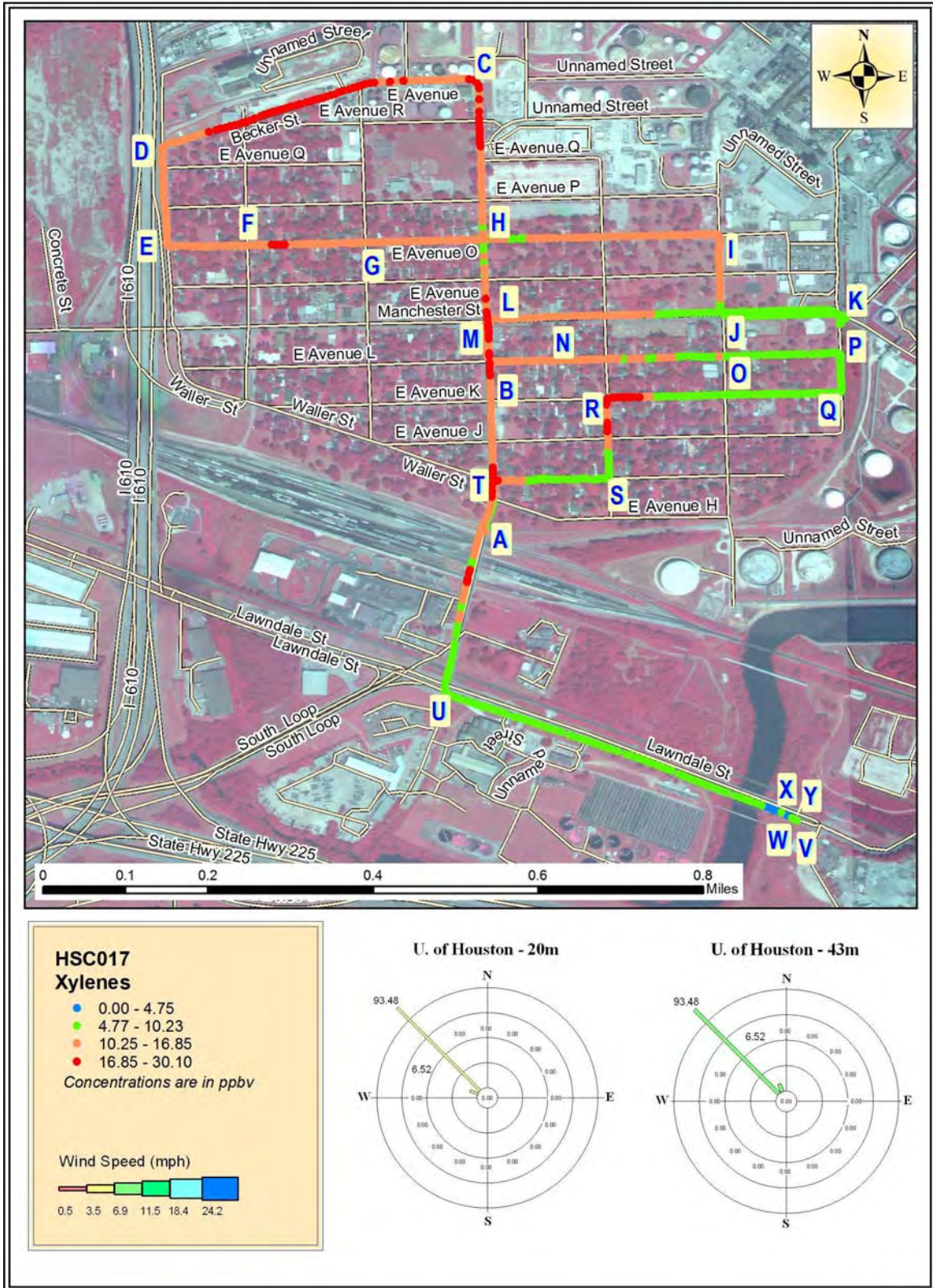


Figure 9c Mobile Monitoring Path for Xylenes in Harris County



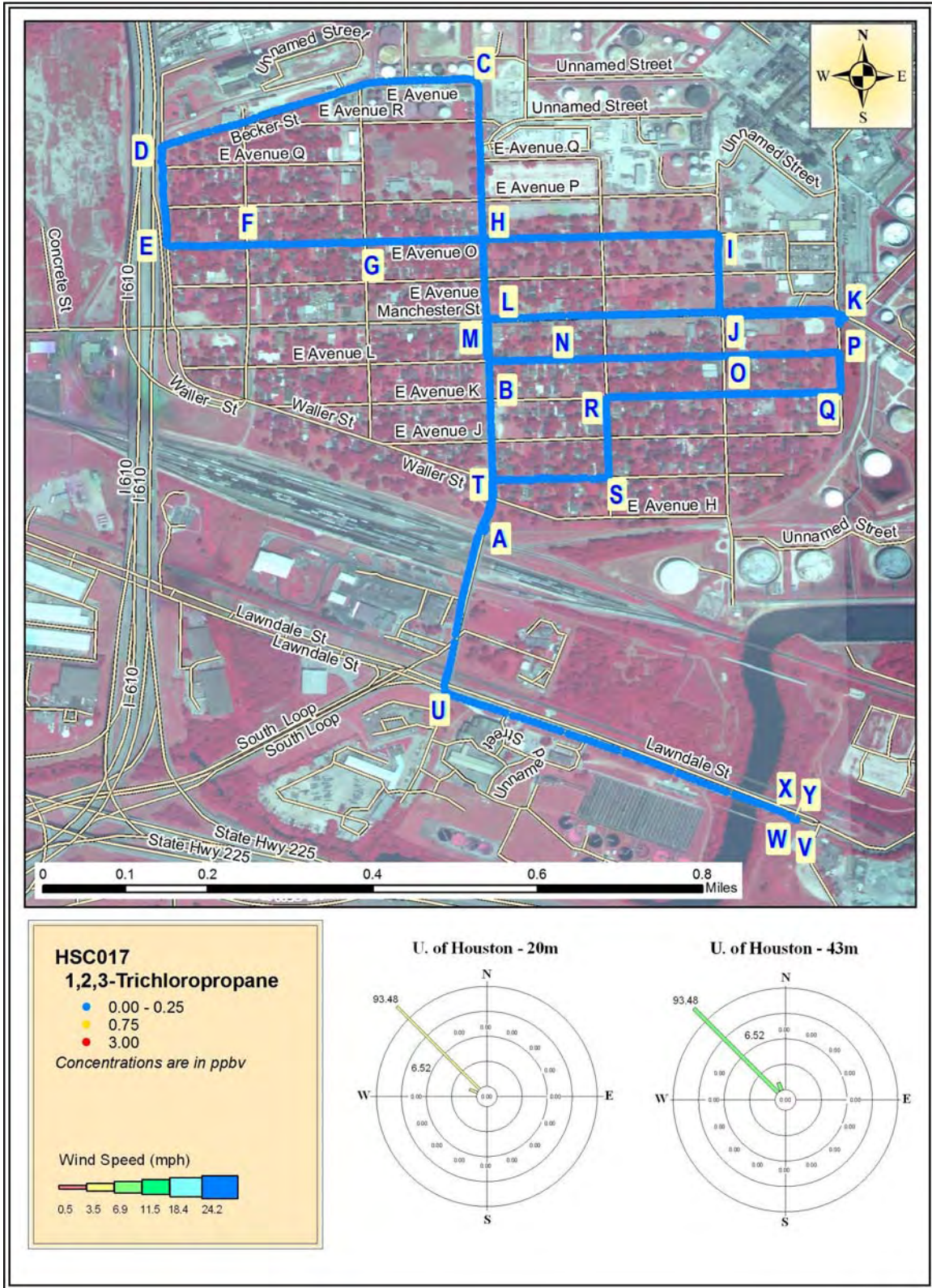


Figure 9d Mobile Monitoring Path for 1,2,3-Trichloropropane in Harris County



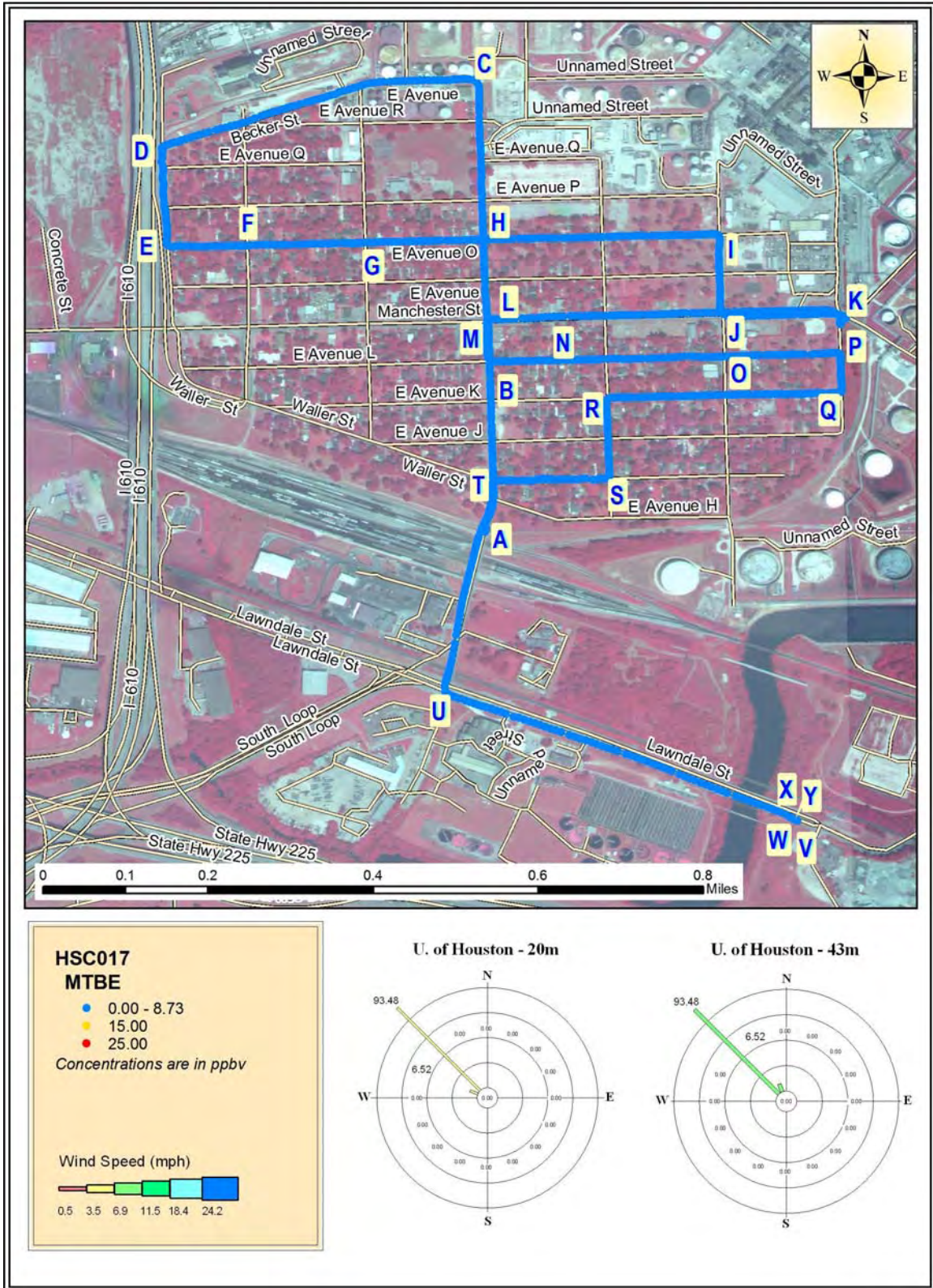


Figure 9e Mobile Monitoring Path for Methyl-t-butyl ether in Harris County



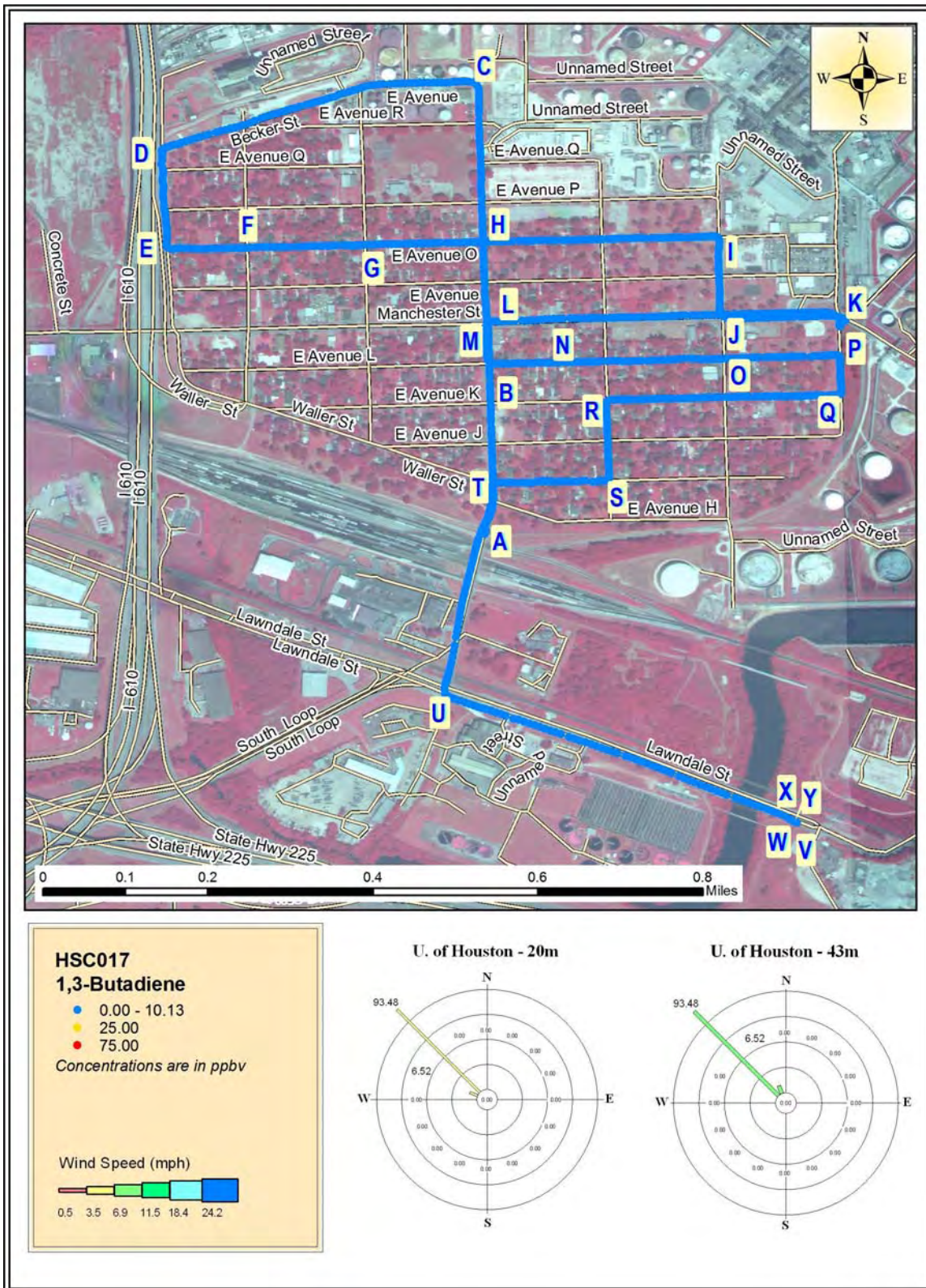


Figure 9f Mobile Monitoring Path for 1,3-Butadiene in Harris County



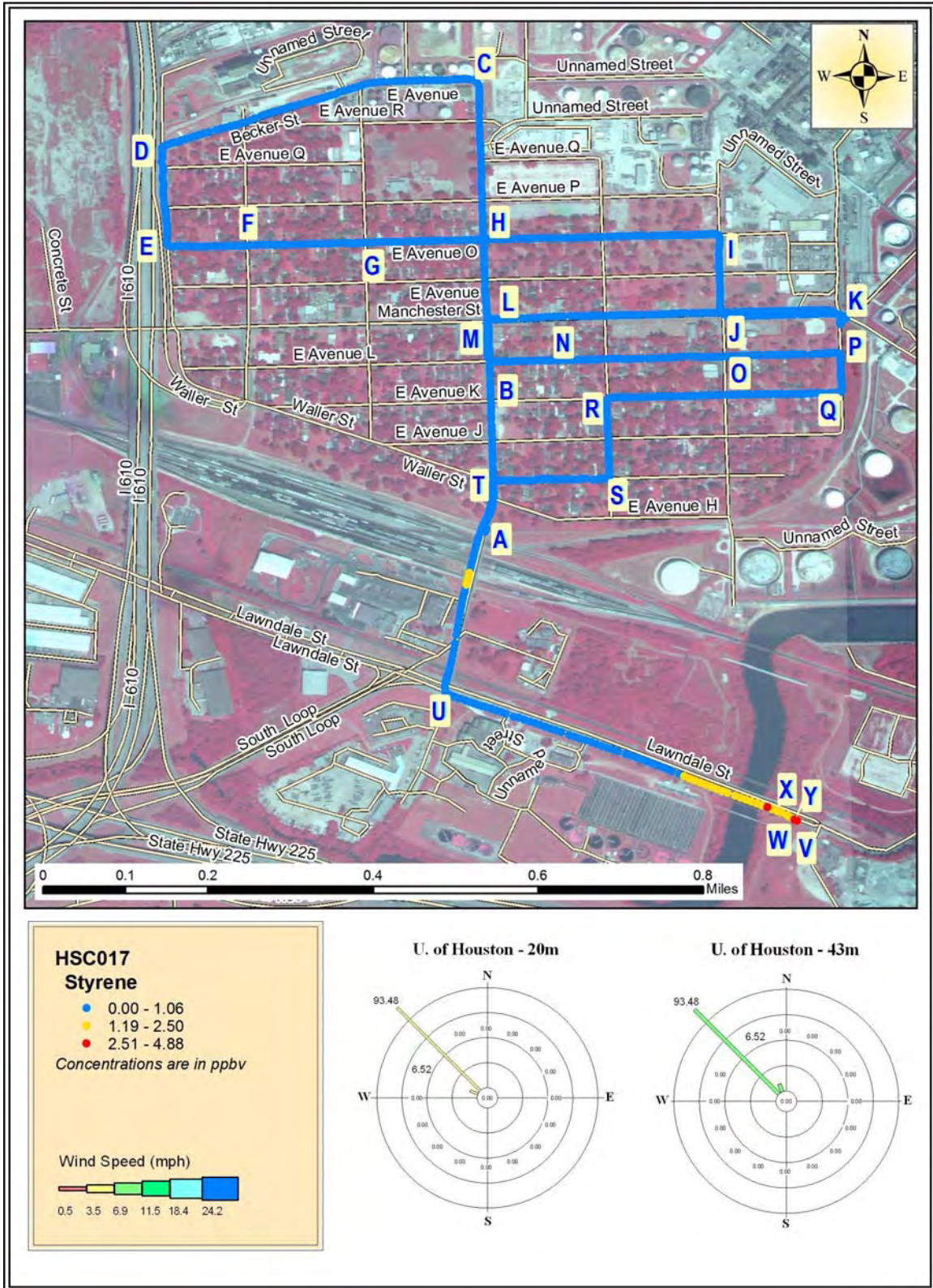


Figure 9g Mobile Monitoring Path for Styrene in Harris County



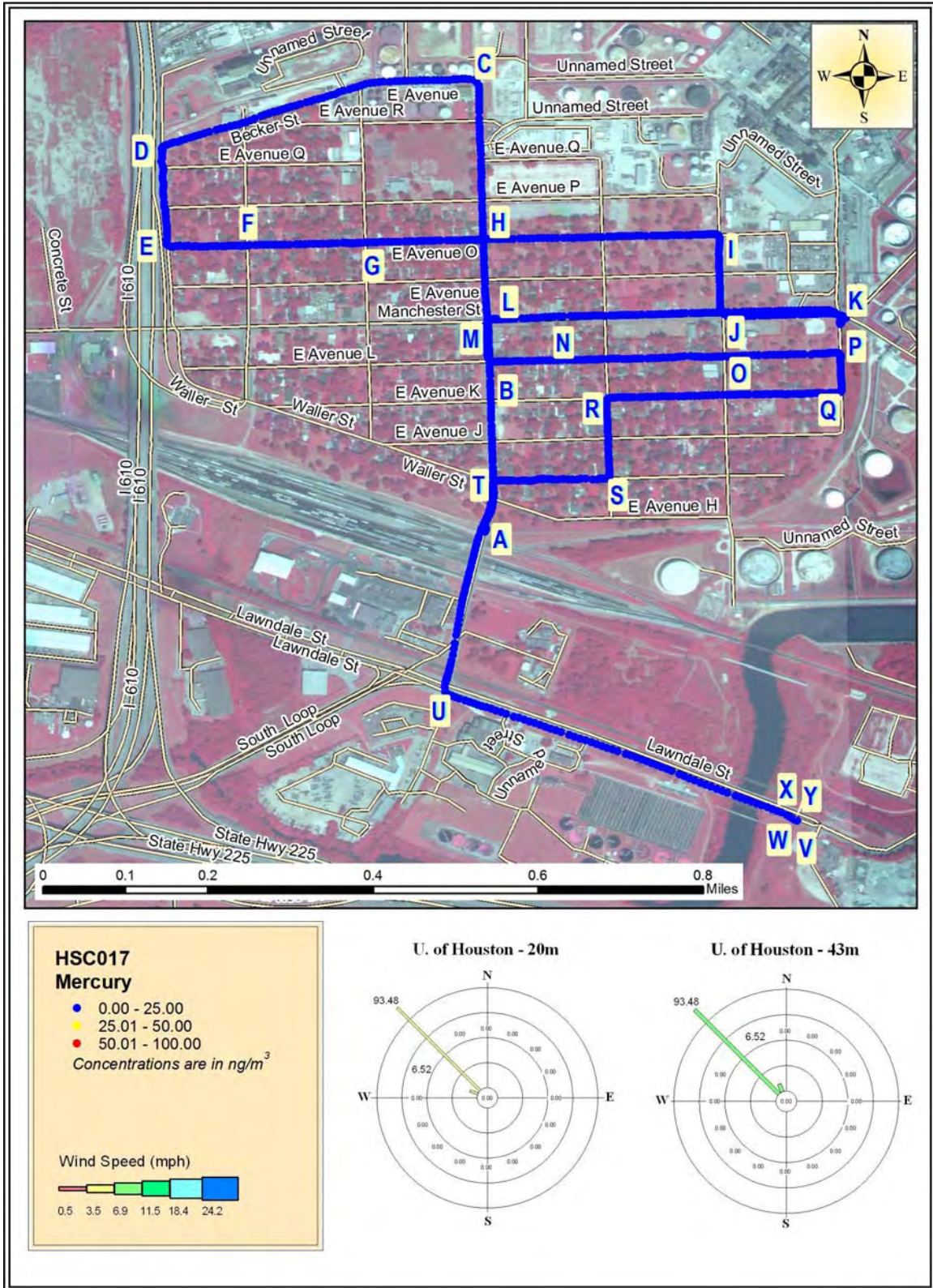
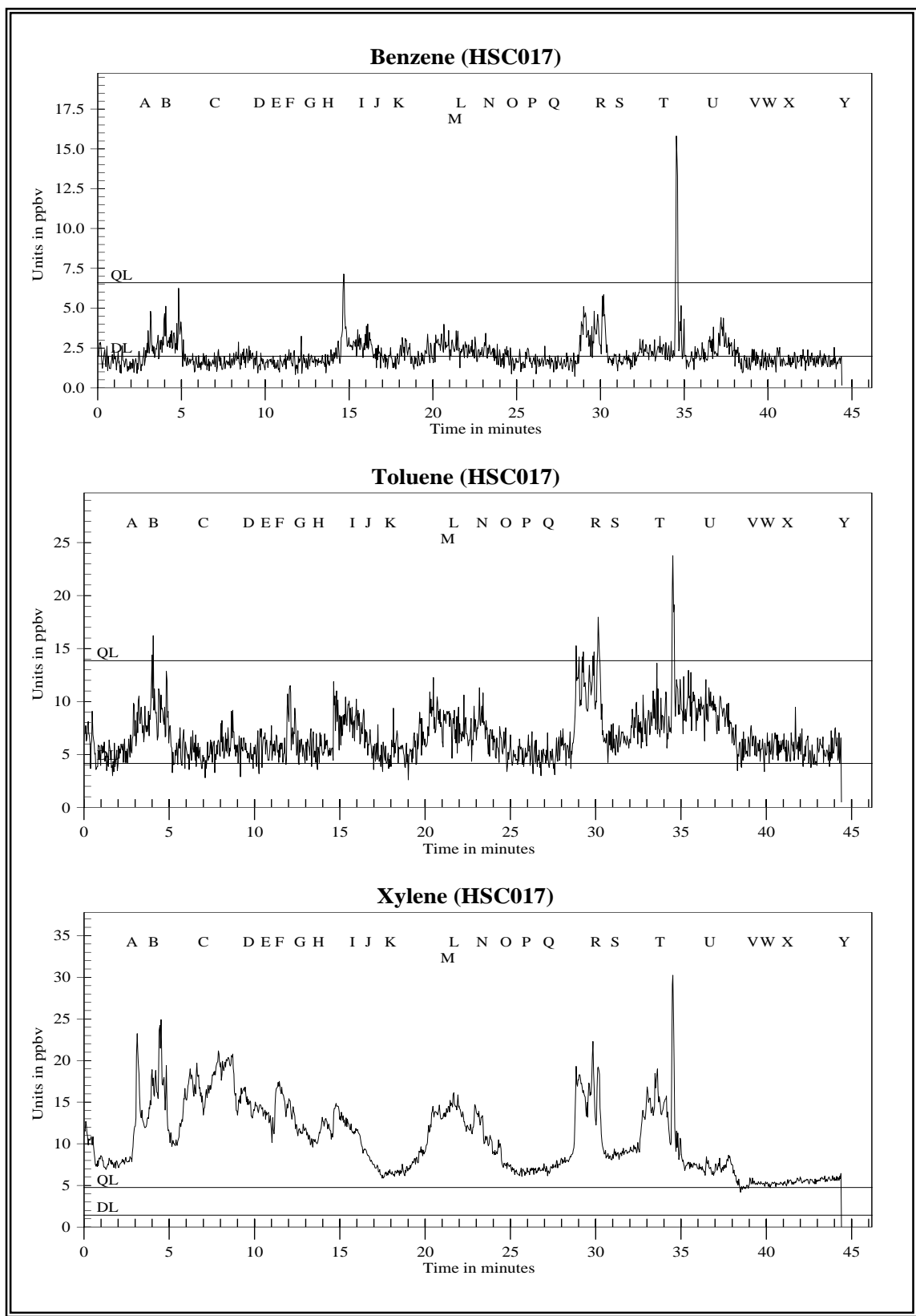


Figure 9h Mobile Monitoring Path for Mercury in Harris County

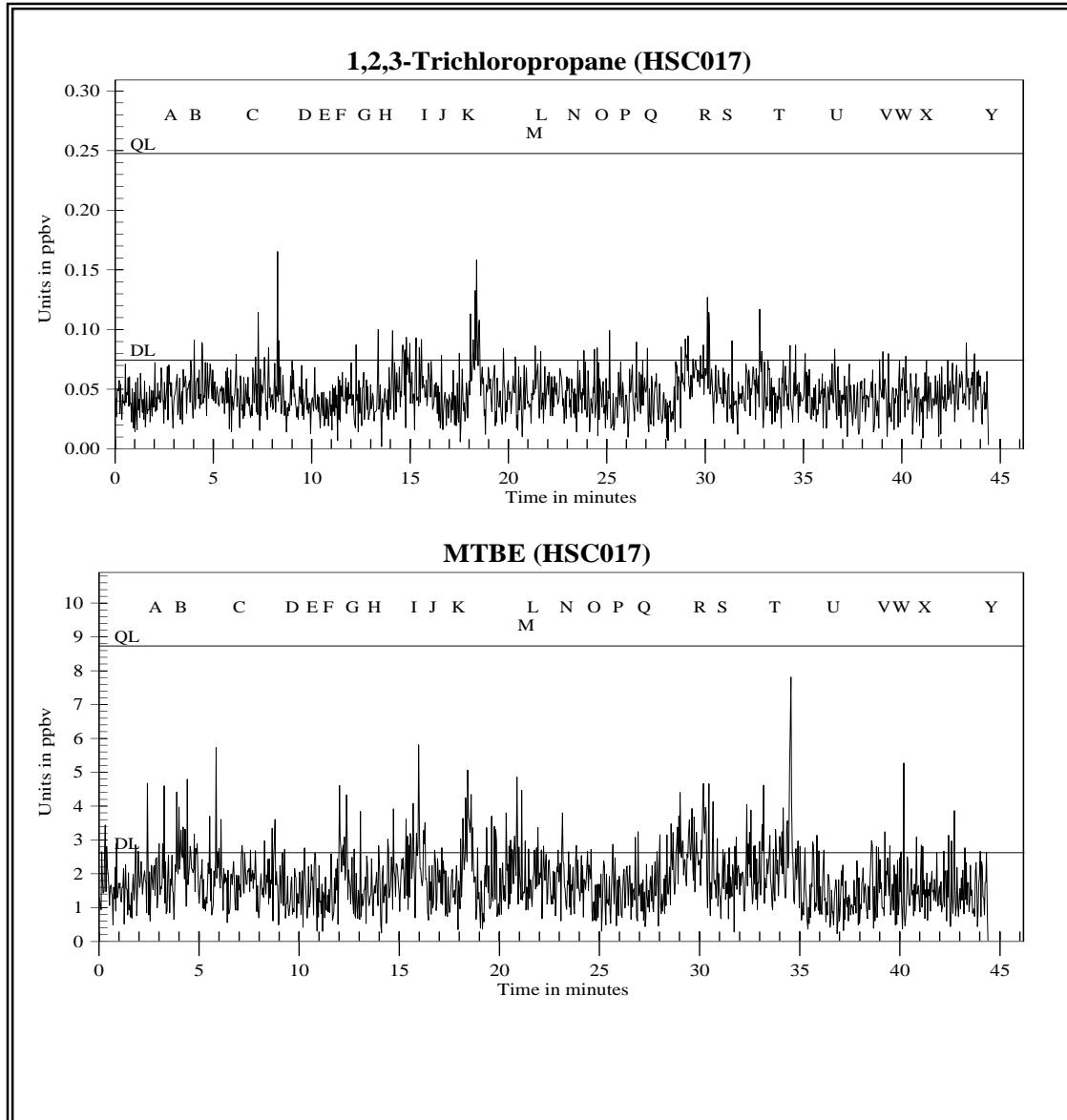
**Figure 9i**

TAGA File Event Summary			
File: HSC017 Acquired on 13 December 2006 at 02:39:08 UTC			
Title: Mobile Monitoring in Harris County			
Flag	Time	Sequence	Description
A	2.5	72	Start monitoring northward on Central Street near Avenue H
B	3.8	109	Passing Avenue K
C	6.7	192	Turning left onto East Avenue S (Becker Street)
D	9.3	267	Turning left onto East Loop South
E	10.4	297	Turning left onto Avenue O
F	11.2	321	Passing 92 <sup>nd</sup> Street
G	12.3	353	Passing 93 <sup>rd</sup> Street
H	13.4	384	Passing Central Street
I	15.6	446	Turning right onto 96 <sup>th</sup> Street
J	16.5	472	Turning left onto Manchester Street
K	17.6	504	Executing a U-turn at 97 <sup>th</sup> Street
L	21.4	612	Passing Cams Station 1029
M	21.7	622	Turning left onto Central Street
N	23.0	658	Turning left onto East Avenue L
O	24.4	698	Passing 96 <sup>th</sup> Street
P	25.7	734	Turning right onto 97 <sup>th</sup> Street
Q	26.9	769	Turning right onto Avenue K
R	29.7	849	Turning left onto 95 <sup>th</sup> Street
S	30.9	883	Turning right onto East Avenue I
T	33.5	957	Turning left onto Central Street
U	36.4	1039	Turning left onto Lawndale Street
V	38.9	1111	Reversing; Stopping for SUMMA <sup>®</sup> sampling
W	39.6	1133	Start of SUMMA <sup>®</sup> sample F1582
X	40.9	1169	End of SUMMA <sup>®</sup> sample F1582
Y	44.2	1264	Stopping at the collection station

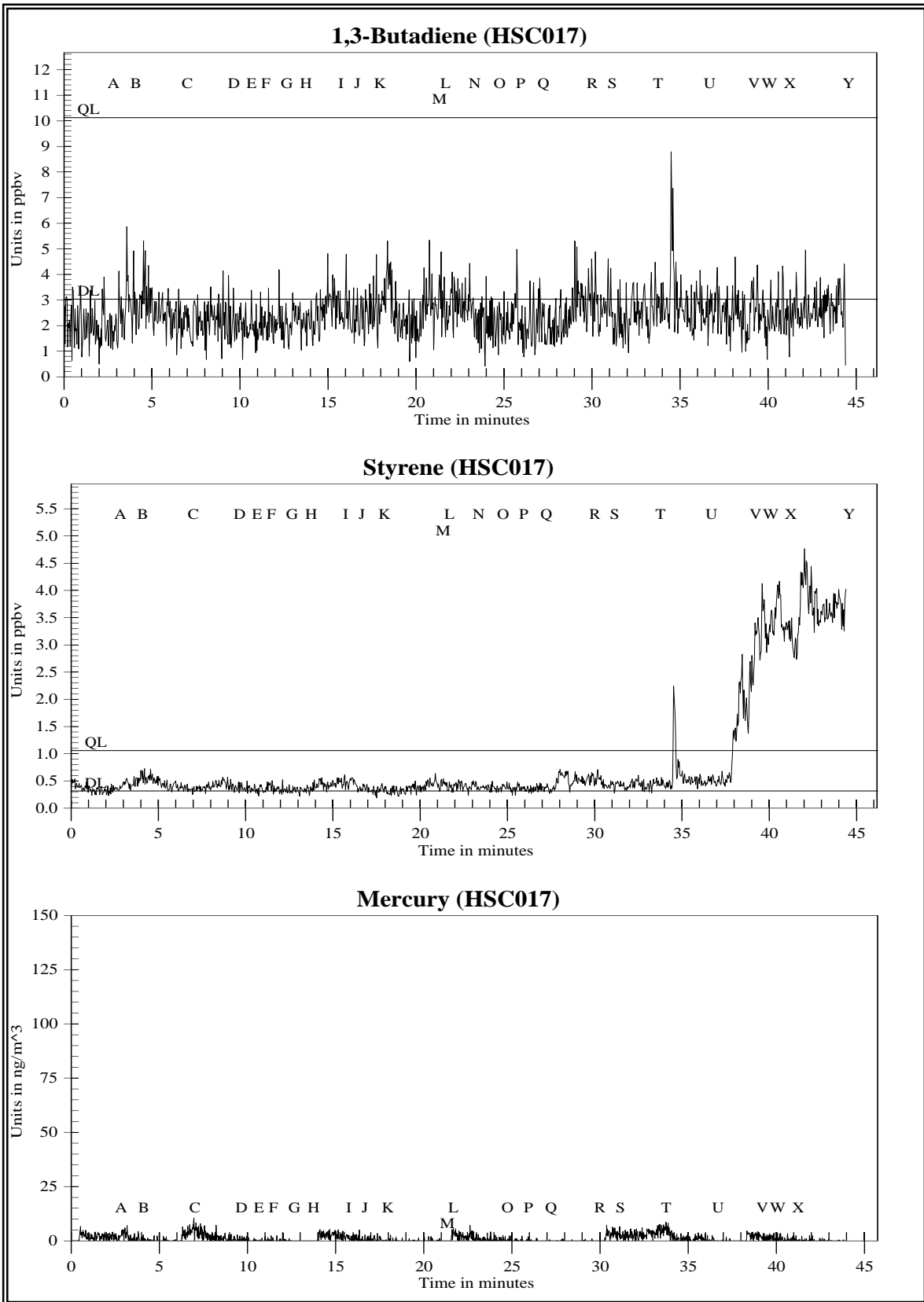




**Figure 9j** Mobile Monitoring in Harris County for Benzene, Toluene, and Xylenes



**Figure 9k** Mobile Monitoring in Harris County for 1,2,3-Trichloropropane and Methyl-t-butyl ether



**Figure 91** Mobile Monitoring in Harris County for 1,3-Butadiene, Styrene, and Mercury



**Figure 9m**

TAGA Target Compound Averages during Sample Collection					
File: HSC017 Acquired on 13 December 2006 at 02:39:08 UTC					
		Benzene	Toluene	Xylenes	1,2,3-Trichloropropane
	Detection Limits (DL):	2.0	4.2	1.4	0.074
	Quantitation Limits (QL):	6.6	14.	4.8	0.25
Flags	Description	Benzene	Toluene	Xylenes	1,2,3-Trichloropropane
W - X	SUMMA <sup>®</sup> F1582	DL=2.0	5.6J	5.2	DL=0.074
		Methyl-t-butyl ether	1,3-Butadiene	Styrene	
	Detection Limits (DL):	2.6	3.0	0.32	
	Quantitation Limits (QL):	8.7	10.	1.1	
Flags	Description	Methyl-t-butyl ether	1,3-Butadiene	Styrene	
W - X	SUMMA <sup>®</sup> F1582	DL=2.6	DL=3.0	3.5	

Concentrations are in parts per billion by volume (ppbv)

J = Below quantitation limit

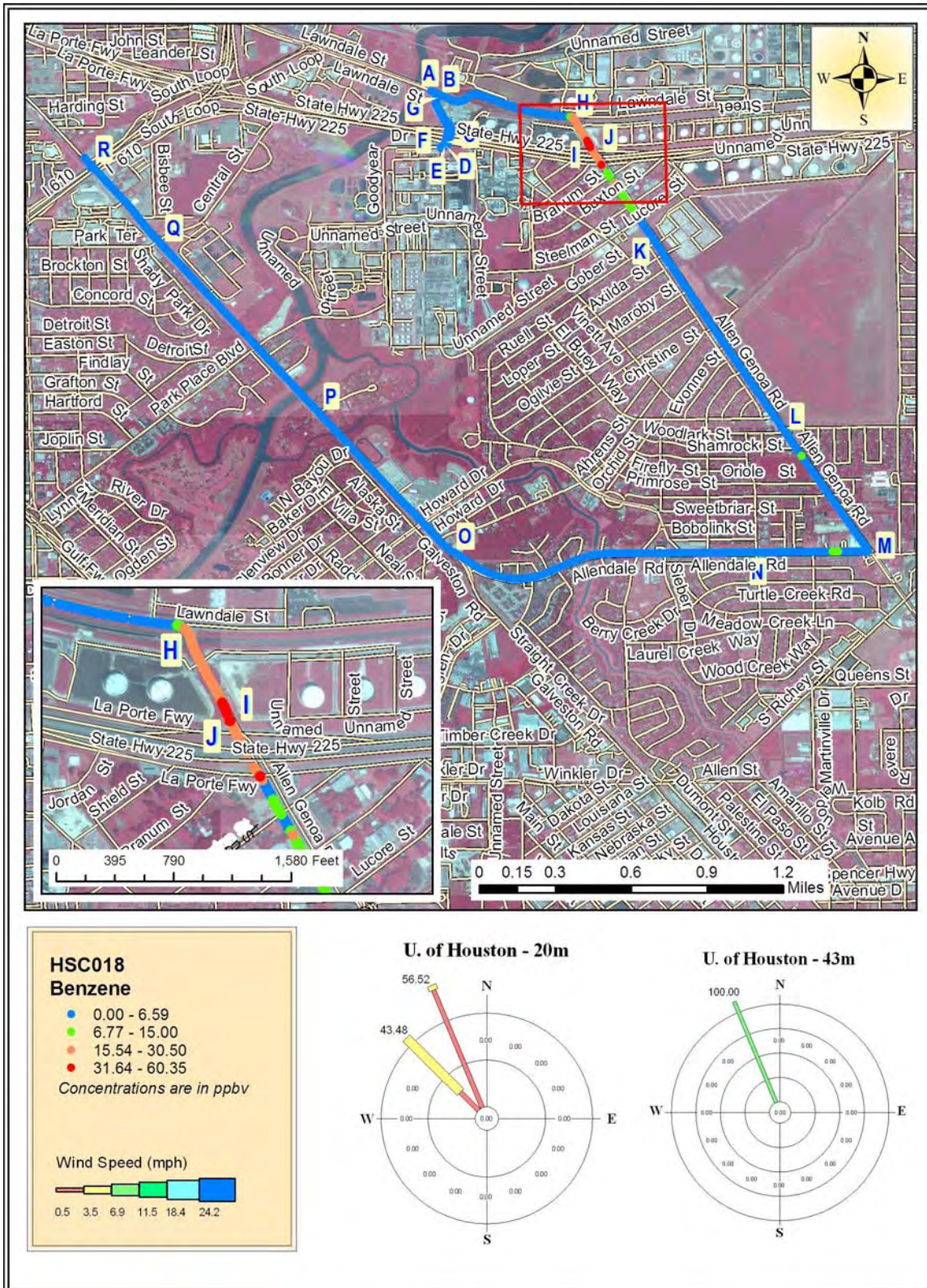


Figure 10a Mobile Monitoring Path for Benzene in Harris County



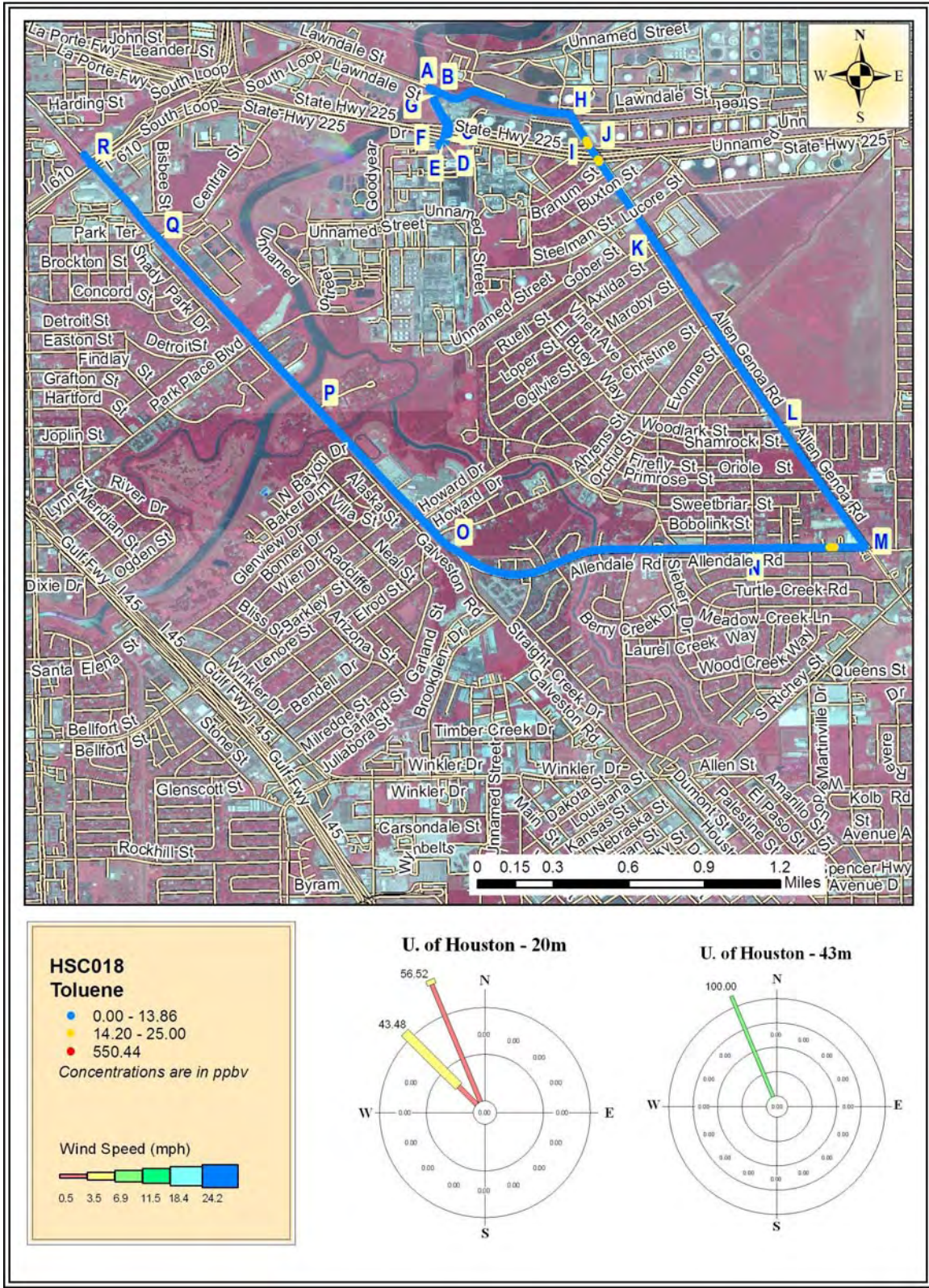


Figure 10b Mobile Monitoring Path for Toluene in Harris County



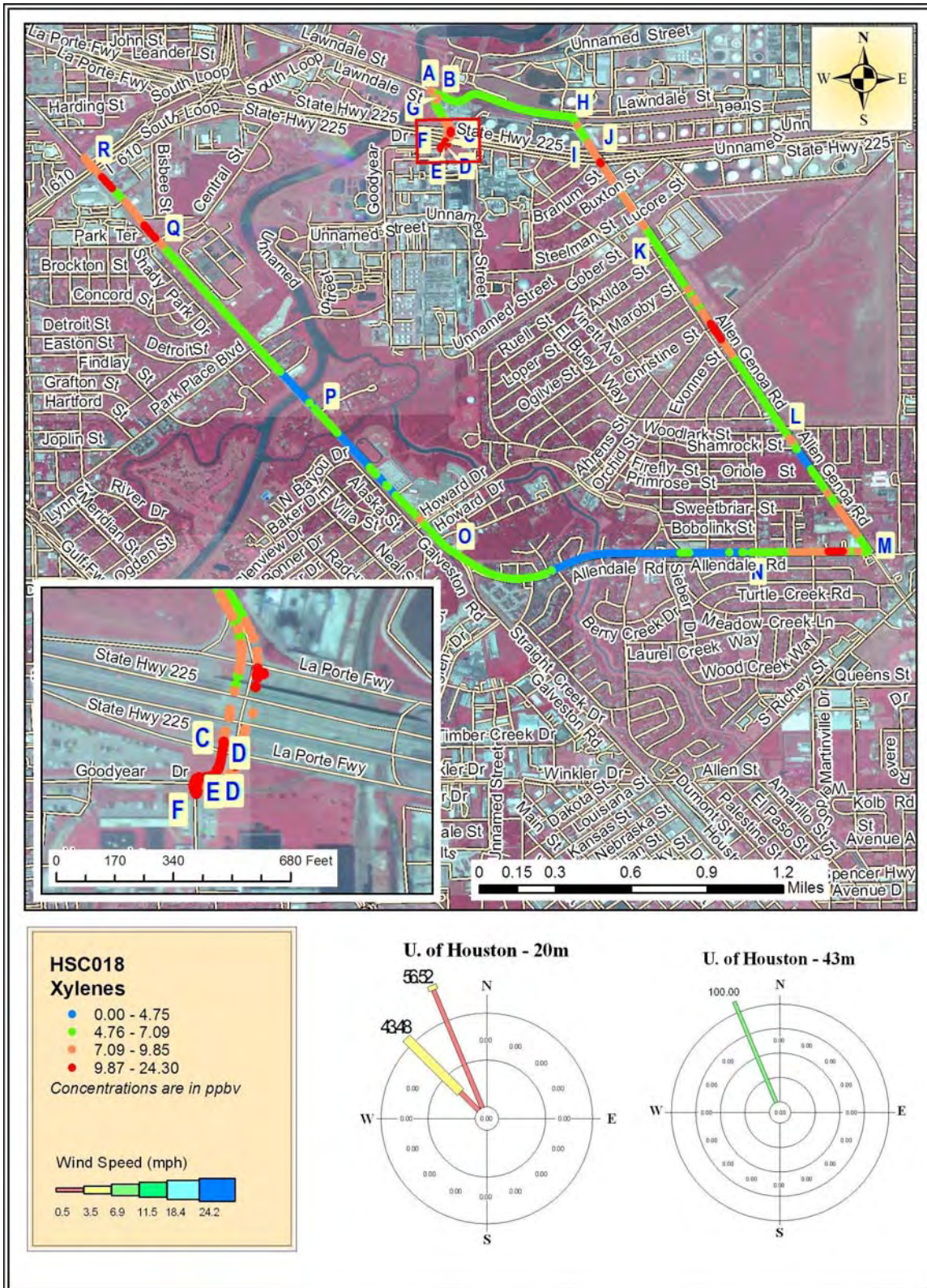
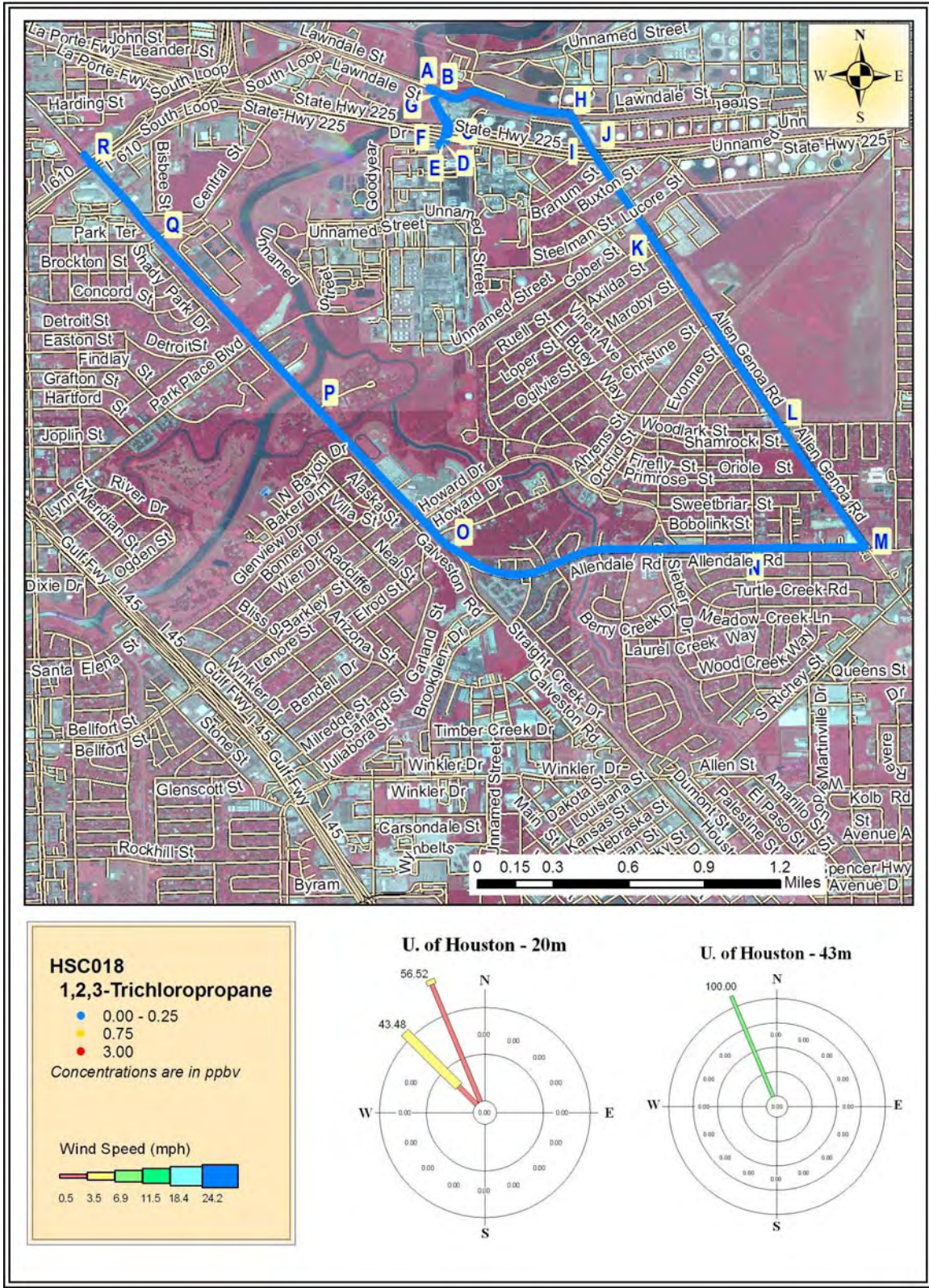


Figure 10c Mobile Monitoring Path for Xylenes in Harris County







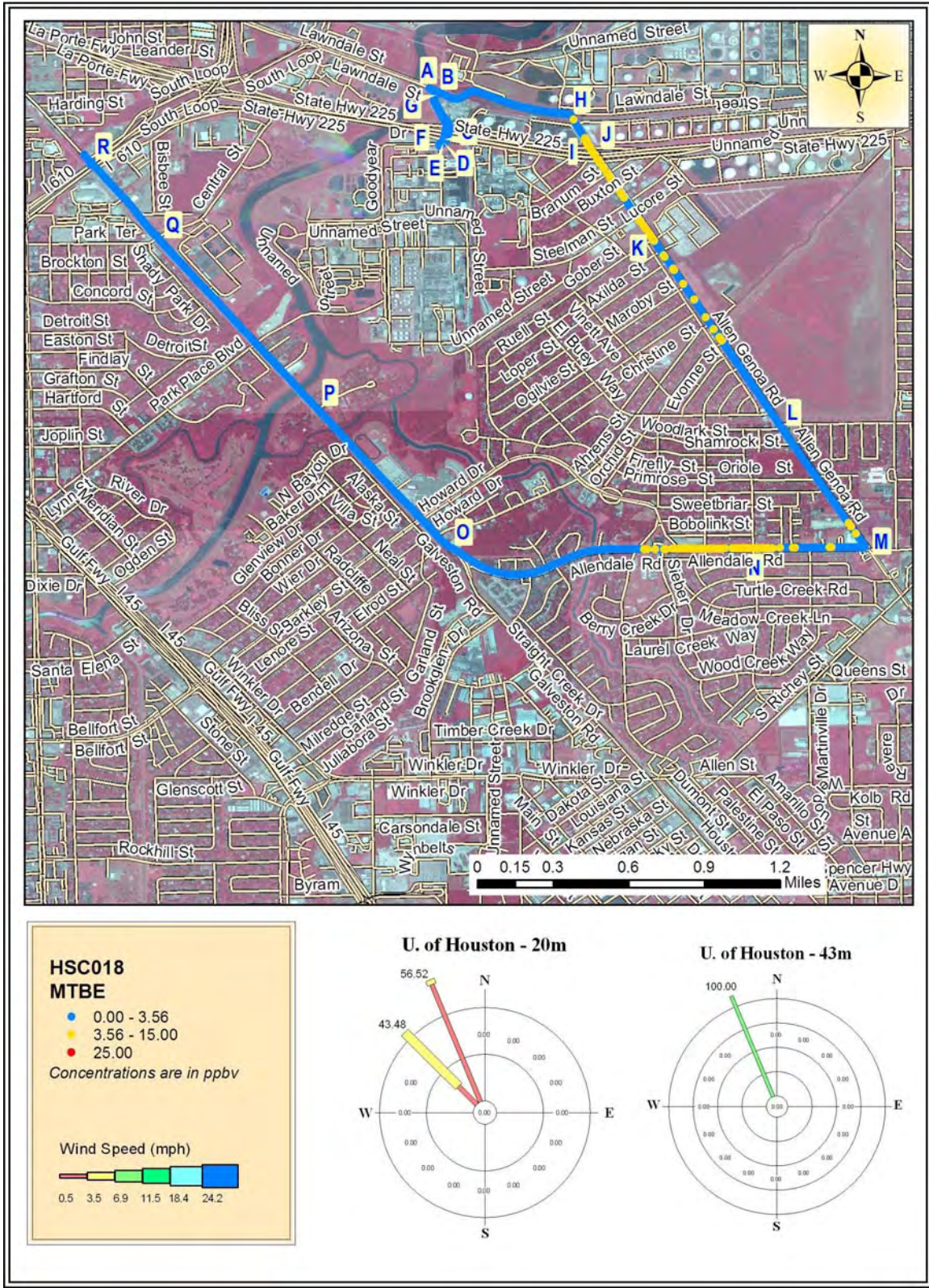


Figure 10e Mobile Monitoring Path for Methyl-t-butyl ether in Harris County



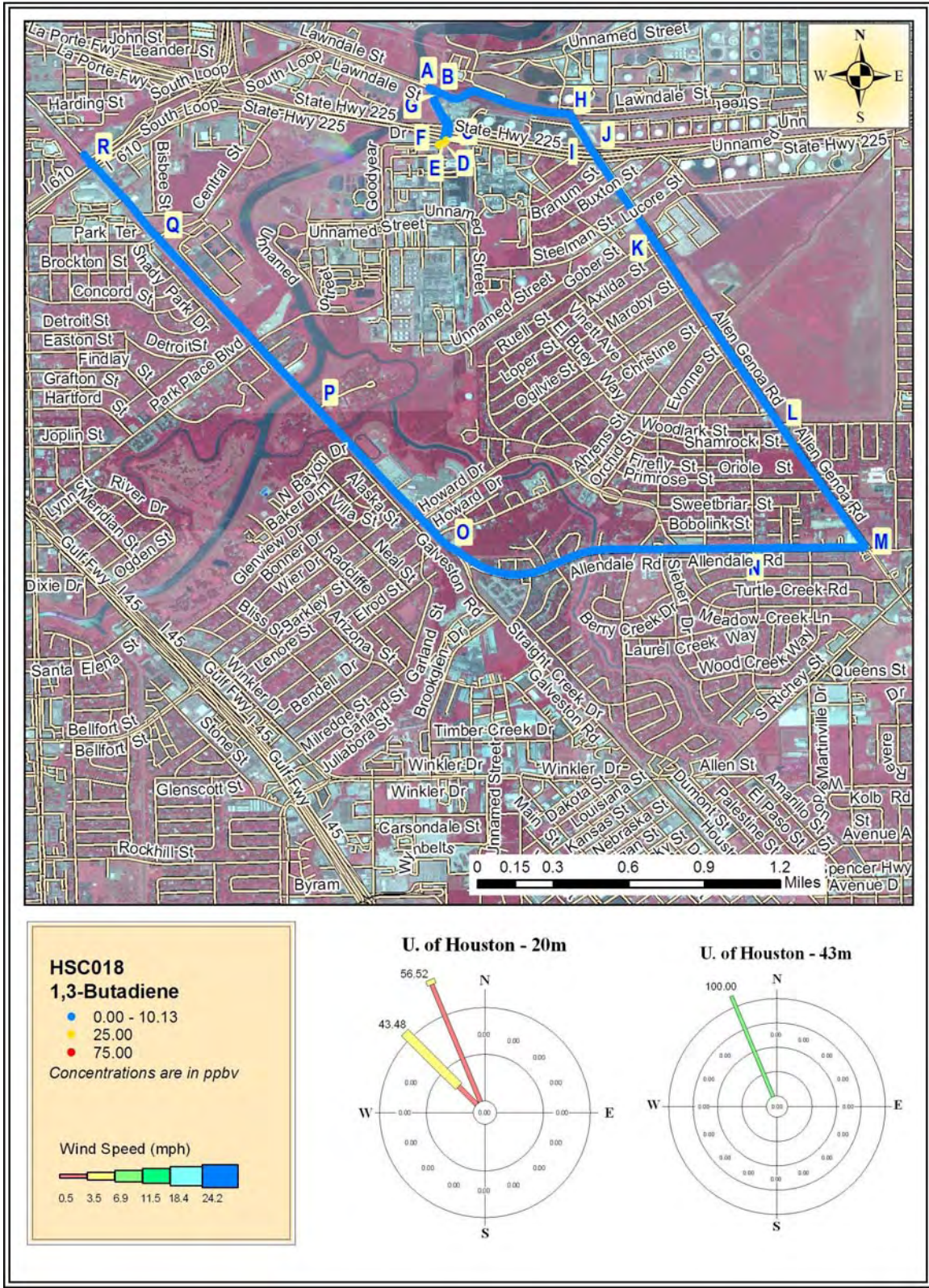


Figure 10f Mobile Monitoring Path for 1,3-Butadiene in Harris County



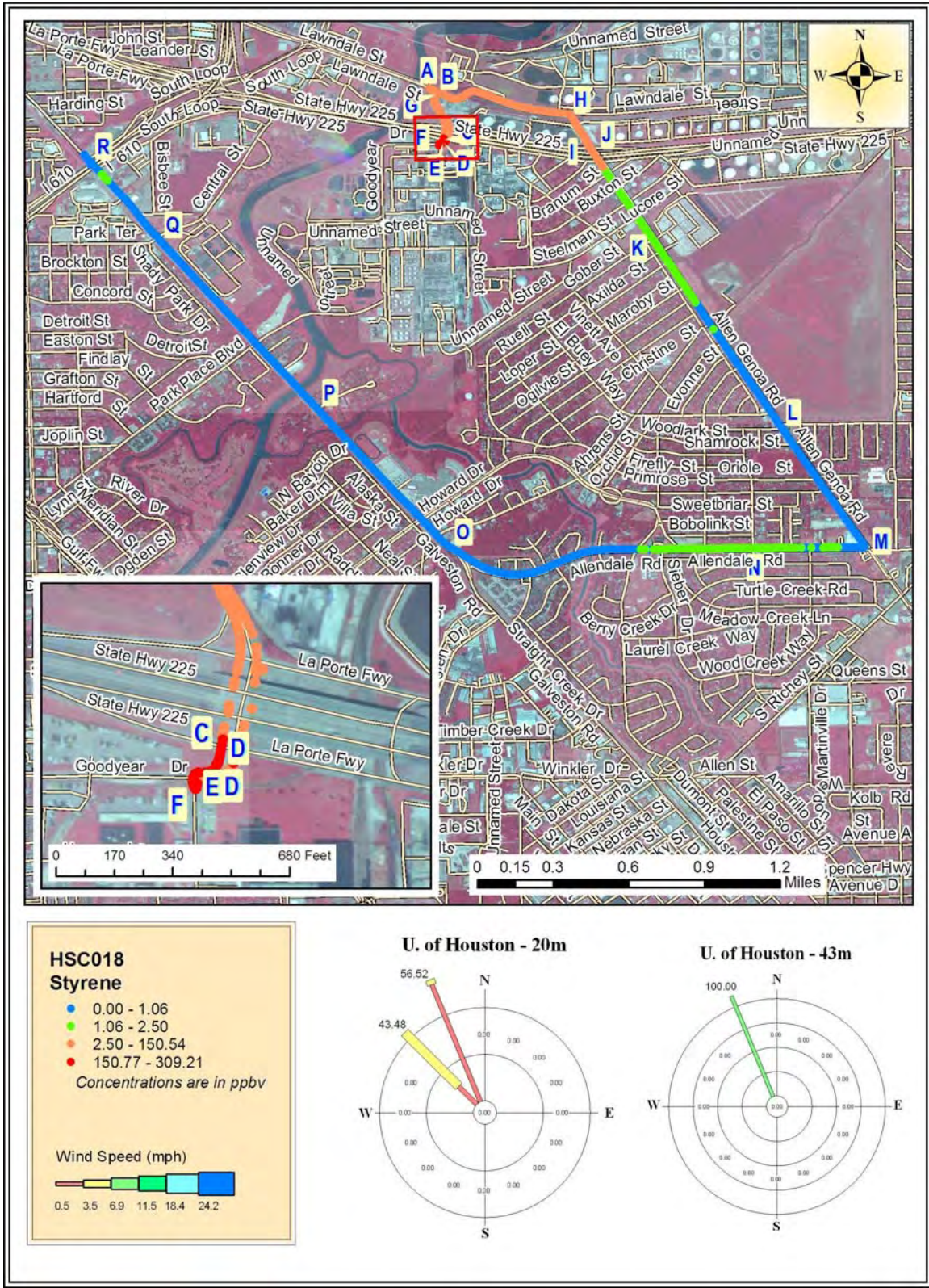


Figure 10g Mobile Monitoring Path for Styrene in Harris County



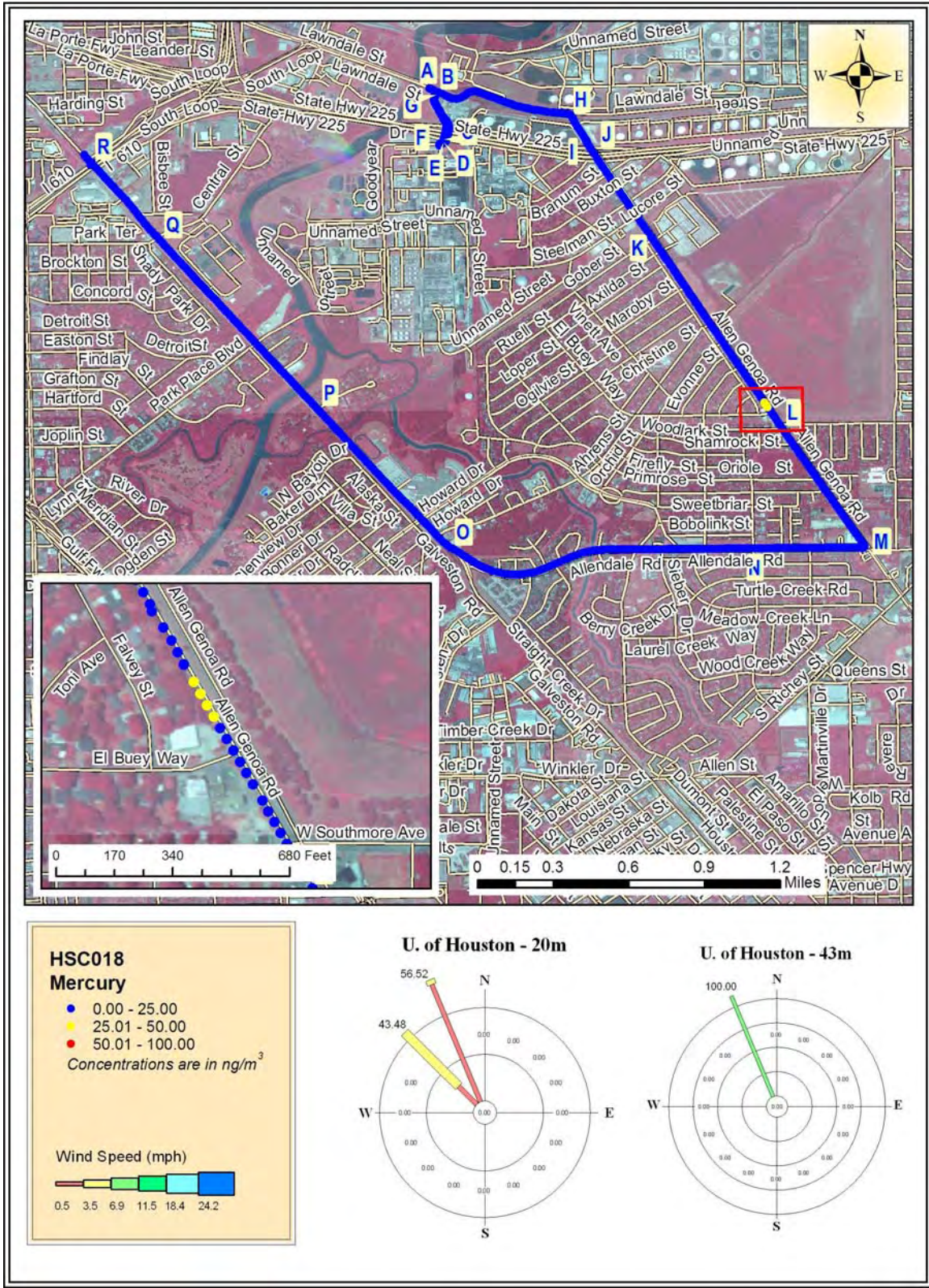
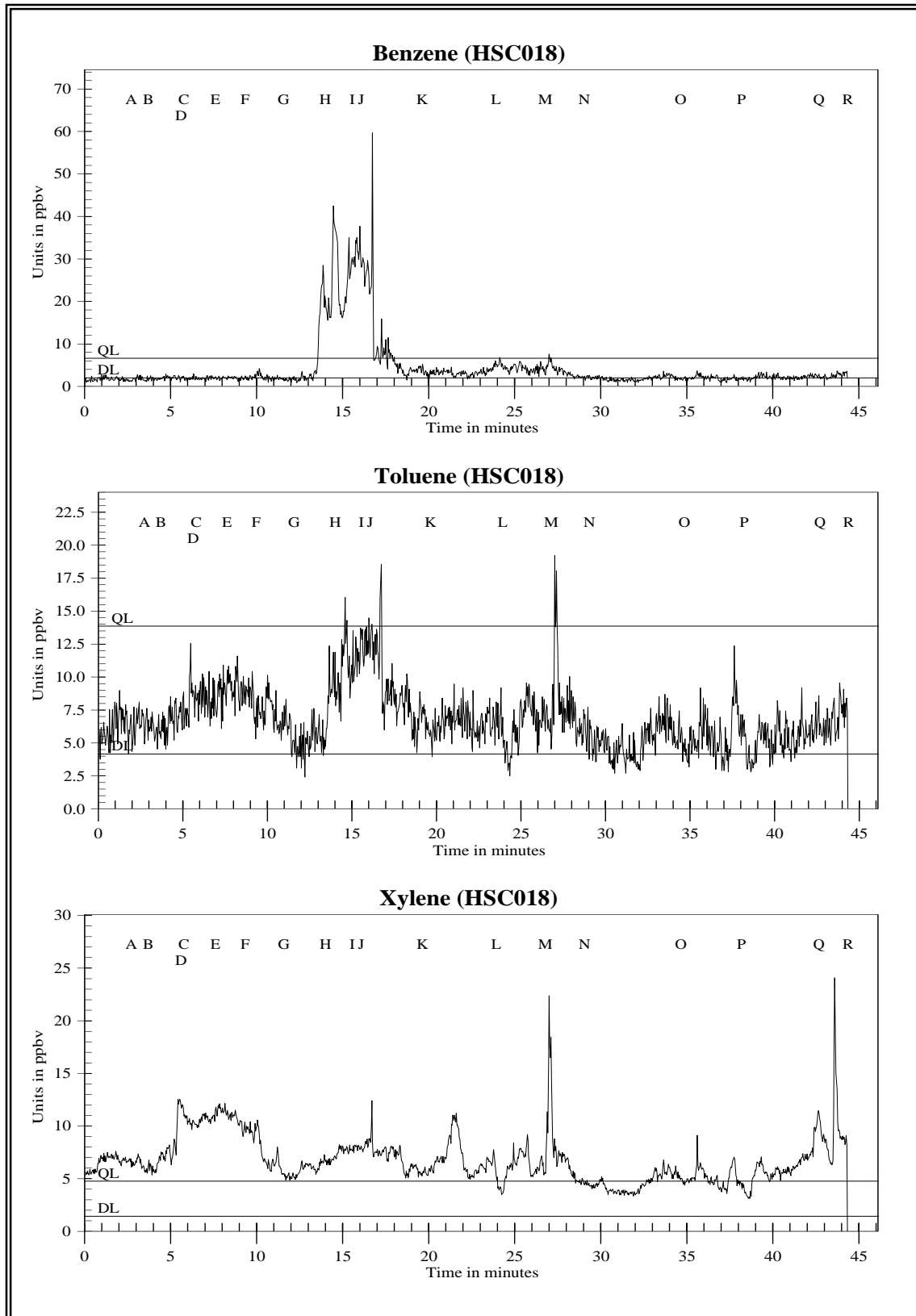


Figure 10h Mobile Monitoring Path for Mercury in Harris County

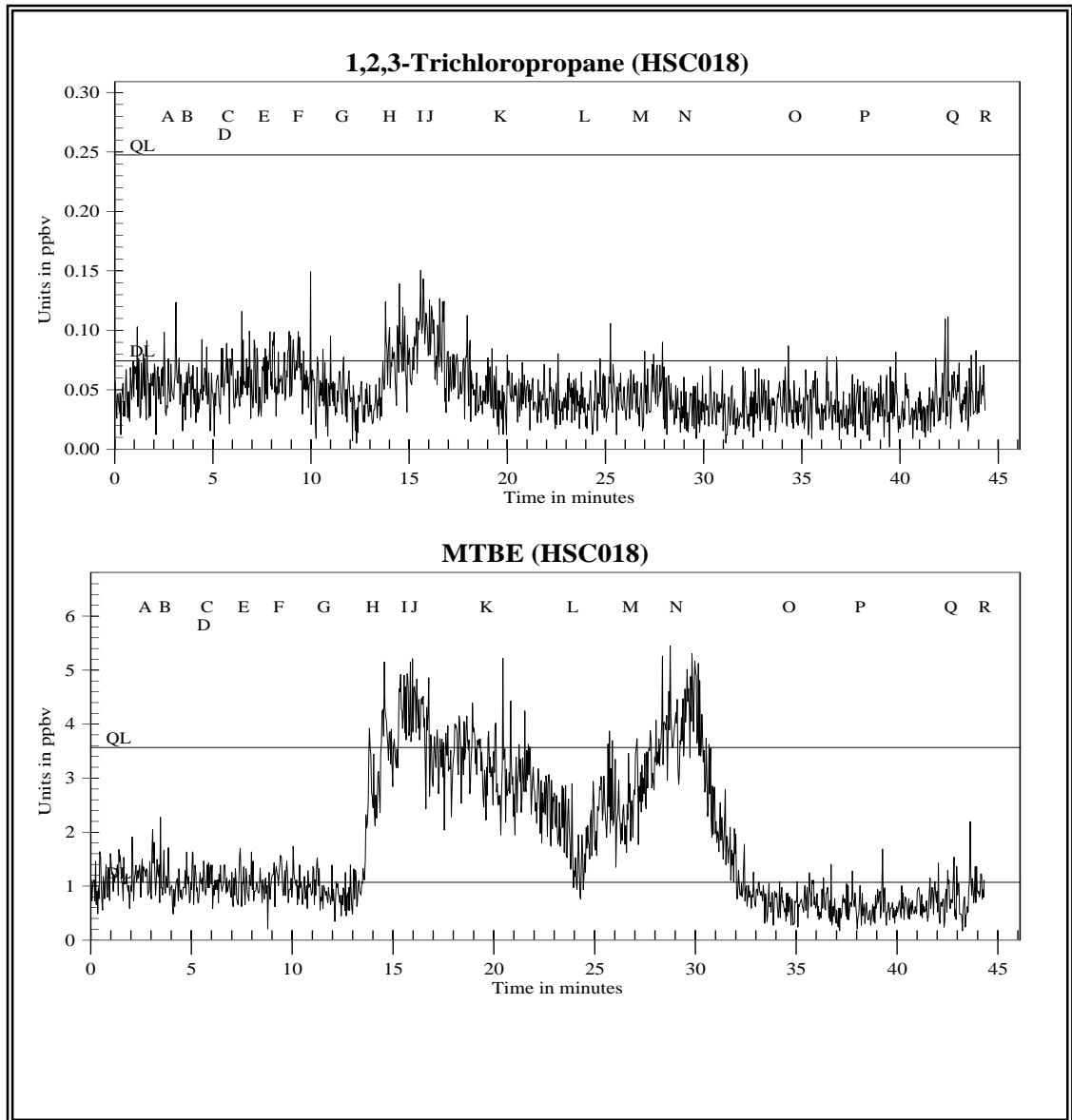


**Figure 10i**

TAGA File Event Summary			
File: HSC018 Acquired on 13 December 2006 at 03:26:36 UTC			
Title: Mobile Monitoring in Harris County			
Flag	Time	Sequence	Description
A	2.4	69	Start of monitoring heading east on Lawndale Street
B	3.4	98	Turning right onto Goodyear Drive
C	5.5	157	Passing State Highway 275
D	6.0	171	Starting collecting SUMMA <sup>®</sup> sample A1498
E	7.3	210	Ending collecting SUMMA <sup>®</sup> sample A1498
F	9.1	260	Executing a U-turn
G	11.2	322	Turning right onto Lawndale Street
H	13.7	391	Turning right onto Allen Genoa Road
I	15.4	441	Starting collecting SUMMA <sup>®</sup> sample F1496
J	15.9	455	Ending collecting SUMMA <sup>®</sup> sample F1496
K	19.3	552	Passing Gober Avenue
L	23.6	676	Passing Southmore Avenue
M	26.4	754	Turning right onto Allendale Road
N	28.7	821	Passing Flagstone Terrace
O	34.3	981	Merging into Galveston Road
P	37.9	1084	Passing Rockleigh Place
Q	42.3	1210	Passing Central Street
R	44.1	1259	Passing State Highway 610; End of monitoring

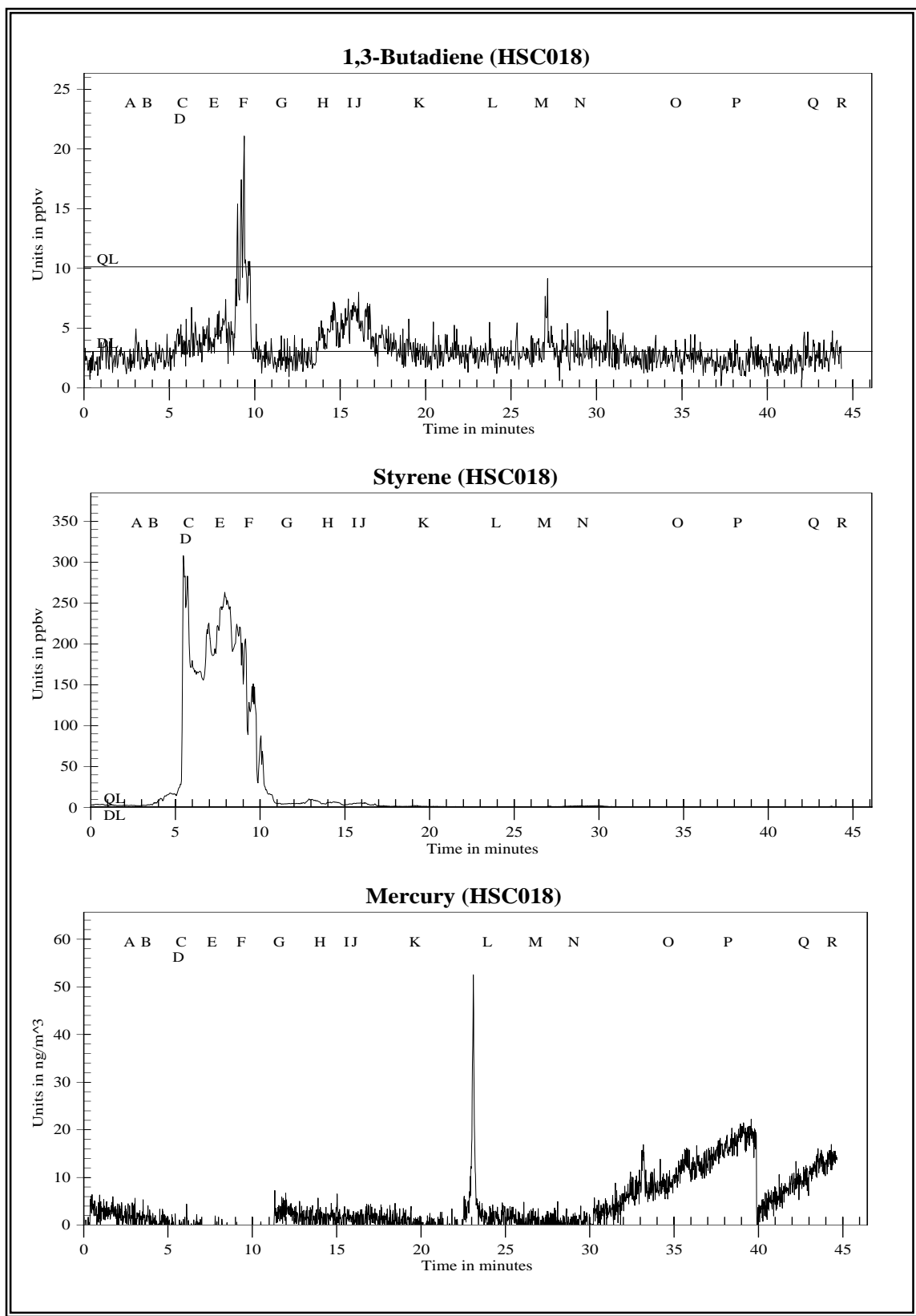


**Figure 10j** Mobile Monitoring in Harris County for Benzene, Toluene, and Xylenes



**Figure 10k** Mobile Monitoring in Harris County for 1,2,3-Trichloropropane and Methyl-t-butyl ether





**Figure 101** Mobile Monitoring in Harris County for 1,3-Butadiene, Styrene, and Mercury

**Figure 10m**

TAGA Target Compound Averages during Sample Collection					
File: HSC018 Acquired on 13 December 2006 at 03:26:36 UTC					
		Benzene	Toluene	Xylenes	1,2,3-Trichloropropane
	Detection Limits (DL):	2.0	4.2	1.4	0.074
	Quantitation Limits (QL):	6.6	14.	4.8	0.25
Flags	Description	Benzene	Toluene	Xylenes	1,2,3-Trichloropropane
D - E	SUMMA <sup>®</sup> A1498	DL=2.0	8.4J	10.	DL=0.074
I - J	SUMMA <sup>®</sup> F1496	30.	12.J	7.9	0.11J
		Methyl-t-butyl ether	1,3-Butadiene	Styrene	
	Detection Limits (DL):	1.1	3.0	0.32	
	Quantitation Limits (QL):	3.6	10.	1.1	
Flags	Description	Methyl-t-butyl ether	1,3-Butadiene	Styrene	
D - E	SUMMA <sup>®</sup> A1498	DL=1.1	3.9J	180	
I - J	SUMMA <sup>®</sup> F1496	4.3	6.1J	5.0	

Concentrations are in parts per billion by volume (ppbv)

J = Below quantitation limit

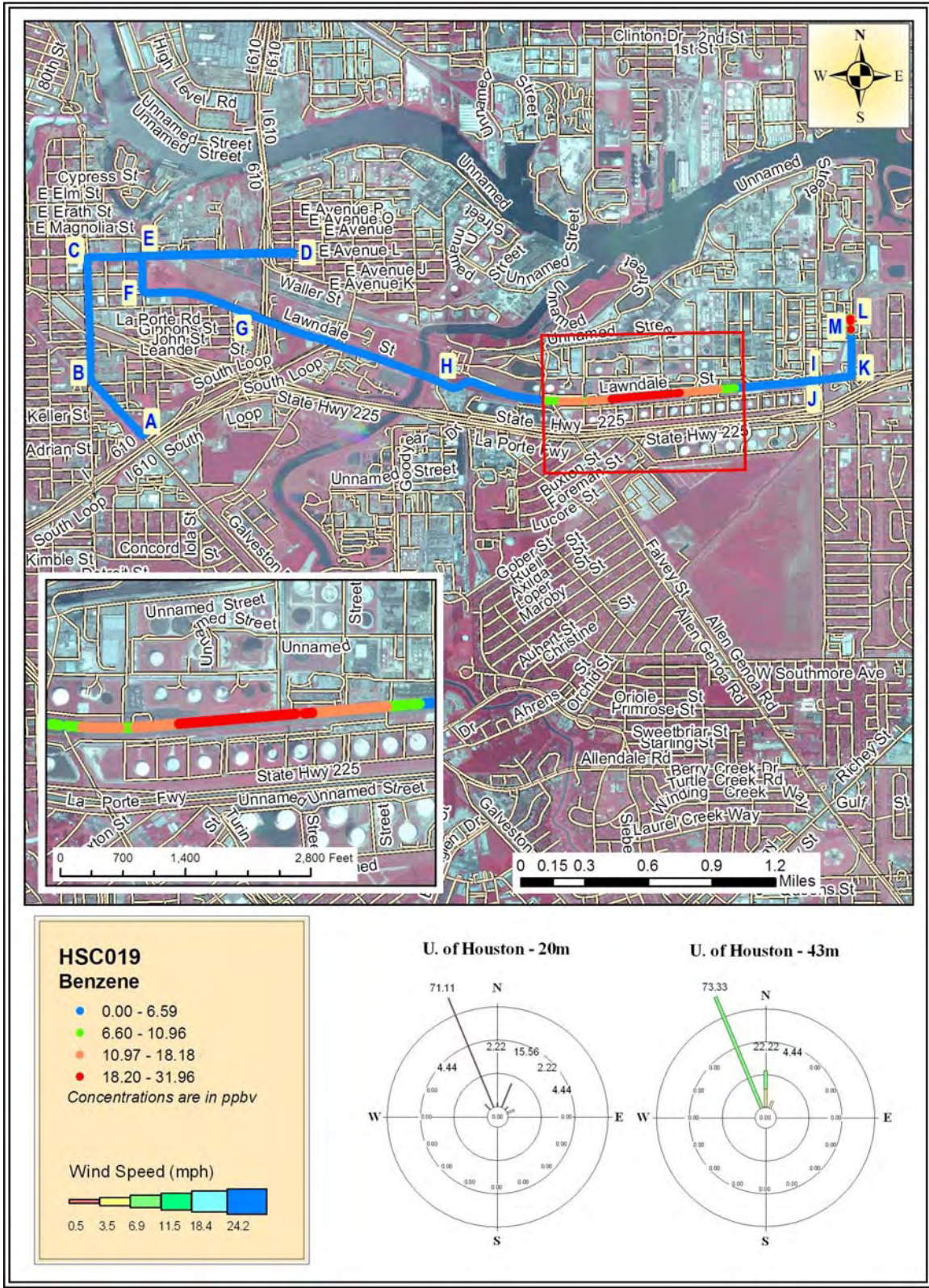


Figure 11a Mobile Monitoring Path for Benzene in Harris County



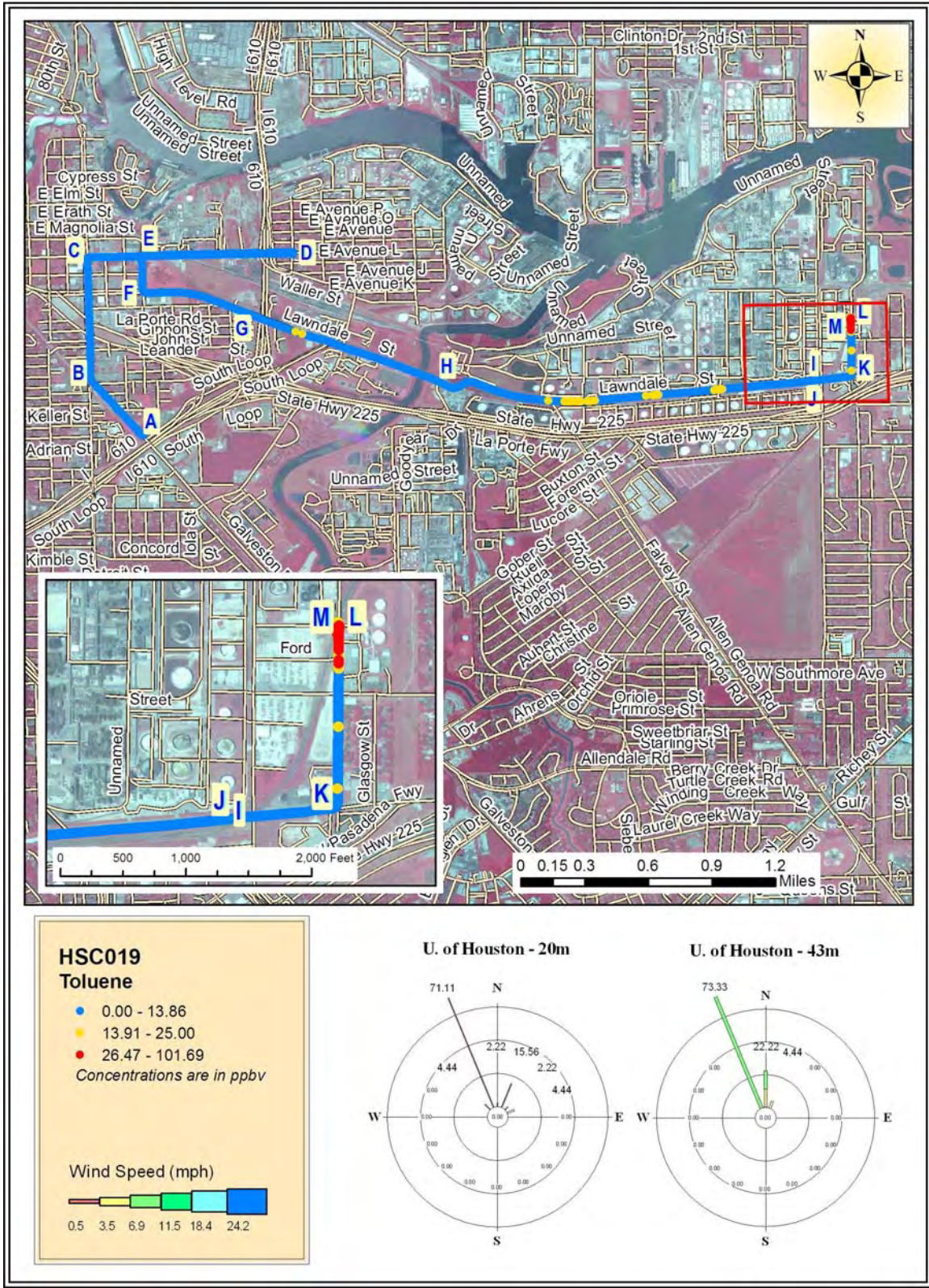


Figure 11b Mobile Monitoring Path for Toluene in Harris County



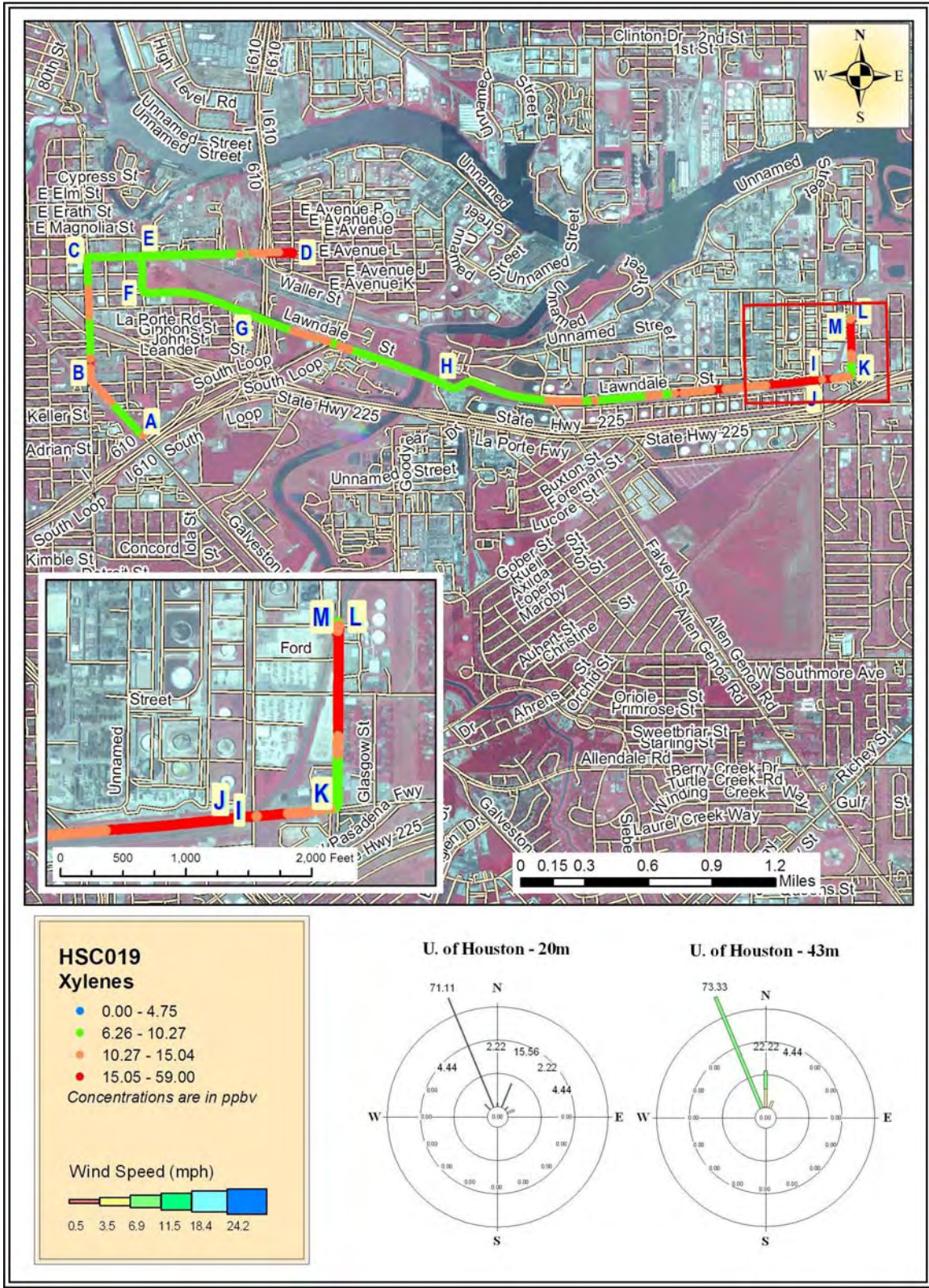


Figure 11c Mobile Monitoring Path for Xylenes in Harris County











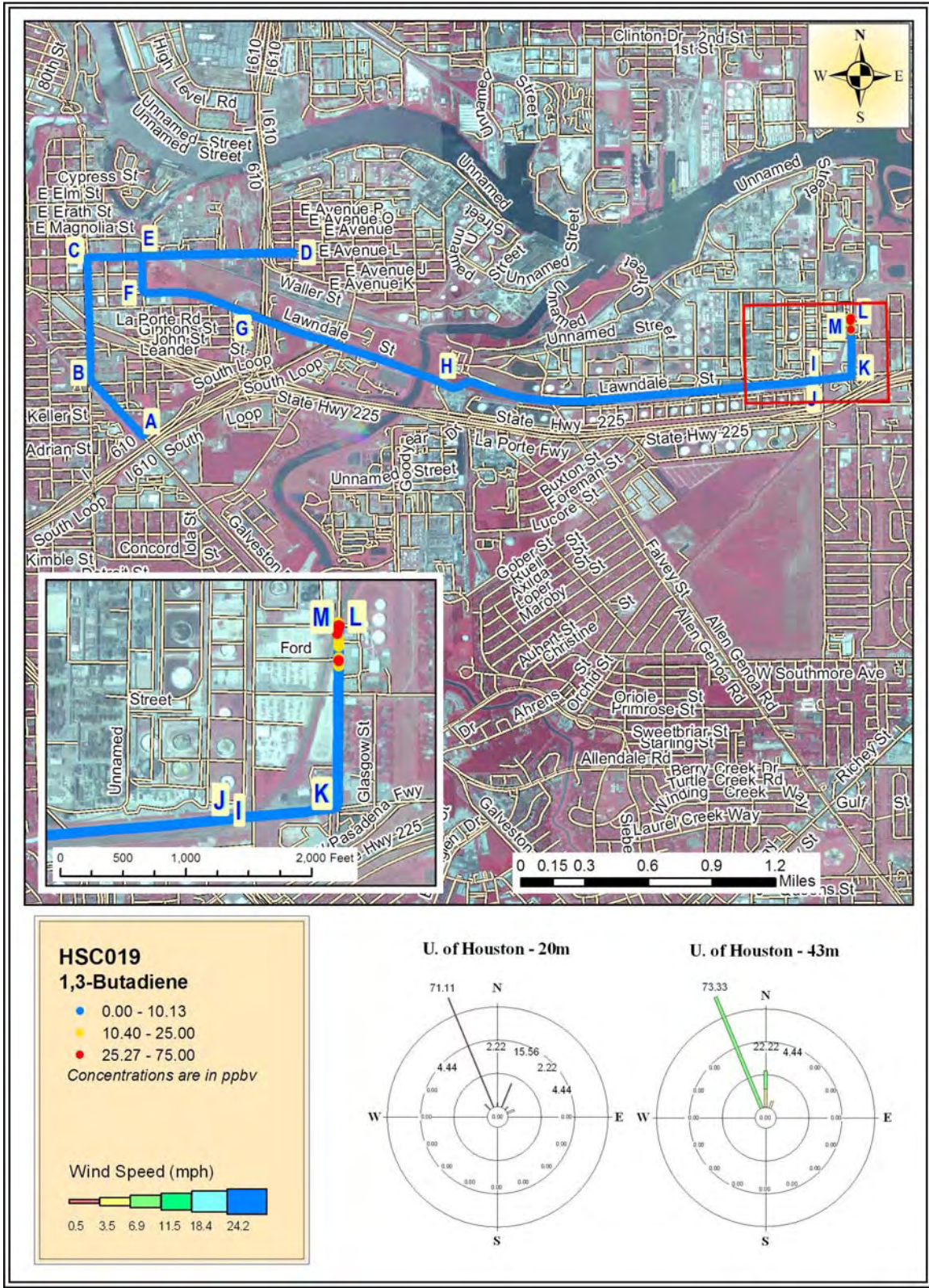


Figure 11f Mobile Monitoring Path for 1,3-Butadiene in Harris County



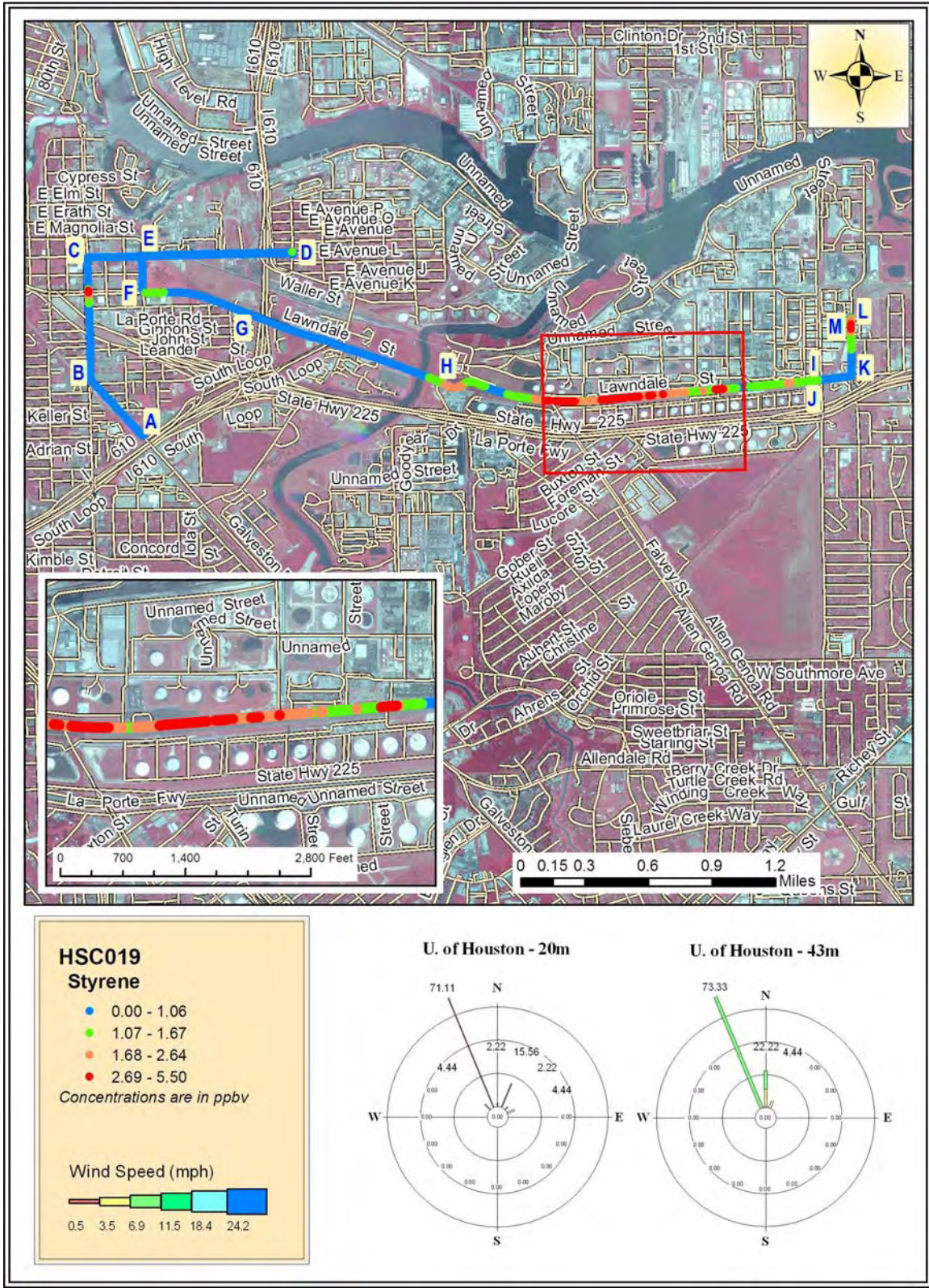


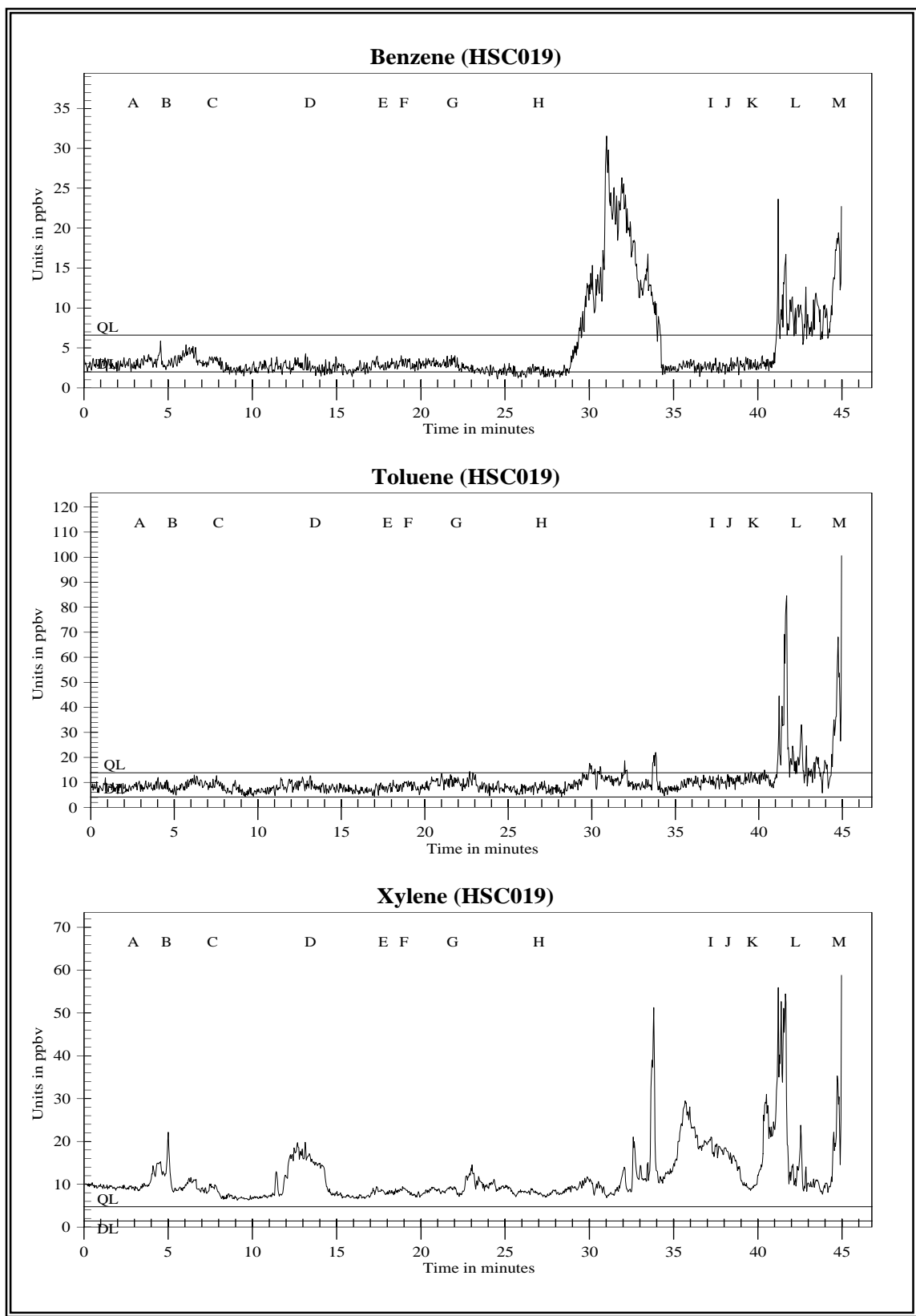
Figure 11g Mobile Monitoring Path for Styrene in Harris County





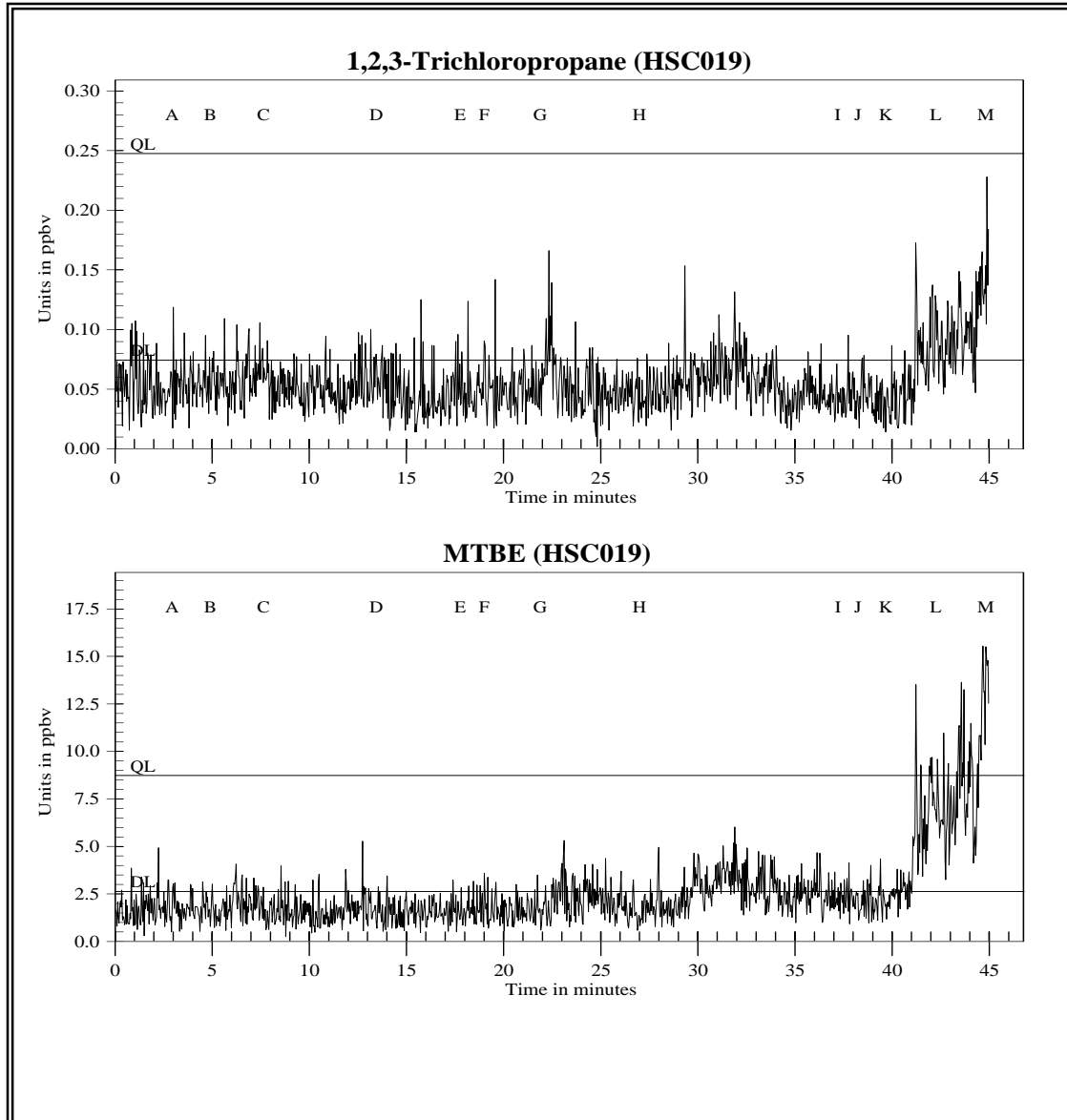
**Figure 11i**

TAGA File Event Summary			
File: HSC019 Acquired on 13 December 2006 at 04:17:16 UTC			
Title: Mobile Monitoring in Harris County			
Flag	Time	Sequence	Description
A	2.6	75	Start monitoring northwestward on Galveston Road at State Highway 610
B	4.6	132	Turning right onto Broadway Street
C	7.3	210	Turning right onto Manchester Street
D	13.1	375	Executing a U-turn at 92nd Street
E	17.5	500	Turning left onto San Saba Street
F	18.7	536	Turning left onto Lawndale Street
G	21.5	616	Passing under State Highway 610
H	26.7	762	Passing Goodyear Drive
I	37.1	1059	Stopping for a train
J	38.1	1088	Resuming mobile monitoring
K	39.3	1124	Turning left onto Light Company Road
L	42.0	1199	Stopping
M	44.4	1269	Executing a U-turn

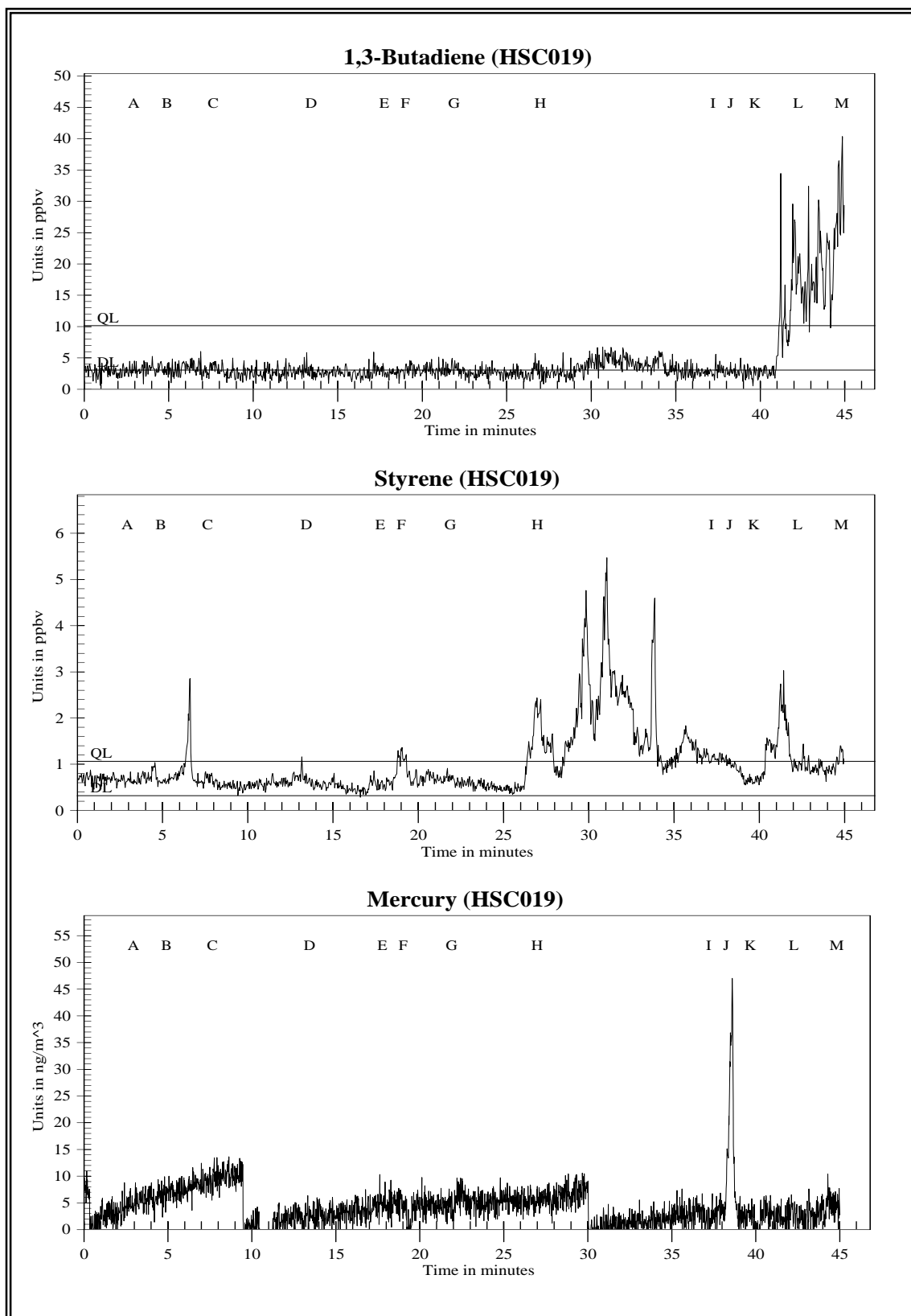


**Figure 11j** Mobile Monitoring in Harris County for Benzene, Toluene, and Xylenes





**Figure 11k** Mobile Monitoring in Harris County for 1,2,3-Trichloropropane and Methyl-t-butyl ether



**Figure 111** Mobile Monitoring in Harris County for 1,3-Butadiene, Styrene, and Mercury

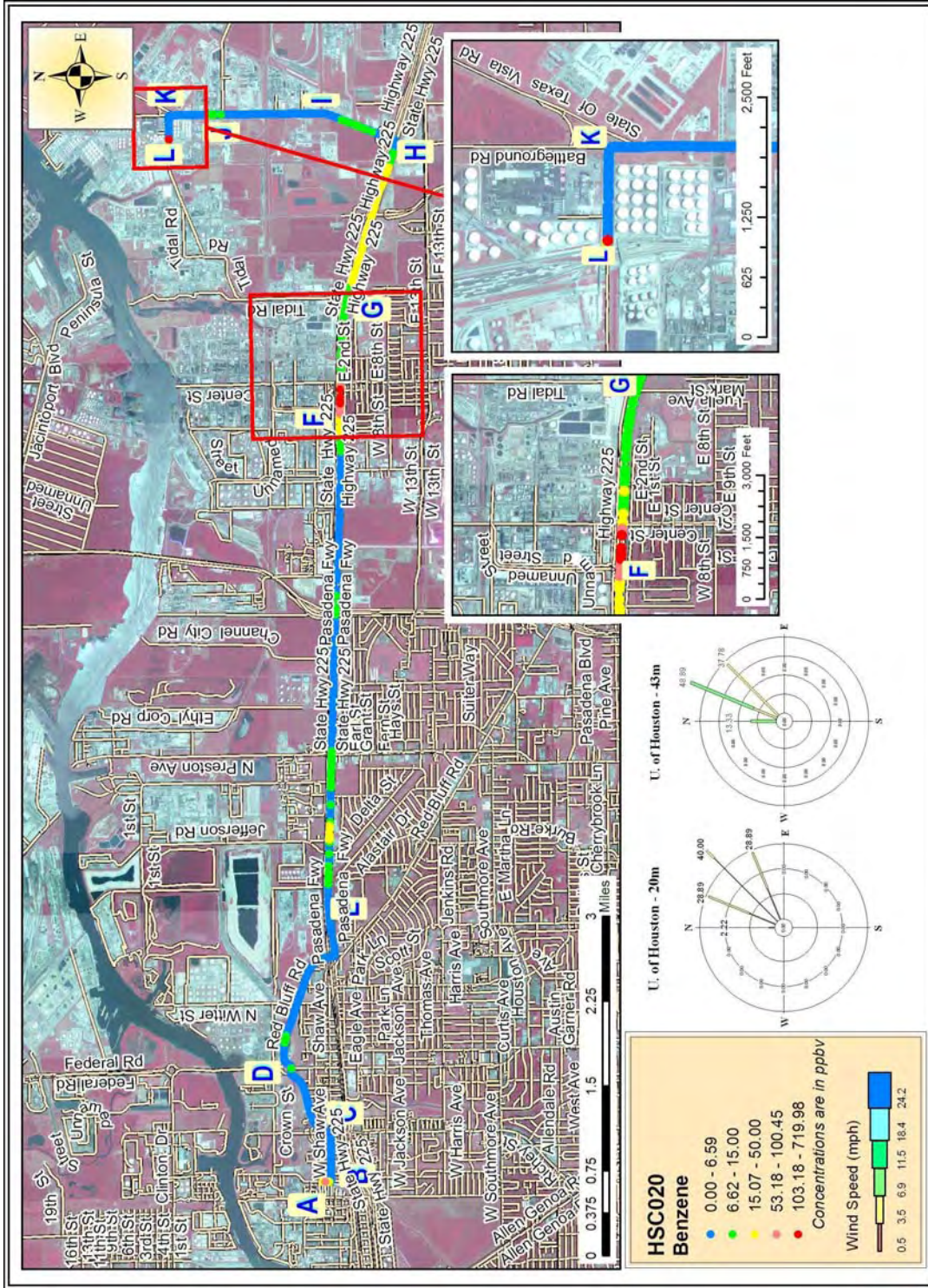


Figure 12a Mobile Monitoring Path for Benzene in Harris County



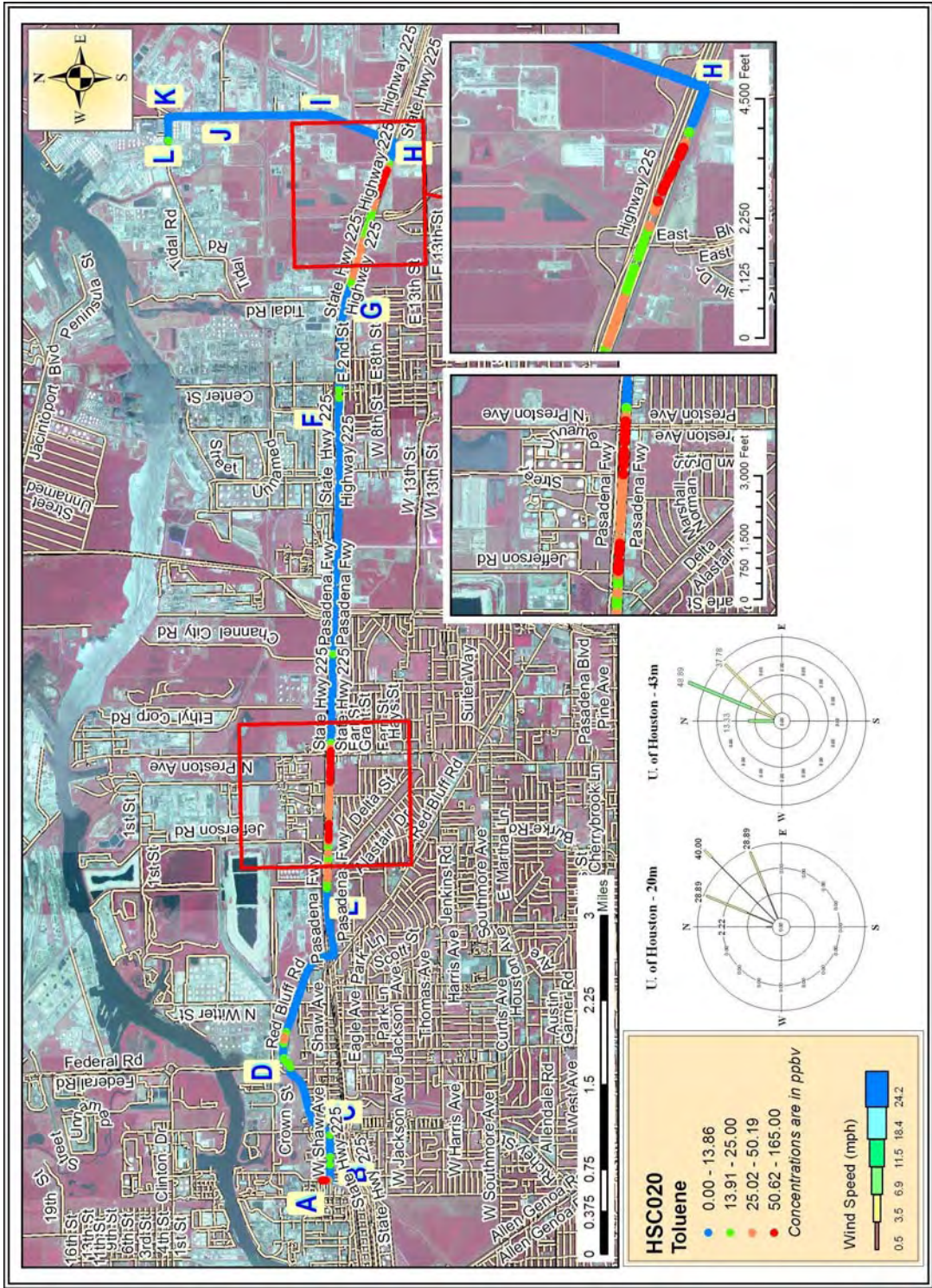


Figure 12b Mobile Monitoring Path for Toluene in Harris County



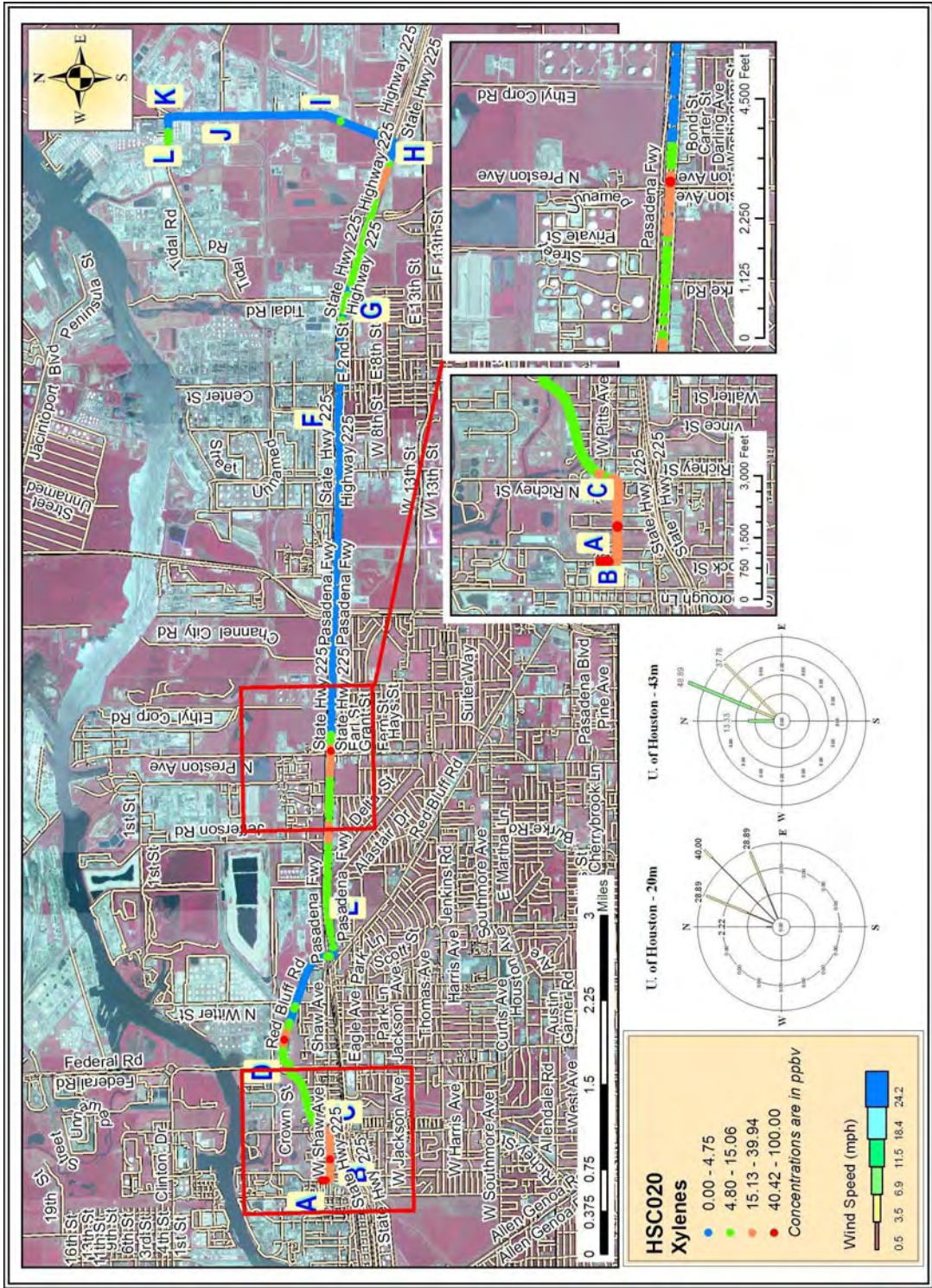
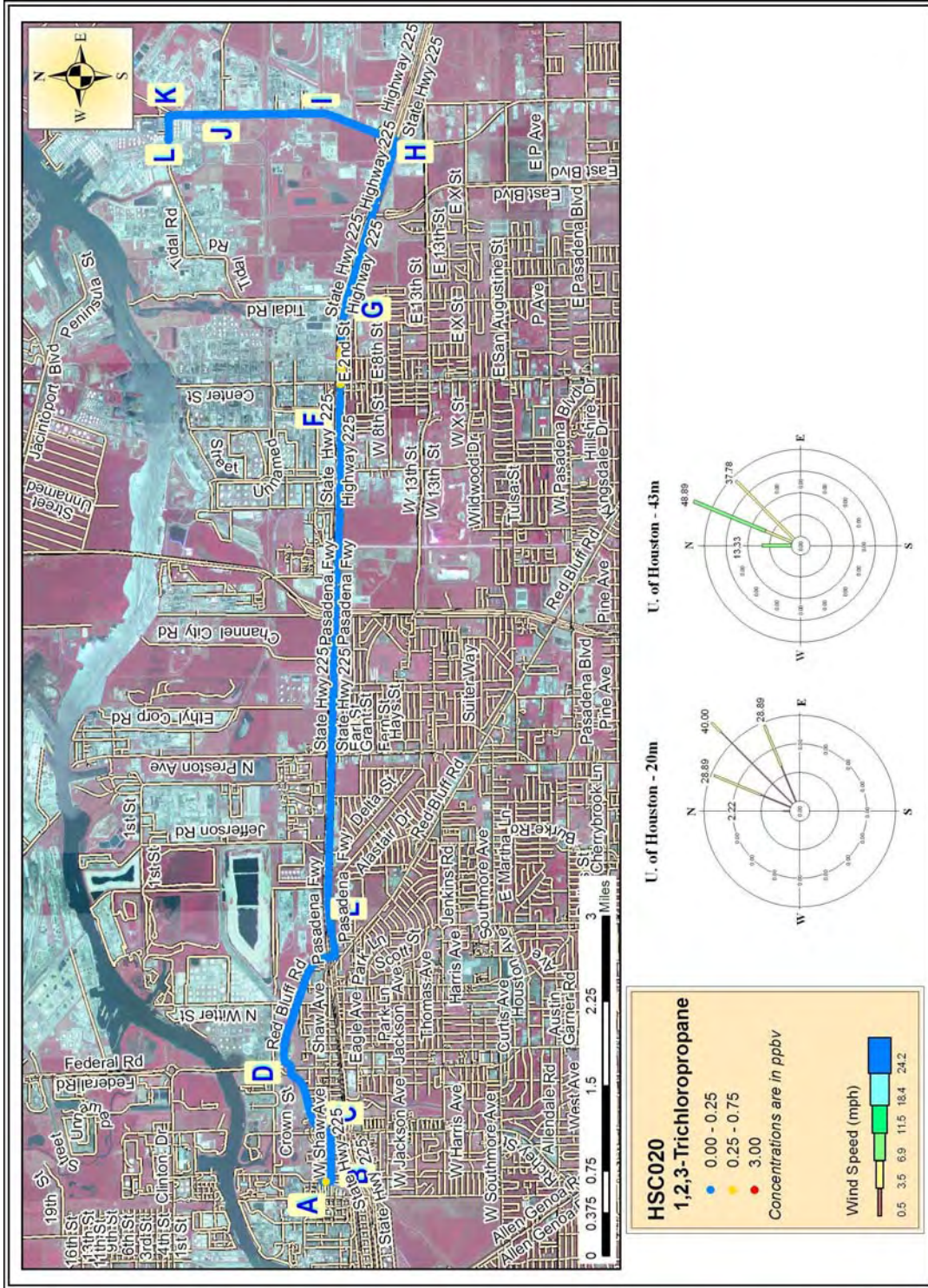


Figure 12c Mobile Monitoring Path for Xylenes in Harris County





**Figure 12d** Mobile Monitoring Path for 1,2,3-Trichloropropane in Harris County



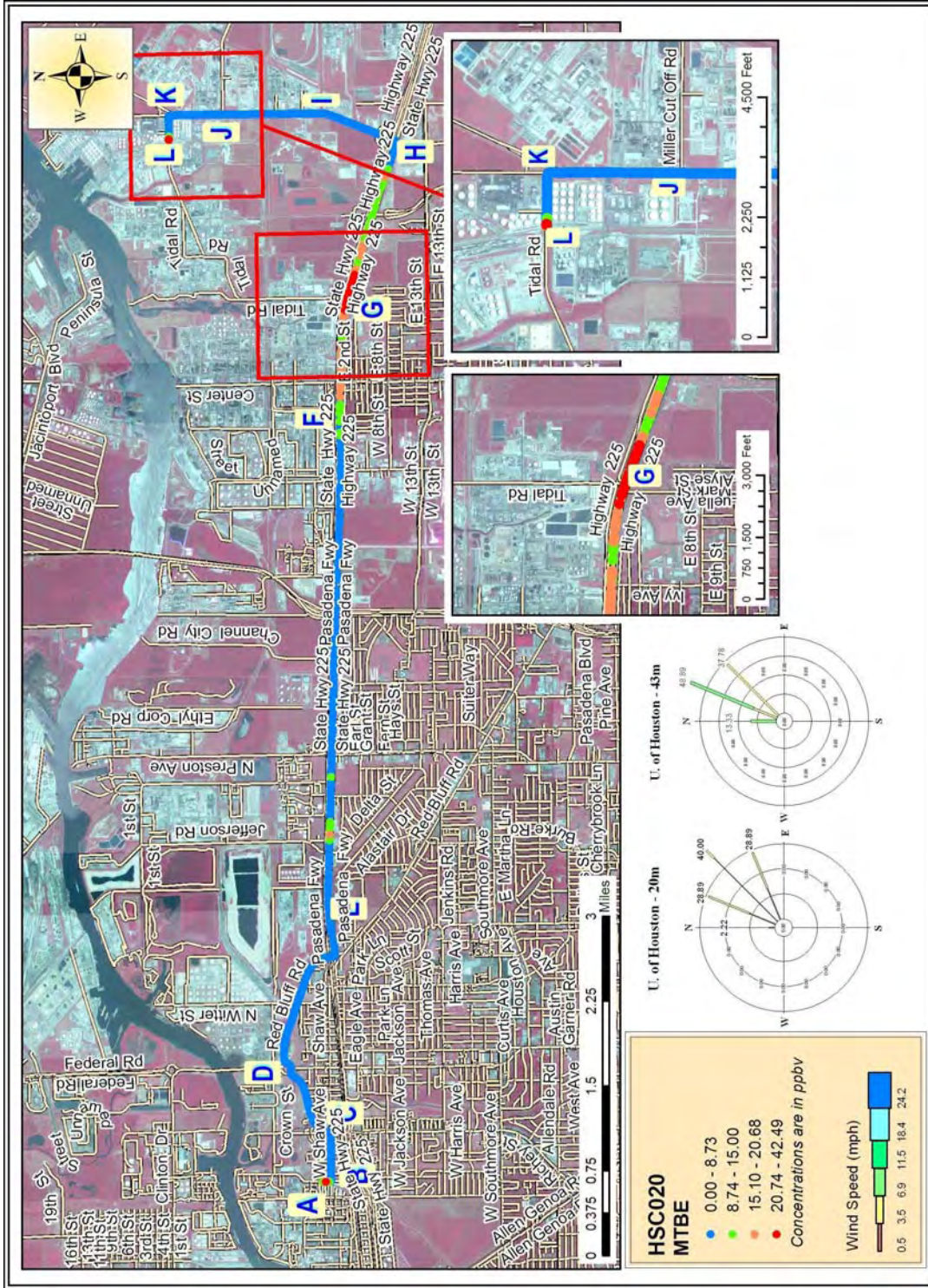


Figure 12e Mobile Monitoring Path for Methyl-t-butyl ether in Harris County



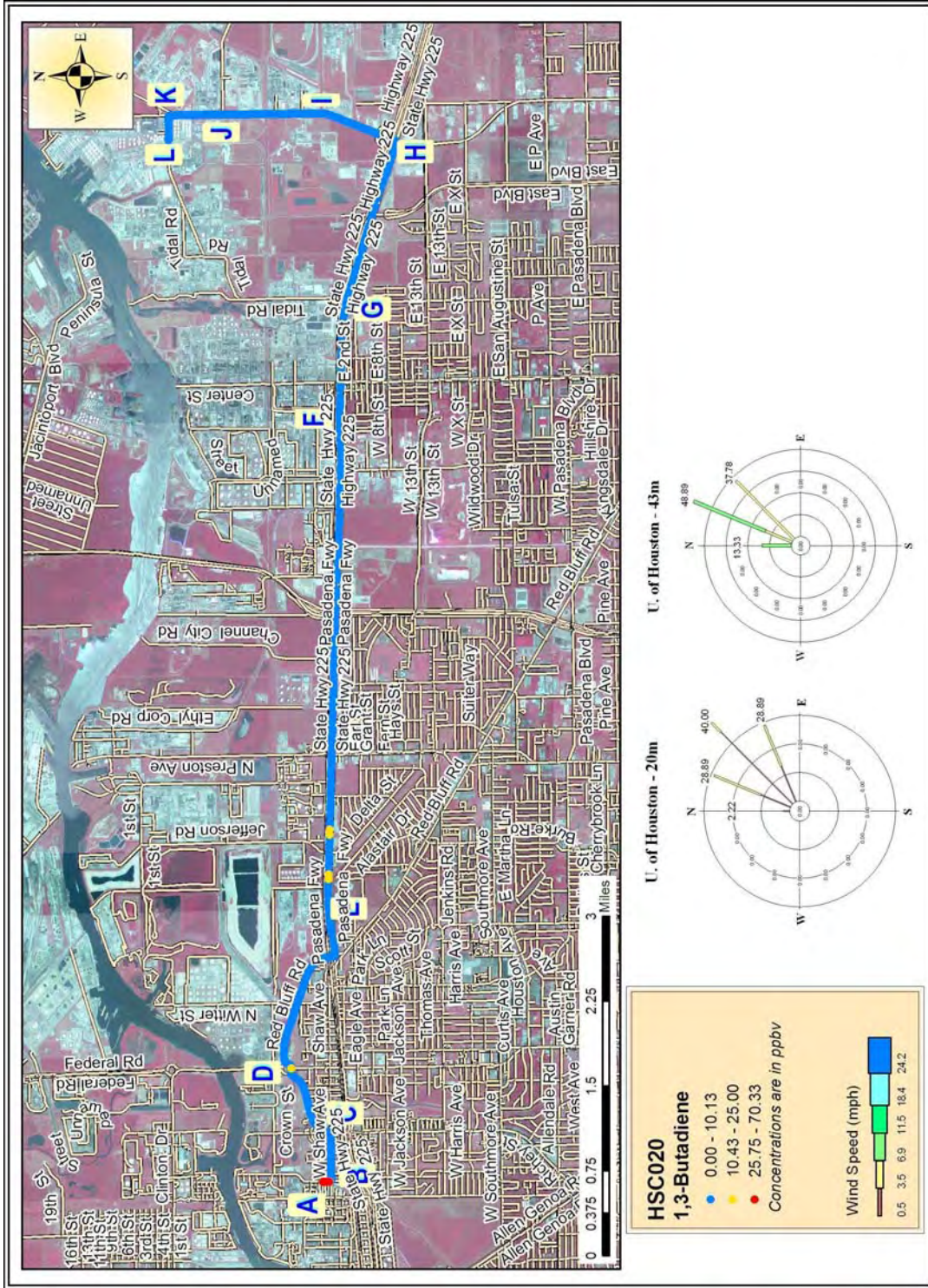


Figure 12f Mobile Monitoring Path for 1,3-Butadiene in Harris County



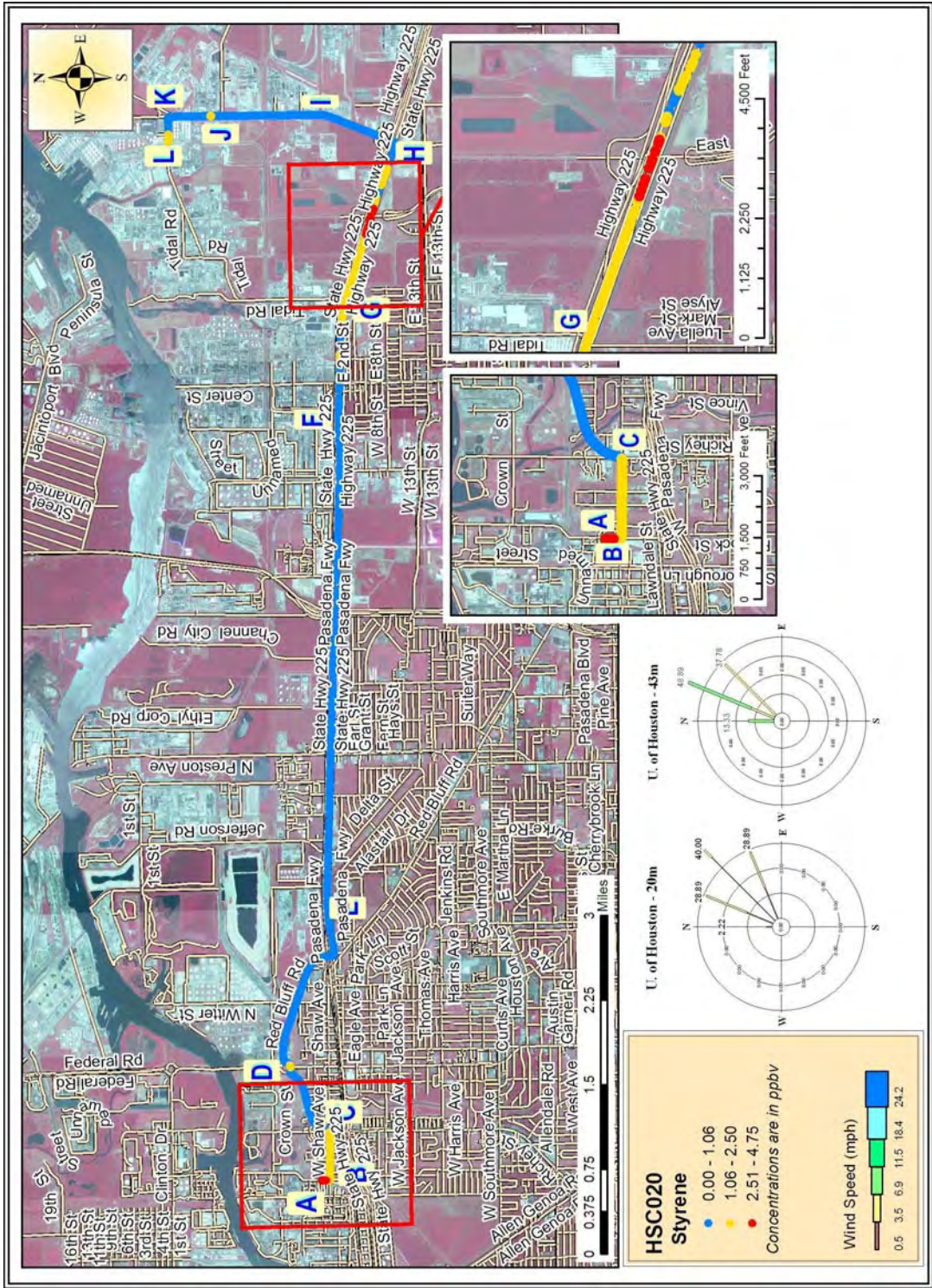


Figure 12g Mobile Monitoring Path for Styrene in Harris County



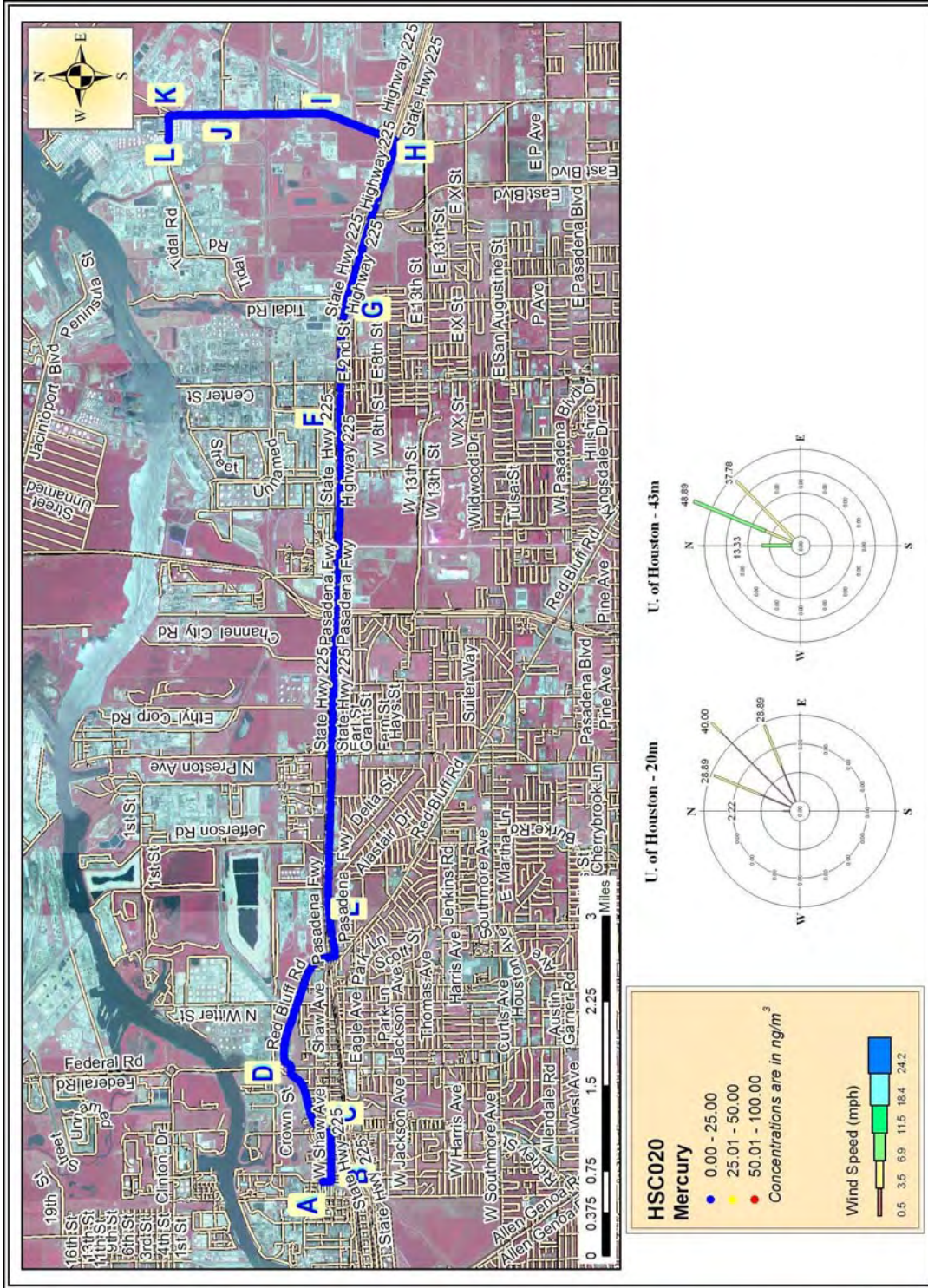
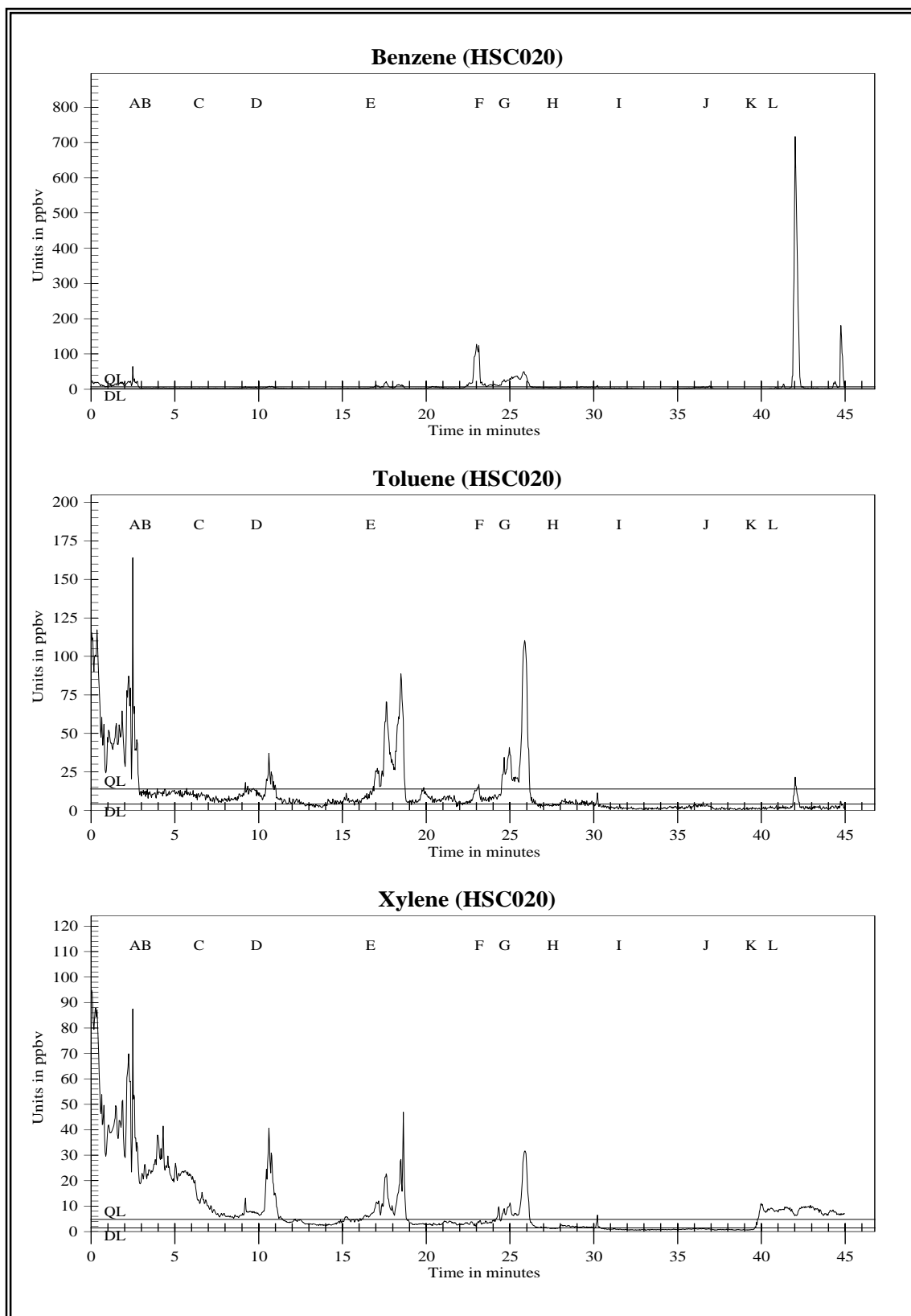


Figure 12h Mobile Monitoring Path for Mercury in Harris County

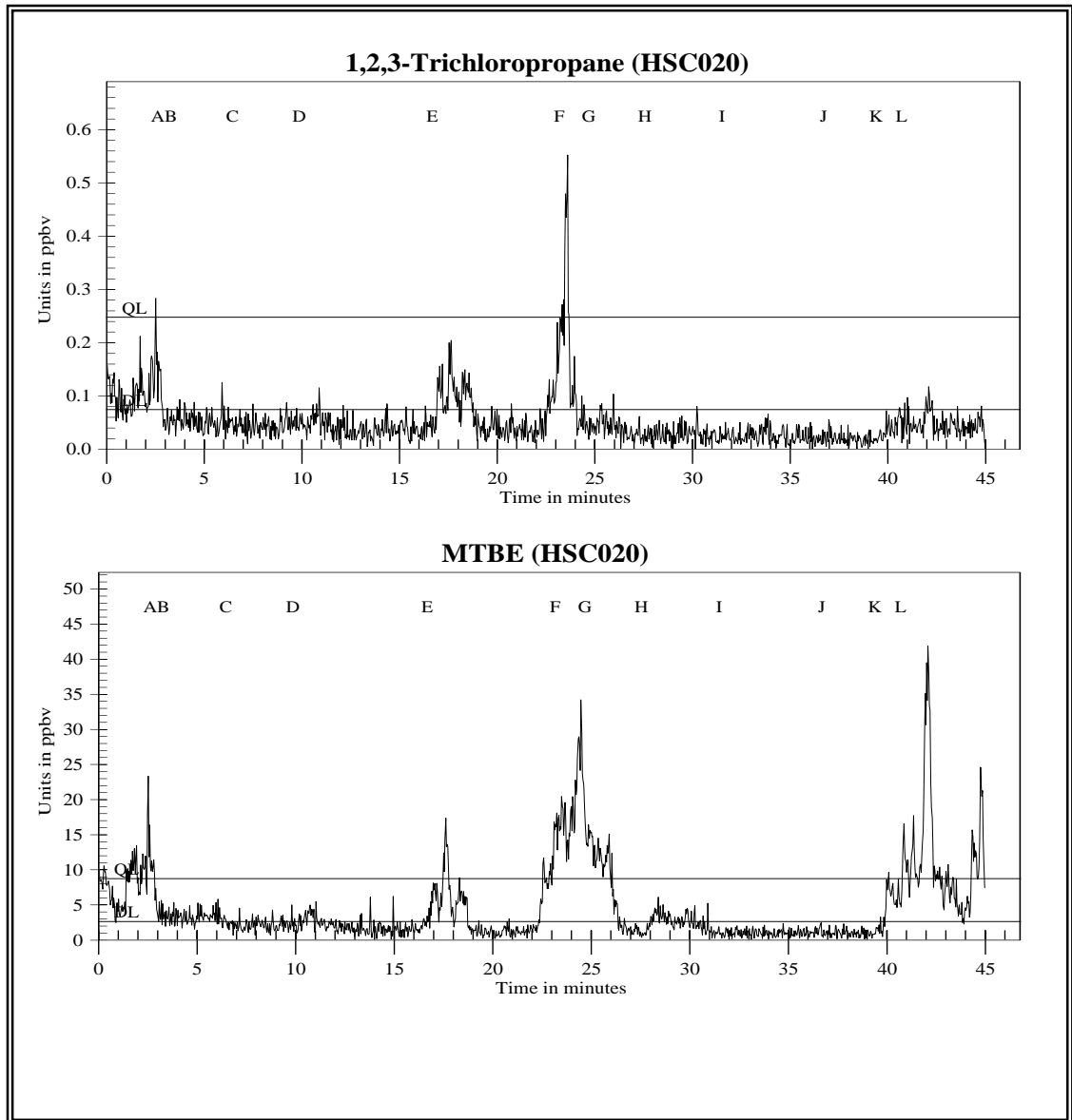
**Figure 12i**

TAGA File Event Summary			
File: HSC020 Acquired on 13 December 2006 at 05:05:55 UTC			
Title: Mobile Monitoring in Harris County			
Flag	Time	Sequence	Description
A	2.3	66	Start monitoring southward on Light Company Road
B	3.0	86	Turning left onto West Shaw Avenue
C	6.1	176	Turning left onto Richey Street
D	9.5	273	Turning right onto Red Bluff Road
E	16.4	469	Continuing east onto State Highway 225
F	22.9	655	Passing Center Street
G	24.3	696	Passing Tidal Road
H	27.2	778	Exiting onto Battleground Road
I	31.3	896	Passing Alkyls
J	36.5	1044	Passing Miller Cut Off Road
K	39.0	1116	Turning left onto Tidal Road
L	40.4	1155	Stopping for a train

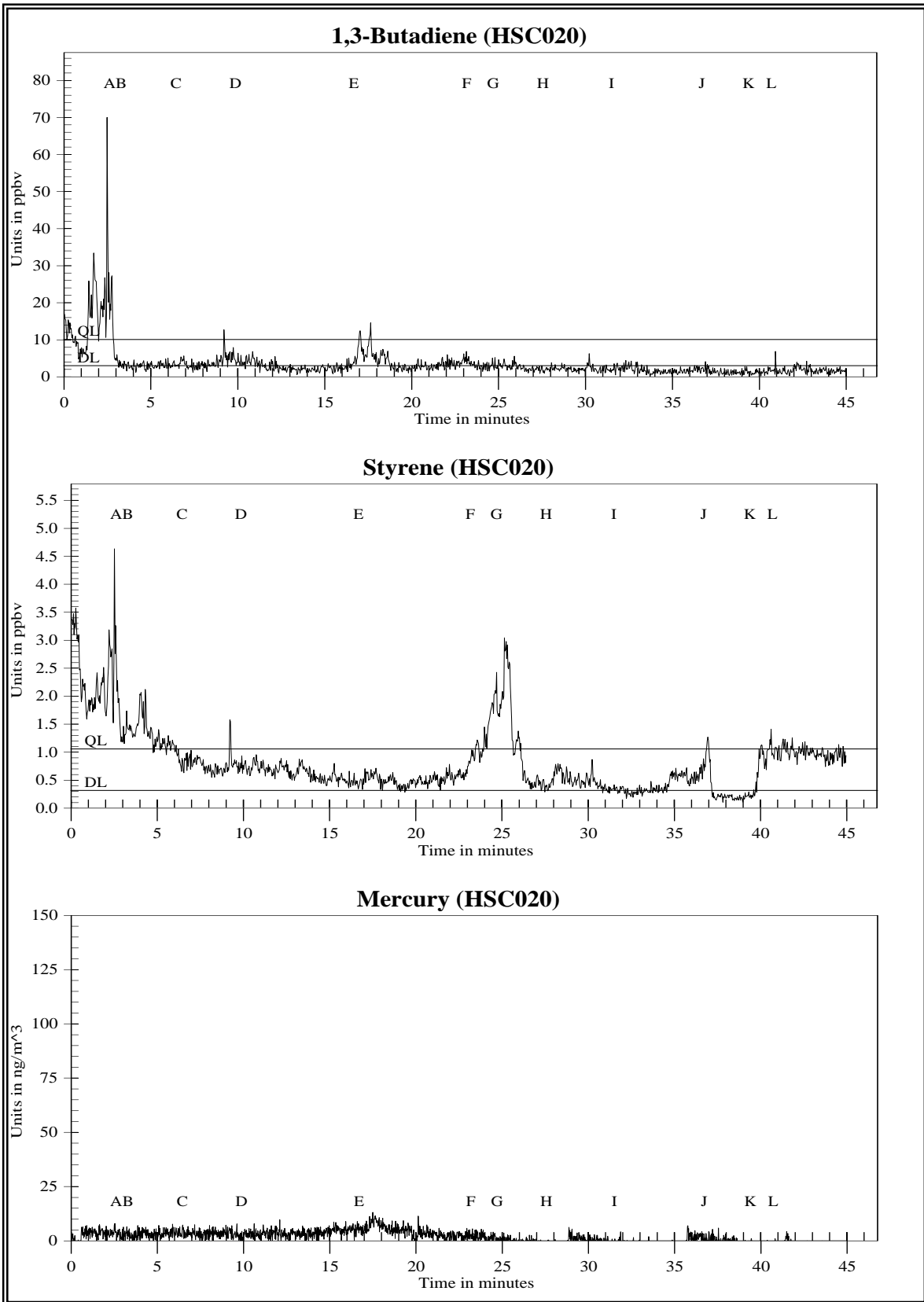


**Figure 12j** Mobile Monitoring in Harris County for Benzene, Toluene, and Xylenes





**Figure 12k** Mobile Monitoring in Harris County for 1,2,3-Trichloropropane and Methyl-t-butyl ether



**Figure 121** Mobile Monitoring in Harris County for 1,3-Butadiene, Styrene, and Mercury

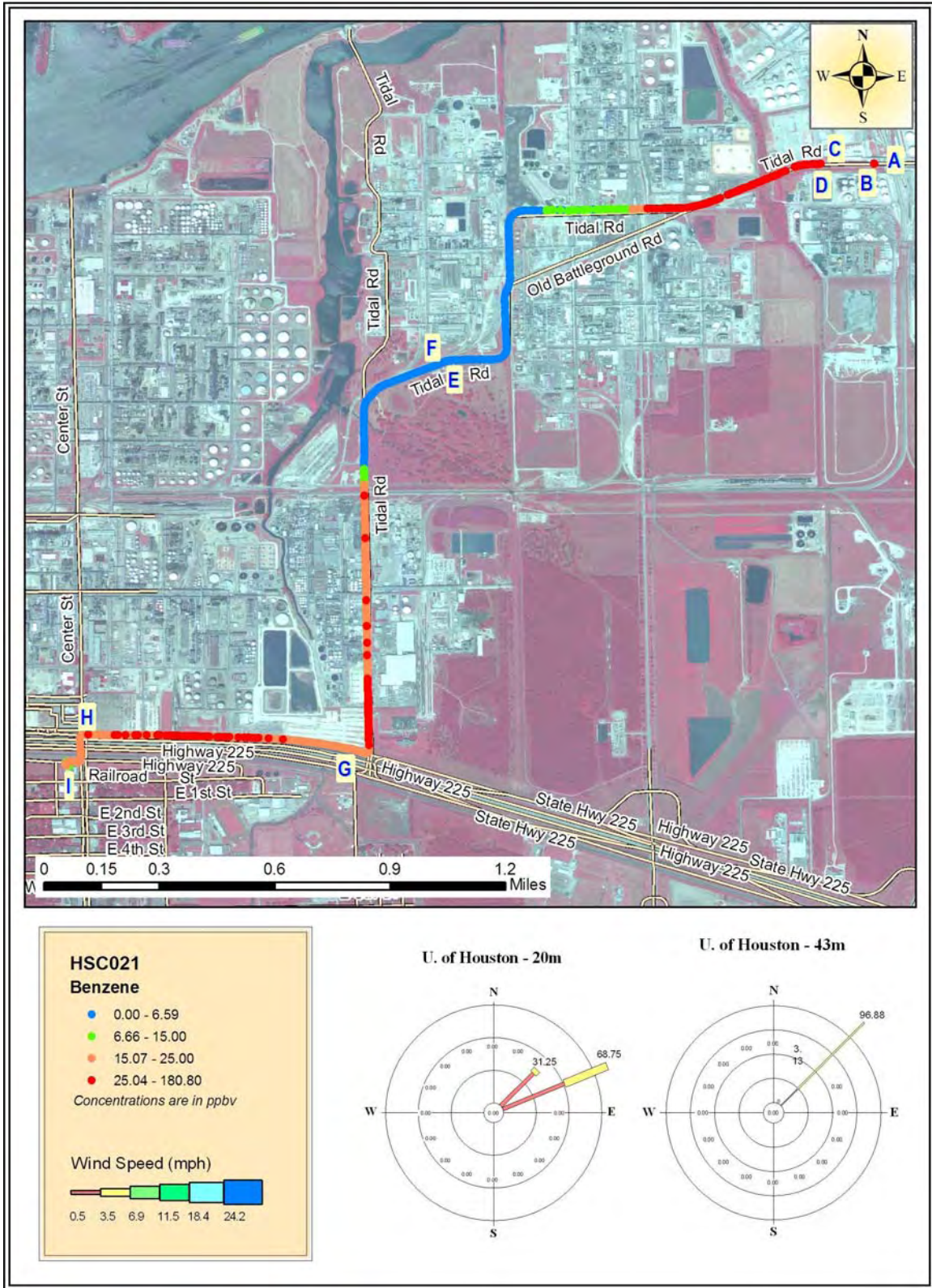


Figure 13a Mobile Monitoring Path for Benzene in Harris County



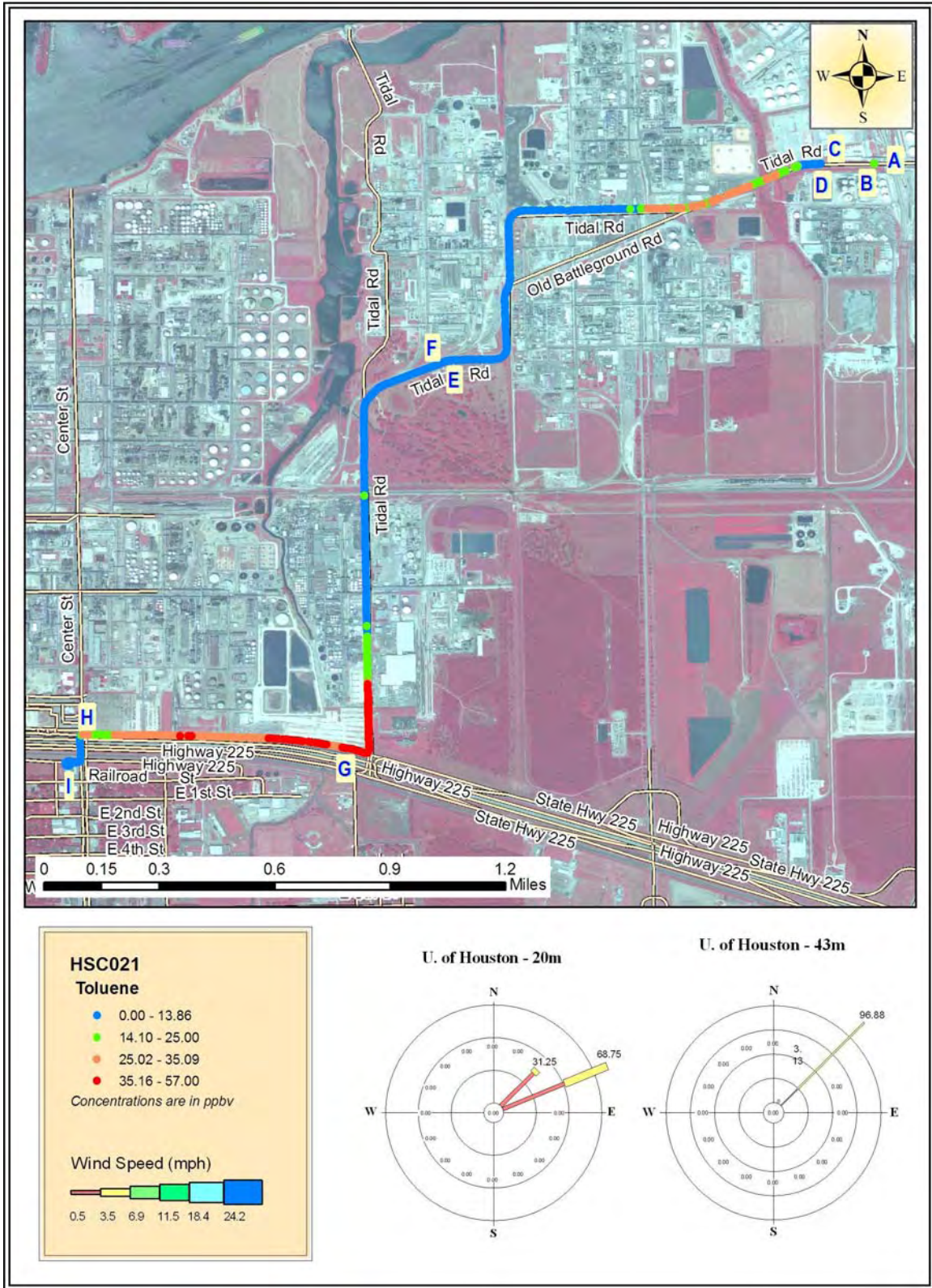


Figure 13b Mobile Monitoring Path for Toluene in Harris County



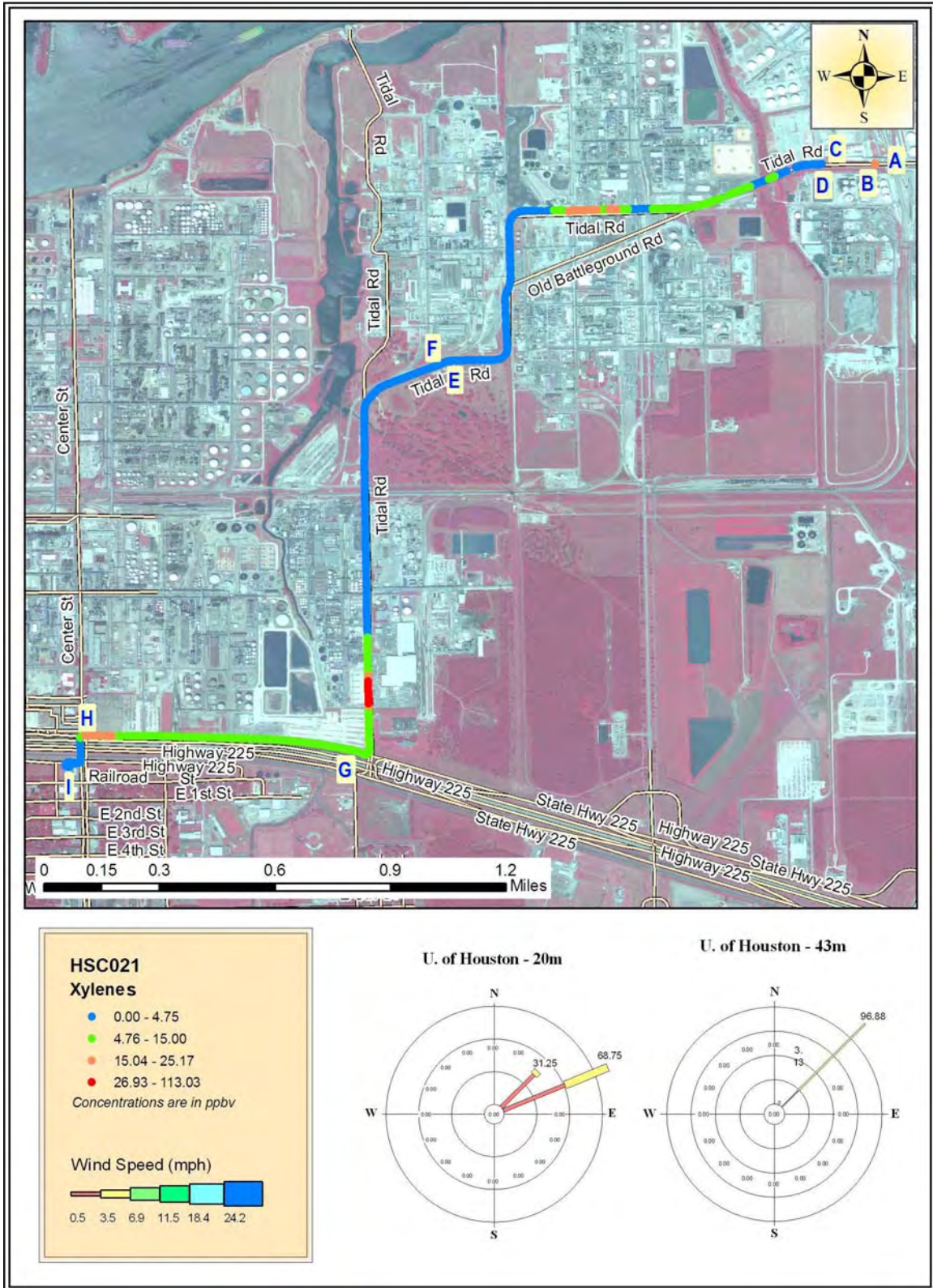


Figure 13c Mobile Monitoring Path for Xylenes in Harris County



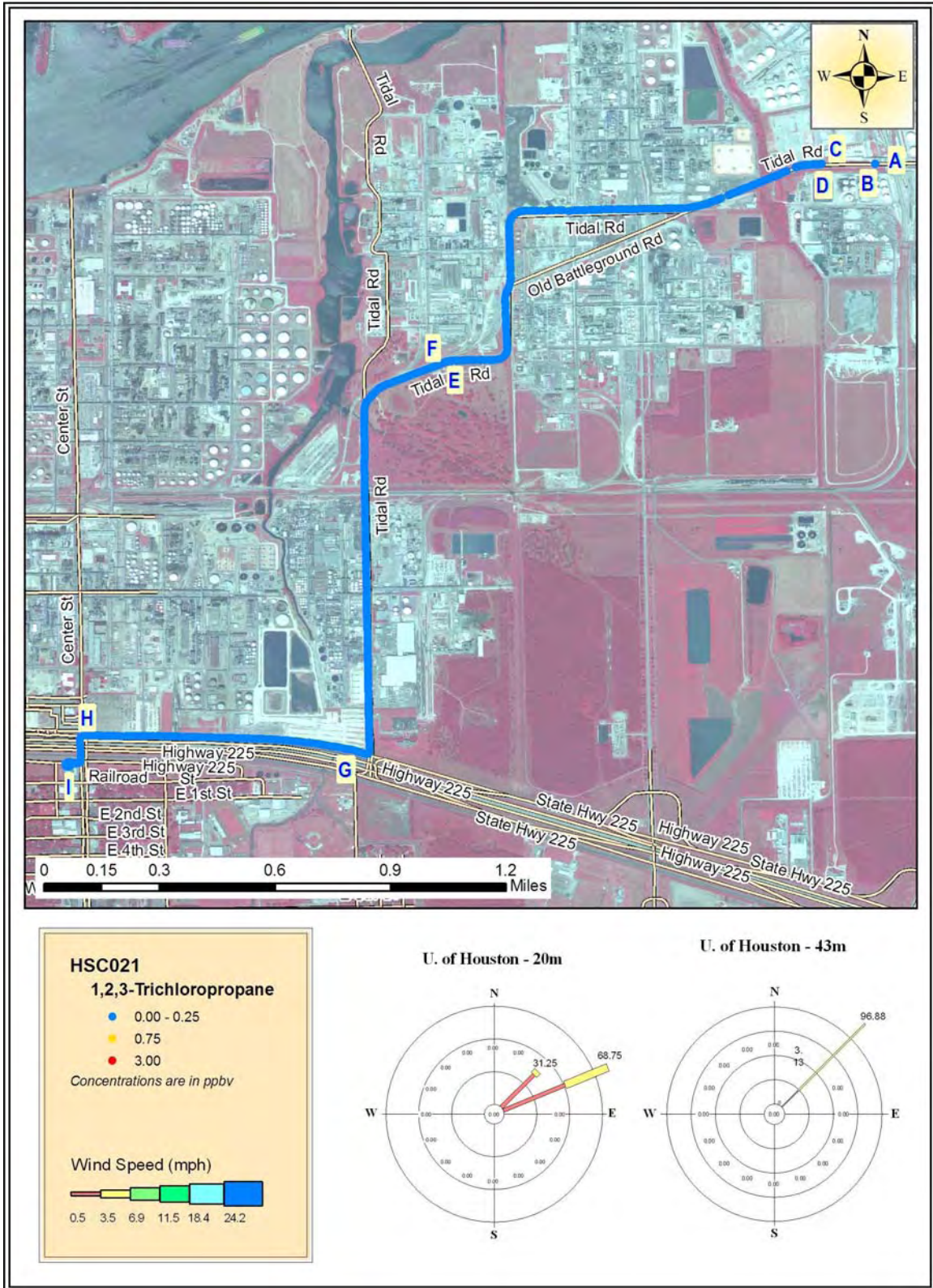


Figure 13d Mobile Monitoring Path for 1,2,3-Trichloropropane in Harris County



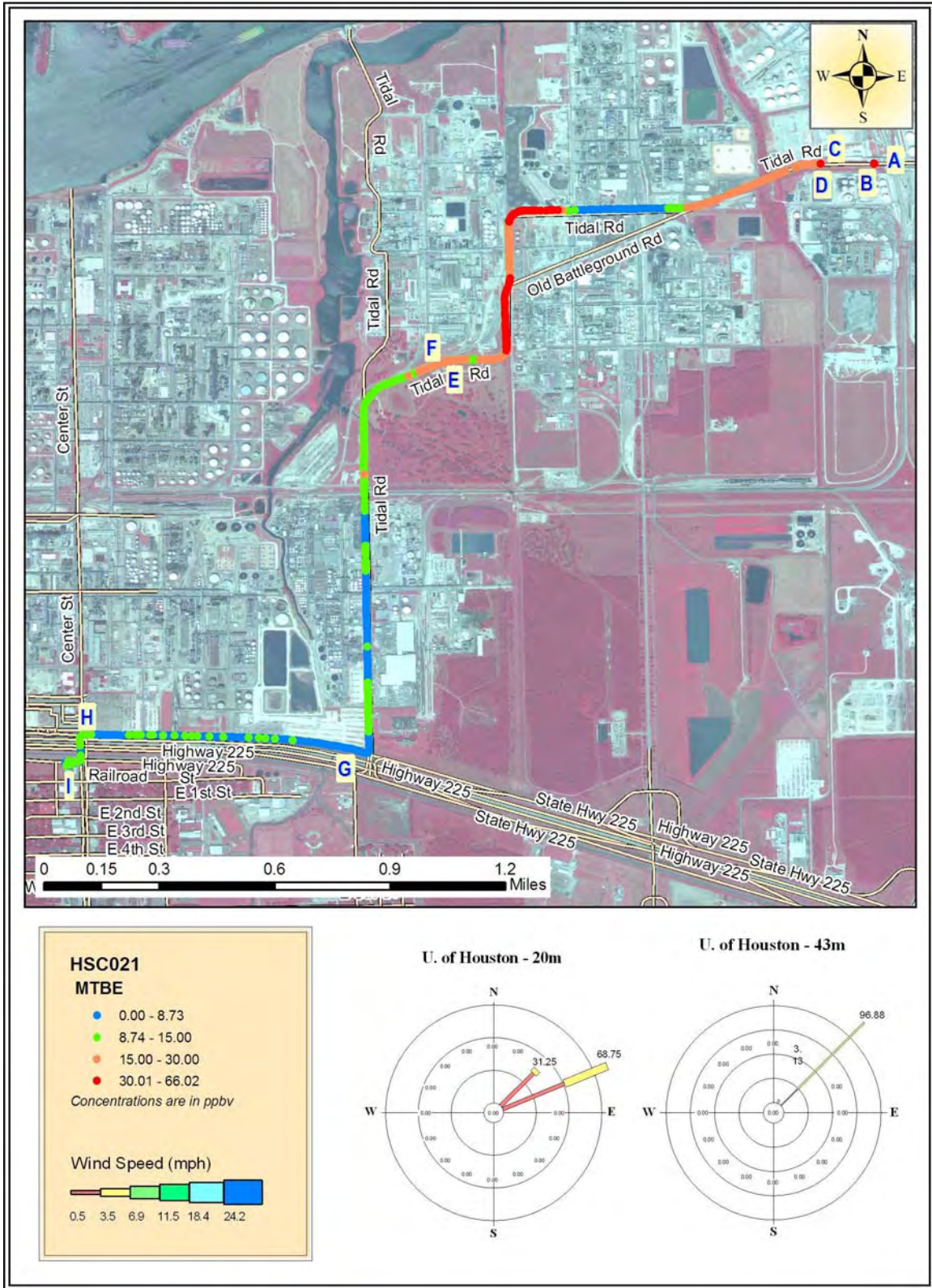


Figure 13e Mobile Monitoring Path for Methyl-t-butyl ether in Harris County



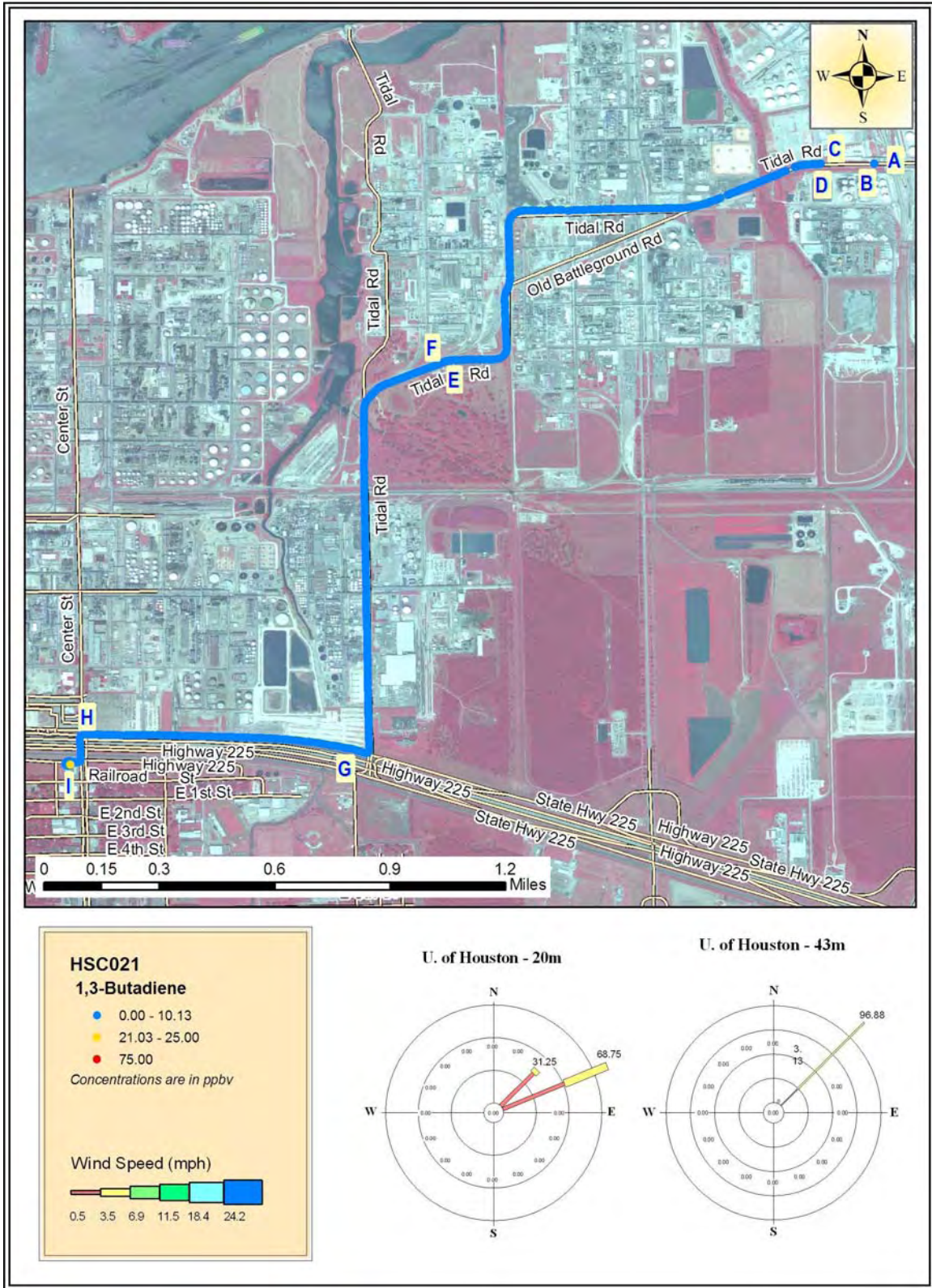


Figure 13f Mobile Monitoring Path for 1,3-Butadiene in Harris County



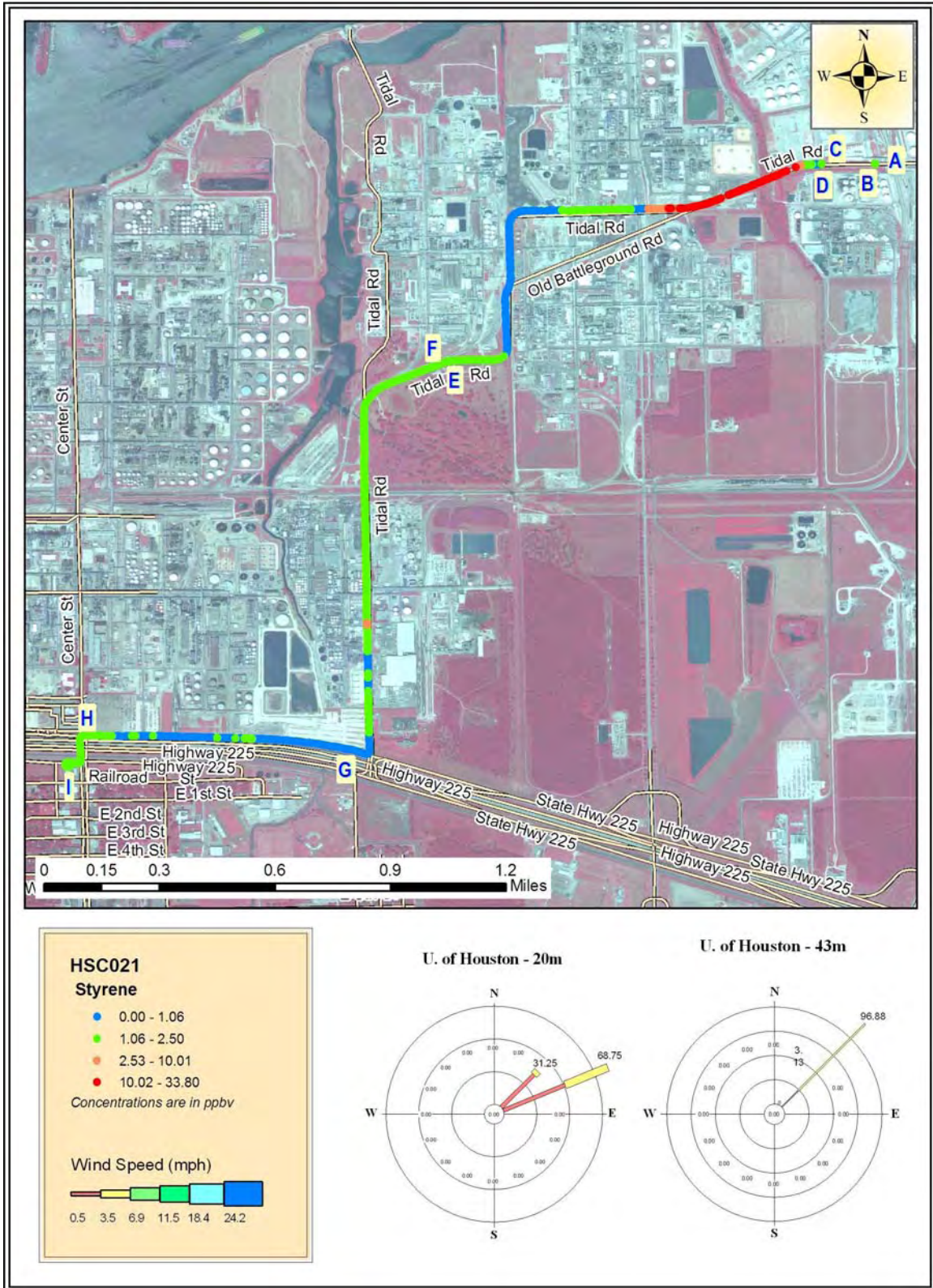


Figure 13g Mobile Monitoring Path for Styrene in Harris County



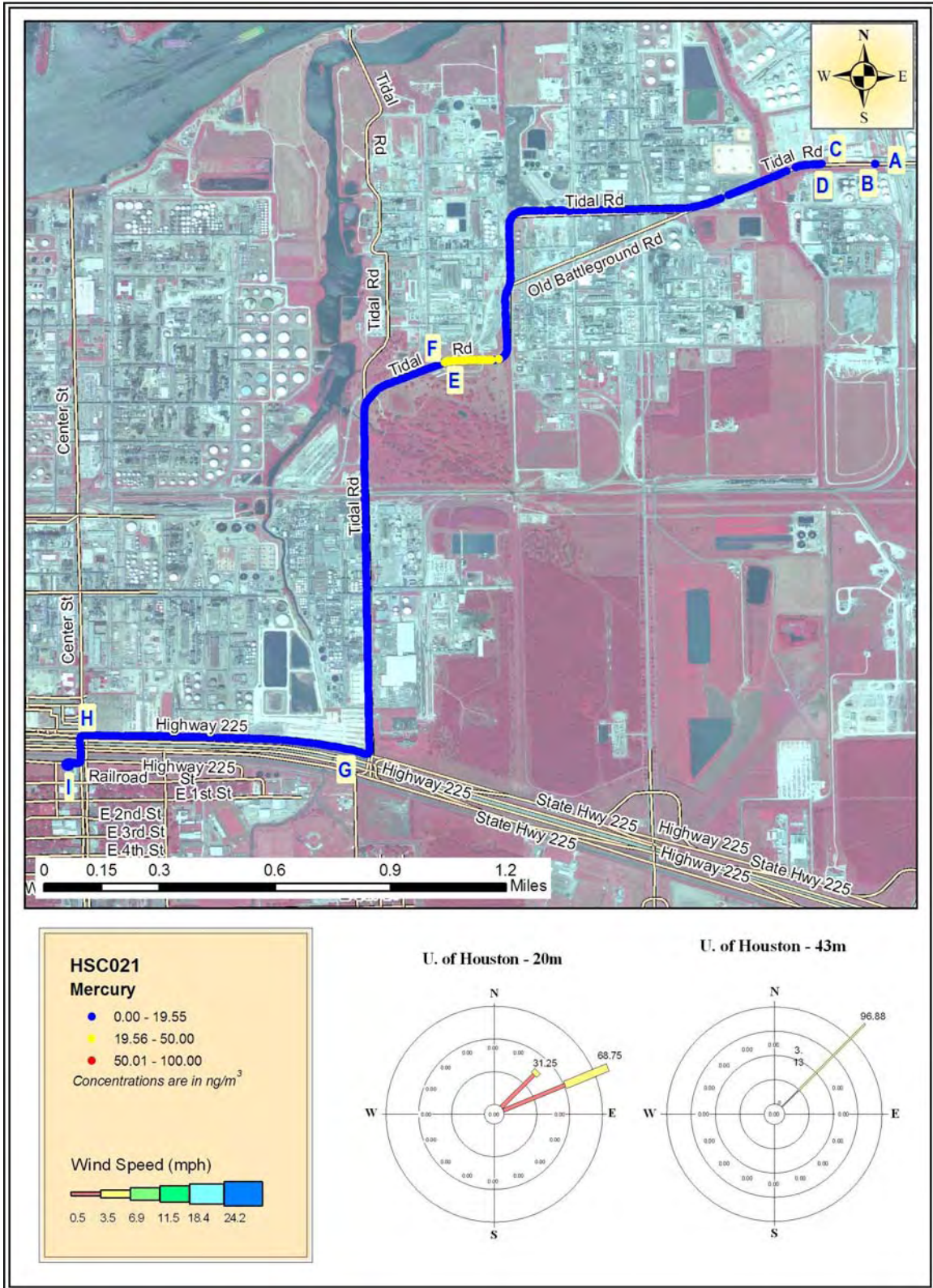
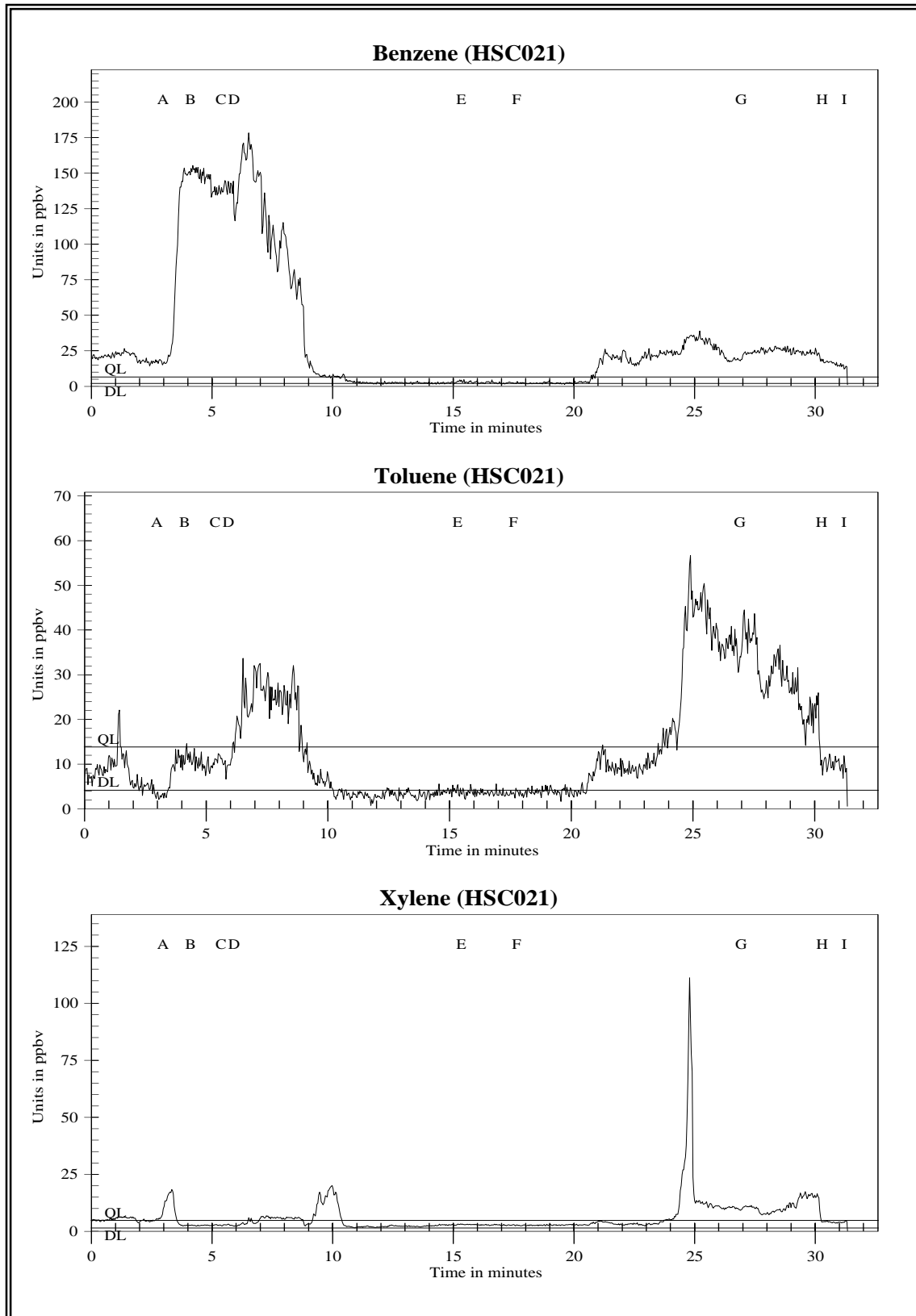


Figure 13h Mobile Monitoring Path for Mercury in Harris County

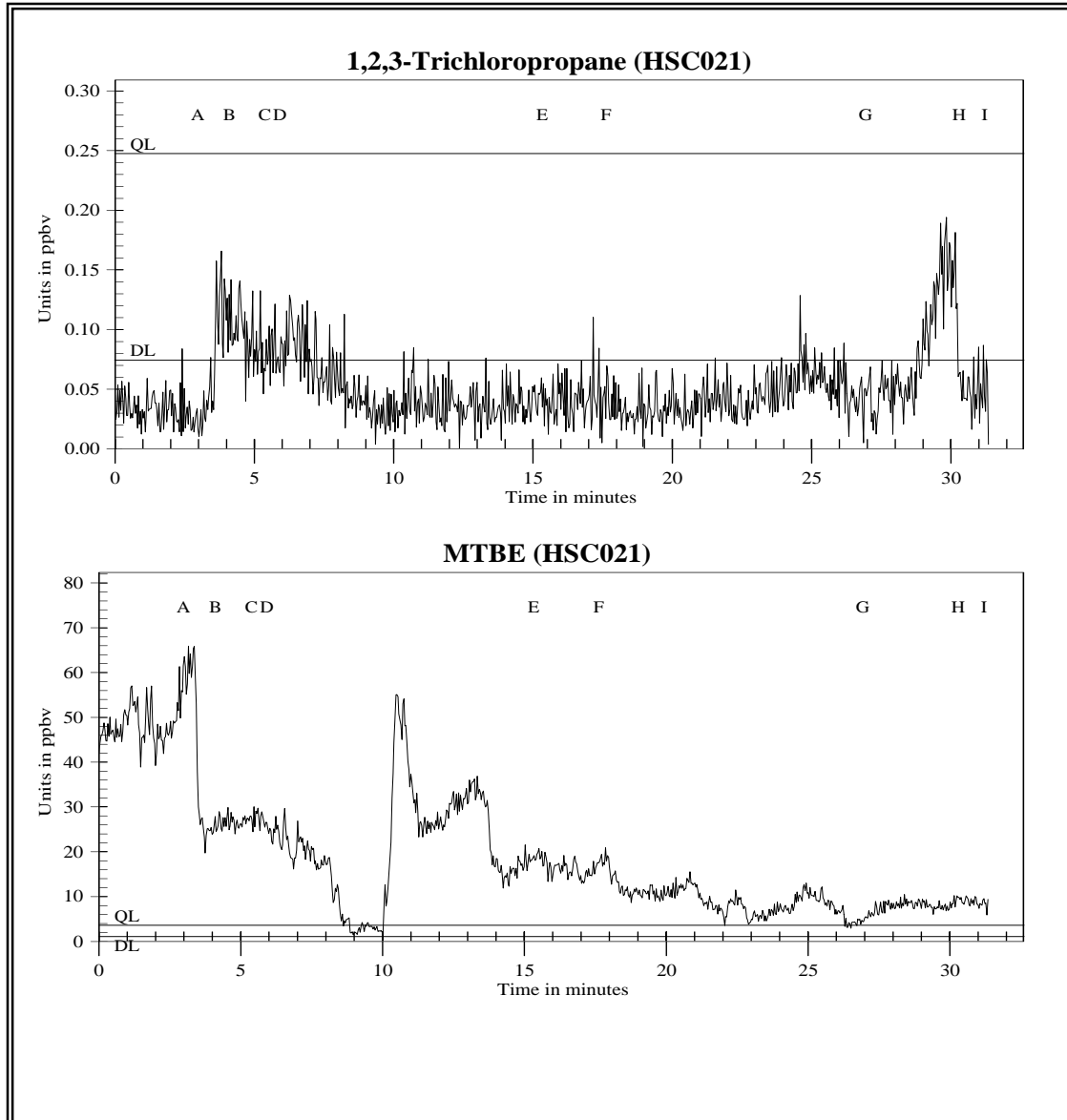
**Figure 13i**

TAGA File Event Summary			
File: HSC021 Acquired on 13 December 2006 at 05:53:57 UTC			
Title: Mobile Monitoring in Harris County			
Flag	Time	Sequence	Description
A	2.7	79	Start monitoring westward on Tidal Road
B	3.9	112	Stopping to start collecting SUMMA <sup>®</sup> sample B0125
C	5.1	148	End of collecting SUMMA <sup>®</sup> sample B0125
D	5.7	163	Resume mobile monitoring
E	15.1	433	Stopping
F	17.4	499	Resume mobile monitoring
G	26.7	763	Turning right onto State Highway 225 Service Road
H	30.0	859	Turning left onto Center Street
I	31.1	889	Stopping

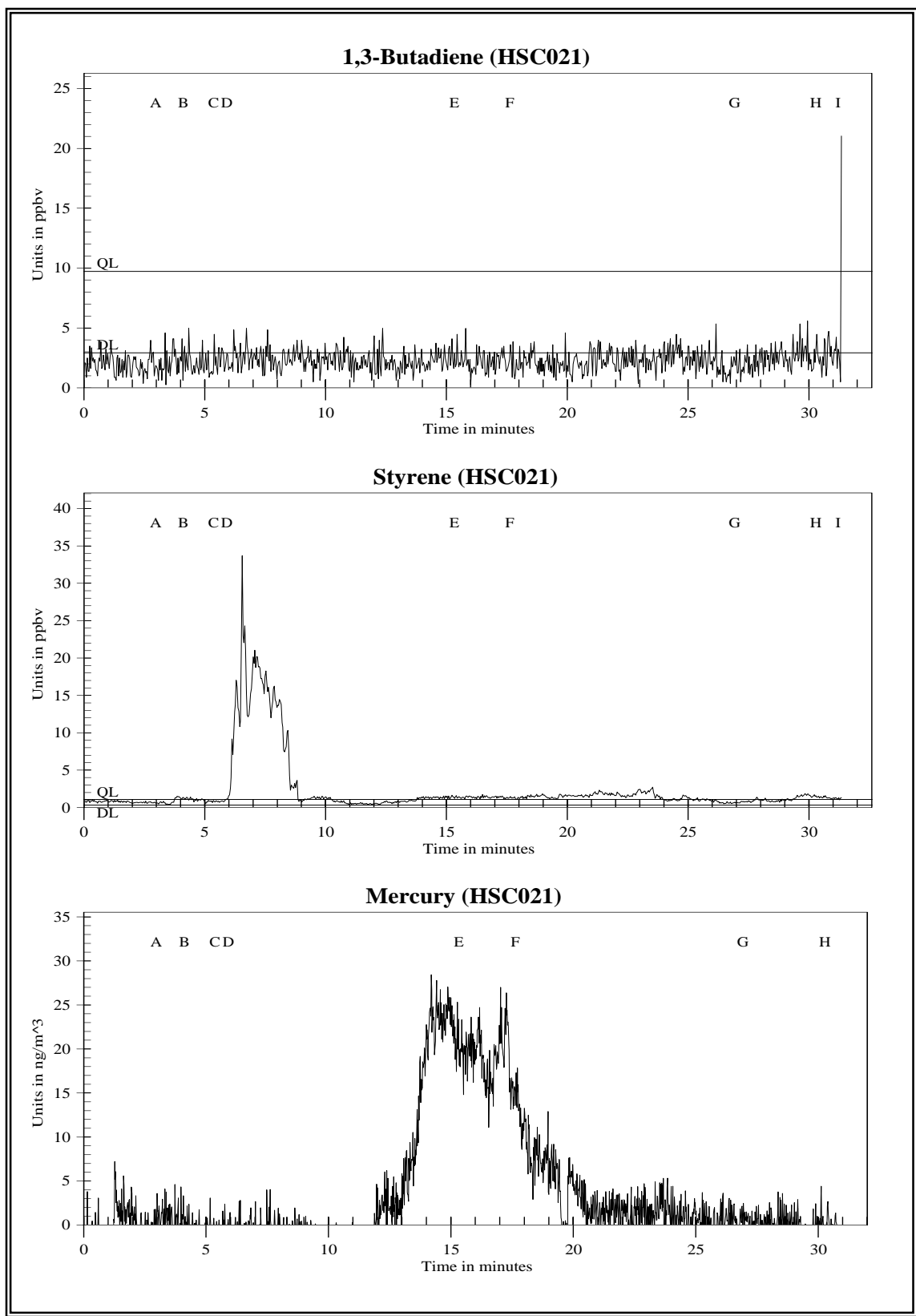


**Figure 13j** Mobile Monitoring in Harris County for Benzene, Toluene, and Xylenes





**Figure 13k** Mobile Monitoring in Harris County for 1,2,3-Trichloropropane and Methyl-t-butyl ether



**Figure 131** Mobile Monitoring in Harris County for 1,3-Butadiene, Styrene, and Mercury

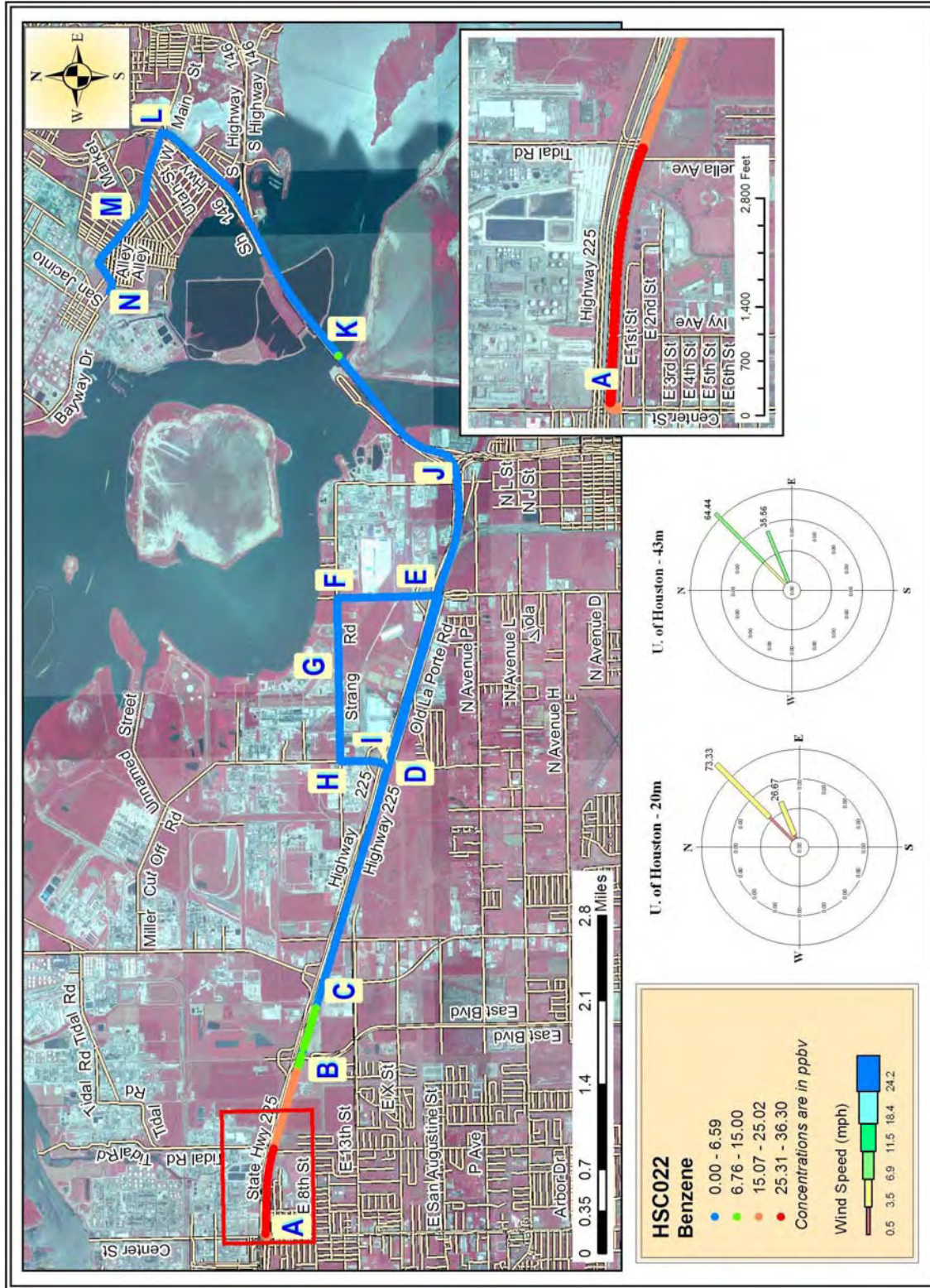
**Figure 13m**

TAGA Target Compound Averages during Sample Collection File: HSC021 Acquired on 13 December 2006 at 05:53:57 UTC					
		Benzene	Toluene	Xylenes	1,2,3-Trichloropropane
	Detection Limits (DL):	2.0	4.2	1.4	0.074
	Quantitation Limits (QL):	6.6	14.	4.8	0.25
Flags	Description	Benzene	Toluene	Xylenes	1,2,3-Trichloropropane
B - C	SUMMA <sup>®</sup> B1025	61.	5.7J	8.8	DL=0.074
		Methyl-t-butyl ether	1,3-Butadiene	Styrene	
	Detection Limits (DL):	2.6	2.9	0.32	
	Quantitation Limits (QL):	8.7	9.7	1.1	
Flags	Description	Methyl-t-butyl ether	1,3-Butadiene	Styrene	
B - C	SUMMA <sup>®</sup> B1025	50.	DL=2.9	0.71J	

Concentrations are in parts per billion by volume (ppbv)

J = Below quantitation limit





**Figure 14a** Mobile Monitoring Path for Benzene in Harris County



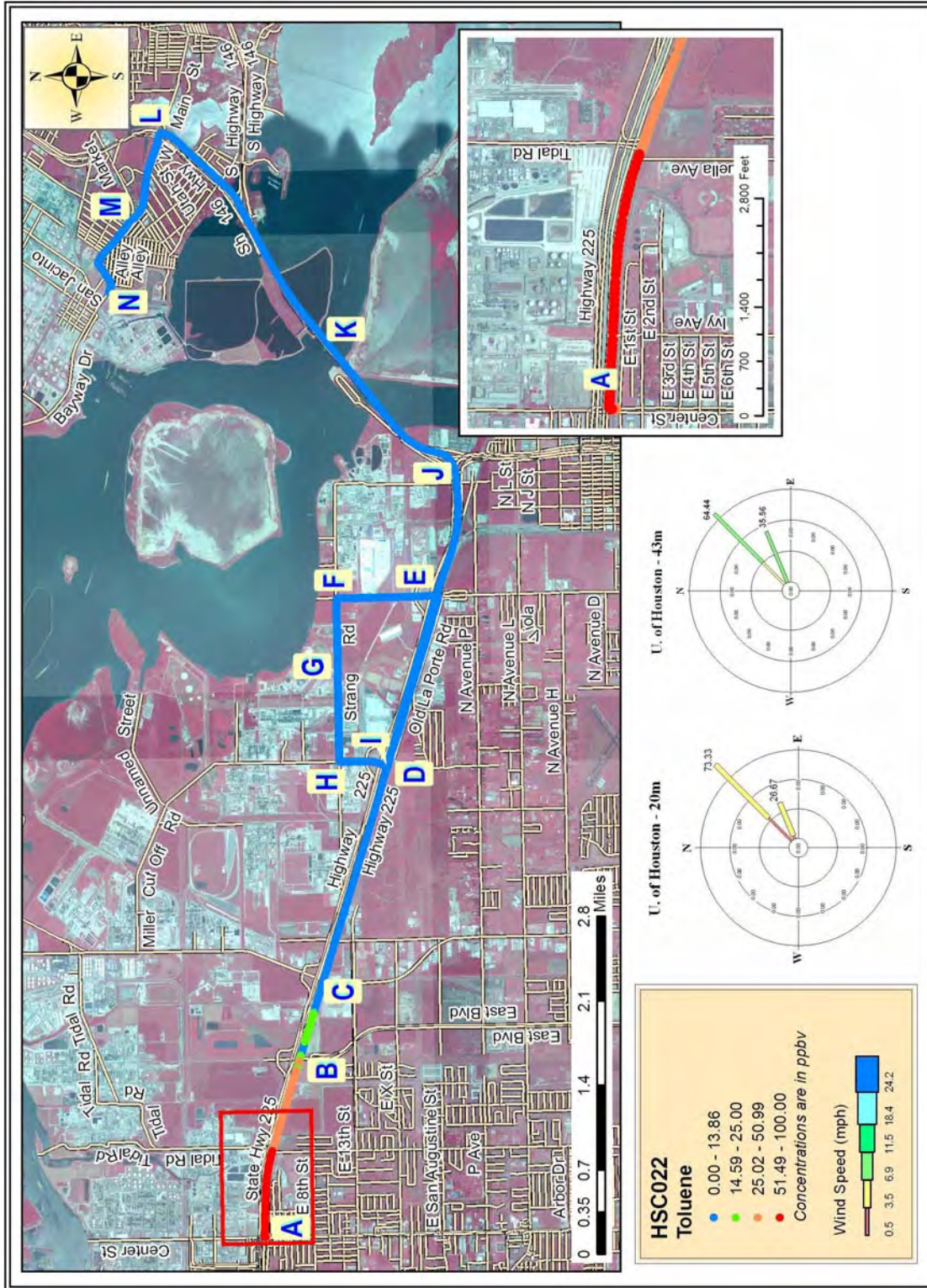


Figure 14b Mobile Monitoring Path for Toluene in Harris County



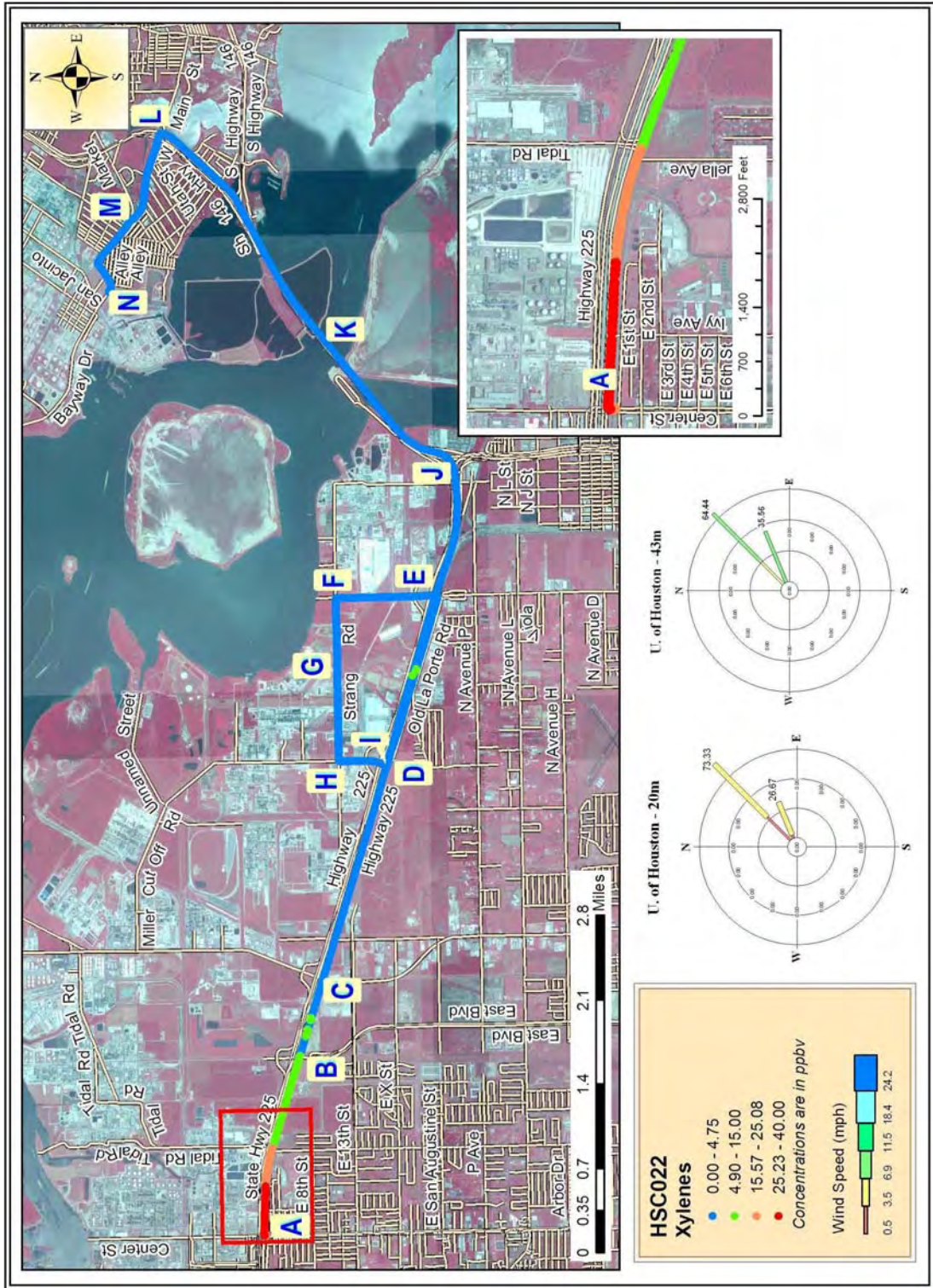
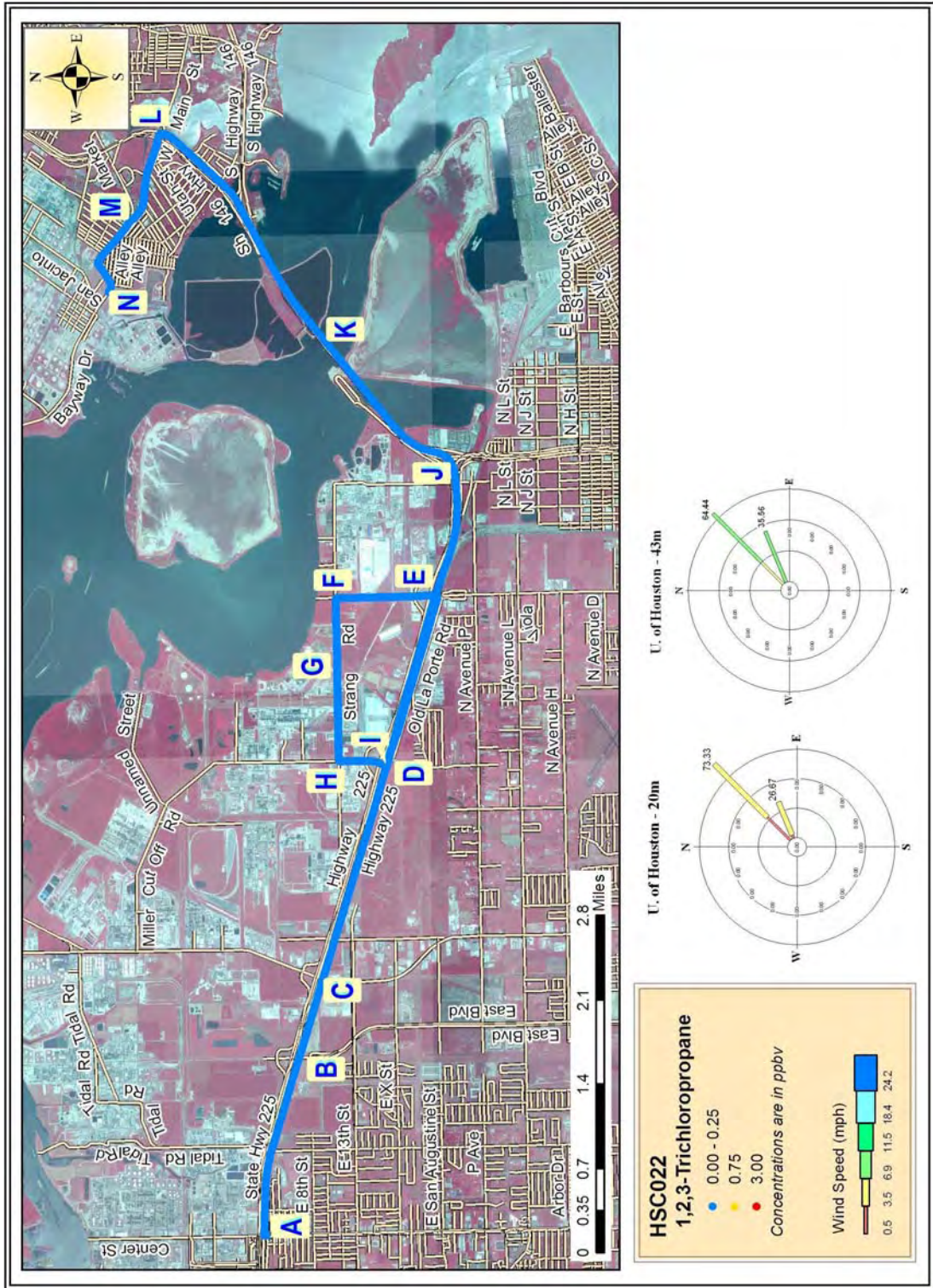


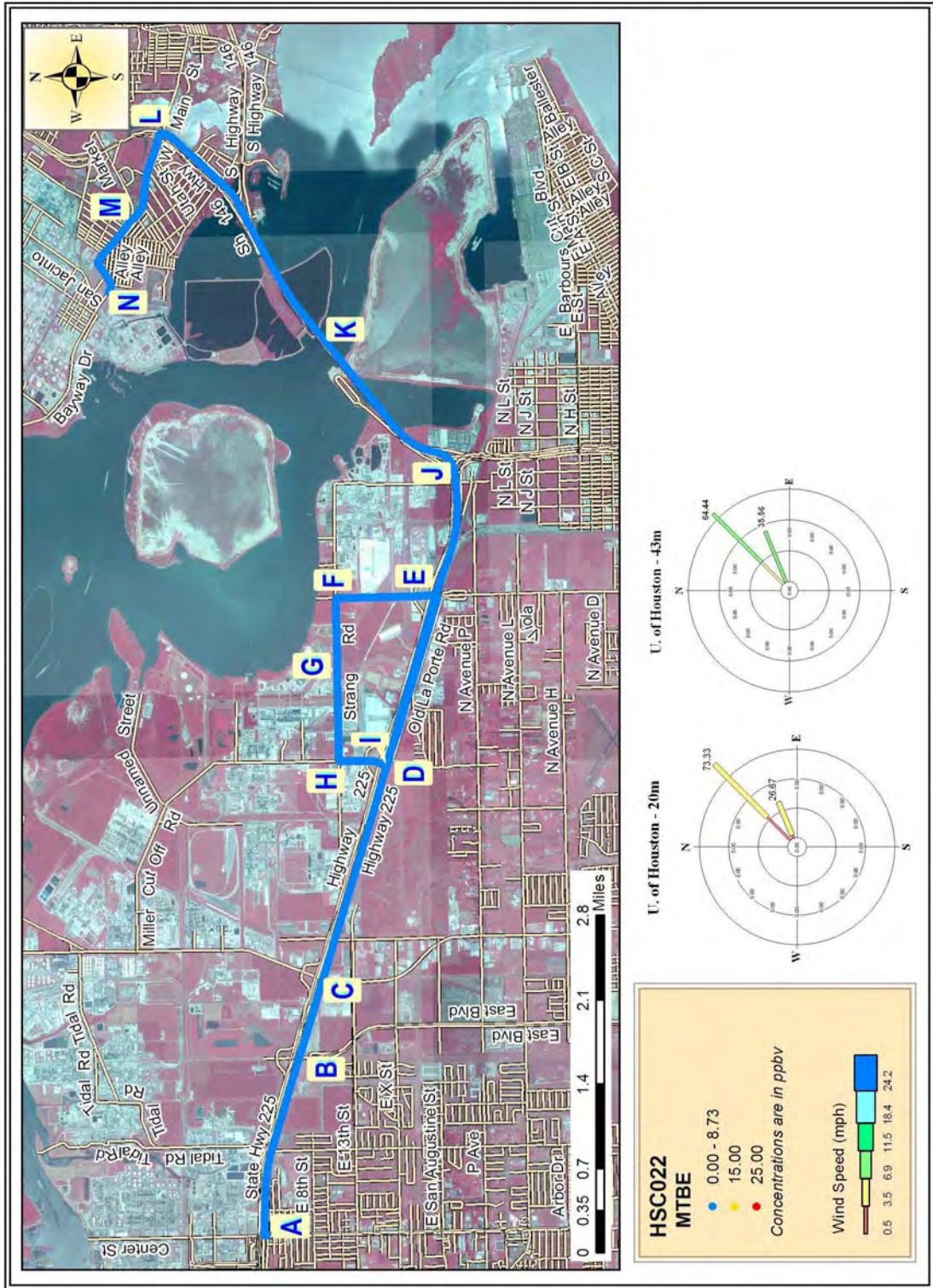
Figure 14c Mobile Monitoring Path for Xylenes in Harris County





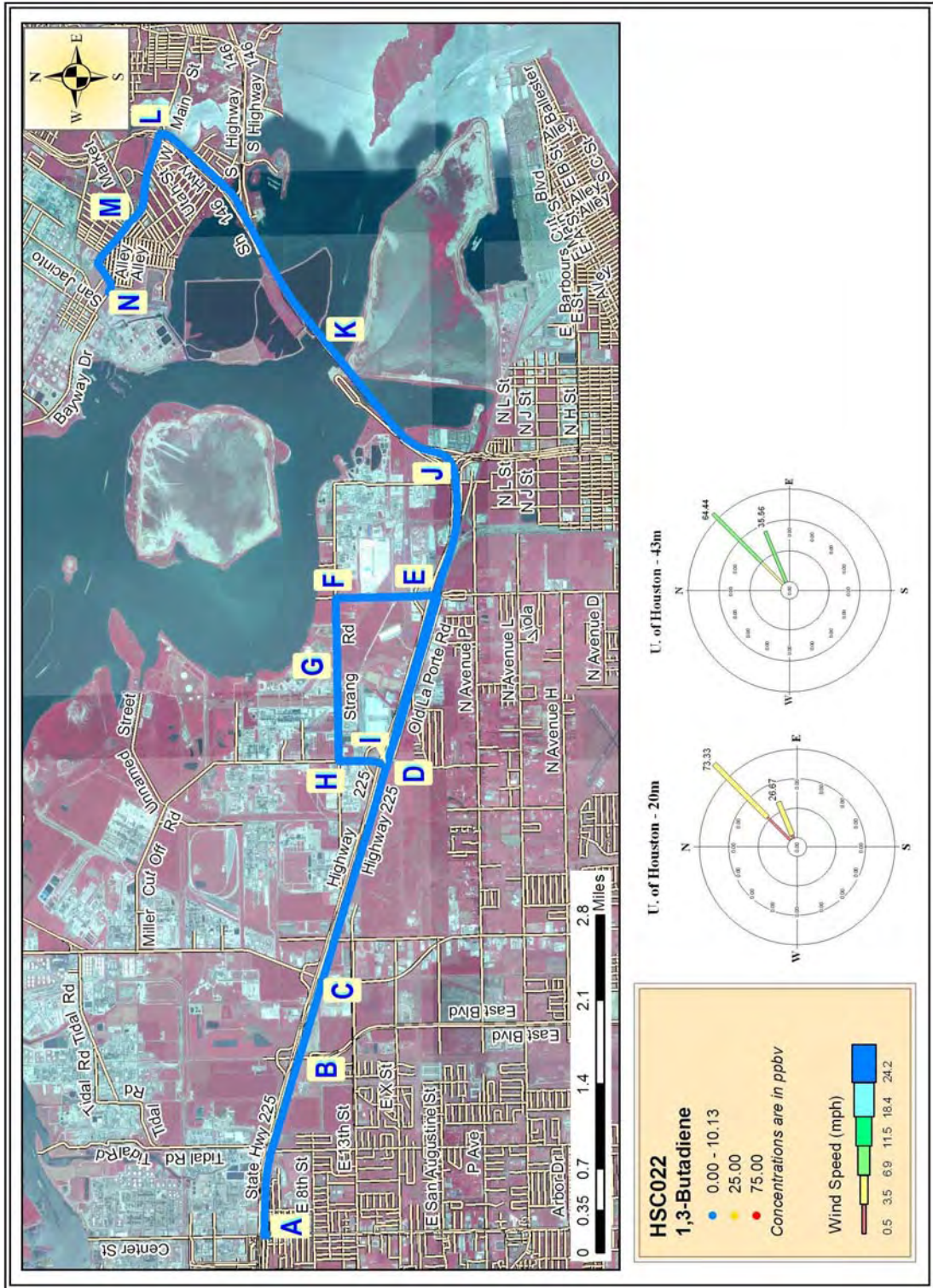
**Figure 14d** Mobile Monitoring Path for 1,2,3-Trichloropropane in Harris County





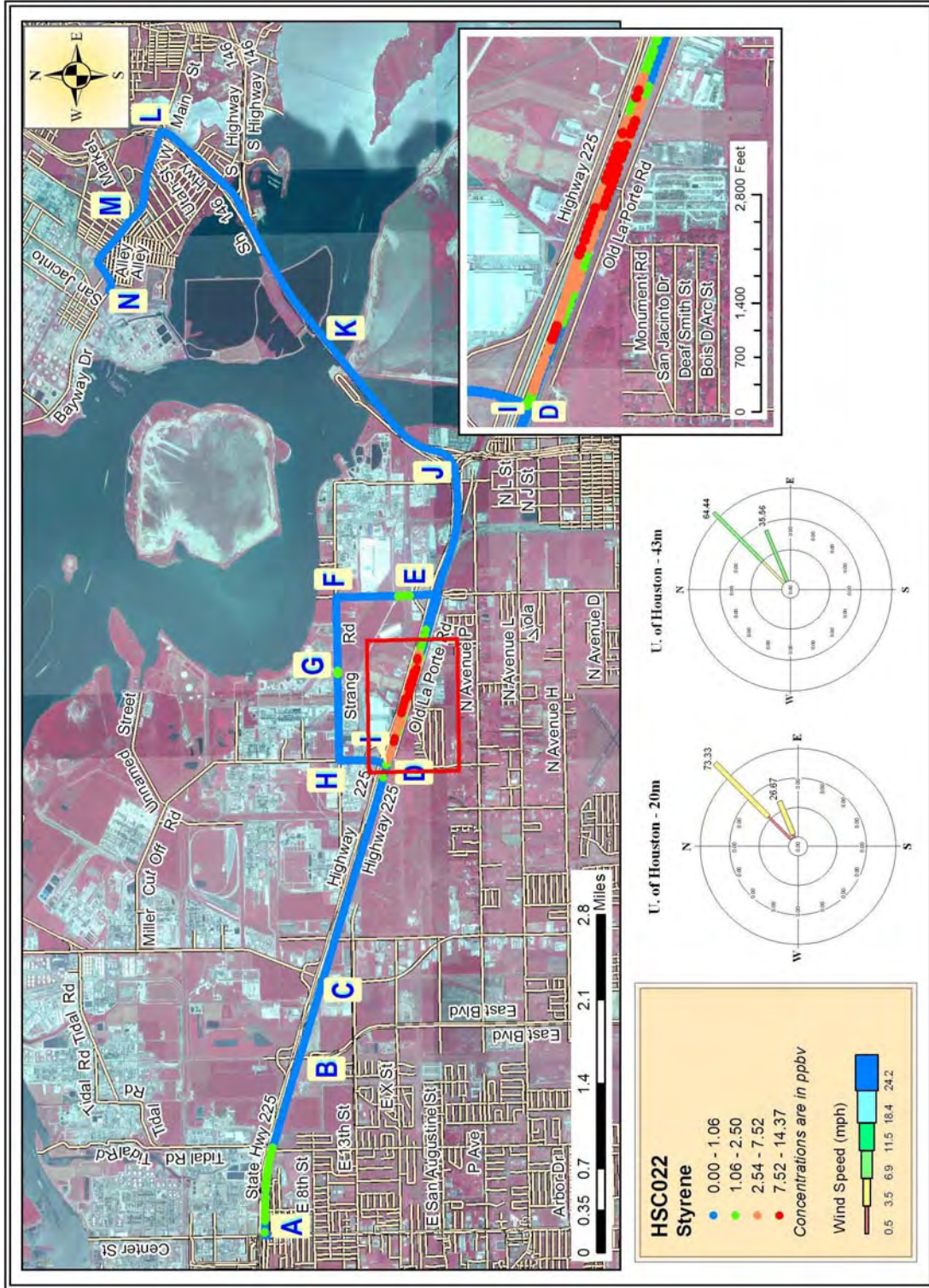
**Figure 14e** Mobile Monitoring Path for Methyl-t-butyl ether in Harris County





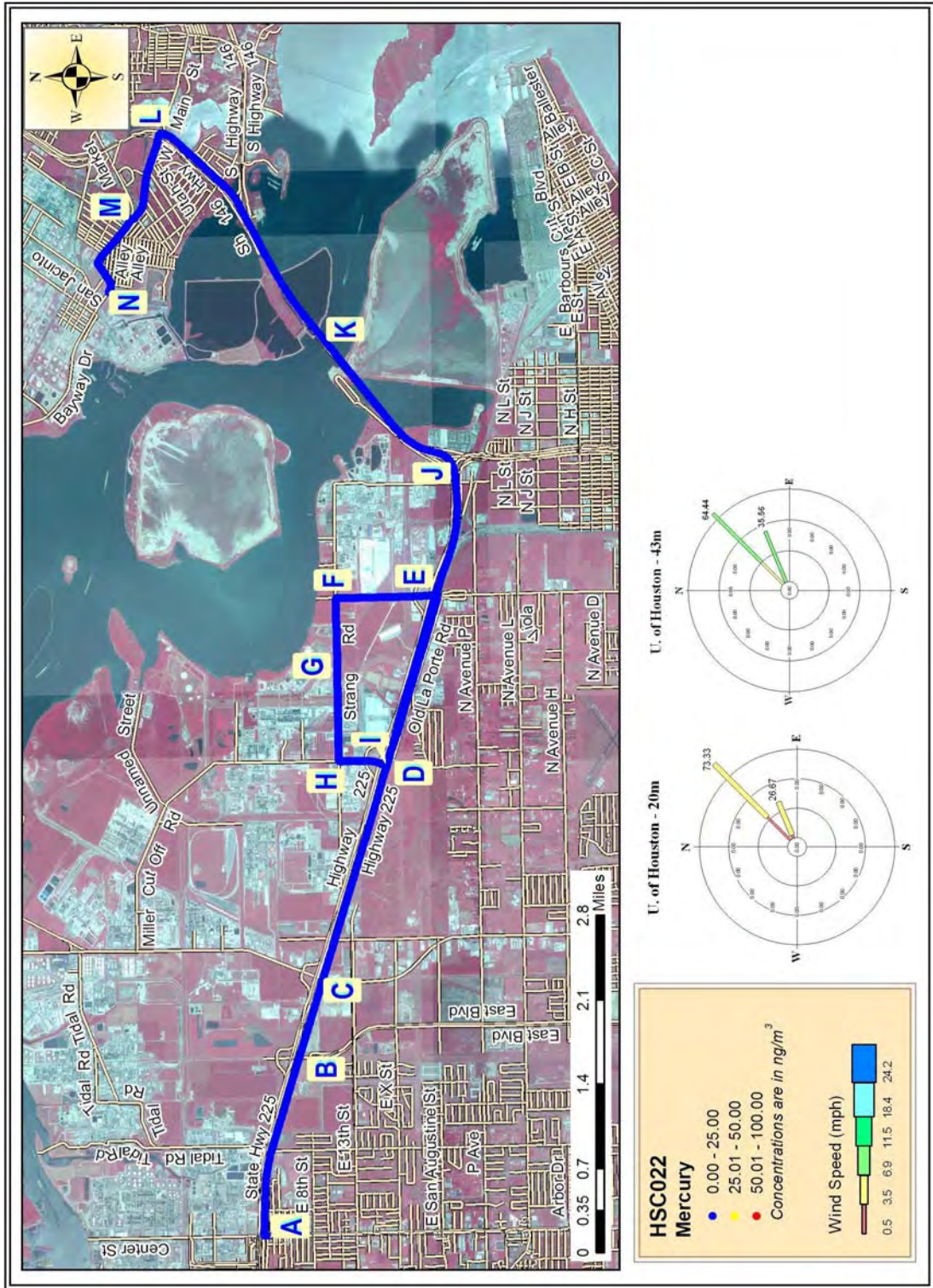
**Figure 14f** Mobile Monitoring Path for 1,3-Butadiene in Harris County





**Figure 14g** Mobile Monitoring Path for Styrene in Harris County



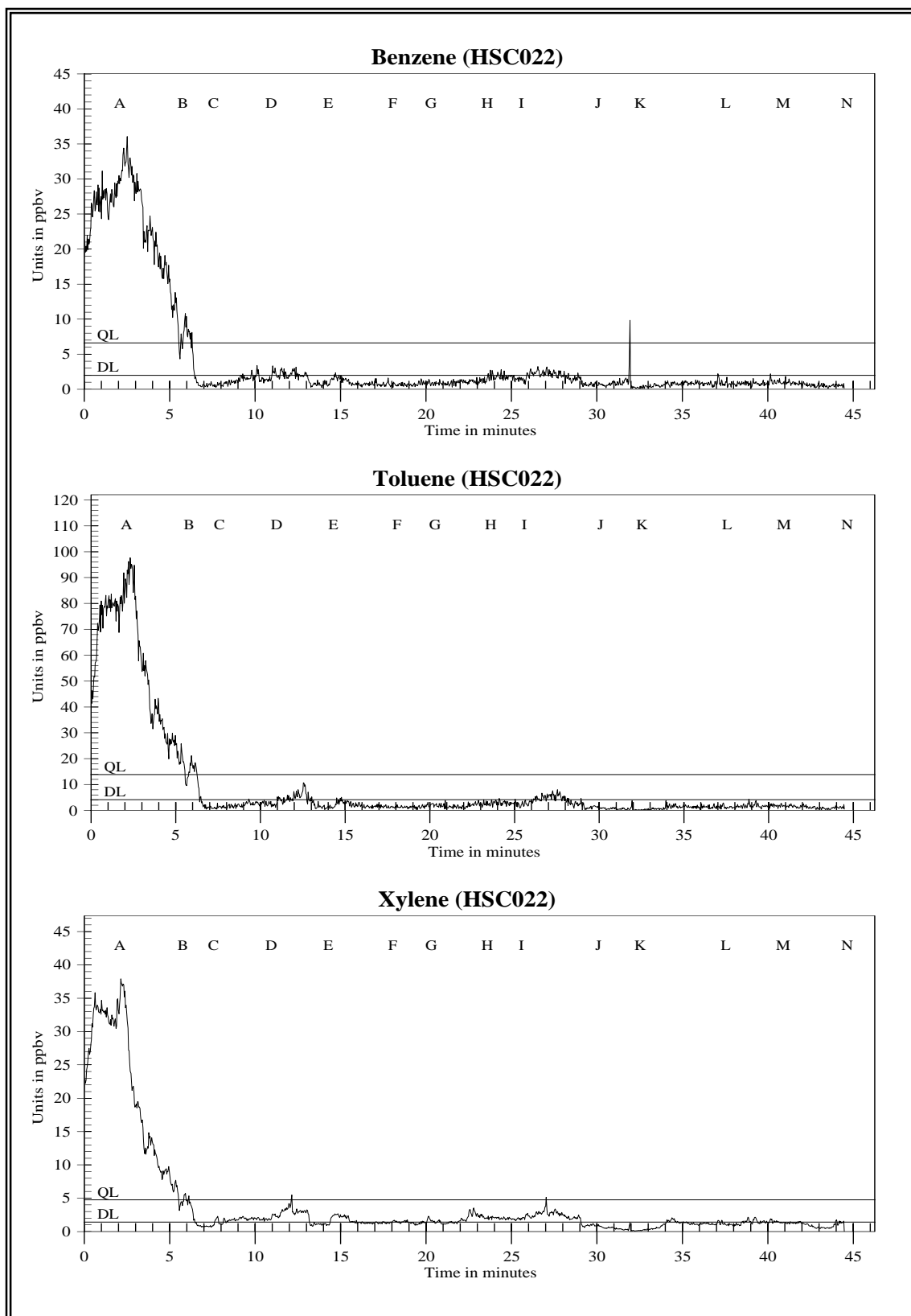


**Figure 14h** Mobile Monitoring Path for Mercury in Harris County

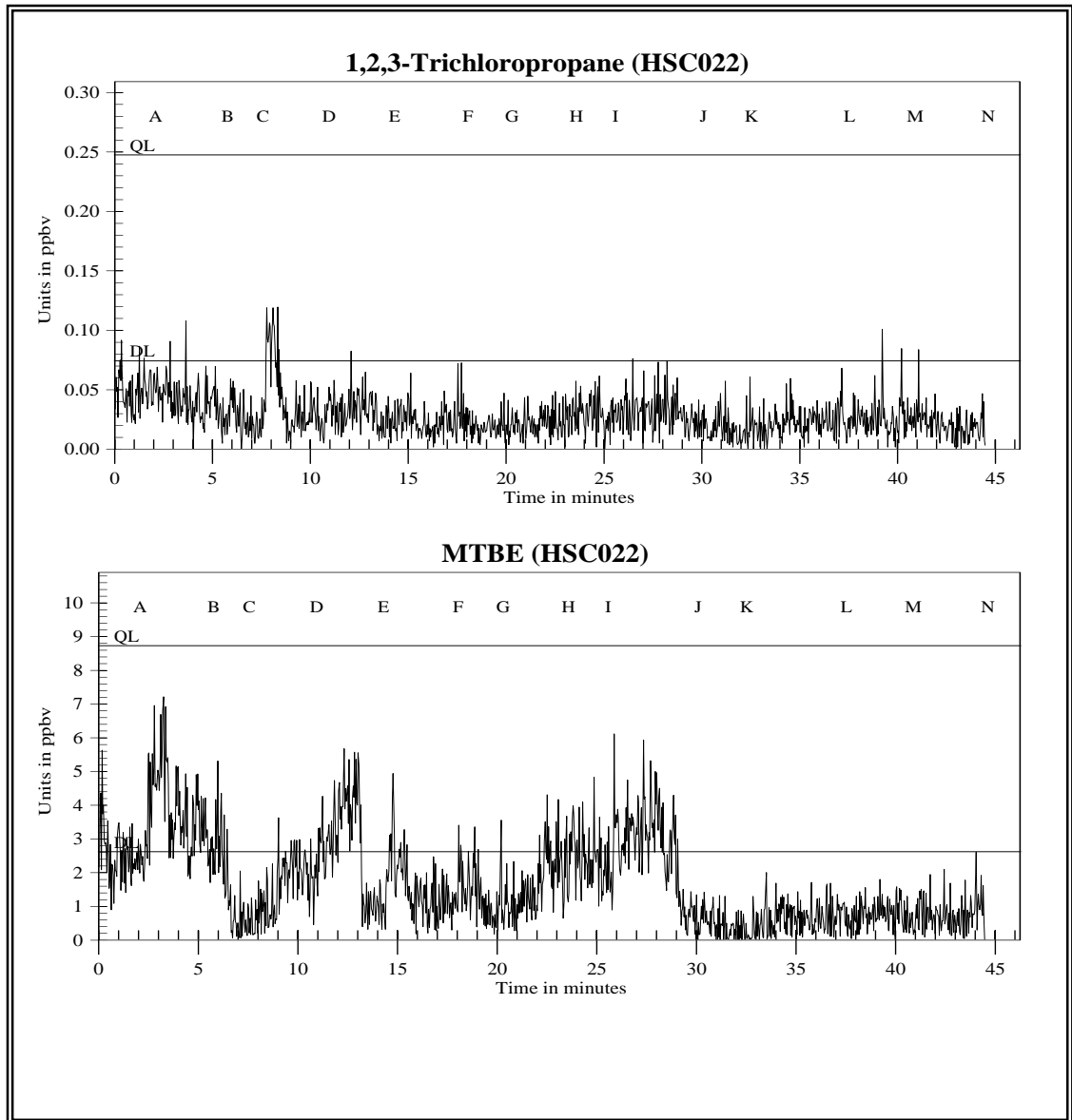
**Figure 14i**

TAGA File Event Summary			
File: HSC022 Acquired on 13 December 2006 at 07:13:11 UTC			
Title: Mobile Monitoring in Harris County			
Flag	Time	Sequence	Description
A	1.8	51	Start monitoring eastward on State Highway 225 East Service Road
B	5.5	157	Passing East Boulevard
C	7.3	208	Passing Battleground Road
D	10.6	304	Passing Miller Cut Off Road
E	14.0	401	Turning left onto Sens Road
F	17.8	509	Turning left onto Strang Road
G	20.0	571	Passing Linde
H	23.3	665	Turning left onto Miller Cut Off Road
I	25.4	727	Continuing east onto State Highway 225
J	29.9	855	Merging onto State Highway 146 North
K	32.2	920	Passing Houston Ship Channel
L	37.3	1065	Exiting onto Main Street West
M	40.5	1157	Turning left onto Market Street
N	44.3	1266	Stopping at Bayway Drive

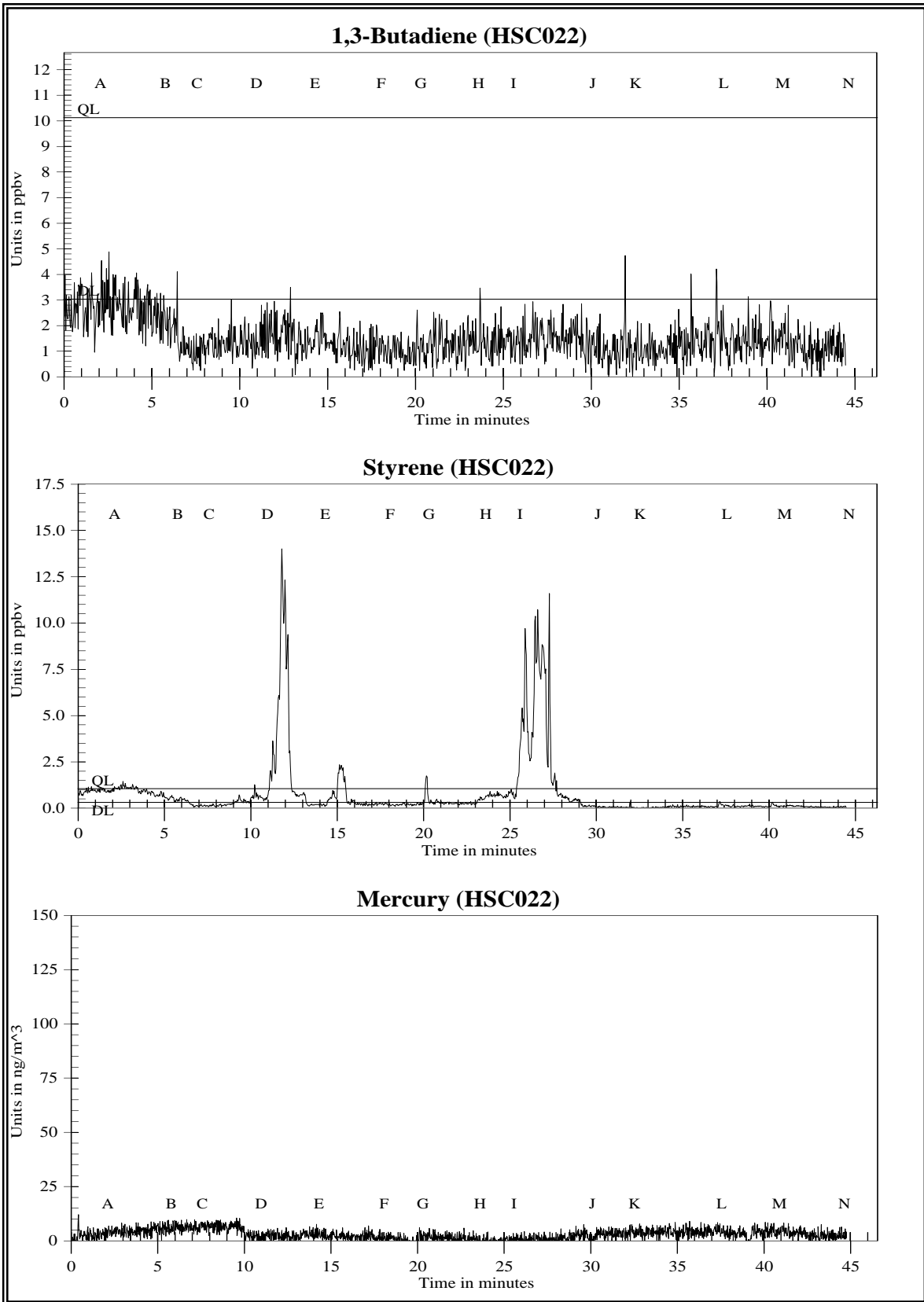




**Figure 14j** Mobile Monitoring in Harris County for Benzene, Toluene, and Xylenes



**Figure 14k** Mobile Monitoring in Harris County for 1,2,3-Trichloropropane and Methyl-t-butyl ether



**Figure 141** Mobile Monitoring in Harris County for 1,3-Butadiene, Styrene, and Mercury



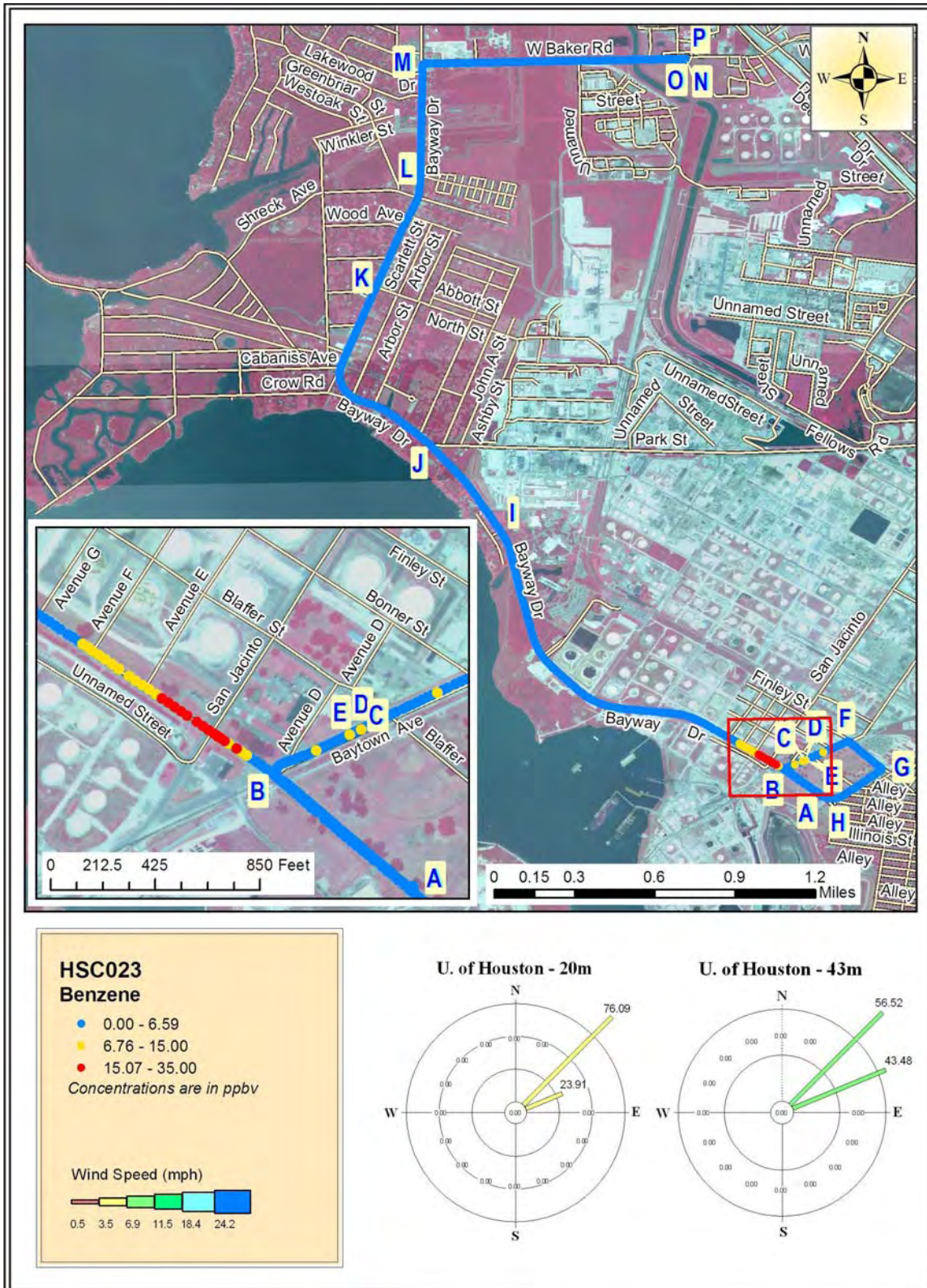


Figure 15a Mobile Monitoring Path for Benzene in Harris County



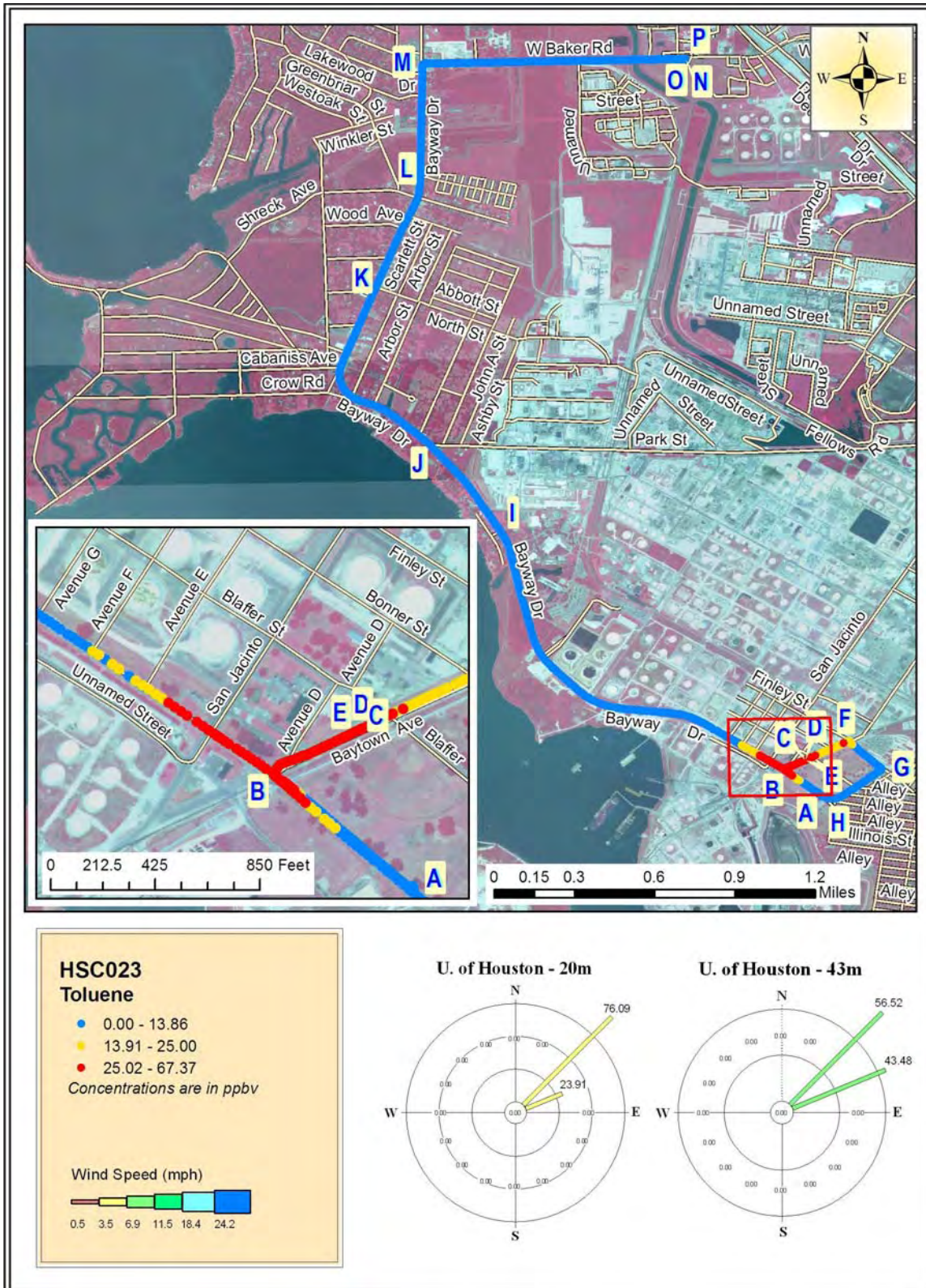


Figure 15b Mobile Monitoring Path for Toluene in Harris County



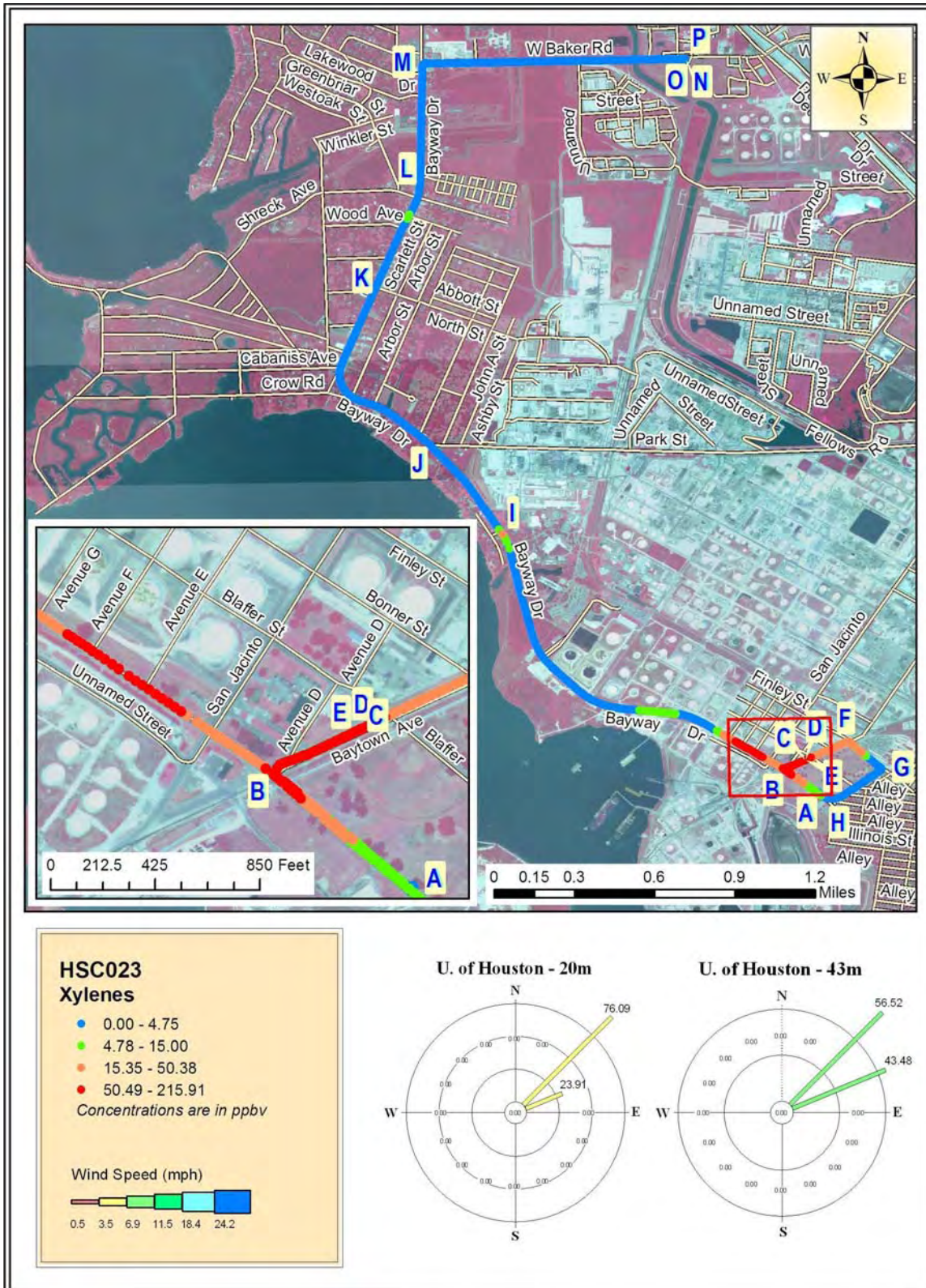


Figure 15c Mobile Monitoring Path for Xylenes in Harris County



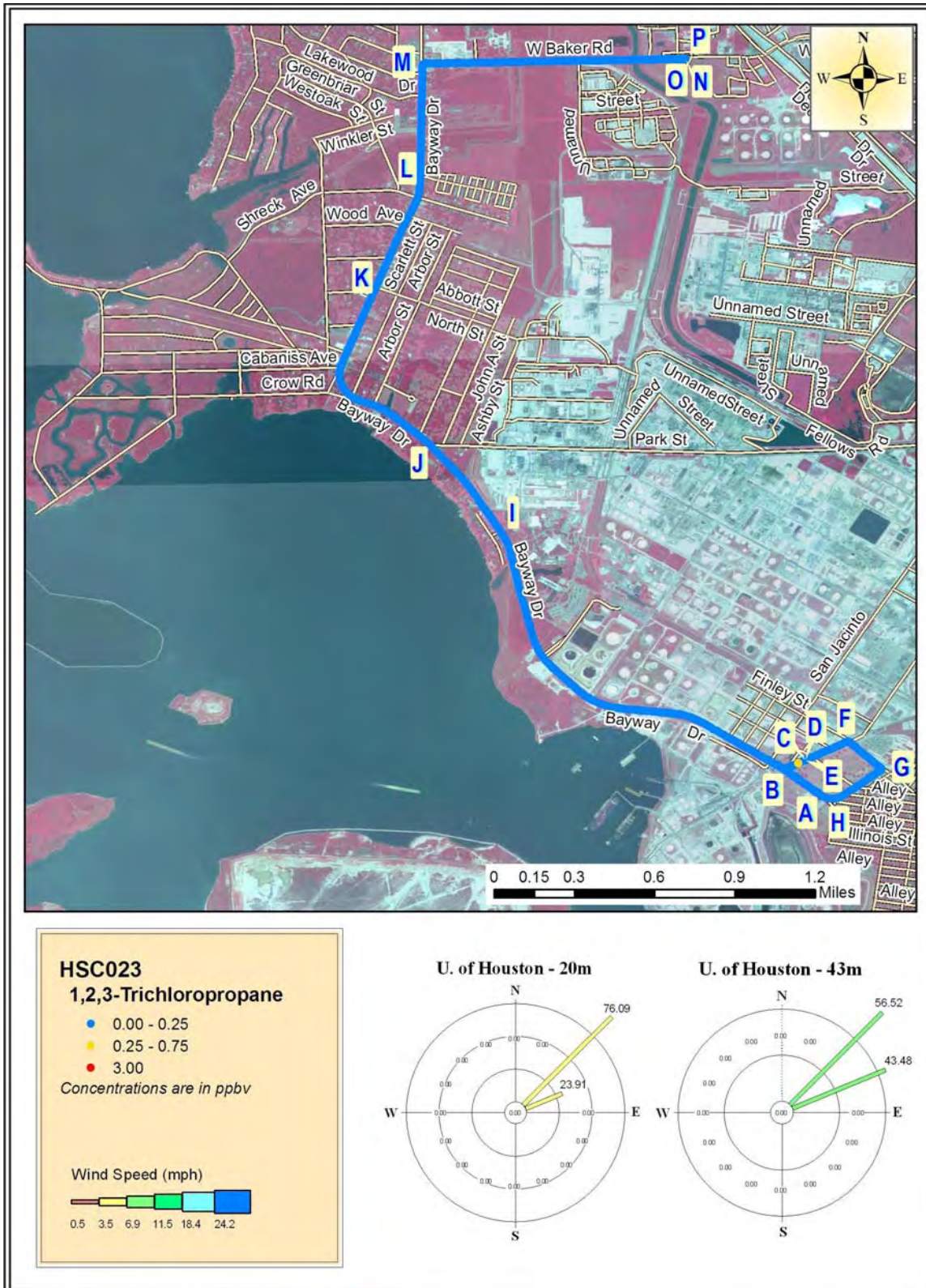


Figure 15d Mobile Monitoring Path for 1,2,3-Trichloropropane in Harris County



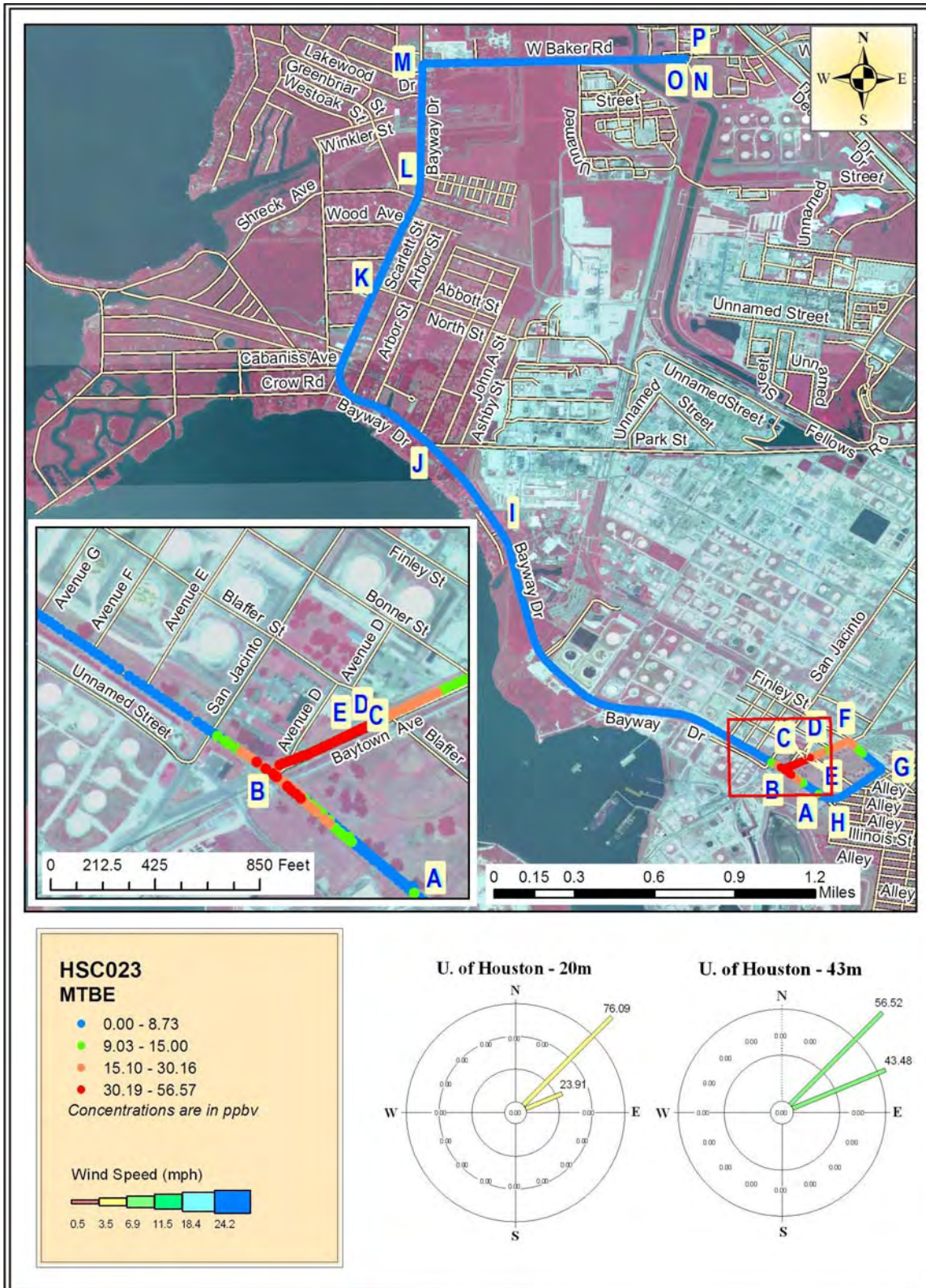


Figure 15e Mobile Monitoring Path for Methyl-t-butyl ether in Harris County



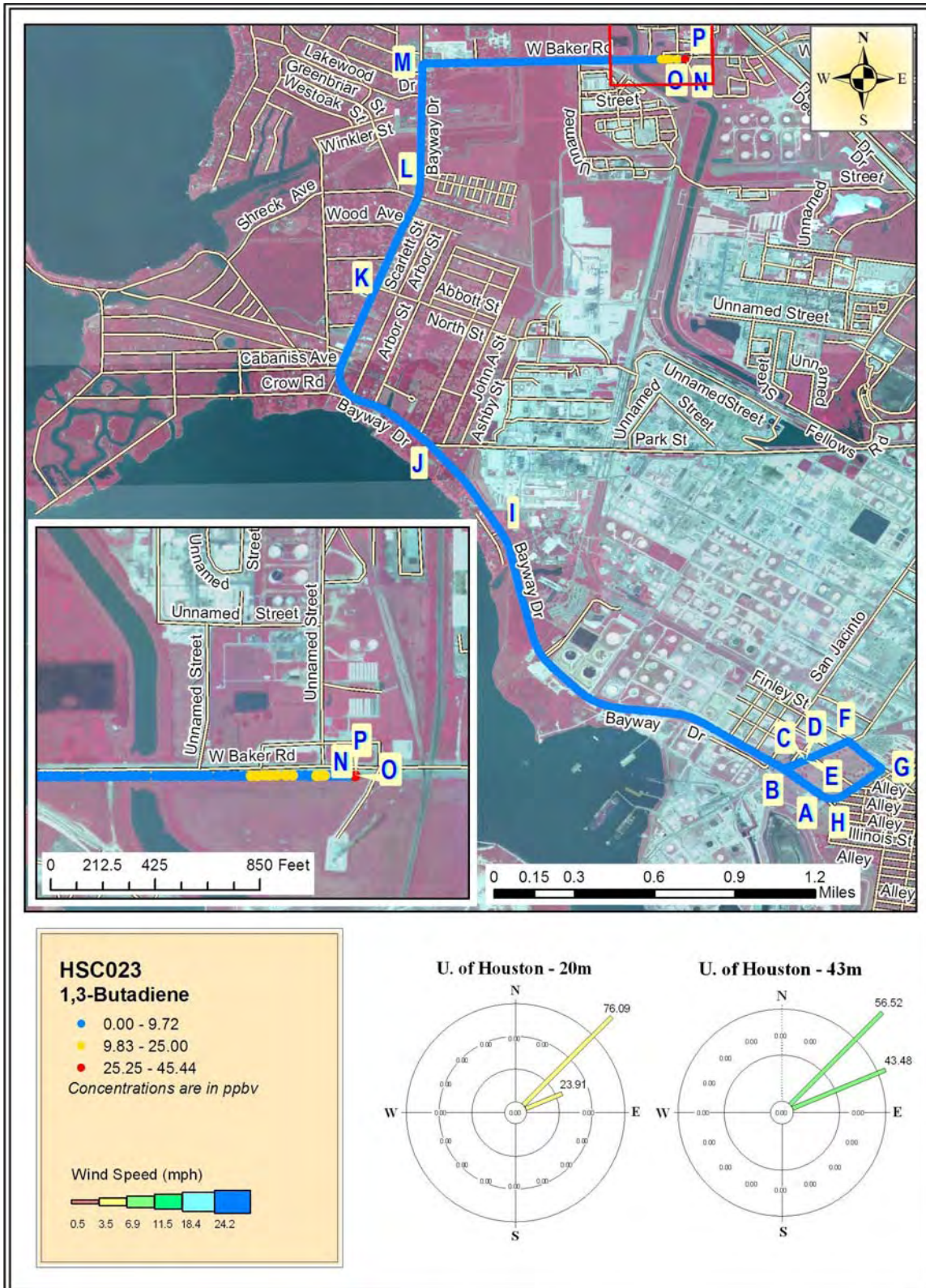


Figure 15f Mobile Monitoring Path for 1,3-Butadiene in Harris County



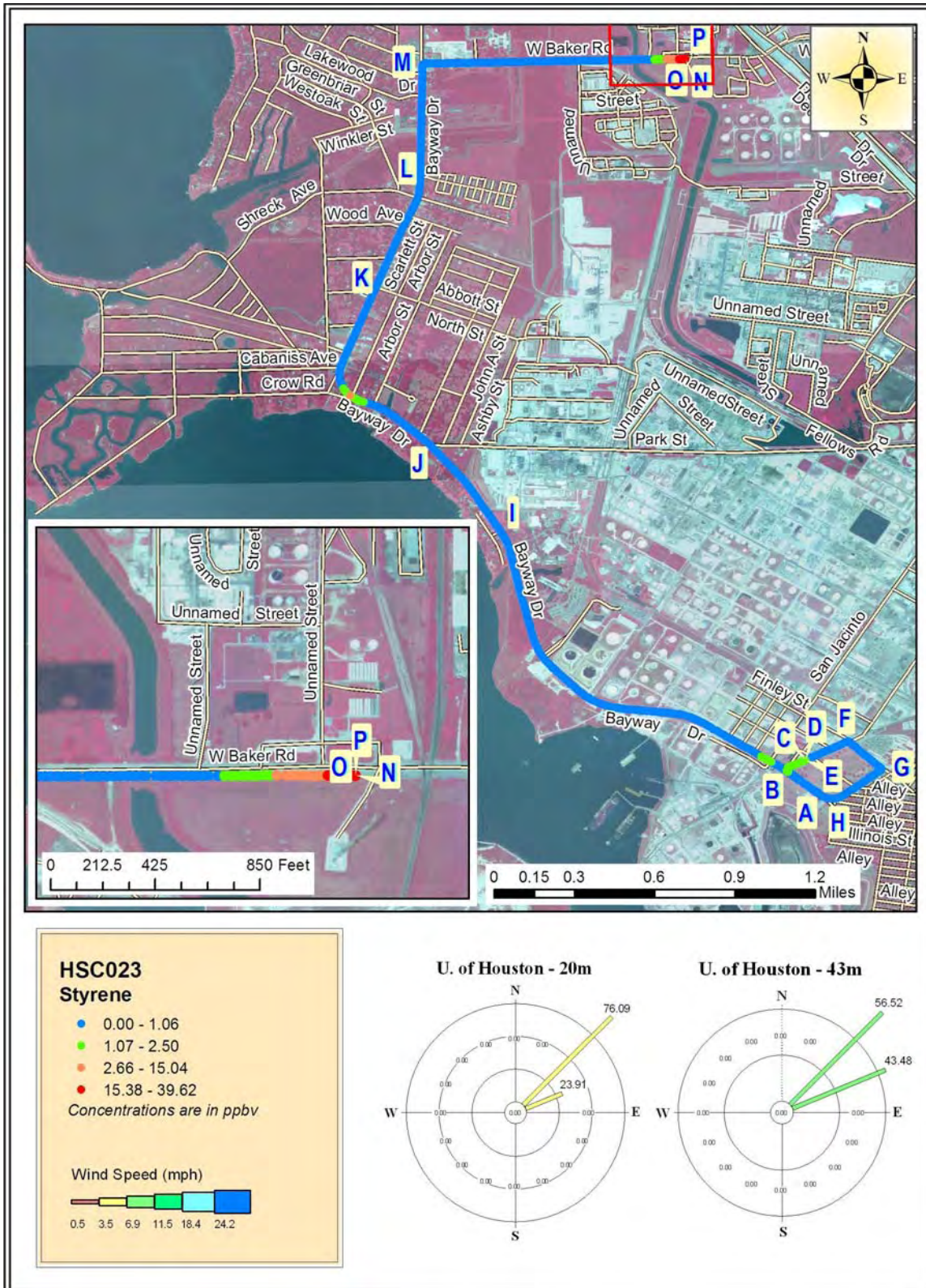


Figure 15g Mobile Monitoring Path for Styrene in Harris County



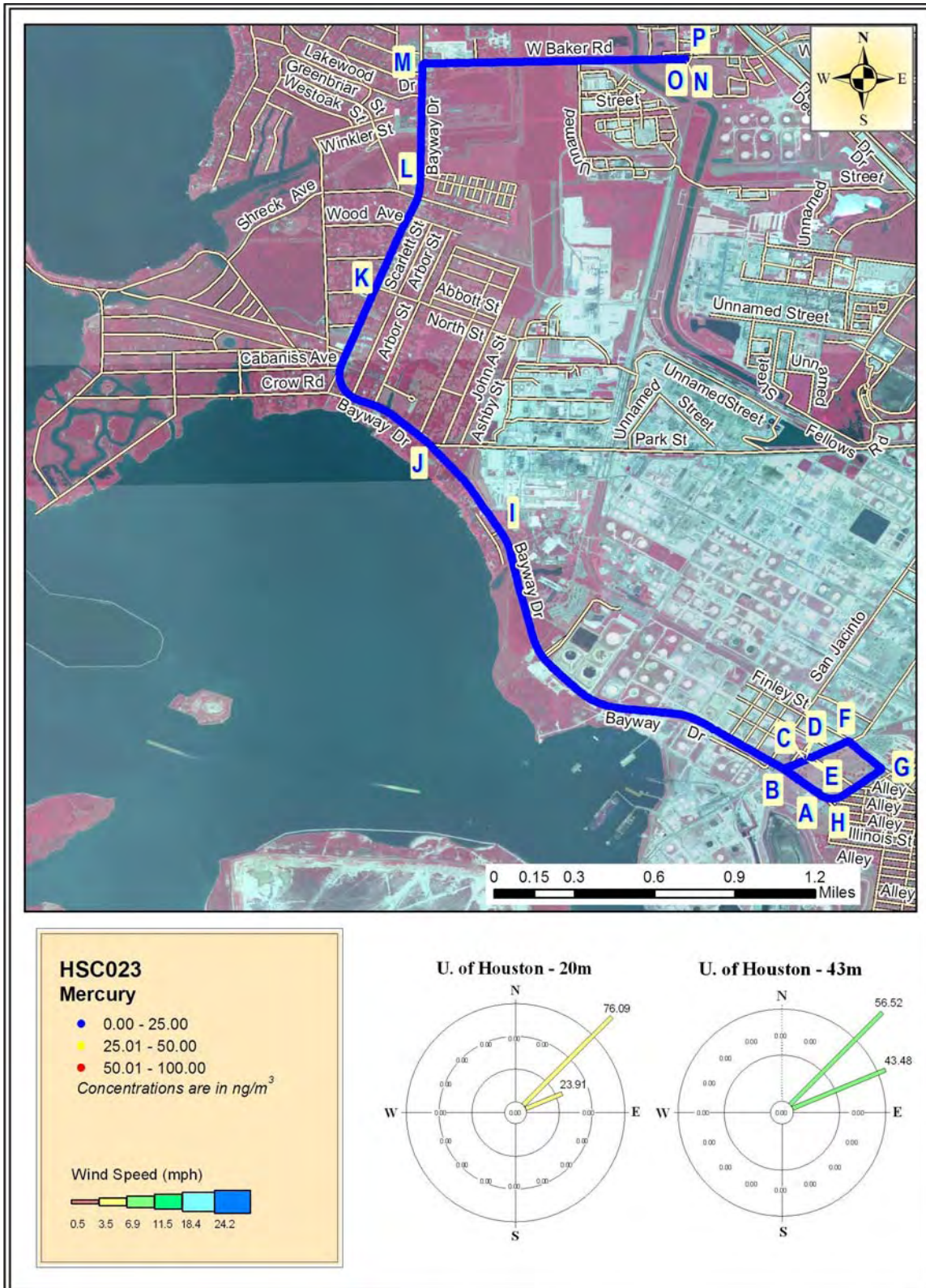
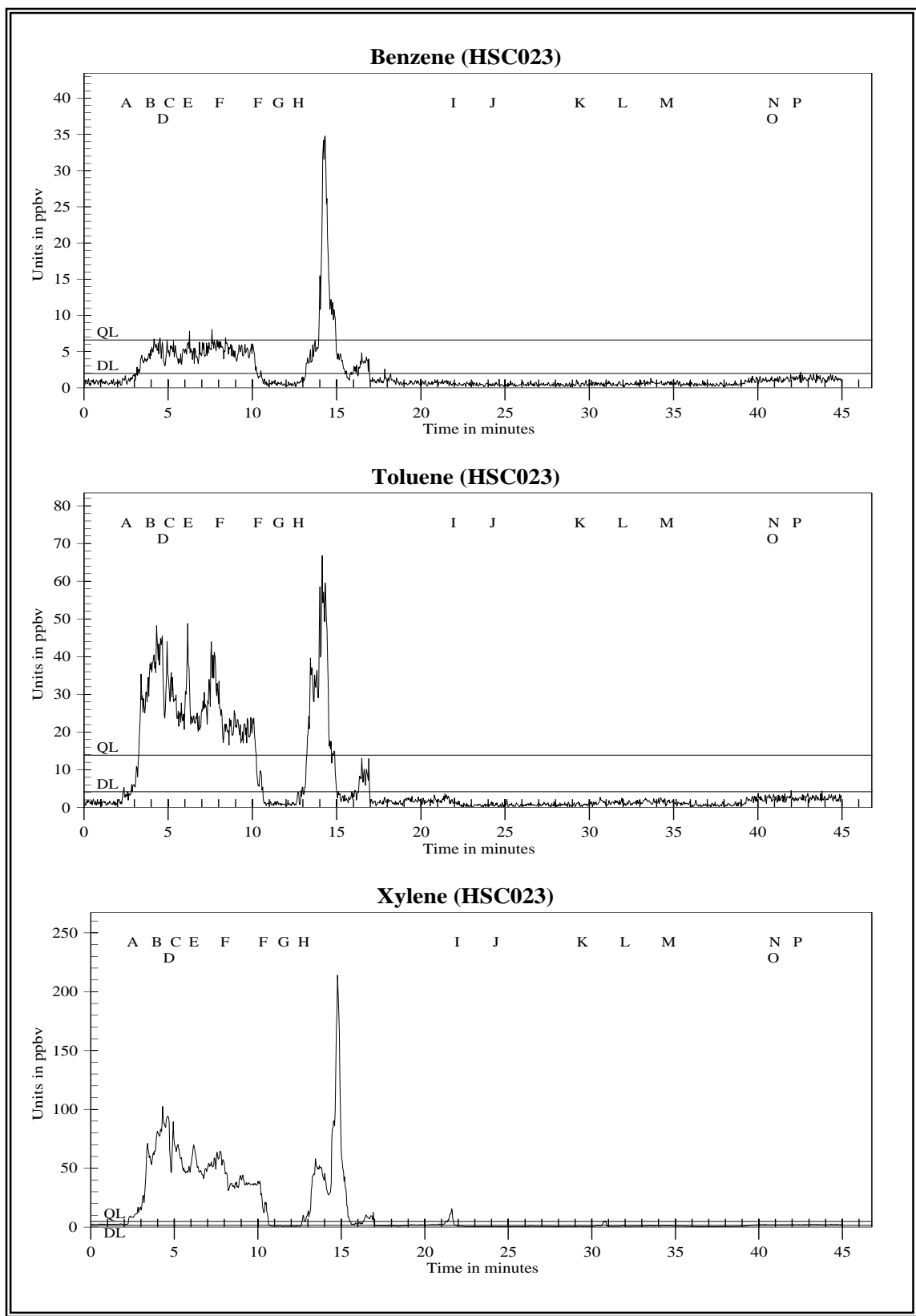


Figure 15h Mobile Monitoring Path for Mercury in Harris County

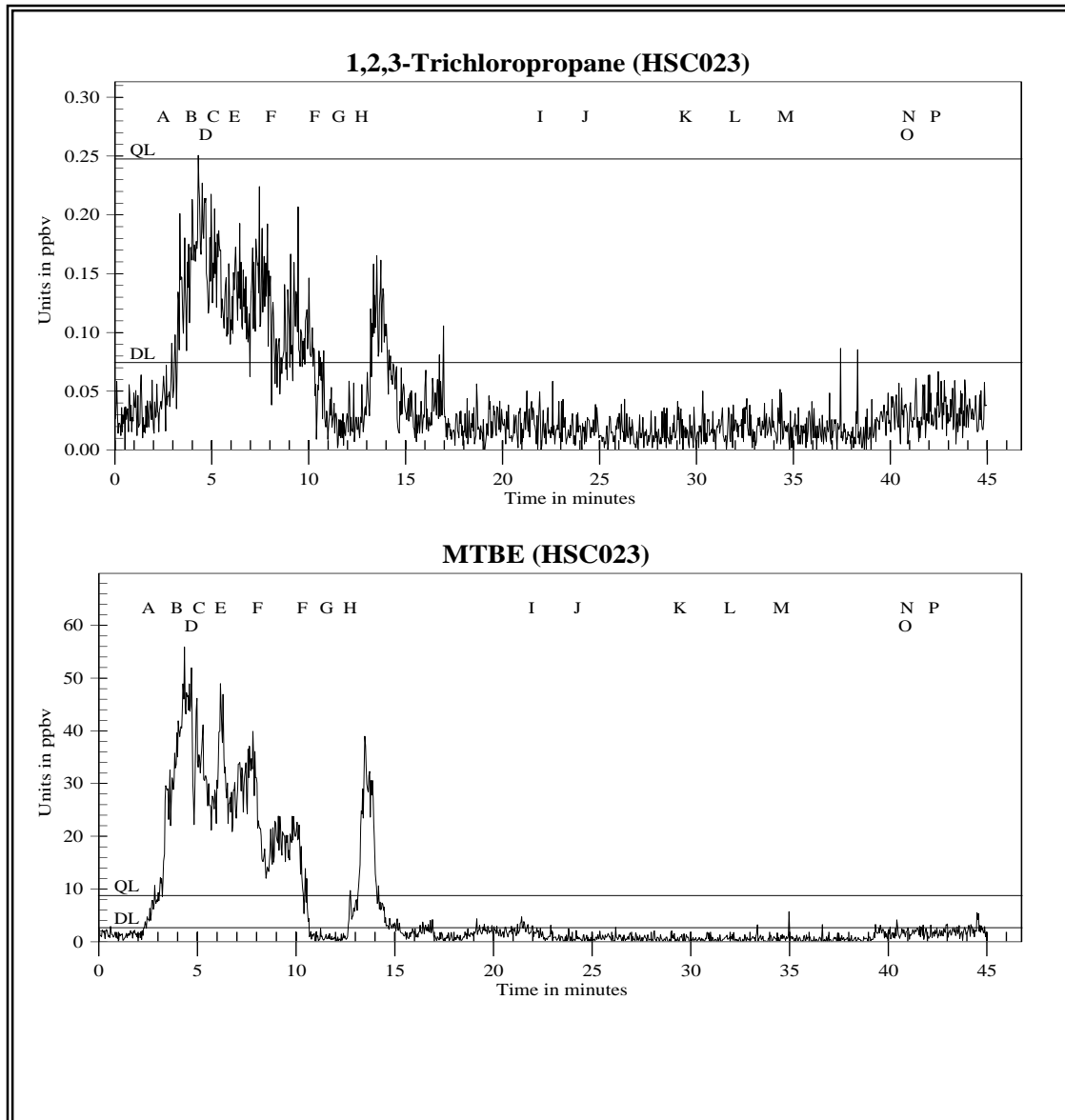
**Figure 15i**

TAGA File Event Summary			
File: HSC023 Acquired on 13 December 2006 at 08:01:41 UTC			
Title: Mobile Monitoring in Harris County			
Flag	Time	Sequence	Description
A	2.2	63	Start monitoring heading northwestward on Bayway Drive
B	3.6	105	Turning right on Baytown Avenue
C	4.8	137	Stopping to start collecting SUMMA <sup>®</sup> sample H1499
D	5.0	145	End collecting SUMMA <sup>®</sup> sample H1499
E	5.9	169	Resuming mobile monitoring
F	10.1	288	Turning right onto Finley Street
G	11.2	321	Turning right onto Market Street
H	12.4	355	Turning right onto Bayway Drive
I	21.8	623	Passing Bayvilla Street
J	24.1	689	Passing Park Street
K	29.1	832	Passing North Street
L	31.7	906	Passing Court Yard Lane
M	34.2	977	Turning right onto Baker Road
N	40.6	1161	Stopping
O	41.2	1178	Start collecting SUMMA <sup>®</sup> sample J0165
P	42.1	1202	End collecting SUMMA <sup>®</sup> sample J0165

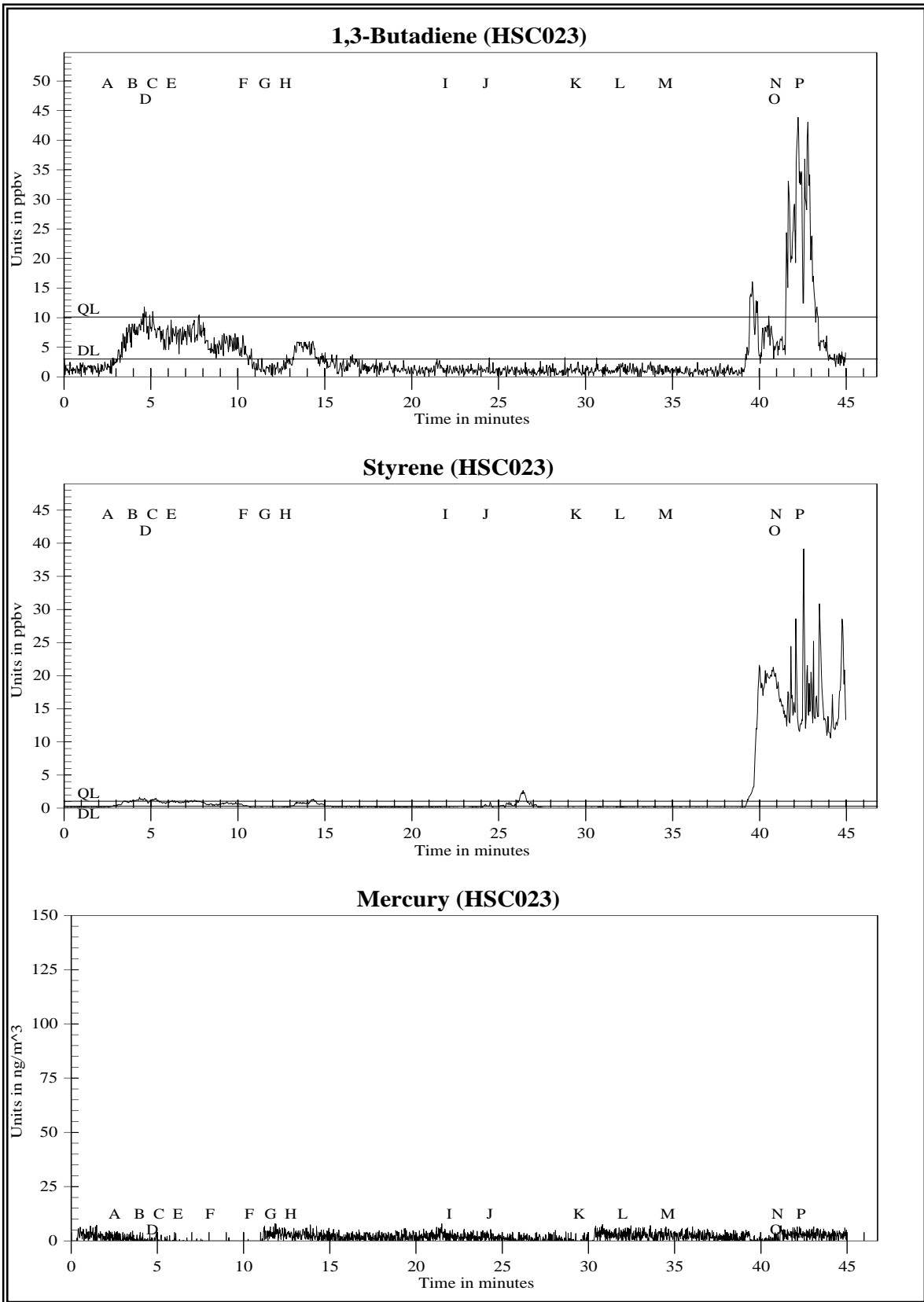




**Figure 15j** Mobile Monitoring in Harris County for Benzene, Toluene, and Xylenes



**Figure 15k** Mobile Monitoring in Harris County for 1,2,3-Trichloropropane and Methyl-t-butyl ether



**Figure 151** Mobile Monitoring in Harris County for 1,3-Butadiene, Styrene, and Mercury



**Figure 15m**

TAGA Target Compound Averages during Sample Collection					
File: HSC023 Acquired on 13 December 2006 at 08:01:41 UTC					
		Benzene	Toluene	Xylenes	1,2,3-Trichloropropane
	Detection Limits (DL):	2.0	4.2	1.4	0.074
	Quantitation Limits (QL):	6.6	14.	4.8	0.25
Flags	Description	Benzene	Toluene	Xylenes	1,2,3-Trichloropropane
C - D	SUMMA <sup>®</sup> H1499	4.5J	32.	66.	0.15J
O - P	SUMMA <sup>®</sup> J0165	DL=2.0	DL=4.2	2.0J	DL=0.074
		Methyl-t-butyl ether	1,3-Butadiene	Styrene	
	Detection Limits (DL):	2.6	2.9	0.32	
	Quantitation Limits (QL):	8.7	9.7	1.1	
Flags	Description	Methyl-t-butyl ether	1,3-Butadiene	Styrene	
C - D	SUMMA <sup>®</sup> H1499	33.	DL=2.9	1.1	
O - P	SUMMA <sup>®</sup> J0165	DL=2.6	17.	15.	

Concentrations are in parts per billion by volume (ppbv)

J = Below quantitation limit

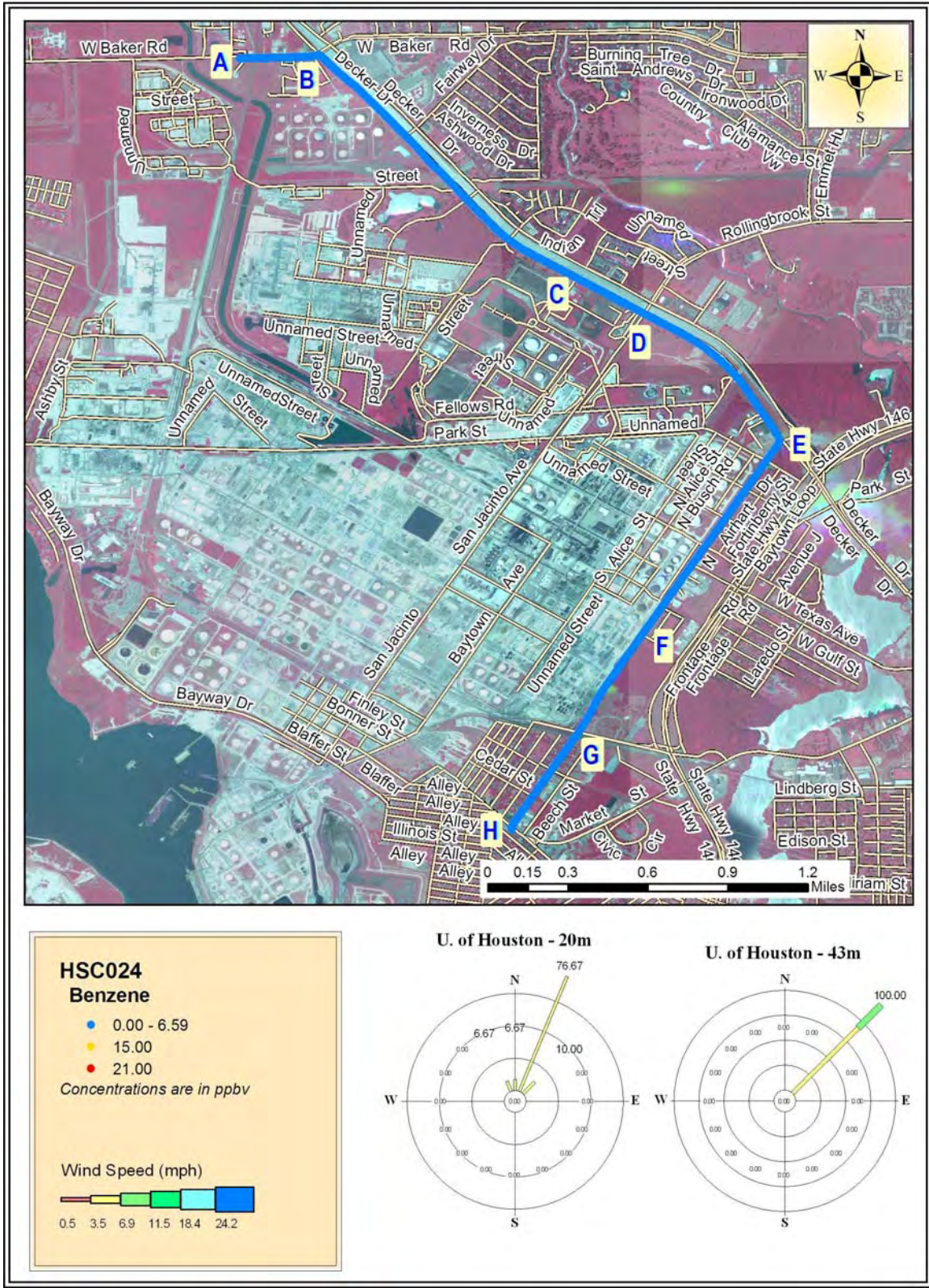


Figure 16a Mobile Monitoring Path for Benzene in Harris County



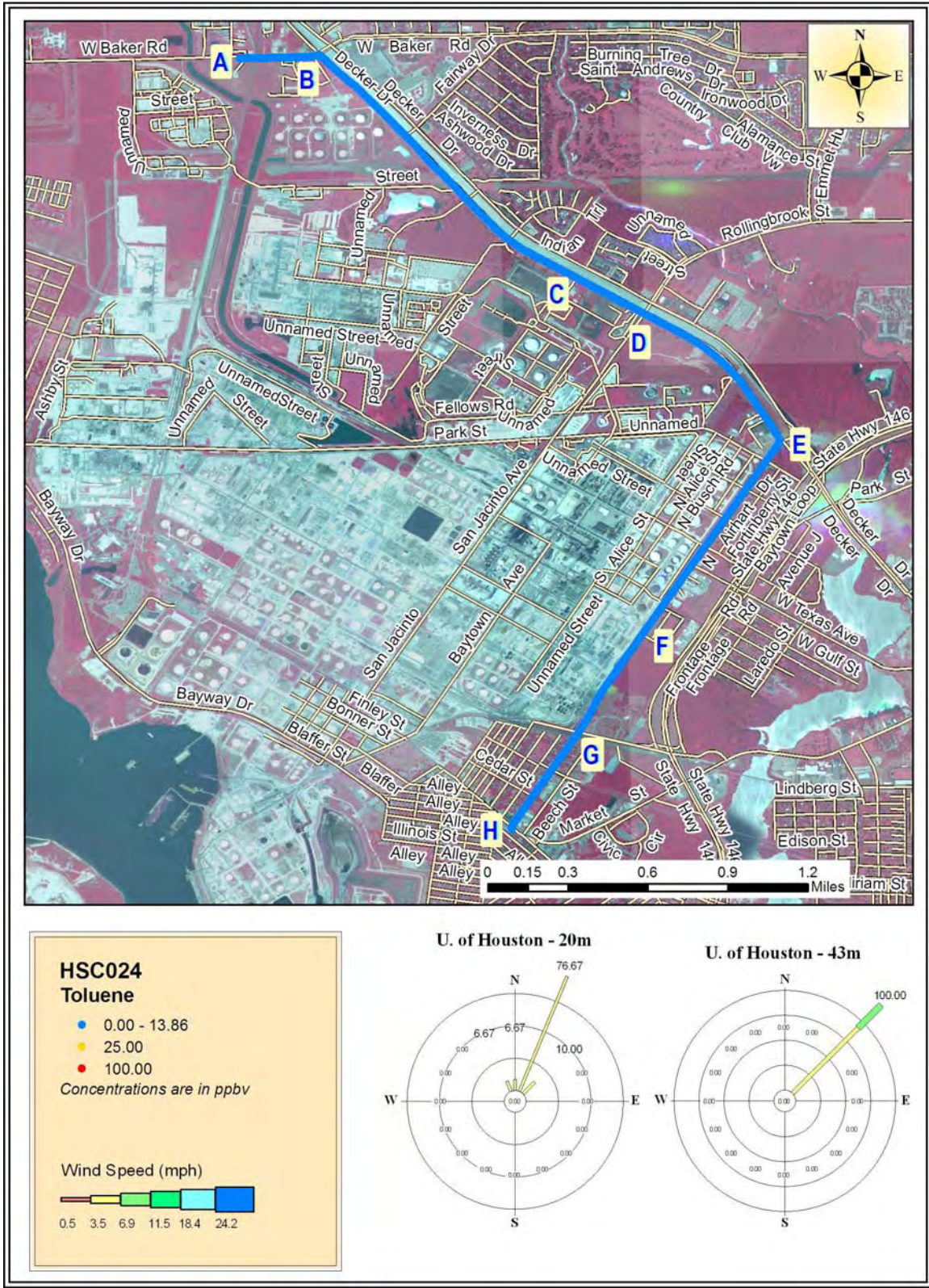


Figure 16b Mobile Monitoring Path for Toluene in Harris County



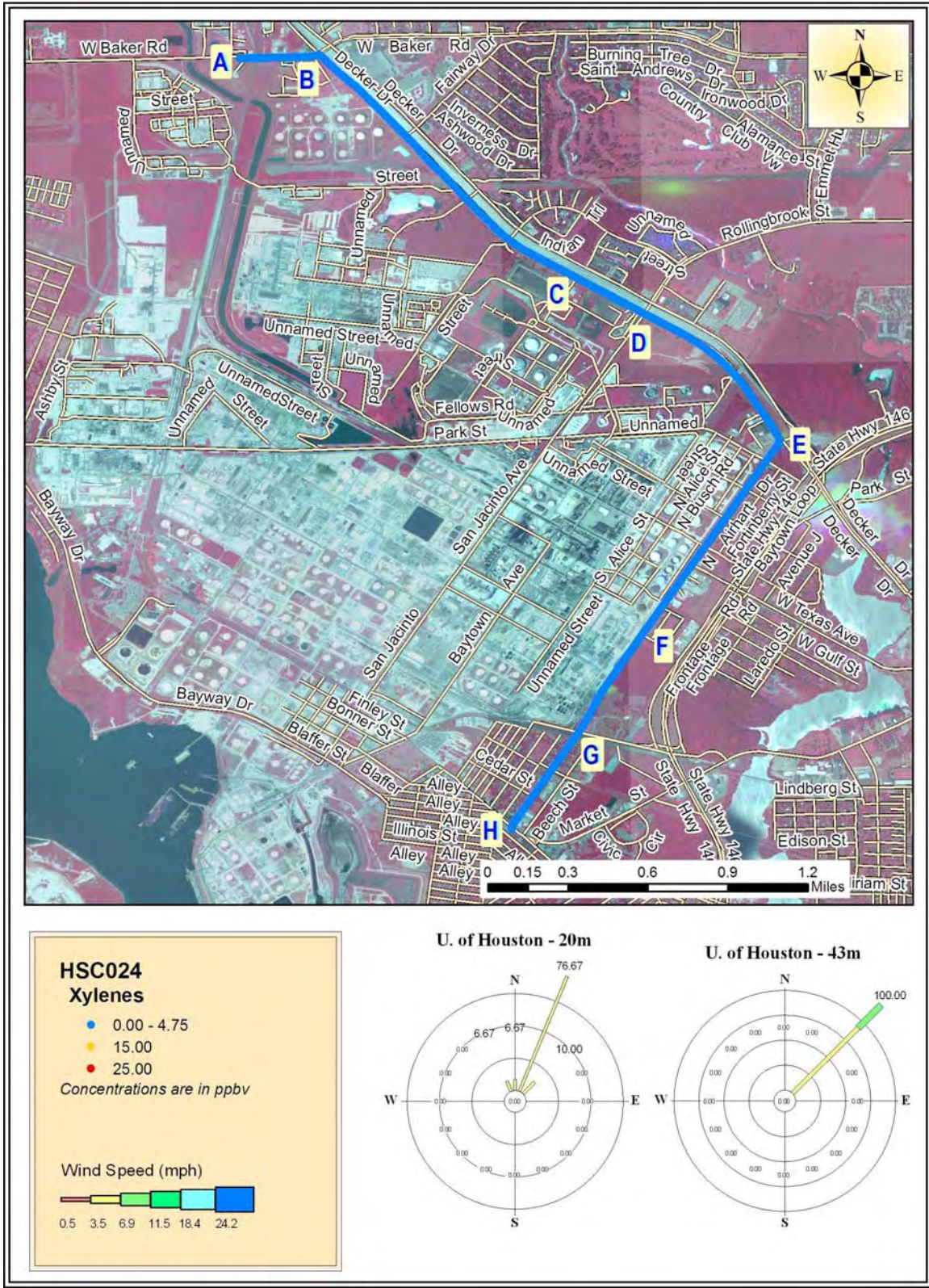


Figure 16c Mobile Monitoring Path for Xylenes in Harris County



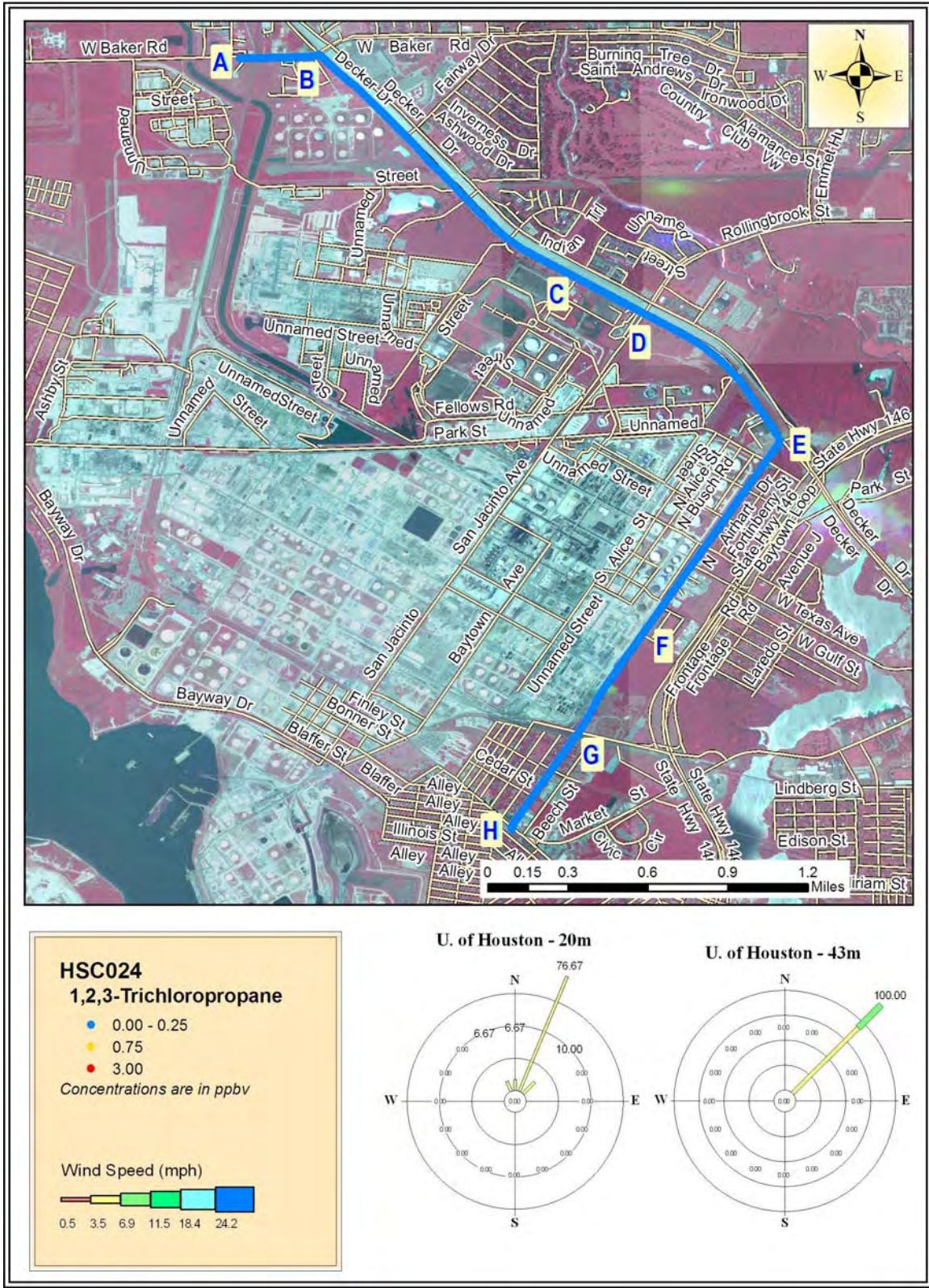


Figure 16d Mobile Monitoring Path for 1,2,3-Trichloropropane in Harris County



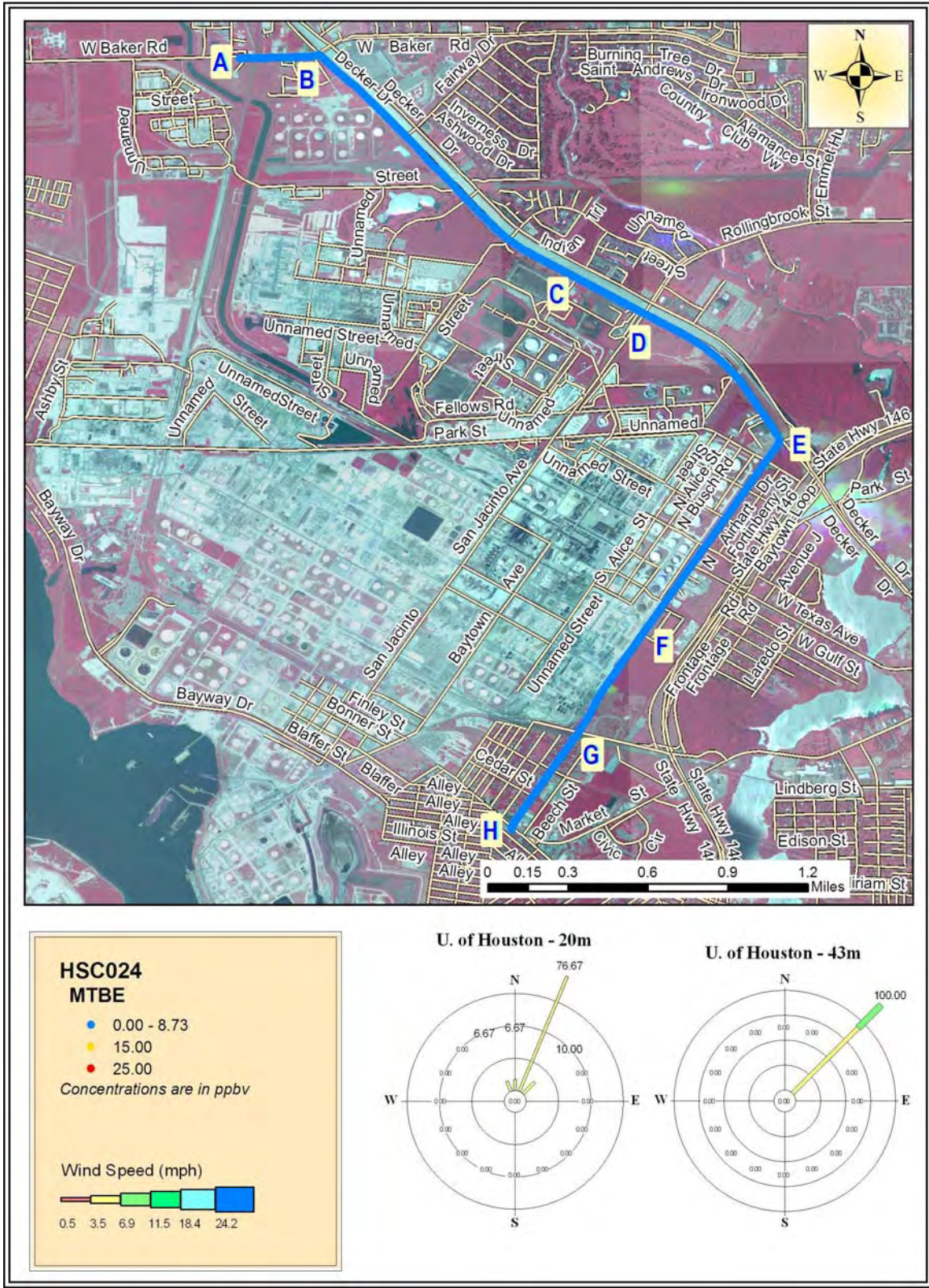


Figure 16c Mobile Monitoring Path for Methyl-t-butyl ether in Harris County



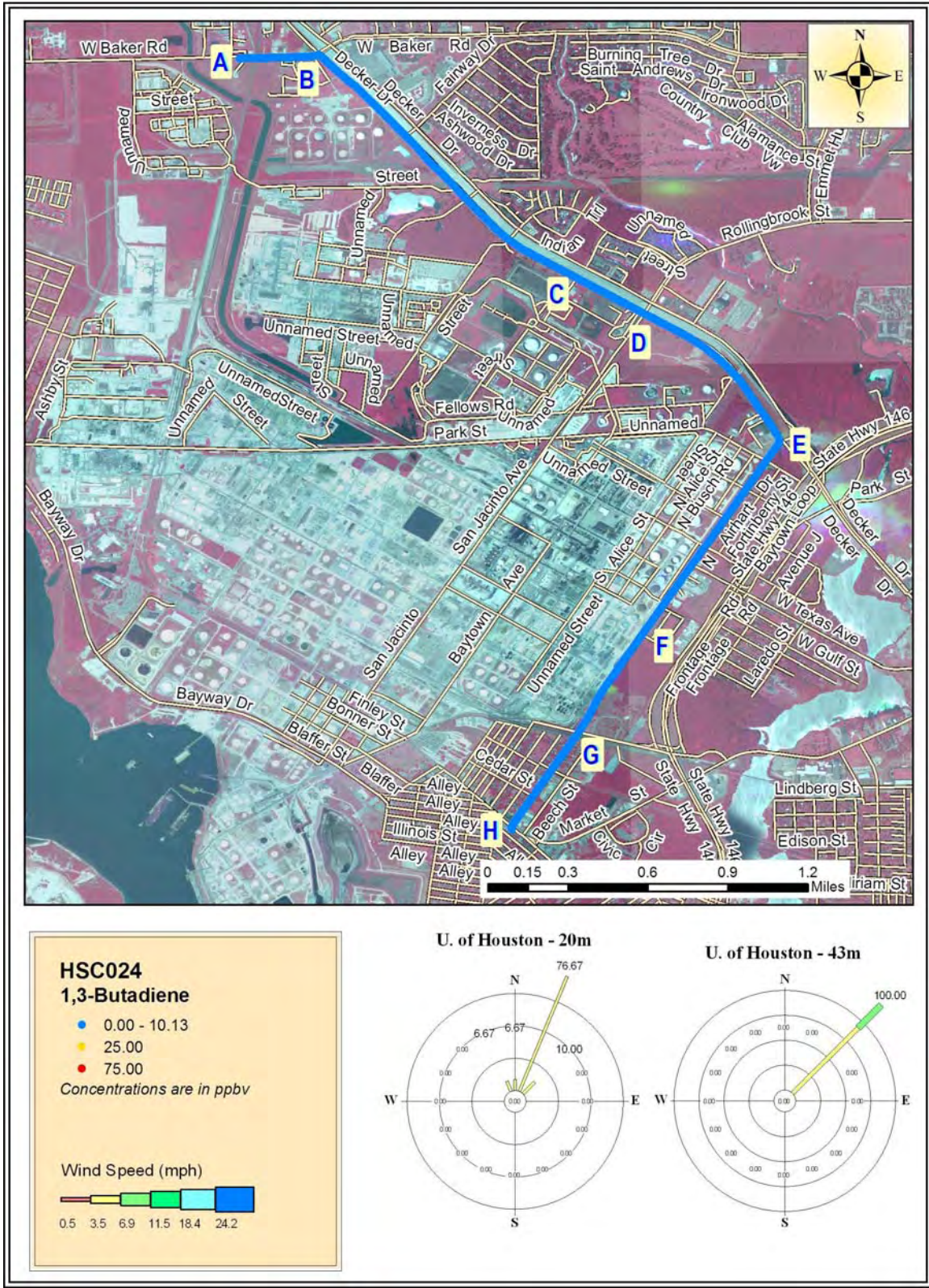


Figure 16f Mobile Monitoring Path for 1,3-Butadiene in Harris County



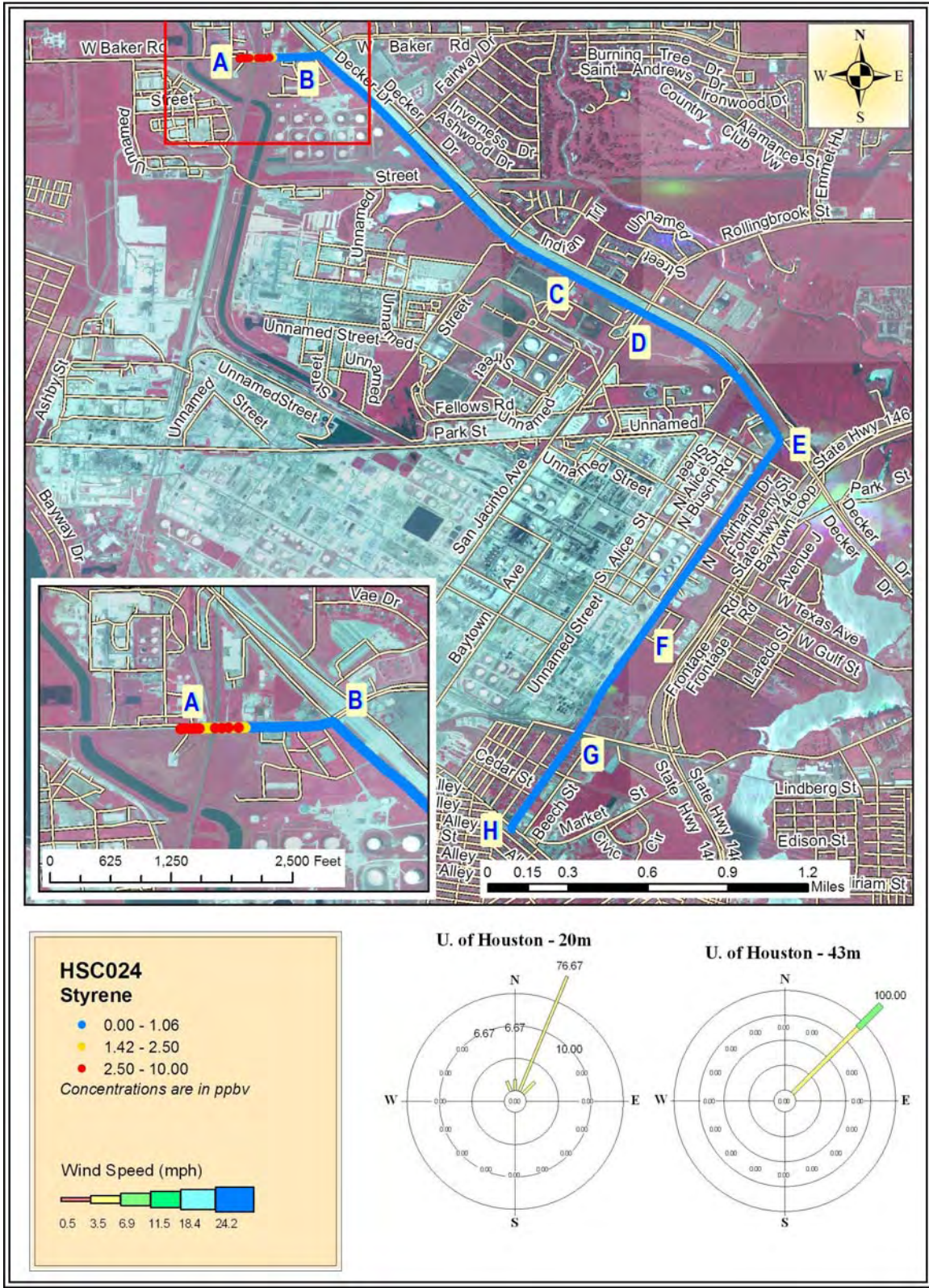


Figure 16g Mobile Monitoring Path for Styrene in Harris County



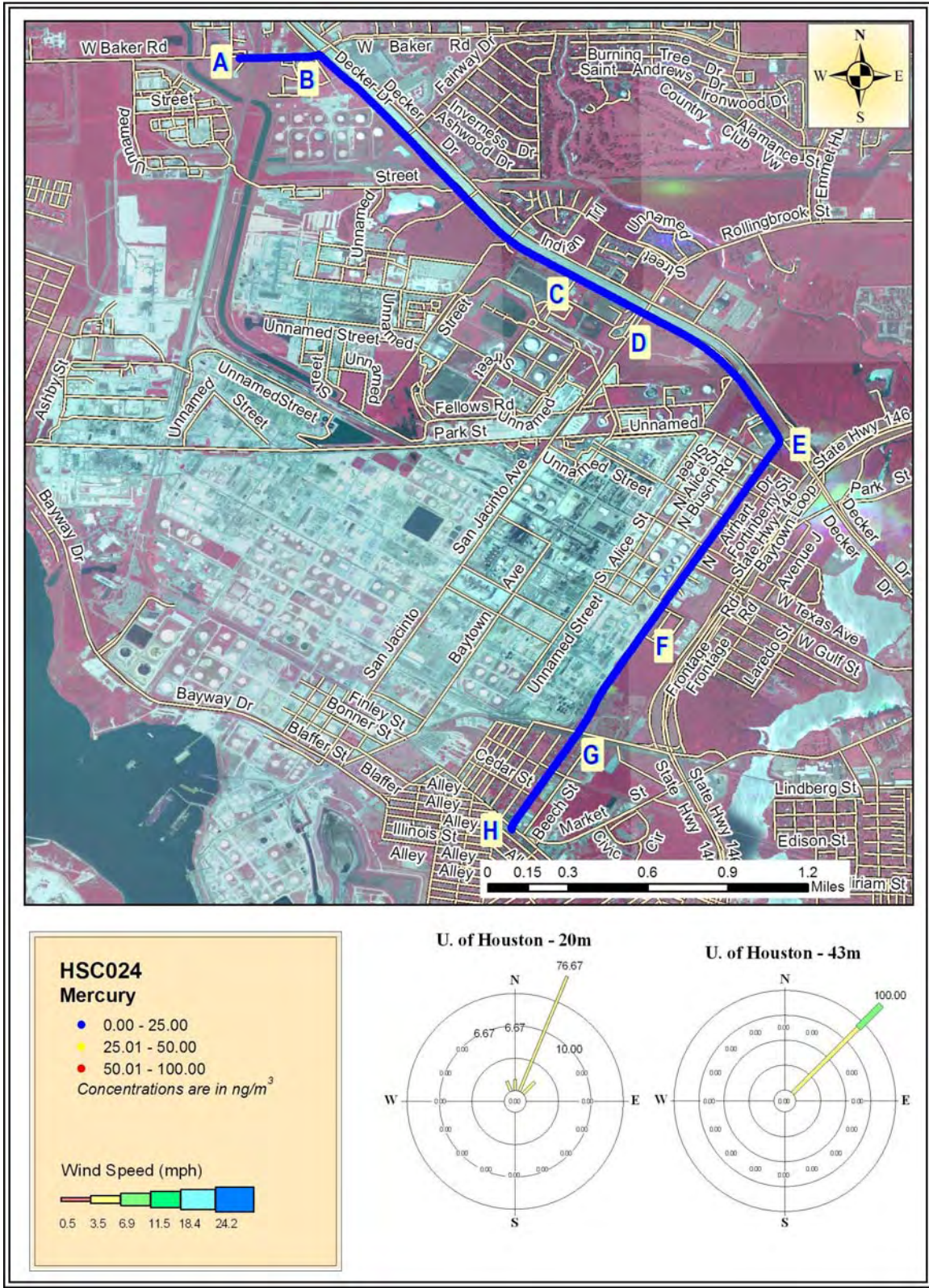
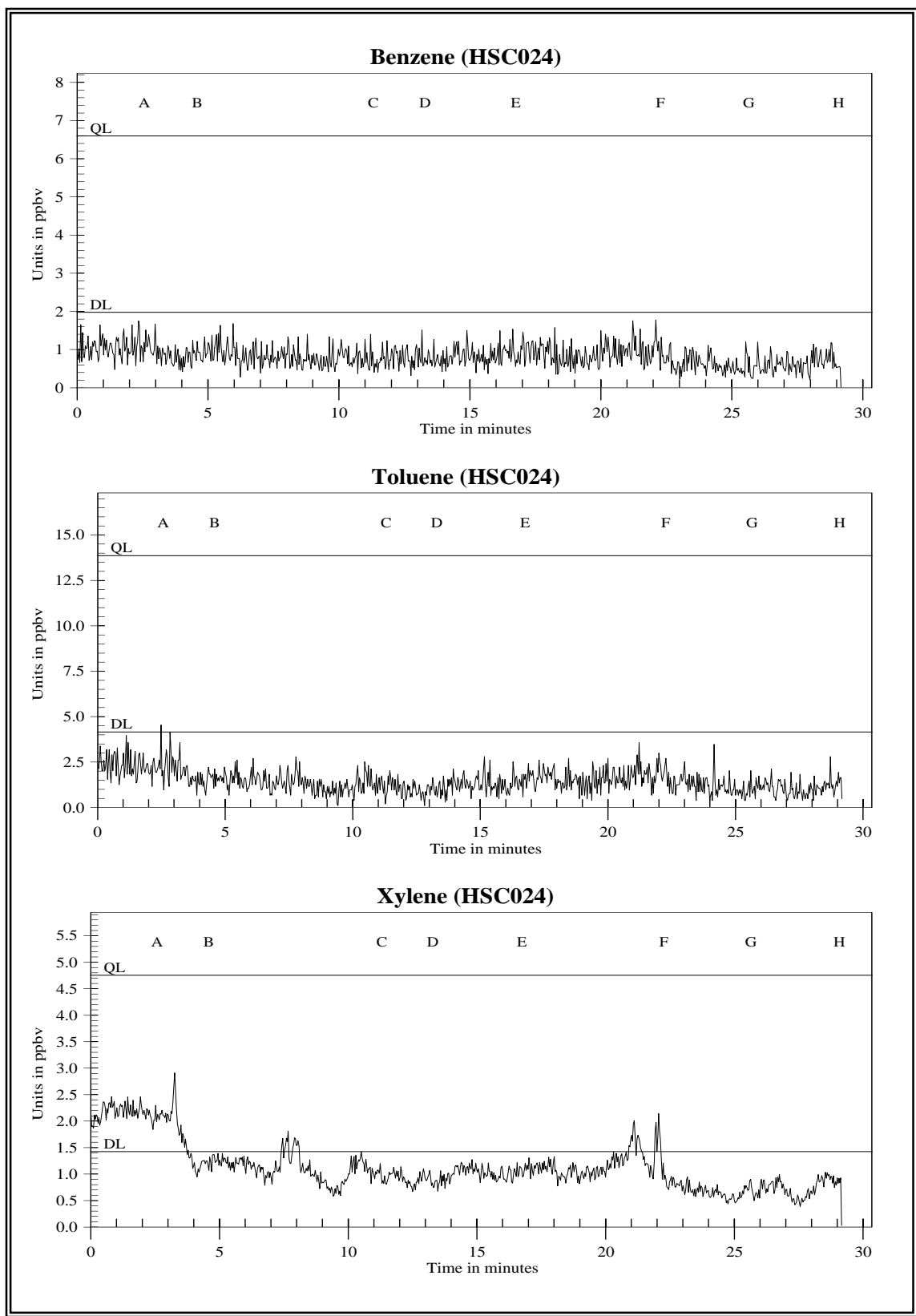


Figure 16h Mobile Monitoring Path for Mercury in Harris County

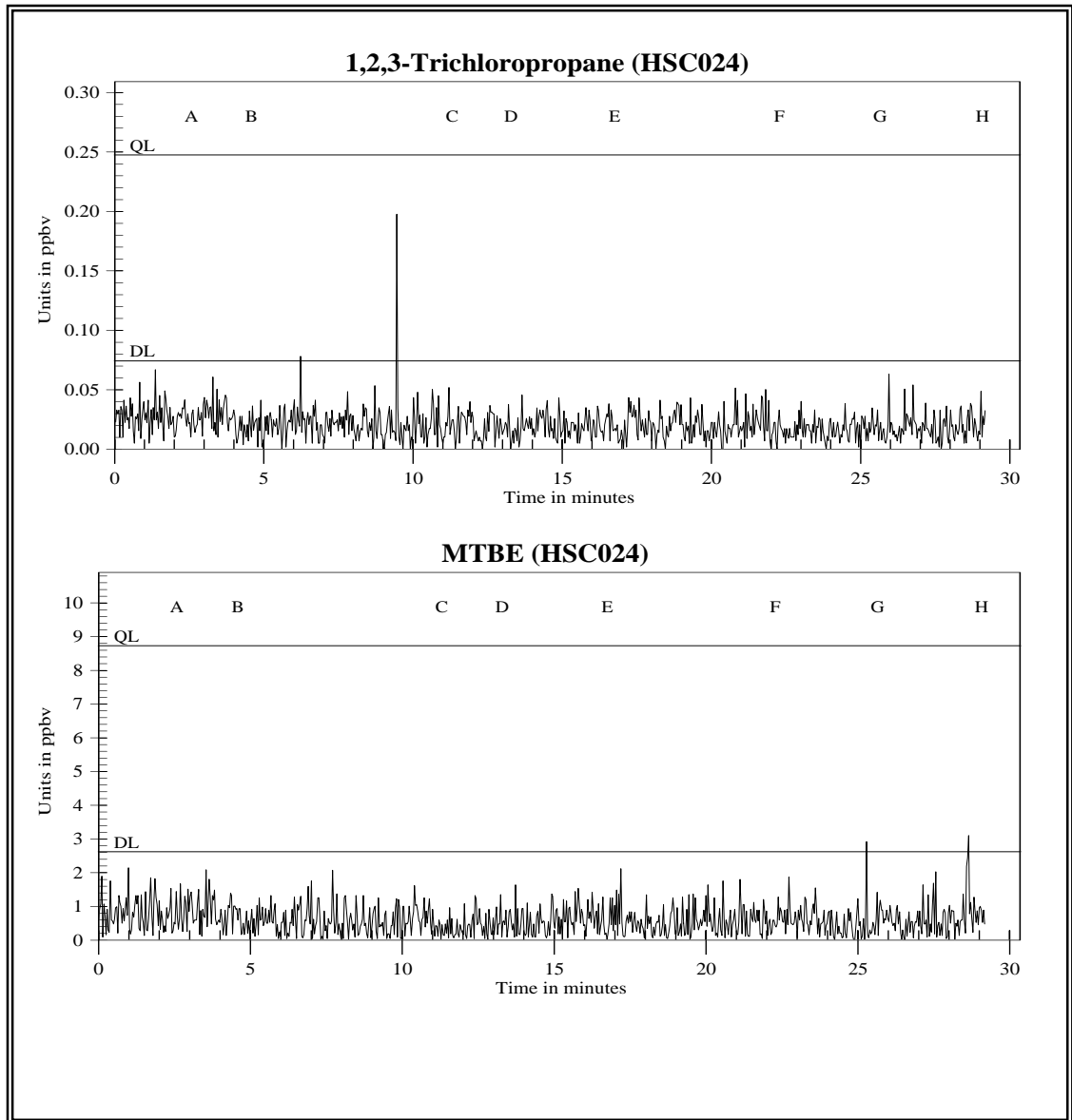


**Figure 16i**

TAGA File Event Summary			
File: HSC024 Acquired on 13 December 2006 at 08:49:34 UTC			
Title: Mobile Monitoring in Harris County			
Flag	Time	Sequence	Description
A	2.3	68	Start monitoring eastward on West Baker Road
B	4.4	126	Turning right onto Decker Drive
C	11.1	318	Passing Bramblecreek Drive
D	13.1	374	Passing Rollingbrook Drive
E	16.6	474	Turning right on Airhart Drive
F	22.1	632	Passing Clyde Drive
G	25.4	727	Passing JB Lefevre Road
H	28.9	825	Stopping at Market Street

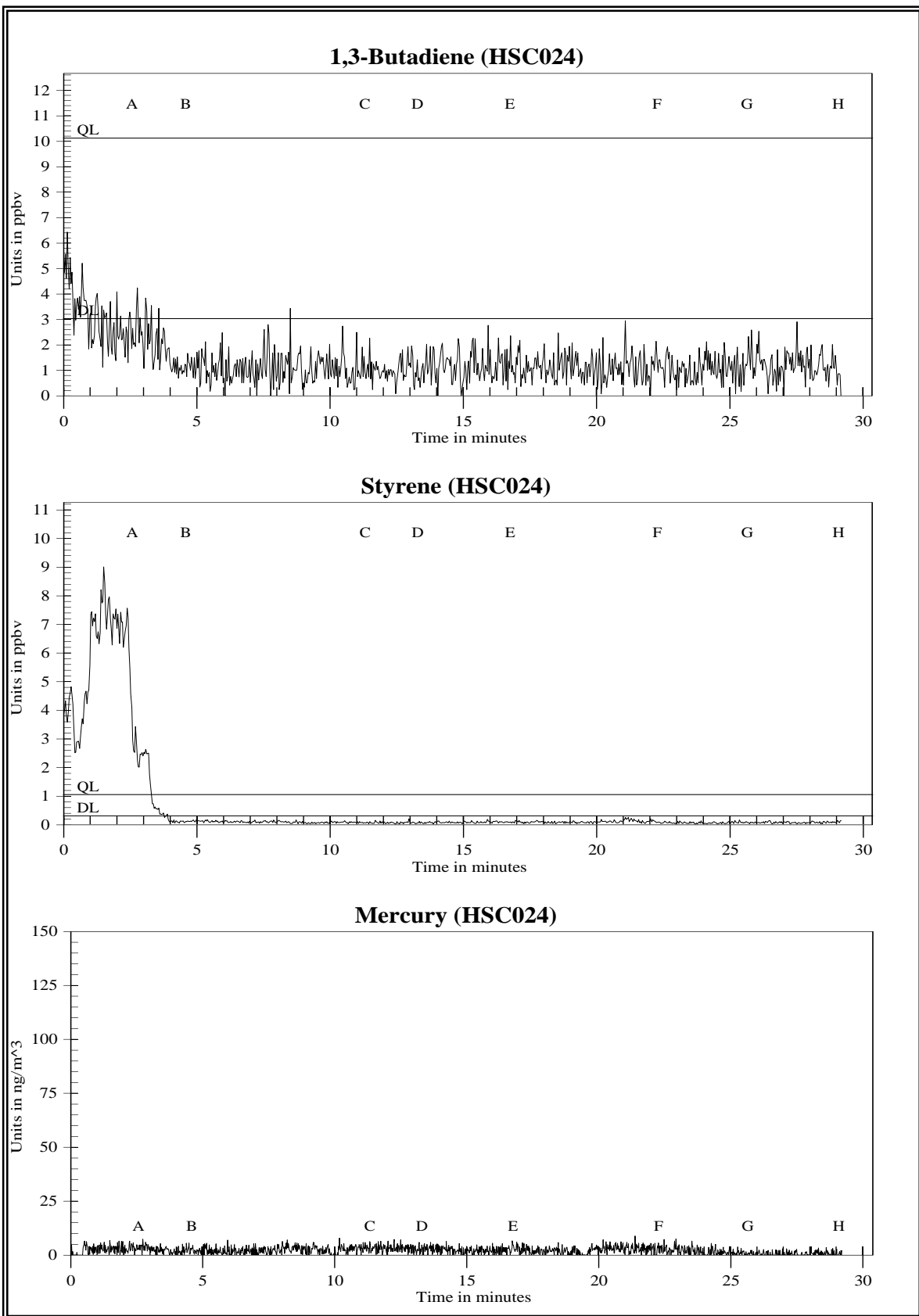


**Figure 16j** Mobile Monitoring in Harris County for Benzene, Toluene, and Xylenes

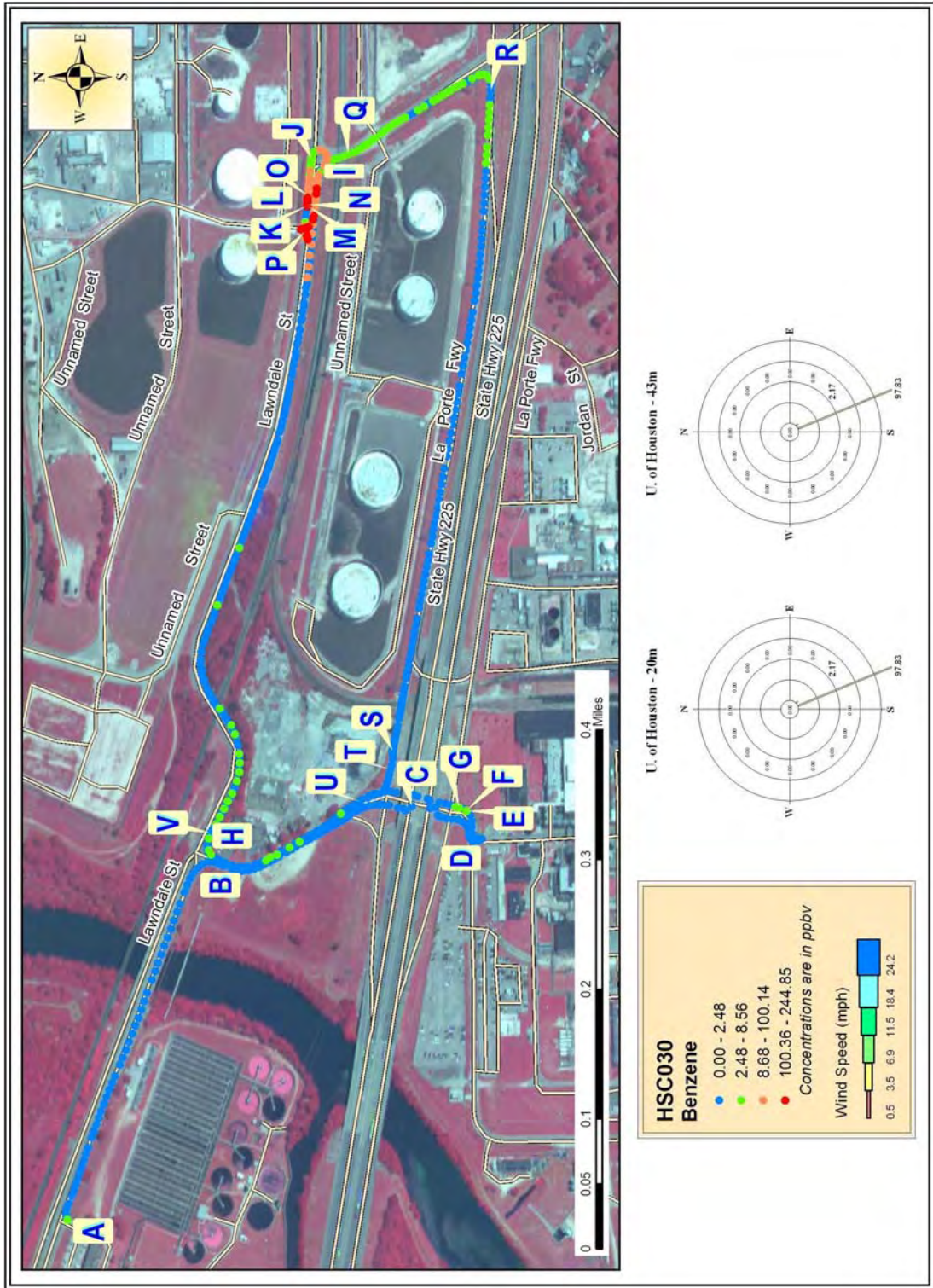


**Figure 16k** Mobile Monitoring in Harris County for 1,2,3-Trichloropropane and Methyl-t-butyl ether





**Figure 161** Mobile Monitoring in Harris County for 1,3-Butadiene, Styrene, and Mercury



**Figure 17a** Mobile Monitoring Path for Benzene in Harris County



Figure 17b Mobile Monitoring Path for Toluene in Harris County







**Figure 17d** Mobile Monitoring Path for 1,2,3-Trichloropropane in Harris County



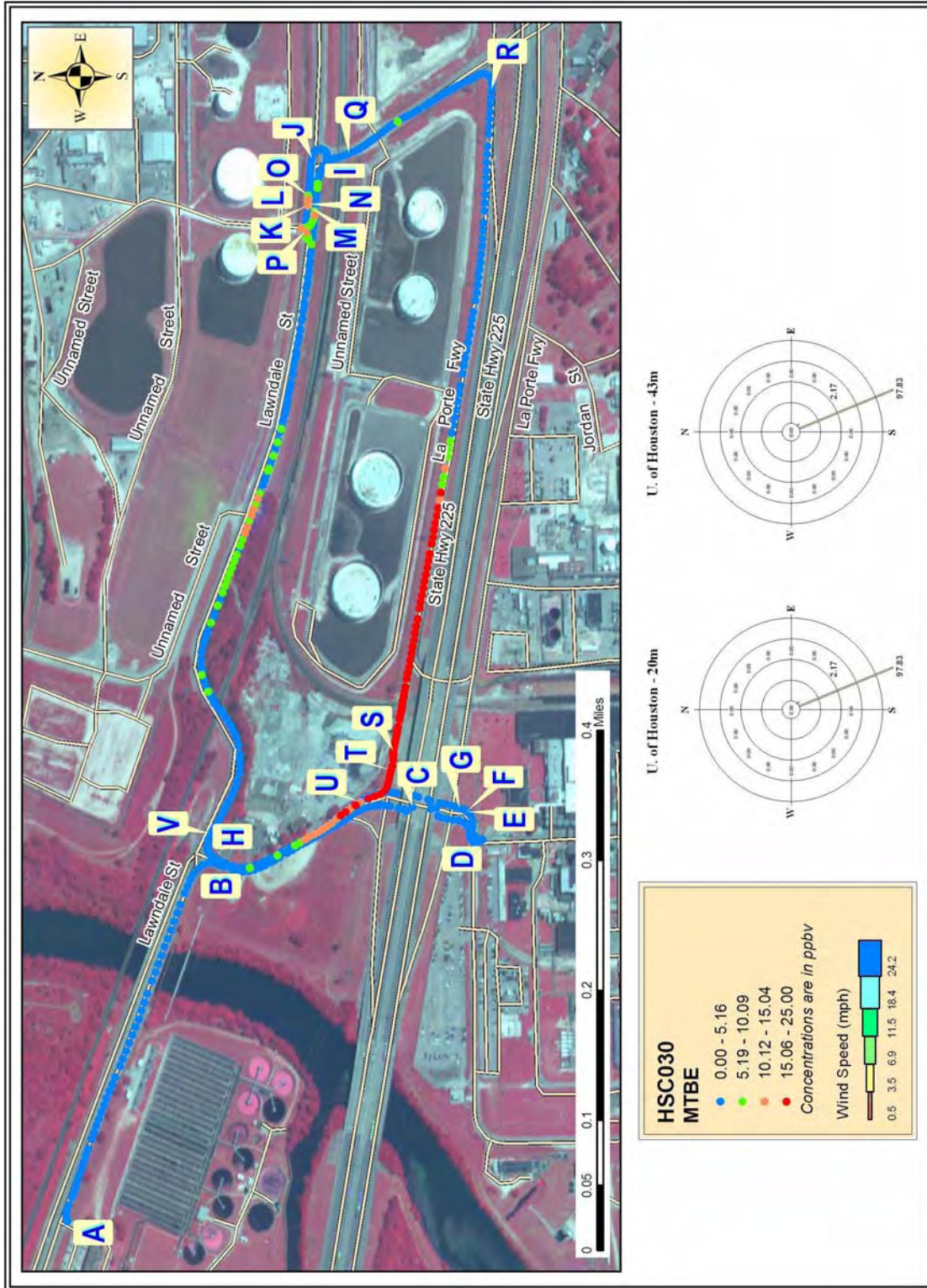
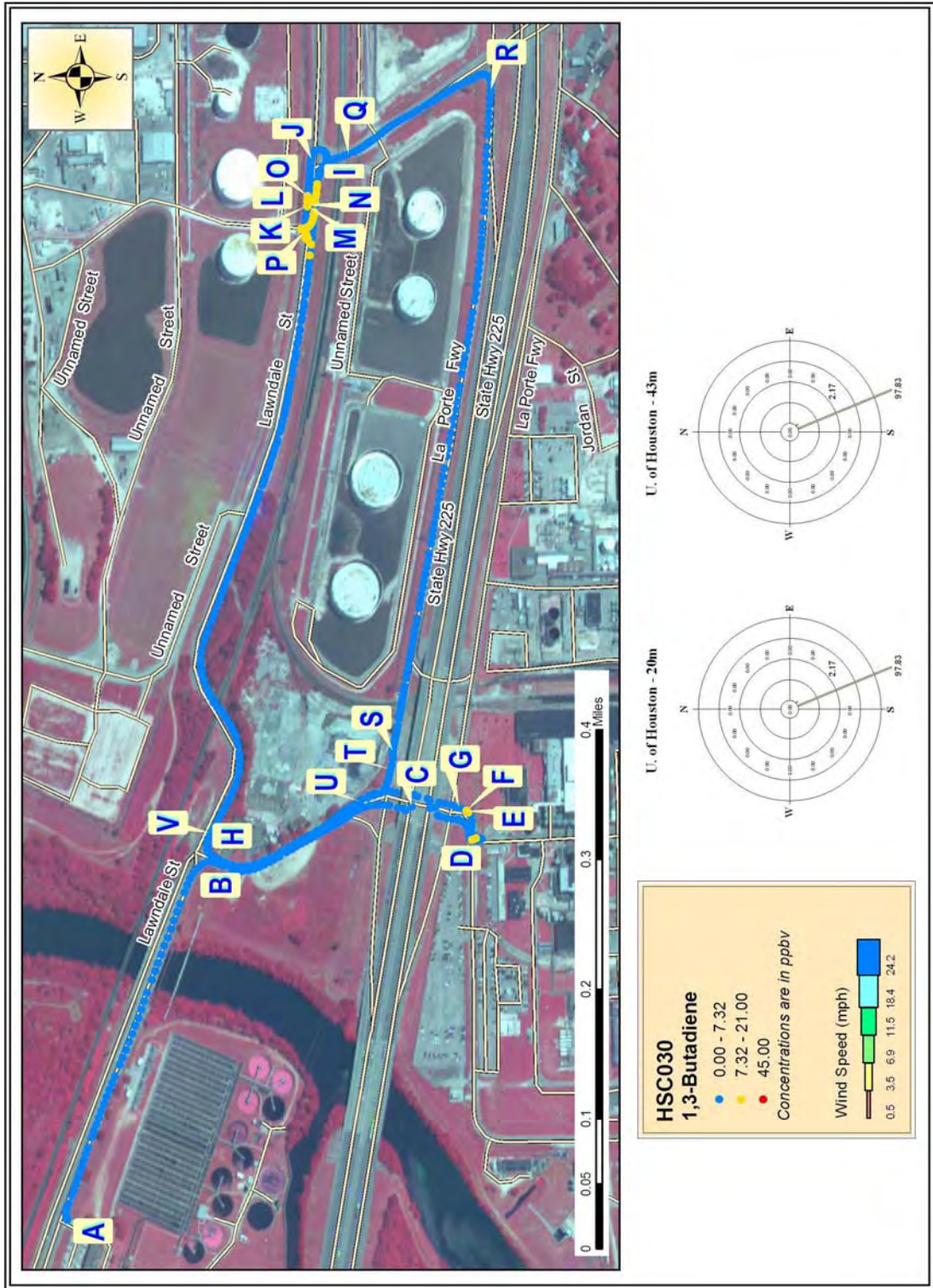


Figure 17e Mobile Monitoring Path for Methyl-t-butyl ether in Harris County



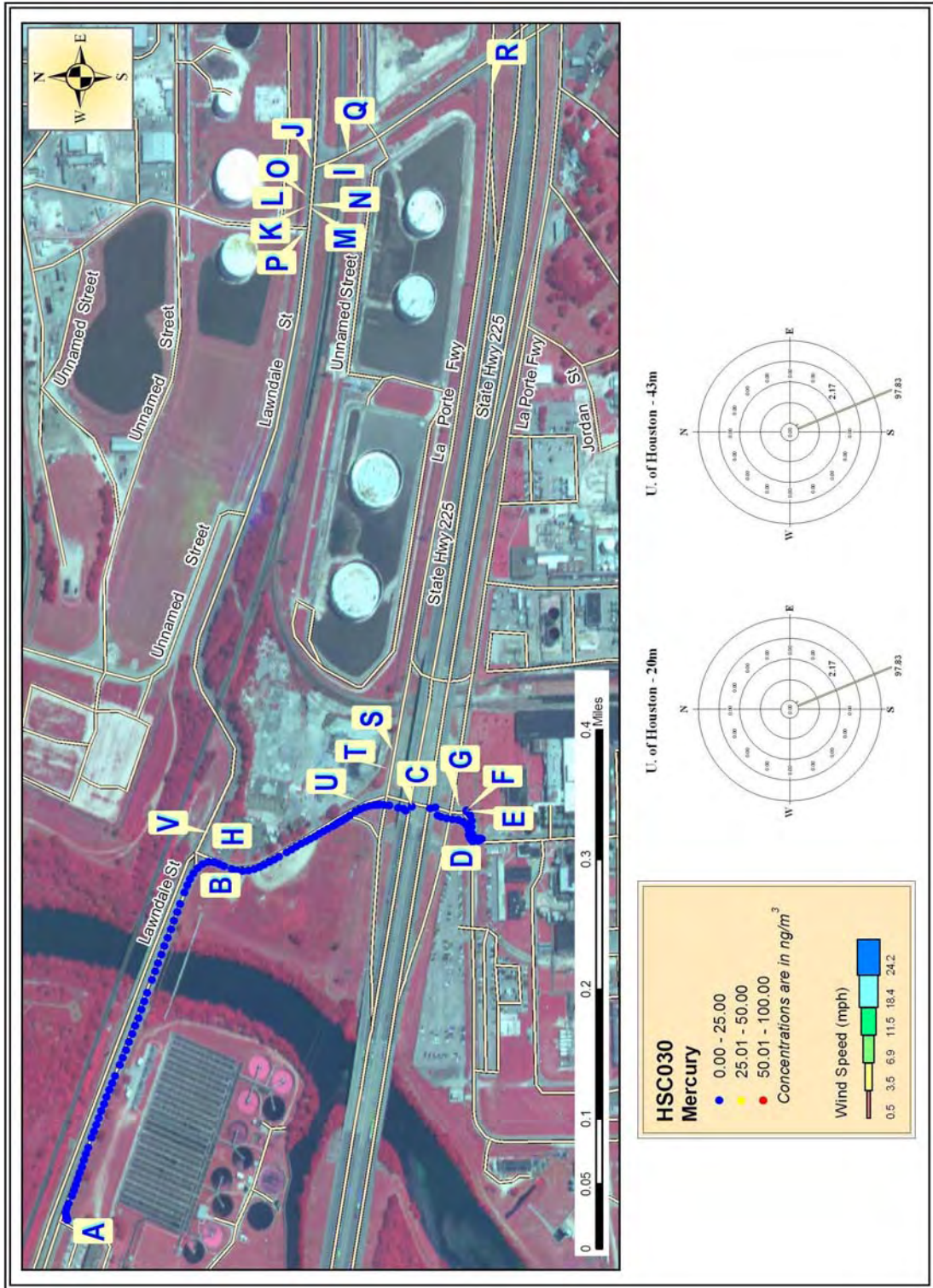


**Figure 17f** Mobile Monitoring Path for 1,3-Butadiene in Harris County



Figure 17g Mobile Monitoring Path for Styrene in Harris County



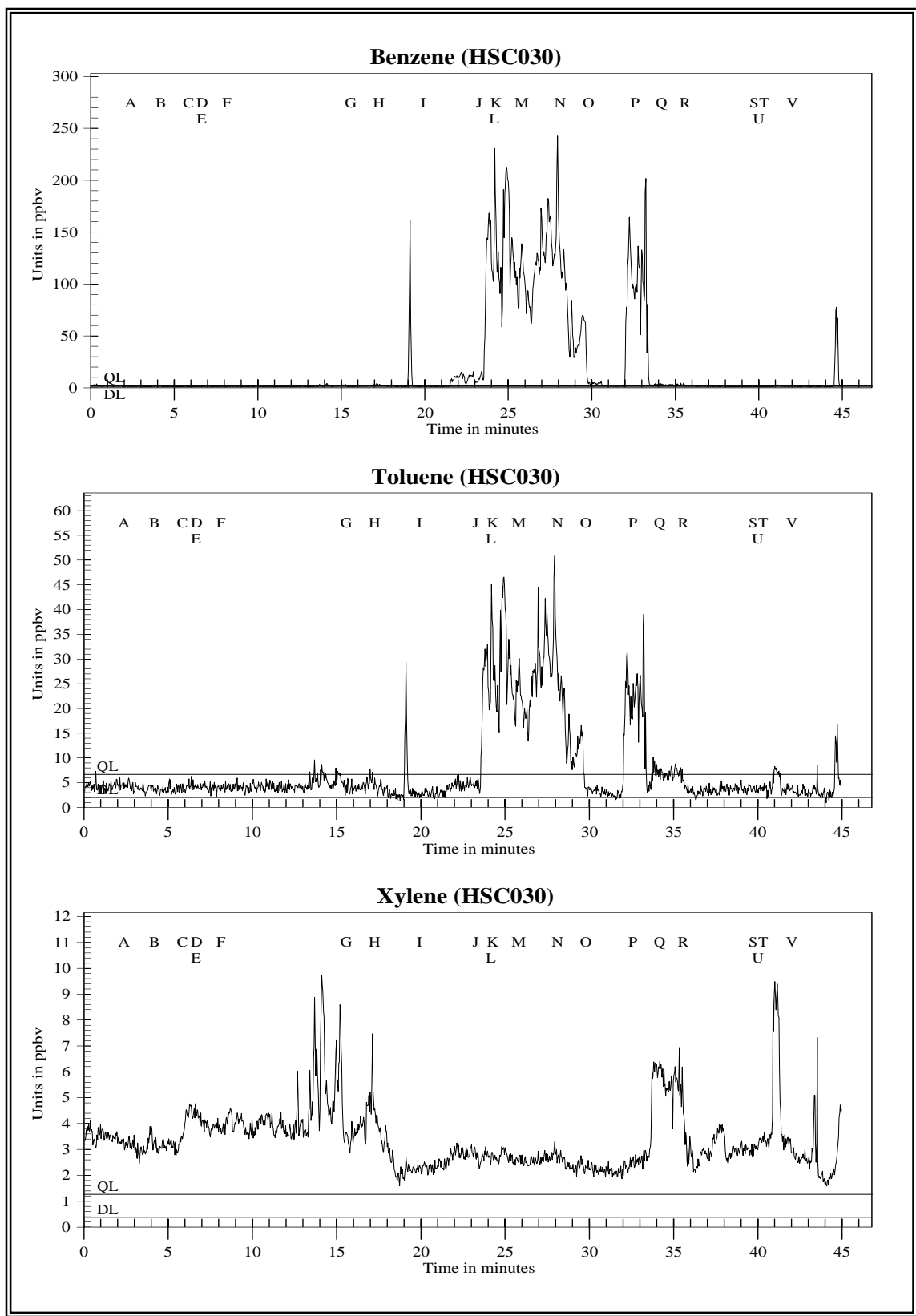


**Figure 17h** Mobile Monitoring Path for Mercury in Harris County

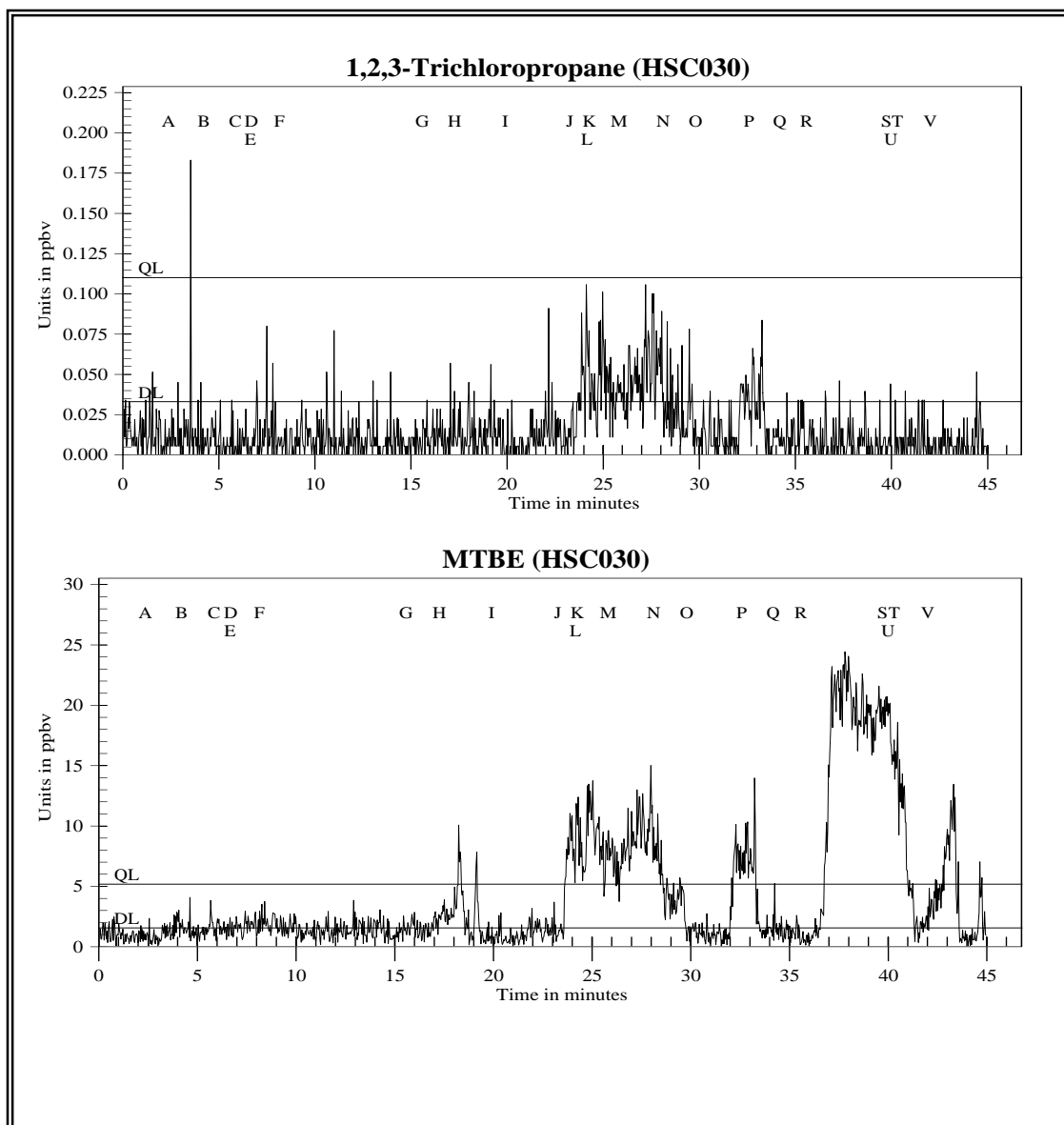


**Figure 17i**

TAGA File Event Summary			
File: HSC030 Acquired on 14 December 2006 at 02:50:26 UTC			
Title: Mobile Monitoring in Harris County			
Flag	Time	Sequence	Description
A	2.0	59	Start monitoring eastward on Lawndale Street near Goodyear Drive
B	3.9	112	Turning right onto Goodyear Drive
C	5.5	159	Passing under State Highway 225
D	6.3	182	Executing a U-turn
E	6.9	199	Stopping to start collecting SUMMA <sup>®</sup> sample C1161
F	7.9	226	End collecting SUMMA <sup>®</sup> sample C1161
G	15.2	436	Resuming mobile monitoring
H	16.9	484	Turning right onto Lawndale Street
I	19.8	565	Turning right onto Allen Genoa Road; Stopping for train
J	23.1	660	Executing a U-turn onto Lawndale Street
K	23.9	684	Stopping
L	24.4	699	Start collecting SUMMA <sup>®</sup> sample B1578
M	25.4	726	End collecting SUMMA <sup>®</sup> sample B1578
N	27.8	794	Backing up
O	29.5	842	Stopping
P	32.3	924	Executing a U-turn
Q	33.8	967	Turning right onto Allen Genoa Road
R	35.3	1008	Turning right onto State Highway 225 Service Road
S	39.5	1128	Stopping
T	40.0	1144	Resuming mobile monitoring
U	40.3	1153	Turning right onto Goodyear Drive
V	41.7	1191	Turning right onto Lawndale Street
W	44.9	1284	Stopping at Allen Genoa Road

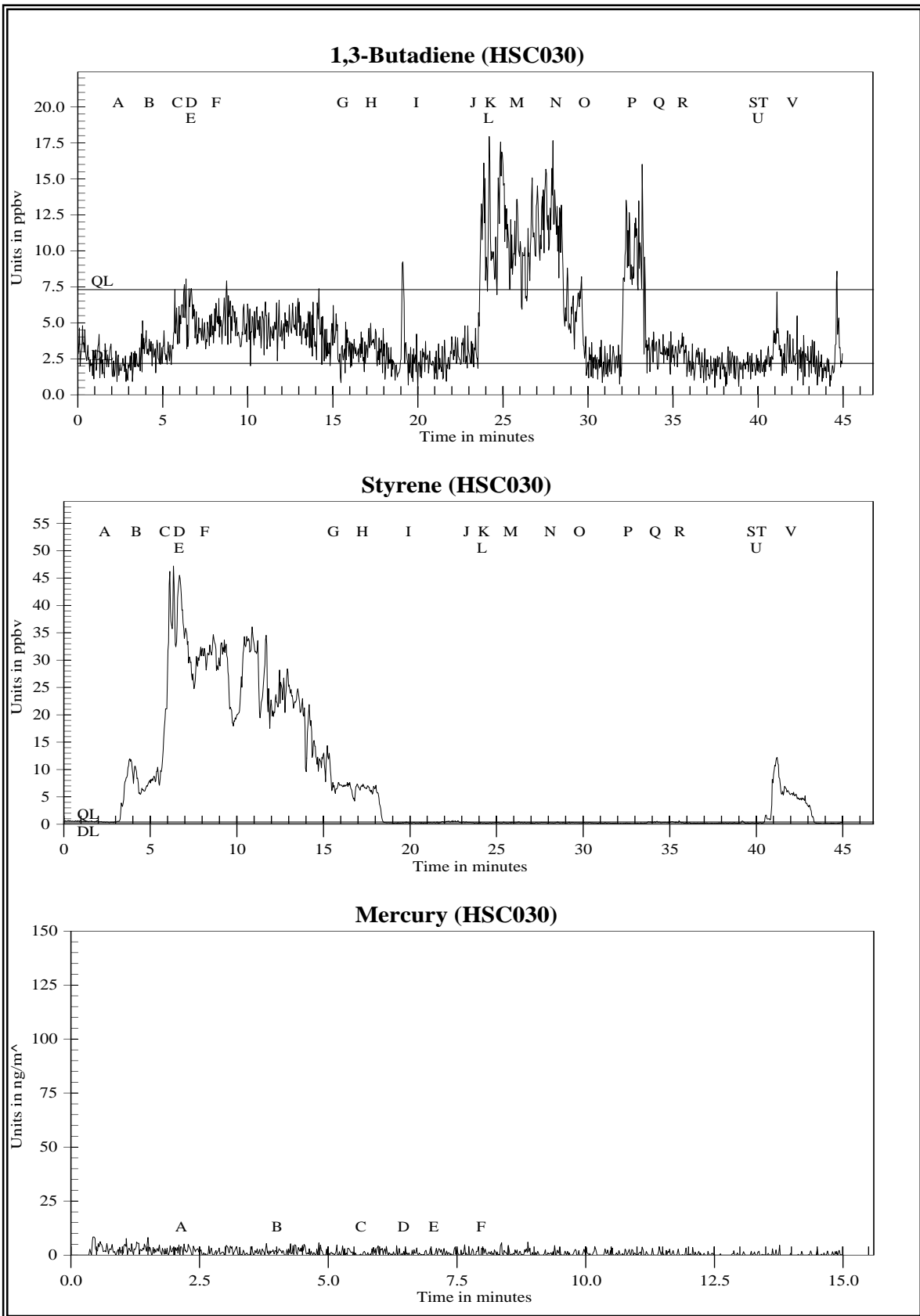


**Figure 17j** Mobile Monitoring in Harris County for Benzene, Toluene, and Xylenes



**Figure 17k** Mobile Monitoring in Harris County for 1,2,3-Trichloropropane and Methyl-t-butyl ether





**Figure 171** Mobile Monitoring in Harris County for 1,3-Butadiene, Styrene, and Mercury

**Figure 17m**

TAGA Target Compound Averages during Sample Collection					
File: HSC030 Acquired on 14 December 2006 at 02:50:26 UTC					
		Benzene	Toluene	Xylenes	1,2,3-Trichloropropane
	Detection Limits (DL):	0.74	2.0	0.38	0.033
	Quantitation Limits (QL):	2.5	6.7	1.3	0.11
Flags	Description	Benzene	Toluene	Xylenes	1,2,3-Trichloropropane
E - F	SUMMA <sup>®</sup> C1161	1.3J	4.0J	3.9	DL=0.033
L - M	SUMMA <sup>®</sup> B1578	140	31.	2.8	0.047J
		Methyl-t-butyl ether	1,3-Butadiene	Styrene	
	Detection Limits (DL):	1.5	2.2	0.13	
	Quantitation Limits (QL):	5.2	7.3	0.44	
Flags	Description	Methyl-t-butyl ether	1,3-Butadiene	Styrene	
E - F	SUMMA <sup>®</sup> C1161	1.7J	4.4J	30.	
L - M	SUMMA <sup>®</sup> B1578	9.4	12.	0.28J	

Concentrations are in parts per billion by volume (ppbv)

J = Below quantitation limit

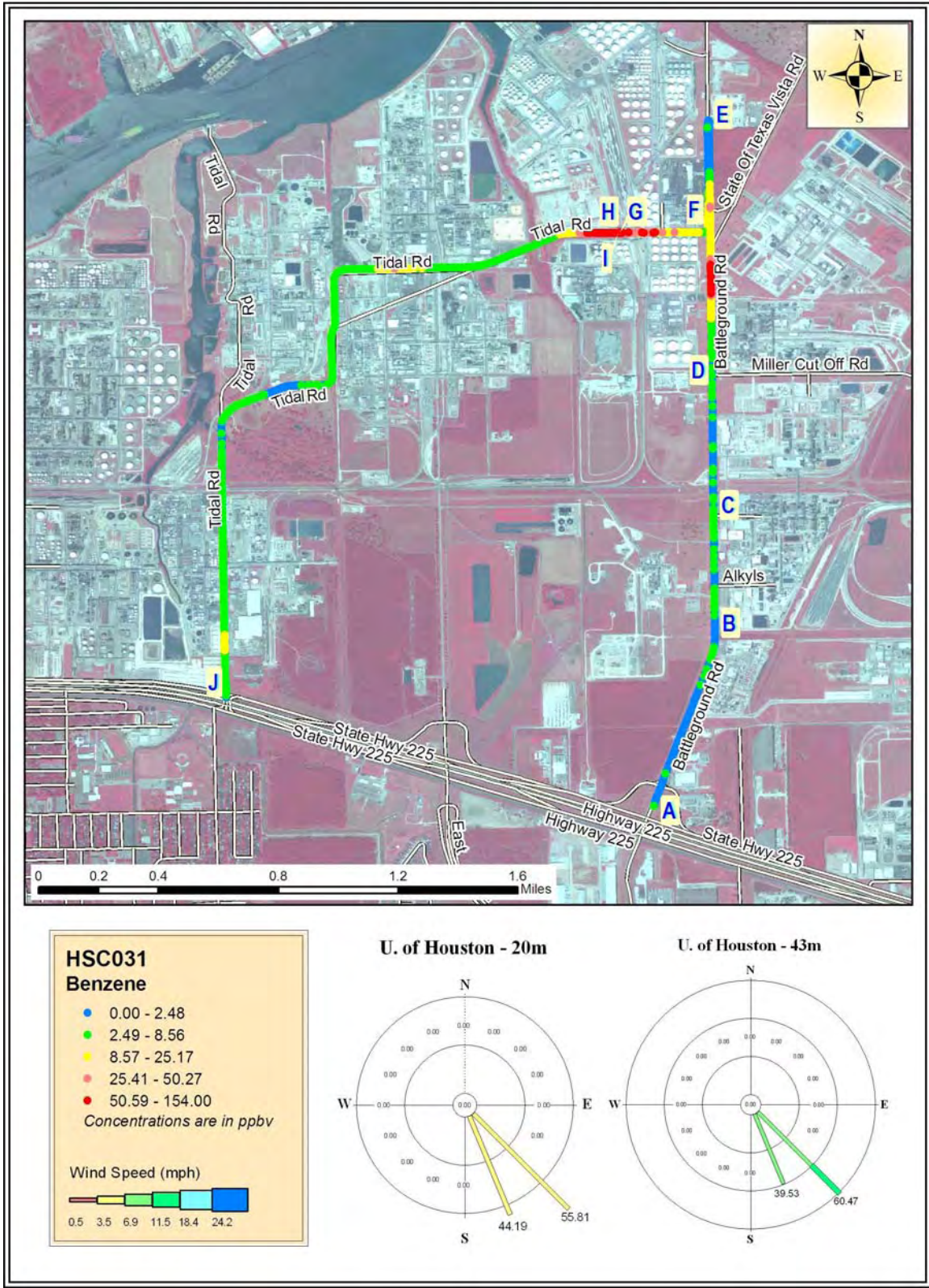


Figure 18a Mobile Monitoring Path for Benzene in Harris County



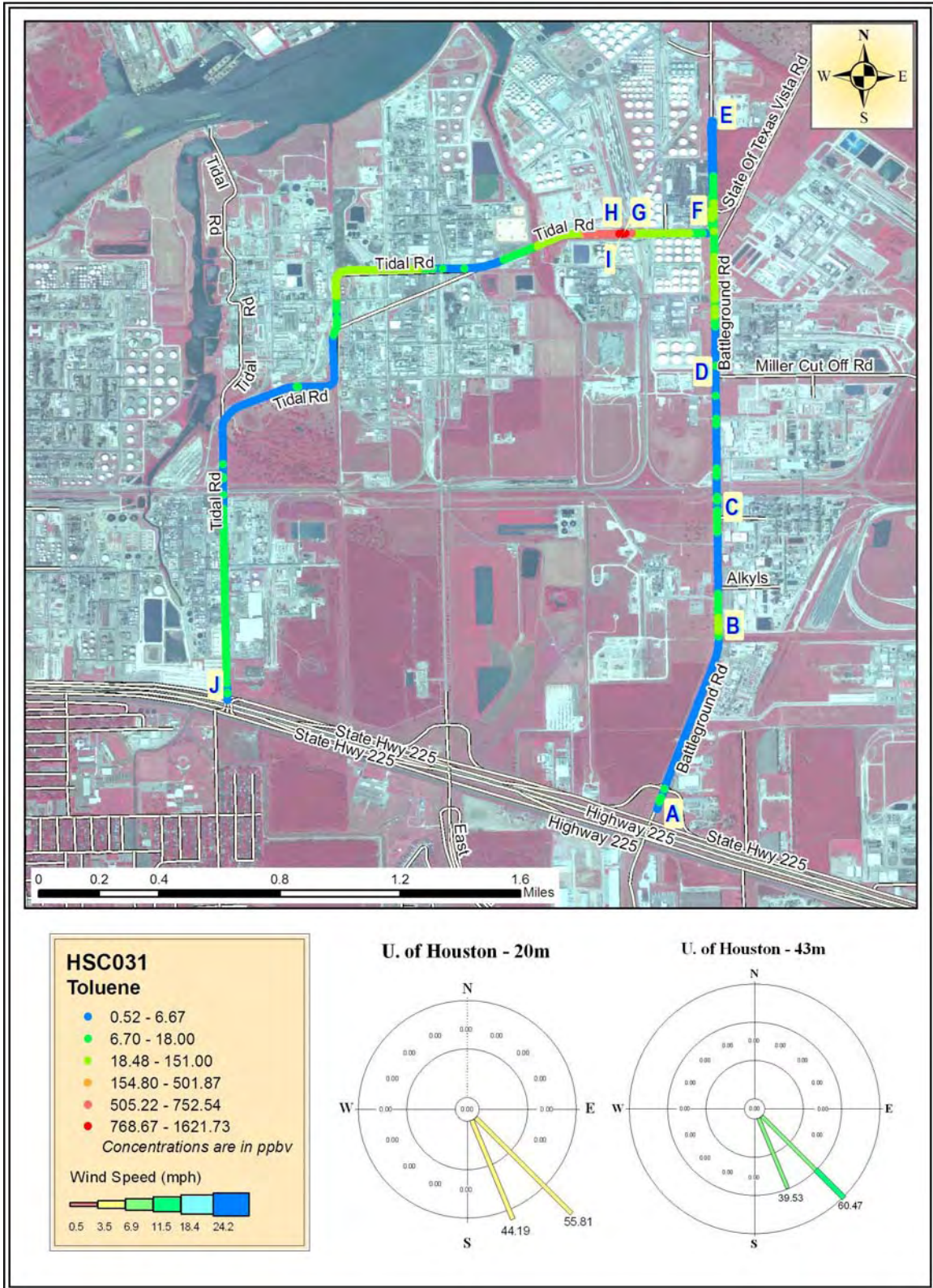


Figure 18b Mobile Monitoring Path for Toluene in Harris County



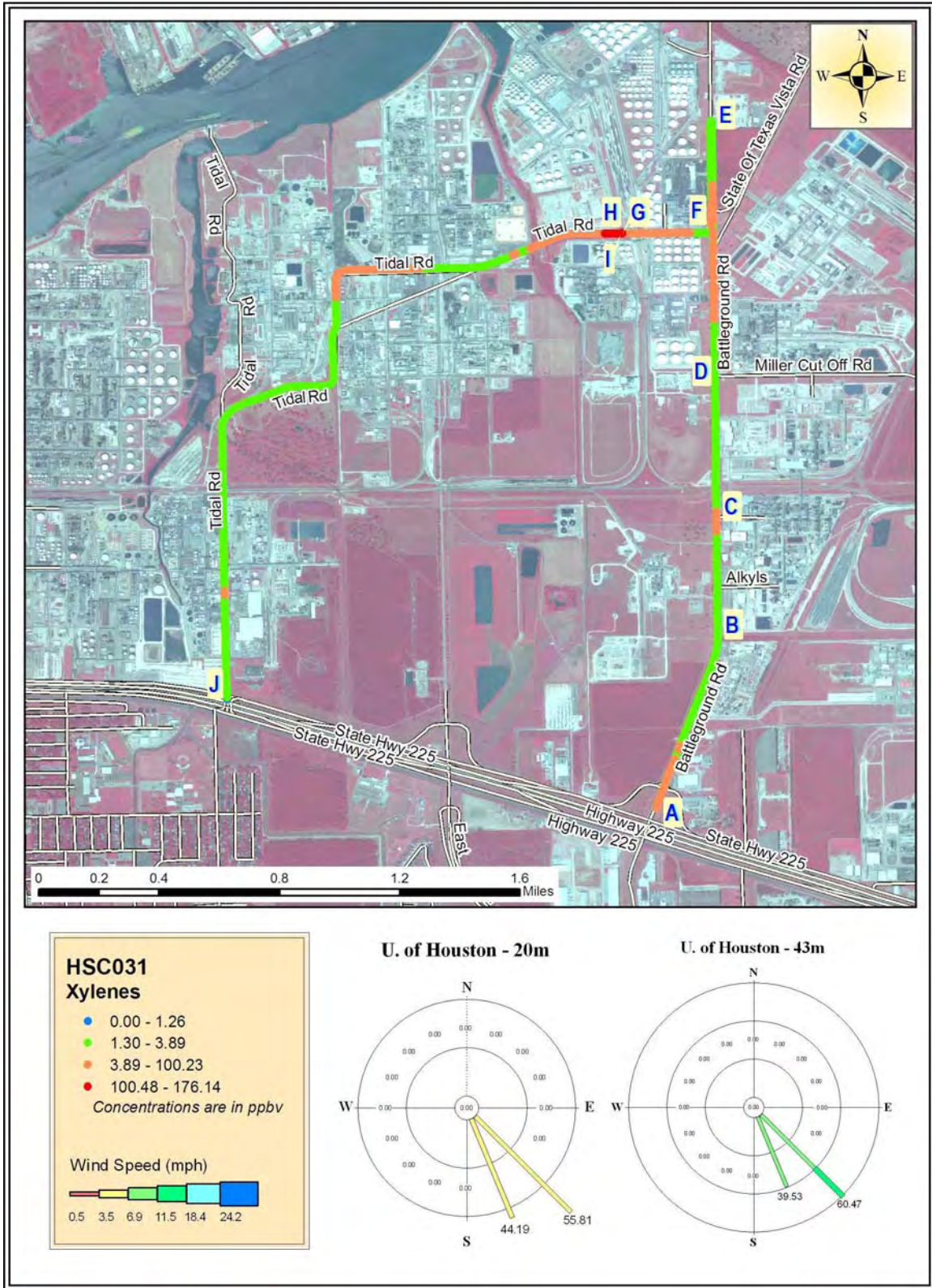


Figure 18c Mobile Monitoring Path for Xylenes in Harris County



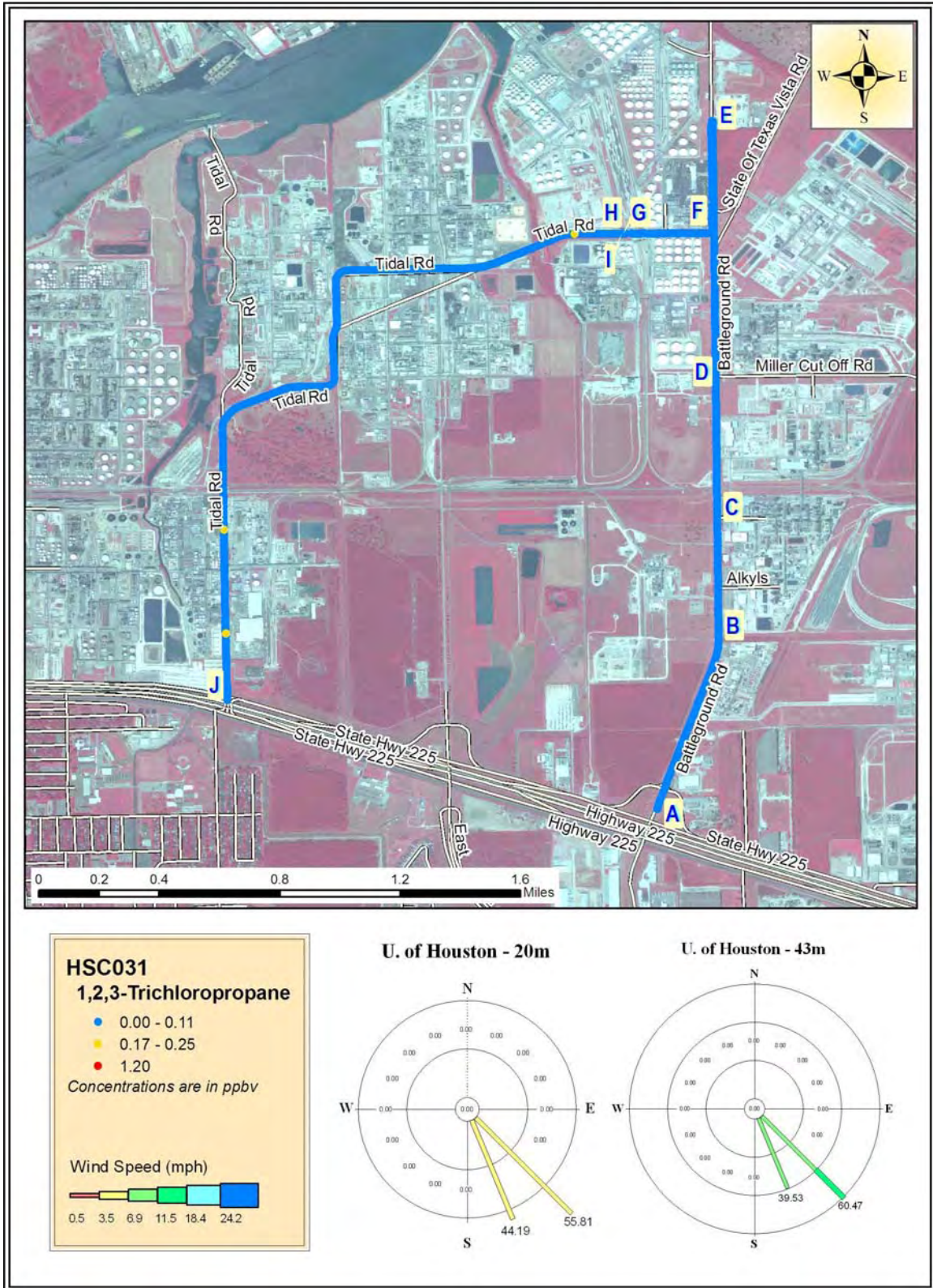


Figure 18d Mobile Monitoring Path for 1,2,3-Trichloropropane in Harris County



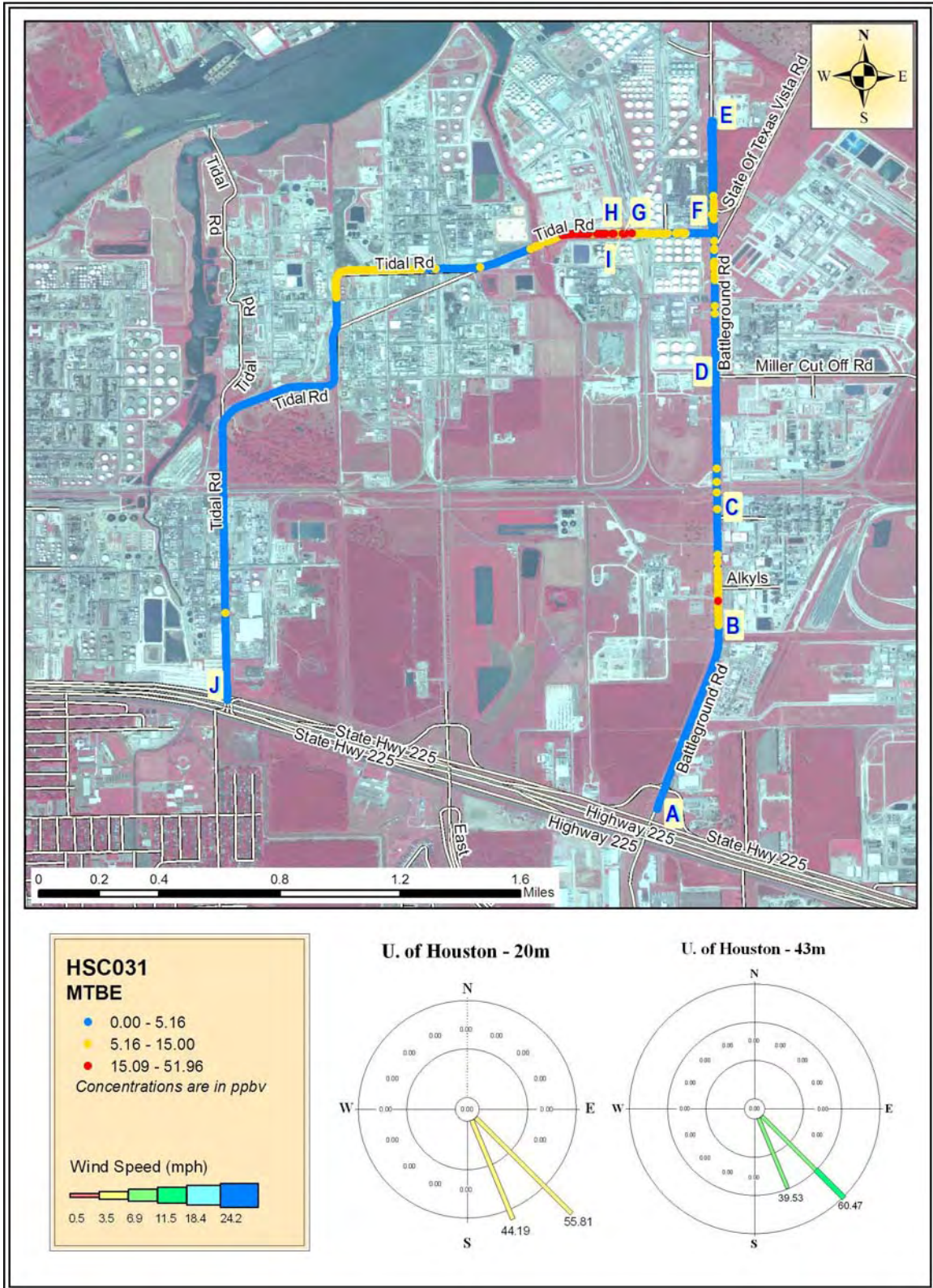


Figure 18e Mobile Monitoring Path for Methyl-t-butyl ether in Harris County



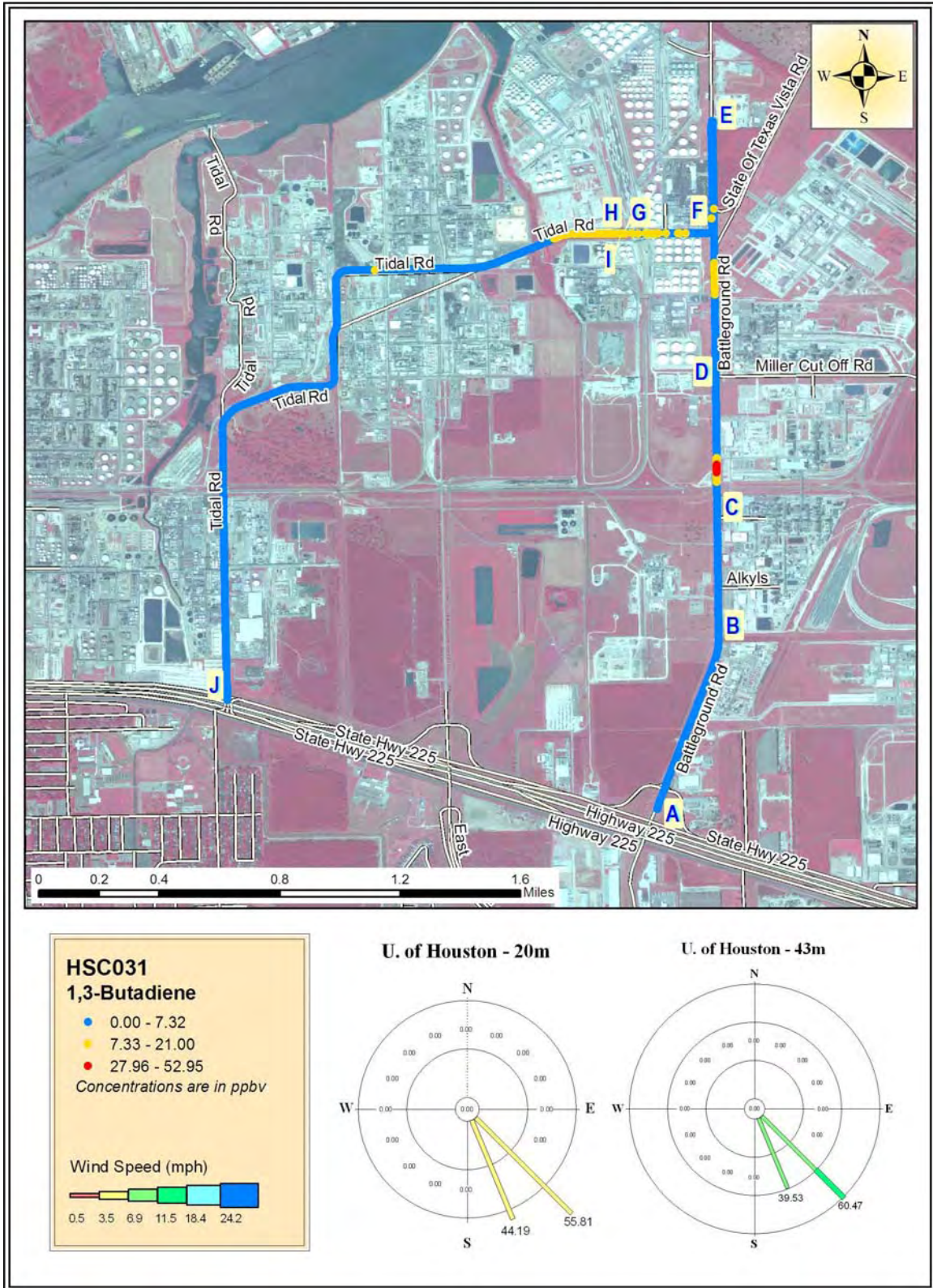


Figure 18f Mobile Monitoring Path for 1,3-Butadiene in Harris County



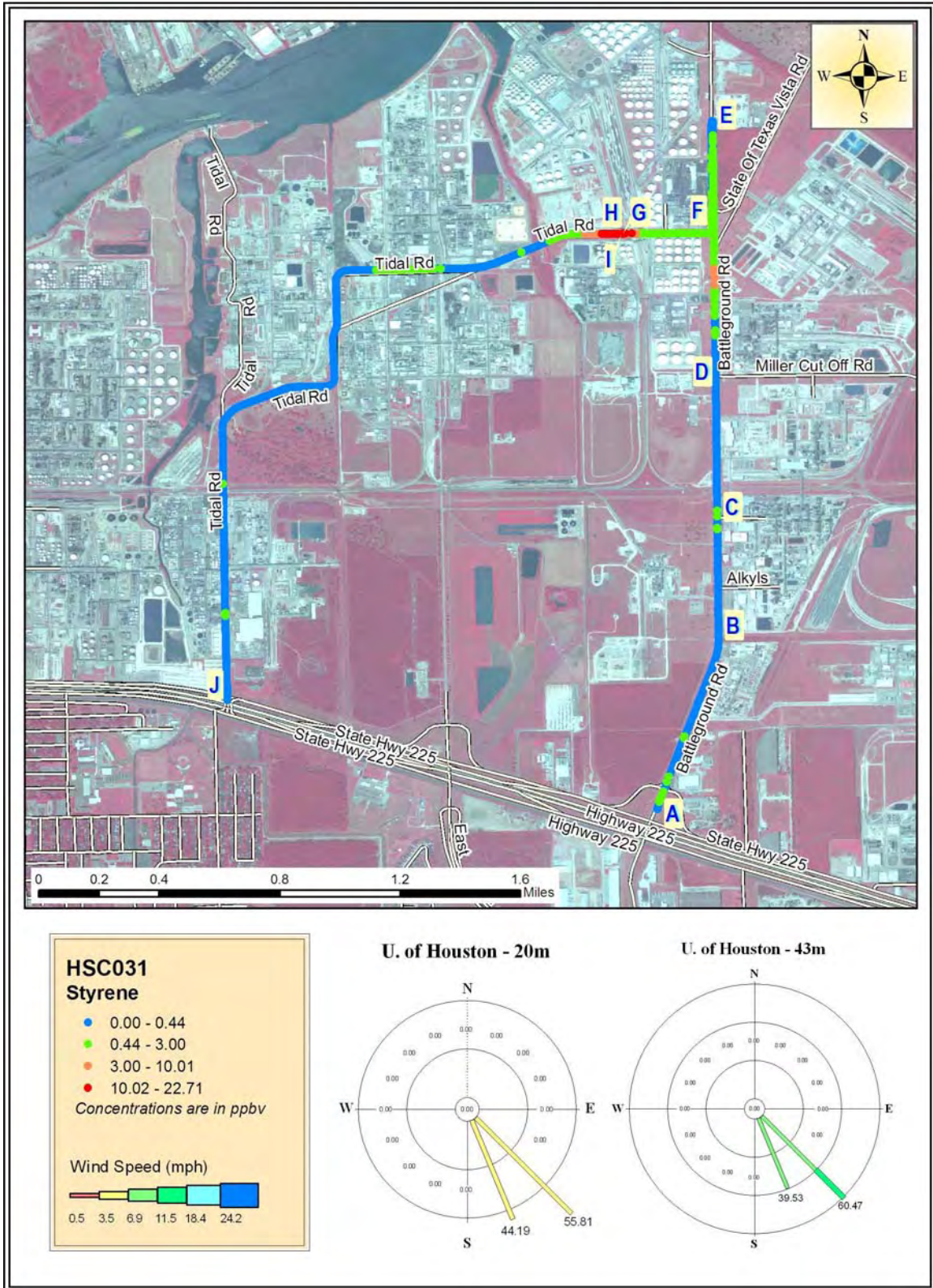


Figure 18g Mobile Monitoring Path for Styrene in Harris County



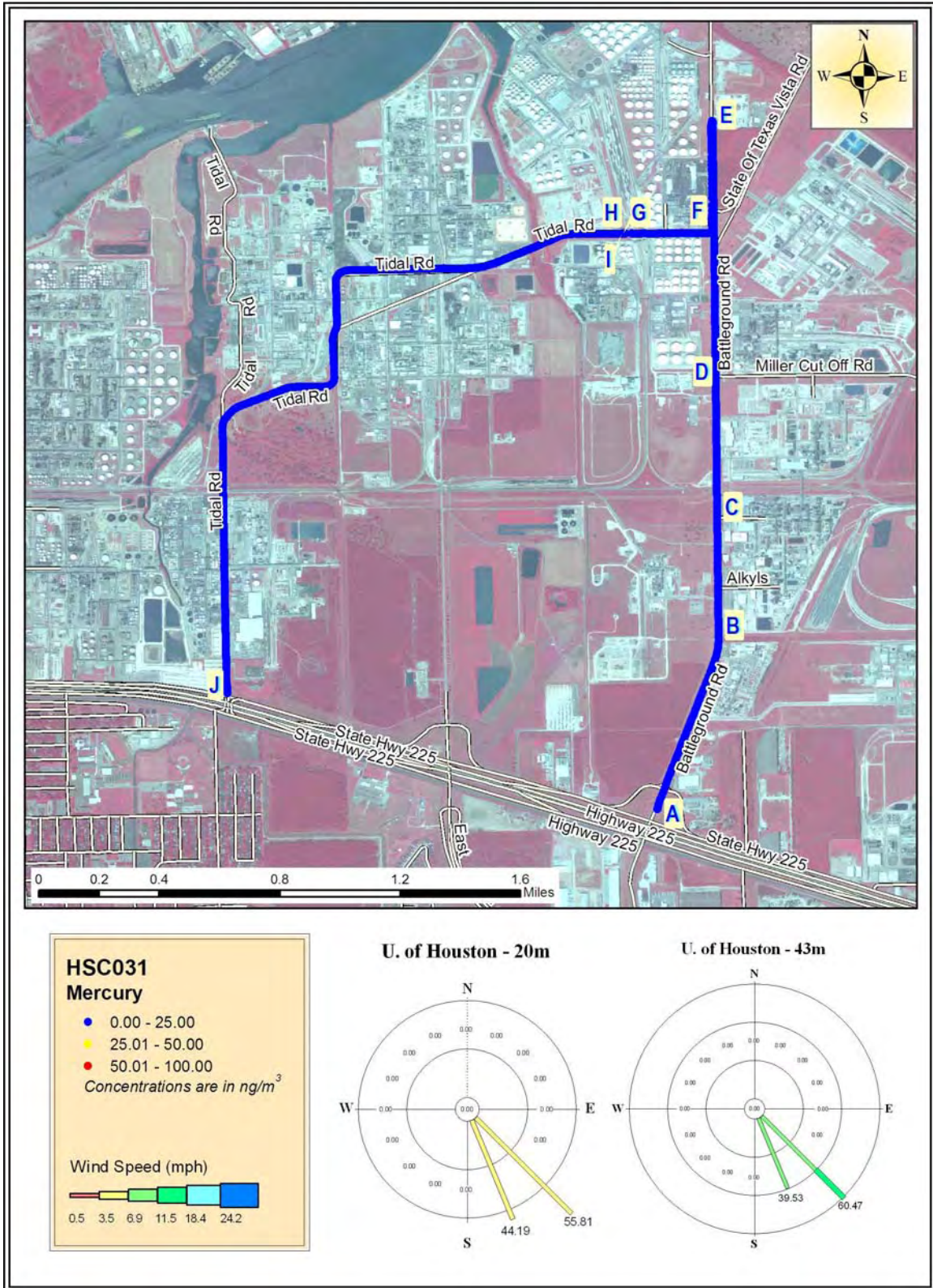
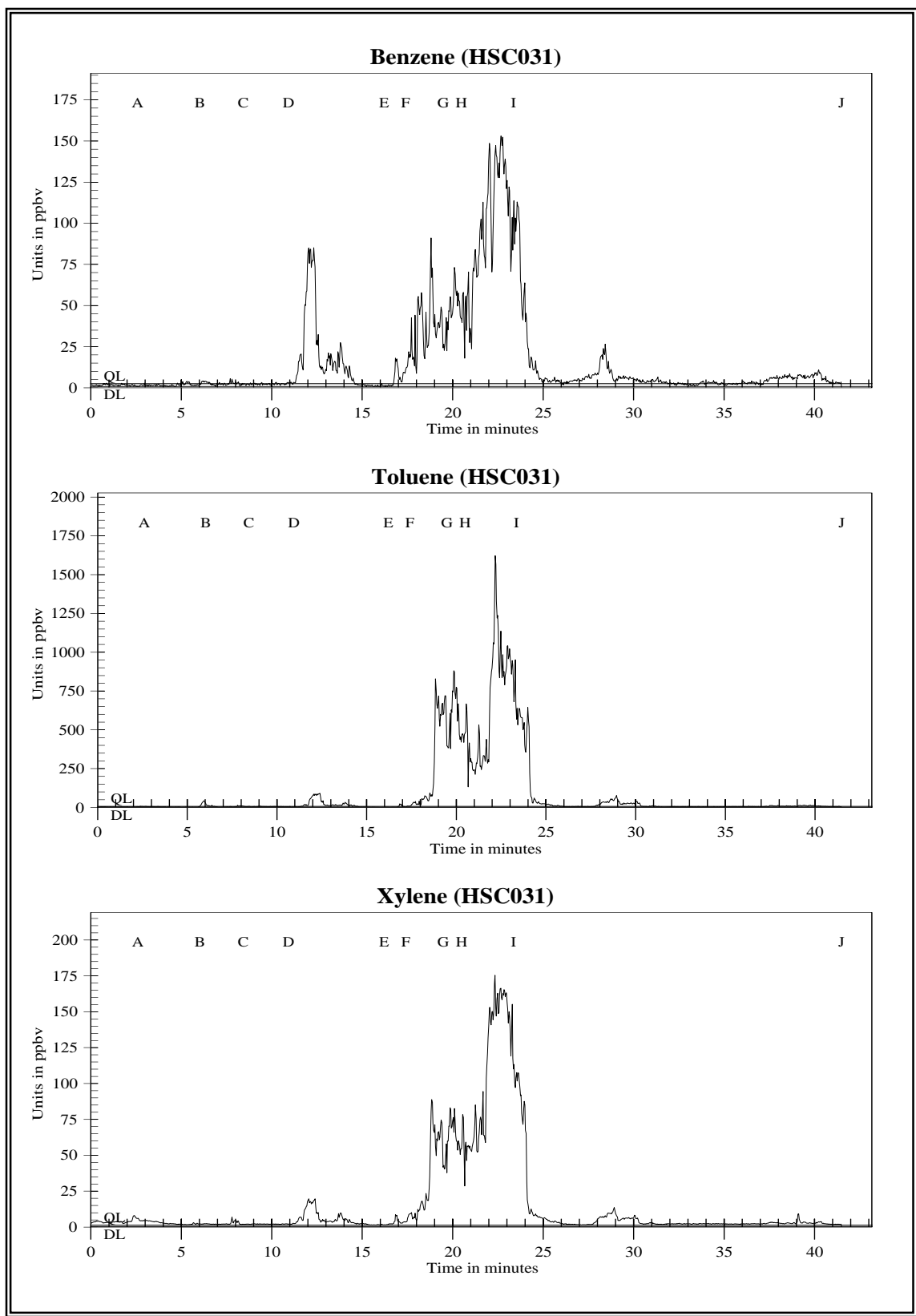


Figure 18h Mobile Monitoring Path for Mercury in Harris County

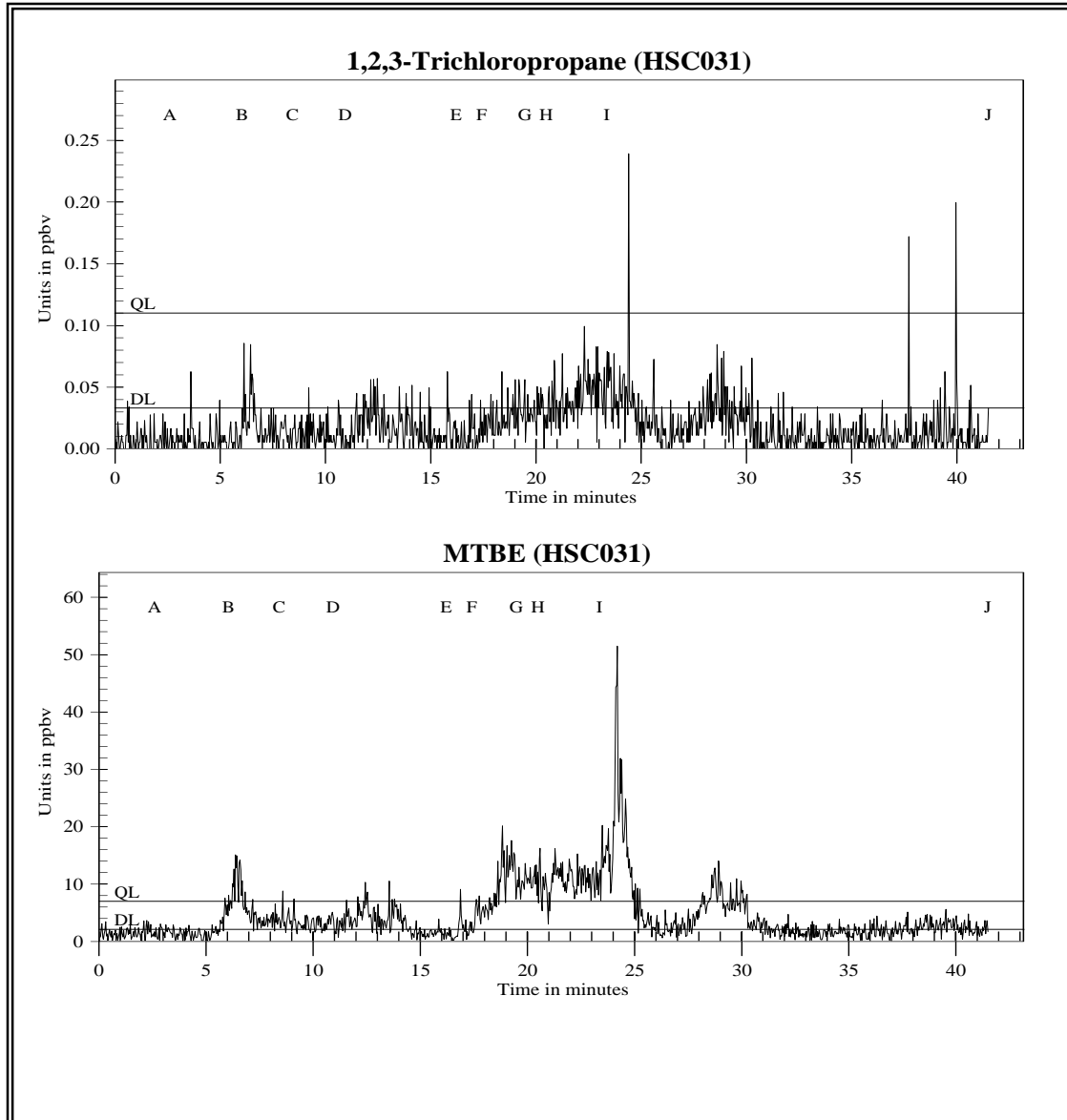
**Figure 18i**

TAGA File Event Summary			
File: HSC031 Acquired on 14 December 2006 at 04:05:25 UTC			
Title: Mobile Monitoring in Harris County			
Flag	Time	Sequence	Description
A	2.3	66	Start monitoring northward on Battleground Road
B	5.7	165	Passing Alkyls Road
C	8.1	233	Passing Celanese Road
D	10.6	304	Passing Miller Cut Off Road
E	15.9	456	Executing a U-turn
F	17.2	491	Turning right onto Tidal Road
G	19.2	548	Stopping; Start collecting SUMMA <sup>®</sup> sample F1500
H	20.2	577	End collecting SUMMA <sup>®</sup> sample F1500
I	23.2	664	Resuming mobile monitoring
J	41.3	1181	Ending mobile monitoring

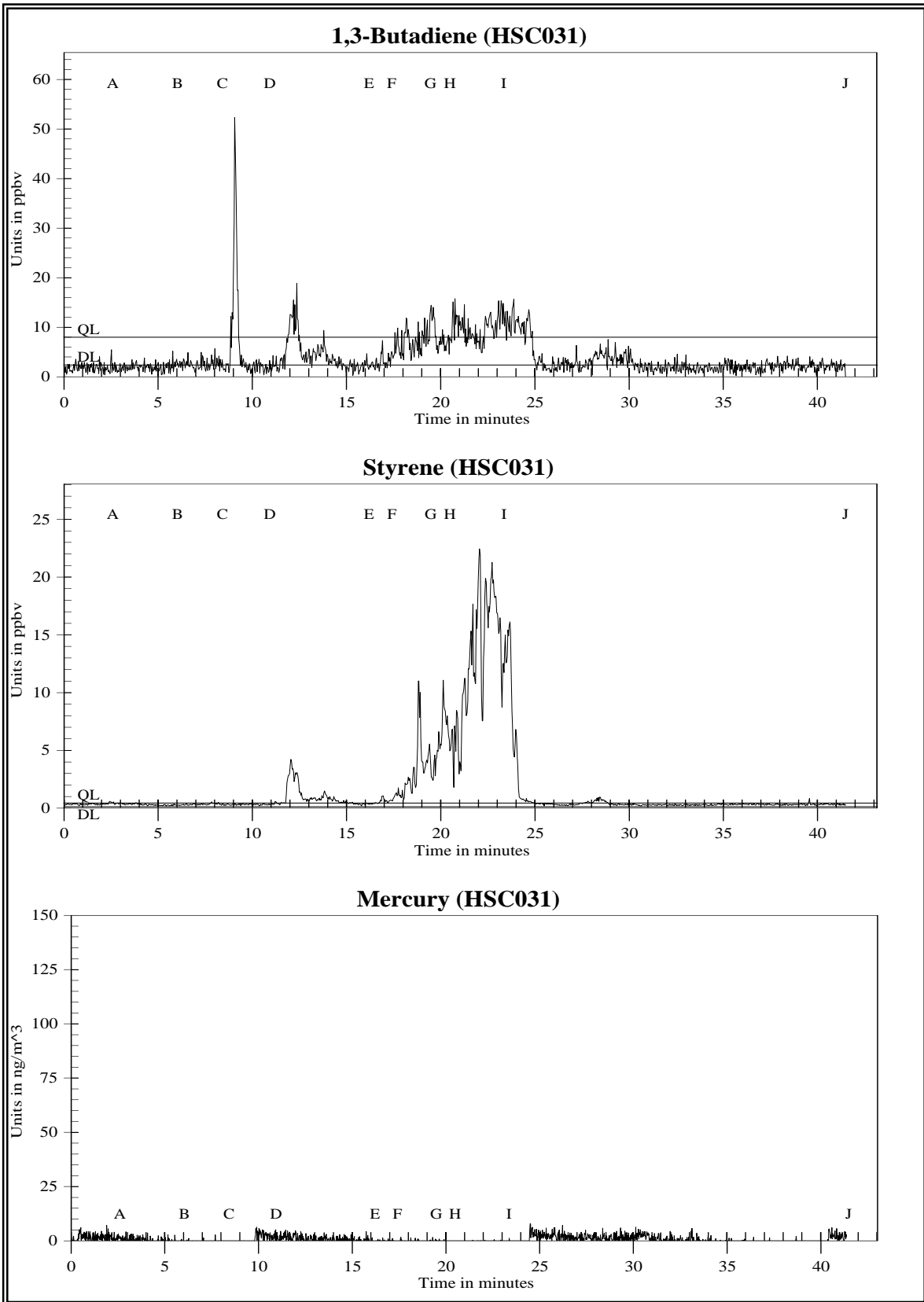


**Figure 18j** Mobile Monitoring in Harris County for Benzene, Toluene, and Xylenes





**Figure 18k** Mobile Monitoring in Harris County for 1,2,3-Trichloropropane and Methyl-t-butyl ether



**Figure 181** Mobile Monitoring in Harris County for 1,3-Butadiene, Styrene, and Mercury

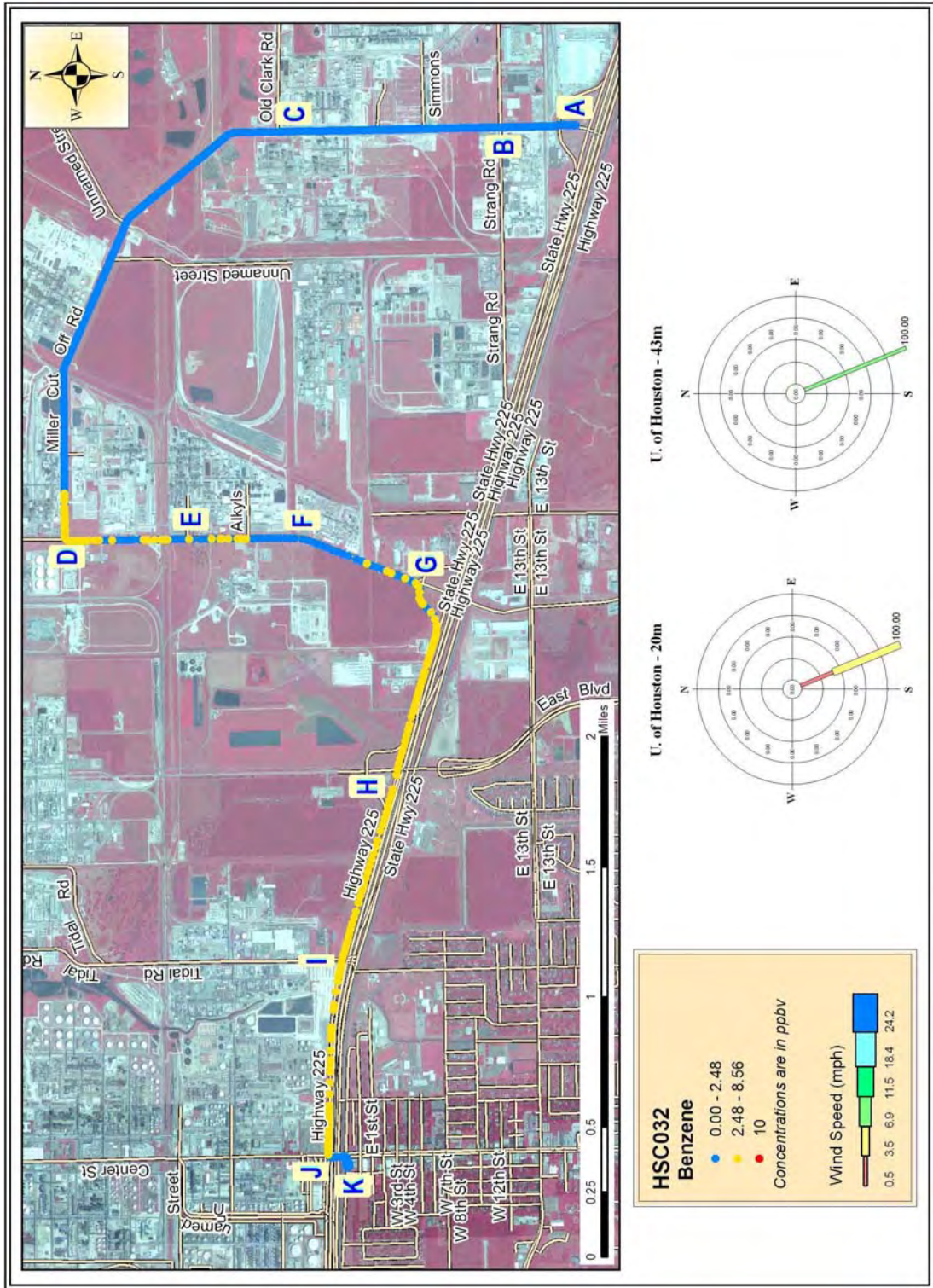
**Figure 18m**

TAGA Target Compound Averages during Sample Collection					
File: HSC031 Acquired on 14 December 2006 at 04:05:25 UTC					
		Benzene	Toluene	Xylenes	1,2,3-Trichloropropane
	Detection Limits (DL):	0.74	2.0	0.38	0.033
	Quantitation Limits (QL):	2.5	6.7	1.3	0.11
Flags	Description	Benzene	Toluene	Xylenes	1,2,3-Trichloropropane
G - H	SUMMA <sup>®</sup> F1500	43.	620	63.	DL=0.033
		Methyl-t-butyl ether	1,3-Butadiene	Styrene	
	Detection Limits (DL):	2.1	2.4	0.13	
	Quantitation Limits (QL):	7.0	8.0	0.44	
Flags	Description	Methyl-t-butyl ether	1,3-Butadiene	Styrene	
G - H	SUMMA <sup>®</sup> F1500	11.	8.9	4.9	

Concentrations are in parts per billion by volume (ppbv)

J = Below quantitation limit





**Figure 19a** Mobile Monitoring Path for Benzene in Harris County

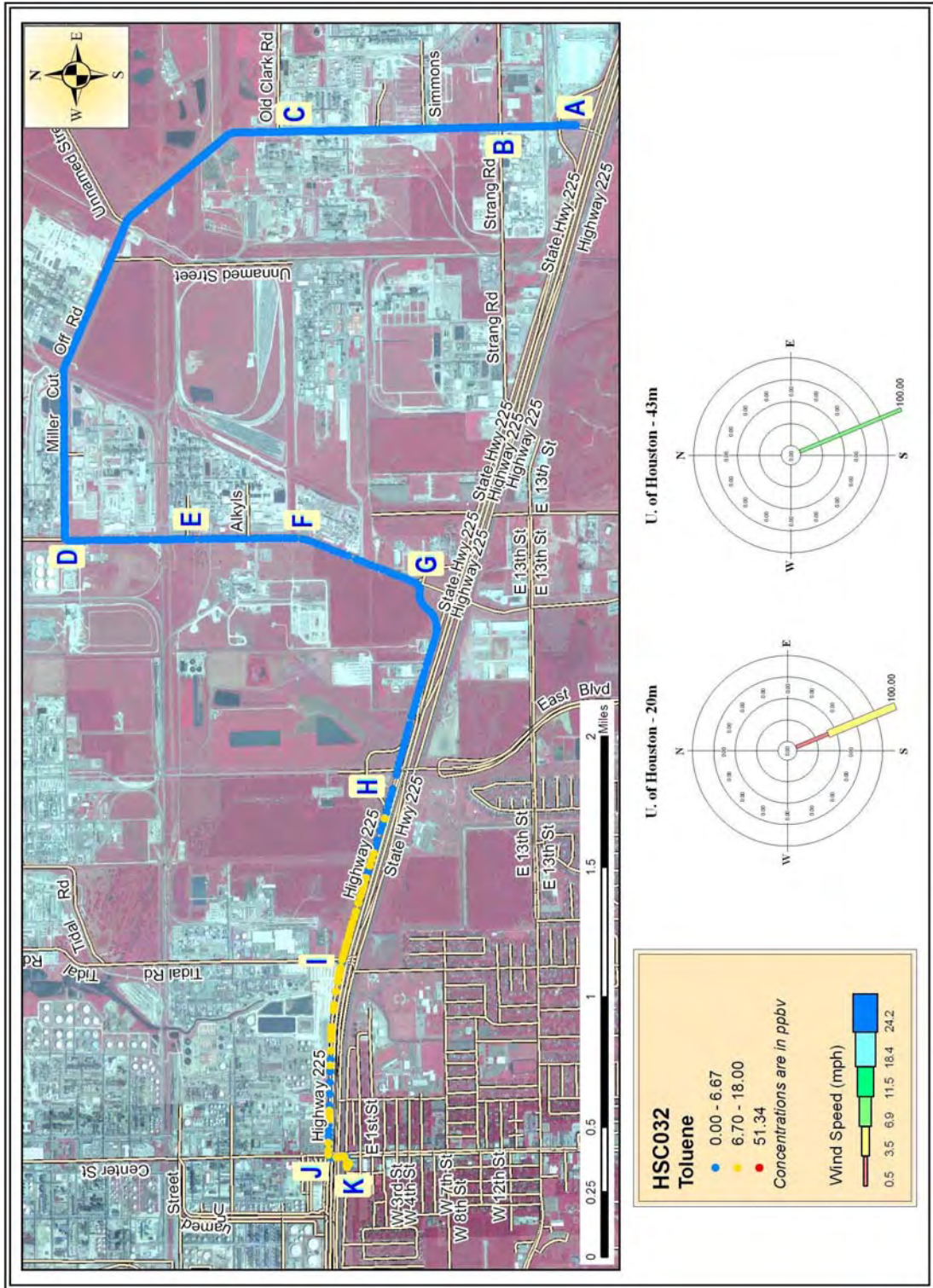


Figure 19b Mobile Monitoring Path for Toluene in Harris County



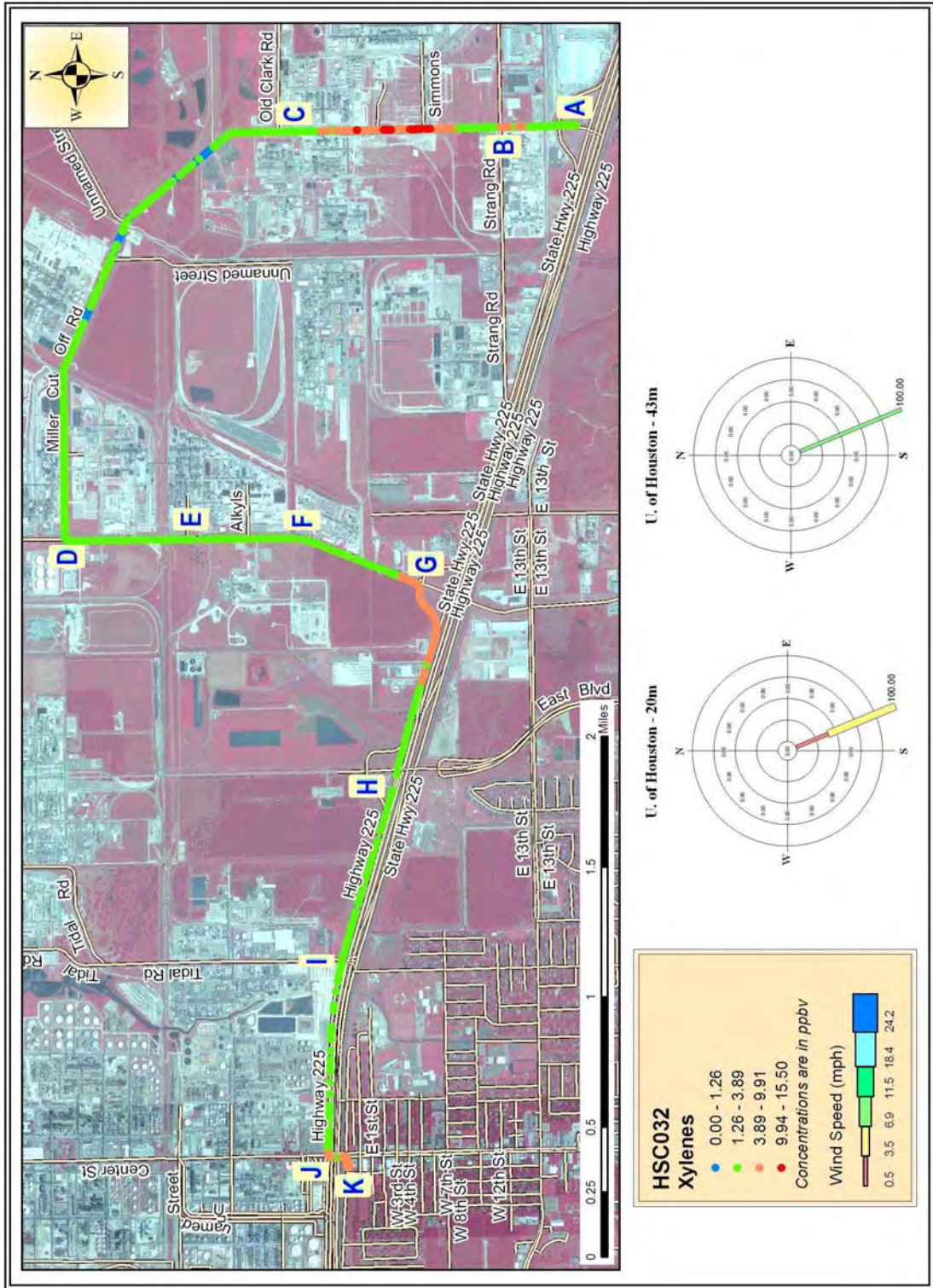
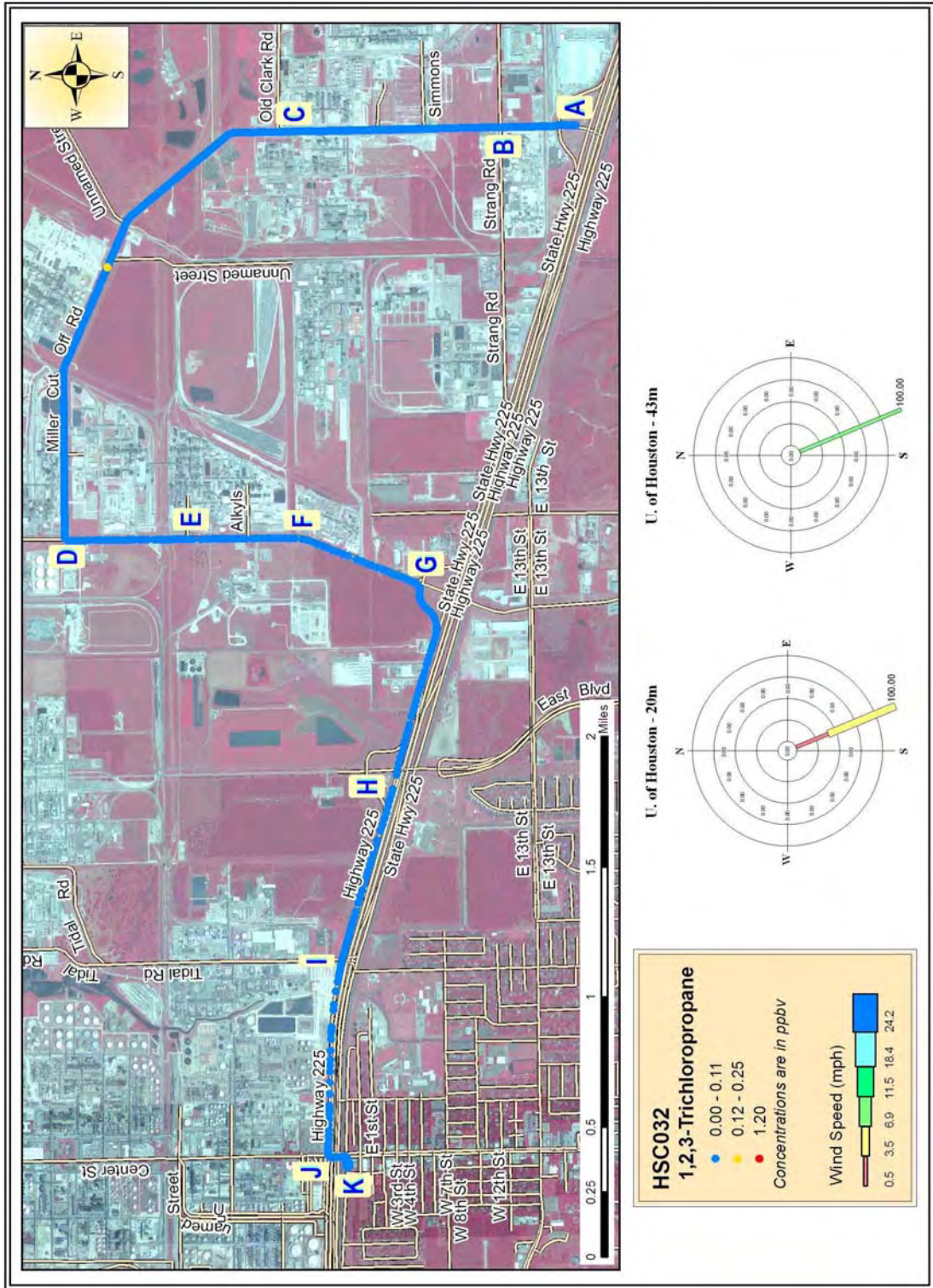
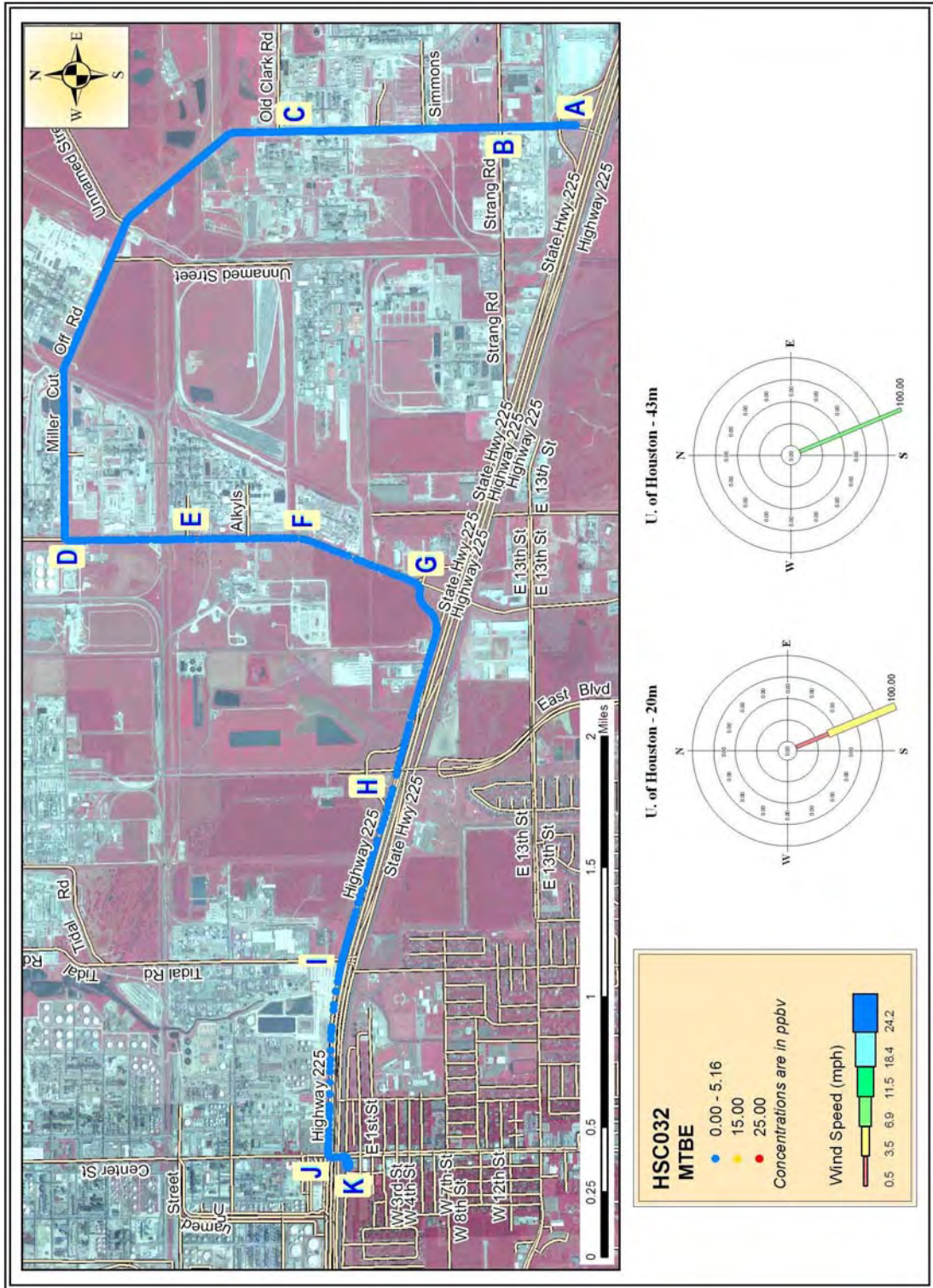


Figure 19c Mobile Monitoring Path for Xylenes in Harris County



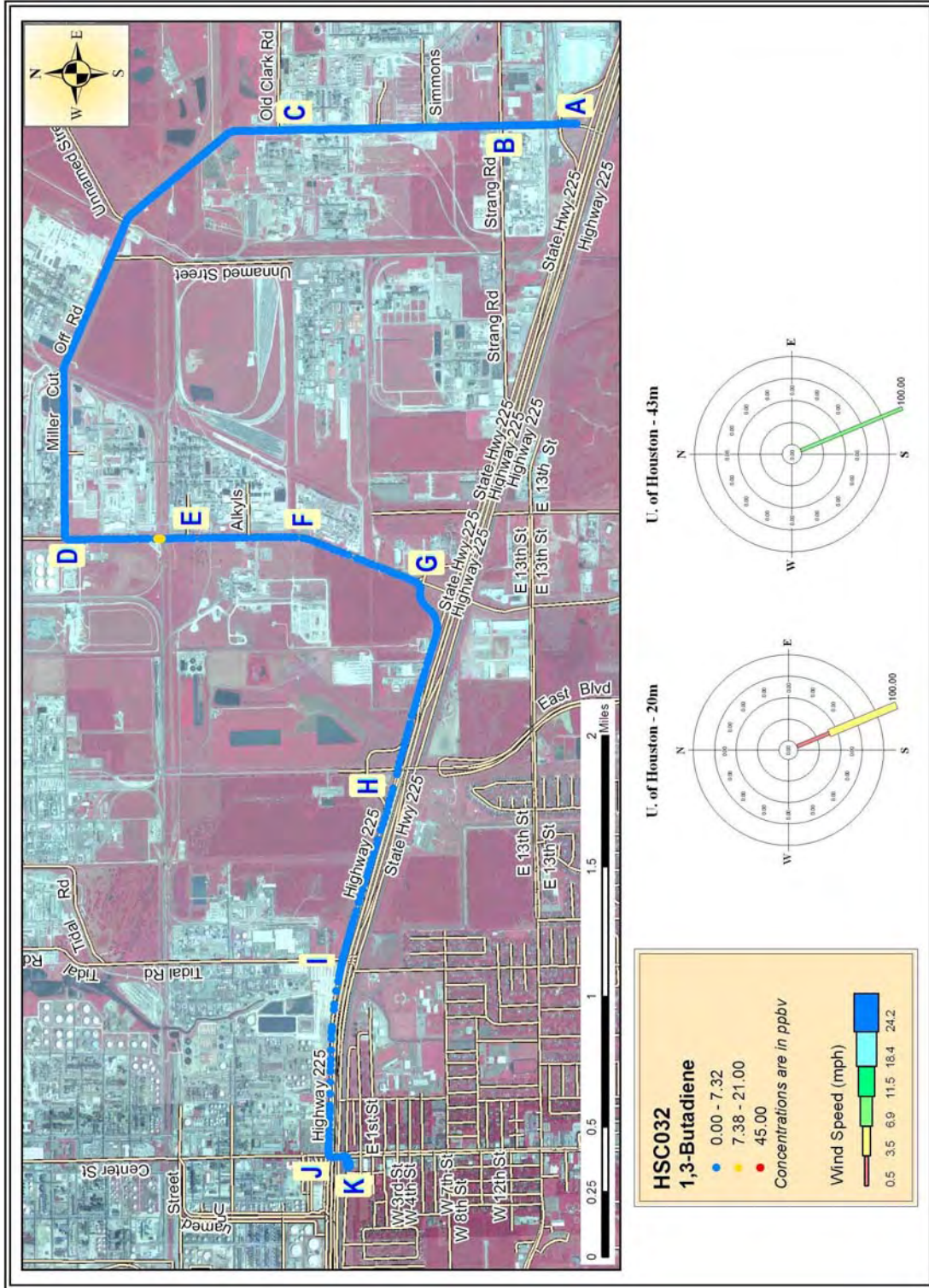


**Figure 19d** Mobile Monitoring Path for 1,2,3-Trichloropropane in Harris County



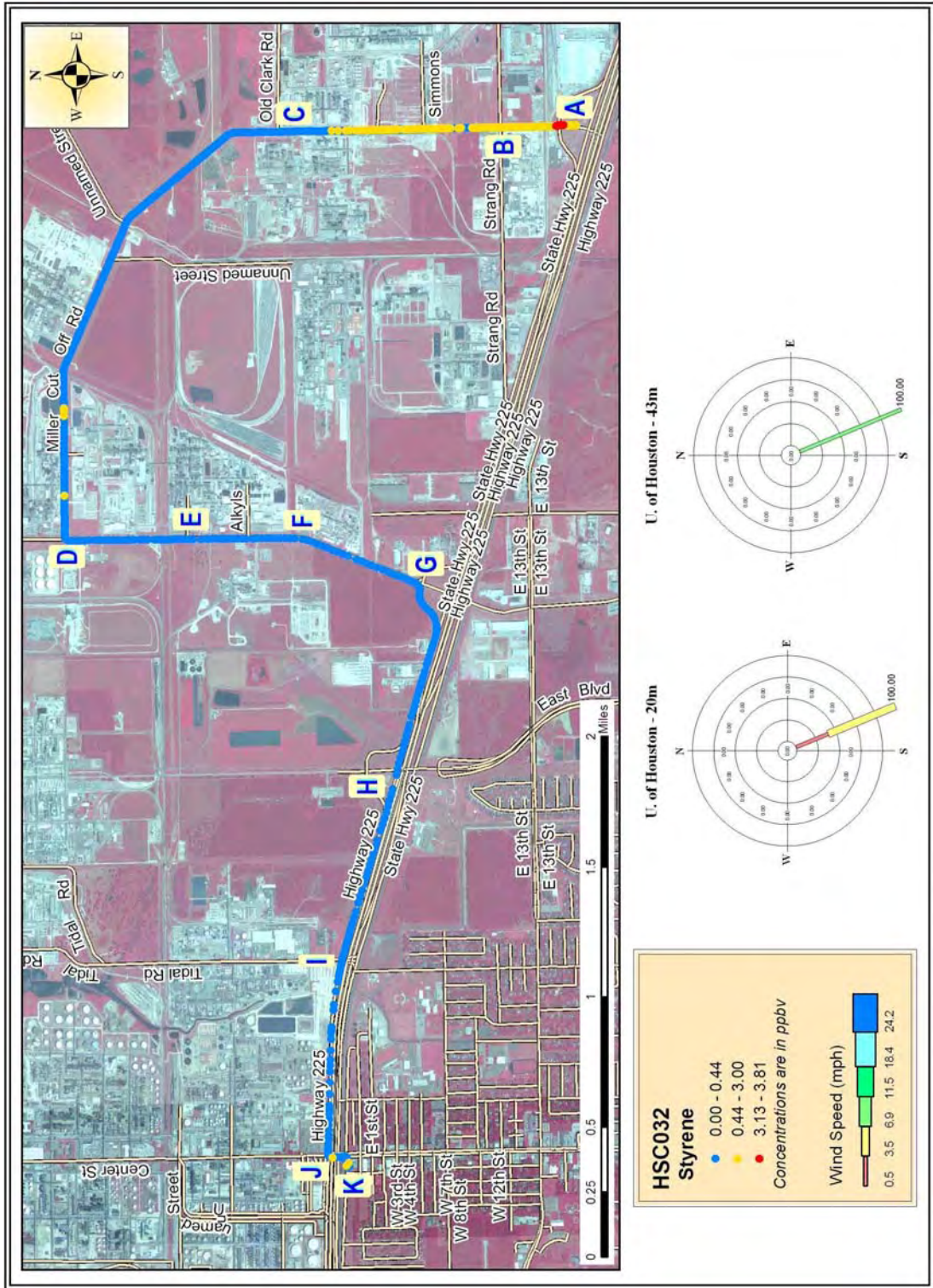
**Figure 19e** Mobile Monitoring Path for Methyl-t-butyl ether in Harris County

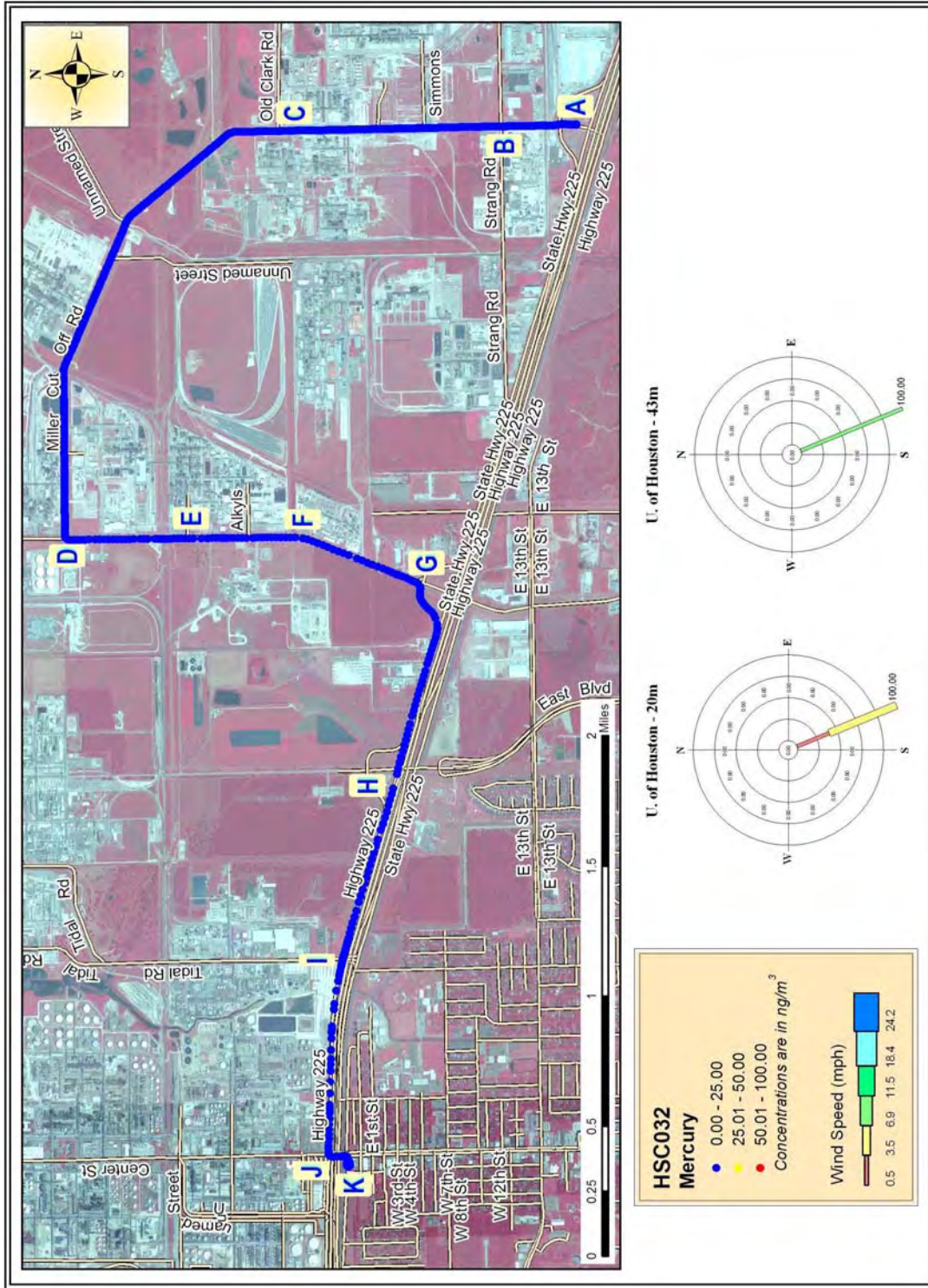




**Figure 19f** Mobile Monitoring Path for 1,3-Butadiene in Harris County





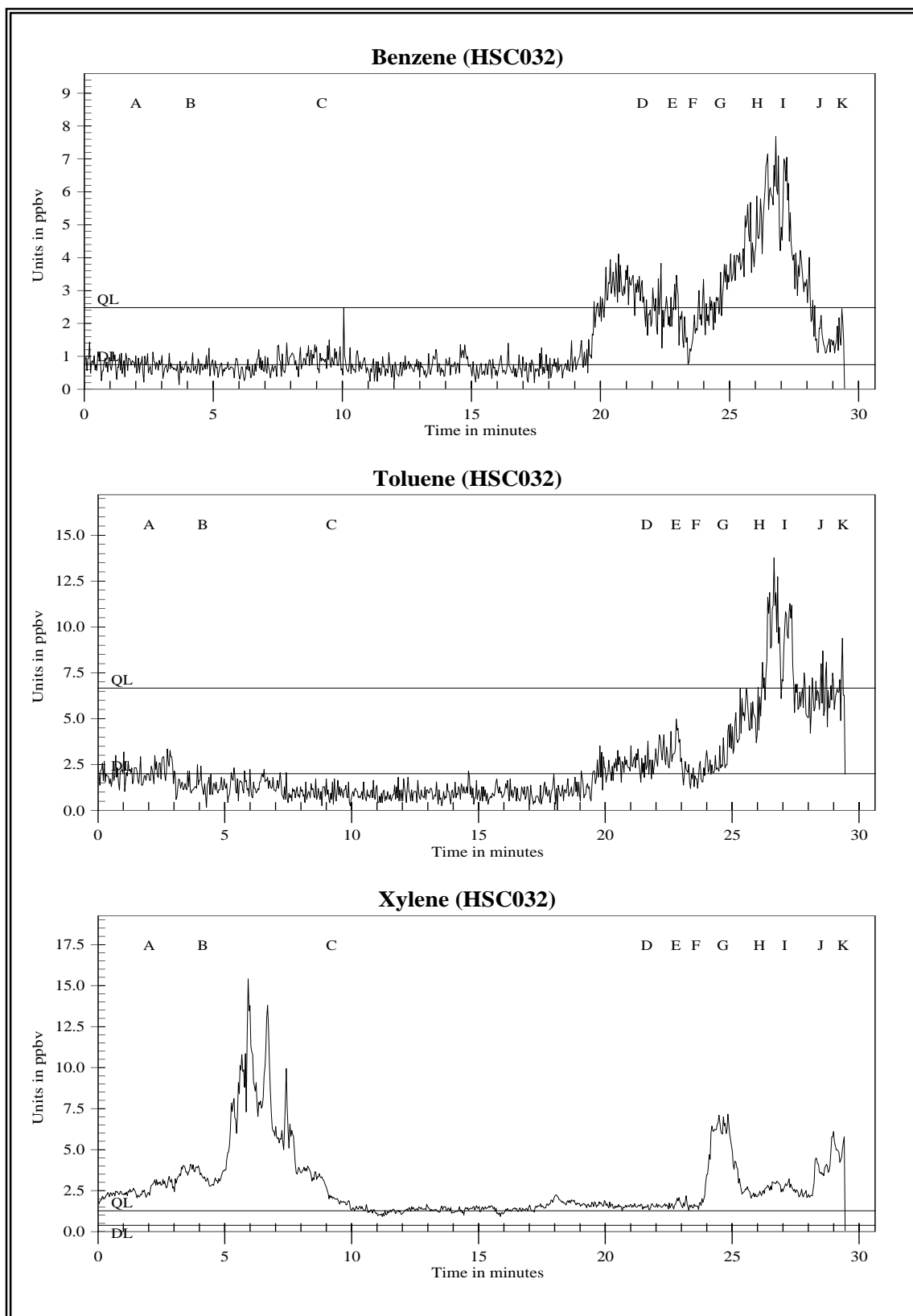


**Figure 19h** Mobile Monitoring Path for Mercury in Harris County

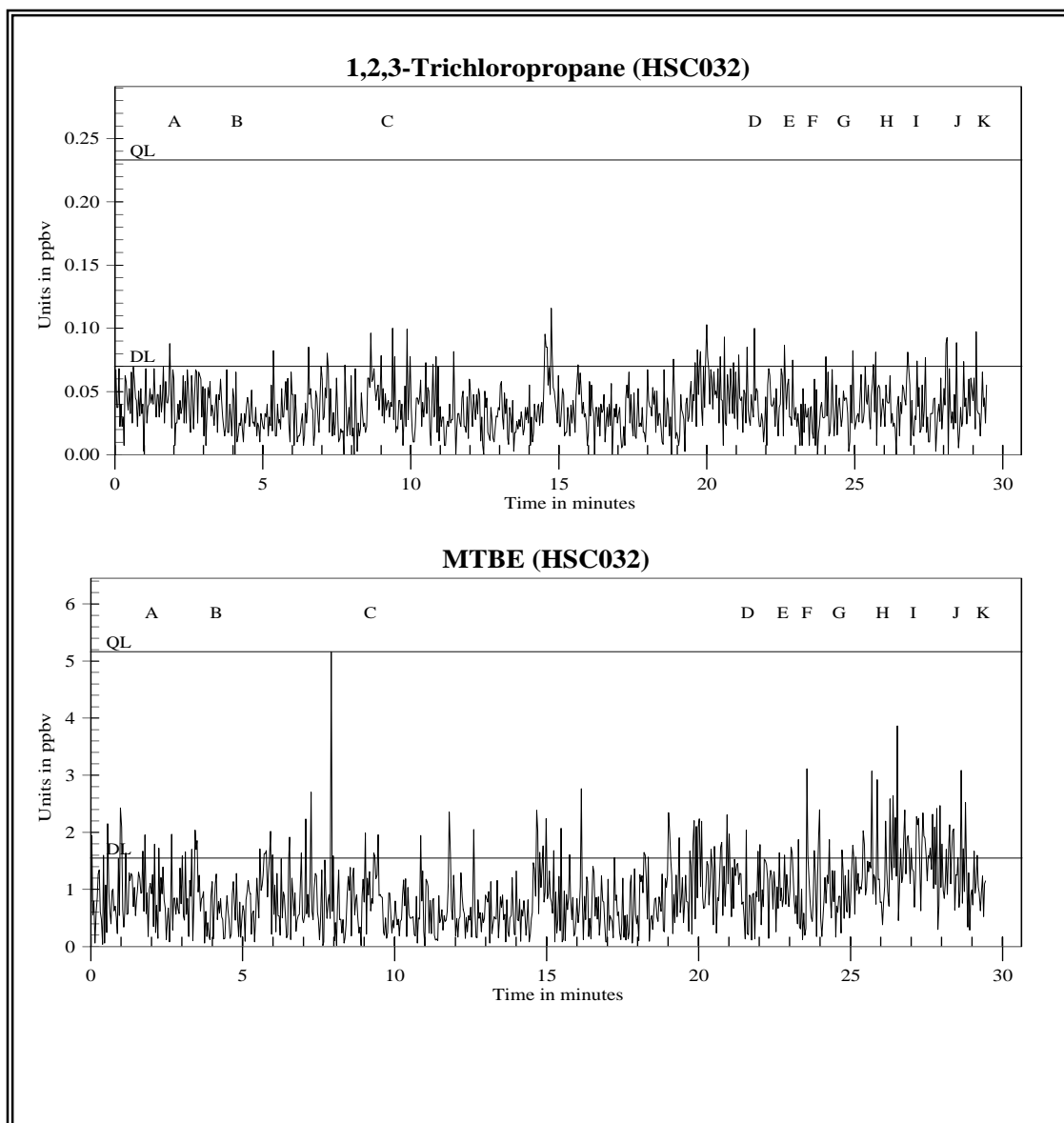
**Figure 19i**

TAGA File Event Summary			
File: HSC032 Acquired on 14 December 2006 at 04:53:11 UTC			
Title: Mobile Monitoring in Harris County			
Flag	Time	Sequence	Description
A	1.8	52	Start monitoring northward on Miller Cut Off Road
B	3.9	113	Passing Strang Road
C	9.0	258	Passing Old Clark Road
D	21.4	612	Turning left onto Battleground Road
E	22.6	646	Passing Celanese Road
F	23.4	669	Passing Alkyls Road
G	24.4	698	Continuing West onto State Highway 225 Access Road
H	25.8	739	Passing East Boulevard
I	27.0	771	Passing Tidal Road
J	28.4	811	Turning left onto Center Street
K	29.1	833	Stopping

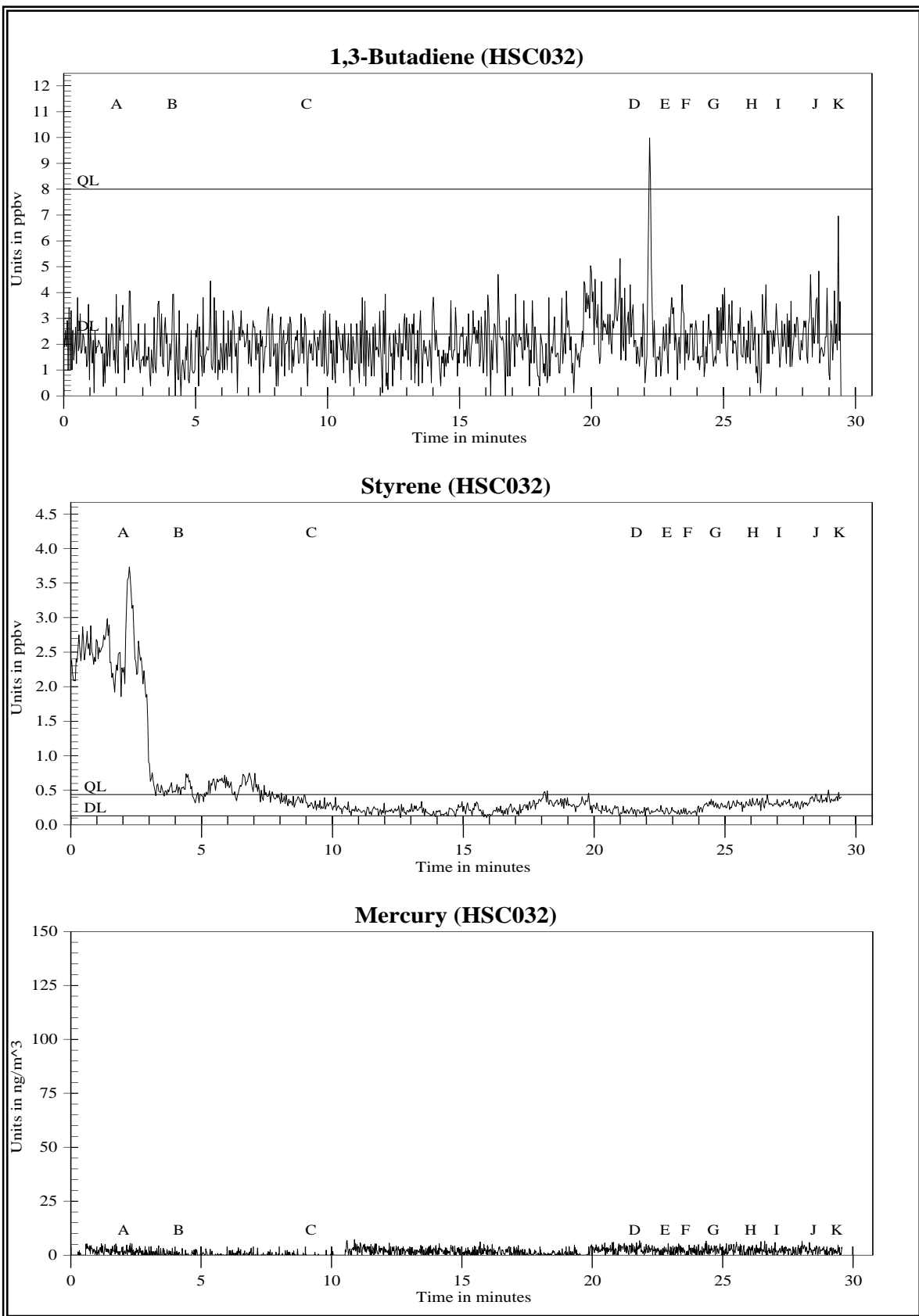




**Figure 19j** Mobile Monitoring in Harris County for Benzene, Toluene, and Xylenes



**Figure 19k** Mobile Monitoring in Harris County for 1,2,3-Trichloropropane and Methyl-t-butyl ether



**Figure 191** Mobile Monitoring in Harris County for 1,3-Butadiene, Styrene, and Mercury



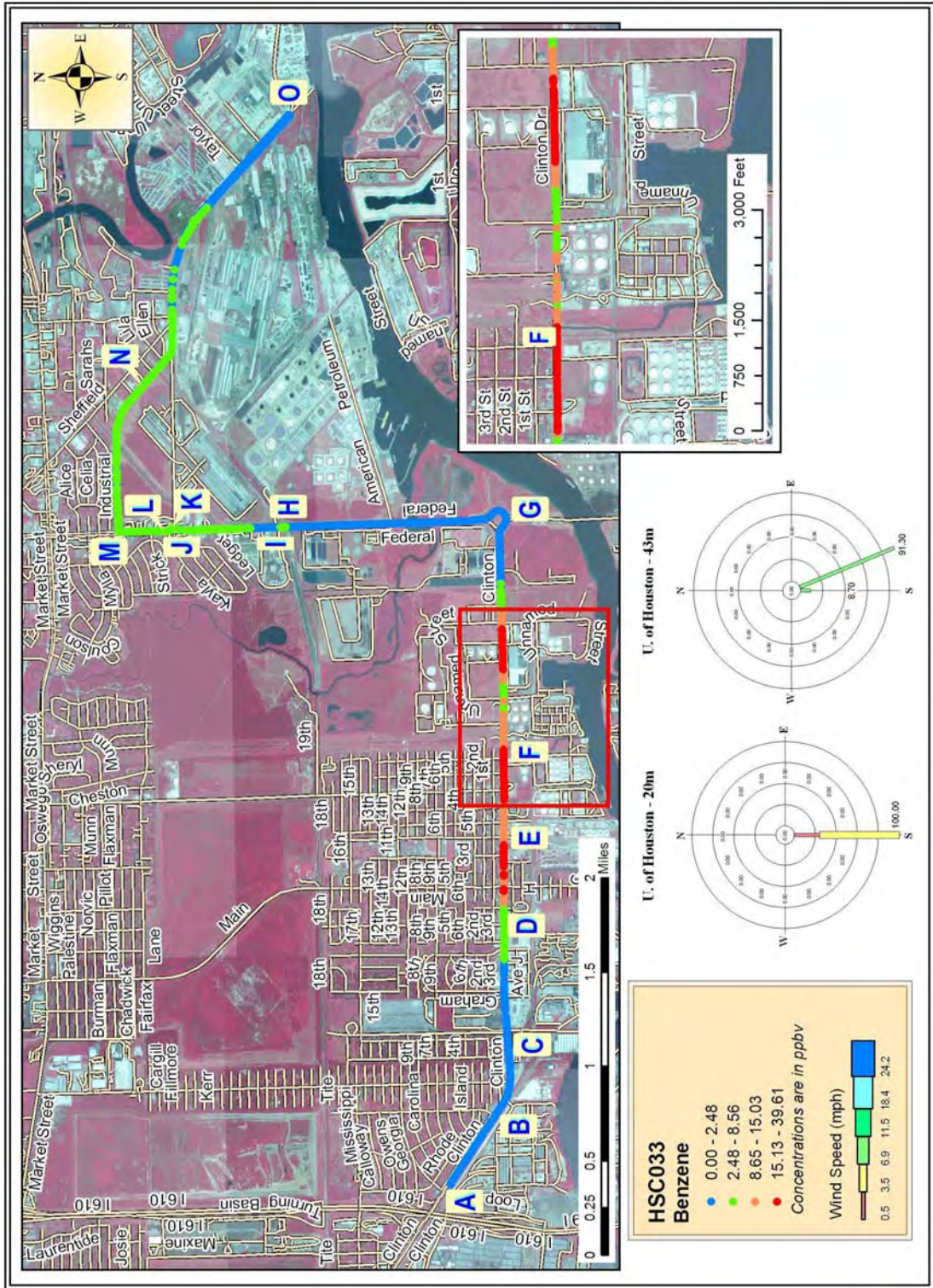
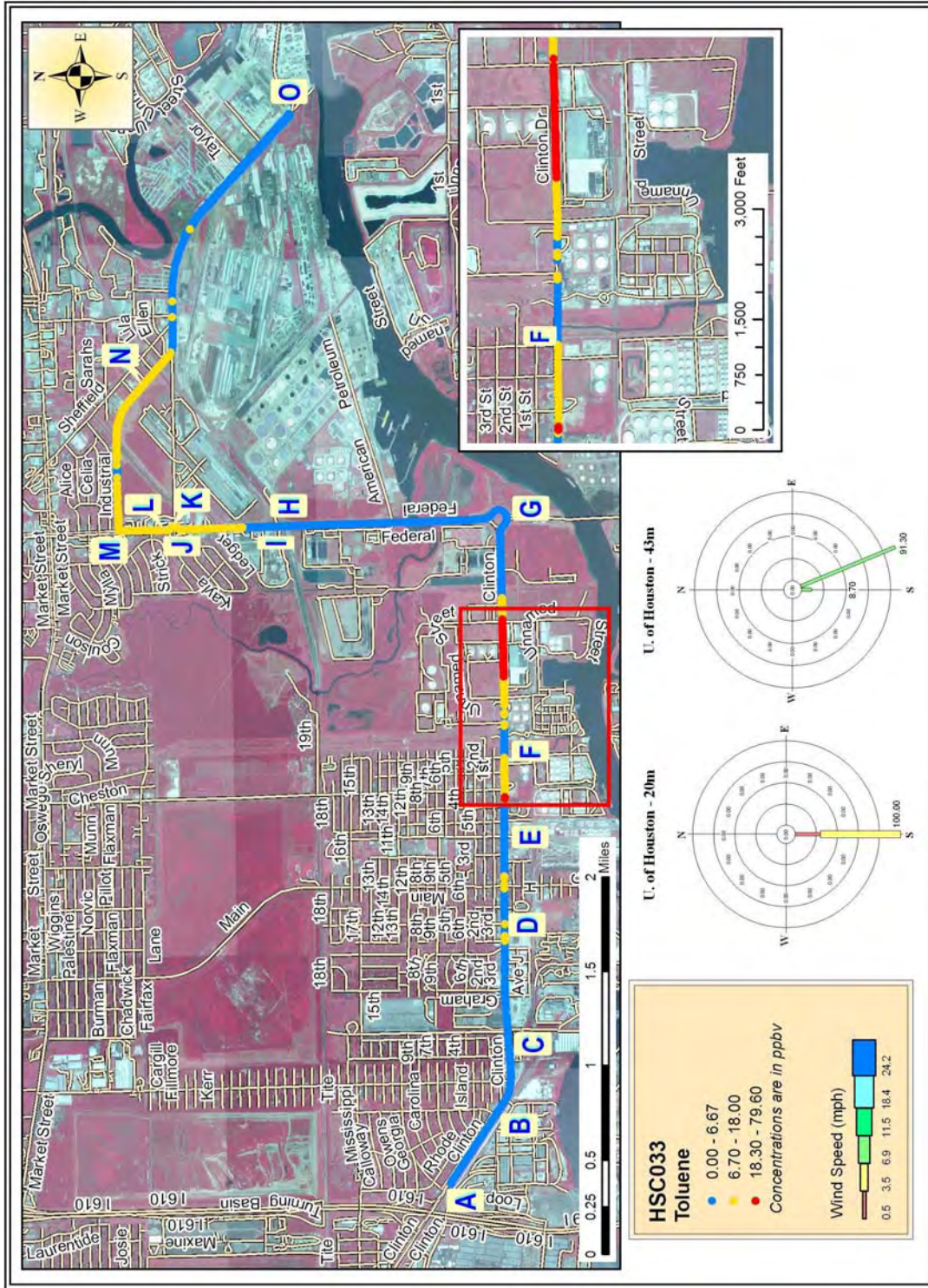


Figure 20a Mobile Monitoring Path for Benzene in Harris County





**Figure 20b** Mobile Monitoring Path for Toluene in Harris County



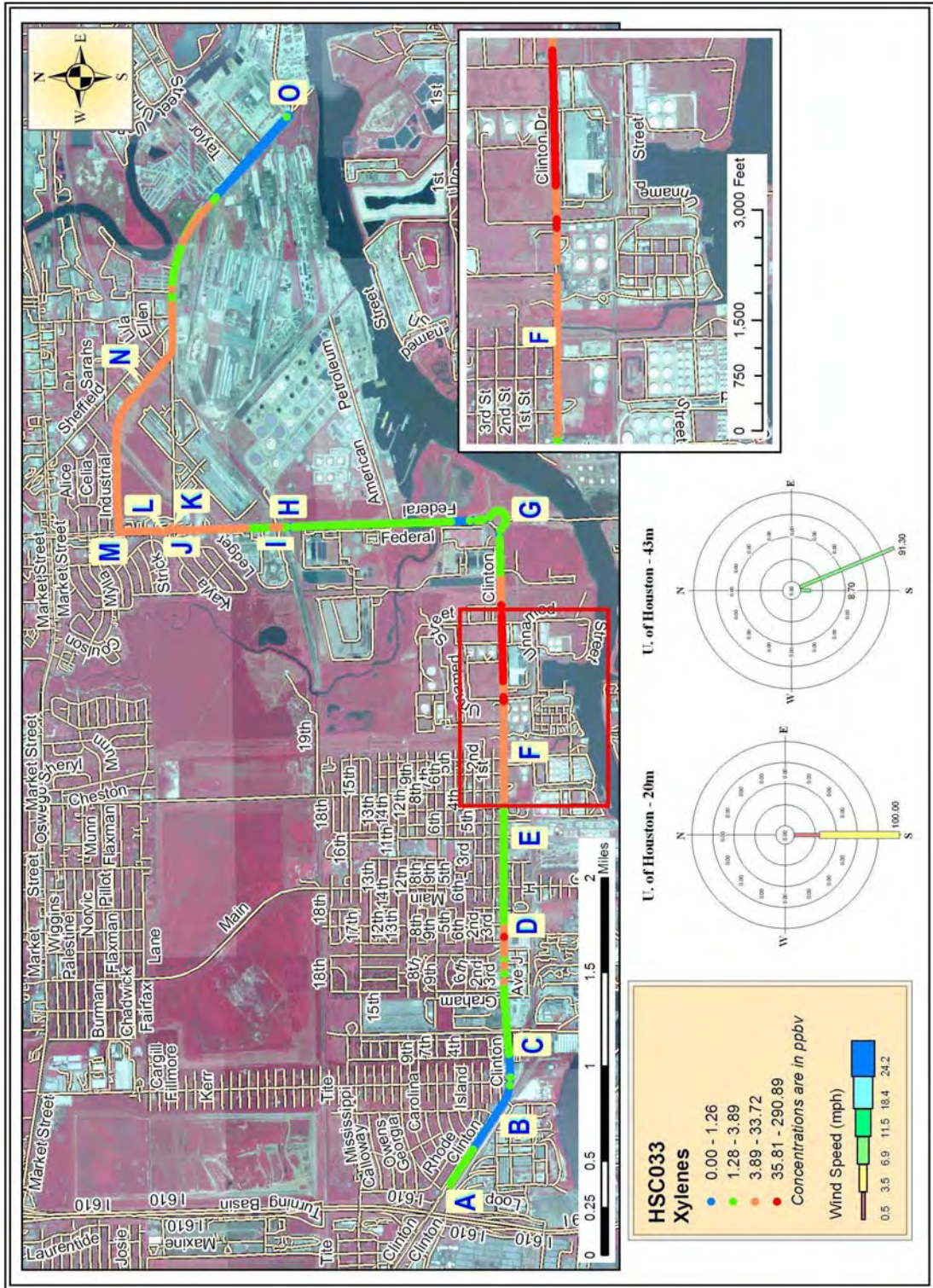
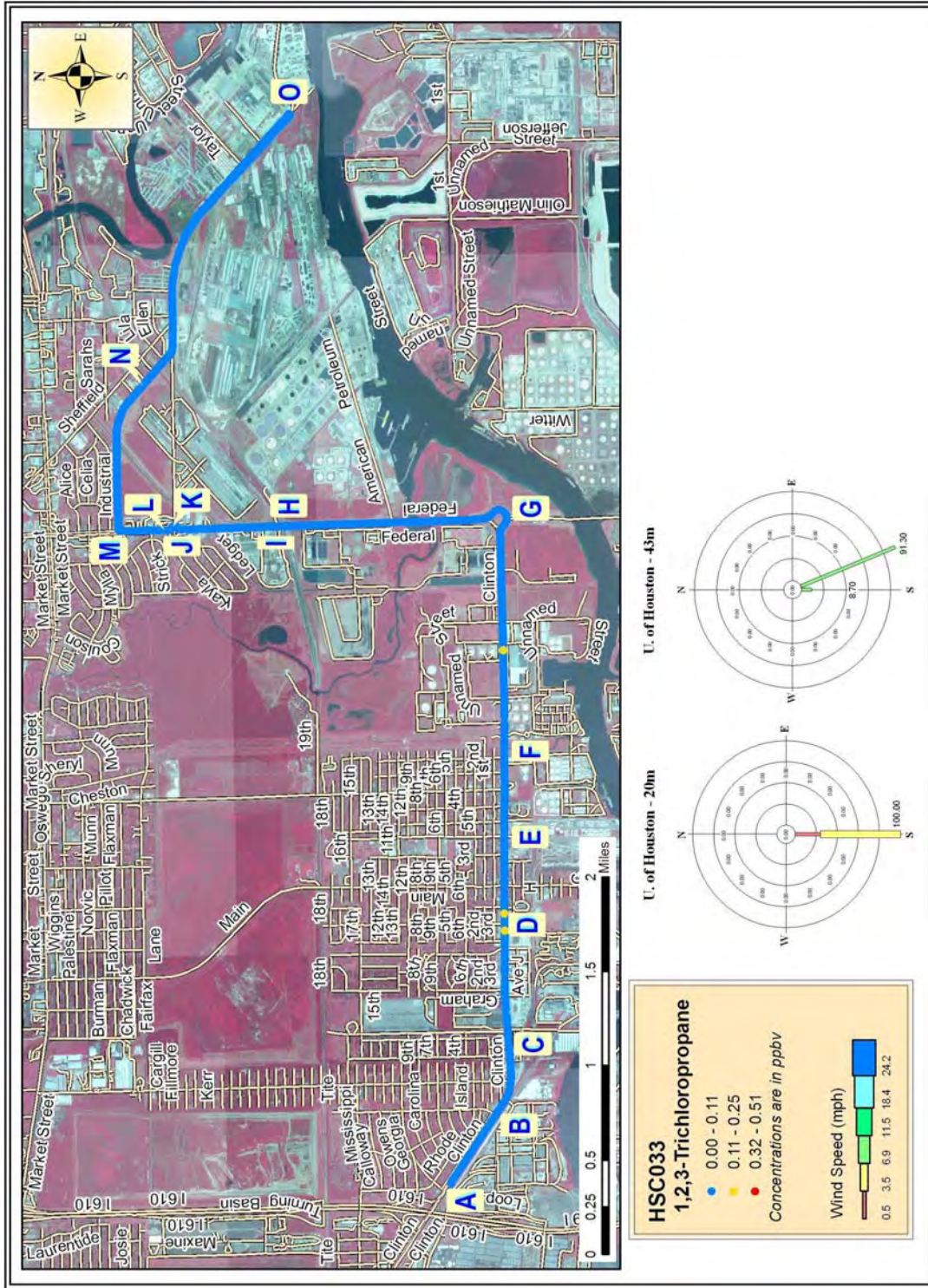


Figure 20c Mobile Monitoring Path for Xylenes in Harris County





**Figure 20d** Mobile Monitoring Path for 1,2,3-Trichloropropane in Harris County



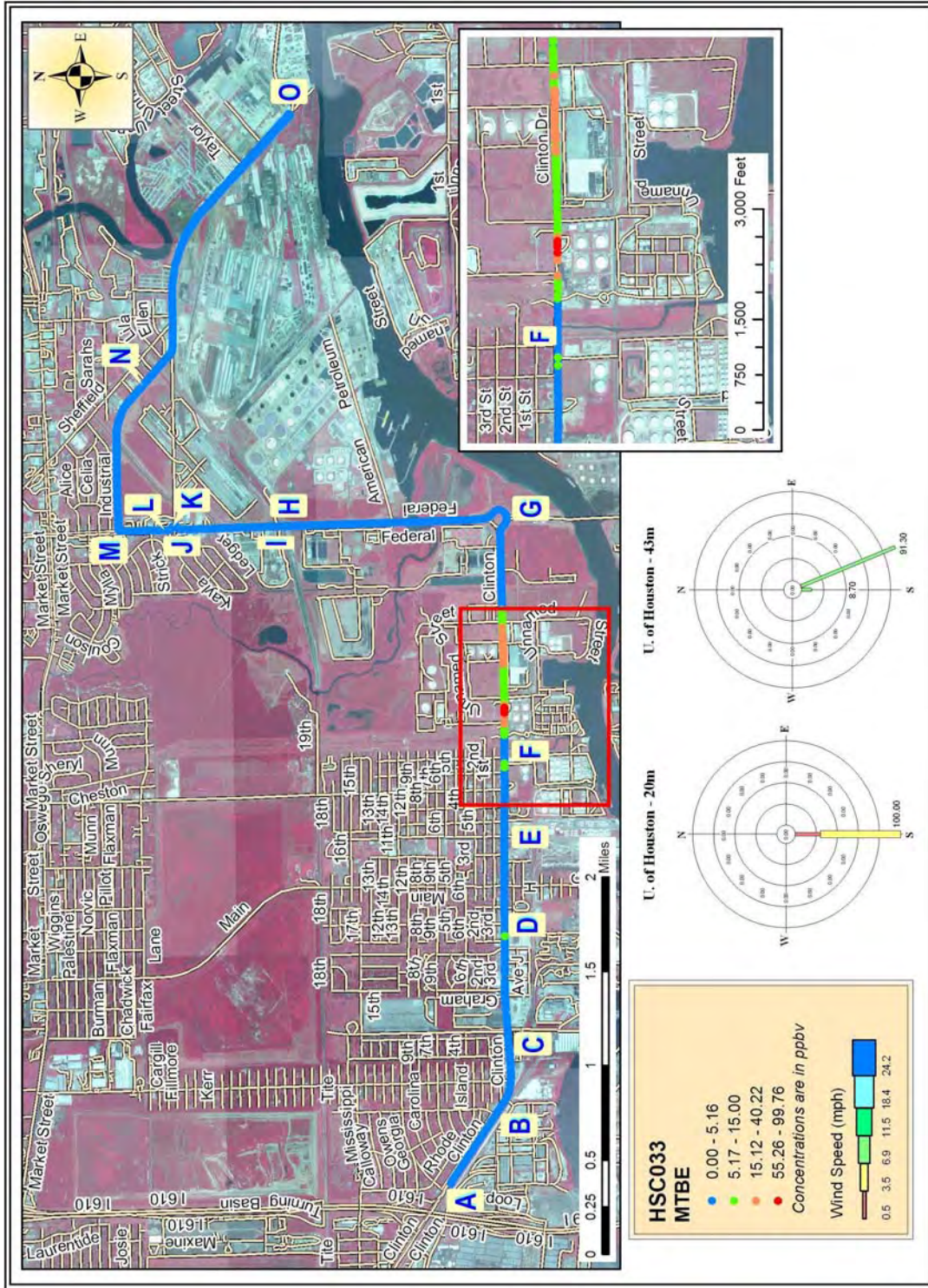
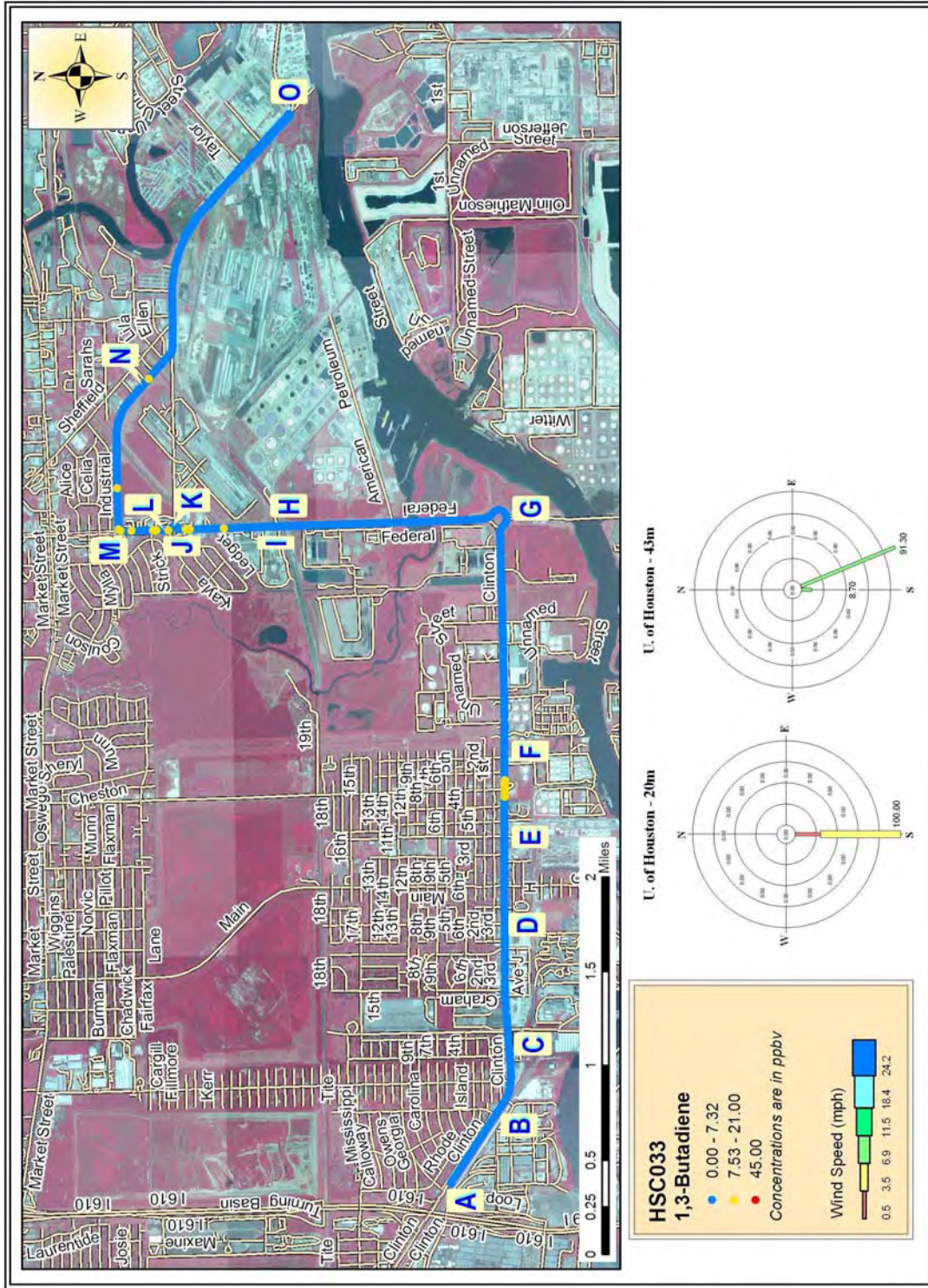


Figure 20e Mobile Monitoring Path for Methyl-t-butyl ether in Harris County





**Figure 20f** Mobile Monitoring Path for 1,3-Butadiene in Harris County



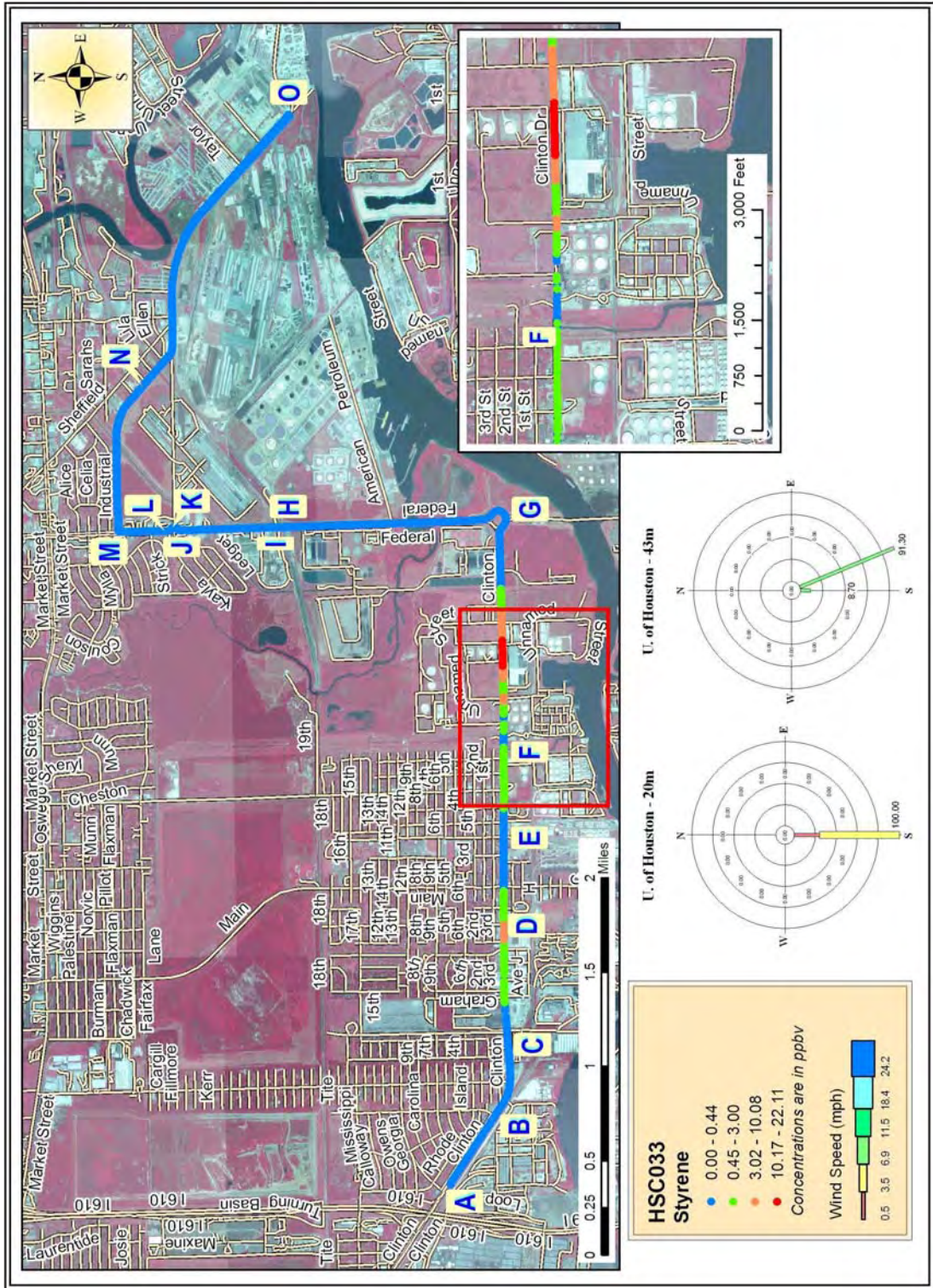


Figure 20g Mobile Monitoring Path for Styrene in Harris County



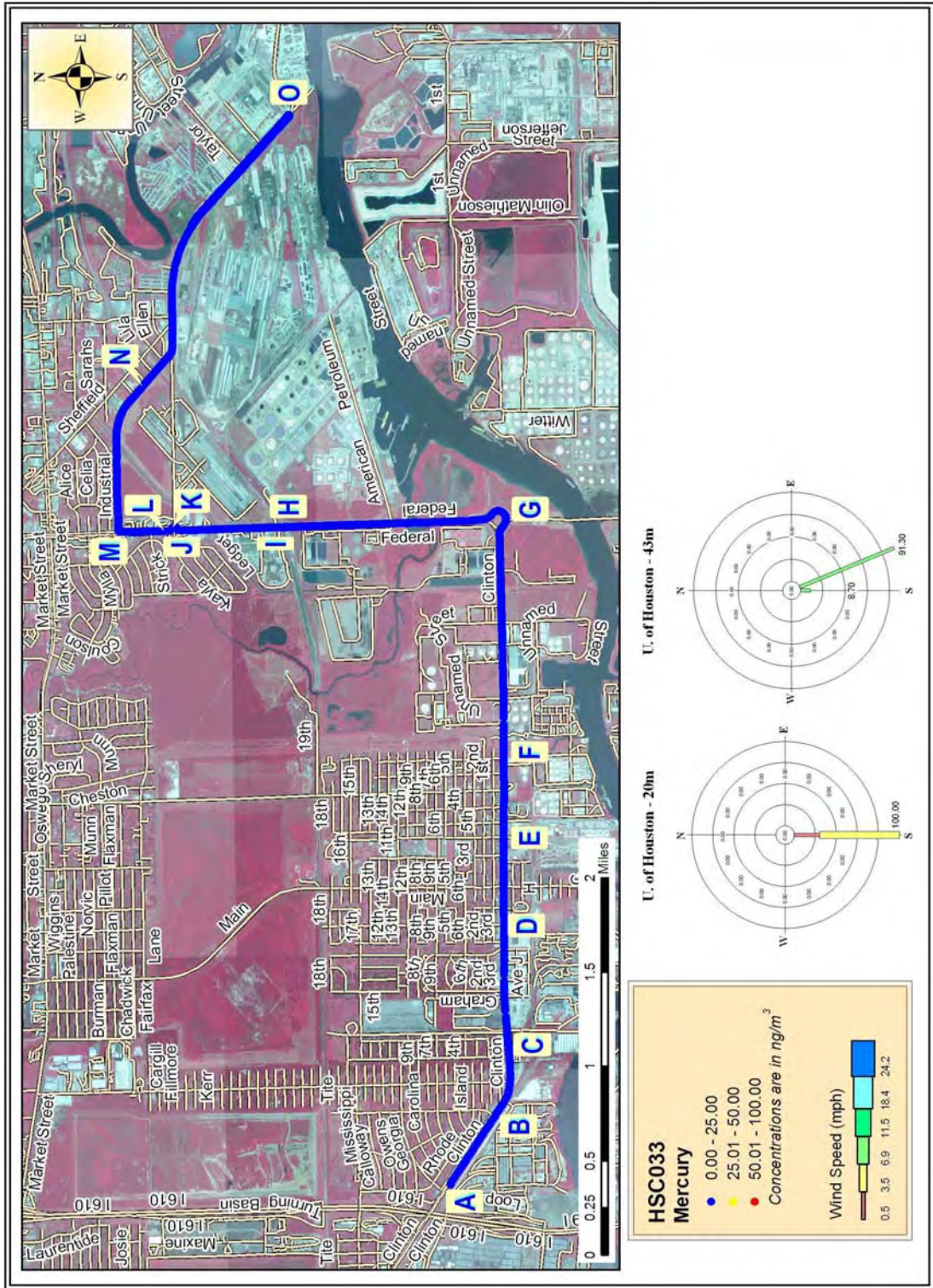
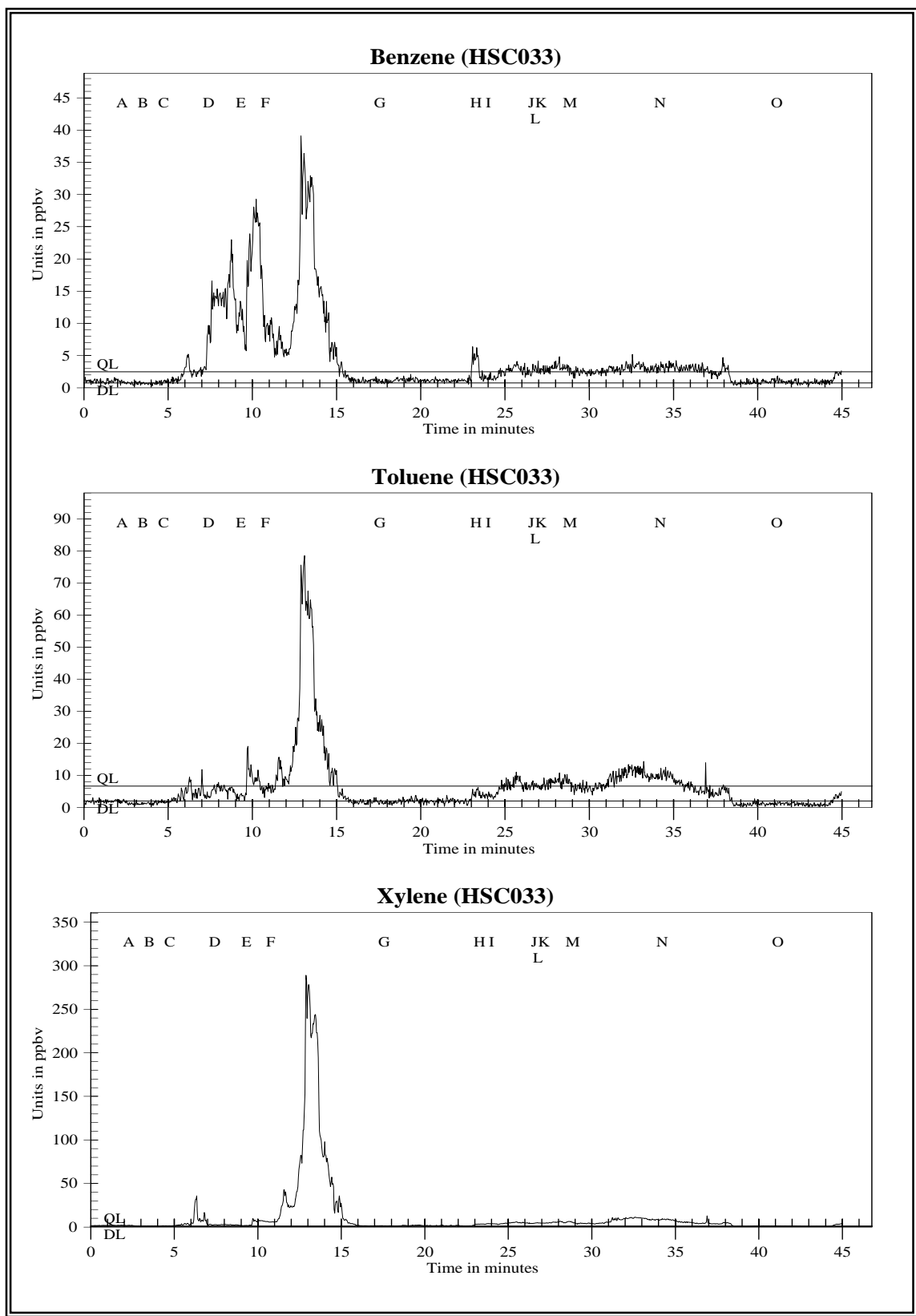


Figure 20h Mobile Monitoring Path for Mercury in Harris County

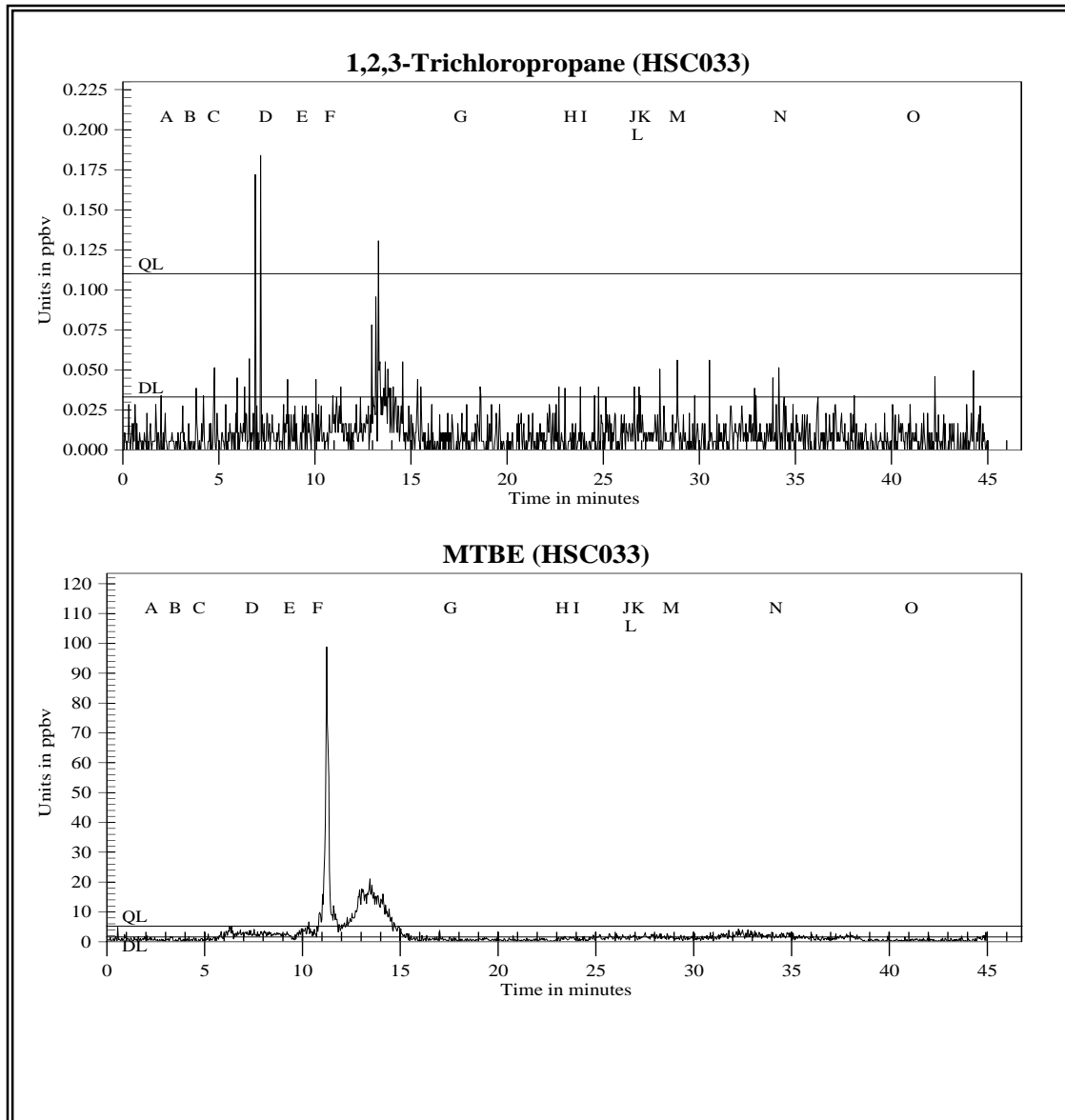
**Figure 20i**

TAGA File Event Summary			
File: HSC033 Acquired on 14 December 2006 at 06:00:26 UTC			
Title: Mobile Monitoring in Harris County			
Flag	Time	Sequence	Description
A	1.9	56	Start monitoring southeastward on Clinton Drive
B	3.2	92	Passing Cam Station 403
C	4.4	127	Passing Galena Manor
D	7.1	203	Passing Center Drive
E	9.0	259	Passing Gulf Road
F	10.5	301	Passing Crown Street
G	17.2	493	Turning left onto Federal Road
H	22.9	656	Stopping for a train
I	23.8	682	Resuming mobile monitoring
J	26.4	754	Turning right onto Industrial Road
K	26.8	766	Executing a U-turn
L	27.1	774	Turning right onto Federal Road
M	28.4	813	Turning right onto Industrial Road
N	33.9	968	Passing Rita Lane
O	40.8	1166	Executing a U-turn

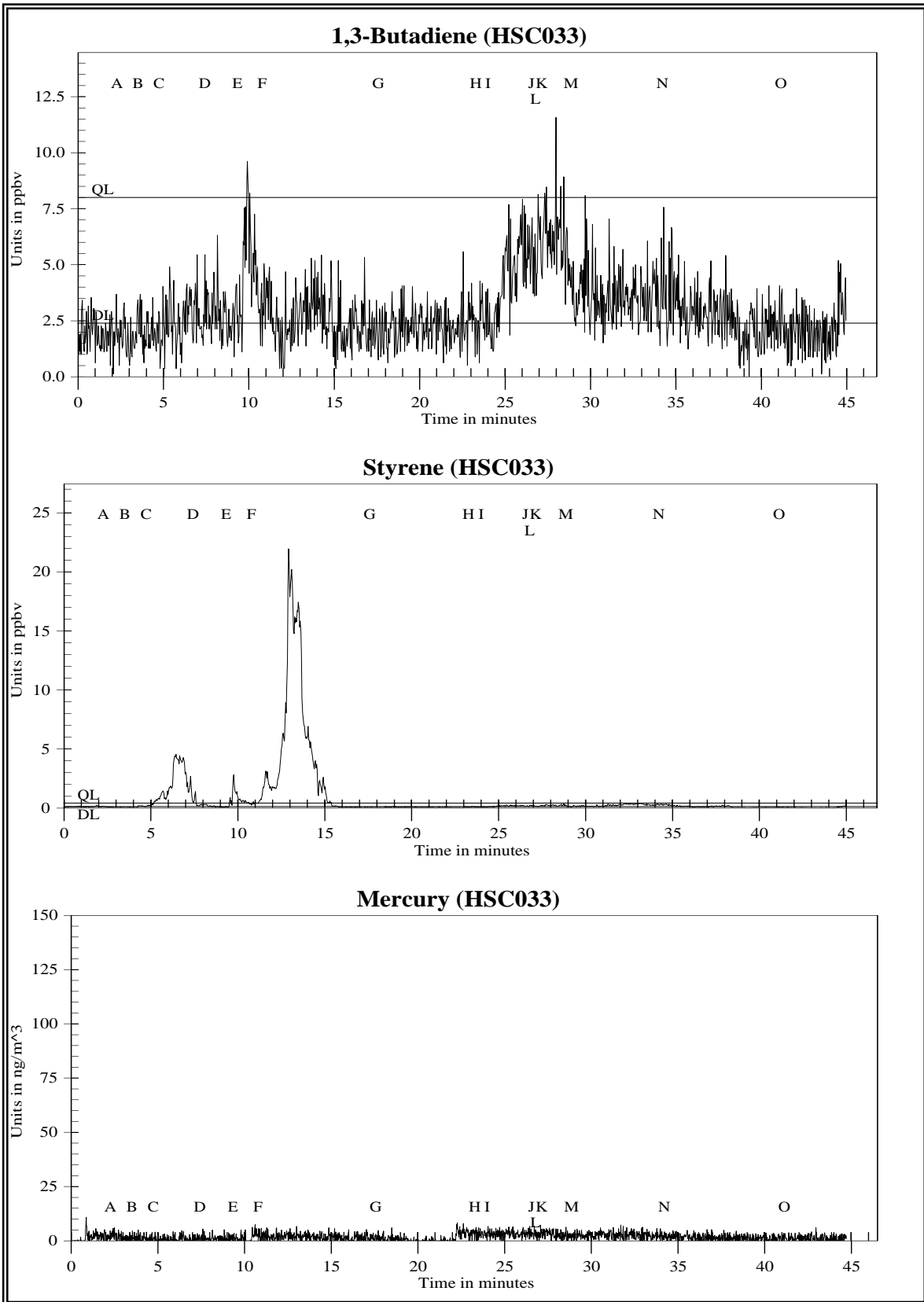




**Figure 20j** Mobile Monitoring in Harris County for Benzene, Toluene, and Xylenes



**Figure 20k** Mobile Monitoring in Harris County for 1,2,3-Trichloropropane and Methyl-t-butyl ether



**Figure 201** Mobile Monitoring in Harris County for 1,3-Butadiene, Styrene, and Mercury



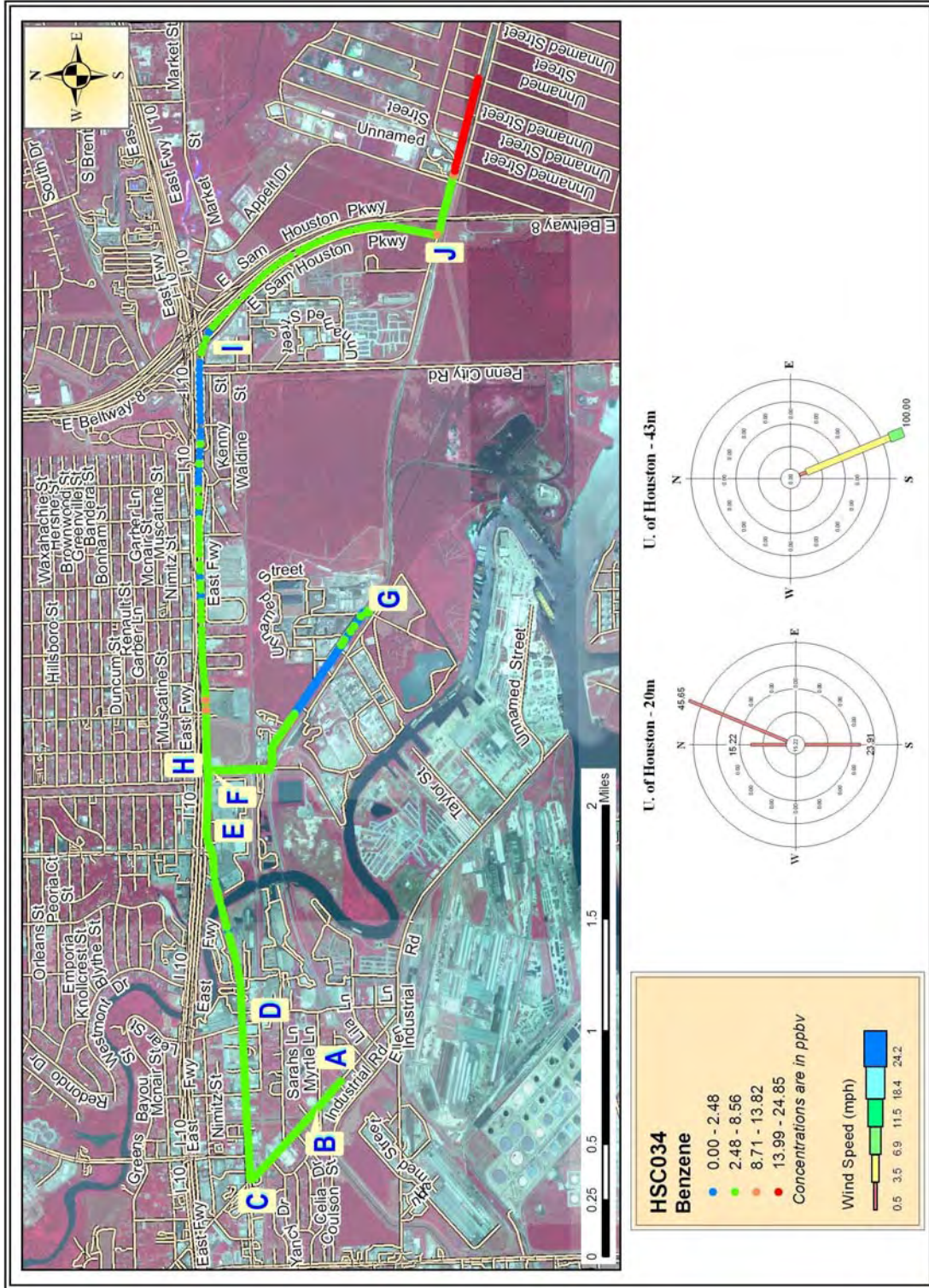
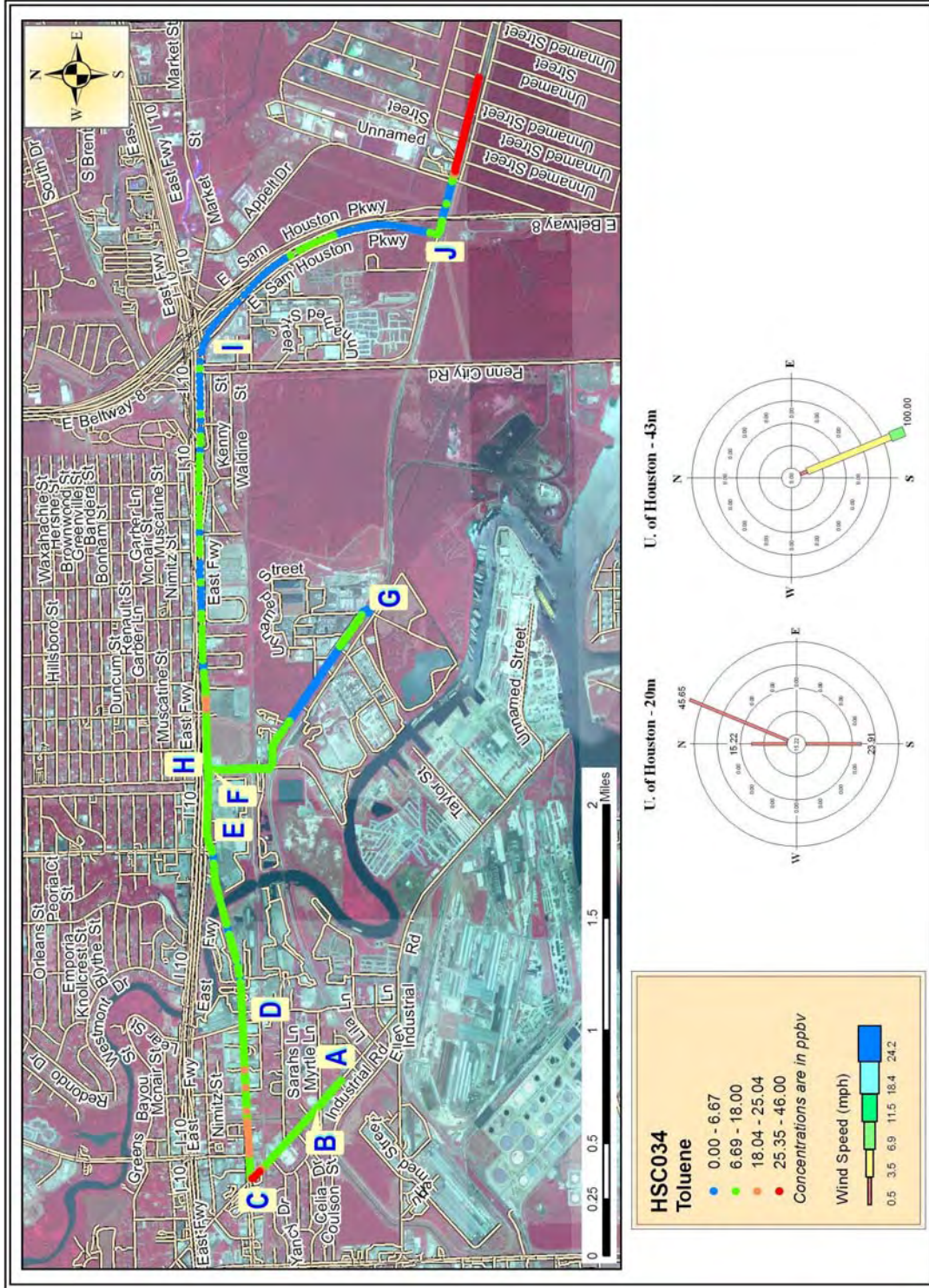


Figure 21a Mobile Monitoring Path for Benzene in Harris County





**Figure 21b** Mobile Monitoring Path for Toluene in Harris County



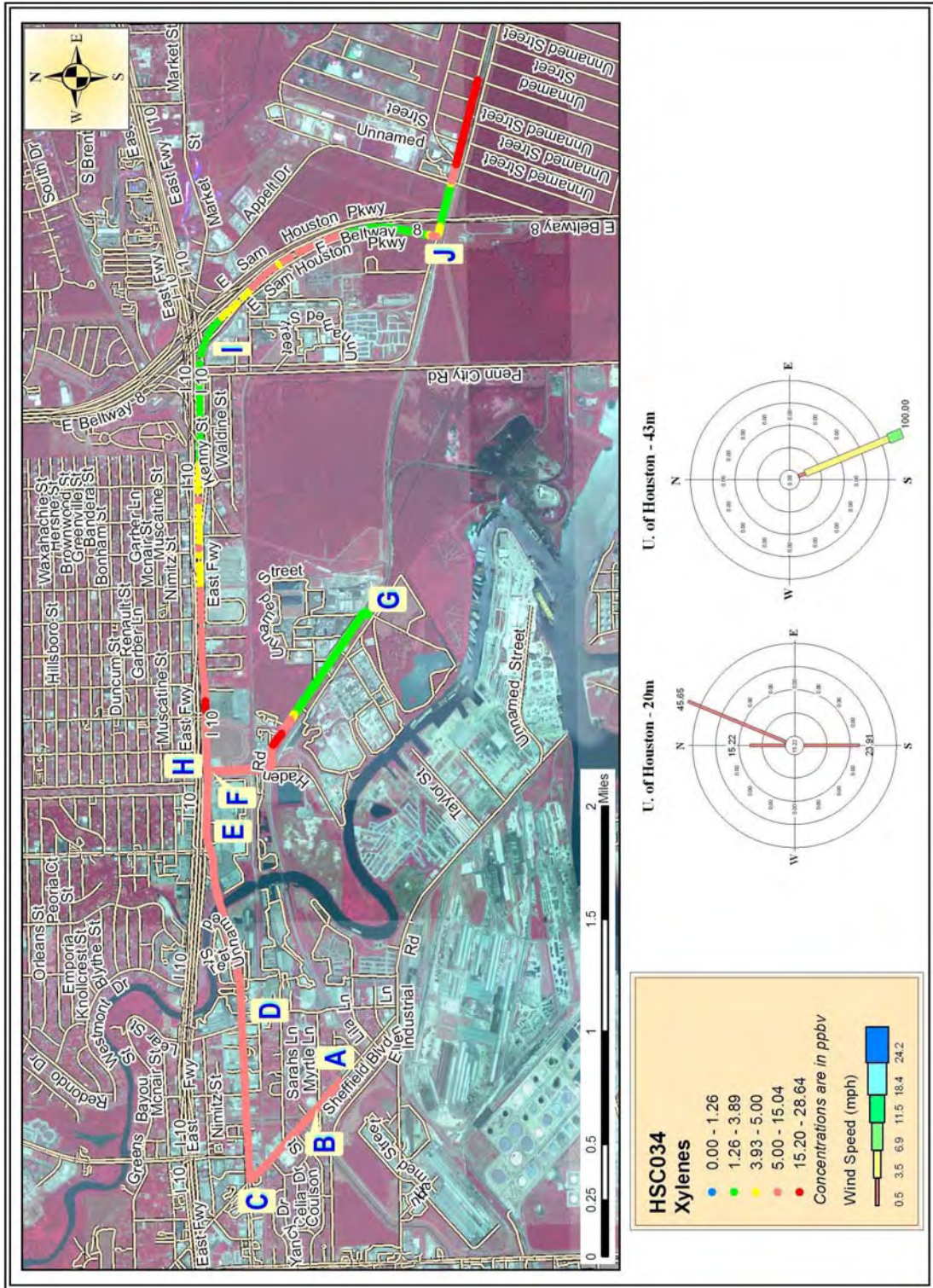
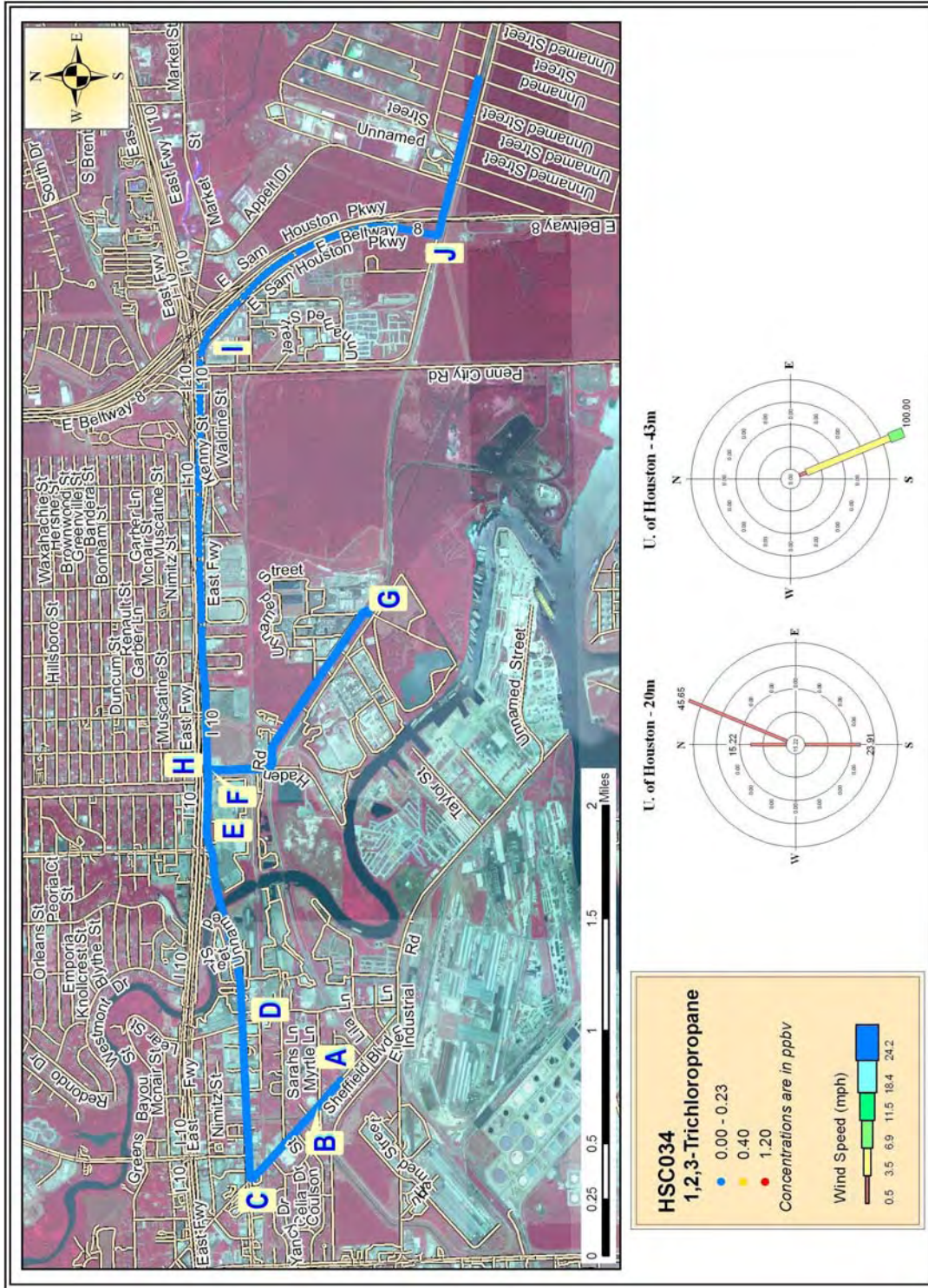


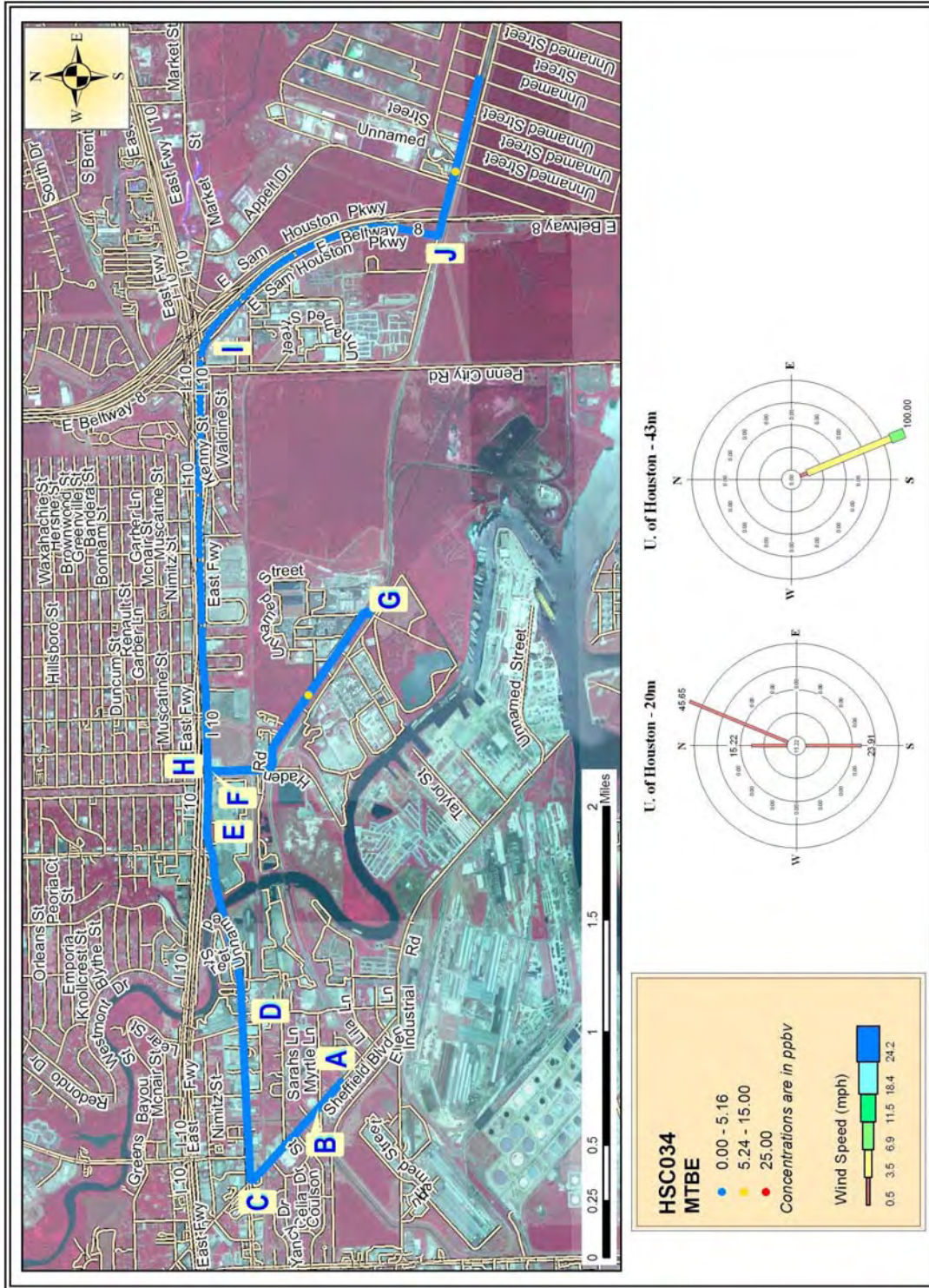
Figure 21c Mobile Monitoring Path for Xylenes in Harris County





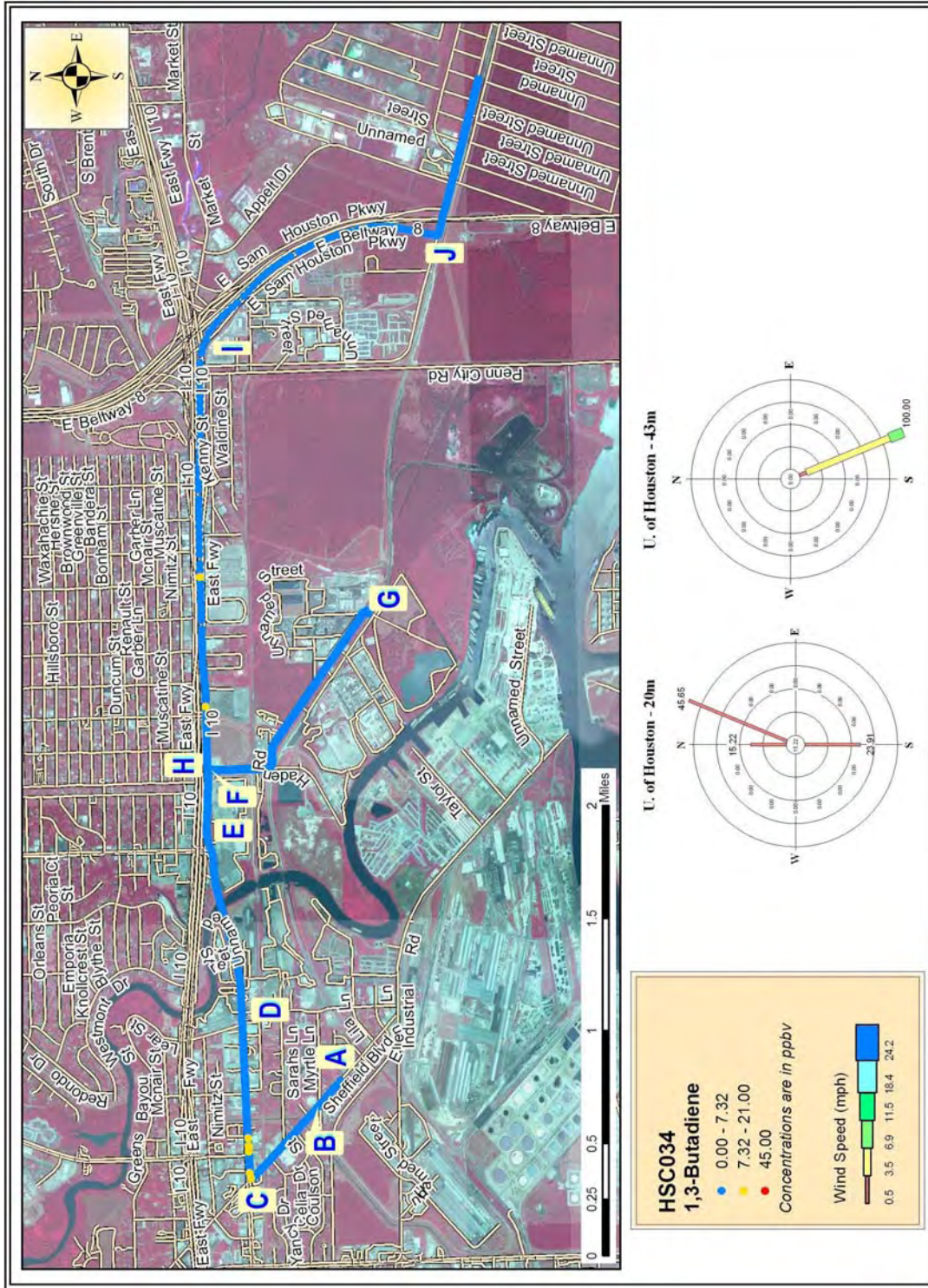
**Figure 21d** Mobile Monitoring Path for 1,2,3-Trichloropropane in Harris County





**Figure 21e** Mobile Monitoring Path for Methyl-t-butyl ether in Harris County





**Figure 21f** Mobile Monitoring Path for 1,3-Butadiene in Harris County



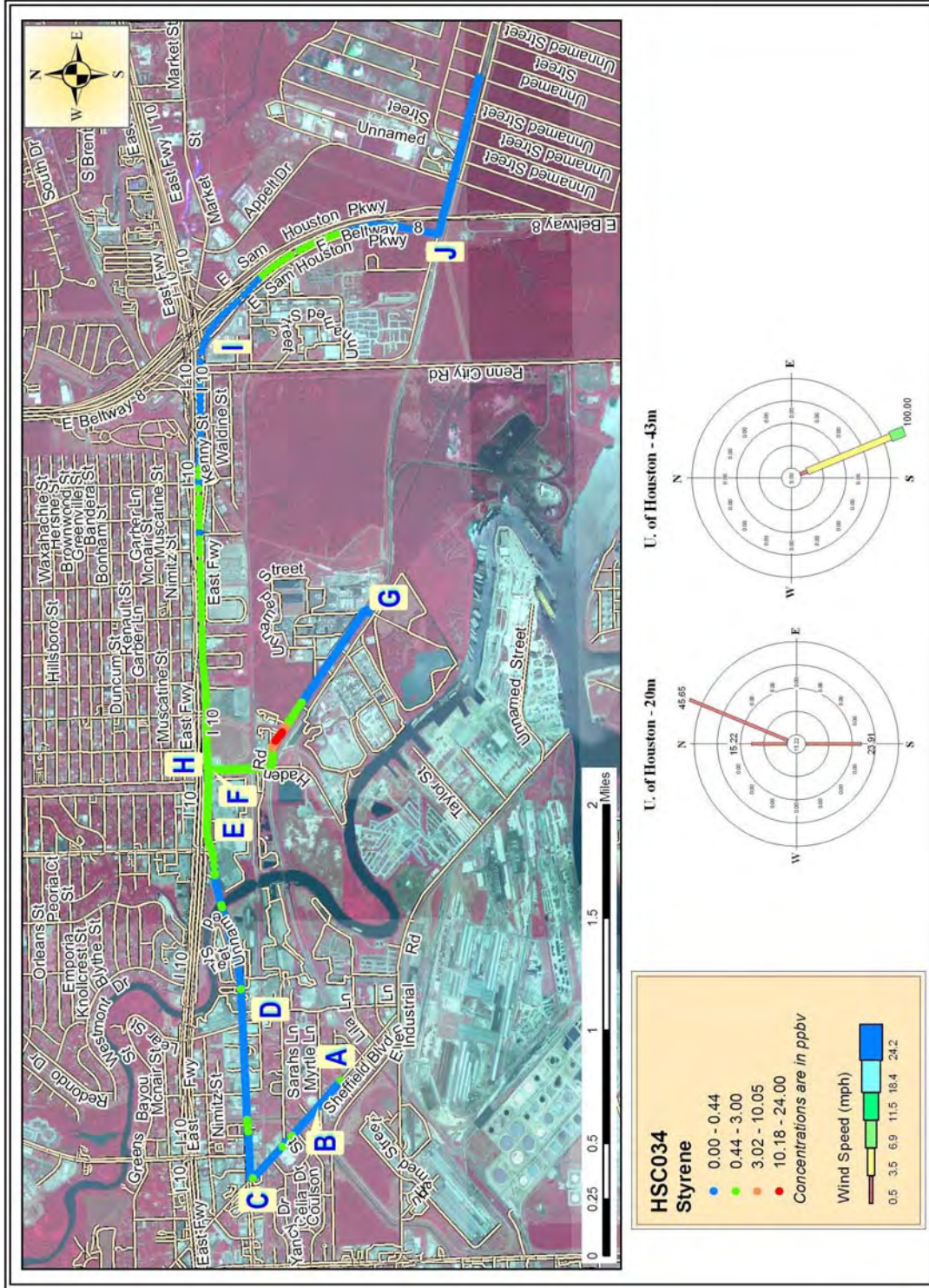
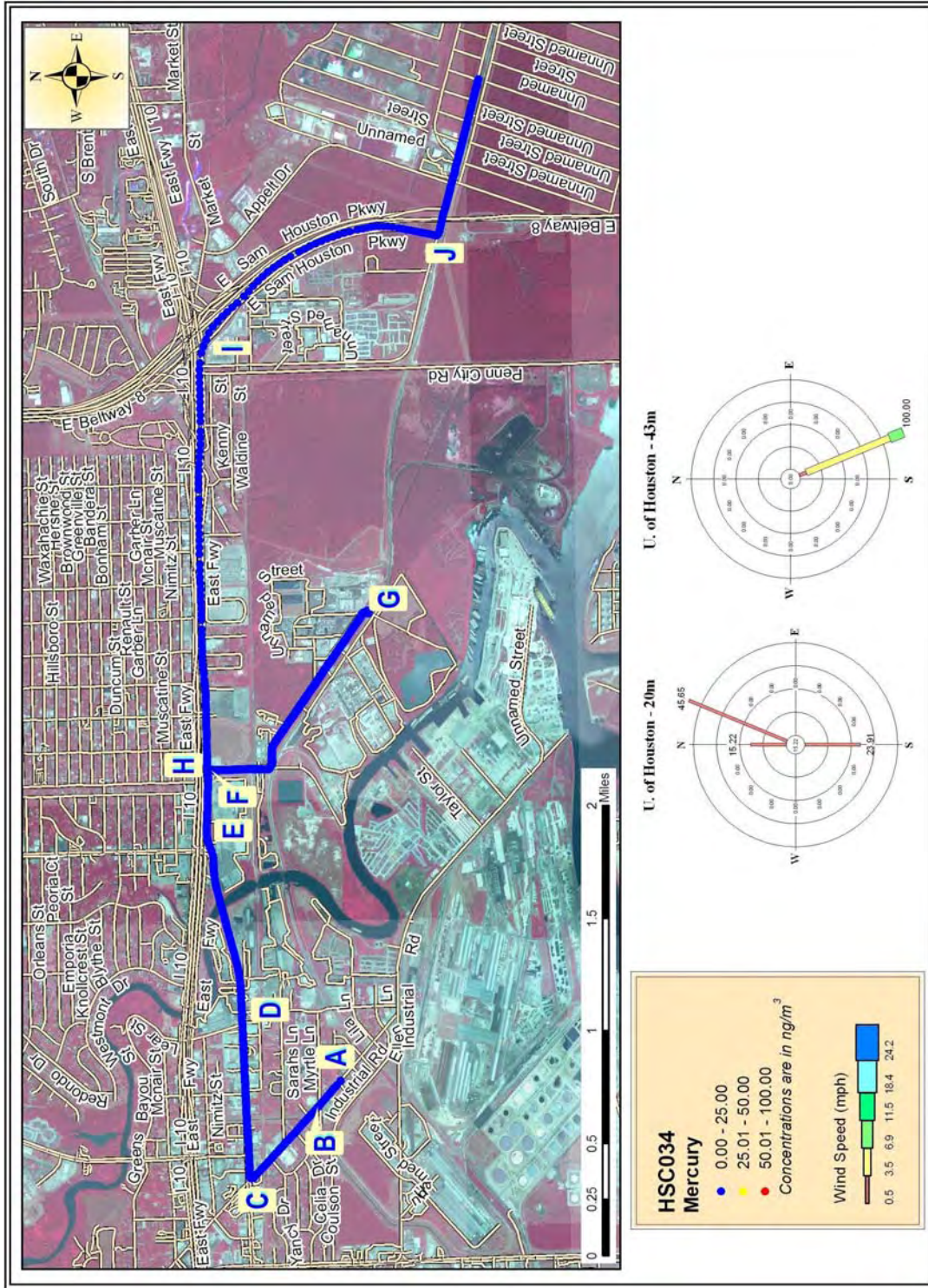


Figure 21g Mobile Monitoring Path for Styrene in Harris County



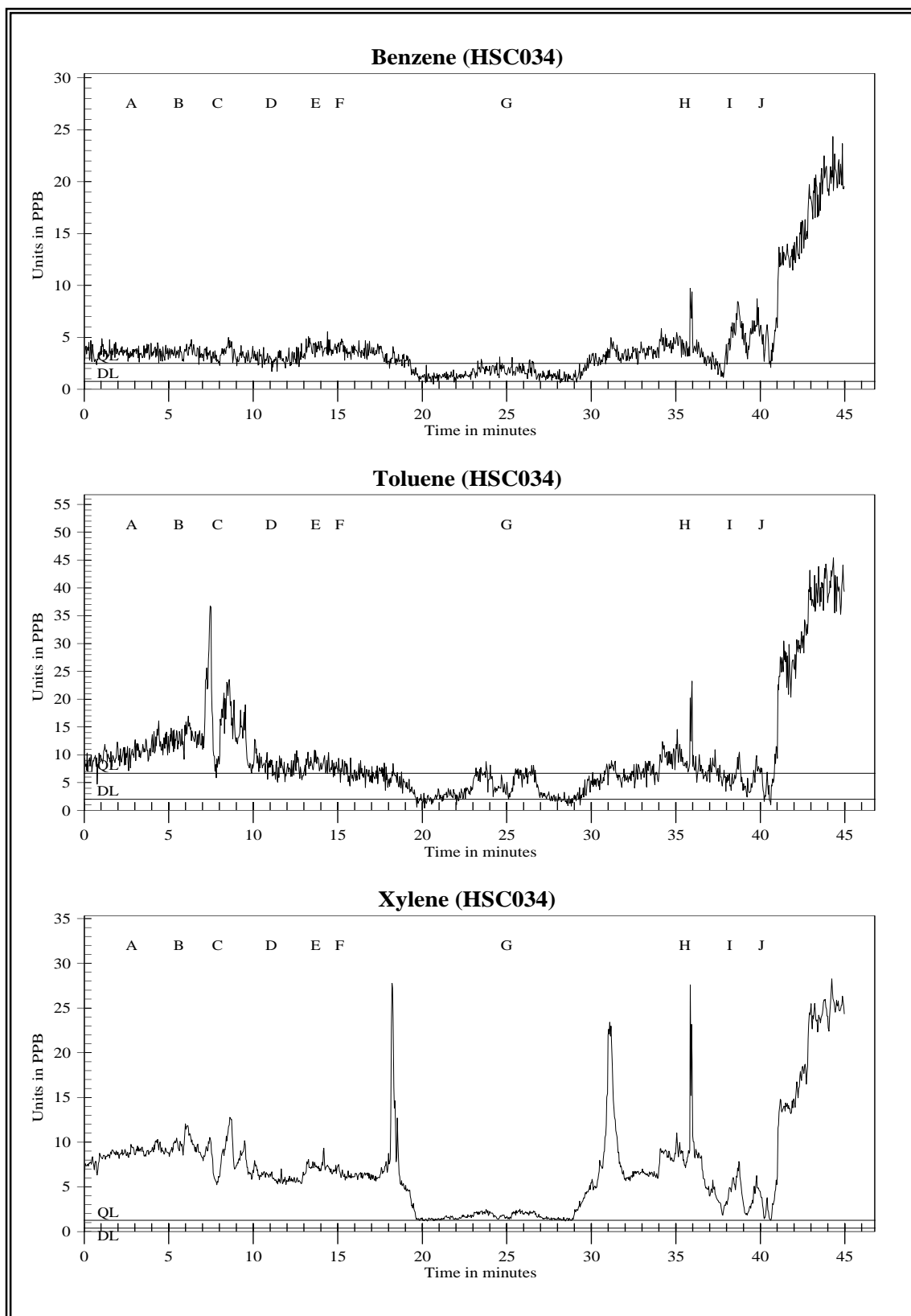


**Figure 21h** Mobile Monitoring Path for Mercury in Harris County

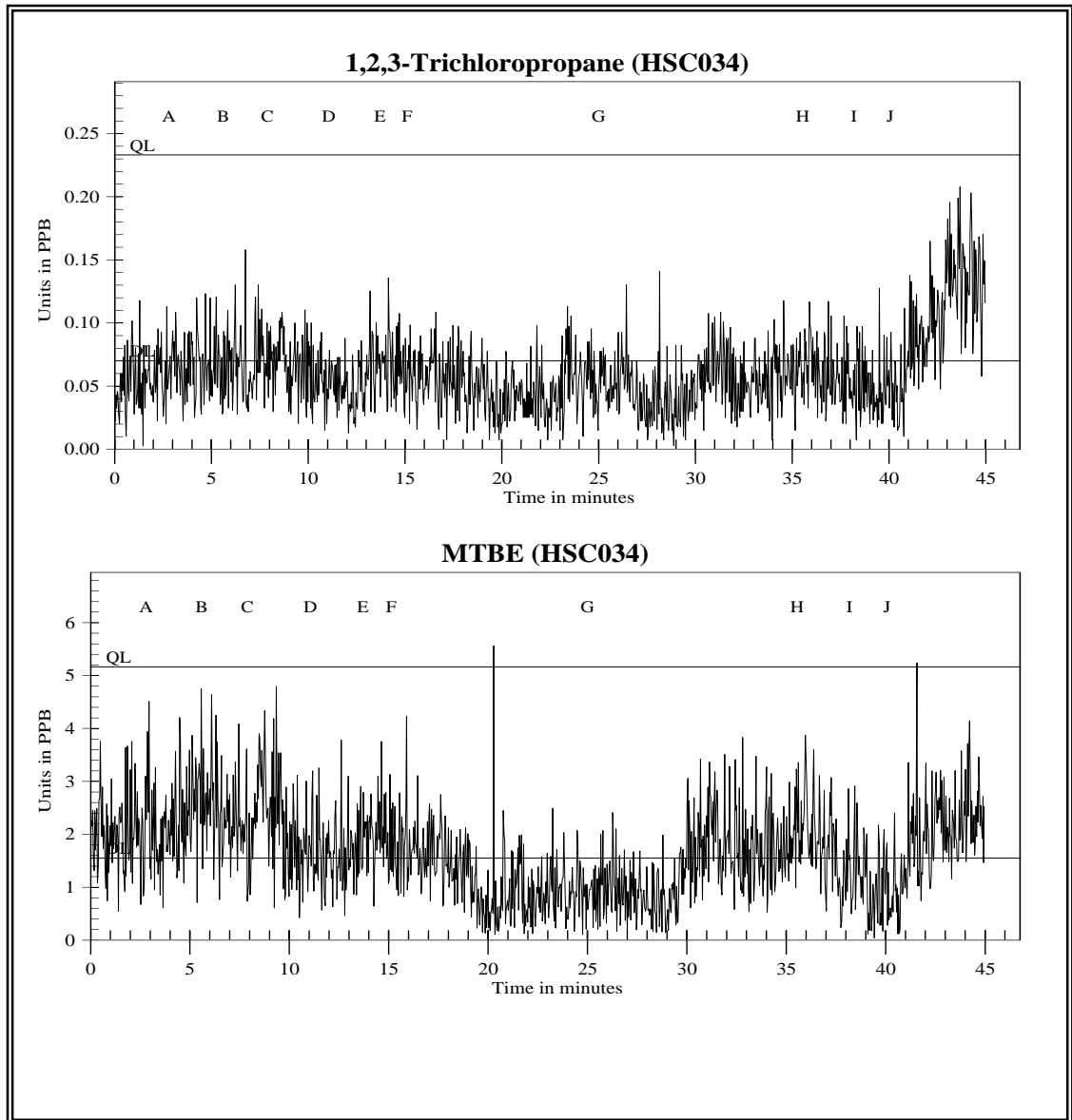
**Figure 21i**

TAGA File Event Summary			
File: HSC034 Acquired on 14 December 2006 at 06:48:16 UTC			
Title: Mobile Monitoring in Harris County			
Flag	Time	Sequence	Description
A	2.5	71	Start monitoring northwestward on Sheffield Boulevard
B	5.3	152	Passing Myrtle Lane
C	7.6	217	Turning right onto Market Street Road
D	10.7	307	Passing Miles Street
E	13.4	384	Merging onto I-10 Service Road
F	14.8	425	Turning right onto Haden Road
G	24.7	705	Executing a U-turn
H	35.2	1006	Turning right onto I-10 Service Road
I	38.0	1087	Merging onto Beltway 8 South
J	39.9	1140	Turning left onto Jacintoport Boulevard

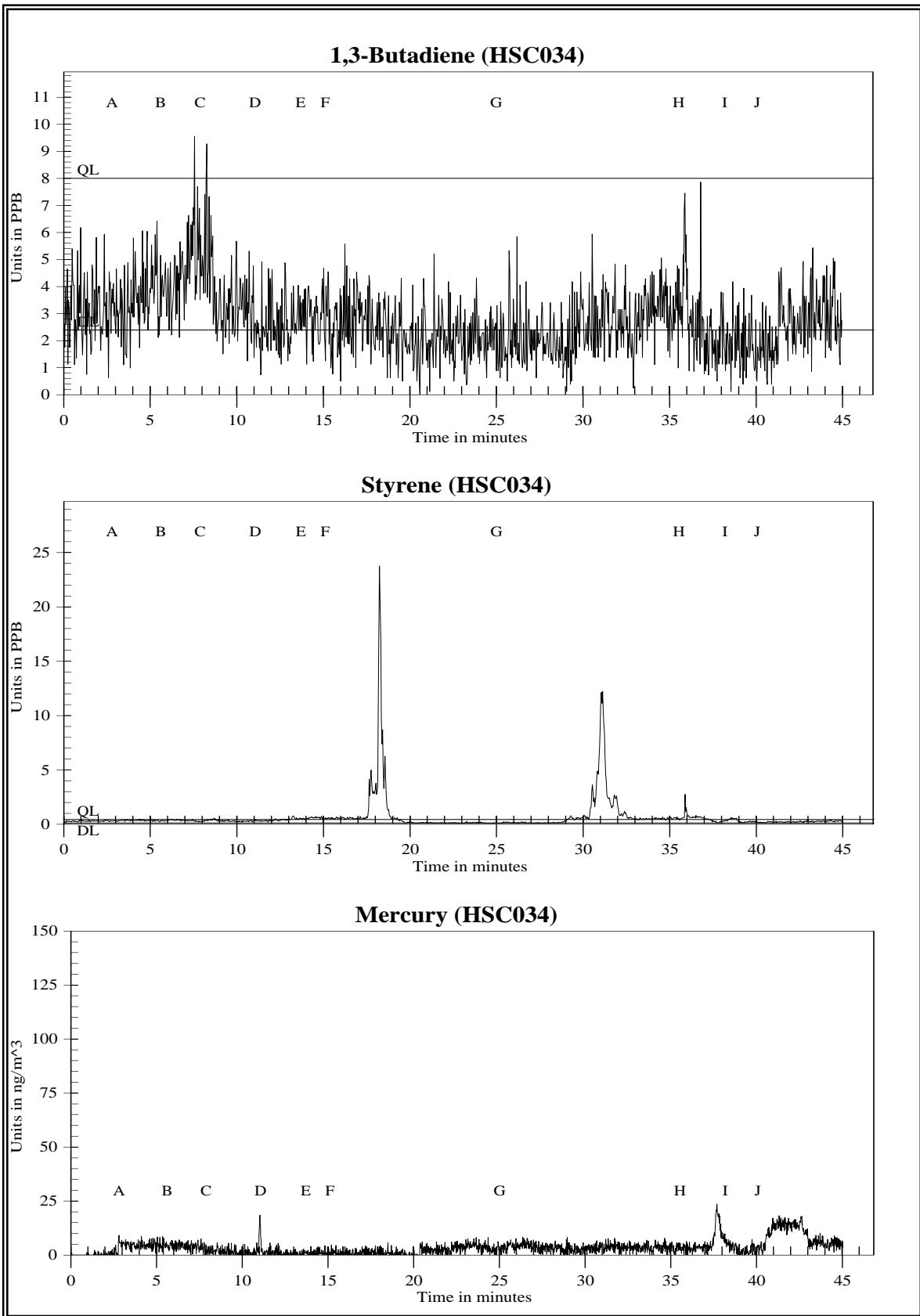




**Figure 21j** Mobile Monitoring in Harris County for Benzene, Toluene, and Xylenes



**Figure 21k** Mobile Monitoring in Harris County for 1,2,3-Trichloropropane and Methyl-t-butyl ether



**Figure 211** Mobile Monitoring in Harris County for 1,3-Butadiene, Styrene, and Mercury









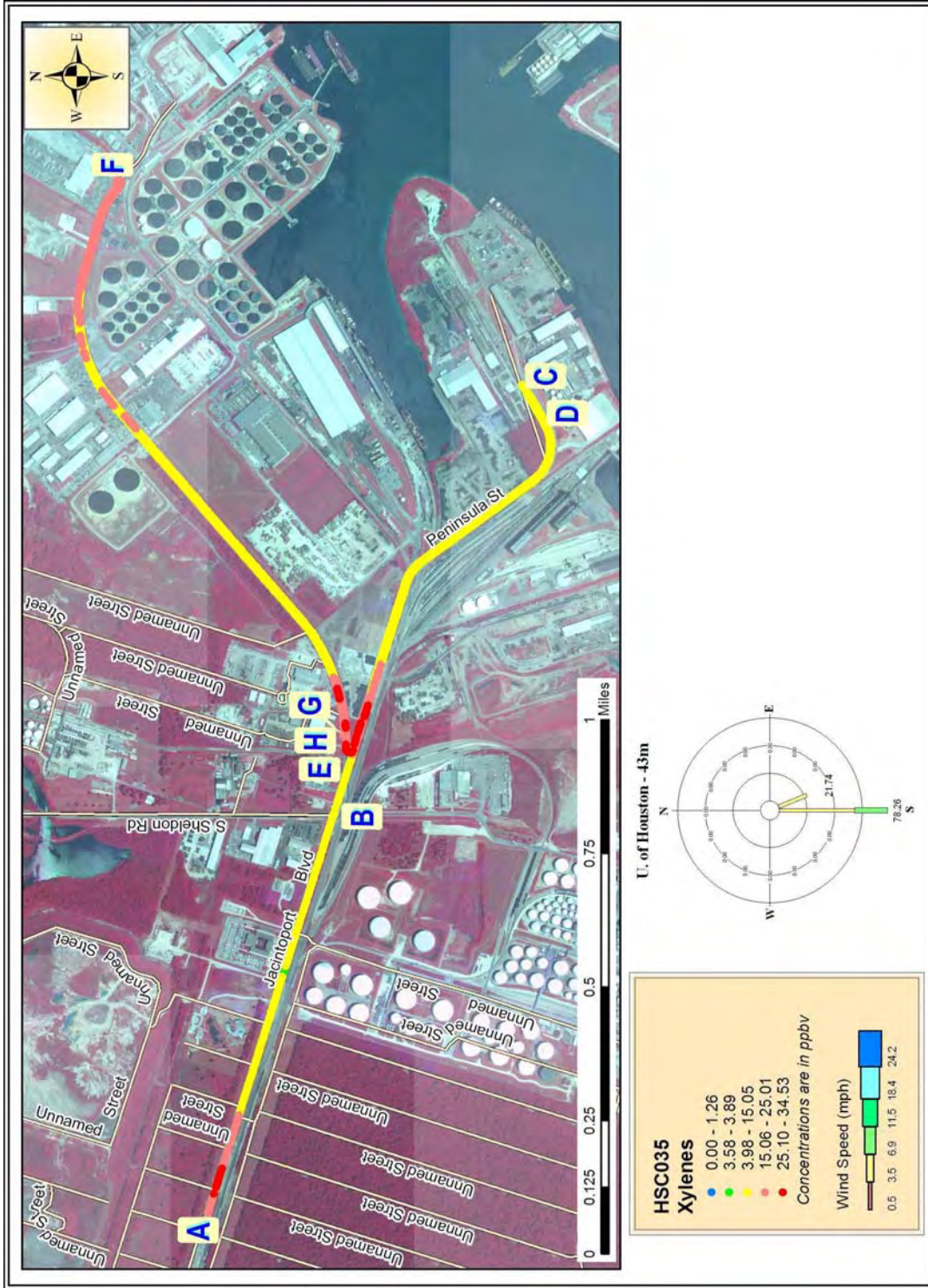


Figure 22c Mobile Monitoring Path for Xylenes in Harris County













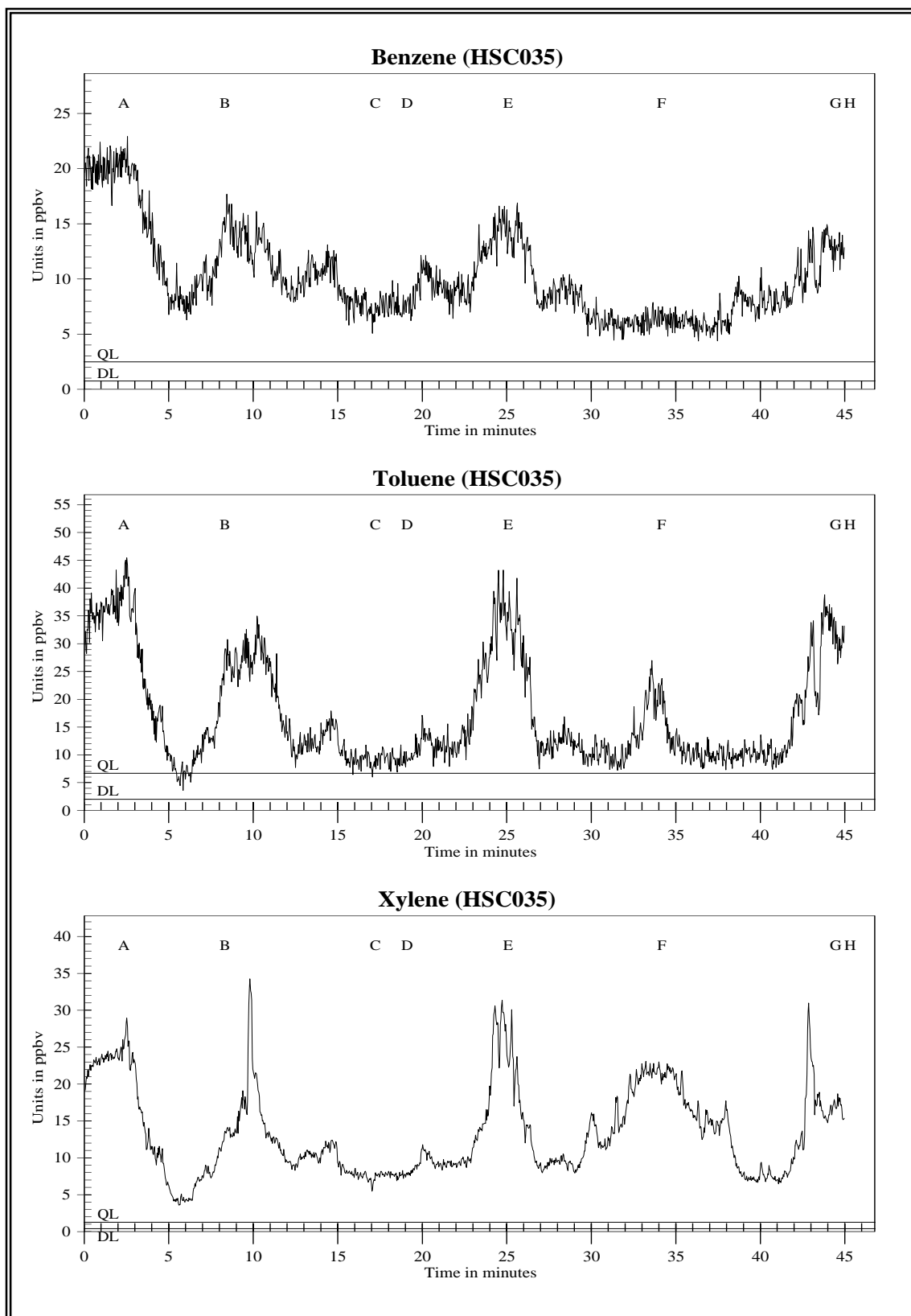




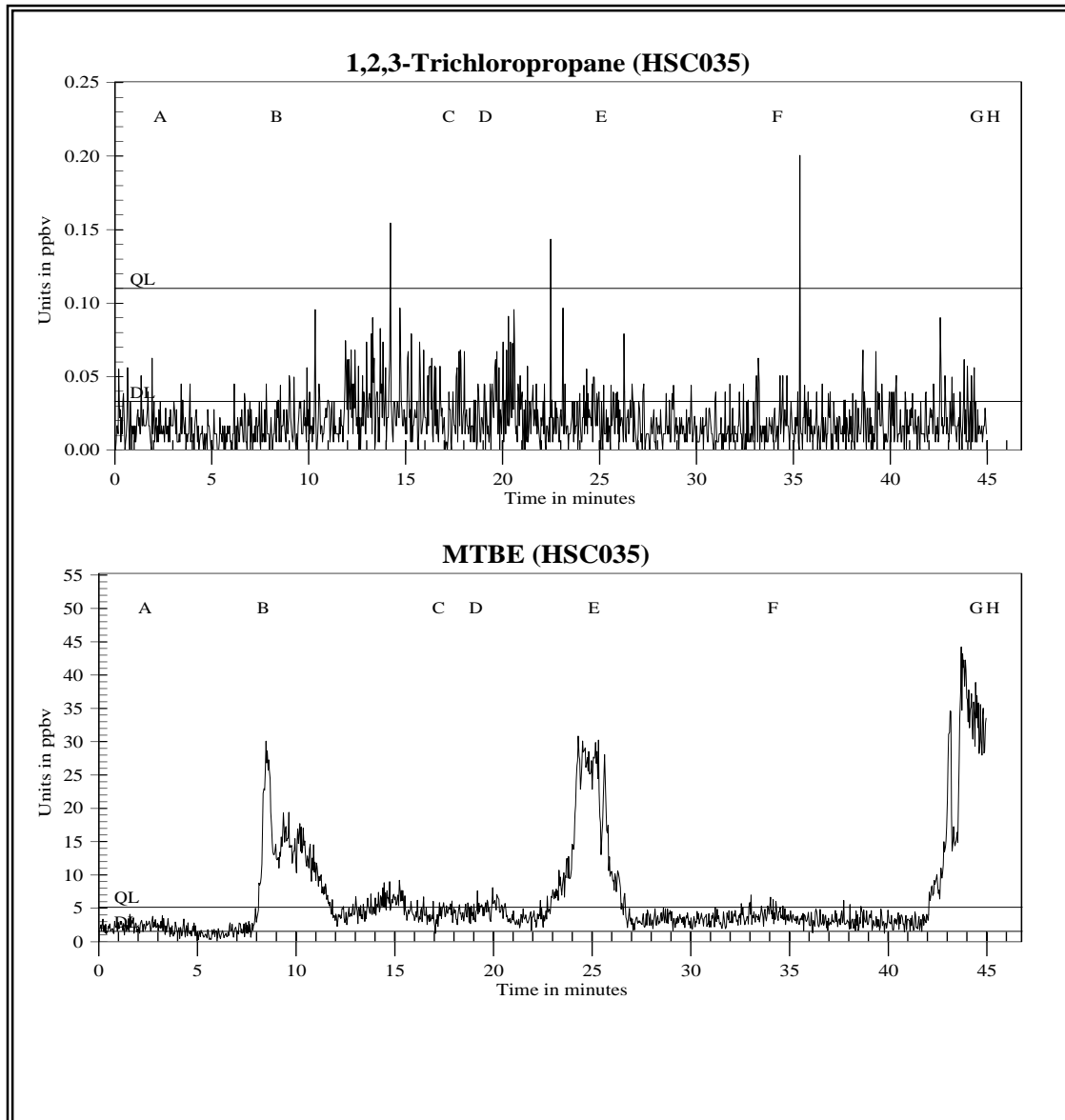
**Figure 22i**

TAGA File Event Summary			
File: HSC035 Acquired on 14 December 2006 at 07:35:47 UTC			
Title: Mobile Monitoring in Harris County			
Flag	Time	Sequence	Description
A	2.0	58	Start monitoring eastward on Jacintoport Boulevard
B	8.0	230	Passing Sheldon Road
C	16.9	484	Reversing
D	18.8	537	Executing a U-turn
E	24.8	709	Turning right onto Jacintoport Boulevard Extension
F	33.9	969	Executing a U-turn
G	44.1	1261	Stopping; Start collecting SUMMA <sup>®</sup> sample J0182
H	45.0	1285	End collecting SUMMA <sup>®</sup> sample J0182

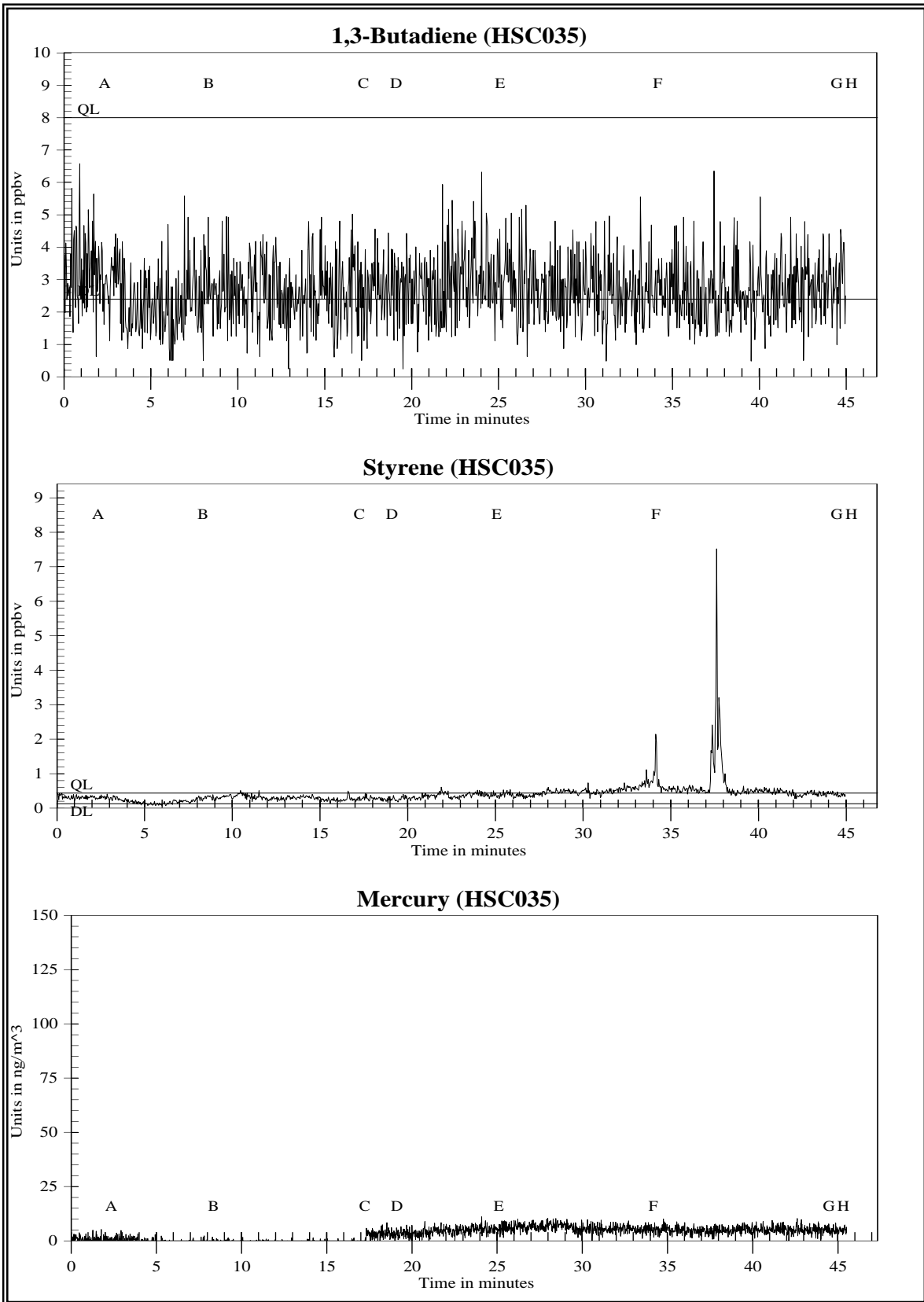




**Figure 22j** Mobile Monitoring in Harris County for Benzene, Toluene, and Xylenes



**Figure 22k** Mobile Monitoring in Harris County for 1,2,3-Trichloropropane and Methyl-t-butyl ether



**Figure 221** Mobile Monitoring in Harris County for 1,3-Butadiene, Styrene, and Mercury



**Figure 22m**

TAGA Target Compound Averages during Sample Collection					
File: HSC035 Acquired on 14 December 2006 at 07:35:47 UTC					
		Benzene	Toluene	Xylenes	1,2,3-Trichloropropane
	Detection Limits (DL):	0.74	2.0	0.38	0.033
	Quantitation Limits (QL):	2.5	6.7	1.3	0.11
Flags	Description	Benzene	Toluene	Xylenes	1,2,3-Trichloropropane
G - H	SUMMA <sup>®</sup> J0182	13.	31.	17.	DL=0.033
		Methyl-t-butyl ether	1,3-Butadiene	Styrene	
	Detection Limits (DL):	1.5	2.4	0.13	
	Quantitation Limits (QL):	5.2	8.0	0.44	
Flags	Description	Methyl-t-butyl ether	1,3-Butadiene	Styrene	
G - H	SUMMA <sup>®</sup> J0182	33.	2.9J	0.40J	

Concentrations are in parts per billion by volume (ppbv)

J = Below quantitation limit

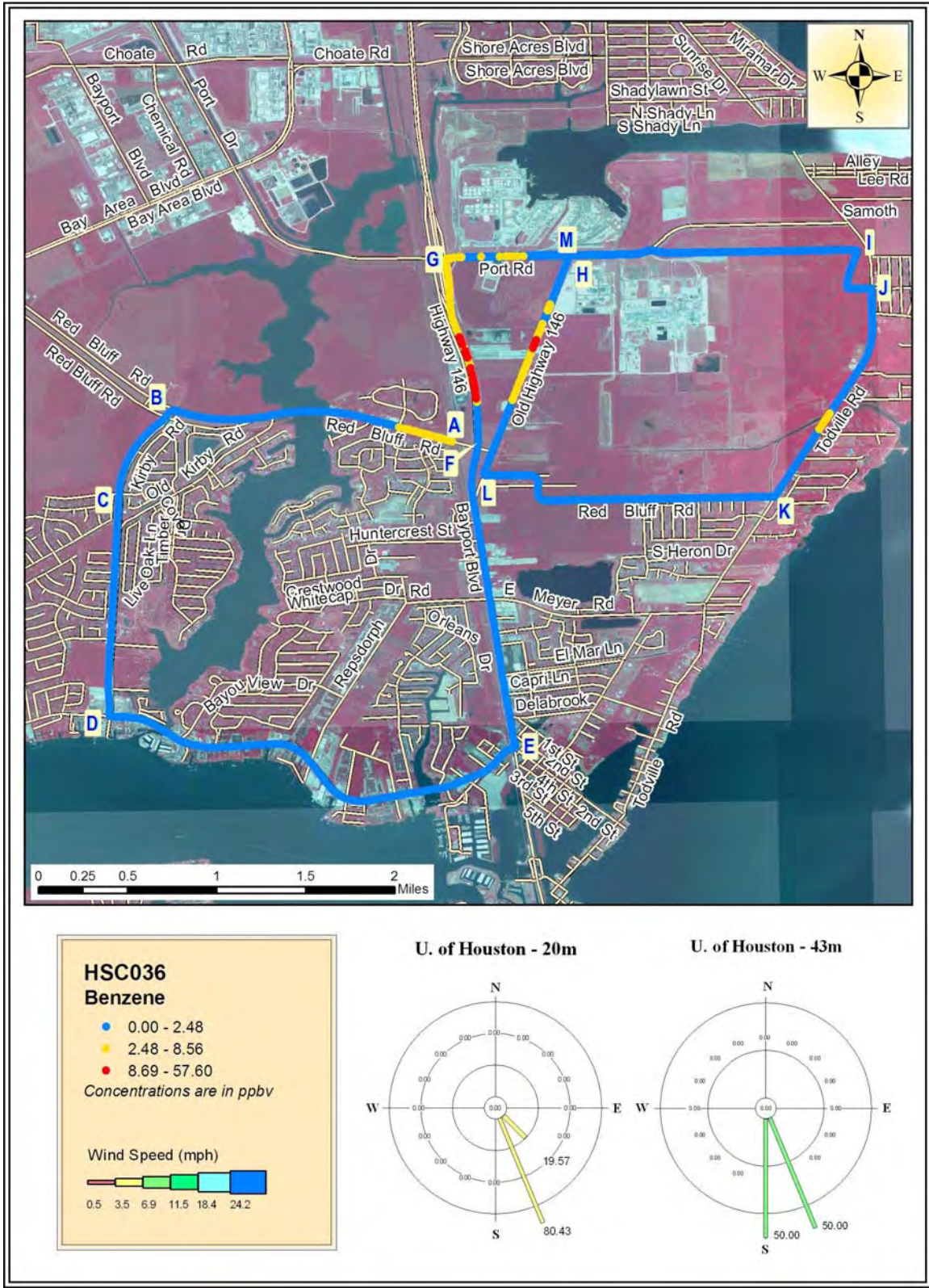


Figure 23a Mobile Monitoring Path for Benzene in Harris County



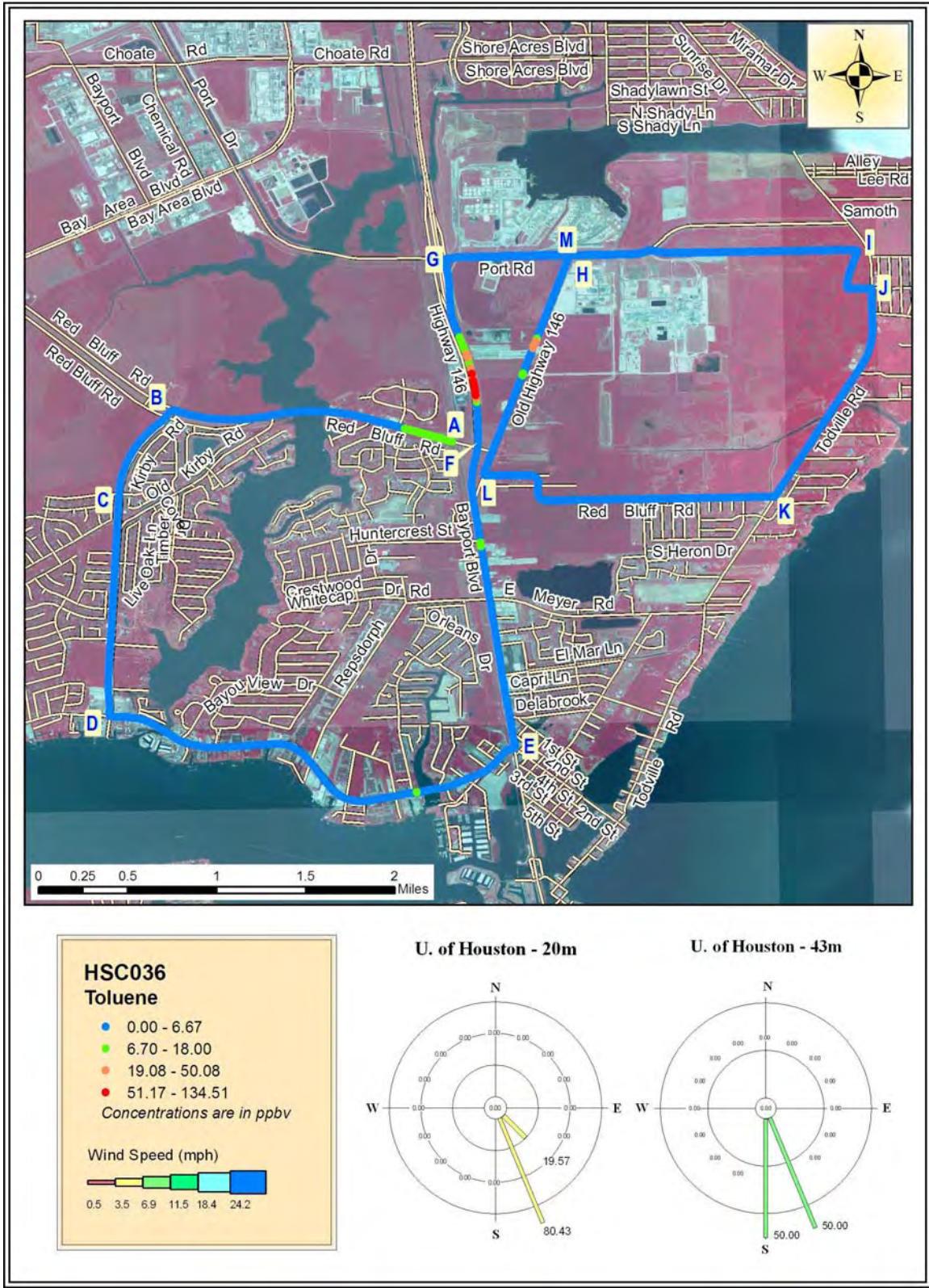


Figure 23b Mobile Monitoring Path for Toluene in Harris County



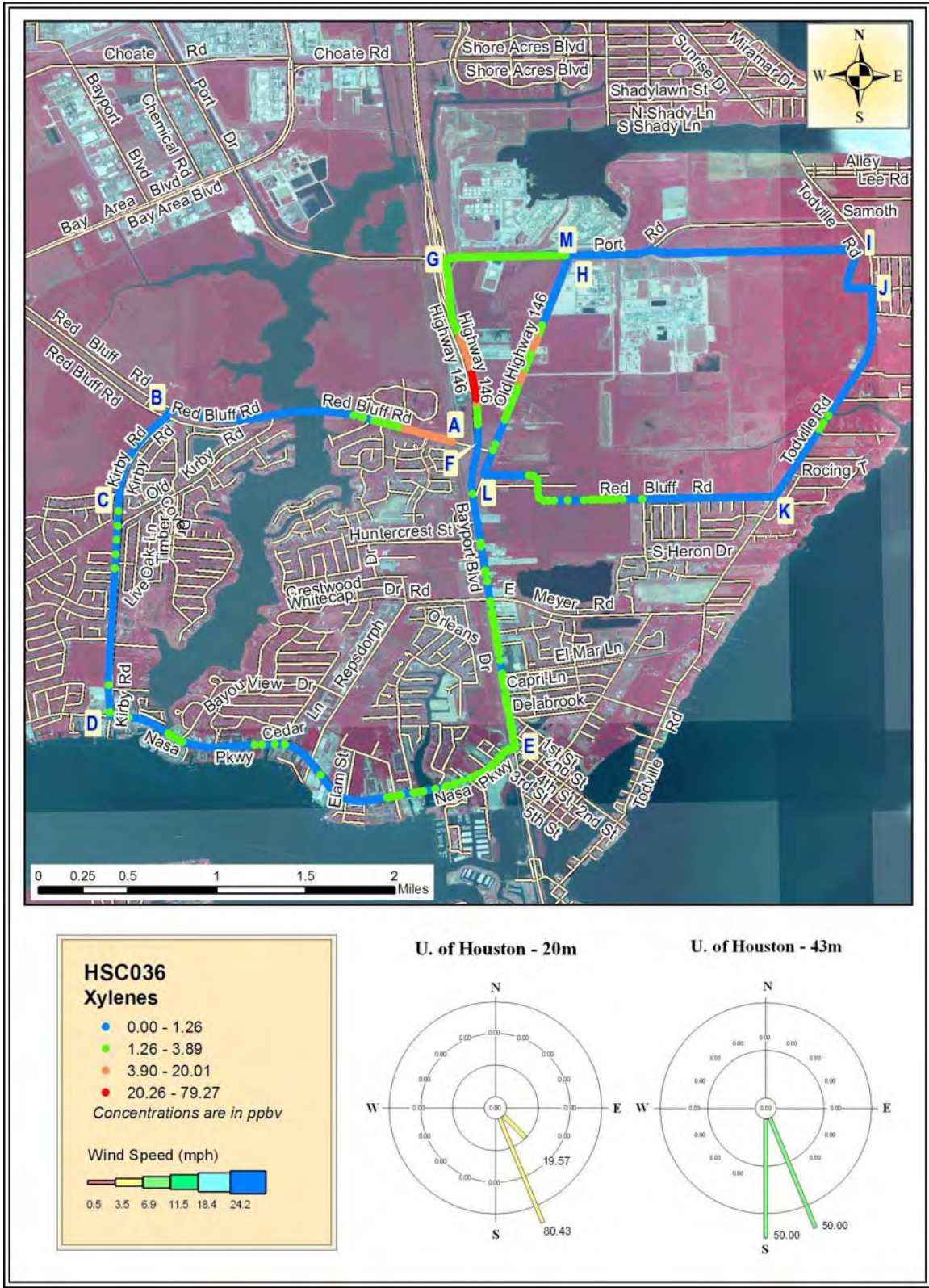


Figure 23c Mobile Monitoring Path for Xylenes in Harris County



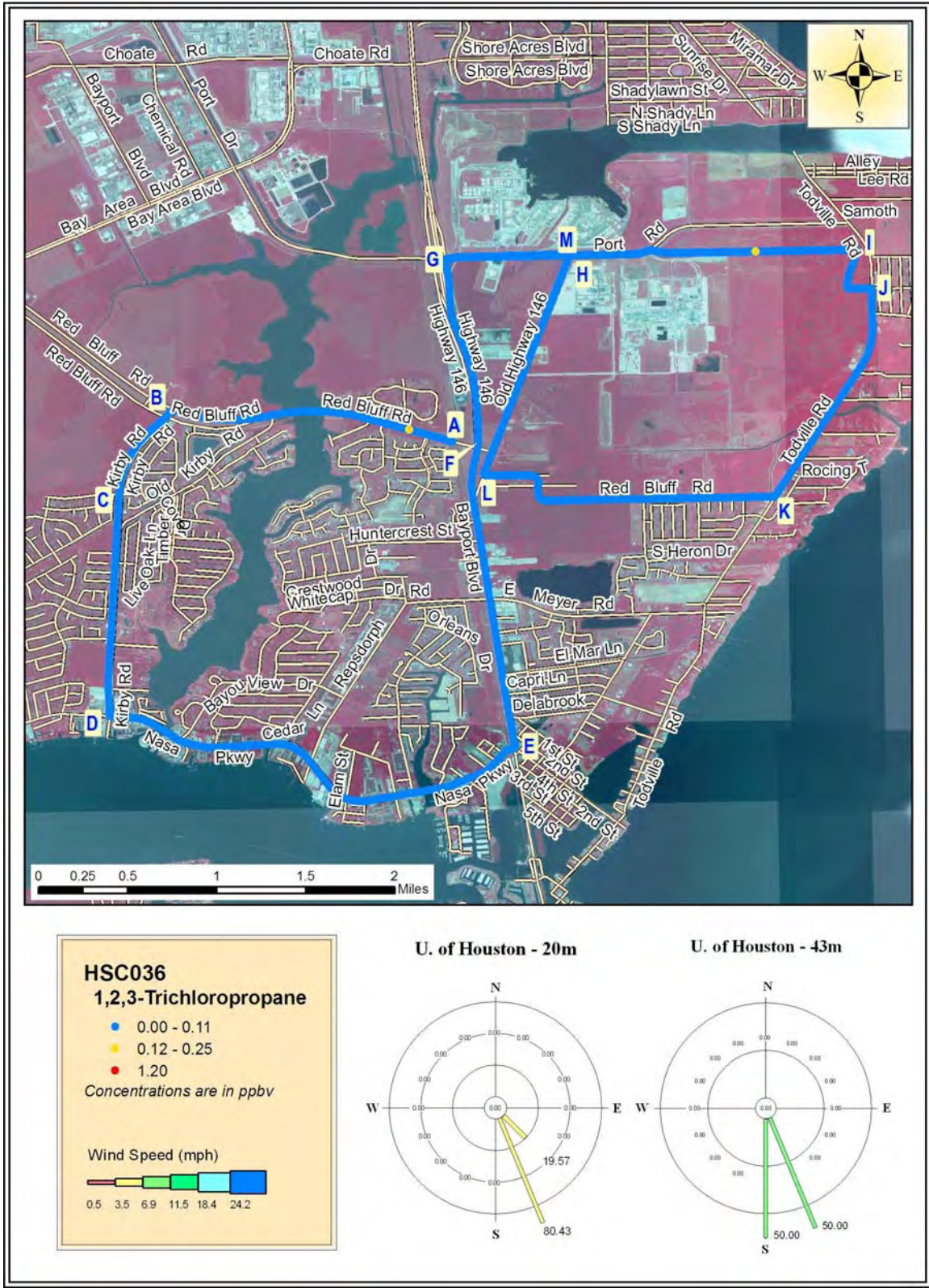


Figure 23d Mobile Monitoring Path for 1,2,3-Trichloropropane in Harris County



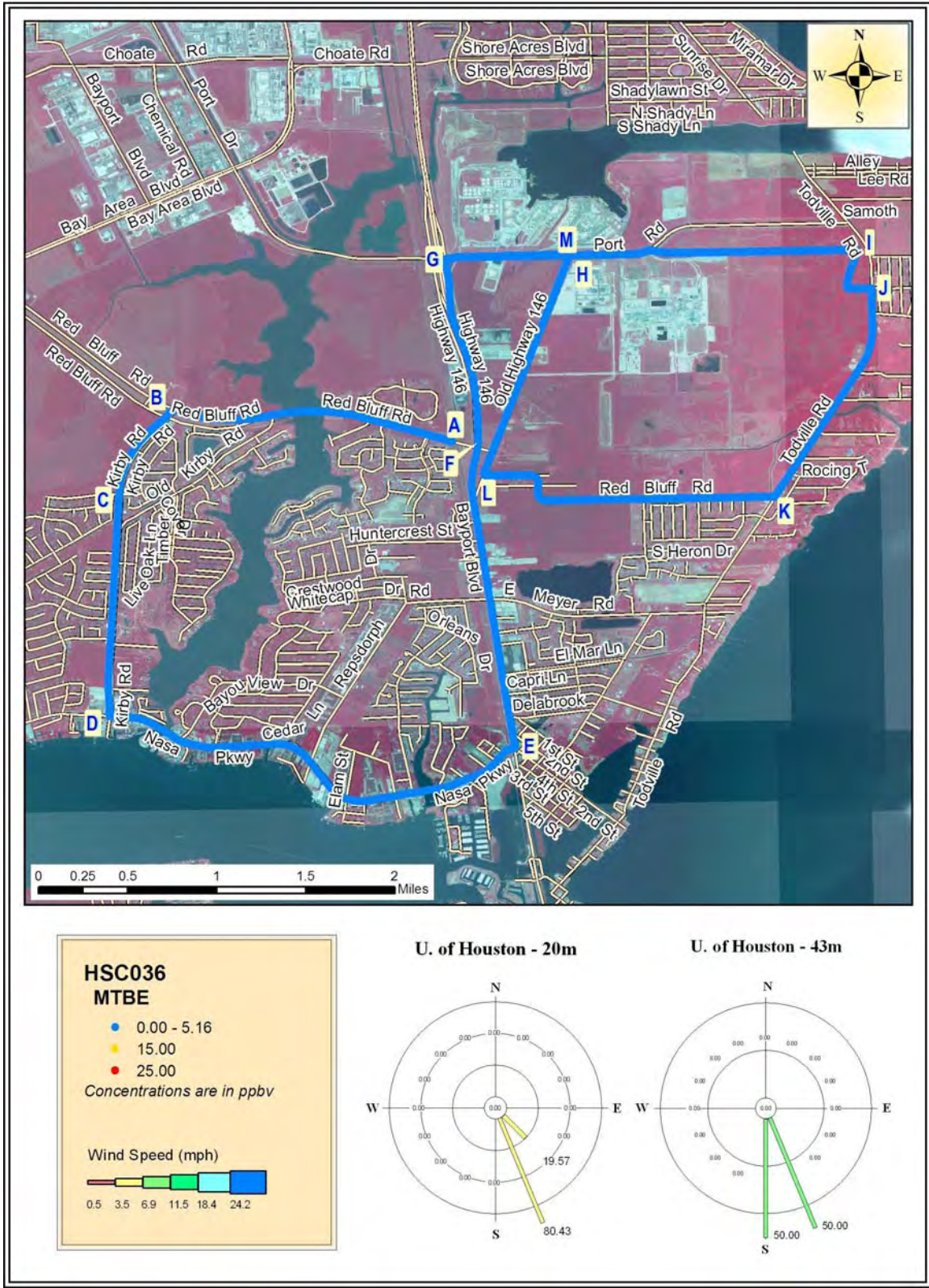


Figure 23e Mobile Monitoring Path for Methyl-t-butyl ether in Harris County



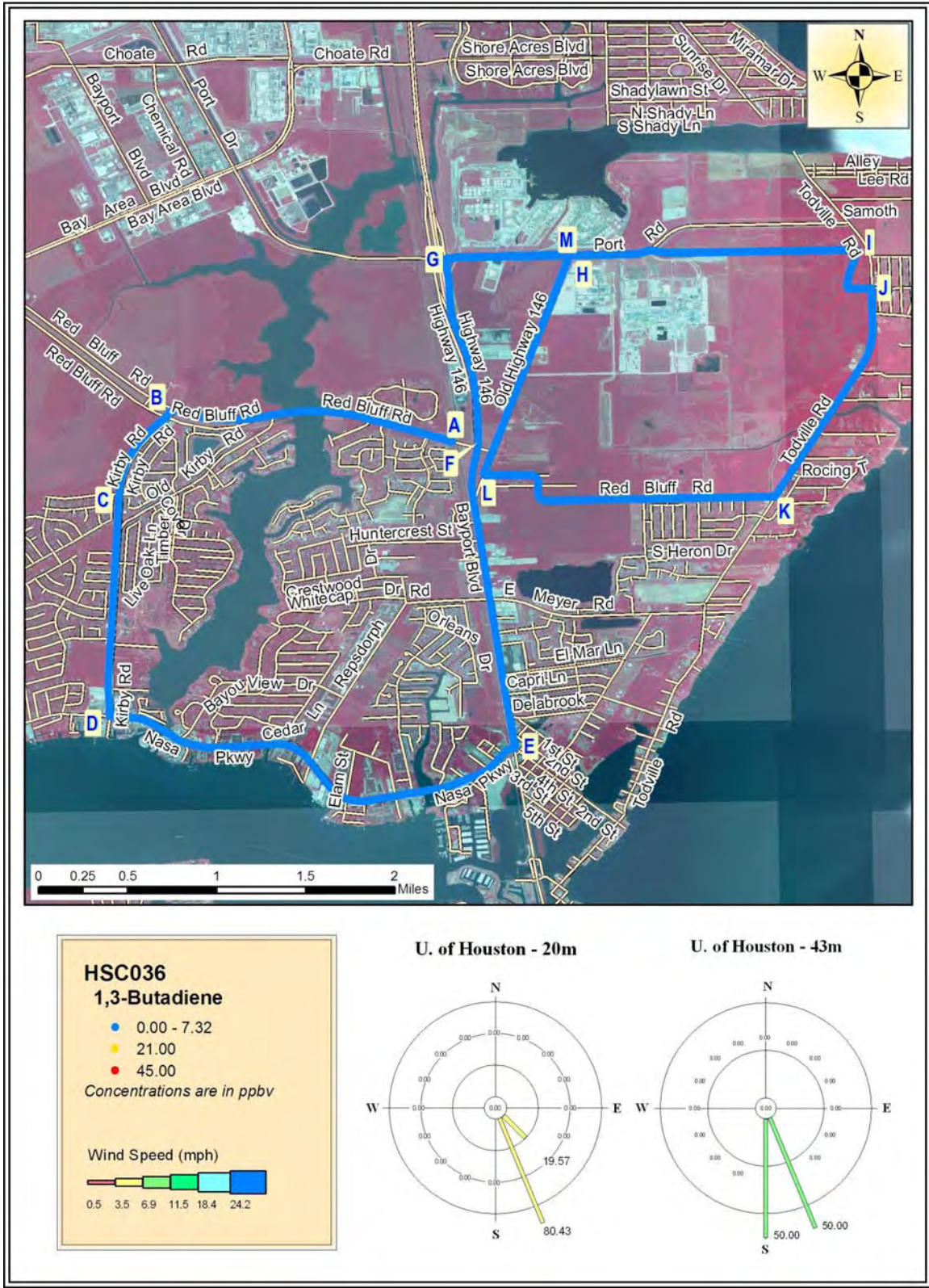


Figure 23f Mobile Monitoring Path for 1,3-Butadiene in Harris County



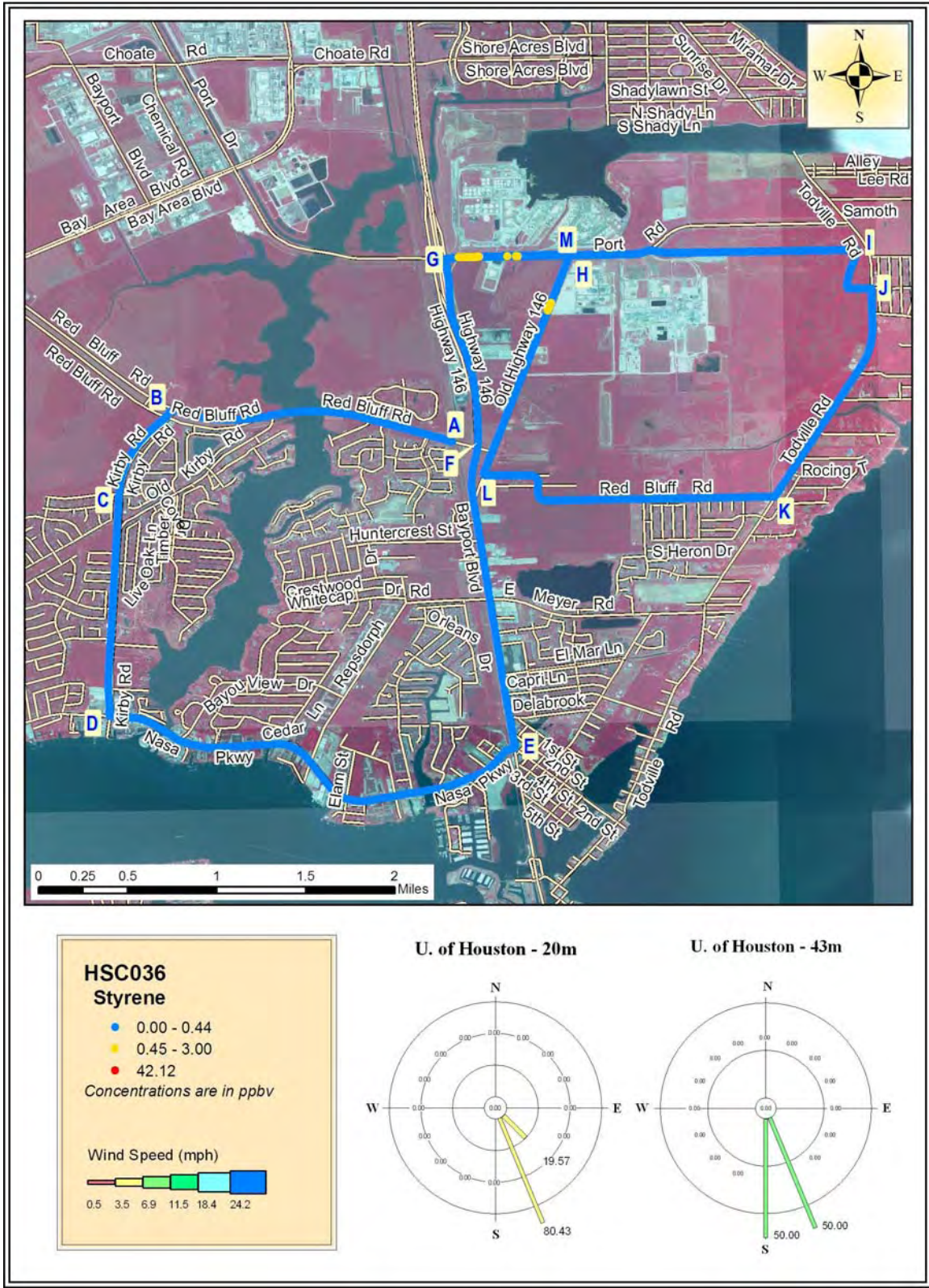


Figure 23g Mobile Monitoring Path for Styrene in Harris County



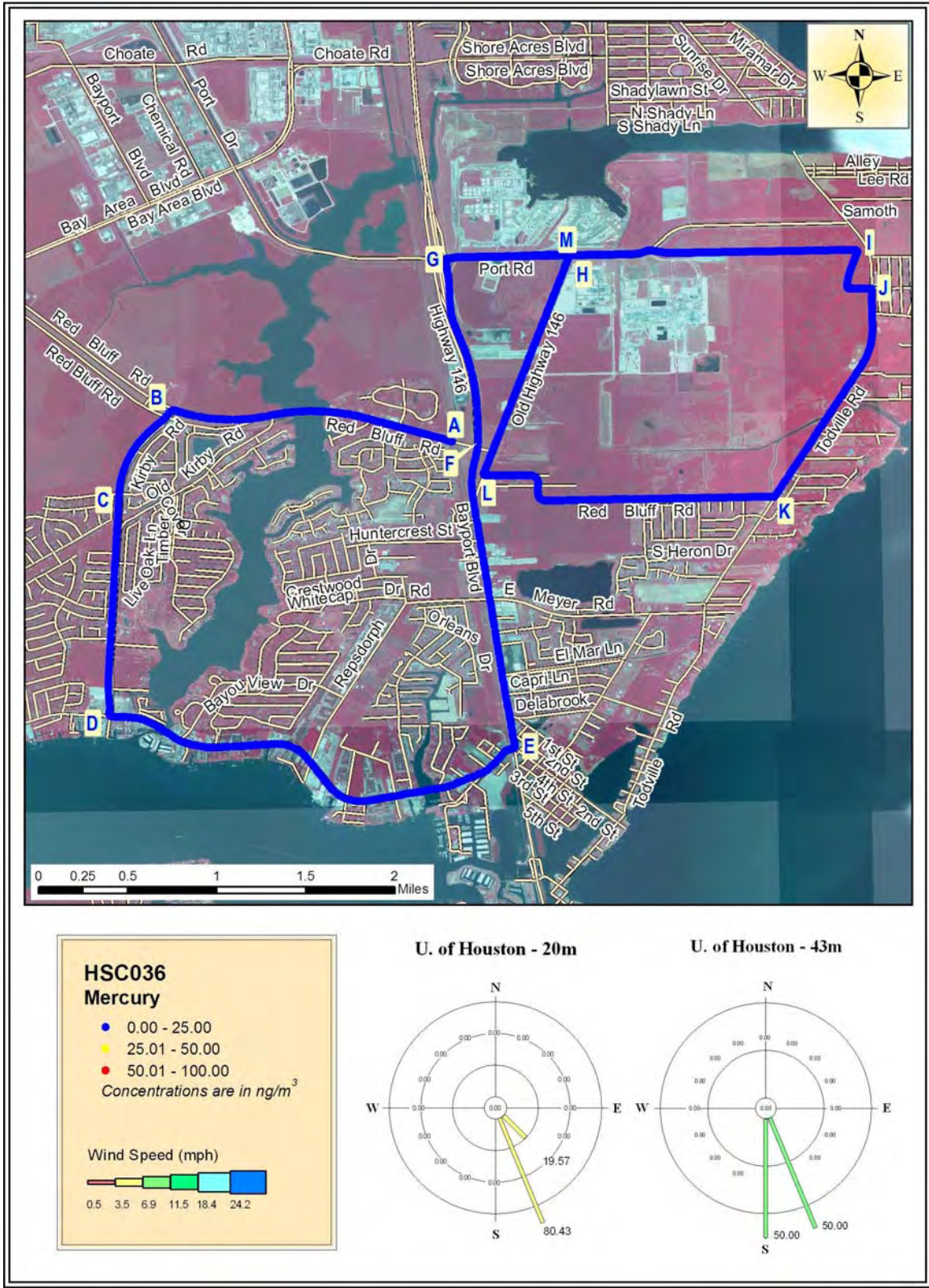
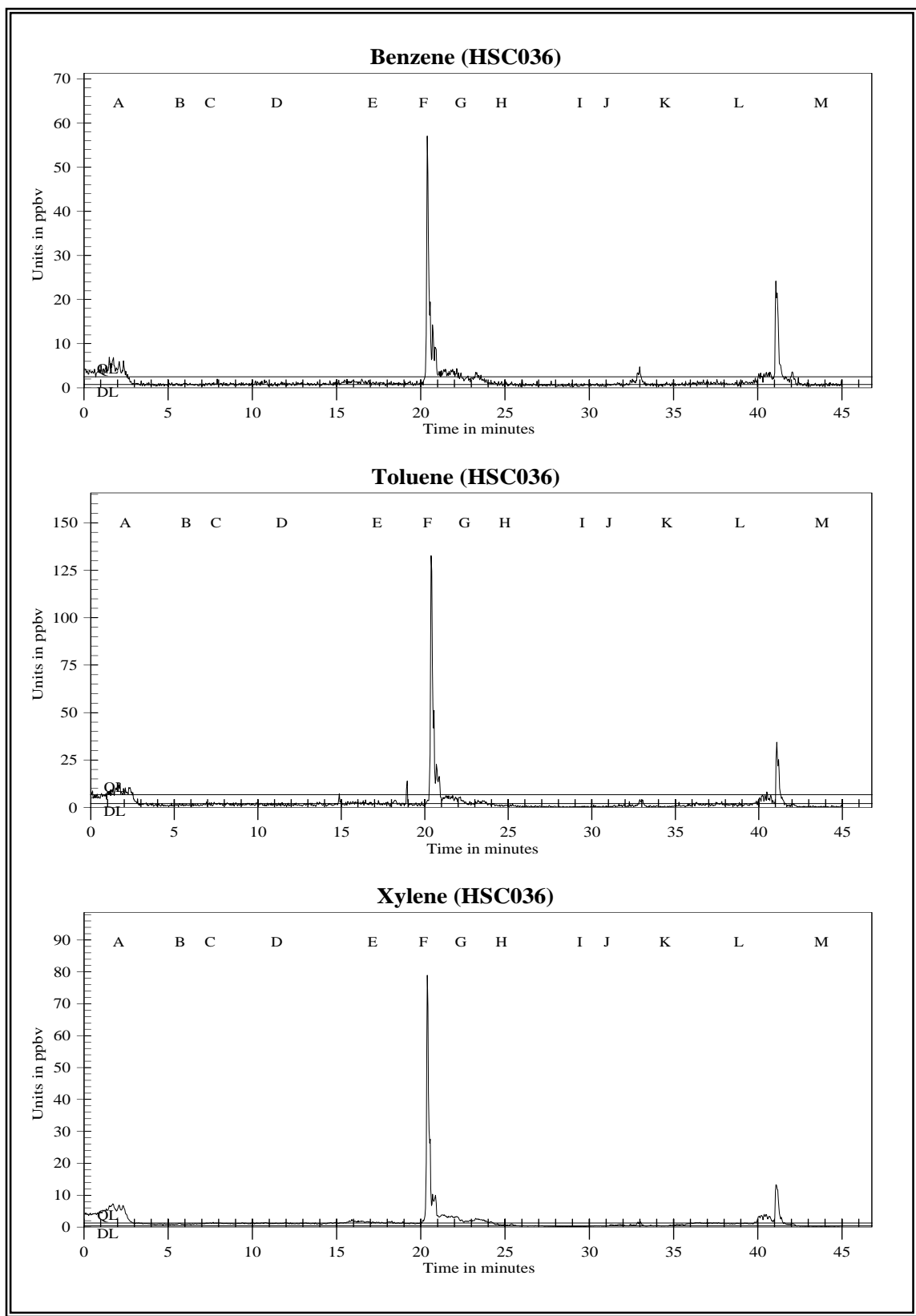


Figure 23h Mobile Monitoring Path for Mercury in Harris County

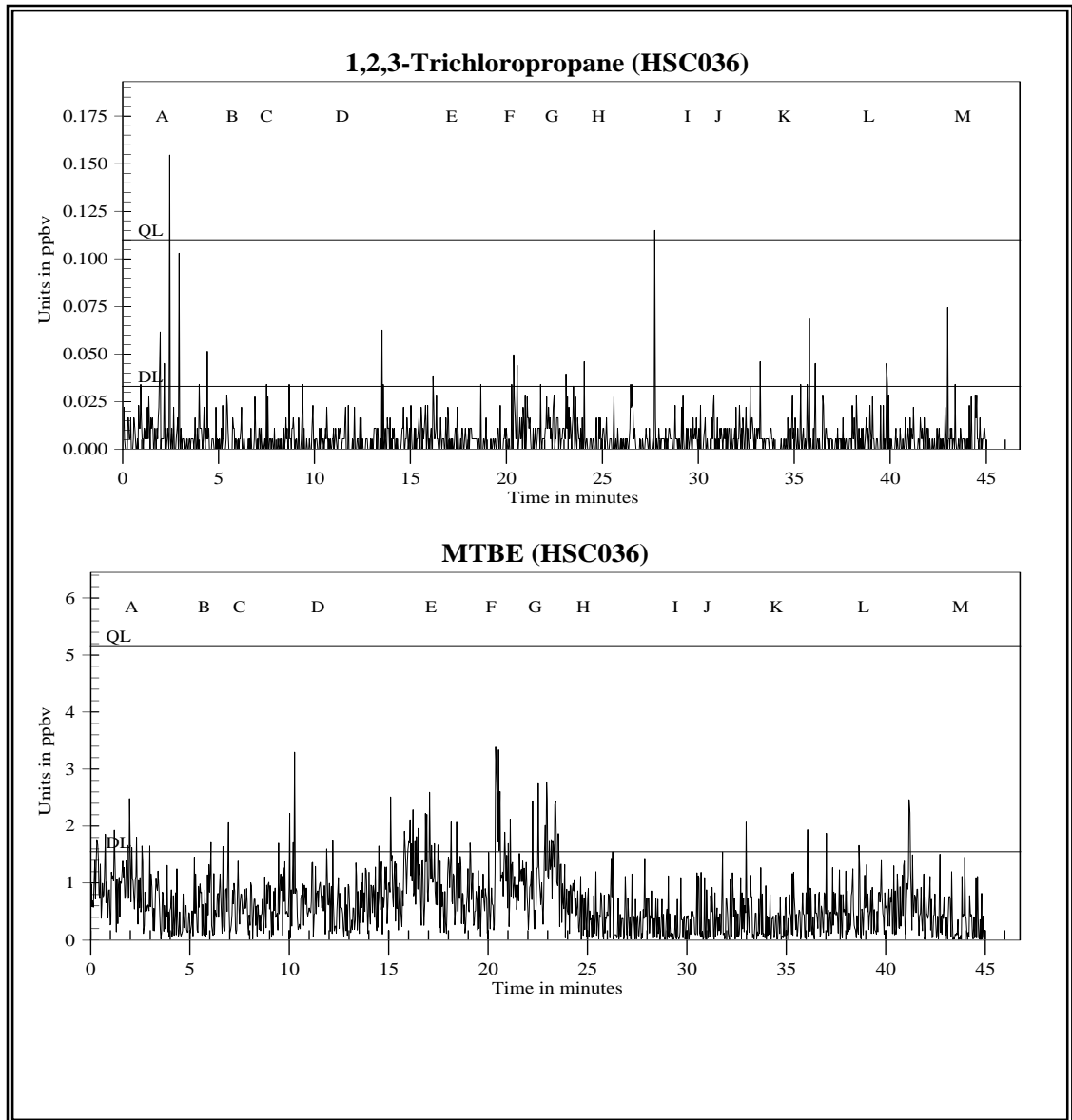


**Figure 23i**

TAGA File Event Summary			
File: HSC036 Acquired on 14 December 2006 at 08:54:28 UTC			
Title: Mobile Monitoring in Harris County			
Flag	Time	Sequence	Description
A	1.7	50	Start monitoring westward on Red Bluff Road
B	5.4	155	Turning left onto Kirby Boulevard
C	7.2	206	Passing Lake Grove Drive
D	11.1	318	Turning left onto NASA Parkway
E	16.8	482	Turning left onto Bayport Boulevard
F	19.9	569	Passing Red Bluff Road
G	22.0	630	Turning right onto New Port Road
H	24.4	699	Passing Old State Highway 146
I	29.3	837	Turning right onto Cruze Terminal Road
J	30.9	882	Turning right onto Todville Road
K	34.1	976	Turning right onto Red Bluff Road
L	38.6	1103	Turning right onto Old State Highway 146
M	43.4	1239	Turning left onto New Port Road

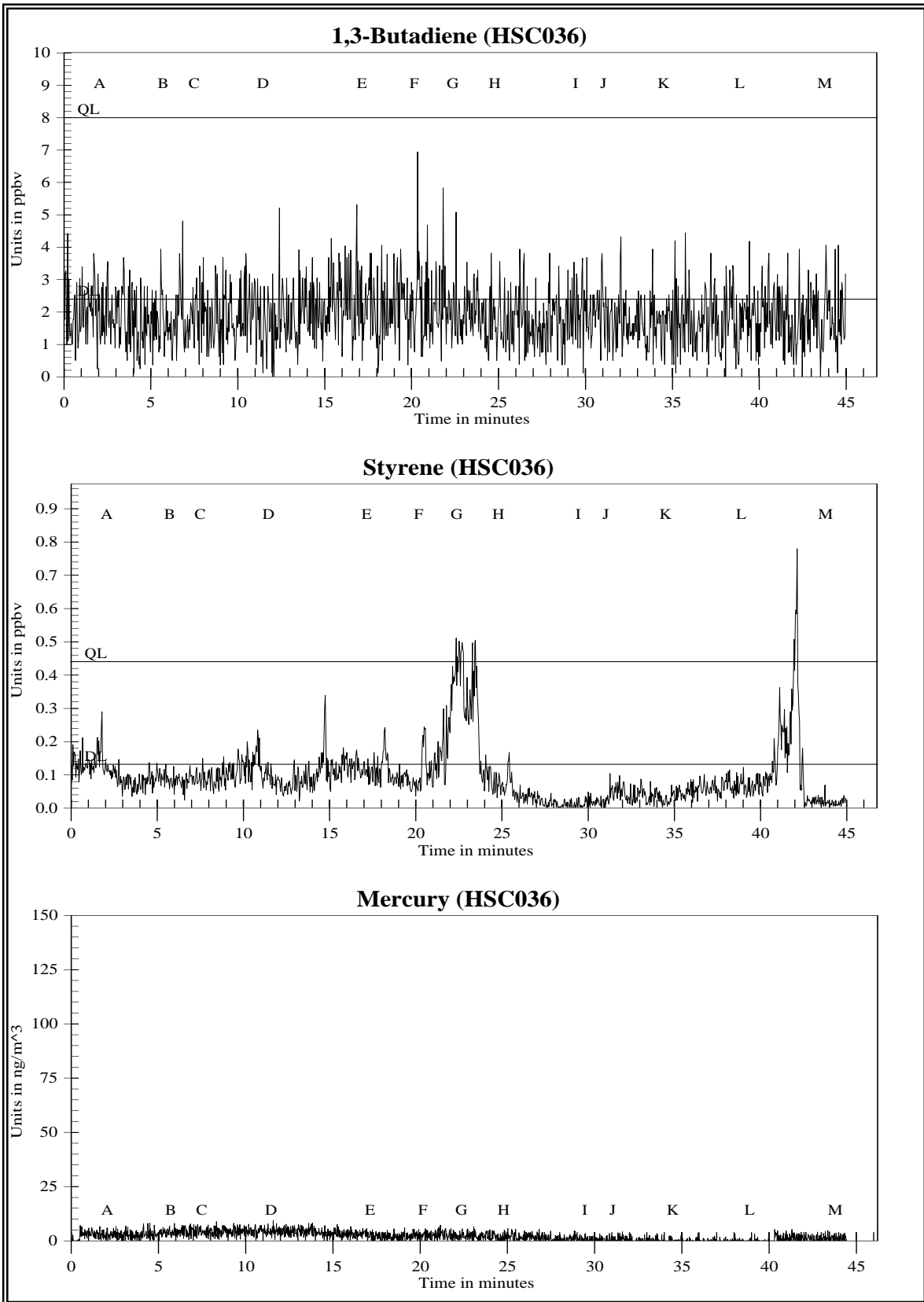


**Figure 23j** Mobile Monitoring in Harris County for Benzene, Toluene, and Xylenes



**Figure 23k** Mobile Monitoring in Harris County for 1,2,3-Trichloropropane and Methyl-t-butyl ether





**Figure 231** Mobile Monitoring in Harris County for 1,3-Butadiene, Styrene, and Mercury

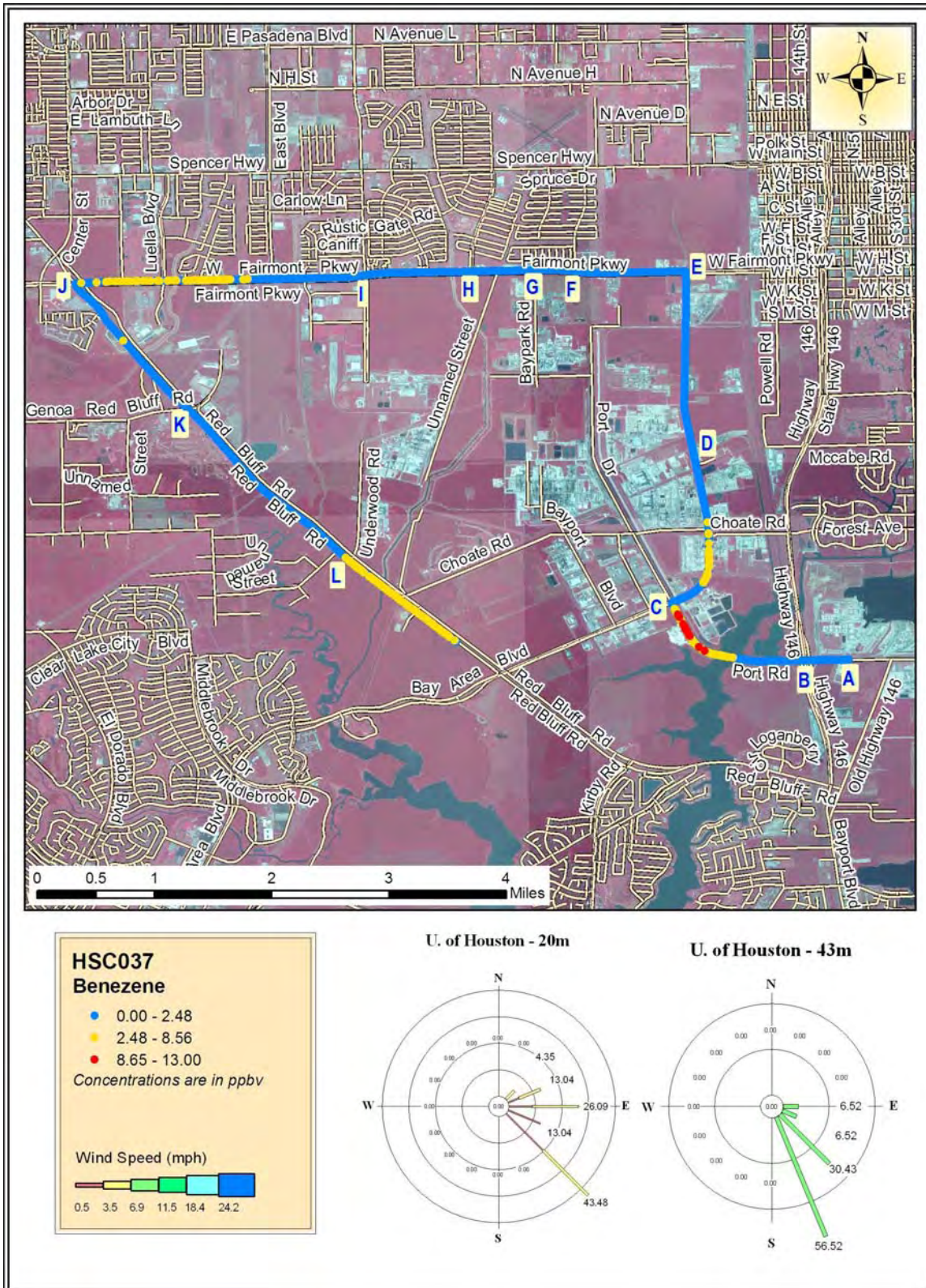


Figure 24a Mobile Monitoring Path for Benzene in Harris County



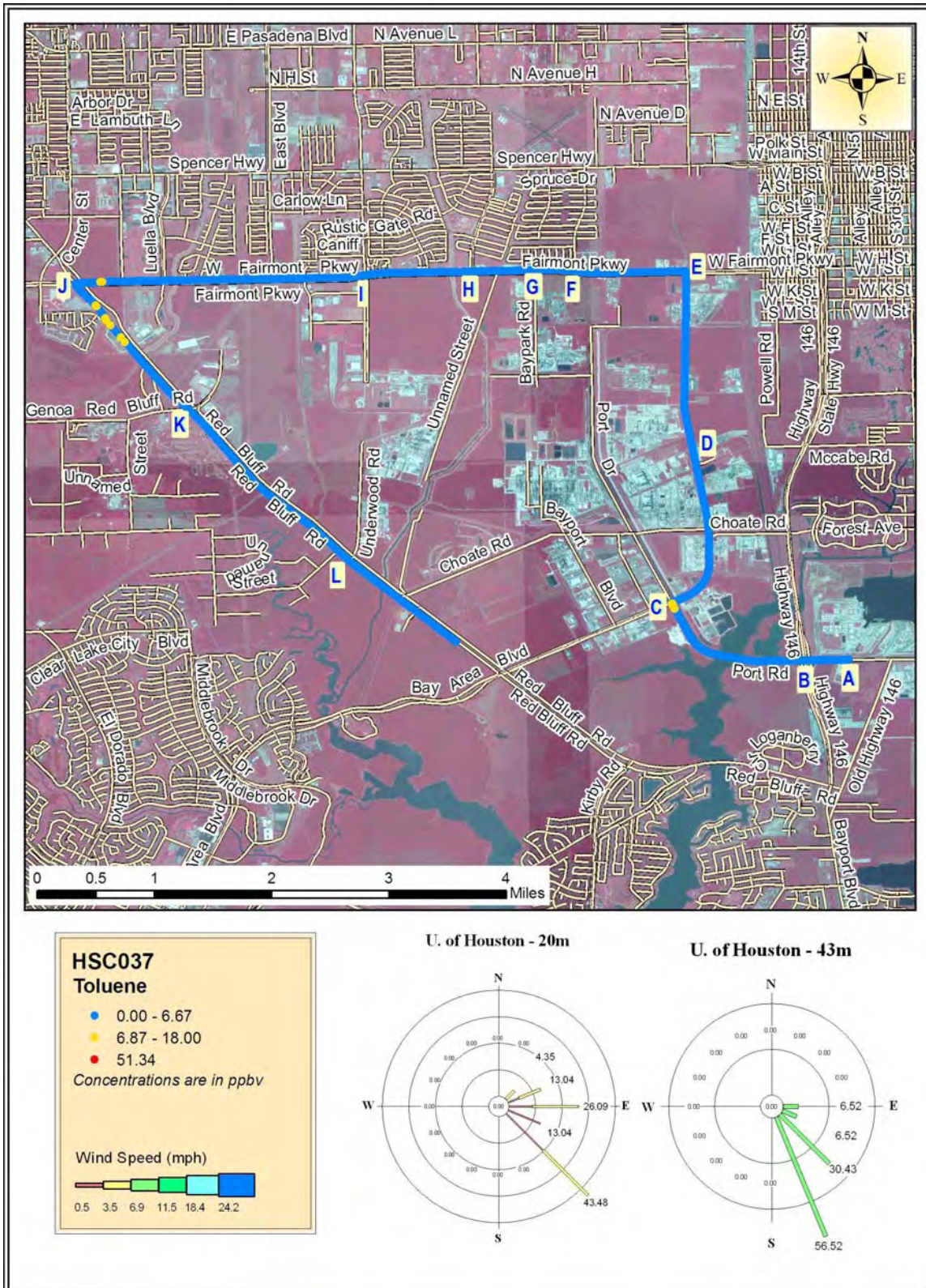


Figure 24b Mobile Monitoring Path for Toluene in Harris County



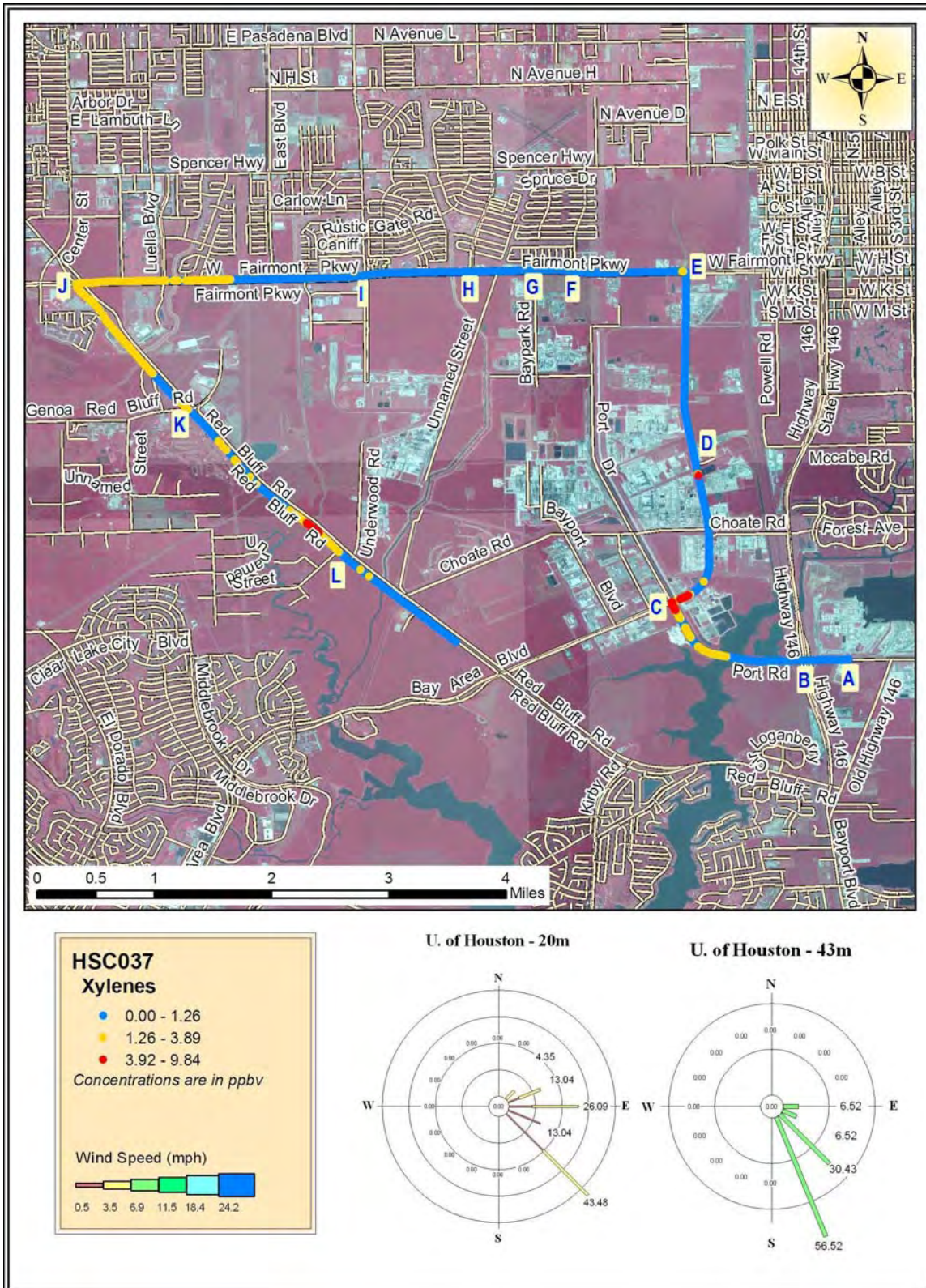


Figure 24c Mobile Monitoring Path for Xylenes in Harris County







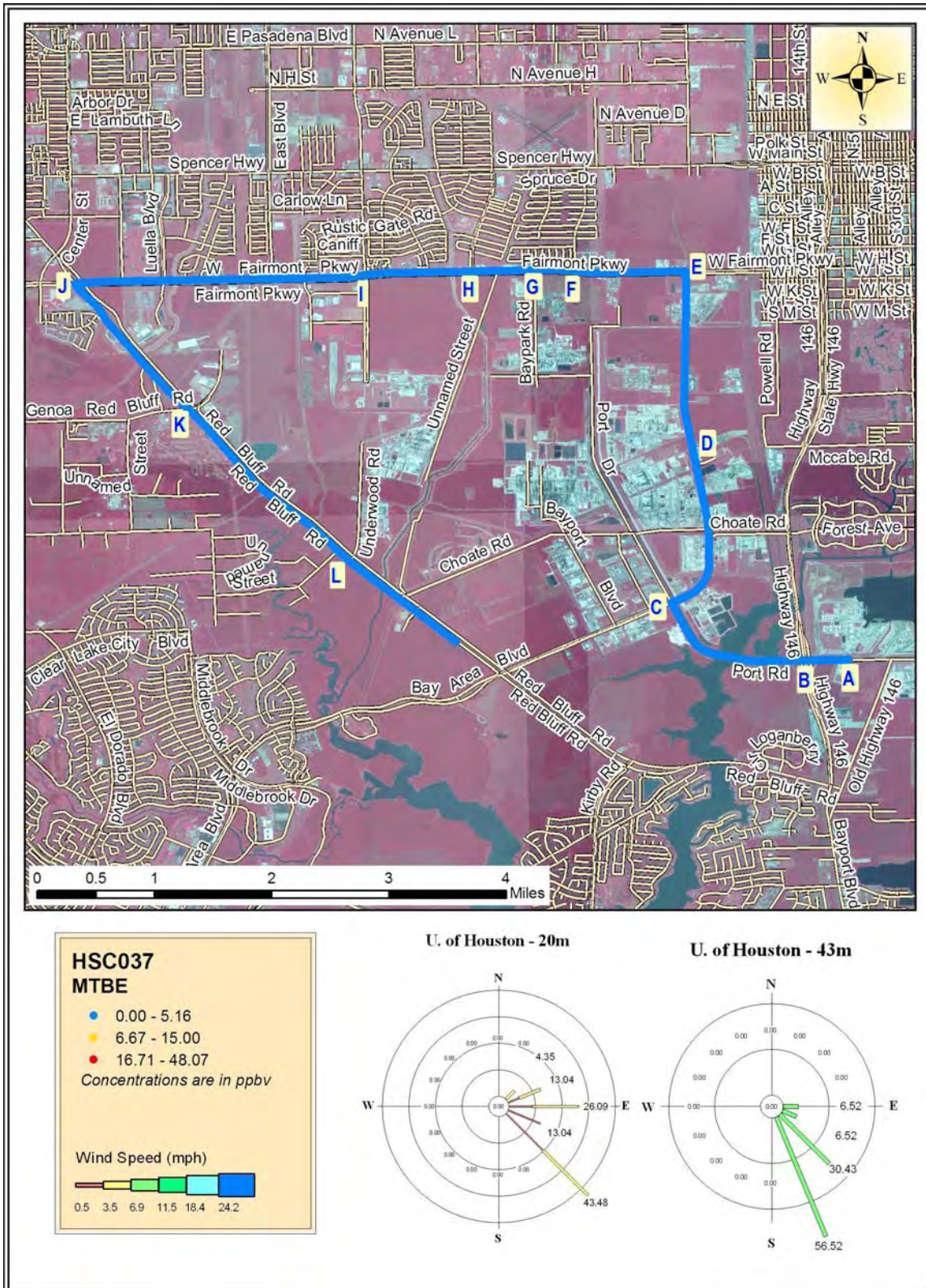


Figure 24e Mobile Monitoring Path for Methyl-t-butyl ether in Harris County







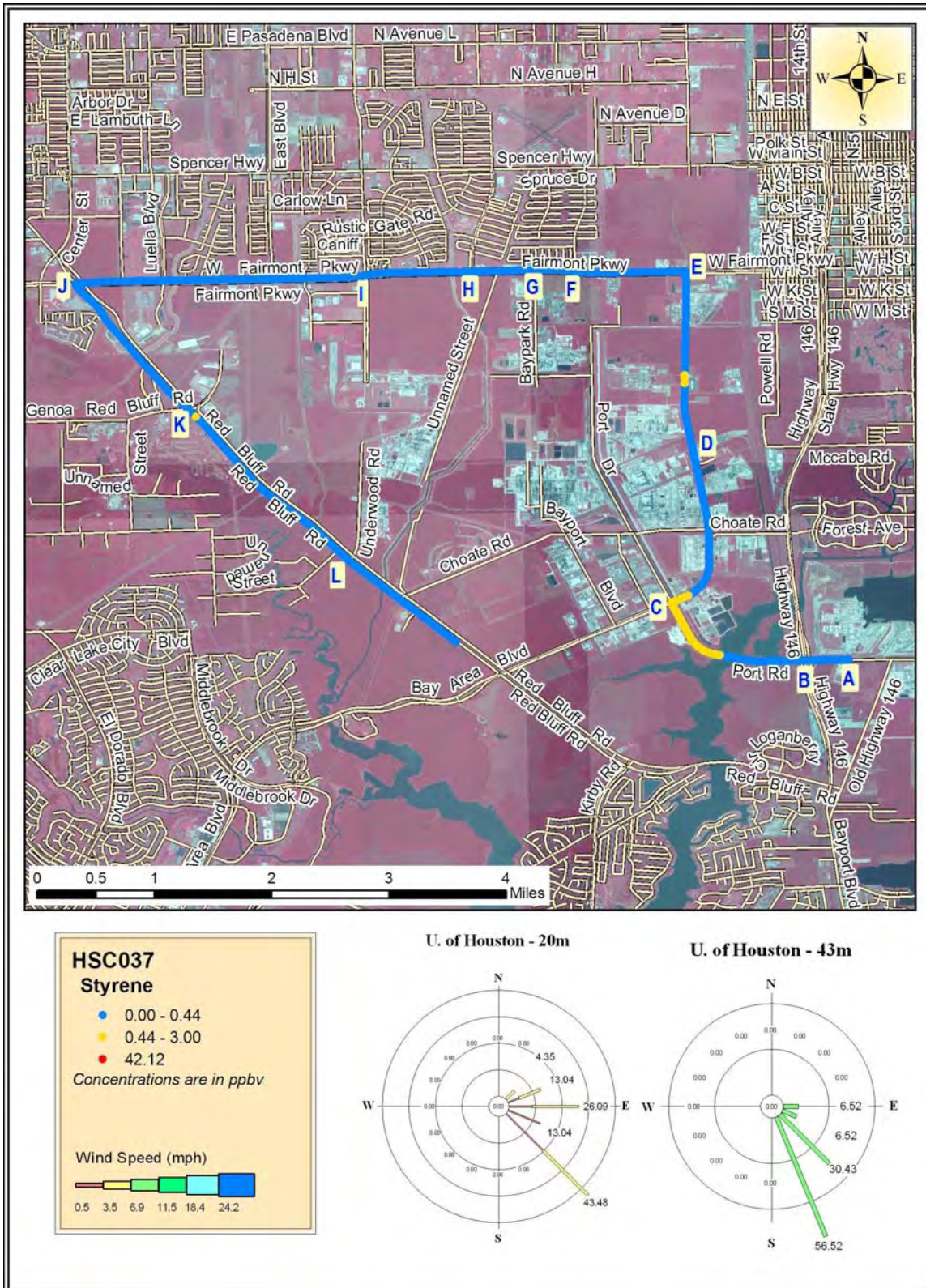


Figure 24g Mobile Monitoring Path for Styrene in Harris County



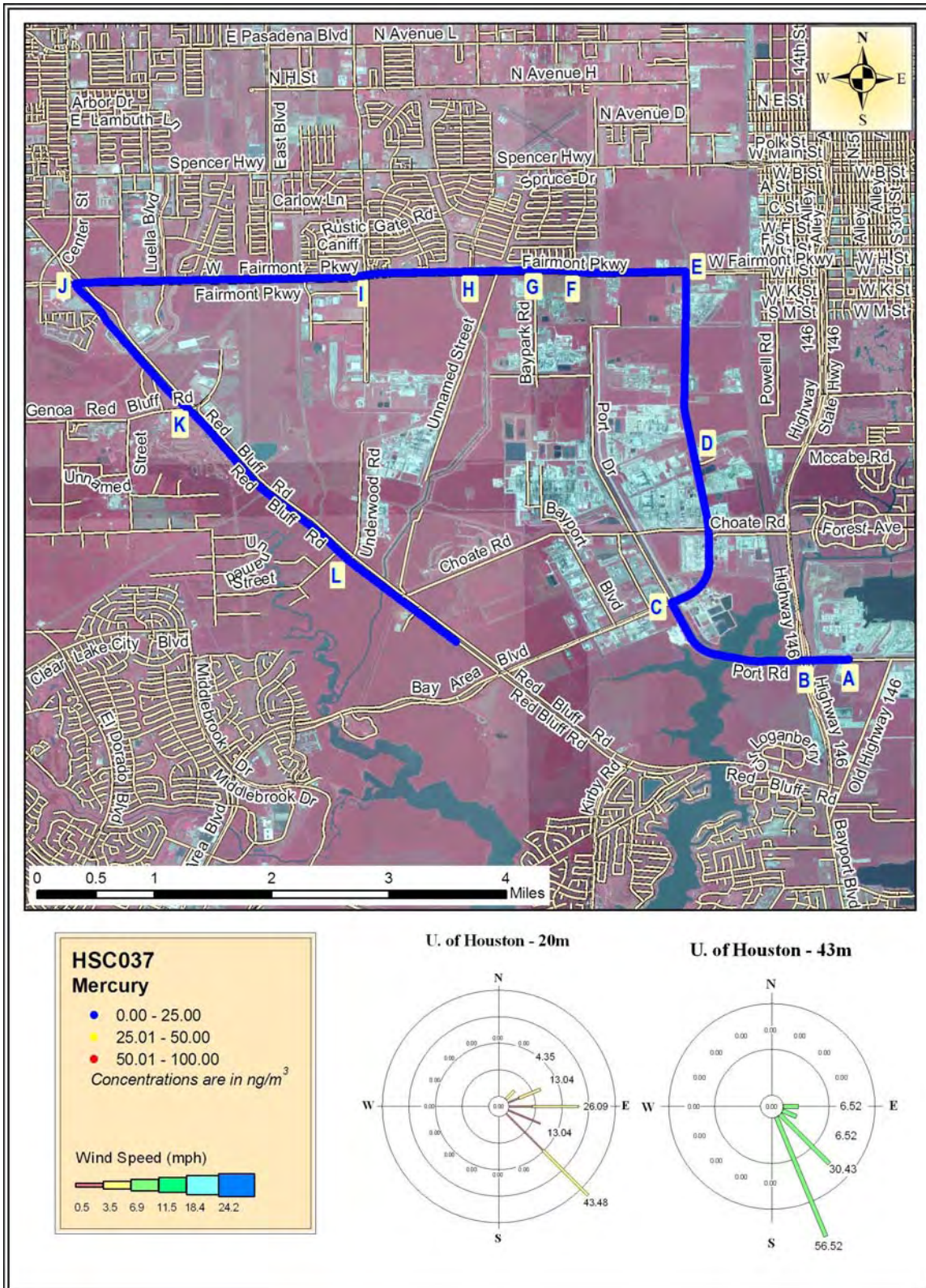
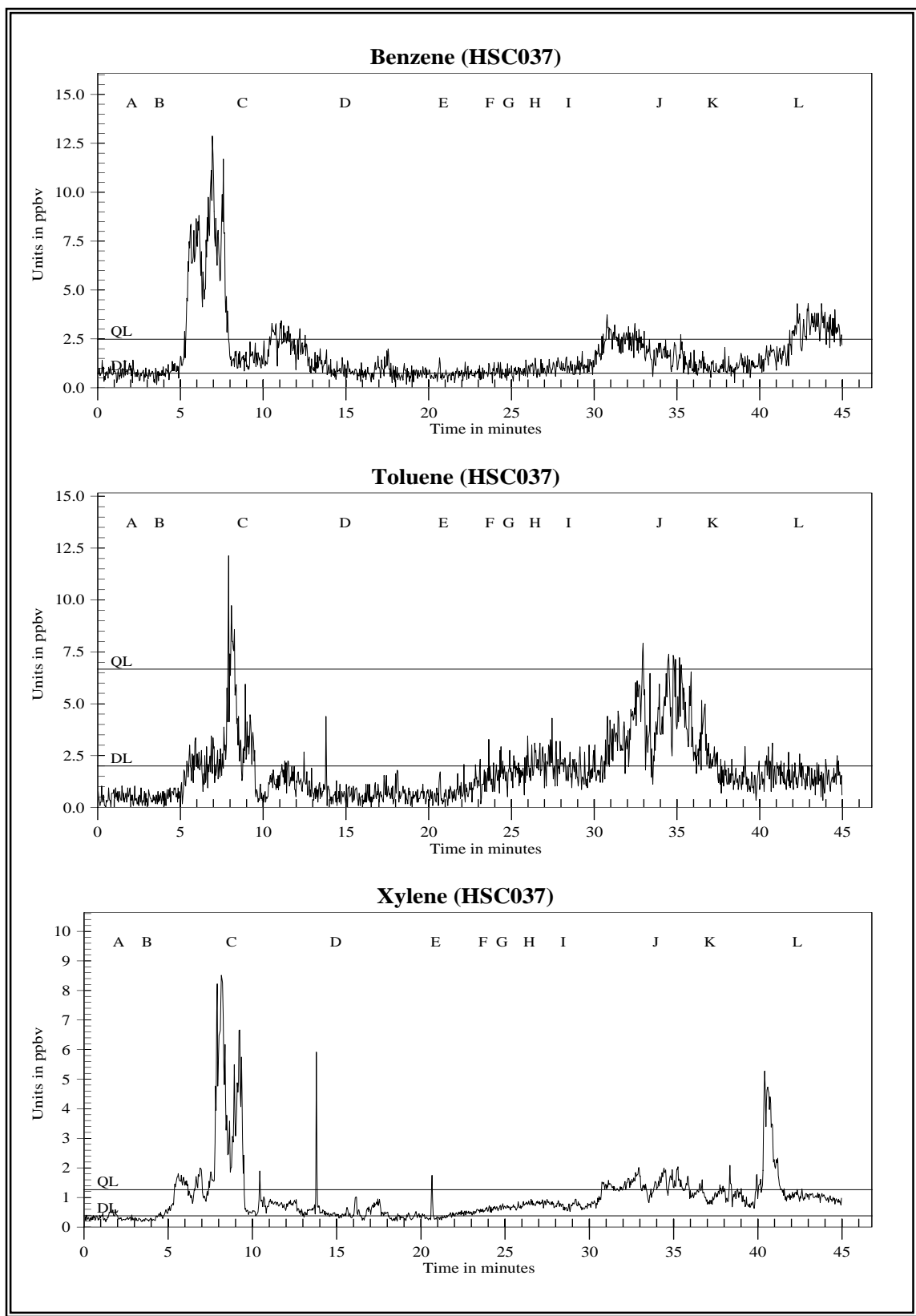


Figure 24h Mobile Monitoring Path for Mercury in Harris County

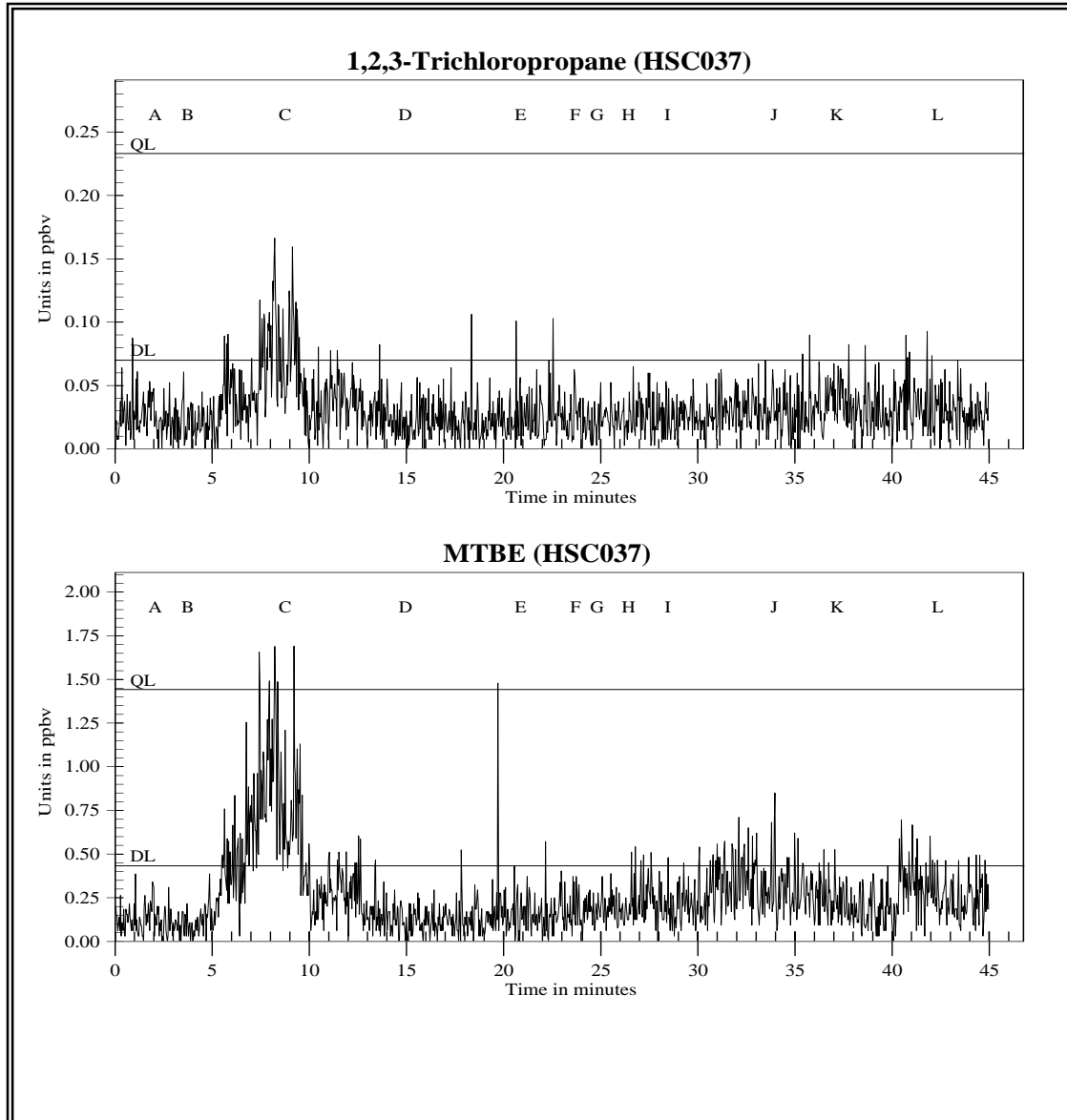


**Figure 24i**

TAGA File Event Summary			
File: HSC037 Acquired on 14 December 2006 at 09:42:01 UTC			
Title: Mobile Monitoring in Harris County			
Flag	Time	Sequence	Description
A	1.7	50	Start monitoring westbound on New Port Road
B	3.4	99	Crossing State Highway 146
C	8.4	242	Turning right onto Bay Area Boulevard
D	14.6	418	Passing Huish Detergent
E	20.6	589	Turning left onto Fairmont Parkway
F	23.4	670	Passing Driftwood Drive
G	24.5	700	Passing Bay Park Road
H	26.1	746	Passing Farrington Boulevard
I	28.3	809	Passing Underwood Road
J	33.8	965	Turning left onto Red Bluff Road
K	36.8	1052	Passing Genoa Red Bluff Road
L	42.1	1202	Passing Underwood Road

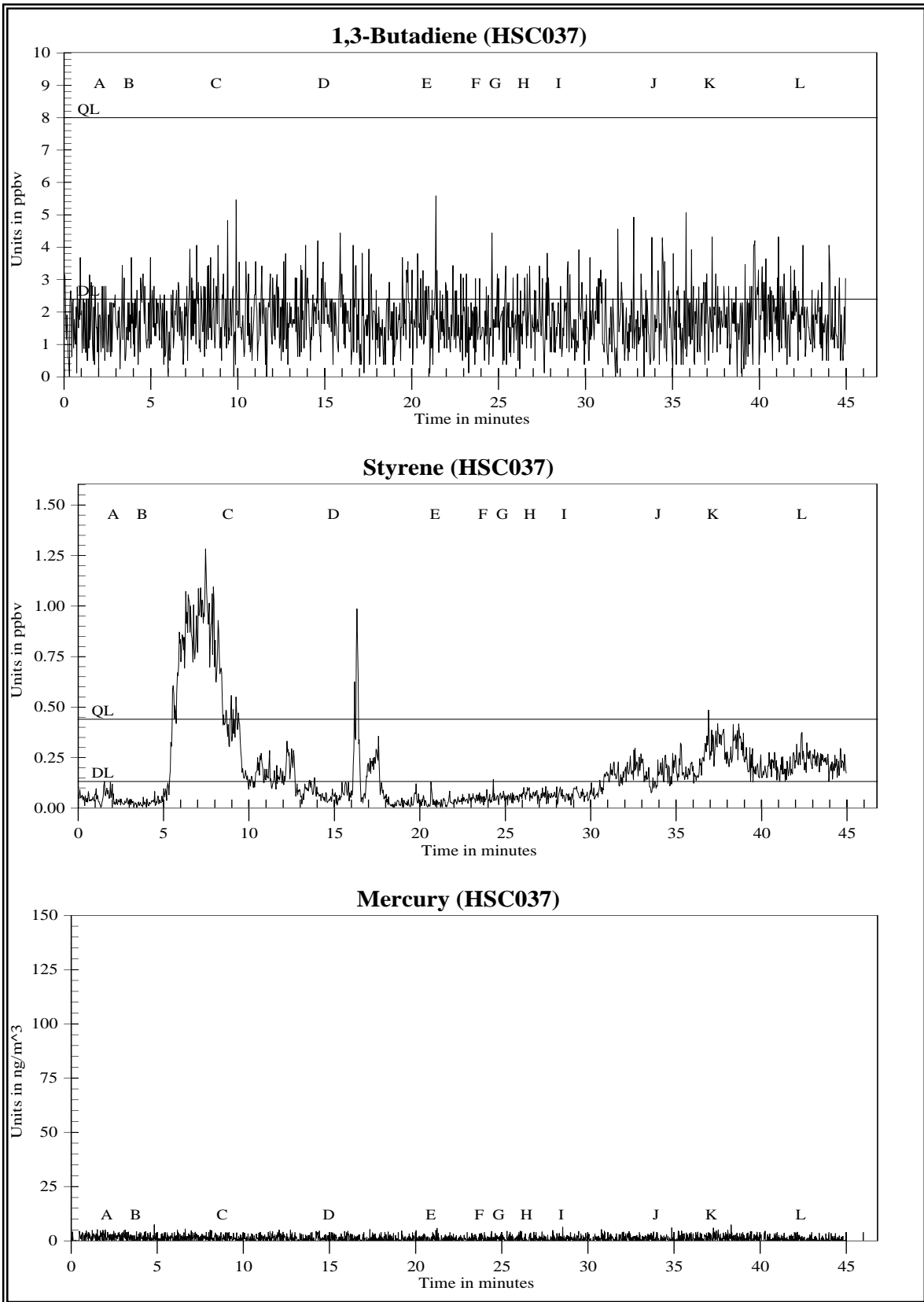


**Figure 24j** Mobile Monitoring in Harris County for Benzene, Toluene, and Xylenes



**Figure 24k** Mobile Monitoring in Harris County for 1,2,3-Trichloropropane and Methyl-t-butyl ether





**Figure 241** Mobile Monitoring in Harris County for 1,3-Butadiene, Styrene, and Mercury

**APPENDIX A**

**CERTIFICATIONS**

**URBAN AIR TOXICS STUDY  
FINAL ANALYTICAL TAGA REPORT  
MARCH 2007**







3434 Route 22 West, Branchburg, New Jersey 08876 USA  
ISO 9001:2000

SHIPPED FROM: 80 INDUSTRIAL DRIVE ALPHA, NJ. 08865

SHIPPED TO: Lockheed Martin/Reac  
GSA Raritan Depot, Bldg 209 Bay F  
2890 Woodbridge Ave  
Edison, NJ 08837

**CERTIFICATE  
OF  
ANALYSIS**

SGI ORDER # : 0094522  
ITEM# : 1  
CERTIFICATION DATE: 11/08/2006  
P.O.# : CC-C SHIELDS  
BLEND TYPE: CERTIFIED

CYLINDER # : CC-99470  
CYLINDER PRES: 1200 psig  
CYLINDER VALVE: CGA 350  
PRODUCT EXPIRATION DATE: 11/08/2007

ANALYTICAL ACCURACY: +/- 2%

COMPONENT	REQUESTED GAS CONC	ANALYSIS
Vinyl Chloride	20.0 ppm	20.4 ppm
Trans-1,2-Dichloroethylene	20.0 ppm	21.5 ppm
Benzene	20.0 ppm	21.1 ppm
Trichloroethylene	20.0 ppm	20.4 ppm
Toluene	20.0 ppm	20.7 ppm
Tetrachloroethylene	20.0 ppm	20.2 ppm
p-Xylene	10.0 ppm	9.87 ppm
m-Xylene	10.0 ppm	9.87 ppm
o-Xylene	10.0 ppm	9.61 ppm
Nitrogen	Balance	Balance

ANALYST:

  
April Chamberlain

DATE: 11/09/2006

Tel: +1 908-252-9300 Fax: +1 908-252-0811  
www.spectragases.com



3434 Route 22 West, Branchburg, New Jersey 08876 USA  
ISO 9001:2000

SHIPPED FROM: 80 INDUSTRIAL DRIVE ALPHA, NJ. 08865

SHIPPED TO: Lockheed Martin/REAC  
GSA Raritan Depot, Bldg 209, Bay F  
2890 Woodbridge Ave  
Edison, NJ 08837

**CERTIFICATE  
OF  
ANALYSIS**

SGI ORDER # : 0097072  
ITEM# : 2  
CERTIFICATION DATE: 10/02/2006  
P.O.# : CC-C SHIELDS  
BLEND TYPE: CERTIFIED

CYLINDER # : CC-187714  
CYLINDER PRES: 475 psig  
CYLINDER VALVE: CGA 350  
PRODUCT EXPIRATION DATE: 10/02/2007

ANALYTICAL ACCURACY: +/- 5%

COMPONENT	REQUESTED GAS CONC	ANALYSIS
Methyl Tert Butyl Ether	20.0 ppm	20.4 ppm
Styrene	20.0 ppm	20.0 ppm
1,2,3-Trichloropropane	20.0 ppm	20.6 ppm
Nitrogen	Balance	Balance

ANALYST:   
April Chamberlain

DATE: 10/02/2006

Tel: +1 908-252-9300 Fax: +1 908-252-0811  
www.spectragases.com



3434 Route 22 West, Branchburg, New Jersey 08876 USA  
ISO 9001:2000

SHIPPED FROM: 80 INDUSTRIAL DRIVE ALPHA, NJ. 08865

SHIPPED TO: Lockheed Martin/Reac  
GSA Raritan Depot, Bldg 209, Bay F  
2890 Woodbridge Ave  
Edison, NJ 08837

**CERTIFICATE  
OF  
ANALYSIS**

SGI ORDER # : 0097072  
ITEM# : 1  
CERTIFICATION DATE: 09/29/2006  
P.O.# : CC-C SHIELDS  
BLEND TYPE: CERTIFIED

CYLINDER # : CC-20198  
CYLINDER PRES: 2000 psig  
CYLINDER VALVE: CGA 350  
PRODUCT EXPIRATION DATE: 09/29/2007

ANALYTICAL ACCURACY: +/- 2%

COMPONENT	REQUESTED GAS CONC	ANALYSIS
1,3-Butadiene	200 ppm	202 ppm
Nitrogen	Balance	Balance

ANALYST:

  
April Chamberlain

DATE: 09/29/2006

Tel: +1 908-252-9300 Fax: +1 908-252-0811  
www.spectragases.com



**APPENDIX B**  
**METEOROLOGICAL DATA**  
**URBAN AIR TOXICS STUDY**  
**FINAL ANALYTICAL TAGA REPORT**  
**MARCH 2007**



TAGA		Start Time	Duration	End Time	CAMS	Ws	Wd	Ws	Wd	Ws	Wd	Ws	Wd	Precipitation
File	Date	UTC	minutes	UTC	Station			10m	10m	20m	20m	43m	43m	Total Per Run
HSC004	12/12/2006	2:45	44.965	3:31	LaPorte C243	3.2	144	2.3	172	3.6	165	7.3	160	0
HSC005	12/12/2006	3:35	42.759	4:19	LaPorte C243	2.6	129	2.8	168	4.1	166	7.2	160	0
HSC006	12/12/2006	4:27	43.494	5:10	LaPorte C243	3.6	130	3.2	153	4.4	156	7.7	154	0
HSC007	12/12/2006	5:15	44.966	6:00	Deer Park C35	1.7	244	3.7	157	4.9	157	8.4	149	0
HSC008	12/12/2006	6:46	44.755	7:32	Manchester C1029	2.2	261	3.1	252	3.7	251	5.6	239	0
HSC009	12/12/2006	7:41	42.76	8:25	Clinton C403	4.0	280	3.3	256	3.9	256	6.3	248	0
HSC010	12/12/2006	8:31	44.58	9:17	Clinton C403	2.3	246	4.9	292	5.8	292	8.5	287	0
HSC011	12/12/2006	9:19	24.724	9:45	Channelview C15	1.2	270	3.3	292	3.9	294	6.0	287	0
HSC017	12/13/2006	2:39	44.406	3:23	Manchester C1029	Calm	Calm	Calm	Calm	4.5	312	10.1	323	0
HSC018	12/13/2006	3:26	44.334	4:10	Manchester C1029	Calm	Calm	Calm	Calm	3.1	328	9.3	333	0
HSC019	12/13/2006	4:17	44.334	5:01	Manchester C1029	Calm	Calm	Calm	Calm	2.8	343	7.6	347	0
HSC020	12/13/2006	5:05	44.334	5:49	Lynchburg C1015	1.9	352	Calm	Calm	3.2	43	6.8	27	0
HSC021	12/13/2006	5:53	31.343	6:24	Lynchburg C1015	2.7	347	Calm	Calm	3.2	59	4.7	44	0
HSC022	12/13/2006	7:13	44.475	7:57	LaPorte C243	2.7	279	Calm	Calm	4.0	53	7.8	56	0
HSC023	12/13/2006	8:01	44.965	8:45	Baytown C148	Calm	Calm	1.2	352	4.5	52	8.6	56	0
HSC024	12/13/2006	8:49	29.172	9:18	Baytown C148	Calm	Calm	2.9	339	5.1	19	6.3	44	0
HSC030	12/14/2006	2:50	44.965	3:35	Manchester C1029	1.3	194	1.9	169	5.0	156	11.6	149	0
HSC031	12/14/2006	4:05	41.50	4:47	Deer Park C35	1.3	223	1.7	159	5.0	147	11.1	145	0
HSC032	12/14/2006	4:53	29.451	5:22	Deer Park C35	2.0	179	1.1	176	4.0	158	9.2	153	0
HSC033	12/14/2006	6:00	44.966	6:45	Clinton C403	1.6	266	1.1	187	4.1	176	9.9	167	0
HSC034	12/14/2006	6:48	44.965	7:33	Haden Road C603	2.1	17	1.1	355	1.6	24	5.2	161	0
HSC035	12/14/2006	7:35	44.965	8:20	Jacinto Port C1036	Calm	Calm	Calm	Calm	Calm	Calm	6.2	172	0
HSC036	12/14/2006	8:54	44.966	9:39	LaPorte C243	4.6	112	Calm	Calm	4.4	154	9.6	168	0
HSC037	12/14/2006	9:42	44.965	10:27	LaPorte C243	6.1	114	Calm	Calm	3.8	107	8.0	145	0
<b>NOTES:</b>														
UTC = Coordinated Universal Time														
CAMS = Continuous Air Monitoring Station														
(xx)m = monitoring height in meters														
Ws in mph														
"Calm" Wd excluded from average														
Rainfall from U of H tower														



**APPENDIX C**

**SUMMA<sup>®</sup> CANISTER ANALYTICAL DATA**

**URBAN AIR TOXICS STUDY  
FINAL ANALYTICAL TAGA REPORT  
MARCH 2007**



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY



**Region 6 Laboratory**

Environmental Services Branch  
10625 Fallstone Road, Houston, TX 77099  
Phone: (281)983-2100 Fax: (281)983-2248

**Final Analytical Report**

Site Name -----Harris County TAGA Project

Sample Collection Date(s)-- 12/12/06- 12/14/06

Contact----- Kyndall Barry (6EN-AT)

Report Date----- 02/26/07

Project #----- 07CAA042

Work Order(s)-----0612012

**Analyses included in this report:**

Air TO-15(2)

**Report Narrative**

The canister containing sample 0612012-01 exhibited a small leak. It is possible there was some contamination or loss of analytes. The magnitude of the contamination or loss, if present, is not known.

The amount of 1,3-Butadiene in sample 0612012-11 was estimated by manual integration due to the presence of interfering compounds.

Standard procedures for quality assurance and quality control were followed in the analysis and reporting of the sample results. The results apply only to the samples tested. This final report should only be reproduced in full.

Reporting limits are adjusted for sample size and matrix interference.

Report Approvals:

\_\_\_\_\_  
Richard McMillin  
Region 6 Laboratory Manager

\_\_\_\_\_  
David Neleigh  
Region 6 Laboratory Branch Chief





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 6 Environmental Services Branch Laboratory

10625 Fallstone Road
Houston, Texas 77099

Sample Receipt and Disposal

Site Name: Harris County TAGA Project

Project Number: 07CAA042

Data Management Coordinator: Christy Warren

Data Management Coordinator Signature / Date

Date Transmitted: / /

Please have the U.S. EPA Project Manager/Officer call the Data Management Coordinator at 3-2137 for any comments or questions.

Please sign and date this form below and return it with any comments to:

Christy Warren
Data Management Coordinator
Region 6 Laboratory
6MD-HS

Received by and Date / /

Comments:

The laboratory routinely disposes of samples 90 days after all analyses have been completed. If you have a need to hold these samples in custody longer than 90 days, please sign below.

Signature Date

Please provide a reason for holding:



Environmental Protection Agency  
**Region 6 Laboratory**

10625 Fallstone Road, Houston, TX 77099  
Phone:(281)983-2100 Fax:(281)983-2248

**ANALYTICAL REPORT FOR SAMPLES**

<b>Station ID</b>	<b>Laboratory ID</b>	<b>Sample Type</b>	<b>Date Collected</b>	<b>Date Received</b>
G1567	0612012-01	air	12/12/06 7:18	12/14/06 14:00
K0175	0612012-02	air	12/12/06 7:24	12/14/06 14:00
F1582	0612012-03	air	12/13/06 3:19	12/14/06 14:00
A1498	0612012-04	air	12/13/06 3:22	12/14/06 14:00
F1496	0612012-05	air	12/13/06 3:42	12/14/06 14:00
B0125	0612012-06	air	12/13/06 5:58	12/14/06 14:00
H1499	0612012-07	air	12/13/06 8:07	12/14/06 14:00
J0165	0612012-08	air	12/13/06 8:43	12/14/06 14:00
C1161	0612012-09	air	12/14/06 2:58	12/14/06 14:00
B1578	0612012-10	air	12/14/06 3:16	12/14/06 14:00
F1500	0612012-11	air	12/14/06 4:24	12/14/06 14:00
J0182	0612012-12	air	12/14/06 8:20	12/14/06 14:00
TRIP	0612012-13	air	12/14/06 0:00	12/14/06 14:00



Environmental Protection Agency  
**Region 6 Laboratory**

10625 Fallstone Road, Houston, TX 77099  
 Phone:(281)983-2100 Fax:(281)983-2248

**Toxic Organic Compounds in Ambient Air-TO15 - GC/MS**

**Lab ID: 0612012-01**

**Station ID: G1567**

Batch: B6L2002  
 Sample Type: air

Date Collected: 12/12/06

Initial Pressure: 14.3 psia  
 Sample Qualifiers:

**Surrogates**

Analyte	Result ppbv	Analyte Qualifiers	%Recovery	%Recovery Limits	Prepared	Analyzed
<i>Surr: 4-Bromofluorobenzene</i>	9.29		92.9	70-130	12/19/06	01/03/07
<i>Surr: 1,2-Dichloroethane-d4</i>	8.80		117	70-130	"	"
<i>Surr: Toluene-d8</i>	8.85		118	70-130	"	"
<i>Surr: 1,2-Dichlorobenzene-d4</i>	7.24		96.5	70-130	"	"

**Targets**

Analyte (CAS Number)	Result ppbv	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
<b>Acetone (67-64-1)</b>	<b>7.4</b>		0.2	1	12/19/06	01/03/07
<b>Benzene (71-43-2)</b>	<b>0.2</b>		0.2	"	"	"
Benzyl chloride (100-44-7)	U		2.5	"	"	"
<b>1,3-Butadiene (106-99-0)</b>	<b>0.2</b>		0.2	"	"	"
<b>2-Butanone (78-93-3)</b>	<b>1.9</b>		0.2	"	"	"
Bromodichloromethane (75-27-4)	U		0.2	"	"	"
Bromoform (75-25-2)	U		0.2	"	"	"
Bromomethane (74-83-9)	U		0.2	"	"	"
Carbon disulfide (75-15-0)	U		0.2	"	"	"
Carbon tetrachloride (56-23-5)	U		0.2	"	"	"
Chlorobenzene (108-90-7)	U		0.2	"	"	"
Chlorodibromomethane (124-48-1)	U		0.2	"	"	"
Chloroethane (75-00-3)	U		0.2	"	"	"
Chloroform (67-66-3)	U		0.2	"	"	"
<b>Chloromethane (74-87-3)</b>	<b>0.6</b>		0.2	"	"	"
Cyclohexane (110-82-7)	U		0.2	"	"	"
1,2-Dibromoethane (106-93-4)	U		0.2	"	"	"
1,2-Dichlorobenzene (95-50-1)	U		0.2	"	"	"
1,3-Dichlorobenzene (541-73-1)	U		0.2	"	"	"
1,4-Dichlorobenzene (106-46-7)	U		0.2	"	"	"
<b>Dichlorodifluoromethane (75-71-8)</b>	<b>0.3</b>		0.2	"	"	"
1,1-Dichloroethane (75-34-3)	U		0.2	"	"	"
1,2-Dichloroethane (107-06-2)	U		0.2	"	"	"
1,1-Dichloroethene (75-35-4)	U		0.2	"	"	"
cis-1,2-Dichloroethene (156-59-2)	U		0.2	"	"	"
trans-1,2-Dichloroethene (156-60-5)	U		0.2	"	"	"
1,2-Dichloropropane (78-87-5)	U		0.2	"	"	"
cis-1,3-Dichloropropene (10061-01-5)	U		0.2	"	"	"





Environmental Protection Agency  
**Region 6 Laboratory**

10625 Fallstone Road, Houston, TX 77099  
 Phone:(281)983-2100 Fax:(281)983-2248

**Toxic Organic Compounds in Ambient Air-TO15 - GC/MS**

**Lab ID: 0612012-01**

**Station ID: G1567**

Batch: B6L2002  
 Sample Type: air

Date Collected: 12/12/06

Initial Pressure: 14.3 psia  
 Sample Qualifiers:

**Targets (Continued)**

Analyte (CAS Number)	Result ppbv	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
trans-1,3-Dichloropropene (10061-02-6)	U		0.2	1	12/19/06	01/03/07
1,2-Dichloro-1,1,2,2-tetrafluoroethane (76-14-2)	U		0.2	"	"	"
1,4-Dioxane (123-91-1)	U		2.5	"	"	"
<b>Ethyl alcohol (64-17-5)</b>	<b>2.7</b>		0.2	"	"	"
Ethyl acetate (141-78-6)	U		1.0	"	"	"
<b>Ethylbenzene (100-41-4)</b>	<b>0.2</b>		0.2	"	"	"
1-Ethyl-4-methylbenzene (622-96-8)	U		0.5	"	"	"
n-Heptane (142-82-5)	U		0.2	"	"	"
Hexachlorobutadiene (87-68-3)	U		0.2	"	"	"
<b>n-Hexane (110-54-3)</b>	<b>0.2</b>		0.2	"	"	"
2-Hexanone (591-78-6)	U		0.5	"	"	"
Isopropyl alcohol (67-63-0)	U		1.2	"	"	"
<b>Methylene chloride (75-09-2)</b>	<b>0.2</b>		0.2	"	"	"
4-Methyl-2-pentanone (108-10-1)	U		2.5	"	"	"
Methyl tertiary-butyl ether (1634-04-4)	U		0.2	"	"	"
<b>Propene (115-07-1)</b>	<b>0.8</b>		0.2	"	"	"
Styrene (100-42-5)	U		0.5	"	"	"
1,1,2,2-Tetrachloroethane (79-34-5)	U		0.2	"	"	"
Tetrachloroethene (127-18-4)	U		0.2	"	"	"
Tetrahydrofuran (109-99-9)	U		0.5	"	"	"
<b>Toluene (108-88-3)</b>	<b>0.6</b>		0.2	"	"	"
1,2,4-Trichlorobenzene (120-82-1)	U		0.2	"	"	"
1,1,1-Trichloroethane (71-55-6)	U		0.2	"	"	"
1,1,2-Trichloroethane (79-00-5)	U		0.2	"	"	"
Trichloroethene (79-01-6)	U		0.2	"	"	"
<b>Trichlorofluoromethane (75-69-4)</b>	<b>0.2</b>		0.2	"	"	"
1,1,2-Trichloro-1,2,2-trifluoroethane (76-13-1)	U		0.2	"	"	"
1,2,4-Trimethylbenzene (95-63-6)	U		0.2	"	"	"
1,3,5-Trimethylbenzene (108-67-8)	U		0.2	"	"	"
Vinyl acetate (108-05-4)	U		1.0	"	"	"
<b>Vinyl chloride (75-01-4)</b>	<b>0.2</b>		0.2	"	"	"
<b>meta-/para-Xylene (na)</b>	<b>0.6</b>		0.5	"	"	"
<b>ortho-Xylene (95-47-6)</b>	<b>0.2</b>		0.2	"	"	"



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### Toxic Organic Compounds in Ambient Air-TO15 - GC/MS

**Lab ID: 0612012-01**

**Station ID: G1567**

Batch: B6L2002  
Sample Type: air

Date Collected: 12/12/06

Initial Pressure: 14.3 psia  
Sample Qualifiers:

#### Tentatively Identified Compounds

Compound (CAS)	Result ppbv	Analyte Qualifiers	Retention Time	Dilution	Prepared	Analyzed
2,4-Dimethylpentane (108-08-7)	46		10.99	1	12/19/06	01/03/07
2,3-Dimethylpentane (565-59-3)	21		12.63	"	"	"
2,2,4-Trimethylpentane (540-84-1)	290		13.48	"	"	"
2,5-Dimethylhexane (592-13-2)	40		15.30	"	"	"
Alkane at 15.42' (NA)	17		15.42	"	"	"
2,3,4-Trimethylpentane (565-75-3)	260		16.22	"	"	"
2,3,3-Trimethylpentane (560-21-4)	270		16.48	"	"	"
2,2,5-Trimethylhexane (3522-94-9)	100		17.66	"	"	"
2,3,5-Trimethylhexane (1069-53-0)	13		19.13	"	"	"
Alkane at 25.35' (NA)	13		25.35	"	"	"

The compounds listed are *tentatively* identified by the best match with the NIST or Wiley mass spectral data base or by manual interpretation. The concentrations are estimated based on a Response Factor of 1.0 to the nearest internal standard. A minimum of the top 10 most significant peaks that are at least 10% in area of the nearest internal standard are reported, excluding those found in the laboratory blank.



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**Toxic Organic Compounds in Ambient Air-TO15 - GC/MS**

**Lab ID: 0612012-02**

**Station ID: K0175**

Batch: B6L2002  
 Sample Type: air

Date Collected: 12/12/06

Initial Pressure: 14.3 psia  
 Sample Qualifiers:

**Surrogates**

Analyte	Result ppbv	Analyte Qualifiers	%Recovery	%Recovery Limits	Prepared	Analyzed
<i>Surr: 4-Bromofluorobenzene</i>	9.08		90.8	70-130	12/19/06	01/03/07
<i>Surr: 1,2-Dichloroethane-d4</i>	6.66		88.8	70-130	"	"
<i>Surr: Toluene-d8</i>	8.75		117	70-130	"	"
<i>Surr: 1,2-Dichlorobenzene-d4</i>	7.17		95.6	70-130	"	"

**Targets**

Analyte (CAS Number)	Result ppbv	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
<b>Acetone (67-64-1)</b>	<b>6.6</b>		0.2	1	12/19/06	01/03/07
<b>Benzene (71-43-2)</b>	<b>0.4</b>		0.2	"	"	"
Benzyl chloride (100-44-7)	U		2.5	"	"	"
1,3-Butadiene (106-99-0)	U		0.2	"	"	"
<b>2-Butanone (78-93-3)</b>	<b>3.9</b>		0.2	"	"	"
Bromodichloromethane (75-27-4)	U		0.2	"	"	"
Bromoform (75-25-2)	U		0.2	"	"	"
Bromomethane (74-83-9)	U		0.2	"	"	"
Carbon disulfide (75-15-0)	U		0.2	"	"	"
Carbon tetrachloride (56-23-5)	U		0.2	"	"	"
Chlorobenzene (108-90-7)	U		0.2	"	"	"
Chlorodibromomethane (124-48-1)	U		0.2	"	"	"
Chloroethane (75-00-3)	U		0.2	"	"	"
Chloroform (67-66-3)	U		0.2	"	"	"
<b>Chloromethane (74-87-3)</b>	<b>0.9</b>		0.2	"	"	"
Cyclohexane (110-82-7)	U		0.2	"	"	"
1,2-Dibromoethane (106-93-4)	U		0.2	"	"	"
1,2-Dichlorobenzene (95-50-1)	U		0.2	"	"	"
1,3-Dichlorobenzene (541-73-1)	U		0.2	"	"	"
1,4-Dichlorobenzene (106-46-7)	U		0.2	"	"	"
<b>Dichlorodifluoromethane (75-71-8)</b>	<b>0.5</b>		0.2	"	"	"
1,1-Dichloroethane (75-34-3)	U		0.2	"	"	"
1,2-Dichloroethane (107-06-2)	U		0.2	"	"	"
1,1-Dichloroethene (75-35-4)	U		0.2	"	"	"
cis-1,2-Dichloroethene (156-59-2)	U		0.2	"	"	"
trans-1,2-Dichloroethene (156-60-5)	U		0.2	"	"	"
1,2-Dichloropropane (78-87-5)	U		0.2	"	"	"
cis-1,3-Dichloropropene (10061-01-5)	U		0.2	"	"	"





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**Toxic Organic Compounds in Ambient Air-TO15 - GC/MS**

**Lab ID: 0612012-02**

**Station ID: K0175**

Batch: B6L2002  
 Sample Type: air

Date Collected: 12/12/06

Initial Pressure: 14.3 psia  
 Sample Qualifiers:

**Targets (Continued)**

Analyte (CAS Number)	Result ppbv	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
trans-1,3-Dichloropropene (10061-02-6)	U		0.2	1	12/19/06	01/03/07
1,2-Dichloro-1,1,2,2-tetrafluoroethane (76-14-2)	U		0.2	"	"	"
1,4-Dioxane (123-91-1)	U		2.5	"	"	"
Ethyl alcohol (64-17-5)	U		0.2	"	"	"
Ethyl acetate (141-78-6)	U		1.0	"	"	"
<b>Ethylbenzene (100-41-4)</b>	<b>0.6</b>		0.2	"	"	"
1-Ethyl-4-methylbenzene (622-96-8)	U		0.5	"	"	"
n-Heptane (142-82-5)	U		0.2	"	"	"
Hexachlorobutadiene (87-68-3)	U		0.2	"	"	"
<b>n-Hexane (110-54-3)</b>	<b>0.6</b>		0.2	"	"	"
2-Hexanone (591-78-6)	U		0.5	"	"	"
Isopropyl alcohol (67-63-0)	U		1.2	"	"	"
<b>Methylene chloride (75-09-2)</b>	<b>0.2</b>		0.2	"	"	"
4-Methyl-2-pentanone (108-10-1)	U		2.5	"	"	"
<b>Methyl tertiary-butyl ether (1634-04-4)</b>	<b>0.2</b>		0.2	"	"	"
<b>Propene (115-07-1)</b>	<b>2.2</b>		0.2	"	"	"
Styrene (100-42-5)	U		0.5	"	"	"
1,1,2,2-Tetrachloroethane (79-34-5)	U		0.2	"	"	"
Tetrachloroethene (127-18-4)	U		0.2	"	"	"
Tetrahydrofuran (109-99-9)	U		0.5	"	"	"
<b>Toluene (108-88-3)</b>	<b>1.7</b>		0.2	"	"	"
1,2,4-Trichlorobenzene (120-82-1)	U		0.2	"	"	"
1,1,1-Trichloroethane (71-55-6)	U		0.2	"	"	"
1,1,2-Trichloroethane (79-00-5)	U		0.2	"	"	"
Trichloroethene (79-01-6)	U		0.2	"	"	"
<b>Trichlorofluoromethane (75-69-4)</b>	<b>0.2</b>		0.2	"	"	"
1,1,2-Trichloro-1,2,2-trifluoroethane (76-13-1)	U		0.2	"	"	"
<b>1,2,4-Trimethylbenzene (95-63-6)</b>	<b>0.3</b>		0.2	"	"	"
1,3,5-Trimethylbenzene (108-67-8)	U		0.2	"	"	"
Vinyl acetate (108-05-4)	U		1.0	"	"	"
<b>Vinyl chloride (75-01-4)</b>	<b>0.3</b>		0.2	"	"	"
<b>meta-/para-Xylene (na)</b>	<b>2.1</b>		0.5	"	"	"
<b>ortho-Xylene (95-47-6)</b>	<b>0.7</b>		0.2	"	"	"



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**Toxic Organic Compounds in Ambient Air-TO15 - GC/MS**

**Lab ID: 0612012-02**

**Station ID: K0175**

Batch: B6L2002  
Sample Type: air

Date Collected: 12/12/06

Initial Pressure: 14.3 psia  
Sample Qualifiers:

**Tentatively Identified Compounds**

Compound (CAS)	Result ppbv	Analyte Qualifiers	Retention Time	Dilution	Prepared	Analyzed
2,3-Dimethylbutane (79-29-8)	47		8.75	1	12/19/06	01/03/07
2,4-Dimethylpentane (108-08-7)	150		10.99	"	"	"
2,3-Dimethylpentane (565-59-3)	58		12.63	"	"	"
2,2,4-Trimethylpentane (540-84-1)	420		13.50	"	"	"
2,5-Dimethylhexane (592-13-2)	140		15.32	"	"	"
Branched alkanes (NA)	190		15.43	"	"	"
2,3,4-Trimethylpentane (565-75-3)	200		16.25	"	"	"
2,3,3-Trimethylpentane (560-21-4)	230		16.51	"	"	"
2,3-Dimethylhexane (584-94-1)	63		16.64	"	"	"
2,3,4-Trimethylhexane (16747-26-5)	120		17.68	"	"	"

The compounds listed are *tentatively* identified by the best match with the NIST or Wiley mass spectral data base or by manual interpretation. The concentrations are estimated based on a Response Factor of 1.0 to the nearest internal standard. A minimum of the top 10 most significant peaks that are at least 10% in area of the nearest internal standard are reported, excluding those found in the laboratory blank.



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**Toxic Organic Compounds in Ambient Air-TO15 - GC/MS**

**Lab ID: 0612012-03**

**Station ID: F1582**

Batch: B6L2002  
 Sample Type: air

Date Collected: 12/13/06

Initial Pressure: 14.2 psia  
 Sample Qualifiers:

**Surrogates**

Analyte	Result ppbv	Analyte Qualifiers	%Recovery	%Recovery Limits	Prepared	Analyzed
<i>Surr: 4-Bromofluorobenzene</i>	9.55		95.5	70-130	12/19/06	01/03/07
<i>Surr: 1,2-Dichloroethane-d4</i>	8.45		113	70-130	"	"
<i>Surr: Toluene-d8</i>	7.70		103	70-130	"	"
<i>Surr: 1,2-Dichlorobenzene-d4</i>	7.80		104	70-130	"	"

**Targets**

Analyte (CAS Number)	Result ppbv	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
Acetone (67-64-1)	U		0.2	1	12/19/06	01/03/07
<b>Benzene (71-43-2)</b>	<b>1.7</b>		0.2	"	"	01/03/07
Benzyl chloride (100-44-7)	U		2.5	"	"	"
1,3-Butadiene (106-99-0)	U		0.2	"	"	01/03/07
2-Butanone (78-93-3)	U		0.2	"	"	01/03/07
Bromodichloromethane (75-27-4)	U		0.2	"	"	"
Bromoform (75-25-2)	U		0.2	"	"	"
Bromomethane (74-83-9)	U		0.2	"	"	"
Carbon disulfide (75-15-0)	U		0.2	"	"	"
Carbon tetrachloride (56-23-5)	U		0.2	"	"	"
Chlorobenzene (108-90-7)	U		0.2	"	"	"
Chlorodibromomethane (124-48-1)	U		0.2	"	"	"
Chloroethane (75-00-3)	U		0.2	"	"	"
<b>Chloroform (67-66-3)</b>	<b>0.3</b>		0.2	"	"	"
<b>Chloromethane (74-87-3)</b>	<b>0.6</b>		0.2	"	"	"
<b>Cyclohexane (110-82-7)</b>	<b>0.3</b>		0.2	"	"	"
1,2-Dibromoethane (106-93-4)	U		0.2	"	"	"
1,2-Dichlorobenzene (95-50-1)	U		0.2	"	"	"
1,3-Dichlorobenzene (541-73-1)	U		0.2	"	"	"
1,4-Dichlorobenzene (106-46-7)	U		0.2	"	"	"
<b>Dichlorodifluoromethane (75-71-8)</b>	<b>0.5</b>		0.2	"	"	"
1,1-Dichloroethane (75-34-3)	U		0.2	"	"	"
1,2-Dichloroethane (107-06-2)	U		0.2	"	"	"
1,1-Dichloroethene (75-35-4)	U		0.2	"	"	"
cis-1,2-Dichloroethene (156-59-2)	U		0.2	"	"	"
trans-1,2-Dichloroethene (156-60-5)	U		0.2	"	"	"
1,2-Dichloropropane (78-87-5)	U		0.2	"	"	"
cis-1,3-Dichloropropene (10061-01-5)	U		0.2	"	"	"





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**Toxic Organic Compounds in Ambient Air-TO15 - GC/MS**

**Lab ID: 0612012-03**

**Station ID: F1582**

Batch: B6L2002  
Sample Type: air

Date Collected: 12/13/06

Initial Pressure: 14.2 psia  
Sample Qualifiers:

**Targets (Continued)**

Analyte (CAS Number)	Result ppbv	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
trans-1,3-Dichloropropene (10061-02-6)	U		0.2	1	12/19/06	01/03/07
1,2-Dichloro-1,1,2,2-tetrafluoroethane (76-14-2)	U		0.2	"	"	"
<b>1,4-Dioxane (123-91-1)</b>	<b>2.8</b>		2.5	"	"	"
<b>Ethyl alcohol (64-17-5)</b>	<b>14.4</b>		0.2	"	"	"
Ethyl acetate (141-78-6)	U		1.0	"	"	01/03/07
<b>Ethylbenzene (100-41-4)</b>	<b>1.0</b>		0.2	"	"	01/03/07
1-Ethyl-4-methylbenzene (622-96-8)	U		0.5	"	"	01/03/07
<b>n-Heptane (142-82-5)</b>	<b>1.1</b>		0.2	"	"	01/03/07
Hexachlorobutadiene (87-68-3)	U		0.2	"	"	"
<b>n-Hexane (110-54-3)</b>	<b>1.7</b>		0.2	"	"	"
2-Hexanone (591-78-6)	U		0.5	"	"	"
Isopropyl alcohol (67-63-0)	U		1.2	"	"	01/03/07
<b>Methylene chloride (75-09-2)</b>	<b>0.6</b>		0.2	"	"	01/03/07
4-Methyl-2-pentanone (108-10-1)	U		2.5	"	"	01/03/07
Methyl tertiary-butyl ether (1634-04-4)	U		0.2	"	"	01/03/07
<b>Propene (115-07-1)</b>	<b>13.9</b>		0.2	"	"	"
<b>Styrene (100-42-5)</b>	<b>2.2</b>		0.5	"	"	"
1,1,2,2-Tetrachloroethane (79-34-5)	U		0.2	"	"	"
<b>Tetrachloroethene (127-18-4)</b>	<b>0.2</b>		0.2	"	"	"
Tetrahydrofuran (109-99-9)	U		0.5	"	"	"
<b>Toluene (108-88-3)</b>	<b>5.2</b>		0.2	"	"	"
1,2,4-Trichlorobenzene (120-82-1)	U		0.2	"	"	"
1,1,1-Trichloroethane (71-55-6)	U		0.2	"	"	"
1,1,2-Trichloroethane (79-00-5)	U		0.2	"	"	"
Trichloroethene (79-01-6)	U		0.2	"	"	"
<b>Trichlorofluoromethane (75-69-4)</b>	<b>0.3</b>		0.2	"	"	"
1,1,2-Trichloro-1,2,2-trifluoroethane (76-13-1)	U		0.2	"	"	"
<b>1,2,4-Trimethylbenzene (95-63-6)</b>	<b>1.1</b>		0.2	"	"	"
<b>1,3,5-Trimethylbenzene (108-67-8)</b>	<b>0.3</b>		0.2	"	"	"
Vinyl acetate (108-05-4)	U		1.0	"	"	"
Vinyl chloride (75-01-4)	U		0.2	"	"	"
<b>meta-/para-Xylene (na)</b>	<b>2.8</b>		0.5	"	"	"
<b>ortho-Xylene (95-47-6)</b>	<b>1.0</b>		0.2	"	"	"



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**Toxic Organic Compounds in Ambient Air-TO15 - GC/MS**

**Lab ID: 0612012-03**

**Station ID: F1582**

Batch: B6L2002  
Sample Type: air

Date Collected: 12/13/06

Initial Pressure: 14.2 psia  
Sample Qualifiers:

**Tentatively Identified Compounds**

Compound (CAS)	Result ppbv	Analyte Qualifiers	Retention Time	Dilution	Prepared	Analyzed
Isobutane (75-28-5)	18		5.32	1	12/19/06	01/03/07
1-Butene (106-98-9)	2		5.51	"	"	"
n-Butane (106-97-8)	13		5.60	"	"	"
2-Methylbutane (78-78-4)	6		6.43	"	"	"
n-Pentane (109-66-0)	5		7.06	"	"	"
2-Methylpentane (107-83-5)	4		8.84	"	"	"
3-Methylpentane (96-14-0)	2		9.32	"	"	"
3-Methylhexane (589-34-4)	2		12.87	"	"	"
2,2-Dimethylhexane (590-73-8)	3		13.50	"	"	01/03/07
C3-Alkylbenzene (NA)	2		25.02	"	"	01/03/07

The compounds listed are *tentatively* identified by the best match with the NIST or Wiley mass spectral data base or by manual interpretation. The concentrations are estimated based on a Response Factor of 1.0 to the nearest internal standard. A minimum of the top 10 most significant peaks that are at least 10% in area of the nearest internal standard are reported, excluding those found in the laboratory blank.



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**Toxic Organic Compounds in Ambient Air-TO15 - GC/MS**

**Lab ID: 0612012-04**

**Station ID: A1498**

Batch: B6L2002  
 Sample Type: air

Date Collected: 12/13/06

Initial Pressure: 14.6 psia  
 Sample Qualifiers:

**Surrogates**

Analyte	Result ppbv	Analyte Qualifiers	%Recovery	%Recovery Limits	Prepared	Analyzed
<i>Surr: 4-Bromofluorobenzene</i>	10.7		107	70-130	12/19/06	01/05/07
<i>Surr: 1,2-Dichloroethane-d4</i>	8.73		116	70-130	"	"
<i>Surr: Toluene-d8</i>	7.69		103	70-130	"	"
<i>Surr: 1,2-Dichlorobenzene-d4</i>	7.41		98.8	70-130	"	"

**Targets**

Analyte (CAS Number)	Result ppbv	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
<b>Acetone (67-64-1)</b>	<b>15.4</b>		0.2	1	12/19/06	01/05/07
<b>Benzene (71-43-2)</b>	<b>1.8</b>		0.2	"	"	"
Benzyl chloride (100-44-7)	U		2.5	"	"	"
<b>1,3-Butadiene (106-99-0)</b>	<b>0.2</b>		0.2	"	"	"
2-Butanone (78-93-3)	U		0.2	"	"	"
Bromodichloromethane (75-27-4)	U		0.2	"	"	"
Bromoform (75-25-2)	U		0.2	"	"	"
Bromomethane (74-83-9)	U		0.2	"	"	"
Carbon disulfide (75-15-0)	U		0.2	"	"	"
Carbon tetrachloride (56-23-5)	U		0.2	"	"	"
Chlorobenzene (108-90-7)	U		0.2	"	"	"
Chlorodibromomethane (124-48-1)	U		0.2	"	"	"
Chloroethane (75-00-3)	U		0.2	"	"	"
<b>Chloroform (67-66-3)</b>	<b>0.4</b>		0.2	"	"	"
<b>Chloromethane (74-87-3)</b>	<b>0.9</b>		0.2	"	"	"
<b>Cyclohexane (110-82-7)</b>	<b>0.4</b>		0.2	"	"	"
1,2-Dibromoethane (106-93-4)	U		0.2	"	"	"
1,2-Dichlorobenzene (95-50-1)	U		0.2	"	"	"
1,3-Dichlorobenzene (541-73-1)	U		0.2	"	"	"
<b>1,4-Dichlorobenzene (106-46-7)</b>	<b>0.3</b>		0.2	"	"	"
<b>Dichlorodifluoromethane (75-71-8)</b>	<b>0.6</b>		0.2	"	"	"
1,1-Dichloroethane (75-34-3)	U		0.2	"	"	"
1,2-Dichloroethane (107-06-2)	U		0.2	"	"	"
1,1-Dichloroethene (75-35-4)	U		0.2	"	"	"
cis-1,2-Dichloroethene (156-59-2)	U		0.2	"	"	"
trans-1,2-Dichloroethene (156-60-5)	U		0.2	"	"	"
1,2-Dichloropropane (78-87-5)	U		0.2	"	"	"
cis-1,3-Dichloropropene (10061-01-5)	U		0.2	"	"	"





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**Toxic Organic Compounds in Ambient Air-TO15 - GC/MS**

**Lab ID: 0612012-04**

**Station ID: A1498**

Batch: B6L2002  
 Sample Type: air

Date Collected: 12/13/06

Initial Pressure: 14.6 psia  
 Sample Qualifiers:

**Targets (Continued)**

Analyte (CAS Number)	Result ppbv	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
trans-1,3-Dichloropropene (10061-02-6)	U		0.2	1	12/19/06	01/05/07
1,2-Dichloro-1,1,2,2-tetrafluoroethane (76-14-2)	U		0.2	"	"	"
<b>1,4-Dioxane (123-91-1)</b>	<b>4.1</b>		2.5	"	"	"
<b>Ethyl alcohol (64-17-5)</b>	<b>17.1</b>		0.2	"	"	"
Ethyl acetate (141-78-6)	U		1.0	"	"	"
<b>Ethylbenzene (100-41-4)</b>	<b>6.1</b>		0.2	"	"	"
<b>1-Ethyl-4-methylbenzene (622-96-8)</b>	<b>0.5</b>		0.5	"	"	"
<b>n-Heptane (142-82-5)</b>	<b>1.6</b>		0.2	"	"	"
Hexachlorobutadiene (87-68-3)	U		0.2	"	"	"
<b>n-Hexane (110-54-3)</b>	<b>2.2</b>		0.2	"	"	"
2-Hexanone (591-78-6)	U		0.5	"	"	"
Isopropyl alcohol (67-63-0)	U		1.2	"	"	"
<b>Methylene chloride (75-09-2)</b>	<b>0.7</b>		0.2	"	"	"
4-Methyl-2-pentanone (108-10-1)	U		2.5	"	"	"
<b>Methyl tertiary-butyl ether (1634-04-4)</b>	<b>0.2</b>		0.2	"	"	"
<b>Propene (115-07-1)</b>	<b>14.8</b>		0.2	"	"	"
<b>Styrene (100-42-5)</b>	<b>113</b>		5.0	10	"	01/03/07
1,1,2,2-Tetrachloroethane (79-34-5)	U		0.2	1	"	01/05/07
<b>Tetrachloroethene (127-18-4)</b>	<b>0.3</b>		0.2	"	"	"
Tetrahydrofuran (109-99-9)	U		0.5	"	"	"
<b>Toluene (108-88-3)</b>	<b>6.7</b>		0.2	"	"	"
<b>1,2,4-Trichlorobenzene (120-82-1)</b>	<b>0.2</b>		0.2	"	"	"
1,1,1-Trichloroethane (71-55-6)	U		0.2	"	"	"
1,1,2-Trichloroethane (79-00-5)	U		0.2	"	"	"
Trichloroethene (79-01-6)	U		0.2	"	"	"
<b>Trichlorofluoromethane (75-69-4)</b>	<b>0.4</b>		0.2	"	"	"
1,1,2-Trichloro-1,2,2-trifluoroethane (76-13-1)	U		0.2	"	"	"
<b>1,2,4-Trimethylbenzene (95-63-6)</b>	<b>1.4</b>		0.2	"	"	"
<b>1,3,5-Trimethylbenzene (108-67-8)</b>	<b>0.4</b>		0.2	"	"	"
Vinyl acetate (108-05-4)	U		1.0	"	"	"
Vinyl chloride (75-01-4)	U		0.2	"	"	"
<b>meta-/para-Xylene (na)</b>	<b>4.0</b>		0.5	"	"	"
<b>ortho-Xylene (95-47-6)</b>	<b>1.5</b>		0.2	"	"	"



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### Toxic Organic Compounds in Ambient Air-TO15 - GC/MS

**Lab ID: 0612012-04**

**Station ID: A1498**

Batch: B6L2002  
Sample Type: air

Date Collected: 12/13/06

Initial Pressure: 14.6 psia  
Sample Qualifiers:

#### Tentatively Identified Compounds

Compound (CAS)	Result ppbv	Analyte Qualifiers	Retention Time	Dilution	Prepared	Analyzed
Isobutane (75-28-5)	3		5.31	1	12/19/06	01/05/07
n-Butane (106-97-8)	12		5.60	"	"	"
2-Methylbutane (78-78-4)	12		6.57	"	"	"
n-Pentane (109-66-0)	5		7.05	"	"	"
2-Methylpentane (107-83-5)	4		8.84	"	"	"
Methylcyclopentane (96-37-7)	4		10.95	"	"	"
3-Methylhexane (589-34-4)	3		12.87	"	"	"
n-Decane (124-18-5)	2		26.62	"	"	"
C3-Alkylbenzene (NA)	1		27.51	"	"	"
C4-Alkylbenzene (NA)	2		28.59	"	"	"

The compounds listed are *tentatively* identified by the best match with the NIST or Wiley mass spectral data base or by manual interpretation. The concentrations are estimated based on a Response Factor of 1.0 to the nearest internal standard. A minimum of the top 10 most significant peaks that are at least 10% in area of the nearest internal standard are reported, excluding those found in the laboratory blank.



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**Toxic Organic Compounds in Ambient Air-TO15 - GC/MS**

**Lab ID: 0612012-05**

**Station ID: F1496**

Batch: B6L2002  
 Sample Type: air

Date Collected: 12/13/06

Initial Pressure: 14.7 psia  
 Sample Qualifiers:

**Surrogates**

Analyte	Result ppbv	Analyte Qualifiers	%Recovery	%Recovery Limits	Prepared	Analyzed
<i>Surr: 4-Bromofluorobenzene</i>	9.84		98.4	70-130	12/19/06	01/05/07
<i>Surr: 1,2-Dichloroethane-d4</i>	6.78		90.4	70-130	"	"
<i>Surr: Toluene-d8</i>	7.54		101	70-130	"	"
<i>Surr: 1,2-Dichlorobenzene-d4</i>	7.08		94.4	70-130	"	"

**Targets**

Analyte (CAS Number)	Result ppbv	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
<b>Acetone (67-64-1)</b>	<b>10.4</b>		0.2	1	12/19/06	01/05/07
<b>Benzene (71-43-2)</b>	<b>8.5</b>		0.2	"	"	"
Benzyl chloride (100-44-7)	U		2.5	"	"	"
1,3-Butadiene (106-99-0)	U		0.2	"	"	"
2-Butanone (78-93-3)	U		0.2	"	"	"
Bromodichloromethane (75-27-4)	U		0.2	"	"	"
Bromoform (75-25-2)	U		0.2	"	"	"
Bromomethane (74-83-9)	U		0.2	"	"	"
Carbon disulfide (75-15-0)	U		0.2	"	"	"
Carbon tetrachloride (56-23-5)	U		0.2	"	"	"
Chlorobenzene (108-90-7)	U		0.2	"	"	"
Chlorodibromomethane (124-48-1)	U		0.2	"	"	"
Chloroethane (75-00-3)	U		0.2	"	"	"
<b>Chloroform (67-66-3)</b>	<b>0.2</b>		0.2	"	"	"
<b>Chloromethane (74-87-3)</b>	<b>0.8</b>		0.2	"	"	"
<b>Cyclohexane (110-82-7)</b>	<b>9.7</b>		0.2	"	"	"
1,2-Dibromoethane (106-93-4)	U		0.2	"	"	"
1,2-Dichlorobenzene (95-50-1)	U		0.2	"	"	"
1,3-Dichlorobenzene (541-73-1)	U		0.2	"	"	"
1,4-Dichlorobenzene (106-46-7)	U		0.2	"	"	"
<b>Dichlorodifluoromethane (75-71-8)</b>	<b>0.6</b>		0.2	"	"	"
1,1-Dichloroethane (75-34-3)	U		0.2	"	"	"
1,2-Dichloroethane (107-06-2)	U		0.2	"	"	"
1,1-Dichloroethene (75-35-4)	U		0.2	"	"	"
cis-1,2-Dichloroethene (156-59-2)	U		0.2	"	"	"
trans-1,2-Dichloroethene (156-60-5)	U		0.2	"	"	"
1,2-Dichloropropane (78-87-5)	U		0.2	"	"	"
cis-1,3-Dichloropropene (10061-01-5)	U		0.2	"	"	"





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**Toxic Organic Compounds in Ambient Air-TO15 - GC/MS**

**Lab ID: 0612012-05**

**Station ID: F1496**

Batch: B6L2002  
 Sample Type: air

Date Collected: 12/13/06

Initial Pressure: 14.7 psia  
 Sample Qualifiers:

**Targets (Continued)**

Analyte (CAS Number)	Result ppbv	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
trans-1,3-Dichloropropene (10061-02-6)	U		0.2	1	12/19/06	01/05/07
1,2-Dichloro-1,1,2,2-tetrafluoroethane (76-14-2)	U		0.2	"	"	"
1,4-Dioxane (123-91-1)	U		2.5	"	"	"
<b>Ethyl alcohol (64-17-5)</b>	<b>41.4</b>		1.2	5	"	01/05/07
Ethyl acetate (141-78-6)	U		1.0	1	"	01/05/07
<b>Ethylbenzene (100-41-4)</b>	<b>1.6</b>		0.2	"	"	"
1-Ethyl-4-methylbenzene (622-96-8)	U		0.5	"	"	"
<b>n-Heptane (142-82-5)</b>	<b>4.7</b>		0.2	"	"	"
Hexachlorobutadiene (87-68-3)	U		0.2	"	"	"
<b>n-Hexane (110-54-3)</b>	<b>48.0</b>		1.2	5	"	01/05/07
2-Hexanone (591-78-6)	U		0.5	1	"	01/05/07
Isopropyl alcohol (67-63-0)	U		1.2	"	"	"
<b>Methylene chloride (75-09-2)</b>	<b>0.7</b>		0.2	"	"	"
4-Methyl-2-pentanone (108-10-1)	U		2.5	"	"	"
Methyl tertiary-butyl ether (1634-04-4)	U		0.2	"	"	"
<b>Propene (115-07-1)</b>	<b>22.2</b>		0.2	"	"	"
<b>Styrene (100-42-5)</b>	<b>16.4</b>		0.5	"	"	"
1,1,2,2-Tetrachloroethane (79-34-5)	U		0.2	"	"	"
<b>Tetrachloroethene (127-18-4)</b>	<b>0.2</b>		0.2	"	"	"
Tetrahydrofuran (109-99-9)	U		0.5	"	"	"
<b>Toluene (108-88-3)</b>	<b>6.2</b>		0.2	"	"	"
1,2,4-Trichlorobenzene (120-82-1)	U		0.2	"	"	"
1,1,1-Trichloroethane (71-55-6)	U		0.2	"	"	"
1,1,2-Trichloroethane (79-00-5)	U		0.2	"	"	"
Trichloroethene (79-01-6)	U		0.2	"	"	"
<b>Trichlorofluoromethane (75-69-4)</b>	<b>0.3</b>		0.2	"	"	"
1,1,2-Trichloro-1,2,2-trifluoroethane (76-13-1)	U		0.2	"	"	"
<b>1,2,4-Trimethylbenzene (95-63-6)</b>	<b>1.2</b>		0.2	"	"	"
<b>1,3,5-Trimethylbenzene (108-67-8)</b>	<b>0.4</b>		0.2	"	"	"
Vinyl acetate (108-05-4)	U		1.0	"	"	"
Vinyl chloride (75-01-4)	U		0.2	"	"	"
<b>meta-/para-Xylene (na)</b>	<b>3.2</b>		0.5	"	"	"
<b>ortho-Xylene (95-47-6)</b>	<b>1.2</b>		0.2	"	"	"



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**Toxic Organic Compounds in Ambient Air-TO15 - GC/MS**

**Lab ID: 0612012-05**

**Station ID: F1496**

Batch: B6L2002  
Sample Type: air

Date Collected: 12/13/06

Initial Pressure: 14.7 psia  
Sample Qualifiers:

**Tentatively Identified Compounds**

Compound (CAS)	Result ppbv	Analyte Qualifiers	Retention Time	Dilution	Prepared	Analyzed
Isobutane (75-28-5)	4		5.31	1	12/19/06	01/05/07
n-Butane (106-97-8)	4		5.60	"	"	"
2-Methylbutane (78-78-4)	5		6.57	"	"	"
n-Pentane (109-66-0)	3		7.05	"	"	"
2-Methylpentane (107-83-5)	10		8.84	"	"	"
3-Methylpentane (96-14-0)	7		9.32	"	"	"
Methylcyclopentane (96-37-7)	8		10.96	"	"	"
2,3-Dimethylpentane (565-59-3)	3		12.63	"	"	"
3-Methylhexane (589-34-4)	7		12.87	"	"	"
Methylcyclohexane (108-87-2)	4		15.01	"	"	"

The compounds listed are *tentatively* identified by the best match with the NIST or Wiley mass spectral data base or by manual interpretation. The concentrations are estimated based on a Response Factor of 1.0 to the nearest internal standard. A minimum of the top 10 most significant peaks that are at least 10% in area of the nearest internal standard are reported, excluding those found in the laboratory blank.



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**Toxic Organic Compounds in Ambient Air-TO15 - GC/MS**

**Lab ID: 0612012-06**

**Station ID: B0125**

Batch: B6L2002  
 Sample Type: air

Date Collected: 12/13/06

Initial Pressure: 14.5 psia  
 Sample Qualifiers:

**Surrogates**

Analyte	Result ppbv	Analyte Qualifiers	%Recovery	%Recovery Limits	Prepared	Analyzed
<i>Surr: 4-Bromofluorobenzene</i>	9.51		95.1	70-130	12/19/06	01/05/07
<i>Surr: 1,2-Dichloroethane-d4</i>	8.82		118	70-130	"	"
<i>Surr: Toluene-d8</i>	7.53		100	70-130	"	"
<i>Surr: 1,2-Dichlorobenzene-d4</i>	6.51		86.8	70-130	"	"

**Targets**

Analyte (CAS Number)	Result ppbv	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
<b>Acetone (67-64-1)</b>	<b>1.5</b>		0.2	1	12/19/06	01/05/07
<b>Benzene (71-43-2)</b>	<b>114</b>		2.5	10	"	01/05/07
Benzyl chloride (100-44-7)	U		2.5	1	"	01/05/07
1,3-Butadiene (106-99-0)	U		0.2	"	"	"
<b>2-Butanone (78-93-3)</b>	<b>72.7</b>		2.5	10	"	01/05/07
Bromodichloromethane (75-27-4)	U		0.2	1	"	01/05/07
Bromoform (75-25-2)	U		0.2	"	"	"
Bromomethane (74-83-9)	U		0.2	"	"	"
Carbon disulfide (75-15-0)	U		0.2	"	"	"
Carbon tetrachloride (56-23-5)	U		0.2	"	"	"
Chlorobenzene (108-90-7)	U		0.2	"	"	"
Chlorodibromomethane (124-48-1)	U		0.2	"	"	"
Chloroethane (75-00-3)	U		0.2	"	"	"
Chloroform (67-66-3)	U		0.2	"	"	"
<b>Chloromethane (74-87-3)</b>	<b>0.7</b>		0.2	"	"	"
<b>Cyclohexane (110-82-7)</b>	<b>1.6</b>		0.2	"	"	"
1,2-Dibromoethane (106-93-4)	U		0.2	"	"	"
1,2-Dichlorobenzene (95-50-1)	U		0.2	"	"	"
1,3-Dichlorobenzene (541-73-1)	U		0.2	"	"	"
1,4-Dichlorobenzene (106-46-7)	U		0.2	"	"	"
<b>Dichlorodifluoromethane (75-71-8)</b>	<b>0.6</b>		0.2	"	"	"
1,1-Dichloroethane (75-34-3)	U		0.2	"	"	"
1,2-Dichloroethane (107-06-2)	U		0.2	"	"	"
1,1-Dichloroethene (75-35-4)	U		0.2	"	"	"
cis-1,2-Dichloroethene (156-59-2)	U		0.2	"	"	"
trans-1,2-Dichloroethene (156-60-5)	U		0.2	"	"	"
1,2-Dichloropropane (78-87-5)	U		0.2	"	"	"
cis-1,3-Dichloropropene (10061-01-5)	U		0.2	"	"	"





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**Toxic Organic Compounds in Ambient Air-TO15 - GC/MS**

**Lab ID: 0612012-06**

**Station ID: B0125**

Batch: B6L2002  
 Sample Type: air

Date Collected: 12/13/06

Initial Pressure: 14.5 psia  
 Sample Qualifiers:

**Targets (Continued)**

Analyte (CAS Number)	Result ppbv	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
trans-1,3-Dichloropropene (10061-02-6)	U		0.2	1	12/19/06	01/05/07
1,2-Dichloro-1,1,2,2-tetrafluoroethane (76-14-2)	U		0.2	"	"	"
1,4-Dioxane (123-91-1)	U		2.5	"	"	"
<b>Ethyl alcohol (64-17-5)</b>	<b>14.9</b>		0.2	"	"	"
Ethyl acetate (141-78-6)	U		1.0	"	"	"
<b>Ethylbenzene (100-41-4)</b>	<b>0.3</b>		0.2	"	"	"
1-Ethyl-4-methylbenzene (622-96-8)	U		0.5	"	"	"
<b>n-Heptane (142-82-5)</b>	<b>0.6</b>		0.2	"	"	"
Hexachlorobutadiene (87-68-3)	U		0.2	"	"	"
<b>n-Hexane (110-54-3)</b>	<b>9.4</b>		0.2	"	"	"
2-Hexanone (591-78-6)	U		0.5	"	"	"
<b>Isopropyl alcohol (67-63-0)</b>	<b>5.1</b>		1.2	"	"	"
Methylene chloride (75-09-2)	U		0.2	"	"	"
4-Methyl-2-pentanone (108-10-1)	U		2.5	"	"	"
<b>Methyl tertiary-butyl ether (1634-04-4)</b>	<b>22.7</b>		2.5	10	"	01/05/07
<b>Propene (115-07-1)</b>	<b>10.8</b>		0.2	1	"	01/05/07
<b>Styrene (100-42-5)</b>	<b>0.7</b>		0.5	"	"	"
1,1,2,2-Tetrachloroethane (79-34-5)	U		0.2	"	"	"
Tetrachloroethene (127-18-4)	U		0.2	"	"	"
Tetrahydrofuran (109-99-9)	U		0.5	"	"	"
<b>Toluene (108-88-3)</b>	<b>5.5</b>		0.2	"	"	"
1,2,4-Trichlorobenzene (120-82-1)	U		0.2	"	"	"
1,1,1-Trichloroethane (71-55-6)	U		0.2	"	"	"
1,1,2-Trichloroethane (79-00-5)	U		0.2	"	"	"
Trichloroethene (79-01-6)	U		0.2	"	"	"
<b>Trichlorofluoromethane (75-69-4)</b>	<b>0.2</b>		0.2	"	"	"
1,1,2-Trichloro-1,2,2-trifluoroethane (76-13-1)	U		0.2	"	"	"
1,2,4-Trimethylbenzene (95-63-6)	U		0.2	"	"	"
1,3,5-Trimethylbenzene (108-67-8)	U		0.2	"	"	"
Vinyl acetate (108-05-4)	U		1.0	"	"	"
Vinyl chloride (75-01-4)	U		0.2	"	"	"
<b>meta-/para-Xylene (na)</b>	<b>1.3</b>		0.5	"	"	"
<b>ortho-Xylene (95-47-6)</b>	<b>0.3</b>		0.2	"	"	"



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**Region 6 Laboratory**

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**Toxic Organic Compounds in Ambient Air-TO15 - GC/MS**

**Lab ID: 0612012-06**

**Station ID: B0125**

Batch: B6L2002  
Sample Type: air

Date Collected: 12/13/06

Initial Pressure: 14.5 psia  
Sample Qualifiers:

**Tentatively Identified Compounds**

Compound (CAS)	Result ppbv	Analyte Qualifiers	Retention Time	Dilution	Prepared	Analyzed
Isobutane (75-28-5)	12		5.31	1	12/19/06	01/05/07
n-Butane (106-97-8)	14		5.60	"	"	"
2-Methylbutane (78-78-4)	11		6.57	"	"	"
n-Pentane (109-66-0)	8		7.05	"	"	"
3-Methylpentane (96-14-0)	8		9.31	"	"	"
Methylcyclopentane (96-37-7)	10		10.96	"	"	"
2,2,4-Trimethylpentane (540-84-1)	7		13.49	"	"	"
C5-Alkane: Branched (NA)	3		16.23	"	"	"
5-Methyl-1-heptene (13151-04-7)	5		16.72	"	"	"
1-Octene (111-66-0)	3,600		17.82	10	"	"

The compounds listed are *tentatively* identified by the best match with the NIST or Wiley mass spectral data base or by manual interpretation. The concentrations are estimated based on a Response Factor of 1.0 to the nearest internal standard. A minimum of the top 10 most significant peaks that are at least 10% in area of the nearest internal standard are reported, excluding those found in the laboratory blank.



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**Toxic Organic Compounds in Ambient Air-TO15 - GC/MS**

**Lab ID: 0612012-07**

**Station ID: H1499**

Batch: B6L2002  
 Sample Type: air

Date Collected: 12/13/06

Initial Pressure: 14.2 psia  
 Sample Qualifiers:

**Surrogates**

Analyte	Result ppbv	Analyte Qualifiers	%Recovery	%Recovery Limits	Prepared	Analyzed
<i>Surr: 4-Bromofluorobenzene</i>	11.4		114	70-130	12/19/06	01/05/07
<i>Surr: 1,2-Dichloroethane-d4</i>	8.54		114	70-130	"	"
<i>Surr: Toluene-d8</i>	7.82		104	70-130	"	"
<i>Surr: 1,2-Dichlorobenzene-d4</i>	8.61		115	70-130	"	"

**Targets**

Analyte (CAS Number)	Result ppbv	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
Acetone (67-64-1)	U		0.2	1	12/19/06	01/05/07
<b>Benzene (71-43-2)</b>	<b>3.1</b>		0.2	"	"	"
Benzyl chloride (100-44-7)	U		2.5	"	"	"
1,3-Butadiene (106-99-0)	U		0.2	"	"	"
2-Butanone (78-93-3)	U		0.2	"	"	"
Bromodichloromethane (75-27-4)	U		0.2	"	"	"
Bromoform (75-25-2)	U		0.2	"	"	"
Bromomethane (74-83-9)	U		0.2	"	"	"
Carbon disulfide (75-15-0)	U		0.2	"	"	"
Carbon tetrachloride (56-23-5)	U		0.2	"	"	"
Chlorobenzene (108-90-7)	U		0.2	"	"	"
Chlorodibromomethane (124-48-1)	U		0.2	"	"	"
Chloroethane (75-00-3)	U		0.2	"	"	"
<b>Chloroform (67-66-3)</b>	<b>0.3</b>		0.2	"	"	"
<b>Chloromethane (74-87-3)</b>	<b>1.0</b>		0.2	"	"	"
<b>Cyclohexane (110-82-7)</b>	<b>4.0</b>		0.2	"	"	"
1,2-Dibromoethane (106-93-4)	U		0.2	"	"	"
1,2-Dichlorobenzene (95-50-1)	U		0.2	"	"	"
1,3-Dichlorobenzene (541-73-1)	U		0.2	"	"	"
1,4-Dichlorobenzene (106-46-7)	U		0.2	"	"	"
<b>Dichlorodifluoromethane (75-71-8)</b>	<b>0.5</b>		0.2	"	"	"
1,1-Dichloroethane (75-34-3)	U		0.2	"	"	"
1,2-Dichloroethane (107-06-2)	U		0.2	"	"	"
1,1-Dichloroethene (75-35-4)	U		0.2	"	"	"
cis-1,2-Dichloroethene (156-59-2)	U		0.2	"	"	"
trans-1,2-Dichloroethene (156-60-5)	U		0.2	"	"	"
1,2-Dichloropropane (78-87-5)	U		0.2	"	"	"
cis-1,3-Dichloropropene (10061-01-5)	U		0.2	"	"	"





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**Toxic Organic Compounds in Ambient Air-TO15 - GC/MS**

**Lab ID: 0612012-07**

**Station ID: H1499**

Batch: B6L2002  
 Sample Type: air

Date Collected: 12/13/06

Initial Pressure: 14.2 psia  
 Sample Qualifiers:

**Targets (Continued)**

Analyte (CAS Number)	Result ppbv	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
trans-1,3-Dichloropropene (10061-02-6)	U		0.2	1	12/19/06	01/05/07
1,2-Dichloro-1,1,2,2-tetrafluoroethane (76-14-2)	U		0.2	"	"	"
1,4-Dioxane (123-91-1)	U		2.5	"	"	"
Ethyl alcohol (64-17-5)	U		0.2	"	"	"
Ethyl acetate (141-78-6)	U		1.0	"	"	"
<b>Ethylbenzene (100-41-4)</b>	<b>3.6</b>		0.2	"	"	"
<b>1-Ethyl-4-methylbenzene (622-96-8)</b>	<b>4.6</b>		0.5	"	"	"
<b>n-Heptane (142-82-5)</b>	<b>13.5</b>		0.2	"	"	"
Hexachlorobutadiene (87-68-3)	U		0.2	"	"	"
<b>n-Hexane (110-54-3)</b>	<b>10.3</b>		0.2	"	"	"
2-Hexanone (591-78-6)	U		0.5	"	"	"
Isopropyl alcohol (67-63-0)	U		1.2	"	"	"
Methylene chloride (75-09-2)	U		0.2	"	"	"
4-Methyl-2-pentanone (108-10-1)	U		2.5	"	"	"
<b>Methyl tertiary-butyl ether (1634-04-4)</b>	<b>18.4</b>		0.2	"	"	"
<b>Propene (115-07-1)</b>	<b>9.1</b>		0.2	"	"	"
Styrene (100-42-5)	U		0.5	"	"	"
1,1,2,2-Tetrachloroethane (79-34-5)	U		0.2	"	"	"
Tetrachloroethene (127-18-4)	U		0.2	"	"	"
Tetrahydrofuran (109-99-9)	U		0.5	"	"	"
<b>Toluene (108-88-3)</b>	<b>12.5</b>		0.2	"	"	"
1,2,4-Trichlorobenzene (120-82-1)	U		0.2	"	"	"
1,1,1-Trichloroethane (71-55-6)	U		0.2	"	"	"
1,1,2-Trichloroethane (79-00-5)	U		0.2	"	"	"
Trichloroethene (79-01-6)	U		0.2	"	"	"
<b>Trichlorofluoromethane (75-69-4)</b>	<b>0.2</b>		0.2	"	"	"
1,1,2-Trichloro-1,2,2-trifluoroethane (76-13-1)	U		0.2	"	"	"
<b>1,2,4-Trimethylbenzene (95-63-6)</b>	<b>16.0</b>		0.2	"	"	"
<b>1,3,5-Trimethylbenzene (108-67-8)</b>	<b>4.2</b>		0.2	"	"	"
Vinyl acetate (108-05-4)	U		1.0	"	"	"
Vinyl chloride (75-01-4)	U		0.2	"	"	"
<b>meta-/para-Xylene (na)</b>	<b>21.7</b>		0.5	"	"	"
<b>ortho-Xylene (95-47-6)</b>	<b>8.5</b>		0.2	"	"	"



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**Toxic Organic Compounds in Ambient Air-TO15 - GC/MS**

**Lab ID: 0612012-07**

**Station ID: H1499**

Batch: B6L2002  
Sample Type: air

Date Collected: 12/13/06

Initial Pressure: 14.2 psia  
Sample Qualifiers:

**Tentatively Identified Compounds**

Compound (CAS)	Result ppbv	Analyte Qualifiers	Retention Time	Dilution	Prepared	Analyzed
Isobutane (75-28-5)	12		5.32	1	12/19/06	01/05/07
3-Methylpentane (96-14-0)	14		9.32	"	"	"
Branched Alkane(s) at 13.49' (NA)	34		13.49	"	"	"
n-Octane (111-65-9)	13		18.31	"	"	"
n-Nonane (111-84-2)	30		22.61	"	"	"
2,6-Dimethyloctane (2051-30-1)	17		24.11	"	"	"
C3-Alkylbenzene at 25.01' (NA)	15		25.01	"	"	"
n-Decane (124-18-5)	37		26.62	"	"	"
Alkylbenzene at 27.51' (NA)	18		27.51	"	"	"
n-Undecane (1120-21-4)	20		29.97	"	"	"

The compounds listed are *tentatively* identified by the best match with the NIST or Wiley mass spectral data base or by manual interpretation. The concentrations are estimated based on a Response Factor of 1.0 to the nearest internal standard. A minimum of the top 10 most significant peaks that are at least 10% in area of the nearest internal standard are reported, excluding those found in the laboratory blank.



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**Toxic Organic Compounds in Ambient Air-TO15 - GC/MS**

**Lab ID: 0612012-08**

**Station ID: J0165**

Batch: B6L2002  
 Sample Type: air

Date Collected: 12/13/06

Initial Pressure: 13.6 psia  
 Sample Qualifiers:

**Surrogates**

Analyte	Result ppbv	Analyte Qualifiers	%Recovery	%Recovery Limits	Prepared	Analyzed
<i>Surr: 4-Bromofluorobenzene</i>	9.62		96.2	70-130	12/19/06	01/05/07
<i>Surr: 1,2-Dichloroethane-d4</i>	8.38		112	70-130	"	"
<i>Surr: Toluene-d8</i>	7.49		99.9	70-130	"	"
<i>Surr: 1,2-Dichlorobenzene-d4</i>	7.03		93.7	70-130	"	"

**Targets**

Analyte (CAS Number)	Result ppbv	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
Acetone (67-64-1)	U		0.2	1	12/19/06	01/05/07
<b>Benzene (71-43-2)</b>	<b>1.2</b>		0.2	"	"	"
Benzyl chloride (100-44-7)	U		2.5	"	"	"
<b>1,3-Butadiene (106-99-0)</b>	<b>21.9</b>		0.2	"	"	"
2-Butanone (78-93-3)	U		0.2	"	"	"
Bromodichloromethane (75-27-4)	U		0.2	"	"	"
Bromoform (75-25-2)	U		0.2	"	"	"
Bromomethane (74-83-9)	U		0.2	"	"	"
Carbon disulfide (75-15-0)	U		0.2	"	"	"
Carbon tetrachloride (56-23-5)	U		0.2	"	"	"
Chlorobenzene (108-90-7)	U		0.2	"	"	"
Chlorodibromomethane (124-48-1)	U		0.2	"	"	"
Chloroethane (75-00-3)	U		0.2	"	"	"
Chloroform (67-66-3)	U		0.2	"	"	"
<b>Chloromethane (74-87-3)</b>	<b>0.8</b>		0.2	"	"	"
<b>Cyclohexane (110-82-7)</b>	<b>0.6</b>		0.2	"	"	"
1,2-Dibromoethane (106-93-4)	U		0.2	"	"	"
1,2-Dichlorobenzene (95-50-1)	U		0.2	"	"	"
1,3-Dichlorobenzene (541-73-1)	U		0.2	"	"	"
1,4-Dichlorobenzene (106-46-7)	U		0.2	"	"	"
<b>Dichlorodifluoromethane (75-71-8)</b>	<b>0.6</b>		0.2	"	"	"
1,1-Dichloroethane (75-34-3)	U		0.2	"	"	"
1,2-Dichloroethane (107-06-2)	U		0.2	"	"	"
1,1-Dichloroethene (75-35-4)	U		0.2	"	"	"
cis-1,2-Dichloroethene (156-59-2)	U		0.2	"	"	"
trans-1,2-Dichloroethene (156-60-5)	U		0.2	"	"	"
1,2-Dichloropropane (78-87-5)	U		0.2	"	"	"
cis-1,3-Dichloropropene (10061-01-5)	U		0.2	"	"	"





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**Toxic Organic Compounds in Ambient Air-TO15 - GC/MS**

**Lab ID: 0612012-08**

**Station ID: J0165**

Batch: B6L2002  
 Sample Type: air

Date Collected: 12/13/06

Initial Pressure: 13.6 psia  
 Sample Qualifiers:

**Targets (Continued)**

Analyte (CAS Number)	Result ppbv	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
trans-1,3-Dichloropropene (10061-02-6)	U		0.2	1	12/19/06	01/05/07
1,2-Dichloro-1,1,2,2-tetrafluoroethane (76-14-2)	U		0.2	"	"	"
1,4-Dioxane (123-91-1)	U		2.5	"	"	"
Ethyl alcohol (64-17-5)	U		0.2	"	"	"
Ethyl acetate (141-78-6)	U		1.0	"	"	"
<b>Ethylbenzene (100-41-4)</b>	<b>0.3</b>		0.2	"	"	"
1-Ethyl-4-methylbenzene (622-96-8)	U		0.5	"	"	"
<b>n-Heptane (142-82-5)</b>	<b>0.7</b>		0.2	"	"	"
Hexachlorobutadiene (87-68-3)	U		0.2	"	"	"
<b>n-Hexane (110-54-3)</b>	<b>1.7</b>		0.2	"	"	"
2-Hexanone (591-78-6)	U		0.5	"	"	"
Isopropyl alcohol (67-63-0)	U		1.2	"	"	"
Methylene chloride (75-09-2)	U		0.2	"	"	"
4-Methyl-2-pentanone (108-10-1)	U		2.5	"	"	"
Methyl tertiary-butyl ether (1634-04-4)	U		0.2	"	"	"
<b>Propene (115-07-1)</b>	<b>20.0</b>		0.2	"	"	"
<b>Styrene (100-42-5)</b>	<b>13.6</b>		0.5	"	"	"
1,1,2,2-Tetrachloroethane (79-34-5)	U		0.2	"	"	"
<b>Tetrachloroethene (127-18-4)</b>	<b>0.6</b>		0.2	"	"	"
Tetrahydrofuran (109-99-9)	U		0.5	"	"	"
<b>Toluene (108-88-3)</b>	<b>2.2</b>		0.2	"	"	"
1,2,4-Trichlorobenzene (120-82-1)	U		0.2	"	"	"
1,1,1-Trichloroethane (71-55-6)	U		0.2	"	"	"
1,1,2-Trichloroethane (79-00-5)	U		0.2	"	"	"
Trichloroethene (79-01-6)	U		0.2	"	"	"
<b>Trichlorofluoromethane (75-69-4)</b>	<b>0.3</b>		0.2	"	"	"
1,1,2-Trichloro-1,2,2-trifluoroethane (76-13-1)	U		0.2	"	"	"
<b>1,2,4-Trimethylbenzene (95-63-6)</b>	<b>0.4</b>		0.2	"	"	"
1,3,5-Trimethylbenzene (108-67-8)	U		0.2	"	"	"
Vinyl acetate (108-05-4)	U		1.0	"	"	"
Vinyl chloride (75-01-4)	U		0.2	"	"	"
<b>meta-/para-Xylene (na)</b>	<b>1.2</b>		0.5	"	"	"
<b>ortho-Xylene (95-47-6)</b>	<b>0.4</b>		0.2	"	"	"



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**Toxic Organic Compounds in Ambient Air-TO15 - GC/MS**

**Lab ID: 0612012-08**

**Station ID: J0165**

Batch: B6L2002  
Sample Type: air

Date Collected: 12/13/06

Initial Pressure: 13.6 psia  
Sample Qualifiers:

**Tentatively Identified Compounds**

Compound (CAS)	Result ppbv	Analyte Qualifiers	Retention Time	Dilution	Prepared	Analyzed
Isobutane (75-28-5)	22		5.32	1	12/19/06	01/05/07
n-Butane (106-97-8)	17		5.60	"	"	"
2-Methylbutane (78-78-4)	9		6.57	"	"	"
n-Pentane (109-66-0)	9		7.05	"	"	"
2-Methylpropanol (75-65-0)	6		8.42	"	"	"
2,3-Dimethylbutane (79-29-8)	2		8.75	"	"	"
2-Methylpentane (107-83-5)	4		8.85	"	"	"
3-Methylpentane (96-14-0)	2		9.32	"	"	"
Alkane(s) (NA)	2		13.50	"	"	"
Methylcyclohexane (108-87-2)	2		15.01	"	"	"

The compounds listed are *tentatively* identified by the best match with the NIST or Wiley mass spectral data base or by manual interpretation. The concentrations are estimated based on a Response Factor of 1.0 to the nearest internal standard. A minimum of the top 10 most significant peaks that are at least 10% in area of the nearest internal standard are reported, excluding those found in the laboratory blank.



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**Toxic Organic Compounds in Ambient Air-TO15 - GC/MS**

**Lab ID: 0612012-09**

**Station ID: C1161**

Batch: B6L2002  
 Sample Type: air

Date Collected: 12/14/06

Initial Pressure: 13.7 psia  
 Sample Qualifiers:

**Surrogates**

Analyte	Result ppbv	Analyte Qualifiers	%Recovery	%Recovery Limits	Prepared	Analyzed
<i>Surr: 4-Bromofluorobenzene</i>	9.83		98.3	70-130	12/19/06	01/05/07
<i>Surr: 1,2-Dichloroethane-d4</i>	8.26		110	70-130	"	"
<i>Surr: Toluene-d8</i>	7.50		100	70-130	"	"
<i>Surr: 1,2-Dichlorobenzene-d4</i>	7.54		101	70-130	"	"

**Targets**

Analyte (CAS Number)	Result ppbv	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
<b>Acetone (67-64-1)</b>	<b>2.4</b>		0.2	1	12/19/06	01/05/07
<b>Benzene (71-43-2)</b>	<b>1.0</b>		0.2	"	"	"
Benzyl chloride (100-44-7)	U		2.5	"	"	"
<b>1,3-Butadiene (106-99-0)</b>	<b>3.3</b>		0.2	"	"	"
2-Butanone (78-93-3)	U		0.2	"	"	"
Bromodichloromethane (75-27-4)	U		0.2	"	"	"
Bromoform (75-25-2)	U		0.2	"	"	"
Bromomethane (74-83-9)	U		0.2	"	"	"
Carbon disulfide (75-15-0)	U		0.2	"	"	"
Carbon tetrachloride (56-23-5)	U		0.2	"	"	"
Chlorobenzene (108-90-7)	U		0.2	"	"	"
Chlorodibromomethane (124-48-1)	U		0.2	"	"	"
Chloroethane (75-00-3)	U		0.2	"	"	"
<b>Chloroform (67-66-3)</b>	<b>0.2</b>		0.2	"	"	"
<b>Chloromethane (74-87-3)</b>	<b>0.7</b>		0.2	"	"	"
<b>Cyclohexane (110-82-7)</b>	<b>0.3</b>		0.2	"	"	"
1,2-Dibromoethane (106-93-4)	U		0.2	"	"	"
1,2-Dichlorobenzene (95-50-1)	U		0.2	"	"	"
1,3-Dichlorobenzene (541-73-1)	U		0.2	"	"	"
1,4-Dichlorobenzene (106-46-7)	U		0.2	"	"	"
<b>Dichlorodifluoromethane (75-71-8)</b>	<b>0.6</b>		0.2	"	"	"
1,1-Dichloroethane (75-34-3)	U		0.2	"	"	"
1,2-Dichloroethane (107-06-2)	U		0.2	"	"	"
1,1-Dichloroethene (75-35-4)	U		0.2	"	"	"
cis-1,2-Dichloroethene (156-59-2)	U		0.2	"	"	"
trans-1,2-Dichloroethene (156-60-5)	U		0.2	"	"	"
1,2-Dichloropropane (78-87-5)	U		0.2	"	"	"
cis-1,3-Dichloropropene (10061-01-5)	U		0.2	"	"	"





Environmental Protection Agency  
**Region 6 Laboratory**

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 Phone:(281)983-2100 Fax:(281)983-2248

**Toxic Organic Compounds in Ambient Air-TO15 - GC/MS**

**Lab ID: 0612012-09**

**Station ID: C1161**

Batch: B6L2002  
 Sample Type: air

Date Collected: 12/14/06

Initial Pressure: 13.7 psia  
 Sample Qualifiers:

**Targets (Continued)**

Analyte (CAS Number)	Result ppbv	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
trans-1,3-Dichloropropene (10061-02-6)	U		0.2	1	12/19/06	01/05/07
1,2-Dichloro-1,1,2,2-tetrafluoroethane (76-14-2)	U		0.2	"	"	"
1,4-Dioxane (123-91-1)	U		2.5	"	"	"
<b>Ethyl alcohol (64-17-5)</b>	<b>17.1</b>		0.2	"	"	"
Ethyl acetate (141-78-6)	U		1.0	"	"	"
<b>Ethylbenzene (100-41-4)</b>	<b>1.5</b>		0.2	"	"	"
1-Ethyl-4-methylbenzene (622-96-8)	U		0.5	"	"	"
<b>n-Heptane (142-82-5)</b>	<b>0.5</b>		0.2	"	"	"
Hexachlorobutadiene (87-68-3)	U		0.2	"	"	"
<b>n-Hexane (110-54-3)</b>	<b>1.4</b>		0.2	"	"	"
2-Hexanone (591-78-6)	U		0.5	"	"	"
Isopropyl alcohol (67-63-0)	U		1.2	"	"	"
<b>Methylene chloride (75-09-2)</b>	<b>0.4</b>		0.2	"	"	"
4-Methyl-2-pentanone (108-10-1)	U		2.5	"	"	"
<b>Methyl tertiary-butyl ether (1634-04-4)</b>	<b>0.7</b>		0.2	"	"	"
<b>Propene (115-07-1)</b>	<b>1.9</b>		0.2	"	"	"
<b>Styrene (100-42-5)</b>	<b>16.5</b>		0.5	"	"	"
1,1,2,2-Tetrachloroethane (79-34-5)	U		0.2	"	"	"
Tetrachloroethene (127-18-4)	U		0.2	"	"	"
Tetrahydrofuran (109-99-9)	U		0.5	"	"	"
<b>Toluene (108-88-3)</b>	<b>3.0</b>		0.2	"	"	"
1,2,4-Trichlorobenzene (120-82-1)	U		0.2	"	"	"
1,1,1-Trichloroethane (71-55-6)	U		0.2	"	"	"
1,1,2-Trichloroethane (79-00-5)	U		0.2	"	"	"
Trichloroethene (79-01-6)	U		0.2	"	"	"
<b>Trichlorofluoromethane (75-69-4)</b>	<b>0.3</b>		0.2	"	"	"
1,1,2-Trichloro-1,2,2-trifluoroethane (76-13-1)	U		0.2	"	"	"
<b>1,2,4-Trimethylbenzene (95-63-6)</b>	<b>0.4</b>		0.2	"	"	"
1,3,5-Trimethylbenzene (108-67-8)	U		0.2	"	"	"
Vinyl acetate (108-05-4)	U		1.0	"	"	"
Vinyl chloride (75-01-4)	U		0.2	"	"	"
<b>meta-/para-Xylene (na)</b>	<b>1.2</b>		0.5	"	"	"
<b>ortho-Xylene (95-47-6)</b>	<b>0.5</b>		0.2	"	"	"



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**Toxic Organic Compounds in Ambient Air-TO15 - GC/MS**

**Lab ID: 0612012-09**

**Station ID: C1161**

Batch: B6L2002  
Sample Type: air

Date Collected: 12/14/06

Initial Pressure: 13.7 psia  
Sample Qualifiers:

**Tentatively Identified Compounds**

Compound (CAS)	Result ppbv	Analyte Qualifiers	Retention Time	Dilution	Prepared	Analyzed
Isobutane (75-28-5)	3		5.32	1	12/19/06	01/05/07
n-Butane (106-97-8)	6		5.60	"	"	"
2-Methylbutane (78-78-4)	6		6.57	"	"	"
n-Pentane (109-66-0)	4		7.05	"	"	"
2-Methylpentane (107-83-5)	2		8.85	"	"	"
3-Methylpentane (96-14-0)	1		9.31	"	"	"
3-Methylhexane (589-34-4)	1		12.88	"	"	"
2,2-Dimethylhexane (590-73-8)	2		13.50	"	"	"
Benzaldehyde (100-52-7)	2		24.78	"	"	"
n-Decane (124-18-5)	1		26.62	"	"	"

The compounds listed are *tentatively* identified by the best match with the NIST or Wiley mass spectral data base or by manual interpretation. The concentrations are estimated based on a Response Factor of 1.0 to the nearest internal standard. A minimum of the top 10 most significant peaks that are at least 10% in area of the nearest internal standard are reported, excluding those found in the laboratory blank.



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**Toxic Organic Compounds in Ambient Air-TO15 - GC/MS**

**Lab ID: 0612012-10**

**Station ID: B1578**

Batch: B6L2002  
 Sample Type: air

Date Collected: 12/14/06

Initial Pressure: 13.9 psia  
 Sample Qualifiers:

**Surrogates**

Analyte	Result ppbv	Analyte Qualifiers	%Recovery	%Recovery Limits	Prepared	Analyzed
<i>Surr: 4-Bromofluorobenzene</i>	9.50		95.0	70-130	12/19/06	01/05/07
<i>Surr: 1,2-Dichloroethane-d4</i>	6.71		89.5	70-130	"	"
<i>Surr: Toluene-d8</i>	7.15		95.3	70-130	"	"
<i>Surr: 1,2-Dichlorobenzene-d4</i>	6.89		91.9	70-130	"	"

**Targets**

Analyte (CAS Number)	Result ppbv	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
Acetone (67-64-1)	U		0.2	1	12/19/06	01/05/07
<b>Benzene (71-43-2)</b>	<b>88.6</b>		2.5	10	"	01/05/07
Benzyl chloride (100-44-7)	U		2.5	1	"	01/05/07
1,3-Butadiene (106-99-0)	U		0.2	"	"	"
2-Butanone (78-93-3)	U		0.2	"	"	"
Bromodichloromethane (75-27-4)	U		0.2	"	"	"
Bromoform (75-25-2)	U		0.2	"	"	"
Bromomethane (74-83-9)	U		0.2	"	"	"
Carbon disulfide (75-15-0)	U		0.2	"	"	"
Carbon tetrachloride (56-23-5)	U		0.2	"	"	"
Chlorobenzene (108-90-7)	U		0.2	"	"	"
Chlorodibromomethane (124-48-1)	U		0.2	"	"	"
Chloroethane (75-00-3)	U		0.2	"	"	"
Chloroform (67-66-3)	U		0.2	"	"	"
<b>Chloromethane (74-87-3)</b>	<b>0.5</b>		0.2	"	"	"
<b>Cyclohexane (110-82-7)</b>	<b>126</b>		2.5	10	"	01/05/07
1,2-Dibromoethane (106-93-4)	U		0.2	1	"	01/05/07
1,2-Dichlorobenzene (95-50-1)	U		0.2	"	"	"
1,3-Dichlorobenzene (541-73-1)	U		0.2	"	"	"
1,4-Dichlorobenzene (106-46-7)	U		0.2	"	"	"
<b>Dichlorodifluoromethane (75-71-8)</b>	<b>0.5</b>		0.2	"	"	"
1,1-Dichloroethane (75-34-3)	U		0.2	"	"	"
1,2-Dichloroethane (107-06-2)	U		0.2	"	"	"
1,1-Dichloroethene (75-35-4)	U		0.2	"	"	"
cis-1,2-Dichloroethene (156-59-2)	U		0.2	"	"	"
trans-1,2-Dichloroethene (156-60-5)	U		0.2	"	"	"
1,2-Dichloropropane (78-87-5)	U		0.2	"	"	"
cis-1,3-Dichloropropene (10061-01-5)	U		0.2	"	"	"





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**Toxic Organic Compounds in Ambient Air-TO15 - GC/MS**

**Lab ID: 0612012-10**

**Station ID: B1578**

Batch: B6L2002  
 Sample Type: air

Date Collected: 12/14/06

Initial Pressure: 13.9 psia  
 Sample Qualifiers:

**Targets (Continued)**

Analyte (CAS Number)	Result ppbv	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
trans-1,3-Dichloropropene (10061-02-6)	U		0.2	1	12/19/06	01/05/07
1,2-Dichloro-1,1,2,2-tetrafluoroethane (76-14-2)	U		0.2	"	"	"
1,4-Dioxane (123-91-1)	U		2.5	"	"	"
<b>Ethyl alcohol (64-17-5)</b>	<b>13.8</b>		0.2	"	"	"
Ethyl acetate (141-78-6)	U		1.0	"	"	"
<b>Ethylbenzene (100-41-4)</b>	<b>0.4</b>		0.2	"	"	"
1-Ethyl-4-methylbenzene (622-96-8)	U		0.5	"	"	"
<b>n-Heptane (142-82-5)</b>	<b>50.2</b>		2.5	10	"	01/05/07
Hexachlorobutadiene (87-68-3)	U		0.2	1	"	01/05/07
<b>n-Hexane (110-54-3)</b>	<b>461</b>		7.5	30	"	01/05/07
2-Hexanone (591-78-6)	U		0.5	1	"	01/05/07
Isopropyl alcohol (67-63-0)	U		1.2	"	"	"
Methylene chloride (75-09-2)	U		0.2	"	"	"
4-Methyl-2-pentanone (108-10-1)	U		2.5	"	"	"
Methyl tertiary-butyl ether (1634-04-4)	U		0.2	"	"	"
<b>Propene (115-07-1)</b>	<b>9.6</b>		0.2	"	"	"
Styrene (100-42-5)	U		0.5	"	"	"
1,1,2,2-Tetrachloroethane (79-34-5)	U		0.2	"	"	"
Tetrachloroethene (127-18-4)	U		0.2	"	"	"
Tetrahydrofuran (109-99-9)	U		0.5	"	"	"
<b>Toluene (108-88-3)</b>	<b>15.9</b>		0.2	"	"	"
1,2,4-Trichlorobenzene (120-82-1)	U		0.2	"	"	"
1,1,1-Trichloroethane (71-55-6)	U		0.2	"	"	"
1,1,2-Trichloroethane (79-00-5)	U		0.2	"	"	"
Trichloroethene (79-01-6)	U		0.2	"	"	"
Trichlorofluoromethane (75-69-4)	U		0.2	"	"	"
1,1,2-Trichloro-1,2,2-trifluoroethane (76-13-1)	U		0.2	"	"	"
<b>1,2,4-Trimethylbenzene (95-63-6)</b>	<b>0.3</b>		0.2	"	"	"
1,3,5-Trimethylbenzene (108-67-8)	U		0.2	"	"	"
Vinyl acetate (108-05-4)	U		1.0	"	"	"
Vinyl chloride (75-01-4)	U		0.2	"	"	"
<b>meta-/para-Xylene (na)</b>	<b>0.9</b>		0.5	"	"	"
<b>ortho-Xylene (95-47-6)</b>	<b>0.3</b>		0.2	"	"	"



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 Phone:(281)983-2100 Fax:(281)983-2248

**Toxic Organic Compounds in Ambient Air-TO15 - GC/MS**

**Lab ID: 0612012-10**

**Station ID: B1578**

Batch: B6L2002  
 Sample Type: air

Date Collected: 12/14/06

Initial Pressure: 13.9 psia  
 Sample Qualifiers:

**Tentatively Identified Compounds**

Compound (CAS)	Result ppbv	Analyte Qualifiers	Retention Time	Dilution	Prepared	Analyzed
Isobutane (75-28-5)	210		5.32	1	12/19/06	01/05/07
n-Butane (106-97-8)	170		5.60	"	"	"
2-Methylbutane (78-78-4)	380		6.58	"	"	"
n-Pentane (109-66-0)	310		7.06	"	"	"
2,2-Dimethylbutane (75-83-2)	110		7.92	"	"	"
2,3-Dimethylbutane (79-29-8)	190		8.76	"	"	"
2-Methylpentane (107-83-5)	700		8.86	"	"	"
3-Methylpentane (96-14-0)	530		9.33	"	"	"
Methylcyclopentane (96-37-7)	620		10.98	"	"	"
2-Methylhexane (591-76-4)	150		12.50	"	"	"
3-Methylhexane (589-34-4)	180		12.88	"	"	"

The compounds listed are *tentatively* identified by the best match with the NIST or Wiley mass spectral data base or by manual interpretation. The concentrations are estimated based on a Response Factor of 1.0 to the nearest internal standard. A minimum of the top 10 most significant peaks that are at least 10% in area of the nearest internal standard are reported, excluding those found in the laboratory blank.



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**Toxic Organic Compounds in Ambient Air-TO15 - GC/MS**

**Lab ID: 0612012-11**

**Station ID: F1500**

Batch: B6L2002  
 Sample Type: air

Date Collected: 12/14/06

Initial Pressure: 14.2 psia  
 Sample Qualifiers:

**Surrogates**

Analyte	Result ppbv	Analyte Qualifiers	%Recovery	%Recovery Limits	Prepared	Analyzed
<i>Surr: 4-Bromofluorobenzene</i>	9.70		97.0	70-130	12/19/06	01/05/07
<i>Surr: 1,2-Dichloroethane-d4</i>	7.12		94.9	70-130	"	"
<i>Surr: Toluene-d8</i>	7.65		102	70-130	"	"
<i>Surr: 1,2-Dichlorobenzene-d4</i>	7.10		94.7	70-130	"	"

**Targets**

Analyte (CAS Number)	Result ppbv	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
<b>Acetone (67-64-1)</b>	<b>5.8</b>		0.2	1	12/19/06	01/05/07
<b>Benzene (71-43-2)</b>	<b>25.6</b>		1.2	5	"	01/05/07
Benzyl chloride (100-44-7)	U		2.5	1	"	01/05/07
<b>1,3-Butadiene (106-99-0)</b>	<b>2.1</b>	<b>J</b>	0.2	"	"	"
2-Butanone (78-93-3)	U		0.2	"	"	"
Bromodichloromethane (75-27-4)	U		0.2	"	"	"
Bromoform (75-25-2)	U		0.2	"	"	"
Bromomethane (74-83-9)	U		0.2	"	"	"
Carbon disulfide (75-15-0)	U		0.2	"	"	"
Carbon tetrachloride (56-23-5)	U		0.2	"	"	"
<b>Chlorobenzene (108-90-7)</b>	<b>0.8</b>		0.2	"	"	"
Chlorodibromomethane (124-48-1)	U		0.2	"	"	"
<b>Chloroethane (75-00-3)</b>	<b>0.4</b>		0.2	"	"	"
Chloroform (67-66-3)	U		0.2	"	"	"
<b>Chloromethane (74-87-3)</b>	<b>0.7</b>		0.2	"	"	"
<b>Cyclohexane (110-82-7)</b>	<b>6.4</b>		0.2	"	"	"
1,2-Dibromoethane (106-93-4)	U		0.2	"	"	"
1,2-Dichlorobenzene (95-50-1)	U		0.2	"	"	"
1,3-Dichlorobenzene (541-73-1)	U		0.2	"	"	"
1,4-Dichlorobenzene (106-46-7)	U		0.2	"	"	"
<b>Dichlorodifluoromethane (75-71-8)</b>	<b>0.6</b>		0.2	"	"	"
1,1-Dichloroethane (75-34-3)	U		0.2	"	"	"
<b>1,2-Dichloroethane (107-06-2)</b>	<b>1.2</b>		0.2	"	"	"
1,1-Dichloroethene (75-35-4)	U		0.2	"	"	"
cis-1,2-Dichloroethene (156-59-2)	U		0.2	"	"	"
trans-1,2-Dichloroethene (156-60-5)	U		0.2	"	"	"
1,2-Dichloropropane (78-87-5)	U		0.2	"	"	"
cis-1,3-Dichloropropene (10061-01-5)	U		0.2	"	"	"





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**Toxic Organic Compounds in Ambient Air-TO15 - GC/MS**

**Lab ID: 0612012-11**

**Station ID: F1500**

Batch: B6L2002  
Sample Type: air

Date Collected: 12/14/06

Initial Pressure: 14.2 psia  
Sample Qualifiers:

**Targets (Continued)**

Analyte (CAS Number)	Result ppbv	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
trans-1,3-Dichloropropene (10061-02-6)	U		0.2	1	12/19/06	01/05/07
1,2-Dichloro-1,1,2,2-tetrafluoroethane (76-14-2)	U		0.2	"	"	"
1,4-Dioxane (123-91-1)	U		2.5	"	"	"
<b>Ethyl alcohol (64-17-5)</b>	<b>146</b>		5.0	20	"	01/06/07
Ethyl acetate (141-78-6)	U		1.0	1	"	01/05/07
<b>Ethylbenzene (100-41-4)</b>	<b>8.7</b>		0.2	"	"	"
<b>1-Ethyl-4-methylbenzene (622-96-8)</b>	<b>0.9</b>		0.5	"	"	"
<b>n-Heptane (142-82-5)</b>	<b>2.7</b>		0.2	"	"	"
Hexachlorobutadiene (87-68-3)	U		0.2	"	"	"
<b>n-Hexane (110-54-3)</b>	<b>46.1</b>		1.2	5	"	01/05/07
2-Hexanone (591-78-6)	U		0.5	1	"	01/05/07
Isopropyl alcohol (67-63-0)	U		1.2	"	"	"
<b>Methylene chloride (75-09-2)</b>	<b>1.1</b>		0.2	"	"	"
4-Methyl-2-pentanone (108-10-1)	U		2.5	"	"	"
<b>Methyl tertiary-butyl ether (1634-04-4)</b>	<b>5.8</b>		0.2	"	"	"
<b>Propene (115-07-1)</b>	<b>68.4</b>		1.2	5	"	01/05/07
<b>Styrene (100-42-5)</b>	<b>2.6</b>		0.5	1	"	01/05/07
1,1,2,2-Tetrachloroethane (79-34-5)	U		0.2	"	"	"
Tetrachloroethene (127-18-4)	U		0.2	"	"	"
<b>Tetrahydrofuran (109-99-9)</b>	<b>1.6</b>		0.5	"	"	"
<b>Toluene (108-88-3)</b>	<b>408</b>		5.0	20	"	01/06/07
1,2,4-Trichlorobenzene (120-82-1)	U		0.2	1	"	01/05/07
1,1,1-Trichloroethane (71-55-6)	U		0.2	"	"	"
1,1,2-Trichloroethane (79-00-5)	U		0.2	"	"	"
Trichloroethene (79-01-6)	U		0.2	"	"	"
<b>Trichlorofluoromethane (75-69-4)</b>	<b>0.3</b>		0.2	"	"	"
1,1,2-Trichloro-1,2,2-trifluoroethane (76-13-1)	U		0.2	"	"	"
<b>1,2,4-Trimethylbenzene (95-63-6)</b>	<b>1.8</b>		0.2	"	"	"
<b>1,3,5-Trimethylbenzene (108-67-8)</b>	<b>0.6</b>		0.2	"	"	"
Vinyl acetate (108-05-4)	U		1.0	"	"	"
Vinyl chloride (75-01-4)	U		0.2	"	"	"
<b>meta-/para-Xylene (na)</b>	<b>24.2</b>		0.5	"	"	"
<b>ortho-Xylene (95-47-6)</b>	<b>7.8</b>		0.2	"	"	"



Environmental Protection Agency  
**Region 6 Laboratory**

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Phone:(281)983-2100 Fax:(281)983-2248

**Toxic Organic Compounds in Ambient Air-TO15 - GC/MS**

**Lab ID: 0612012-11**

**Station ID: F1500**

Batch: B6L2002  
Sample Type: air

Date Collected: 12/14/06

Initial Pressure: 14.2 psia  
Sample Qualifiers:

**Tentatively Identified Compounds**

Compound (CAS)	Result ppbv	Analyte Qualifiers	Retention Time	Dilution	Prepared	Analyzed
Isobutane (75-28-5)	48		5.32	1	12/19/06	01/05/07
n-Butane (106-97-8)	15		5.61	"	"	"
2-Methylbutane (78-78-4)	81		6.58	"	"	"
n-Pentane (109-66-0)	7		7.06	"	"	"
2-Propenenitrile (000107-13-1)	14		7.17	"	"	"
2-Methylpentane (107-83-5)	16		8.85	"	"	"
3-Methylpentane (96-14-0)	17		9.32	"	"	"
Methylcyclopentane (96-37-7)	16		10.97	"	"	"
3a,4,7,7a-Tetrahydro-4,7-methano-1H-indene (77-73-6)	10		27.96	"	"	"
Branched alkane(s) at 28.26' (NA)	8		28.26	"	"	"

The compounds listed are *tentatively* identified by the best match with the NIST or Wiley mass spectral data base or by manual interpretation. The concentrations are estimated based on a Response Factor of 1.0 to the nearest internal standard. A minimum of the top 10 most significant peaks that are at least 10% in area of the nearest internal standard are reported, excluding those found in the laboratory blank.



Environmental Protection Agency  
**Region 6 Laboratory**

10625 Fallstone Road, Houston, TX 77099  
 Phone:(281)983-2100 Fax:(281)983-2248

**Toxic Organic Compounds in Ambient Air-TO15 - GC/MS**

**Lab ID: 0612012-12**

**Station ID: J0182**

Batch: B6L2002  
 Sample Type: air

Date Collected: 12/14/06

Initial Pressure: 14.2 psia  
 Sample Qualifiers:

**Surrogates**

Analyte	Result ppbv	Analyte Qualifiers	%Recovery	%Recovery Limits	Prepared	Analyzed
<i>Surr: 4-Bromofluorobenzene</i>	9.89		98.9	70-130	12/19/06	01/06/07
<i>Surr: 1,2-Dichloroethane-d4</i>	6.56		87.5	70-130	"	"
<i>Surr: Toluene-d8</i>	7.69		103	70-130	"	"
<i>Surr: 1,2-Dichlorobenzene-d4</i>	6.79		90.5	70-130	"	"

**Targets**

Analyte (CAS Number)	Result ppbv	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
<b>Acetone (67-64-1)</b>	<b>3.7</b>		0.2	1	12/19/06	01/06/07
<b>Benzene (71-43-2)</b>	<b>13.8</b>		0.2	"	"	"
Benzyl chloride (100-44-7)	U		2.5	"	"	"
1,3-Butadiene (106-99-0)	U		0.2	"	"	"
<b>2-Butanone (78-93-3)</b>	<b>25.0</b>		0.5	2	"	01/06/07
Bromodichloromethane (75-27-4)	U		0.2	1	"	01/06/07
Bromoform (75-25-2)	U		0.2	"	"	"
Bromomethane (74-83-9)	U		0.2	"	"	"
Carbon disulfide (75-15-0)	U		0.2	"	"	"
Carbon tetrachloride (56-23-5)	U		0.2	"	"	"
Chlorobenzene (108-90-7)	U		0.2	"	"	"
Chlorodibromomethane (124-48-1)	U		0.2	"	"	"
Chloroethane (75-00-3)	U		0.2	"	"	"
Chloroform (67-66-3)	U		0.2	"	"	"
<b>Chloromethane (74-87-3)</b>	<b>0.9</b>		0.2	"	"	"
<b>Cyclohexane (110-82-7)</b>	<b>21.2</b>		0.2	"	"	"
1,2-Dibromoethane (106-93-4)	U		0.2	"	"	"
1,2-Dichlorobenzene (95-50-1)	U		0.2	"	"	"
1,3-Dichlorobenzene (541-73-1)	U		0.2	"	"	"
1,4-Dichlorobenzene (106-46-7)	U		0.2	"	"	"
<b>Dichlorodifluoromethane (75-71-8)</b>	<b>0.6</b>		0.2	"	"	"
1,1-Dichloroethane (75-34-3)	U		0.2	"	"	"
1,2-Dichloroethane (107-06-2)	U		0.2	"	"	"
1,1-Dichloroethene (75-35-4)	U		0.2	"	"	"
cis-1,2-Dichloroethene (156-59-2)	U		0.2	"	"	"
trans-1,2-Dichloroethene (156-60-5)	U		0.2	"	"	"
1,2-Dichloropropane (78-87-5)	U		0.2	"	"	"
cis-1,3-Dichloropropene (10061-01-5)	U		0.2	"	"	"





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**Toxic Organic Compounds in Ambient Air-TO15 - GC/MS**

**Lab ID: 0612012-12**

**Station ID: J0182**

Batch: B6L2002  
 Sample Type: air

Date Collected: 12/14/06

Initial Pressure: 14.2 psia  
 Sample Qualifiers:

**Targets (Continued)**

Analyte (CAS Number)	Result ppbv	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
trans-1,3-Dichloropropene (10061-02-6)	U		0.2	1	12/19/06	01/06/07
1,2-Dichloro-1,1,2,2-tetrafluoroethane (76-14-2)	U		0.2	"	"	"
1,4-Dioxane (123-91-1)	U		2.5	"	"	"
Ethyl alcohol (64-17-5)	U		0.2	"	"	"
Ethyl acetate (141-78-6)	U		1.0	"	"	"
<b>Ethylbenzene (100-41-4)</b>	<b>3.2</b>		0.2	"	"	"
<b>1-Ethyl-4-methylbenzene (622-96-8)</b>	<b>0.8</b>		0.5	"	"	"
<b>n-Heptane (142-82-5)</b>	<b>8.9</b>		0.2	"	"	"
Hexachlorobutadiene (87-68-3)	U		0.2	"	"	"
<b>n-Hexane (110-54-3)</b>	<b>38.6</b>		0.5	2	"	01/06/07
2-Hexanone (591-78-6)	U		0.5	1	"	01/06/07
Isopropyl alcohol (67-63-0)	U		1.2	"	"	"
<b>Methylene chloride (75-09-2)</b>	<b>3.3</b>		0.2	"	"	"
4-Methyl-2-pentanone (108-10-1)	U		2.5	"	"	"
<b>Methyl tertiary-butyl ether (1634-04-4)</b>	<b>32.4</b>		0.5	2	"	01/06/07
<b>Propene (115-07-1)</b>	<b>22.0</b>		0.2	1	"	01/06/07
Styrene (100-42-5)	U		0.5	"	"	"
1,1,2,2-Tetrachloroethane (79-34-5)	U		0.2	"	"	"
Tetrachloroethene (127-18-4)	U		0.2	"	"	"
Tetrahydrofuran (109-99-9)	U		0.5	"	"	"
<b>Toluene (108-88-3)</b>	<b>23.4</b>		0.5	2	"	01/06/07
1,2,4-Trichlorobenzene (120-82-1)	U		0.2	1	"	01/06/07
1,1,1-Trichloroethane (71-55-6)	U		0.2	"	"	"
1,1,2-Trichloroethane (79-00-5)	U		0.2	"	"	"
Trichloroethene (79-01-6)	U		0.2	"	"	"
<b>Trichlorofluoromethane (75-69-4)</b>	<b>0.3</b>		0.2	"	"	"
1,1,2-Trichloro-1,2,2-trifluoroethane (76-13-1)	U		0.2	"	"	"
<b>1,2,4-Trimethylbenzene (95-63-6)</b>	<b>2.0</b>		0.2	"	"	"
<b>1,3,5-Trimethylbenzene (108-67-8)</b>	<b>0.6</b>		0.2	"	"	"
Vinyl acetate (108-05-4)	U		1.0	"	"	"
Vinyl chloride (75-01-4)	U		0.2	"	"	"
<b>meta-/para-Xylene (na)</b>	<b>10.2</b>		0.5	"	"	"
<b>ortho-Xylene (95-47-6)</b>	<b>3.1</b>		0.2	"	"	"



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**Toxic Organic Compounds in Ambient Air-TO15 - GC/MS**

**Lab ID: 0612012-12**

**Station ID: J0182**

Batch: B6L2002  
Sample Type: air

Date Collected: 12/14/06

Initial Pressure: 14.2 psia  
Sample Qualifiers:

**Tentatively Identified Compounds**

Compound (CAS)	Result ppbv	Analyte Qualifiers	Retention Time	Dilution	Prepared	Analyzed
Isobutane (75-28-5)	95		5.32	1	12/19/06	01/06/07
n-Butane (106-97-8)	92		5.61	"	"	"
2-Methylbutane (78-78-4)	160		6.59	"	"	"
n-Pentane (109-66-0)	49		7.06	"	"	"
2-Methylpentane (107-83-5)	25		8.85	"	"	"
Methylcyclopentane (96-37-7)	25		10.98	"	"	"
Branched Alkane(s) at 13.49' (NA)	51		13.49	"	"	"
Methylcyclohexane (108-87-2)	25		15.01	"	"	"
2,3,4-Trimethylpentane (565-75-3)	18		16.22	"	"	"
2,3,3-Trimethylpentane (560-21-4)	18		16.48	"	"	"

The compounds listed are *tentatively* identified by the best match with the NIST or Wiley mass spectral data base or by manual interpretation. The concentrations are estimated based on a Response Factor of 1.0 to the nearest internal standard. A minimum of the top 10 most significant peaks that are at least 10% in area of the nearest internal standard are reported, excluding those found in the laboratory blank.



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**Toxic Organic Compounds in Ambient Air-TO15 - GC/MS**

**Lab ID: 0612012-13**

**Station ID: TRIP**

Batch: B6L2002  
 Sample Type: air

Date Collected: 12/14/06

Initial Pressure: 0.1 psia  
 Sample Qualifiers:

**Surrogates**

Analyte	Result ppbv	Analyte Qualifiers	%Recovery	%Recovery Limits	Prepared	Analyzed
<i>Surr: 4-Bromofluorobenzene</i>	8.75		87.5	70-130	12/19/06	01/06/07
<i>Surr: 1,2-Dichloroethane-d4</i>	8.61		115	70-130	"	"
<i>Surr: Toluene-d8</i>	7.29		97.2	70-130	"	"
<i>Surr: 1,2-Dichlorobenzene-d4</i>	6.03		80.4	70-130	"	"

**Targets**

Analyte (CAS Number)	Result ppbv	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
Acetone (67-64-1)	U		0.1	0.4	12/19/06	01/06/07
Benzene (71-43-2)	U		0.1	"	"	"
Benzyl chloride (100-44-7)	U		1.0	"	"	"
1,3-Butadiene (106-99-0)	U		0.1	"	"	"
2-Butanone (78-93-3)	U		0.1	"	"	"
Bromodichloromethane (75-27-4)	U		0.1	"	"	"
Bromoform (75-25-2)	U		0.1	"	"	"
Bromomethane (74-83-9)	U		0.1	"	"	"
Carbon disulfide (75-15-0)	U		0.1	"	"	"
Carbon tetrachloride (56-23-5)	U		0.1	"	"	"
Chlorobenzene (108-90-7)	U		0.1	"	"	"
Chlorodibromomethane (124-48-1)	U		0.1	"	"	"
Chloroethane (75-00-3)	U		0.1	"	"	"
Chloroform (67-66-3)	U		0.1	"	"	"
Chloromethane (74-87-3)	U		0.1	"	"	"
Cyclohexane (110-82-7)	U		0.1	"	"	"
1,2-Dibromoethane (106-93-4)	U		0.1	"	"	"
1,2-Dichlorobenzene (95-50-1)	U		0.1	"	"	"
1,3-Dichlorobenzene (541-73-1)	U		0.1	"	"	"
1,4-Dichlorobenzene (106-46-7)	U		0.1	"	"	"
Dichlorodifluoromethane (75-71-8)	U		0.1	"	"	"
1,1-Dichloroethane (75-34-3)	U		0.1	"	"	"
1,2-Dichloroethane (107-06-2)	U		0.1	"	"	"
1,1-Dichloroethene (75-35-4)	U		0.1	"	"	"
cis-1,2-Dichloroethene (156-59-2)	U		0.1	"	"	"
trans-1,2-Dichloroethene (156-60-5)	U		0.1	"	"	"
1,2-Dichloropropane (78-87-5)	U		0.1	"	"	"
cis-1,3-Dichloropropene (10061-01-5)	U		0.1	"	"	"





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**Region 6 Laboratory**

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**Toxic Organic Compounds in Ambient Air-TO15 - GC/MS**

**Lab ID: 0612012-13**

**Station ID: TRIP**

Batch: B6L2002  
 Sample Type: air

Date Collected: 12/14/06

Initial Pressure: 0.1 psia  
 Sample Qualifiers:

**Targets (Continued)**

Analyte (CAS Number)	Result ppbv	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
trans-1,3-Dichloropropene (10061-02-6)	U		0.1	0.4	12/19/06	01/06/07
1,2-Dichloro-1,1,2,2-tetrafluoroethane (76-14-2)	U		0.1	"	"	"
1,4-Dioxane (123-91-1)	U		1.0	"	"	"
Ethyl alcohol (64-17-5)	U		0.1	"	"	"
Ethyl acetate (141-78-6)	U		0.4	"	"	"
Ethylbenzene (100-41-4)	U		0.1	"	"	"
1-Ethyl-4-methylbenzene (622-96-8)	U		0.2	"	"	"
n-Heptane (142-82-5)	U		0.1	"	"	"
Hexachlorobutadiene (87-68-3)	U		0.1	"	"	"
n-Hexane (110-54-3)	U		0.1	"	"	"
2-Hexanone (591-78-6)	U		0.2	"	"	"
Isopropyl alcohol (67-63-0)	U		0.5	"	"	"
Methylene chloride (75-09-2)	U		0.1	"	"	"
4-Methyl-2-pentanone (108-10-1)	U		1.0	"	"	"
Methyl tertiary-butyl ether (1634-04-4)	U		0.1	"	"	"
Propene (115-07-1)	U		0.1	"	"	"
Styrene (100-42-5)	U		0.2	"	"	"
1,1,2,2-Tetrachloroethane (79-34-5)	U		0.1	"	"	"
Tetrachloroethene (127-18-4)	U		0.1	"	"	"
Tetrahydrofuran (109-99-9)	U		0.2	"	"	"
Toluene (108-88-3)	U		0.1	"	"	"
1,2,4-Trichlorobenzene (120-82-1)	U		0.1	"	"	"
1,1,1-Trichloroethane (71-55-6)	U		0.1	"	"	"
1,1,2-Trichloroethane (79-00-5)	U		0.1	"	"	"
Trichloroethene (79-01-6)	U		0.1	"	"	"
Trichlorofluoromethane (75-69-4)	U		0.1	"	"	"
1,1,2-Trichloro-1,2,2-trifluoroethane (76-13-1)	U		0.1	"	"	"
1,2,4-Trimethylbenzene (95-63-6)	U		0.1	"	"	"
1,3,5-Trimethylbenzene (108-67-8)	U		0.1	"	"	"
Vinyl acetate (108-05-4)	U		0.4	"	"	"
Vinyl chloride (75-01-4)	U		0.1	"	"	"
meta-/para-Xylene (na)	U		0.2	"	"	"
ortho-Xylene (95-47-6)	U		0.1	"	"	"



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**Toxic Organic Compounds in Ambient Air-TO15 - GC/MS**

**Lab ID: 0612012-13**

**Station ID: TRIP**

Batch: B6L2002  
Sample Type: air

Date Collected: 12/14/06

Initial Pressure: 0.1 psia  
Sample Qualifiers:

**Tentatively Identified Compounds**

Compound (CAS)	Result ppbv	Analyte Qualifiers	Retention Time	Dilution	Prepared	Analyzed
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**No TICs present in this sample.**



Environmental Protection Agency  
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**Toxic Organic Compounds in Ambient Air-TO15 - GC/MS - Quality Control**

Batch: B6L2002

Sample Type: air

**Blank (B6L2002-BLK1)**

Prepared: 12/19/2006 Analyzed: 1/3/2007

**Surrogates**

ANALYTE	Result ppbv	Analyte Qualifier	Spike Level	%REC %REC	%REC Limits
<i>Surr: 4-Bromofluorobenzene</i>	8.99		10.0	89.9	70-130
<i>Surr: 1,2-Dichloroethane-d4</i>	8.27		7.50	110	70-130
<i>Surr: Toluene-d8</i>	7.31		7.50	97.5	70-130
<i>Surr: 1,2-Dichlorobenzene-d4</i>	6.69		7.50	89.2	70-130

**Blank (B6L2002-BLK1)**

Prepared: 12/19/2006 Analyzed: 01/03/07

**Targets**

ANALYTE	Result ppbv	Analyte Qualifiers	Reporting Limit
Acetone	0.1		0.1
Benzene	U		0.1
Benzyl chloride	U		1.0
1,3-Butadiene	U		0.1
2-Butanone	U		0.1
Bromodichloromethane	U		0.1
Bromoform	U		0.1
Bromomethane	U		0.1
Carbon disulfide	U		0.1
Carbon tetrachloride	U		0.1
Chlorobenzene	U		0.1
Chlorodibromomethane	U		0.1
Chloroethane	U		0.1
Chloroform	U		0.1
Chloromethane	U		0.1
Cyclohexane	U		0.1
1,2-Dibromoethane	U		0.1
1,2-Dichlorobenzene	U		0.1
1,3-Dichlorobenzene	U		0.1
1,4-Dichlorobenzene	U		0.1





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**Toxic Organic Compounds in Ambient Air-TO15 - GC/MS - Quality Control**

Batch: B6L2002

Sample Type: air

**Blank (B6L2002-BLK1)**

Prepared: 12/19/2006 Analyzed: 01/03/07

**Targets (Continued)**

ANALYTE	Result ppbv	Analyte Reporting Qualifiers Limit
Dichlorodifluoromethane	U	0.1
1,1-Dichloroethane	U	0.1
1,2-Dichloroethane	U	0.1
1,1-Dichloroethene	U	0.1
cis-1,2-Dichloroethene	U	0.1
trans-1,2-Dichloroethene	U	0.1
1,2-Dichloropropane	U	0.1
cis-1,3-Dichloropropene	U	0.1
trans-1,3-Dichloropropene	U	0.1
1,2-Dichloro-1,1,2,2-tetrafluoro ethane	U	0.1
1,4-Dioxane	U	1.0
Ethyl alcohol	U	0.1
Ethyl acetate	U	0.4
Ethylbenzene	U	0.1
1-Ethyl-4-methylbenzene	U	0.2
n-Heptane	U	0.1
Hexachlorobutadiene	U	0.1
n-Hexane	U	0.1
2-Hexanone	U	0.2
Isopropyl alcohol	U	0.5
Methylene chloride	U	0.1
4-Methyl-2-pentanone	U	1.0
Methyl tertiary-butyl ether	U	0.1
Propene	U	0.1
Styrene	U	0.2
1,1,2,2-Tetrachloroethane	U	0.1
Tetrachloroethene	U	0.1
Tetrahydrofuran	U	0.2
Toluene	U	0.1



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**Toxic Organic Compounds in Ambient Air-TO15 - GC/MS - Quality Control**

Batch: B6L2002

Sample Type: air

**Blank (B6L2002-BLK1)**

Prepared: 12/19/2006 Analyzed: 01/03/07

**Targets (Continued)**

ANALYTE	Result ppbv	Analyte Reporting Qualifiers	Reporting Limit
1,2,4-Trichlorobenzene	U		0.1
1,1,1-Trichloroethane	U		0.1
1,1,2-Trichloroethane	U		0.1
Trichloroethene	U		0.1
Trichlorofluoromethane	U		0.1
1,1,2-Trichloro-1,2,2-trifluoroethane	U		0.1
1,2,4-Trimethylbenzene	U		0.1
1,3,5-Trimethylbenzene	U		0.1
Vinyl acetate	U		0.4
Vinyl chloride	U		0.1
meta-/para-Xylene	U		0.2
ortho-Xylene	U		0.1

**Tentatively Identified Compounds**

Compound (CAS)	Result ppbv	Analyte Qualifiers	Retention Time
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No TICs present in this sample.

**Blank (B6L2002-BLK2)**

Prepared: 1/5/2007 Analyzed: 1/5/2007

**Surrogates**

ANALYTE	Result ppbv	Analyte Qualifier	Spike Level	%REC	%REC Limits
<i>Surr: 4-Bromofluorobenzene</i>	9.00		10.0	90.0	70-130
<i>Surr: 1,2-Dichloroethane-d4</i>	8.39		7.50	112	70-130
<i>Surr: Toluene-d8</i>	7.56		7.50	101	70-130
<i>Surr: 1,2-Dichlorobenzene-d4</i>	6.94		7.50	92.5	70-130



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**Toxic Organic Compounds in Ambient Air-TO15 - GC/MS - Quality Control**

Batch: B6L2002

Sample Type: air

**Blank (B6L2002-BLK2)**

Prepared: 1/5/2007 Analyzed: 01/05/07

**Targets**

ANALYTE	Result ppbv	Analyte Reporting Qualifiers	Reporting Limit
Acetone	0.1		0.1
Benzene	U		0.1
Benzyl chloride	U		1.0
1,3-Butadiene	U		0.1
2-Butanone	U		0.1
Bromodichloromethane	U		0.1
Bromoform	U		0.1
Bromomethane	U		0.1
Carbon disulfide	U		0.1
Carbon tetrachloride	U		0.1
Chlorobenzene	U		0.1
Chlorodibromomethane	U		0.1
Chloroethane	U		0.1
Chloroform	U		0.1
Chloromethane	U		0.1
Cyclohexane	U		0.1
1,2-Dibromoethane	U		0.1
1,2-Dichlorobenzene	U		0.1
1,3-Dichlorobenzene	U		0.1
1,4-Dichlorobenzene	U		0.1
Dichlorodifluoromethane	U		0.1
1,1-Dichloroethane	U		0.1
1,2-Dichloroethane	U		0.1
1,1-Dichloroethene	U		0.1
cis-1,2-Dichloroethene	U		0.1
trans-1,2-Dichloroethene	U		0.1
1,2-Dichloropropane	U		0.1
cis-1,3-Dichloropropene	U		0.1
trans-1,3-Dichloropropene	U		0.1





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**Region 6 Laboratory**

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**Toxic Organic Compounds in Ambient Air-TO15 - GC/MS - Quality Control**

Batch: B6L2002

Sample Type: air

**Blank (B6L2002-BLK2)**

Prepared: 1/5/2007 Analyzed: 01/05/07

**Targets (Continued)**

ANALYTE	Result ppbv	Analyte Reporting Qualifiers Limit
1,2-Dichloro-1,1,2,2-tetrafluoroethane	U	0.1
1,4-Dioxane	U	1.0
Ethyl alcohol	U	0.1
Ethyl acetate	U	0.4
Ethylbenzene	U	0.1
1-Ethyl-4-methylbenzene	U	0.2
n-Heptane	U	0.1
Hexachlorobutadiene	U	0.1
n-Hexane	U	0.1
2-Hexanone	U	0.2
Isopropyl alcohol	U	0.5
Methylene chloride	U	0.1
4-Methyl-2-pentanone	U	1.0
Methyl tertiary-butyl ether	U	0.1
Propene	U	0.1
Styrene	U	0.2
1,1,2,2-Tetrachloroethane	U	0.1
Tetrachloroethene	U	0.1
Tetrahydrofuran	U	0.2
Toluene	U	0.1
1,2,4-Trichlorobenzene	U	0.1
1,1,1-Trichloroethane	U	0.1
1,1,2-Trichloroethane	U	0.1
Trichloroethene	U	0.1
Trichlorofluoromethane	U	0.1
1,1,2-Trichloro-1,2,2-trifluoroethane	U	0.1
1,2,4-Trimethylbenzene	U	0.1
1,3,5-Trimethylbenzene	U	0.1
Vinyl acetate	U	0.4



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Batch: B6L2002

Sample Type: air

**Blank (B6L2002-BLK2)**

Prepared: 1/5/2007 Analyzed: 01/05/07

**Targets (Continued)**

ANALYTE	Result ppbv	Analyte Reporting Qualifiers	Reporting Limit
Vinyl chloride	U		0.1
meta-/para-Xylene	U		0.2
ortho-Xylene	U		0.1

**Tentatively Identified Compounds**

Compound (CAS)	Result ppbv	Analyte Qualifiers	Retention Time
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**No TICs present in this sample.**

**LCS (B6L2002-BS1)**

Prepared: 1/3/2007 Analyzed: 1/3/2007

**Surrogates**

ANALYTE	Result ppbv	Analyte Qualifier	Spike Level	%REC %REC	Limit
<i>Surr: 4-Bromofluorobenzene</i>	9.96		10.0	99.6	70-130
<i>Surr: 1,2-Dichloroethane-d4</i>	7.47		7.50	99.6	70-130
<i>Surr: Toluene-d8</i>	7.78		7.50	104	70-130
<i>Surr: 1,2-Dichlorobenzene-d4</i>	7.49		7.50	99.9	70-130

**LCS (B6L2002-BS1)**

Prepared: 1/3/2007 Analyzed: 01/03/07

**Targets**

ANALYTE	Result ppbv	Analyte Reporting Qualifiers	Reporting Limit	Spike Level	%REC %REC	Limit
Acetone	4.5			5.00	90.0	70-130
Benzene	4.7			5.00	94.0	70-130
Benzyl chloride	3.3			5.00	66.0#	70-130
1,3-Butadiene	5.5			5.00	110	70-130



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**Toxic Organic Compounds in Ambient Air-TO15 - GC/MS - Quality Control**

Batch: B6L2002

Sample Type: air

**LCS (B6L2002-BS1)**

Prepared: 1/3/2007 Analyzed: 01/03/07

**Targets (Continued)**

ANALYTE	Result ppbv	Analyte Reporting Qualifiers Limit	Spike Level	%REC %REC Limits
2-Butanone	4.6		5.00	92.0 70-130
Bromodichloromethane	4.6		5.00	92.0 70-130
Bromoform	4.3		5.00	86.0 70-130
Bromomethane	5.4		5.00	108 70-130
Carbon disulfide	5.4		5.00	108 70-130
Carbon tetrachloride	5.1		5.00	102 70-130
Chlorobenzene	4.3		5.00	86.0 70-130
Chlorodibromomethane	4.5		5.00	90.0 70-130
Chloroethane	5.4		5.00	108 70-130
Chloroform	4.8		5.00	96.0 70-130
Chloromethane	5.4		5.00	108 70-130
Cyclohexane	5.1		5.00	102 70-130
1,2-Dibromoethane	4.3		5.00	86.0 70-130
1,2-Dichlorobenzene	4.1		5.00	82.0 70-130
1,3-Dichlorobenzene	4.1		5.00	82.0 70-130
1,4-Dichlorobenzene	4.1		5.00	82.0 70-130
Dichlorodifluoromethane	5.4		5.00	108 70-130
1,1-Dichloroethane	4.9		5.00	98.0 70-130
1,2-Dichloroethane	4.7		5.00	94.0 70-130
1,1-Dichloroethene	5.2		5.00	104 70-130
cis-1,2-Dichloroethene	5.1		5.00	102 70-130
trans-1,2-Dichloroethene	5.3		5.00	106 70-130
1,2-Dichloropropane	4.5		5.00	90.0 70-130
cis-1,3-Dichloropropene	4.3		5.00	86.0 70-130
trans-1,3-Dichloropropene	4.4		5.00	88.0 70-130
1,2-Dichloro-1,1,2,2-tetrafluoroethane	5.5		5.00	110 70-130
1,4-Dioxane	4.8		5.00	96.0 70-130
Ethyl alcohol	4.2		5.00	84.0 70-130
Ethyl acetate	4.2		5.00	84.0 70-130





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**Toxic Organic Compounds in Ambient Air-TO15 - GC/MS - Quality Control**

Batch: B6L2002

Sample Type: air

**LCS (B6L2002-BS1)**

Prepared: 1/3/2007 Analyzed: 01/03/07

**Targets (Continued)**

ANALYTE	Result ppbv	Analyte Reporting Qualifiers Limit	Spike Level	%REC %REC Limits
Ethylbenzene	4.3		5.00	86.0 70-130
1-Ethyl-4-methylbenzene	4.2		5.00	84.0 70-130
n-Heptane	4.7		5.00	94.0 70-130
Hexachlorobutadiene	4.2		5.00	84.0 70-130
n-Hexane	5.1		5.00	102 70-130
2-Hexanone	4.0		5.00	80.0 70-130
Isopropyl alcohol	4.1		5.00	82.0 70-130
Methylene chloride	4.8		5.00	96.0 70-130
4-Methyl-2-pentanone	5.2		5.00	104 70-130
Methyl tertiary-butyl ether	4.9		5.00	98.0 70-130
Propene	5.0		5.00	100 70-130
Styrene	4.1		5.00	82.0 70-130
1,1,2,2-Tetrachloroethane	4.6		5.00	92.0 70-130
Tetrachloroethene	4.5		5.00	90.0 70-130
Tetrahydrofuran	4.4		5.00	88.0 70-130
Toluene	4.4		5.00	88.0 70-130
1,2,4-Trichlorobenzene	3.7		5.00	74.0 70-130
1,1,1-Trichloroethane	5.0		5.00	100 70-130
1,1,2-Trichloroethane	4.6		5.00	92.0 70-130
Trichloroethene	4.4		5.00	88.0 70-130
Trichlorofluoromethane	5.4		5.00	108 70-130
1,1,2-Trichloro-1,2,2-trifluoroethane	5.3		5.00	106 70-130
1,2,4-Trimethylbenzene	4.4		5.00	88.0 70-130
1,3,5-Trimethylbenzene	4.5		5.00	90.0 70-130
Vinyl acetate	3.8		5.00	76.0 70-130
Vinyl chloride	5.5		5.00	110 70-130
meta-/para-Xylene	8.6		10.0	86.0 70-130
ortho-Xylene	4.4		5.00	88.0 70-130



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**Toxic Organic Compounds in Ambient Air-TO15 - GC/MS - Quality Control**

Batch: B6L2002

Sample Type: air

**LCS (B6L2002-BS2)**

Prepared: 1/5/2007 Analyzed: 1/5/2007

**Surrogates**

ANALYTE	Result ppbv	Analyte Qualifier	Spike Level	%REC %REC	%REC Limits
<i>Surr: 4-Bromofluorobenzene</i>	10.1		10.0	101	70-130
<i>Surr: 1,2-Dichloroethane-d4</i>	7.72		7.50	103	70-130
<i>Surr: Toluene-d8</i>	7.58		7.50	101	70-130
<i>Surr: 1,2-Dichlorobenzene-d4</i>	7.27		7.50	96.9	70-130

**LCS (B6L2002-BS2)**

Prepared: 1/5/2007 Analyzed: 01/05/07

**Targets**

ANALYTE	Result ppbv	Analyte Qualifiers	Reporting Limit	Spike Level	%REC %REC	%REC Limits
Acetone	4.6			5.00	92.0	70-130
Benzene	4.9			5.00	98.0	70-130
Benzyl chloride	3.8			5.00	76.0	70-130
1,3-Butadiene	5.4			5.00	108	70-130
2-Butanone	4.0			5.00	80.0	70-130
Bromodichloromethane	4.7			5.00	94.0	70-130
Bromoform	4.6			5.00	92.0	70-130
Bromomethane	5.4			5.00	108	70-130
Carbon disulfide	5.4			5.00	108	70-130
Carbon tetrachloride	5.1			5.00	102	70-130
Chlorobenzene	4.5			5.00	90.0	70-130
Chlorodibromomethane	4.6			5.00	92.0	70-130
Chloroethane	5.4			5.00	108	70-130
Chloroform	5.0			5.00	100	70-130
Chloromethane	5.5			5.00	110	70-130
Cyclohexane	5.1			5.00	102	70-130
1,2-Dibromoethane	4.5			5.00	90.0	70-130
1,2-Dichlorobenzene	4.3			5.00	86.0	70-130
1,3-Dichlorobenzene	4.3			5.00	86.0	70-130
1,4-Dichlorobenzene	4.4			5.00	88.0	70-130



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**Toxic Organic Compounds in Ambient Air-TO15 - GC/MS - Quality Control**

Batch: B6L2002

Sample Type: air

**LCS (B6L2002-BS2)**

Prepared: 1/5/2007 Analyzed: 01/05/07

**Targets (Continued)**

ANALYTE	Result ppbv	Analyte Reporting Qualifiers	Reporting Limit	Spike Level	%REC %REC Limits
Dichlorodifluoromethane	5.5			5.00	110 70-130
1,1-Dichloroethane	5.0			5.00	100 70-130
1,2-Dichloroethane	4.9			5.00	98.0 70-130
1,1-Dichloroethene	5.2			5.00	104 70-130
cis-1,2-Dichloroethene	5.1			5.00	102 70-130
trans-1,2-Dichloroethene	5.2			5.00	104 70-130
1,2-Dichloropropane	4.7			5.00	94.0 70-130
cis-1,3-Dichloropropene	4.5			5.00	90.0 70-130
trans-1,3-Dichloropropene	4.4			5.00	88.0 70-130
1,2-Dichloro-1,1,2,2-tetrafluoroethane	5.5			5.00	110 70-130
1,4-Dioxane	4.3			5.00	86.0 70-130
Ethyl alcohol	5.2			5.00	104 70-130
Ethyl acetate	4.2			5.00	84.0 70-130
Ethylbenzene	4.6			5.00	92.0 70-130
1-Ethyl-4-methylbenzene	4.3			5.00	86.0 70-130
n-Heptane	4.8			5.00	96.0 70-130
Hexachlorobutadiene	4.4			5.00	88.0 70-130
n-Hexane	5.1			5.00	102 70-130
2-Hexanone	4.3			5.00	86.0 70-130
Isopropyl alcohol	4.7			5.00	94.0 70-130
Methylene chloride	5.0			5.00	100 70-130
4-Methyl-2-pentanone	5.6			5.00	112 70-130
Methyl tertiary-butyl ether	5.1			5.00	102 70-130
Propene	5.2			5.00	104 70-130
Styrene	4.3			5.00	86.0 70-130
1,1,2,2-Tetrachloroethane	4.7			5.00	94.0 70-130
Tetrachloroethene	4.6			5.00	92.0 70-130
Tetrahydrofuran	4.4			5.00	88.0 70-130
Toluene	4.7			5.00	94.0 70-130





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**Toxic Organic Compounds in Ambient Air-TO15 - GC/MS - Quality Control**

**Batch: B6L2002**

**Sample Type: air**

**LCS (B6L2002-BS2)**

Prepared: 1/5/2007 Analyzed: 01/05/07

**Targets (Continued)**

ANALYTE	Result ppbv	Analyte Reporting Qualifiers Limit	Spike Level	%REC %REC Limits
1,2,4-Trichlorobenzene	3.8		5.00	76.0 70-130
1,1,1-Trichloroethane	5.1		5.00	102 70-130
1,1,2-Trichloroethane	4.8		5.00	96.0 70-130
Trichloroethene	4.7		5.00	94.0 70-130
Trichlorofluoromethane	5.4		5.00	108 70-130
1,1,2-Trichloro-1,2,2-trifluoroethane	5.4		5.00	108 70-130
1,2,4-Trimethylbenzene	4.6		5.00	92.0 70-130
1,3,5-Trimethylbenzene	4.7		5.00	94.0 70-130
Vinyl acetate	4.1		5.00	82.0 70-130
Vinyl chloride	5.6		5.00	112 70-130
meta-/para-Xylene	9.0		10.0	90.0 70-130
ortho-Xylene	4.6		5.00	92.0 70-130

**Duplicate (B6L2002-DUP1)**

**Source: 0612012-02**

Prepared: 1/3/2007 Analyzed: 1/3/2007

**Surrogates**

ANALYTE	Result ppbv	Analyte Qualifier	Spike Level	%REC %REC Limits
<i>Surr: 4-Bromofluorobenzene</i>	9.54		10.0	95.4 70-130
<i>Surr: 1,2-Dichloroethane-d4</i>	6.29		7.50	83.9 70-130
<i>Surr: Toluene-d8</i>	8.70		7.50	116 70-130
<i>Surr: 1,2-Dichlorobenzene-d4</i>	7.26		7.50	96.8 70-130

**Duplicate (B6L2002-DUP1)**

**Source: 0612012-02**

Prepared: 1/3/2007 Analyzed: 01/03/07

**Targets**

ANALYTE	Result ppbv	Analyte Reporting Qualifiers Limit	Spike Level	Source Result	RPD RPD Limit
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**Toxic Organic Compounds in Ambient Air-TO15 - GC/MS - Quality Control**

Batch: B6L2002

Sample Type: air

**Duplicate (B6L2002-DUP1)**

Source: 0612012-02

Prepared: 1/3/2007 Analyzed: 01/03/07

**Targets (Continued)**

ANALYTE	Result ppbv	Analyte Qualifiers	Reporting Limit	Spike Level	Source Result	RPD	RPD Limit
Acetone	7.0		0.2		6.6	5.88	40
Benzene	0.5		0.2		0.4	22.2	40
Benzyl chloride	U		2.5			NR	40
1,3-Butadiene	U		0.2			NR	40
2-Butanone	4.8		0.2		3.9	20.7	40
Bromodichloromethane	U		0.2			NR	40
Bromoform	U		0.2			NR	40
Bromomethane	U		0.2			NR	40
Carbon disulfide	U		0.2			NR	40
Carbon tetrachloride	U		0.2			NR	40
Chlorobenzene	U		0.2			NR	40
Chlorodibromomethane	U		0.2			NR	40
Chloroethane	U		0.2			NR	40
Chloroform	U		0.2			NR	40
Chloromethane	0.9		0.2		0.9	0.00	40
Cyclohexane	U		0.2			NR	40
1,2-Dibromoethane	U		0.2			NR	40
1,2-Dichlorobenzene	U		0.2			NR	40
1,3-Dichlorobenzene	U		0.2			NR	40
1,4-Dichlorobenzene	U		0.2			NR	40
Dichlorodifluoromethane	0.6		0.2		0.5	18.2	40
1,1-Dichloroethane	U		0.2			NR	40
1,2-Dichloroethane	U		0.2			NR	40
1,1-Dichloroethene	U		0.2			NR	40
cis-1,2-Dichloroethene	U		0.2			NR	40
trans-1,2-Dichloroethene	U		0.2			NR	40
1,2-Dichloropropane	U		0.2			NR	40
cis-1,3-Dichloropropene	U		0.2			NR	40
trans-1,3-Dichloropropene	U		0.2			NR	40



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**Toxic Organic Compounds in Ambient Air-TO15 - GC/MS - Quality Control**

Batch: B6L2002

Sample Type: air

**Duplicate (B6L2002-DUP1)**

Source: 0612012-02

Prepared: 1/3/2007 Analyzed: 01/03/07

**Targets (Continued)**

ANALYTE	Result ppbv	Analyte Qualifiers	Reporting Limit	Spike Level	Source Result	RPD RPD	RPD Limit
1,2-Dichloro-1,1,2,2-tetrafluoroethane	U		0.2			NR	40
1,4-Dioxane	U		2.5			NR	40
Ethyl alcohol	U		0.2			NR	40
Ethyl acetate	U		1.0			NR	40
Ethylbenzene	0.6		0.2		0.6	0.00	40
1-Ethyl-4-methylbenzene	5.1		0.5			NR	40
n-Heptane	0.3		0.2			NR	40
Hexachlorobutadiene	U		0.2			NR	40
n-Hexane	0.7		0.2		0.6	15.4	40
2-Hexanone	U		0.5			NR	40
Isopropyl alcohol	U		1.2			NR	40
Methylene chloride	0.3		0.2			NR	40
4-Methyl-2-pentanone	U		2.5			NR	40
Methyl tertiary-butyl ether	U		0.2			NR	40
Propene	2.5		0.2		2.2	12.8	40
Styrene	U		0.5			NR	40
1,1,2,2-Tetrachloroethane	U		0.2			NR	40
Tetrachloroethene	U		0.2			NR	40
Tetrahydrofuran	U		0.5			NR	40
Toluene	1.7		0.2		1.7	0.00	40
1,2,4-Trichlorobenzene	U		0.2			NR	40
1,1,1-Trichloroethane	U		0.2			NR	40
1,1,2-Trichloroethane	U		0.2			NR	40
Trichloroethene	U		0.2			NR	40
Trichlorofluoromethane	0.3		0.2			NR	40
1,1,2-Trichloro-1,2,2-trifluoroethane	U		0.2			NR	40
1,2,4-Trimethylbenzene	0.3		0.2		0.3	0.00	40
1,3,5-Trimethylbenzene	U		0.2			NR	40
Vinyl acetate	U		1.0			NR	40





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**Toxic Organic Compounds in Ambient Air-TO15 - GC/MS - Quality Control**

**Batch: B6L2002**

**Sample Type: air**

**Duplicate (B6L2002-DUP1)**

**Source: 0612012-02**

Prepared: 1/3/2007 Analyzed: 01/03/07

**Targets (Continued)**

ANALYTE	Result ppbv	Analyte Qualifiers	Reporting Limit	Spike Level	Source Result	RPD RPD Limit
Vinyl chloride	0.3		0.2		0.3	0.00 40
meta-/para-Xylene	2.4		0.5		2.1	13.3 40
ortho-Xylene	0.8		0.2		0.7	13.3 40

**Duplicate (B6L2002-DUP2)**

**Source: 0612012-07**

Prepared: 1/5/2007 Analyzed: 1/5/2007

**Surrogates**

ANALYTE	Result ppbv	Analyte Qualifier	Spike Level	%REC %REC	%REC Limits
<i>Surr: 4-Bromofluorobenzene</i>	11.2		10.0	112	70-130
<i>Surr: 1,2-Dichloroethane-d4</i>	8.67		7.50	116	70-130
<i>Surr: Toluene-d8</i>	7.68		7.50	102	70-130
<i>Surr: 1,2-Dichlorobenzene-d4</i>	8.46		7.50	113	70-130

**Duplicate (B6L2002-DUP2)**

**Source: 0612012-07**

Prepared: 1/5/2007 Analyzed: 01/05/07

**Targets**

ANALYTE	Result ppbv	Analyte Qualifiers	Reporting Limit	Spike Level	Source Result	RPD RPD Limit
Acetone	U		0.2			NR 40
Benzene	3.7		0.2		3.1	17.6 40
Benzyl chloride	U		2.5			NR 40
1,3-Butadiene	U		0.2			NR 40
2-Butanone	U		0.2			NR 40
Bromodichloromethane	U		0.2			NR 40
Bromoform	U		0.2			NR 40
Bromomethane	U		0.2			NR 40
Carbon disulfide	U		0.2			NR 40



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**Toxic Organic Compounds in Ambient Air-TO15 - GC/MS - Quality Control**

Batch: B6L2002

Sample Type: air

**Duplicate (B6L2002-DUP2)**

Source: 0612012-07

Prepared: 1/5/2007 Analyzed: 01/05/07

**Targets (Continued)**

ANALYTE	Result ppbv	Analyte Qualifiers	Reporting Limit	Spike Level	Source Result	RPD RPD	Limit
Carbon tetrachloride	U		0.2			NR	40
Chlorobenzene	U		0.2			NR	40
Chlorodibromomethane	U		0.2			NR	40
Chloroethane	U		0.2			NR	40
Chloroform	0.4		0.2		0.3	28.6	40
Chloromethane	1.0		0.2		1.0	0.00	40
Cyclohexane	4.3		0.2		4.0	7.23	40
1,2-Dibromoethane	U		0.2			NR	40
1,2-Dichlorobenzene	U		0.2			NR	40
1,3-Dichlorobenzene	U		0.2			NR	40
1,4-Dichlorobenzene	U		0.2			NR	40
Dichlorodifluoromethane	0.5		0.2		0.5	0.00	40
1,1-Dichloroethane	U		0.2			NR	40
1,2-Dichloroethane	U		0.2			NR	40
1,1-Dichloroethene	U		0.2			NR	40
cis-1,2-Dichloroethene	U		0.2			NR	40
trans-1,2-Dichloroethene	U		0.2			NR	40
1,2-Dichloropropane	U		0.2			NR	40
cis-1,3-Dichloropropene	U		0.2			NR	40
trans-1,3-Dichloropropene	U		0.2			NR	40
1,2-Dichloro-1,1,2,2-tetrafluoroethane	U		0.2			NR	40
1,4-Dioxane	U		2.5			NR	40
Ethyl alcohol	U		0.2			NR	40
Ethyl acetate	U		1.0			NR	40
Ethylbenzene	4.2		0.2		3.6	15.4	40
1-Ethyl-4-methylbenzene	5.1		0.5		4.6	10.3	40
n-Heptane	14.9		0.2		13.5	9.86	40
Hexachlorobutadiene	U		0.2			NR	40
n-Hexane	11.5		0.2		10.3	11.0	40



Environmental Protection Agency  
**Region 6 Laboratory**

10625 Fallstone Road, Houston, TX 77099  
 Phone:(281)983-2100 Fax:(281)983-2248

**Toxic Organic Compounds in Ambient Air-TO15 - GC/MS - Quality Control**

Batch: B6L2002

Sample Type: air

**Duplicate (B6L2002-DUP2)**

Source: 0612012-07

Prepared: 1/5/2007 Analyzed: 01/05/07

**Targets (Continued)**

ANALYTE	Result ppbv	Analyte Qualifiers	Reporting Limit	Spike Level	Source Result	RPD RPD	RPD Limit
2-Hexanone	U		0.5			NR	40
Isopropyl alcohol	U		1.2			NR	40
Methylene chloride	U		0.2			NR	40
4-Methyl-2-pentanone	U		2.5			NR	40
Methyl tertiary-butyl ether	18.8		0.2		18.4	2.15	40
Propene	9.1		0.2		9.1	0.00	40
Styrene	U		0.5			NR	40
1,1,2,2-Tetrachloroethane	U		0.2			NR	40
Tetrachloroethene	U		0.2			NR	40
Tetrahydrofuran	U		0.5			NR	40
Toluene	13.8		0.2		12.5	9.89	40
1,2,4-Trichlorobenzene	U		0.2			NR	40
1,1,1-Trichloroethane	U		0.2			NR	40
1,1,2-Trichloroethane	U		0.2			NR	40
Trichloroethene	U		0.2			NR	40
Trichlorofluoromethane	0.3		0.2			NR	40
1,1,2-Trichloro-1,2,2-trifluoroethane	U		0.2			NR	40
1,2,4-Trimethylbenzene	17.5		0.2		16.0	8.96	40
1,3,5-Trimethylbenzene	4.7		0.2		4.2	11.2	40
Vinyl acetate	U		1.0			NR	40
Vinyl chloride	U		0.2			NR	40
meta-/para-Xylene	25.0		0.5		21.7	14.1	40
ortho-Xylene	9.6		0.2		8.5	12.2	40





# Environmental Protection Agency Region 6 Laboratory

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Phone: (281)983-2100 Fax: (281)983-2248

Page 1 of 1

Harris County Air Toxics  
December 11 - 14, 2006

**CHAIN OF CUSTODY RECORD**

Site # 234  
Contact Name: Howard Schmidt  
Contact Phone: 609-865-6650

**No: 234-121406-0001**  
Lab: USEPA Region VI  
Lab Contact: Kindall Barry  
Lab Phone: 214-679-8329

Lab #	Sample #	Location	Analyses	Matrix	Collected	Numb Cont	Container	Sample Time	Sample Remarks
	G1567	121206_0718UTC	TO-15	Air	12/12/2006	1	SUMMA	07:18	Time is UTC
	K0175	121206_0724UTC	TO-15	Air	12/12/2006	1	SUMMA	07:24	Time is UTC
	F1582	121306_0319UTC	TO-15	Air	12/13/2006	1	SUMMA	03:19	Time is UTC
	A1498	121306_0322UTC	TO-15	Air	12/13/2006	1	SUMMA	03:22	Time is UTC
	F1496	121306_0342UTC	TO-15	Air	12/13/2006	1	SUMMA	03:42	Time is UTC
	B0125	121306_0558UTC	TO-15	Air	12/13/2006	1	SUMMA	05:58	Time is UTC
	H1499	121306_0807UTC	TO-15	Air	12/13/2006	1	SUMMA	08:07	Time is UTC
	J0165	121306_0843UTC	TO-15	Air	12/13/2006	1	SUMMA	08:43	Time is UTC
	C1161	121406_0258UTC	TO-15	Air	12/14/2006	1	SUMMA	02:58	Time is UTC
	B1578	121406_0316UTC	TO-15	Air	12/14/2006	1	SUMMA	03:16	Time is UTC
	F1500	121406_0424UTC	TO-15	Air	12/14/2006	1	SUMMA	04:24	Time is UTC
	J0182	121406_0820UTC	TO-15	Air	12/14/2006	1	SUMMA	08:20	Time is UTC
	TRIP	NONE	TO-15	Air	12/14/2006	1	SUMMA	00:00	Time is UTC

Special Instructions: All samples on one chain per verbal approval of Kindall Barry - USEPA Region VI. All sample times are in UTC to coordinate with TGA monitoring data. All SUMMA samples are GRAB samples with beginning pressure of <math>-30^{\circ}</math> Hg and ending pressure fully evacuated (determine at lab).

**SAMPLES TRANSFERRED FROM  
CHAIN OF CUSTODY #**

Items/Reason	Relinquished By	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
ALL ANALYSIS	Howard Schmidt	12-14-06	Kindall Barry	12/14/06	5:15 PM						
	Kindall Barry	12/14/06	Mr. Steve [unclear]	12/14/06	6:10 AM						



Environmental Protection Agency  
**Region 6 Laboratory**

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Phone:(281)983-2100 Fax:(281)983-2248

## Notes and Definitions

J	The identification of the analyte is acceptable; the reported value is an estimate.
A	This sample was extracted at a single acid pH.
HTS	Sample was prepared and/or analyzed past recommended holding time. Concentrations should be considered minimum values.
AES	Atomic Emission Spectrometer
CVAA	Cold Vapor Atomic Absorption
ECD	Electron Capture Detector
GC	Gas Chromatograph
GFAA	Graphite Furnace Atomic Absorption
ICP	Inductively Coupled Plasma
MS	Mass Spectrometer
NA	Not Applicable
NPD	Nitrogen Phosphorous Detector
NR	Not Reported
TCLP	Toxicity Characteristic Leaching Procedure
U	Undetected
#	Out of QC limits

Initial pressure in air analyses is the pressure at which the canister was received in psia (pounds *per* square inch absolute pressure).

The pH reported for Volatile liquid samples was tested using a 0-14 pH indicator strip for the purpose of verifying chemical preservation.

The statistical software used for the reporting of toxicity data is ToxStat 3.5, Western Ecosystems Technology, Inc., Cheyenne, Wyoming 1996.

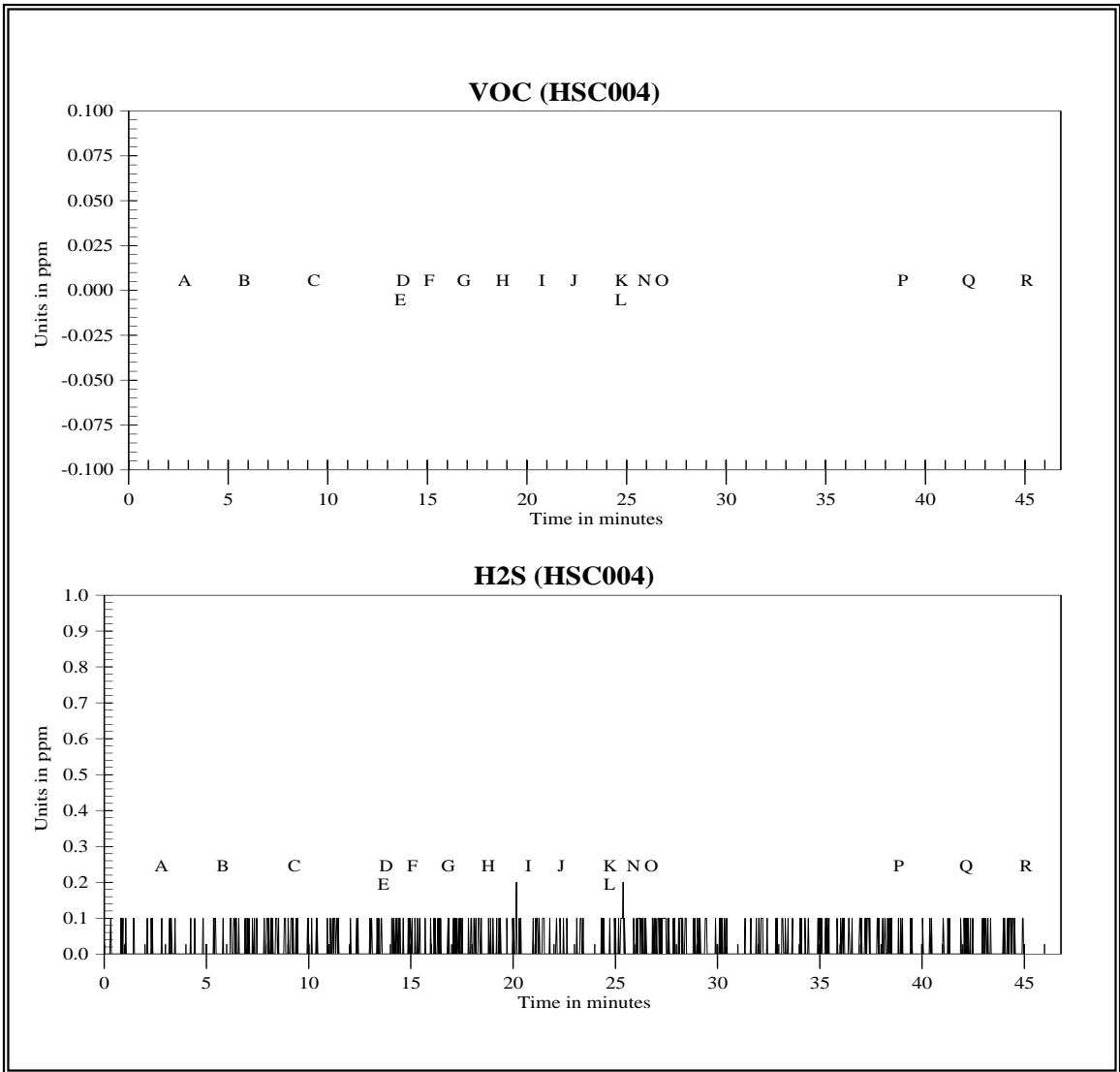
**APPENDIX D**

**GRAPHICAL MULTIRAE DATA**

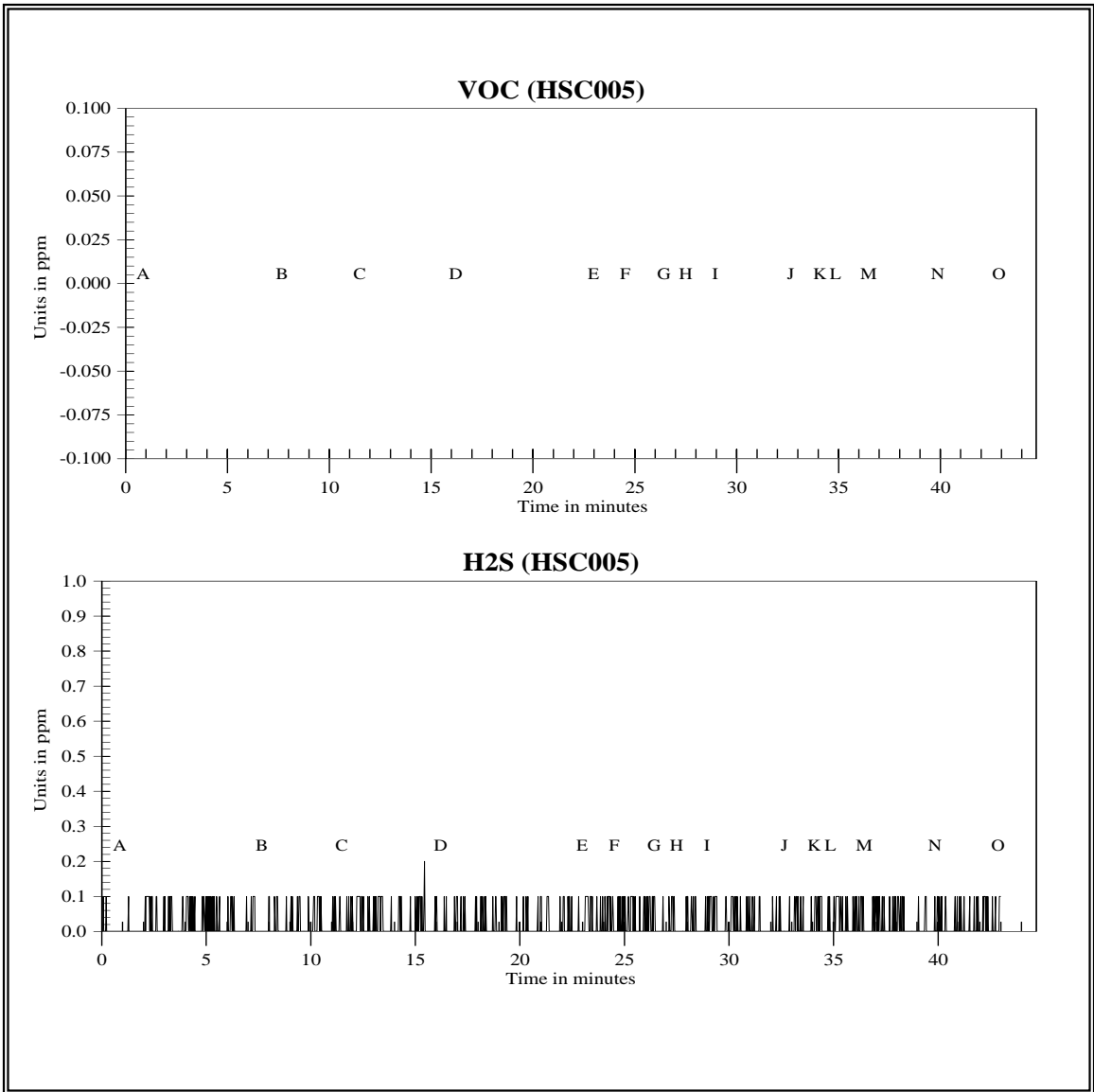
**URBAN AIR TOXICS STUDY  
FINAL ANALYTICAL TAGA REPORT  
MARCH 2007**





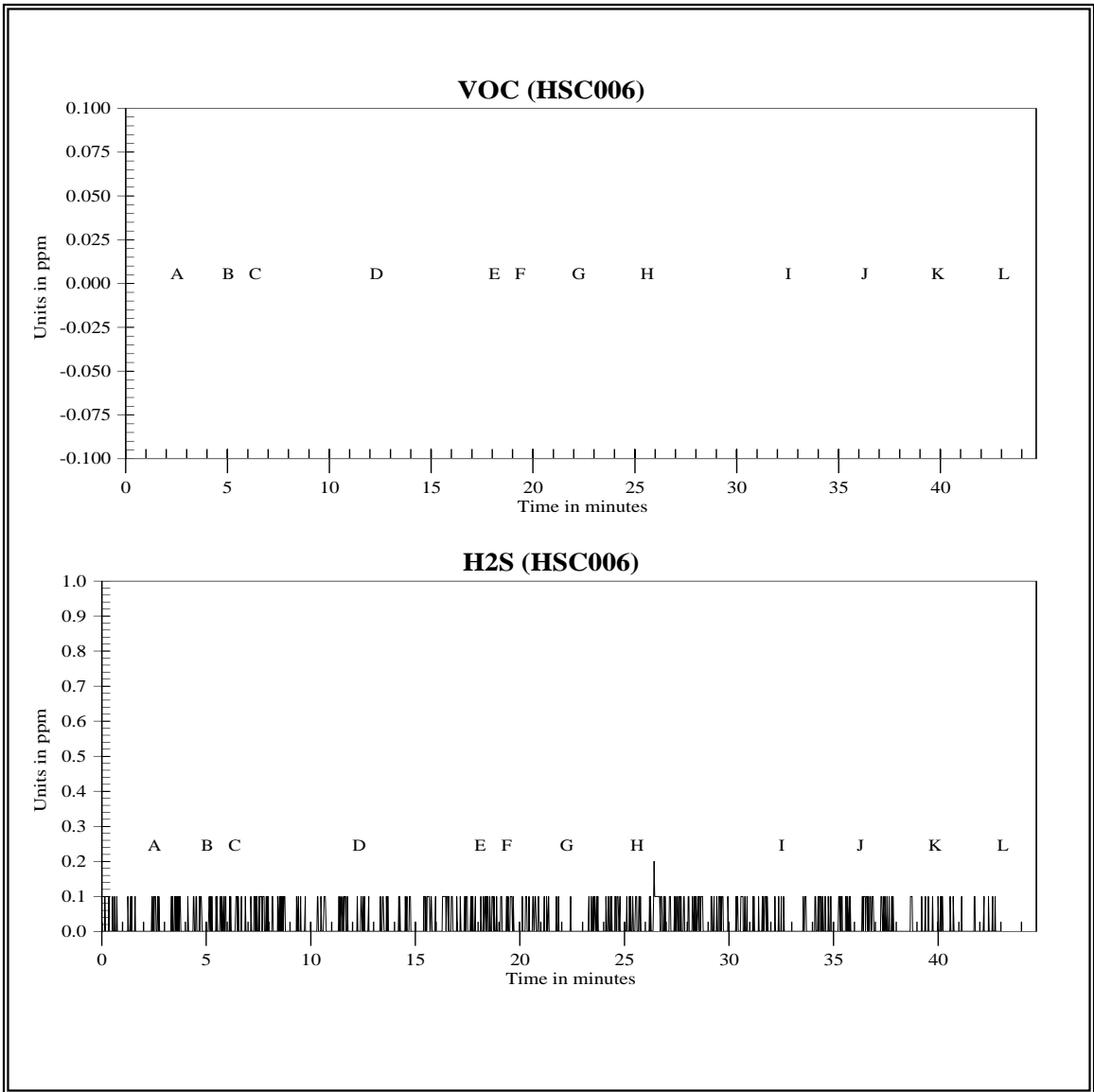


**Figure D1** VOC and H<sub>2</sub>S in Harris County

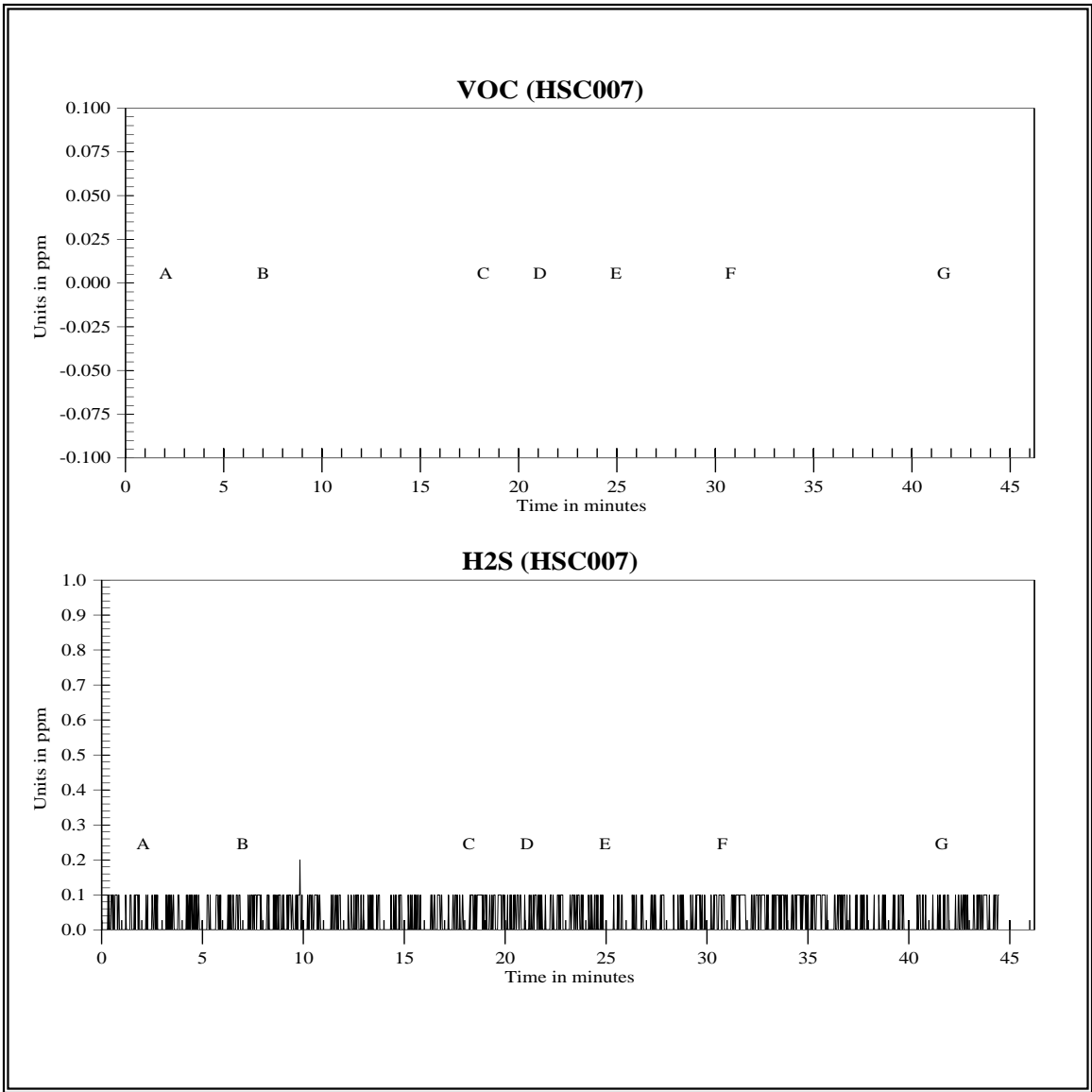


**Figure D2** VOC and H<sub>2</sub>S in Harris County

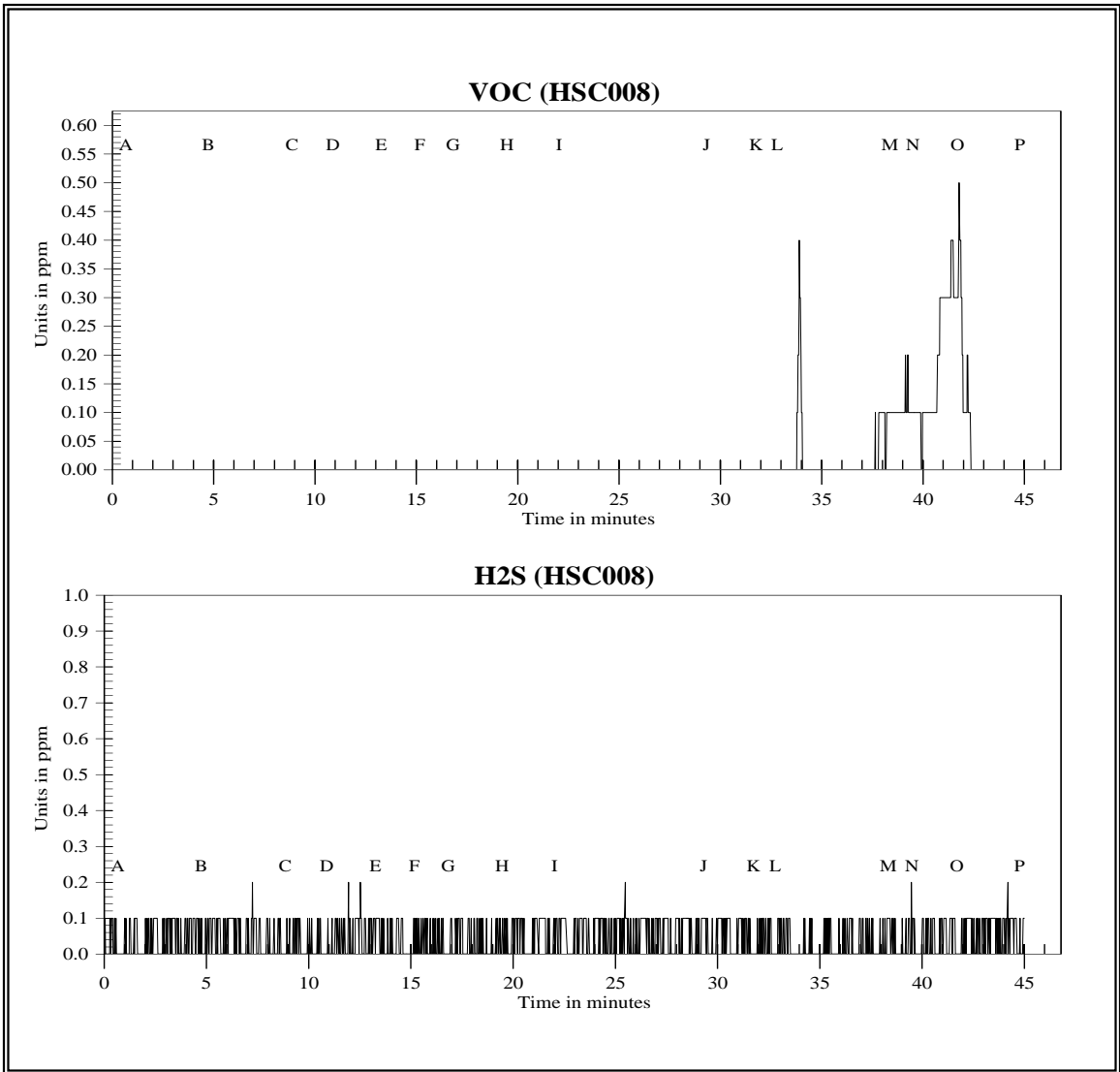




**Figure D3** VOC and H<sub>2</sub>S in Harris County

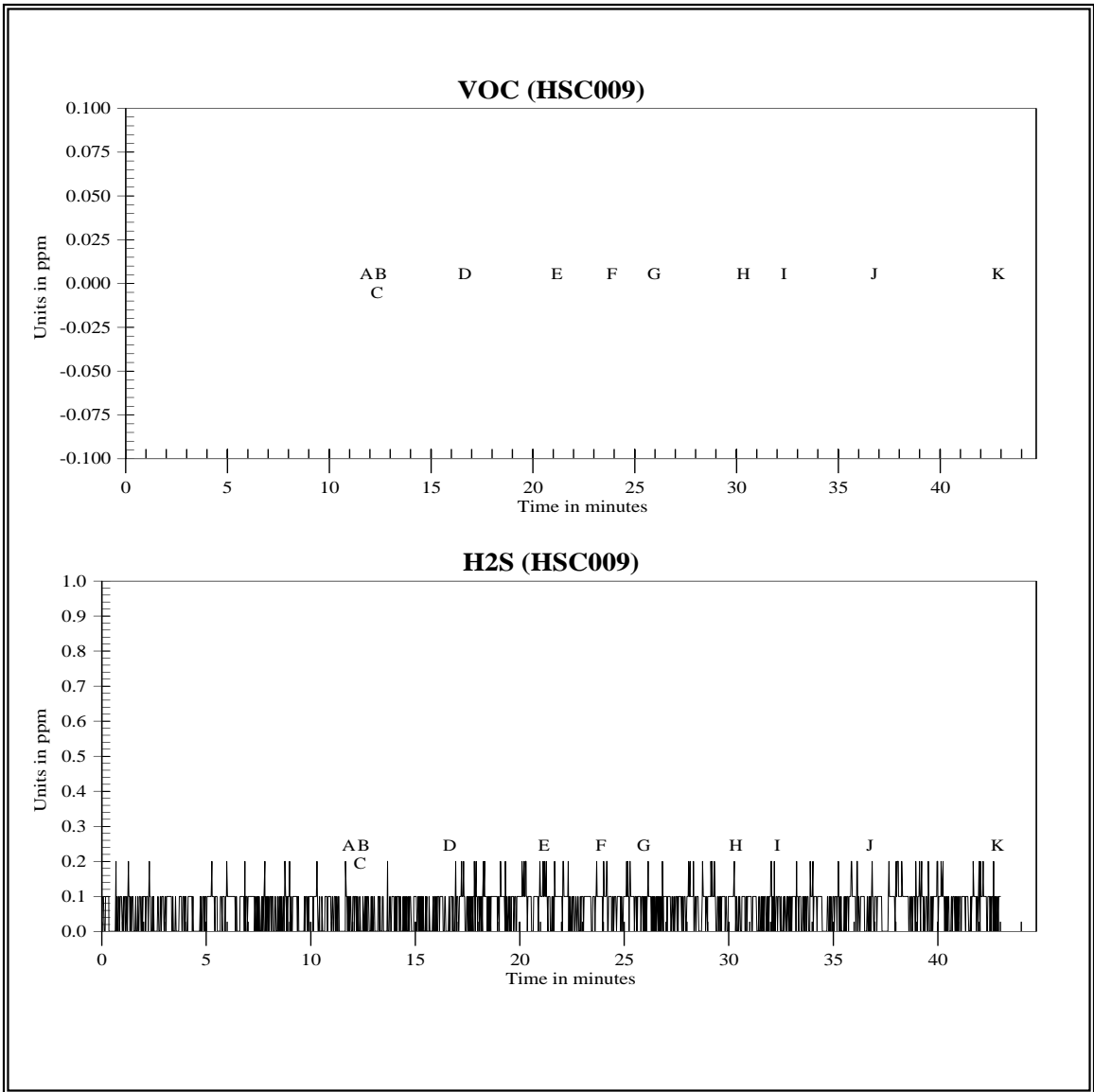


**Figure D4** VOC and H<sub>2</sub>S in Harris County

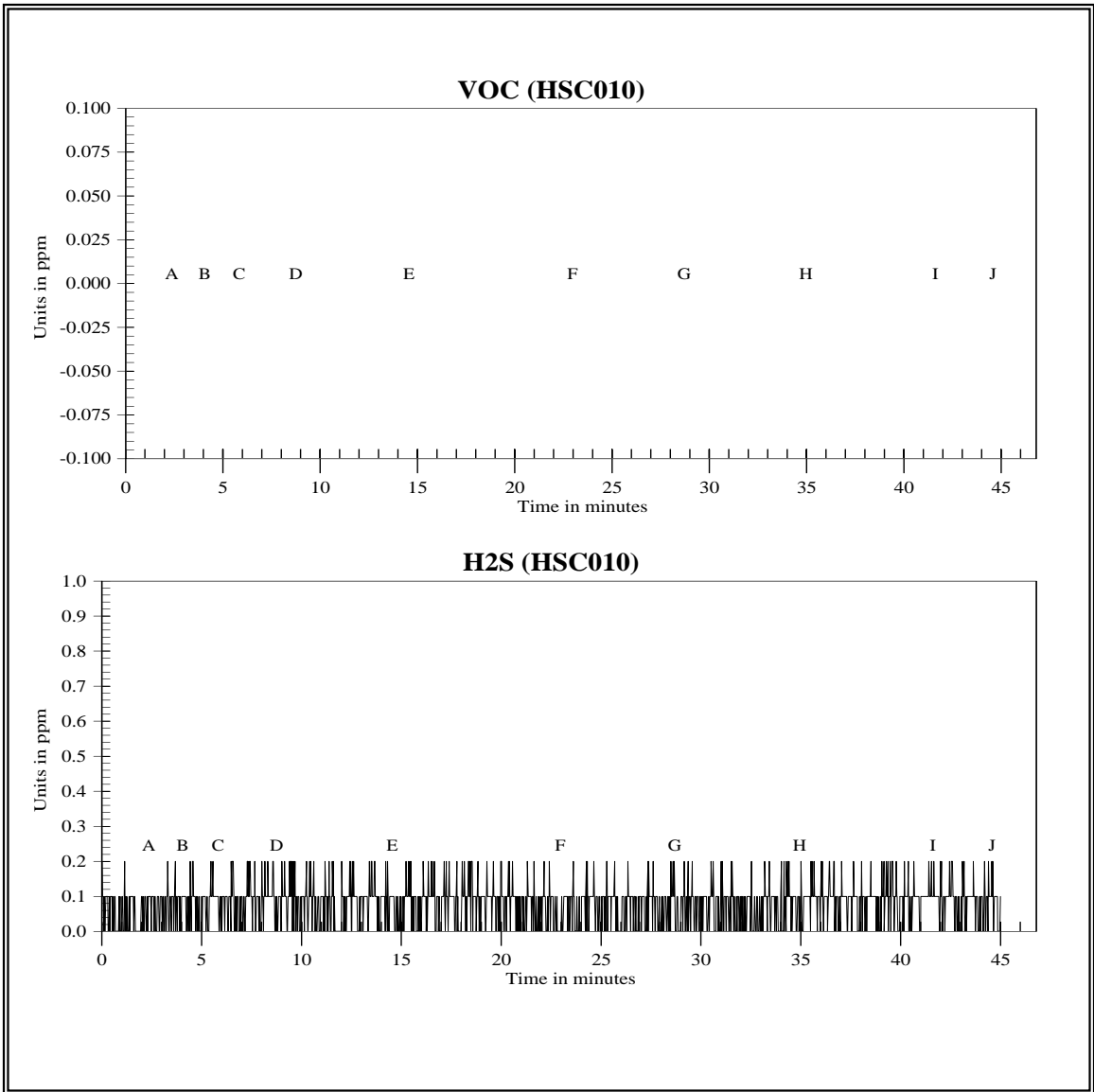


**Figure D5** VOC and H<sub>2</sub>S in Harris County

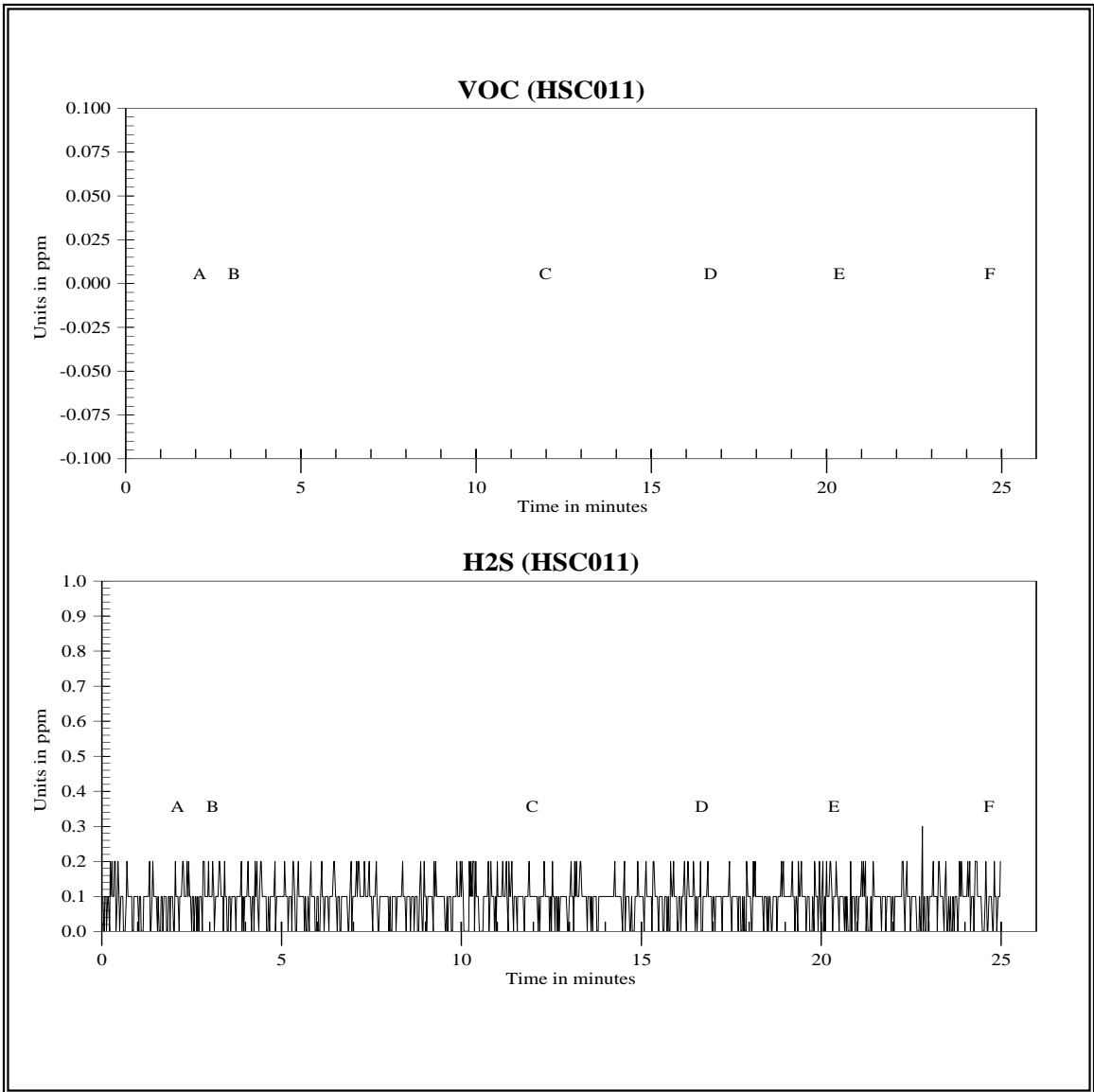




**Figure D6** VOC and H<sub>2</sub>S in Harris County

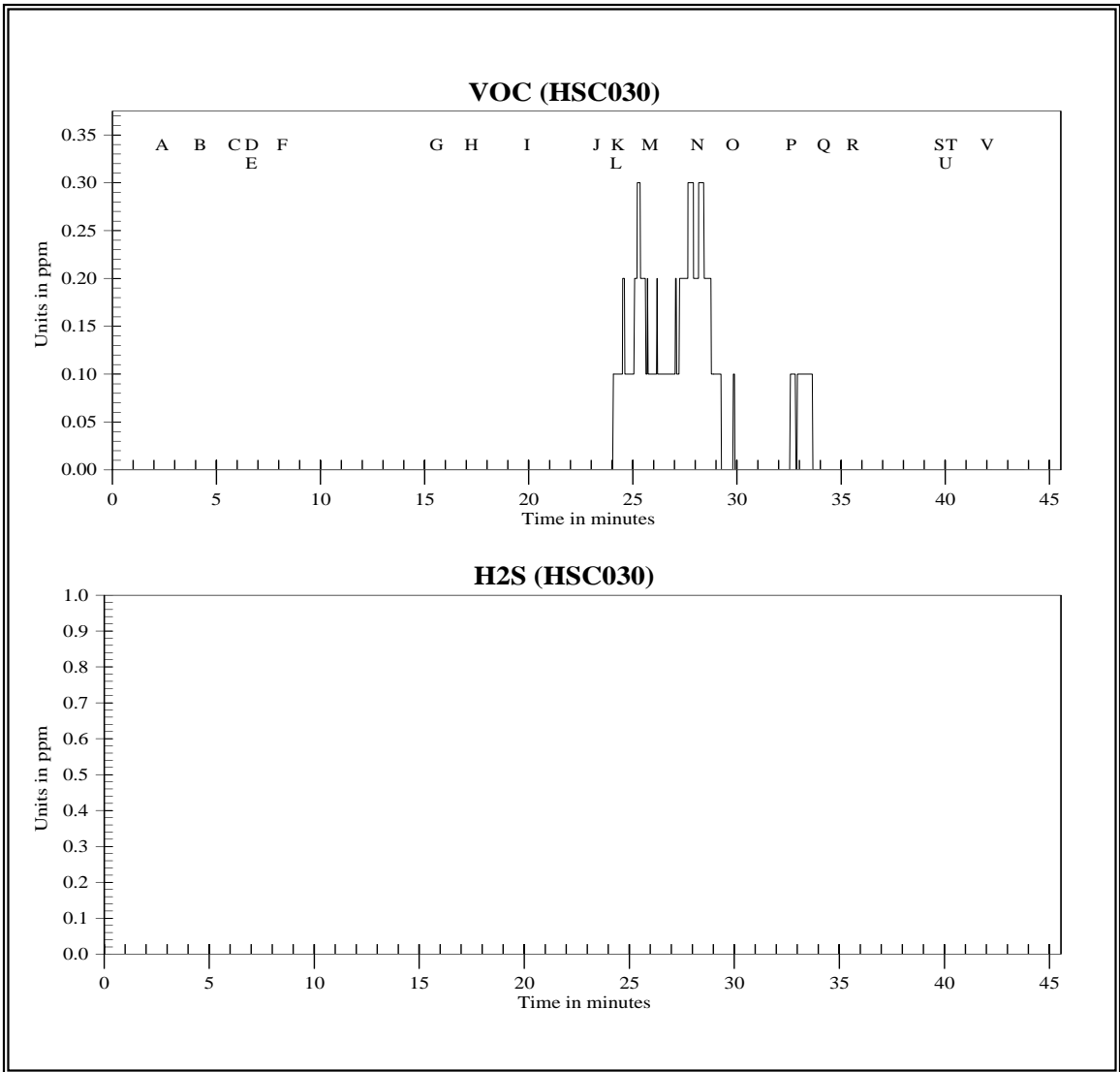


**Figure D7** VOC and H<sub>2</sub>S in Harris County

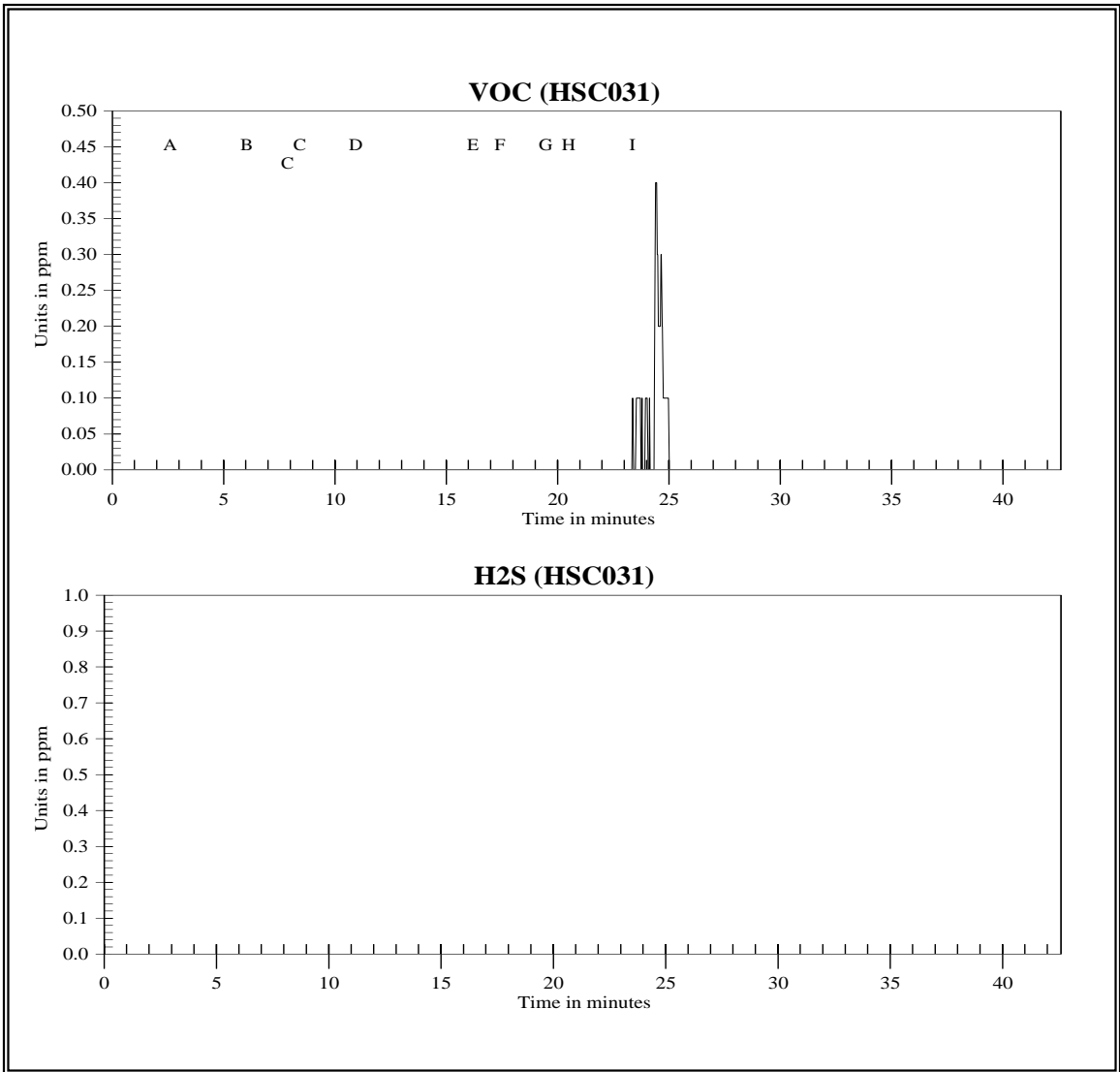


**Figure D8** VOC and H<sub>2</sub>S in Harris County

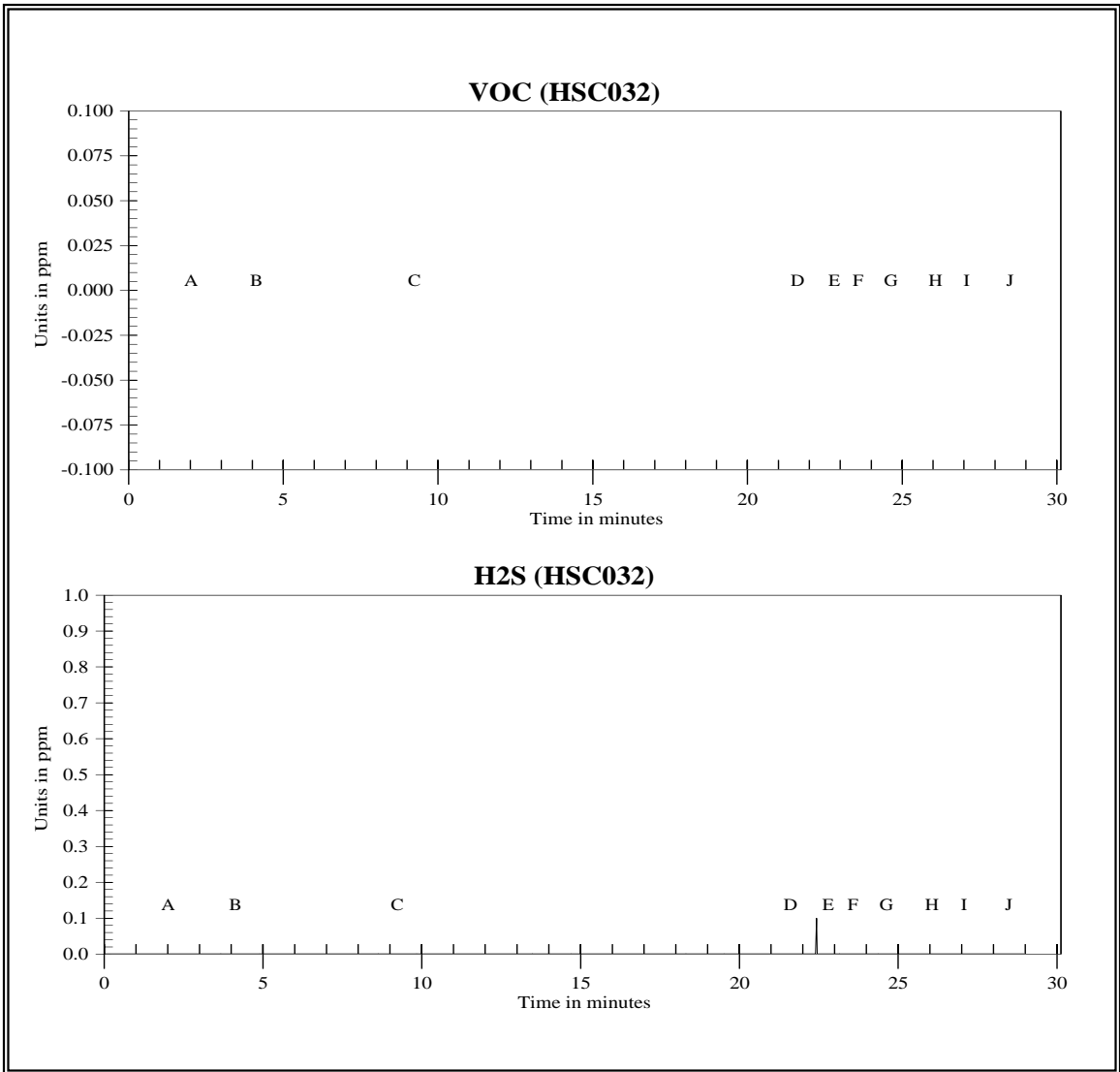




**Figure D9** VOC and H<sub>2</sub>S in Harris County

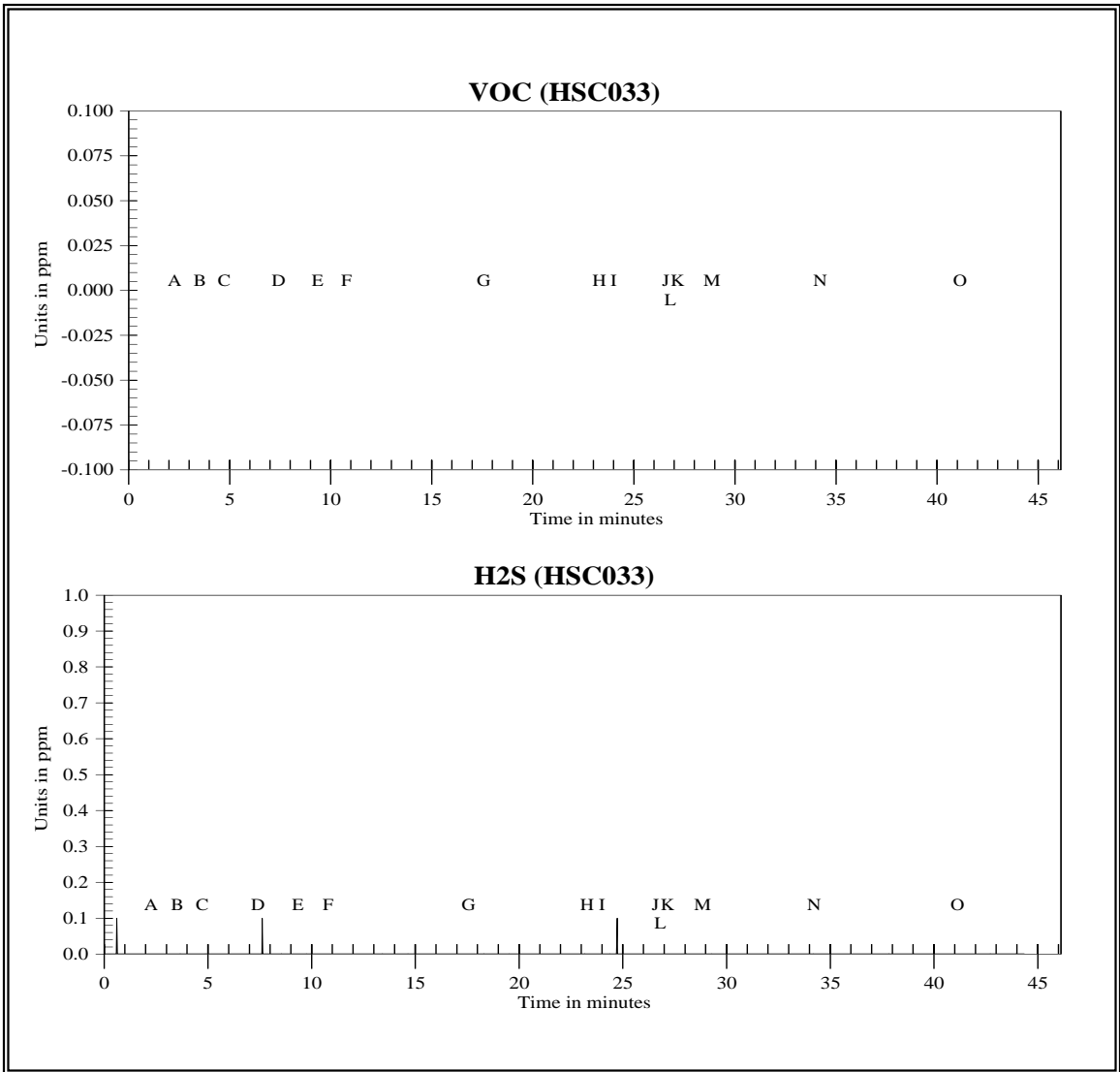


**Figure D10** VOC and H<sub>2</sub>S in Harris County

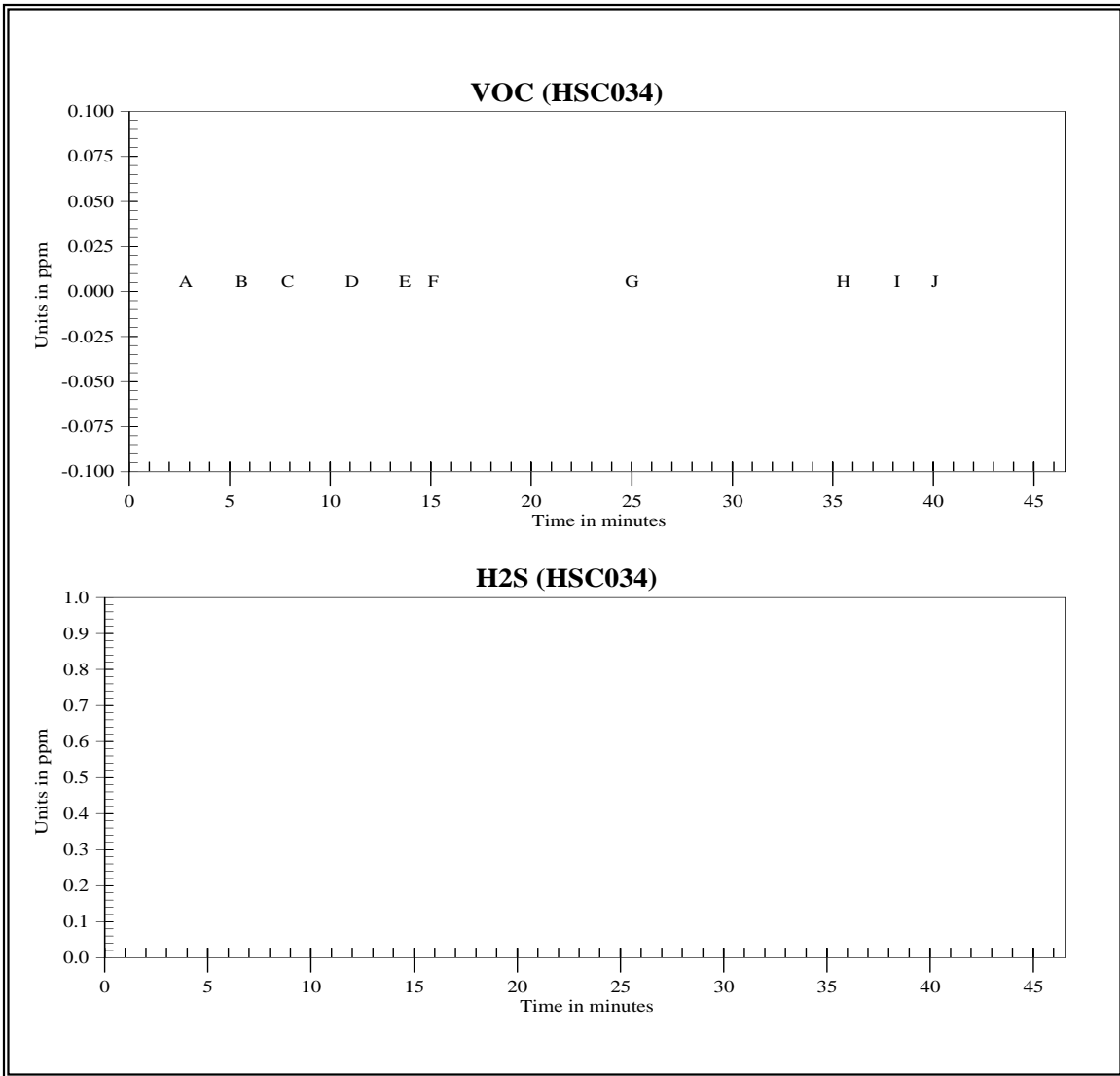


**Figure D11** VOC and H<sub>2</sub>S in Harris County

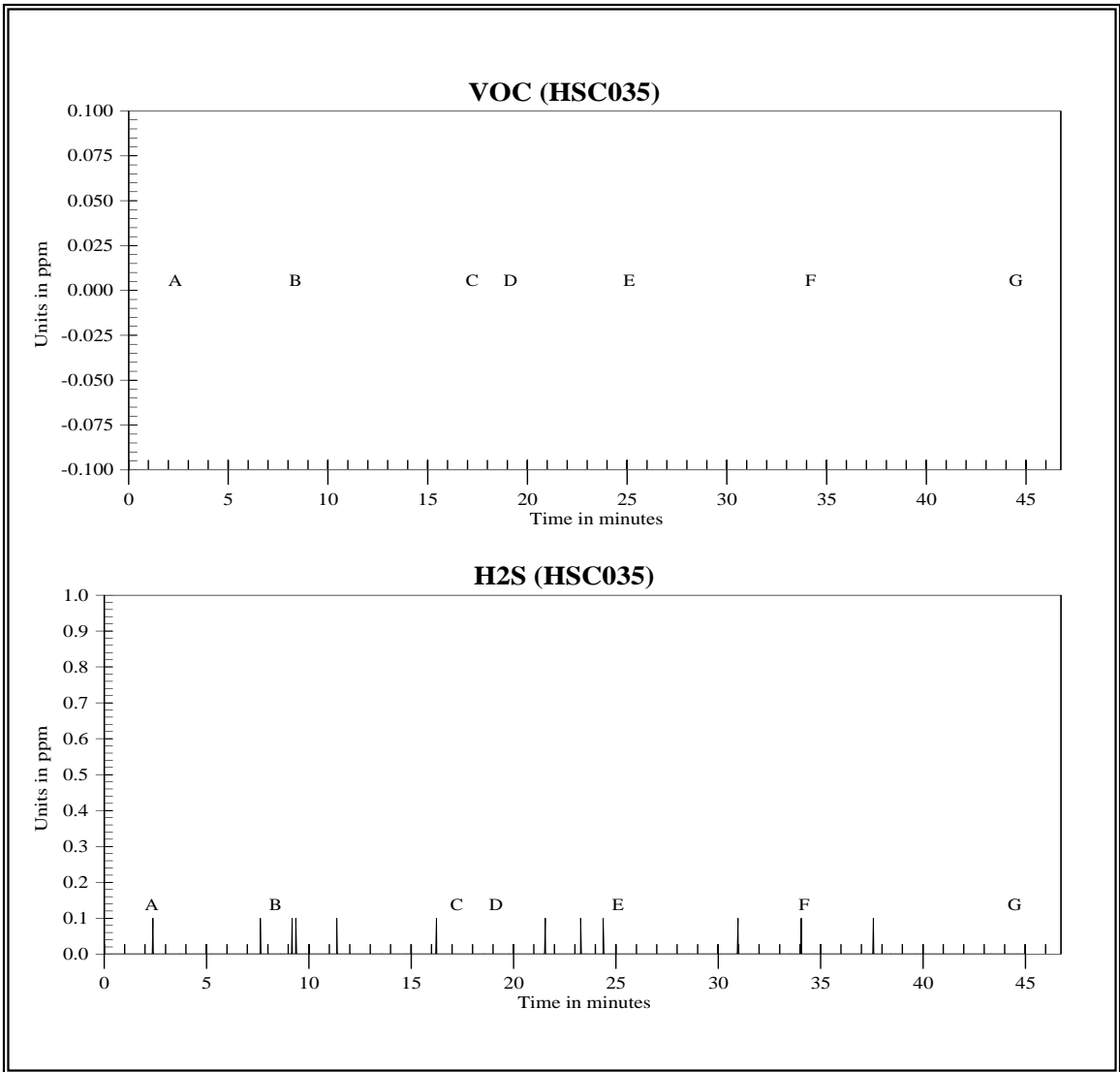




**Figure D12** VOC and H<sub>2</sub>S in Harris County

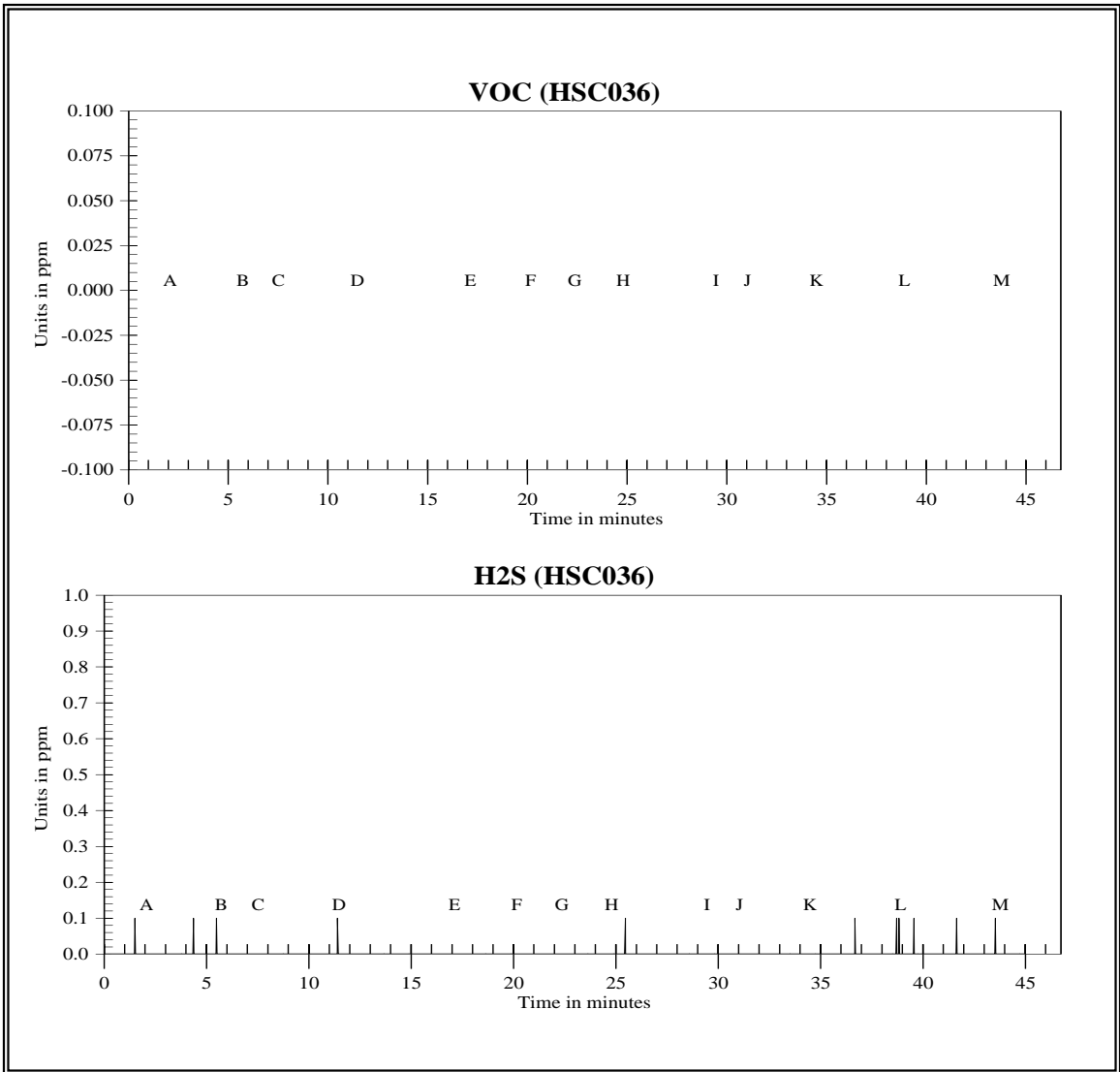


**Figure D13** VOC and H<sub>2</sub>S in Harris County

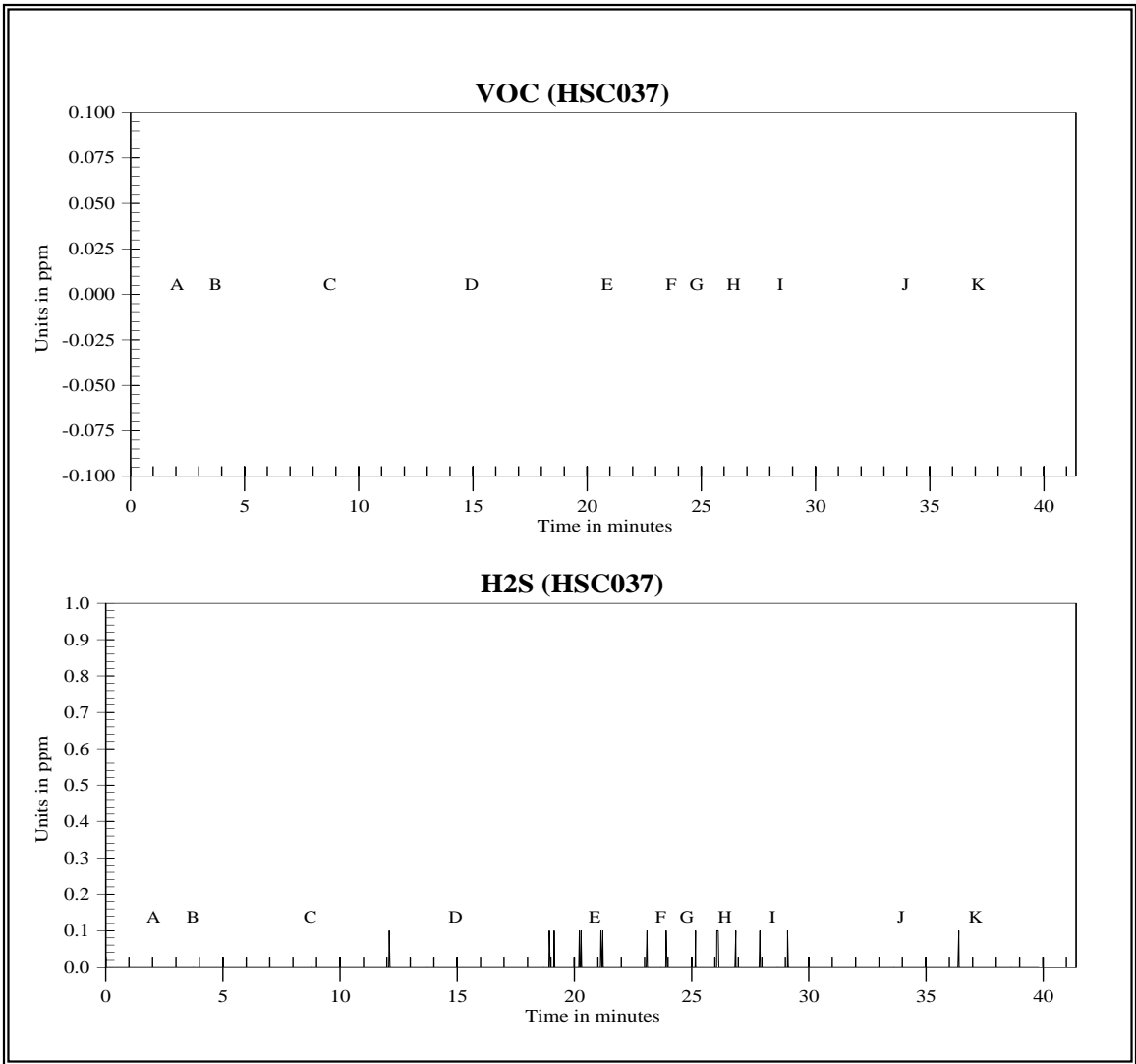


**Figure D14** VOC and H<sub>2</sub>S in Harris County





**Figure D15** VOC and H<sub>2</sub>S in Harris County

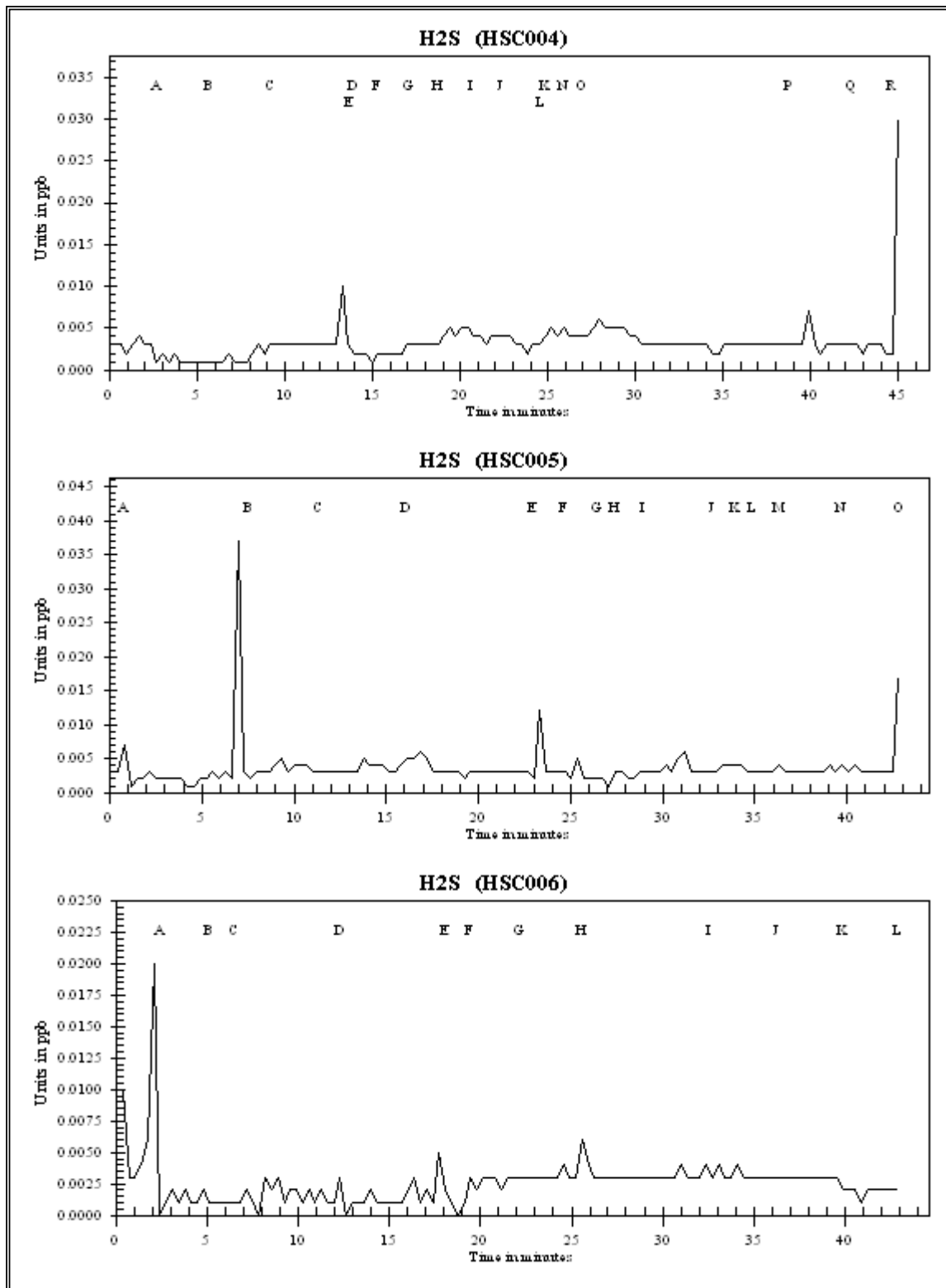


**Figure D16** VOC and H<sub>2</sub>S in Harris County

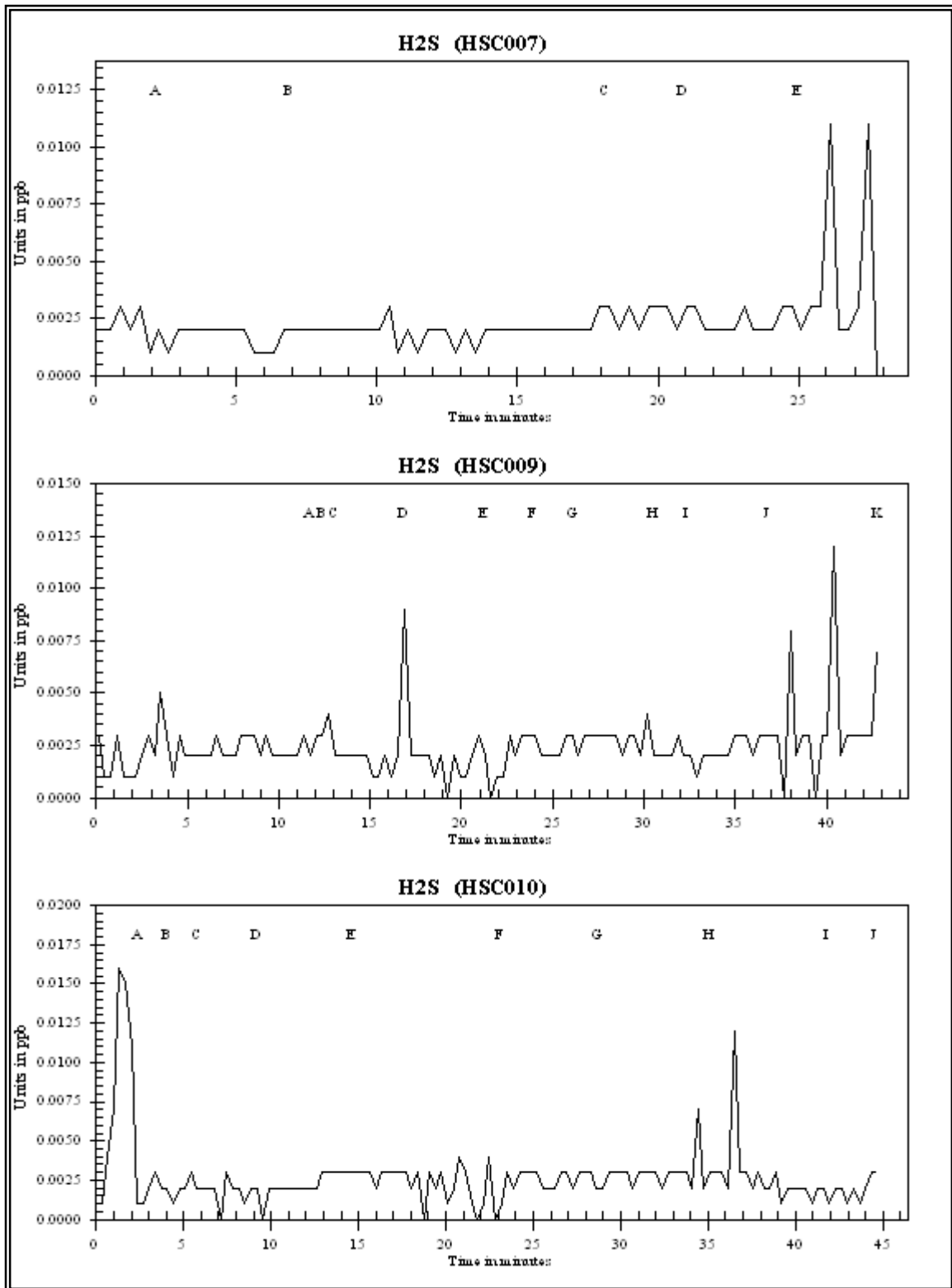
**APPENDIX E**  
**GRAPHICAL JEROME DATA**  
**URBAN AIR TOXICS STUDY**  
**FINAL ANALYTICAL TAGA REPORT**  
**MARCH 2007**





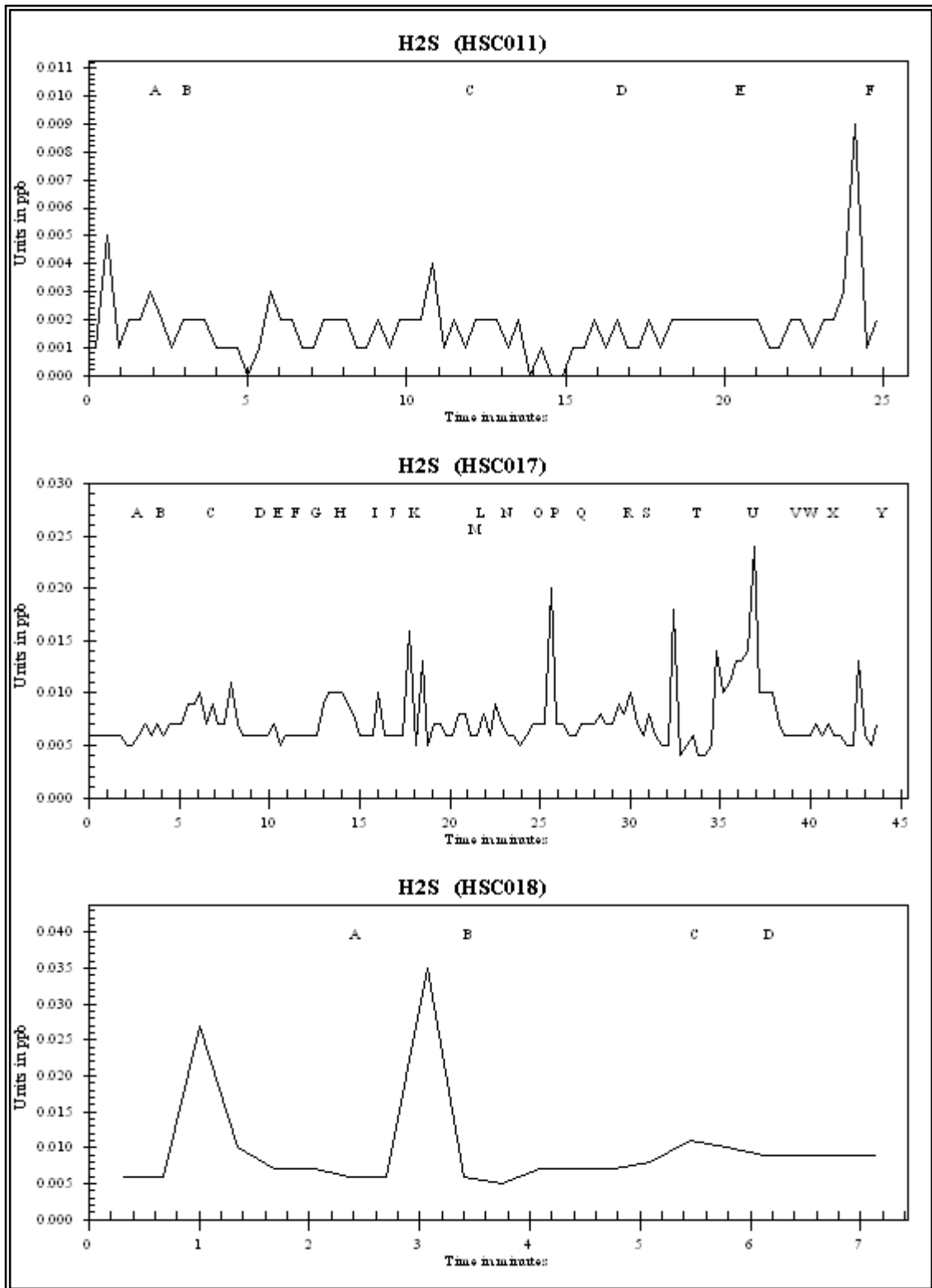


**Figure E1** Monitoring for H<sub>2</sub>S in Harris County

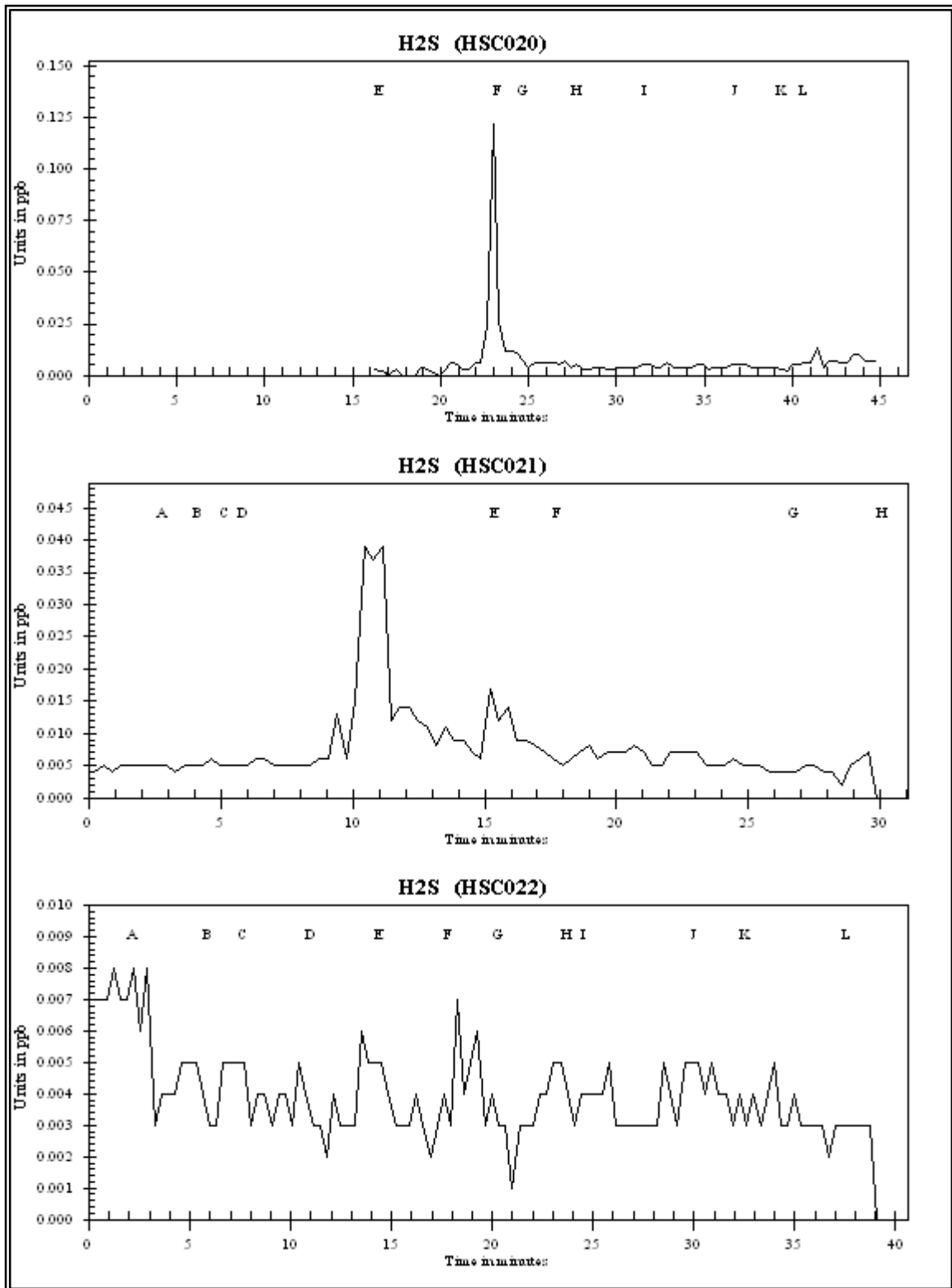


**Figure E2** Monitoring for H<sub>2</sub>S in Harris County

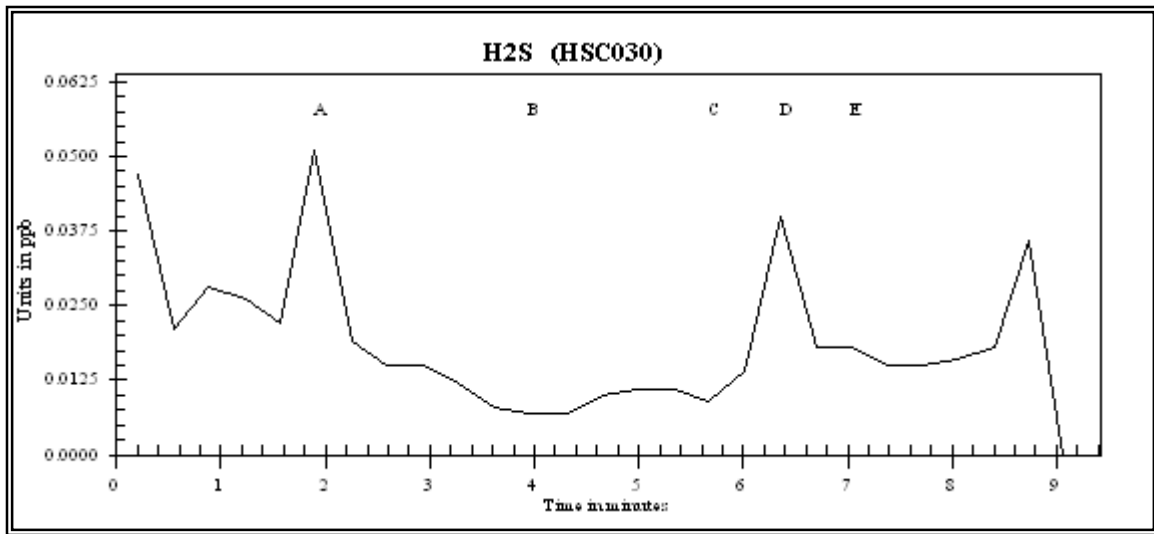




**Figure E3** Monitoring for H<sub>2</sub>S in Harris County



**Figure E4** Monitoring for H<sub>2</sub>S in Harris County



**Figure E5** Monitoring for H<sub>2</sub>S in Harris County

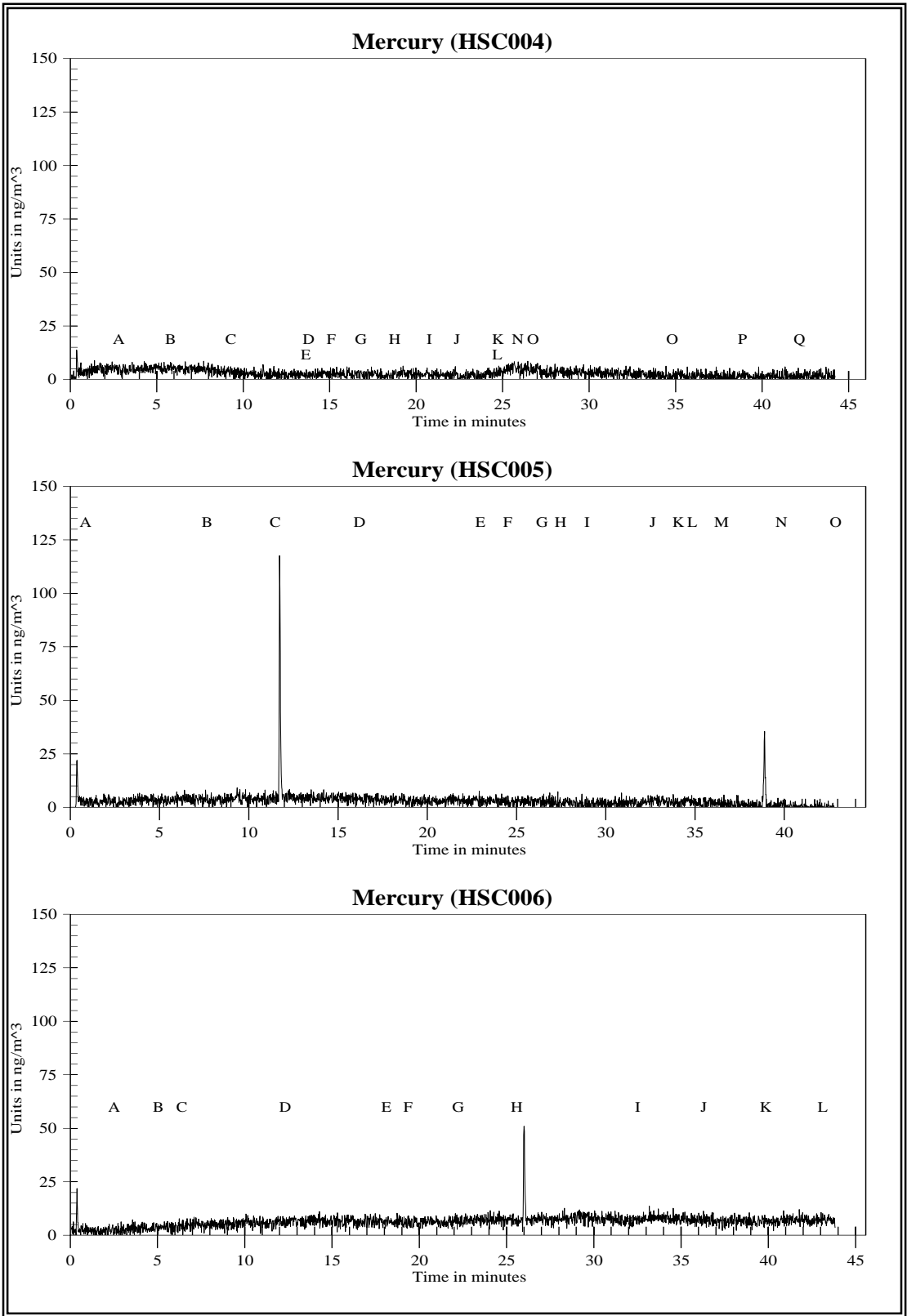




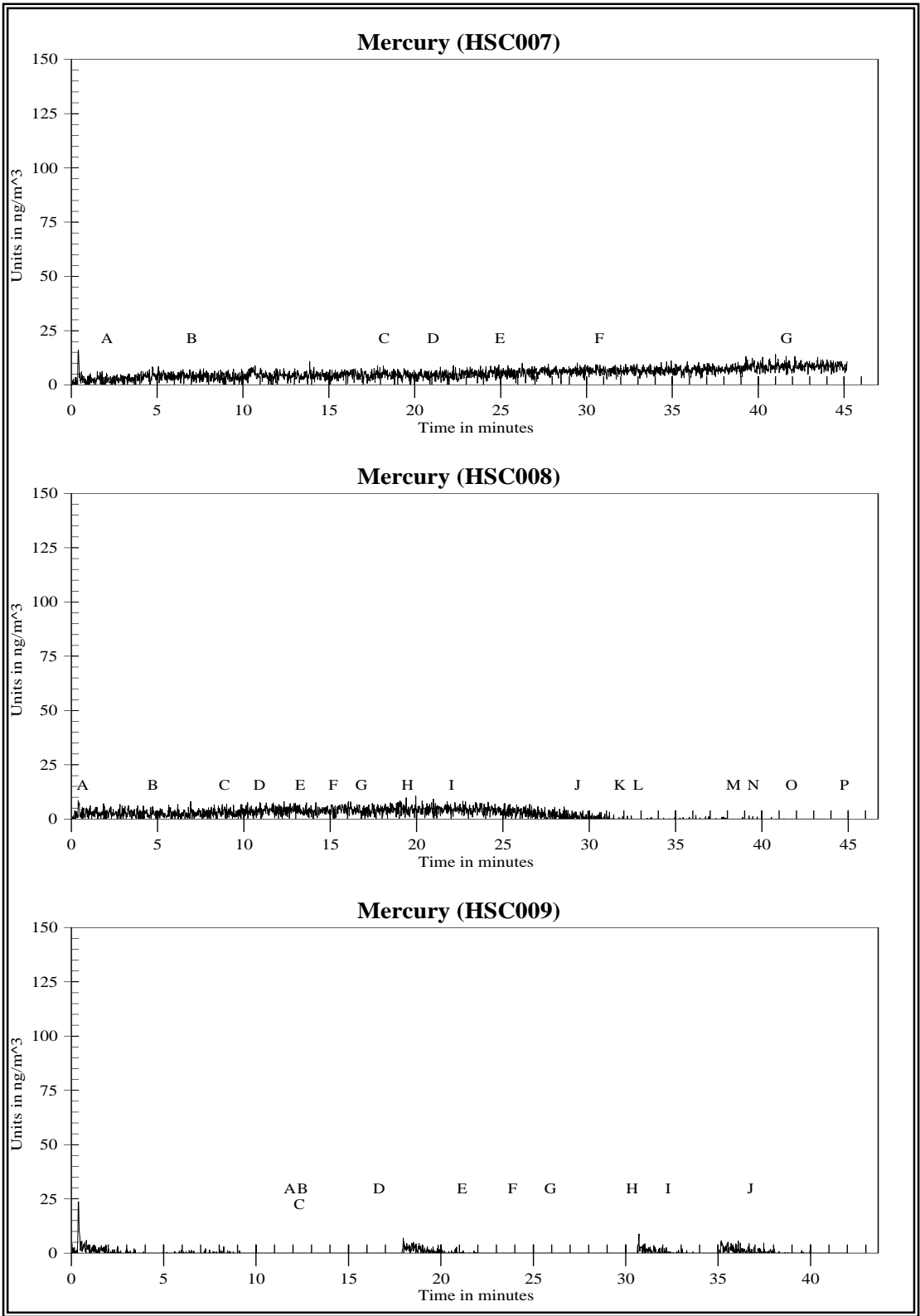
**APPENDIX F**  
**GRAPHICAL LUMEX DATA**  
**URBAN AIR TOXICS STUDY**  
**FINAL ANALYTICAL TAGA REPORT**  
**MARCH 2007**



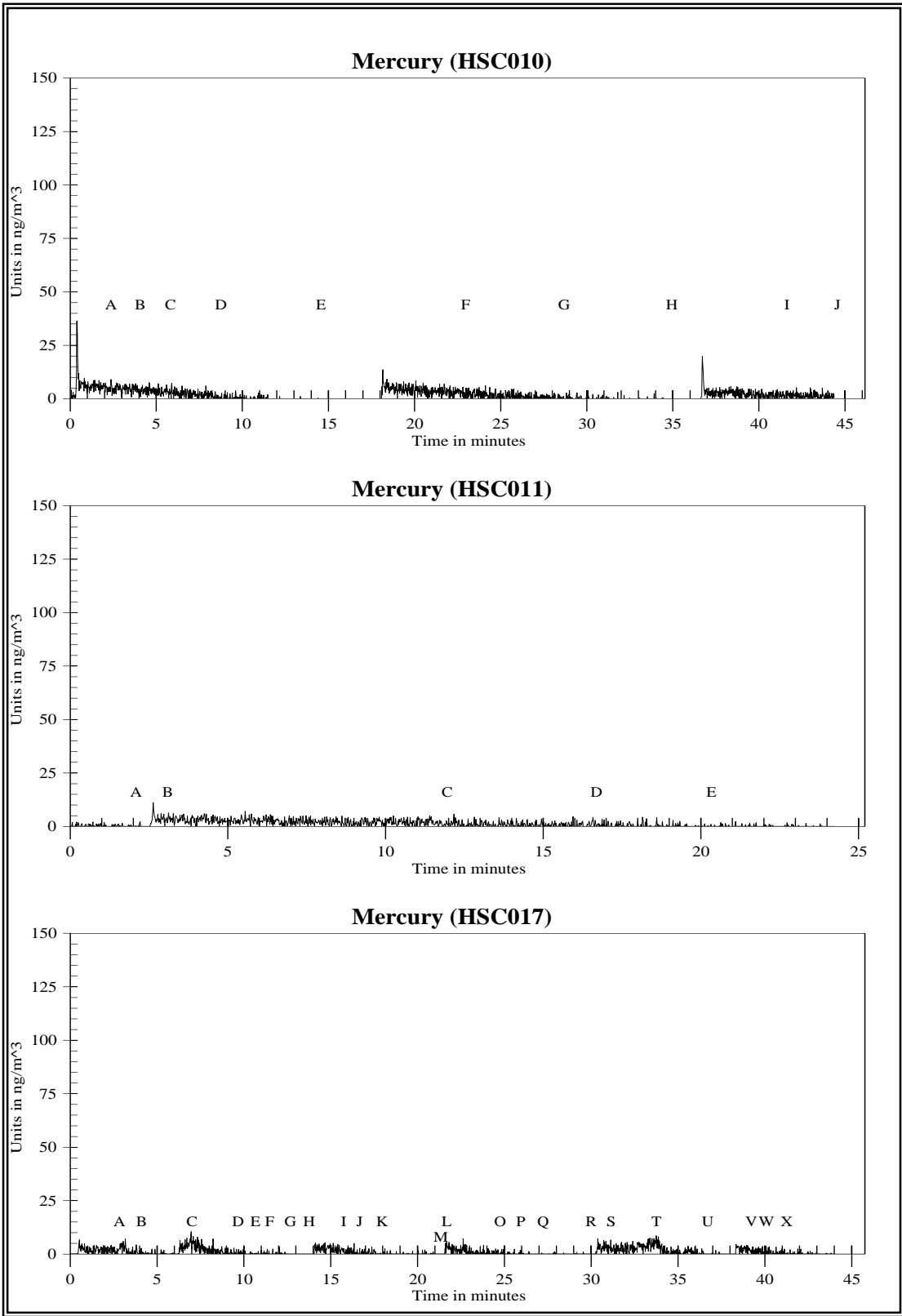




**Figure F1** Monitoring for Mercury in Harris County

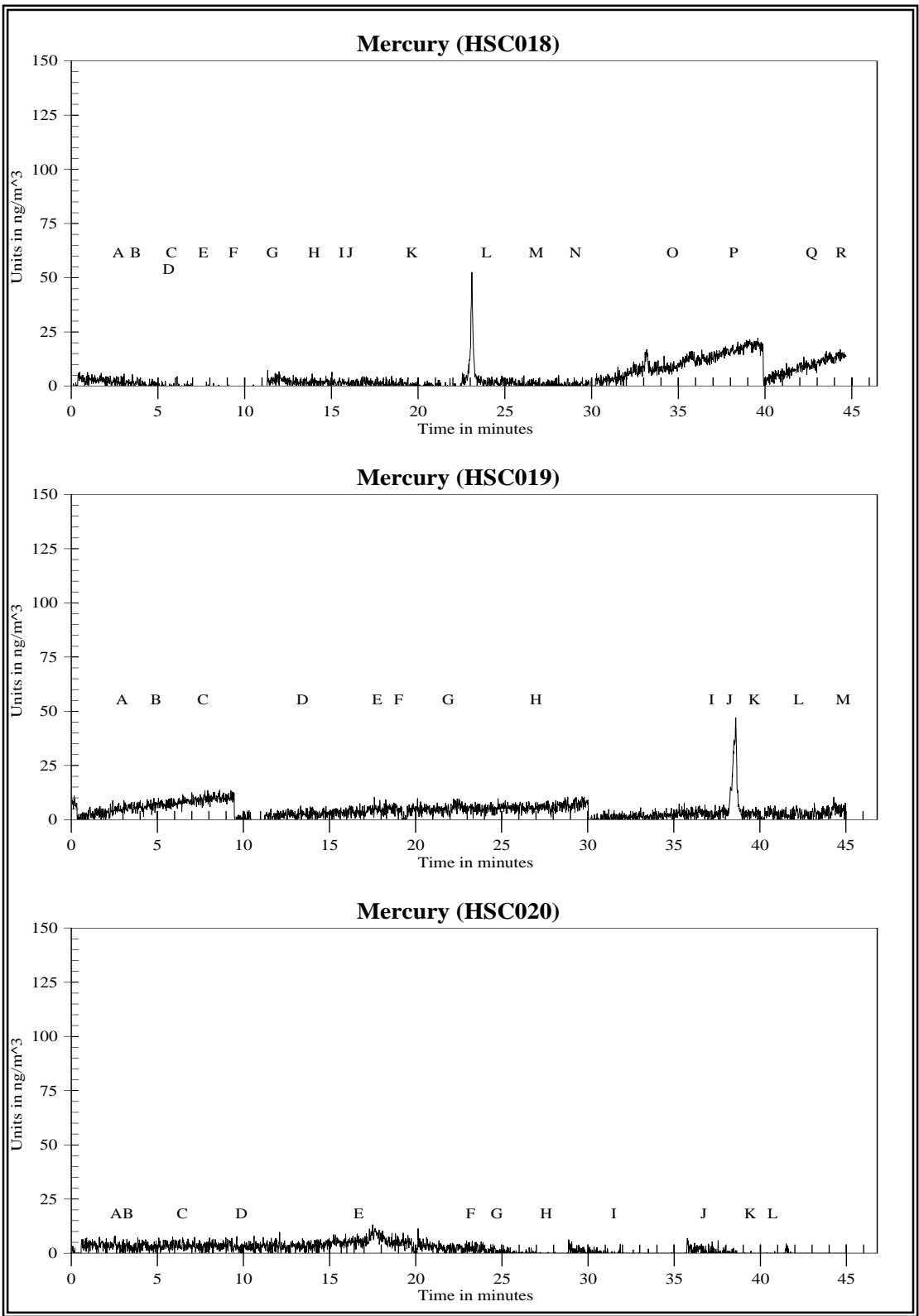


**Figure F2** Monitoring for Mercury in Harris County

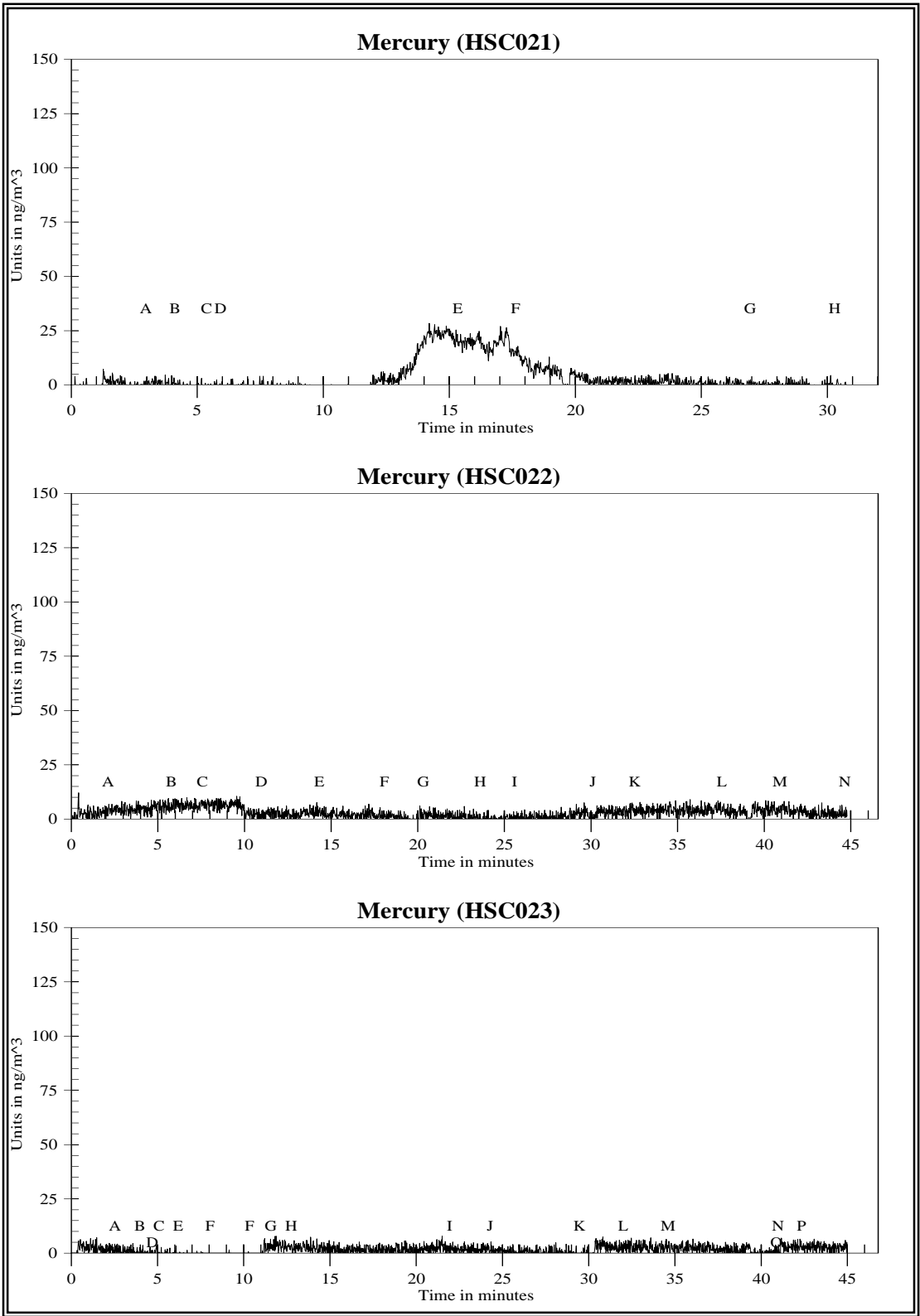


**Figure F3** Monitoring for Mercury in Harris County

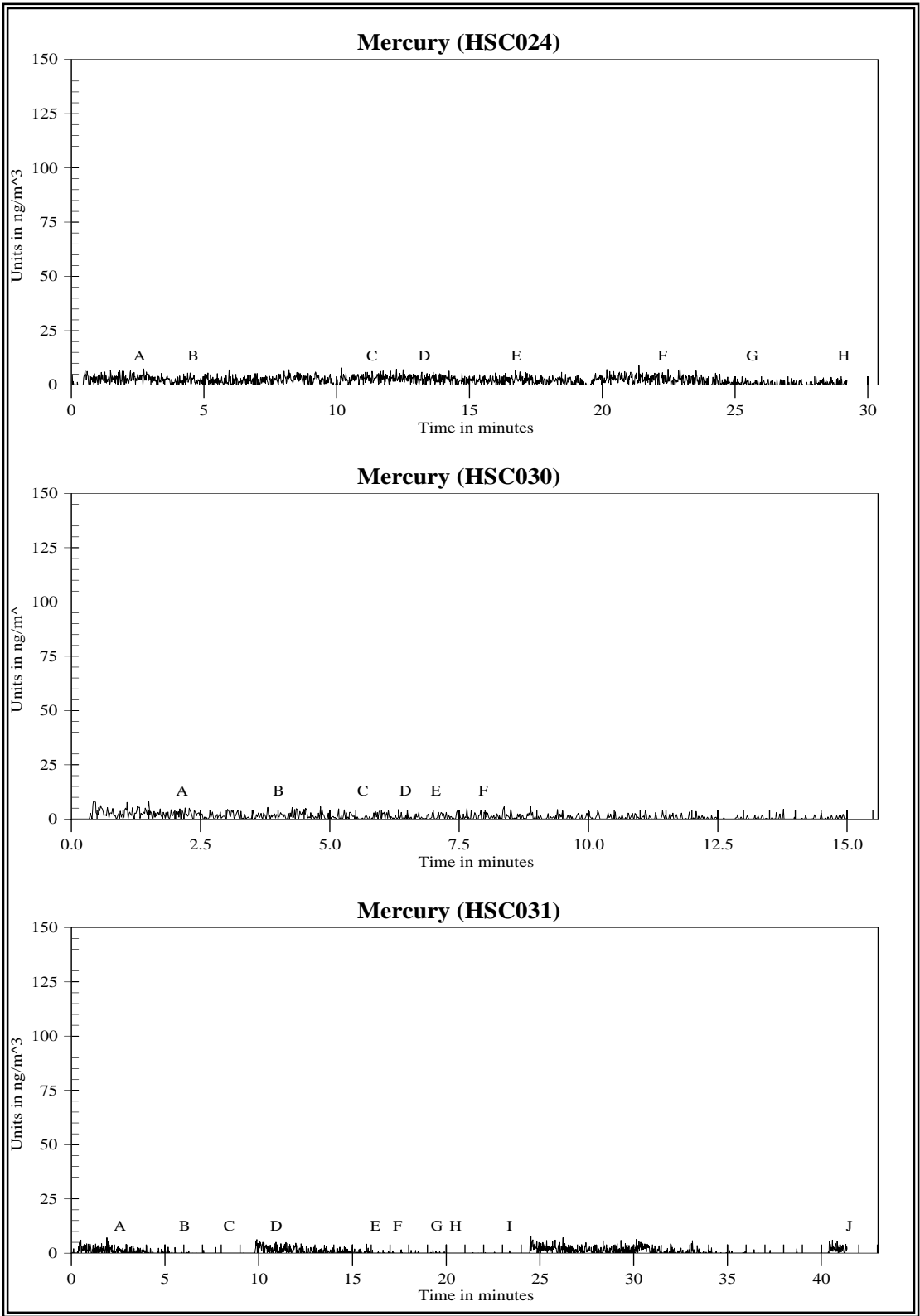




**Figure F4** Monitoring for Mercury in Harris County

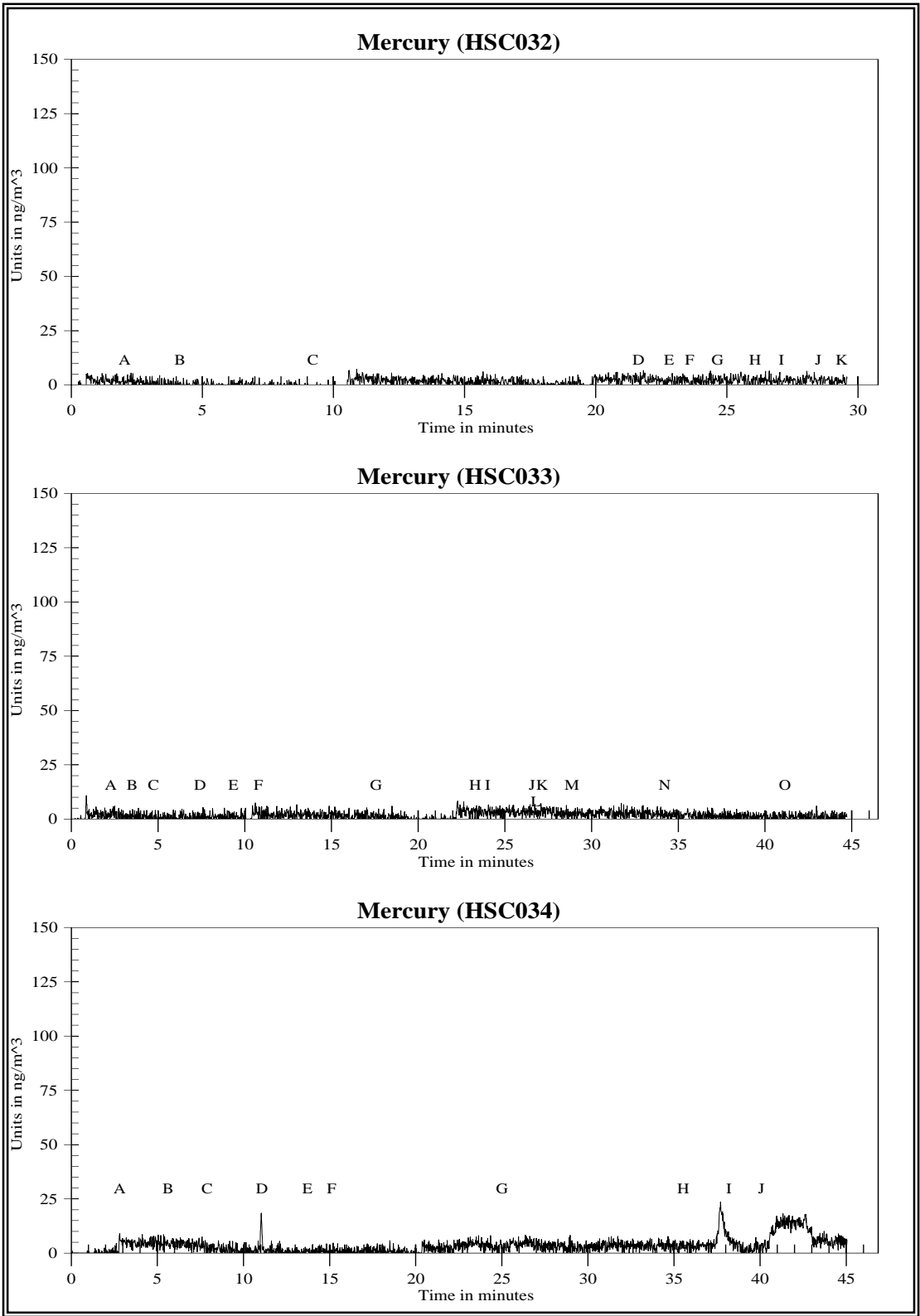


**Figure F5** Monitoring for Mercury in Harris County

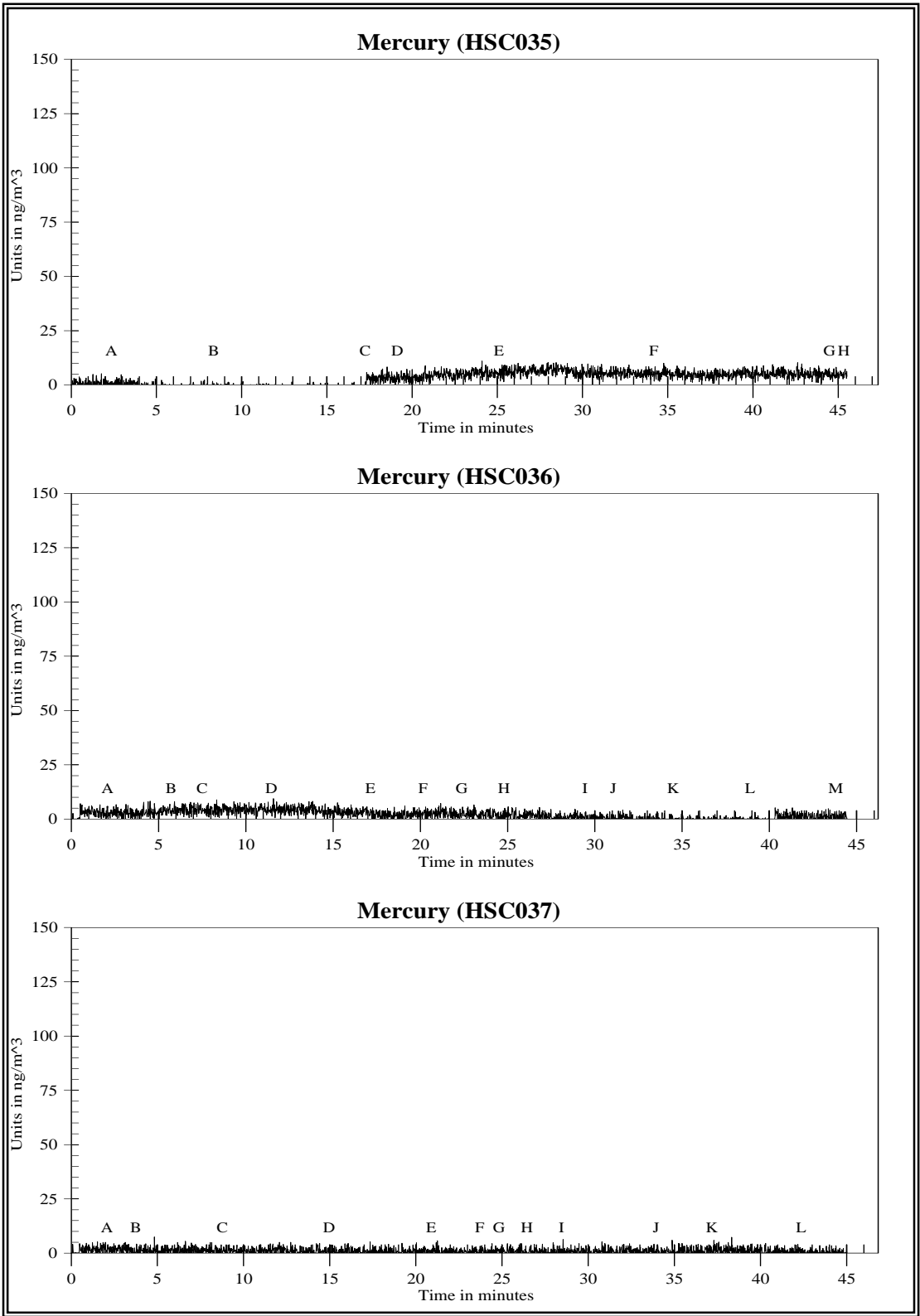


**Figure F6** Monitoring for Mercury in Harris County





**Figure F7** Monitoring for Mercury in Harris County



**Figure F8** Monitoring for Mercury in Harris County

**APPENDIX G**

**CHAIN OF CUSTODY RECORDS AND SAMPLING WORKSHEETS**

**URBAN AIR TOXICS STUDY  
FINAL ANALYTICAL TAGA REPORT  
MARCH 2007**





Harris County Air Toxics  
December 11 - 14, 2006

CHAIN OF CUSTODY RECORD  
Site # 234  
Contact Name: Howard Schmidt  
Contact Phone: 809-885-8690

No. 234-121406-0001  
Lab: USEPA Region VI  
Lab Contact: Kyndall Barry  
Lab Phone: 214-679-8329

Lab #	Sample #	Location	Analyses	Matrix	Collected	Numb	Container	Sample Time	Sample_Remarks
	G1567	121206_0718UTC	TO-15	Ar	12/12/2006	1	SUMMA	07:18	Time s UTC
	K0175	121206_0724UTC	TO-15	Ar	12/12/2006	1	SUMMA	07:24	Time s UTC
	F1582	121306_0319UTC	TO-15	Ar	12/13/2006	1	SUMMA	03:19	Time s UTC
	A1498	121306_0322UTC	TO-15	Ar	12/13/2006	1	SUMMA	03:22	Time s UTC
	F1496	121306_0342UTC	TO-15	Ar	12/13/2006	1	SUMMA	03:42	Time s UTC
	B0125	121306_0558UTC	TO-15	Ar	12/13/2006	1	SUMMA	05:58	Time s UTC
	H1499	121306_0807UTC	TO-15	Ar	12/13/2006	1	SUMMA	08:07	Time s UTC
	J0165	121406_0258UTC	TO-15	Ar	12/14/2006	1	SUMMA	02:58	Time s UTC
	C1161	121406_0316UTC	TO-15	Ar	12/14/2006	1	SUMMA	03:16	Time s UTC
	B1578	121406_0424UTC	TO-15	Ar	12/14/2006	1	SUMMA	04:24	Time s UTC
	F1500	121406_0820UTC	TO-15	Ar	12/14/2006	1	SUMMA	08:20	Time s UTC
	J0182	121406_0820UTC	TO-15	Ar	12/14/2006	1	SUMMA	08:20	Time s UTC
	TRIP	NONE	TO-15	Ar	12/14/2006	1	SUMMA	00:00	Time s UTC

Special Instructions: All samples on one chain per verbal approval of Kyndall Barry - USEPA Region VI. All sample times are in UTC to coordinate with TAGA monitoring data. All SUMMA samples are GRAB samples with beginning pressure of 30" Hg and ending pressure fully evacuated (determine at lab).

**SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #**

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished by	Date	Received by	Date	Time
All Analysis	Belmont	12-14-06	Kyndall Barry	12/14/06	15:15 PM						
	Kyndall Barry	12/14/06	M. Schmitt	12/14/06	12:15 PM						

Work Sheet

Sample #	Sample Date	EventID	Location	Matrix	Analyses	Container	COC	Remarks
A1498	12/13/2006	Day 2	121306_0322UTC	Air	TO-15	SUMMA	234-121406-0001	Time is UTC
B0125	12/13/2006	Day 2	121306_0558UTC	Air	TO-15	SUMMA	234-121406-0001	Time is UTC
B1578	12/14/2006	Day 3	121406_0316UTC	Air	TO-15	SUMMA	234-121406-0001	Time is UTC
C1161	12/14/2006	Day 3	121406_0258UTC	Air	TO-15	SUMMA	234-121406-0001	Time is UTC
F1496	12/13/2006	Day 2	121306_0342UTC	Air	TO-15	SUMMA	234-121406-0001	Time is UTC
F1500	12/14/2006	Day 3	121406_0424UTC	Air	TO-15	SUMMA	234-121406-0001	Time is UTC
F1582	12/13/2006	Day 2	121306_0319UTC	Air	TO-15	SUMMA	234-121406-0001	Time is UTC
G1567	12/12/2006	Day 1	121206_0718UTC	Air	TO-15	SUMMA	234-121406-0001	Time is UTC
H1499	12/13/2006	Day 2	121306_0807UTC	Air	TO-15	SUMMA	234-121406-0001	Time is UTC
J0165	12/13/2006	Day 2	121306_0843UTC	Air	TO-15	SUMMA	234-121406-0001	Time is UTC
J0182	12/14/2006	Day 3	121406_0820UTC	Air	TO-15	SUMMA	234-121406-0001	Time is UTC
K0175	12/12/2006	Day 1	121206_0724UTC	Air	TO-15	SUMMA	234-121406-0001	Time is UTC
TRIP	12/14/2006	Day 3	NONE	Air	TO-15	SUMMA	234-121406-0001	Time is UTC