Appendix C

Case Studies of 2003 Ozone Events Using HRM and TCEQ PAMS Monitors, URS, February 19, 2004

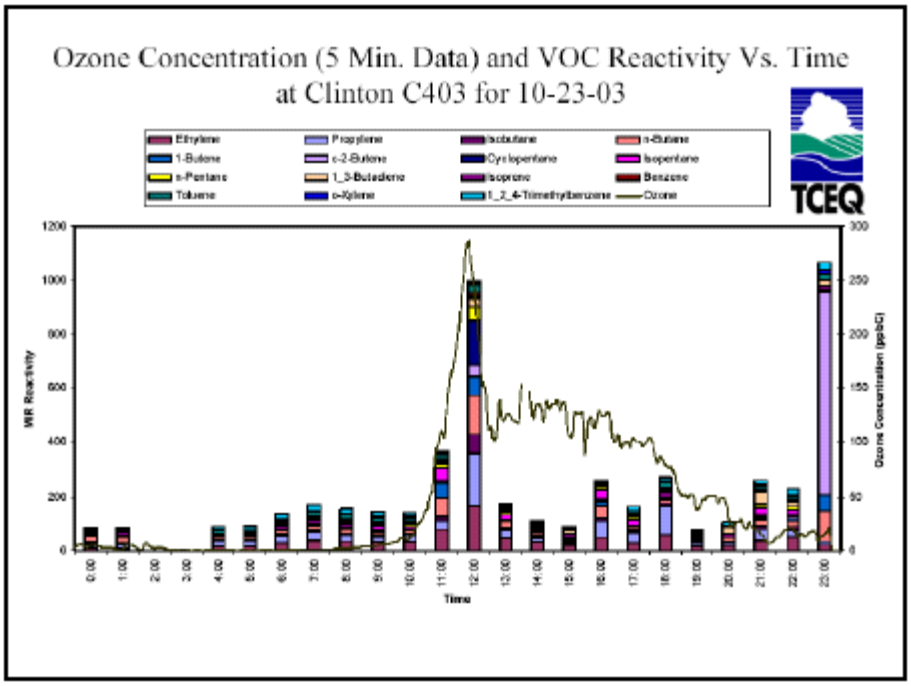
Case Studies of 2003 Ozone Events Using HRM and TCEQ PAMS Monitors

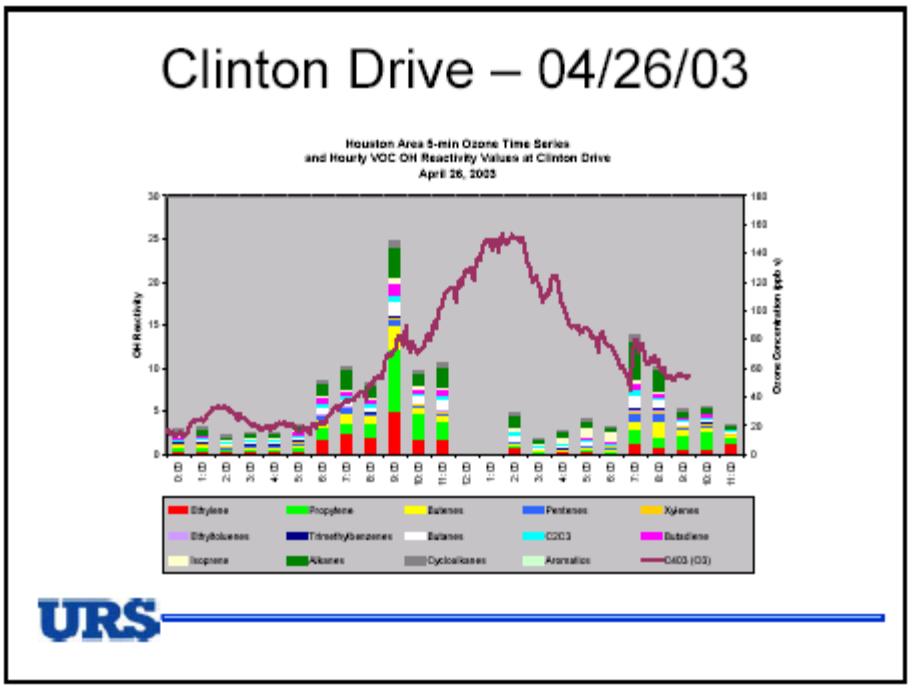
February 19, 2003

URS

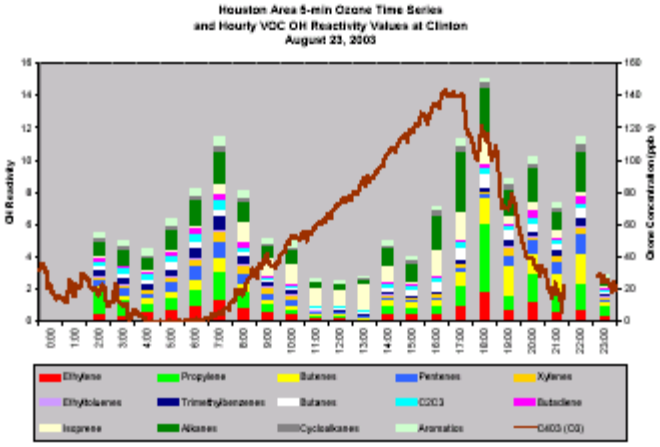
Monitor Locations

URS


Ozone Concentration (5 Min. Data) and VOC Reactivity Vs. Time
at Clinton C403 for 10-23-03
TCEQ
Ethylene
Propylene
Isobutane
n-Butane
1-Butene
c-2-Butene
Cyclopentane
Isopentane
n-Pentane
1_3-Butadiene
Isoprene
Benzene
Toluene
o-Xylene
1_2_4-Trimethylbenzene
Ozone
WR Reactivity
Ozone Concentration (ppbC)
Time

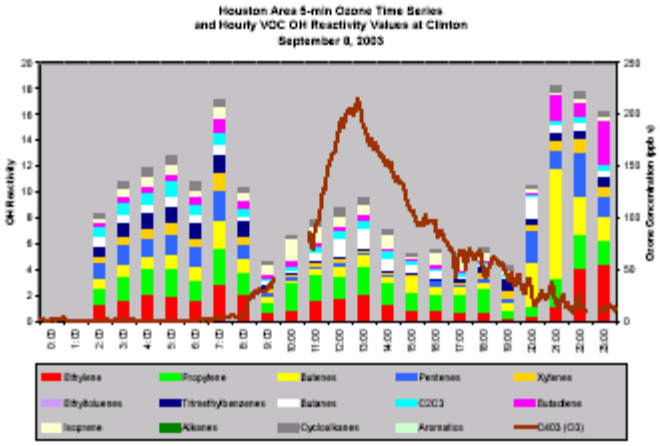

Clinton Drive – 04/26/03
Houston Area 5-min Ozone Time Series
and Hourly VOC OH Reactivity Values at Clinton Drive
April 26, 2003
OH Reactivity
Ozone Concentration (ppb v)
Ethylene
Propylene
Butenes
Pentenes
Xylenes
Ethylbenzenes
Trimethylbenzenes
Butanes
C2C3
Butadiene
Isoprene
Alkanes
Cycloalkanes
Aromatics
C403 (O3)
URS

Clinton Drive – 08/23/03



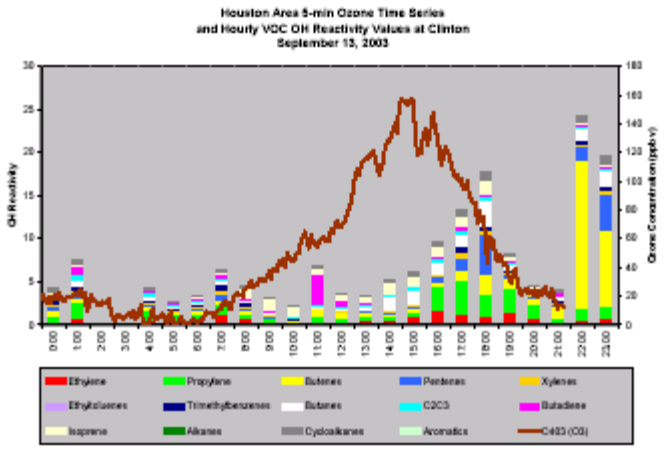
URS

Clinton Drive – 09/08/03



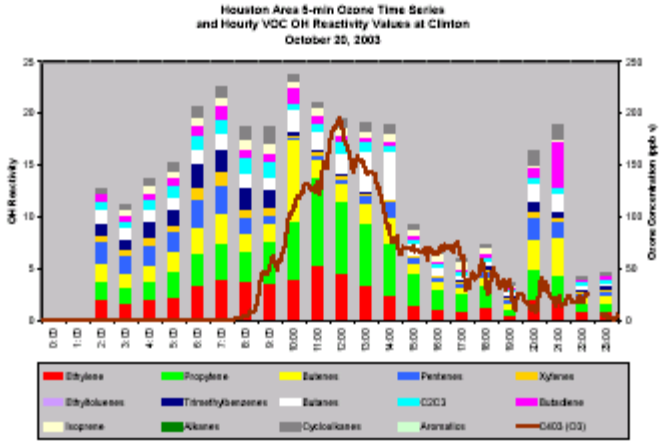
URS

Clinton Drive – 09/13/03



URS

Clinton Drive – 10/20/03



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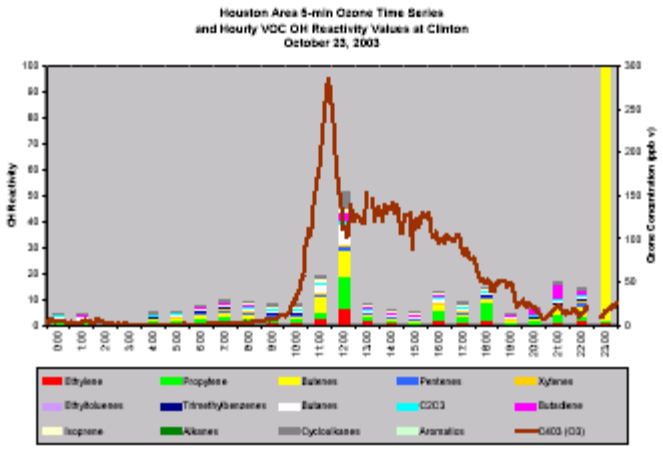
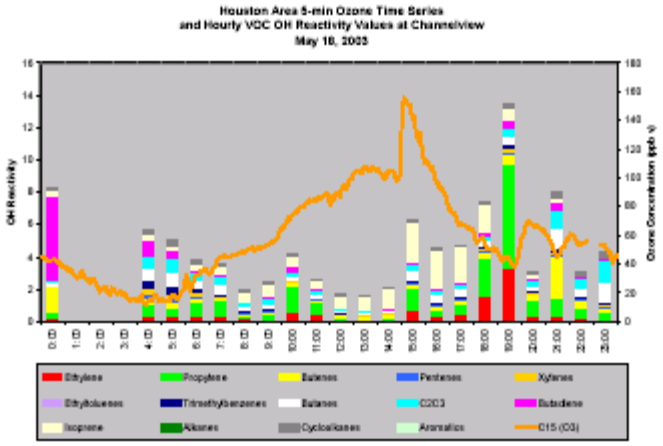
Clinton Drive – 10/23/03



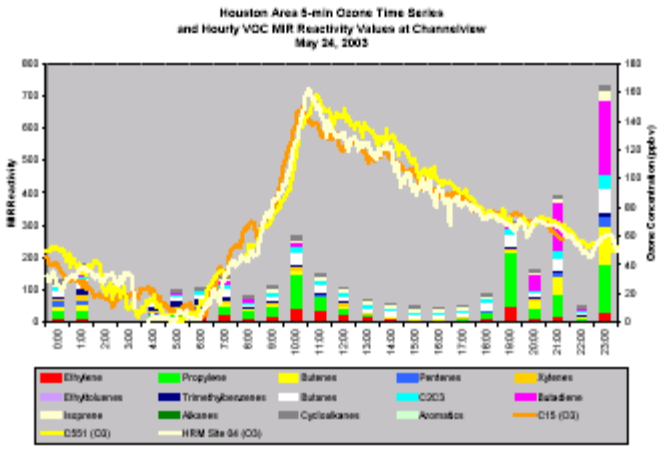
URS

Channelview – 05/18/03



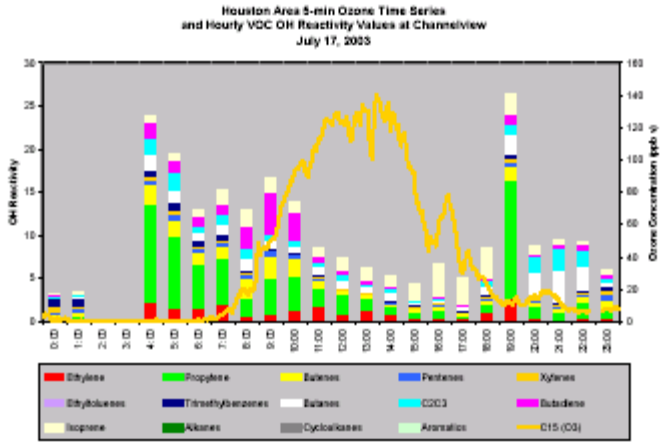
URS

Channelview – 05/24/03



URS

Channelview – 07/17/03



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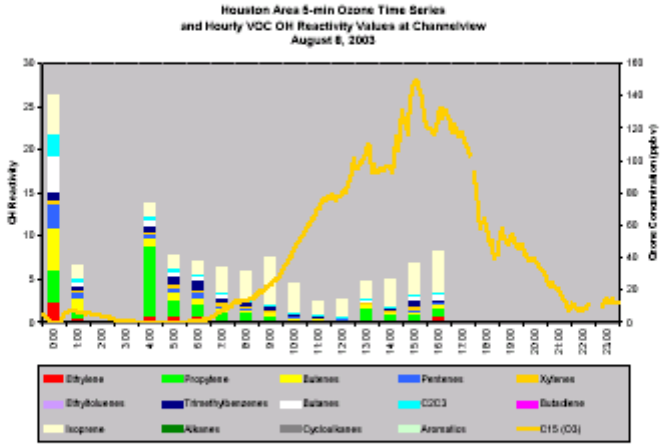

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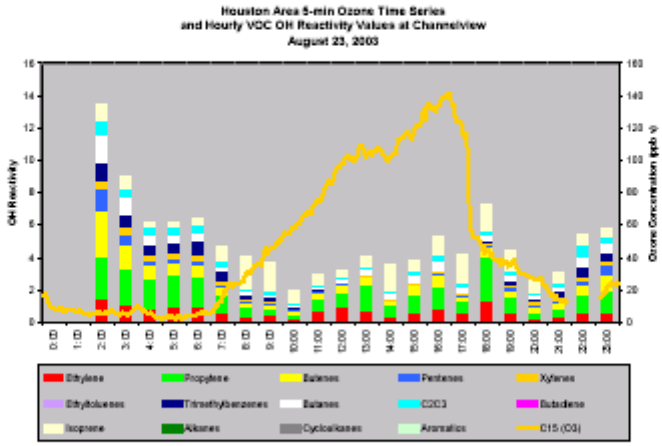
Channelview – 08/23/03



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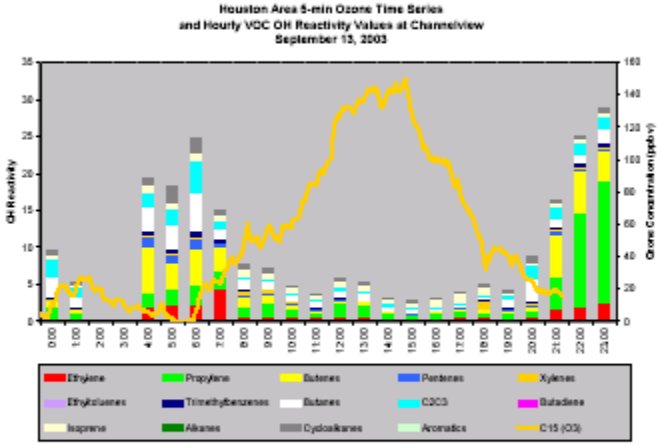
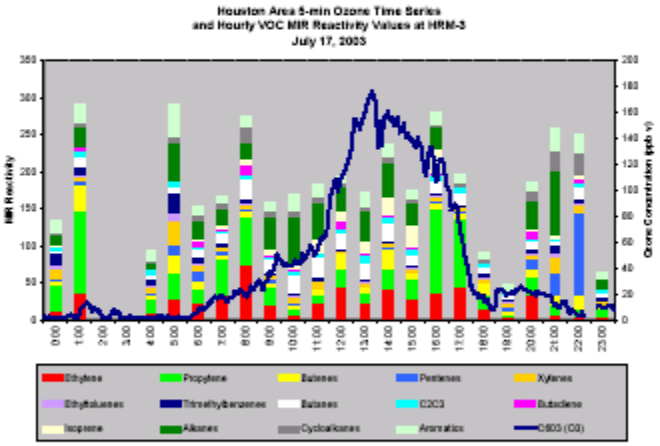
Channelview – 09/13/03



URS

HRM 3 – 07/17/03



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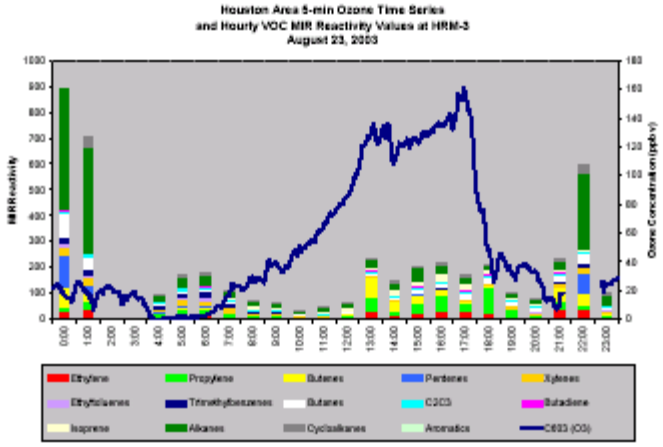
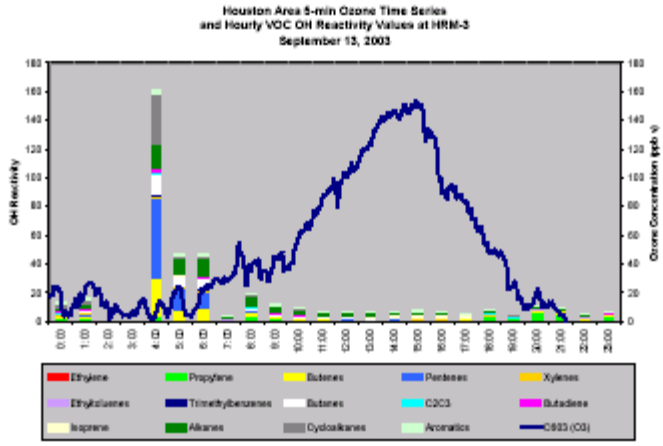


URS

HRM 3 – 09/13/03



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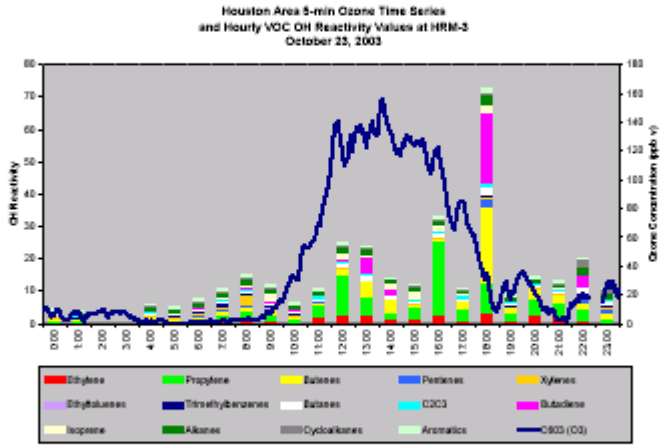
HRM 3 – 10/23/03



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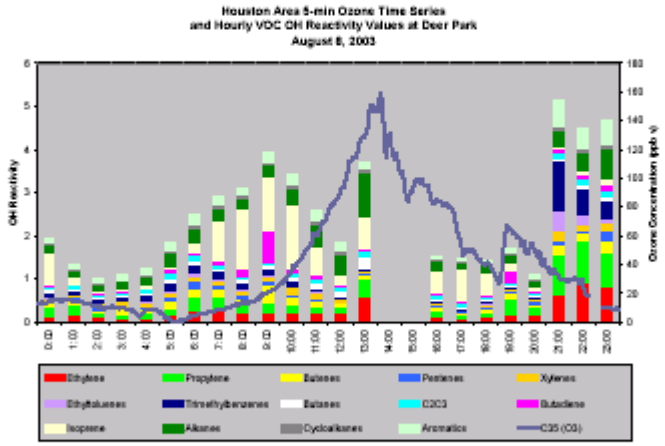
Deer Park 08/08/03



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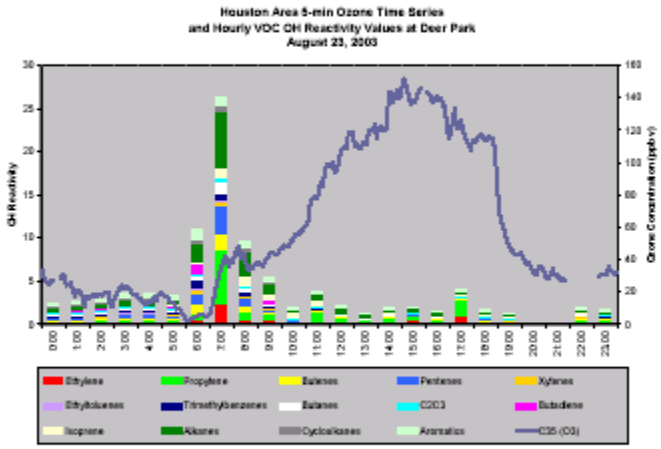
Deer Park – 08/23/03



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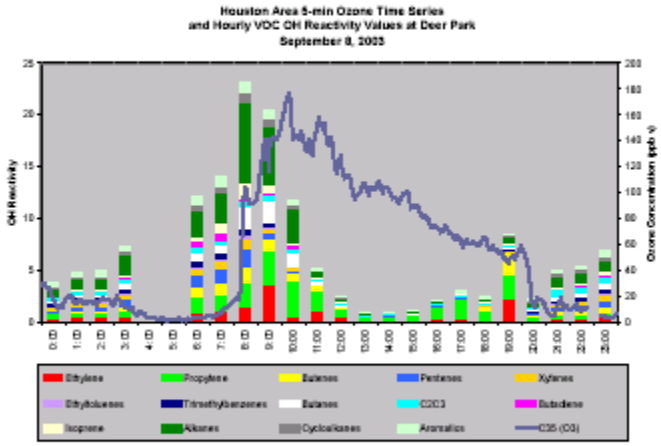
Deer Park – 09/08/03



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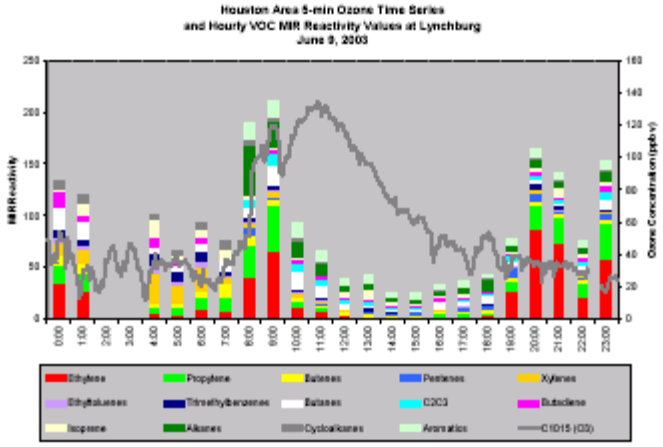
Lynchburg Ferry – 06/09/03



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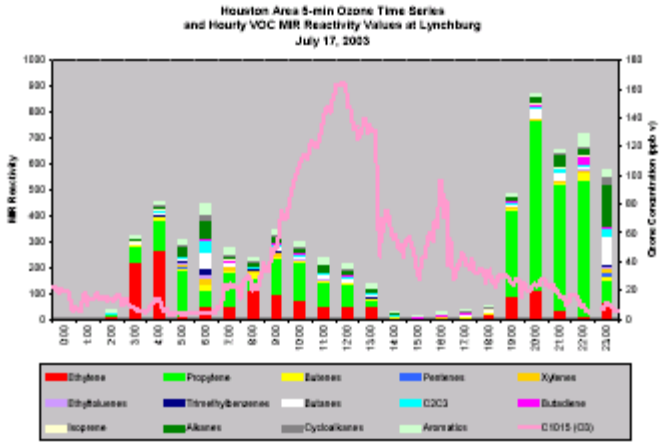
Lynchburg Ferry – 07/17/03



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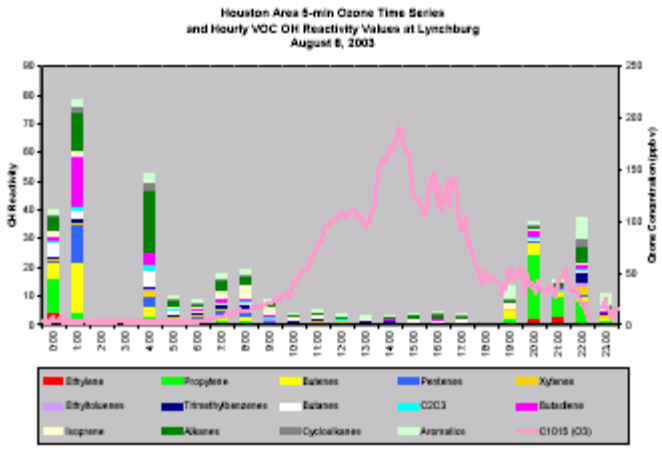
Lynchburg Ferry – 08/08/03



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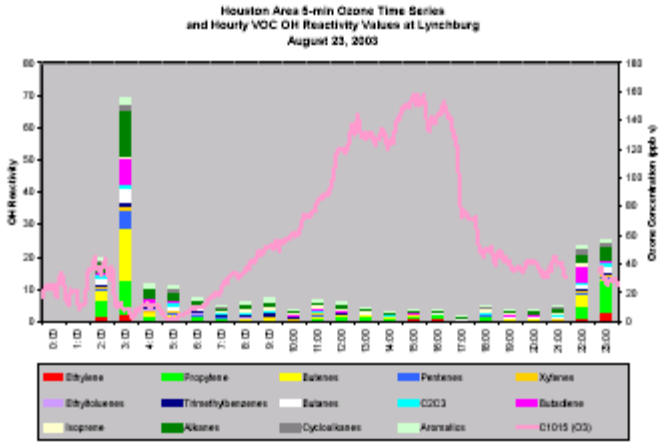
Lynchburg Ferry – 08/23/03



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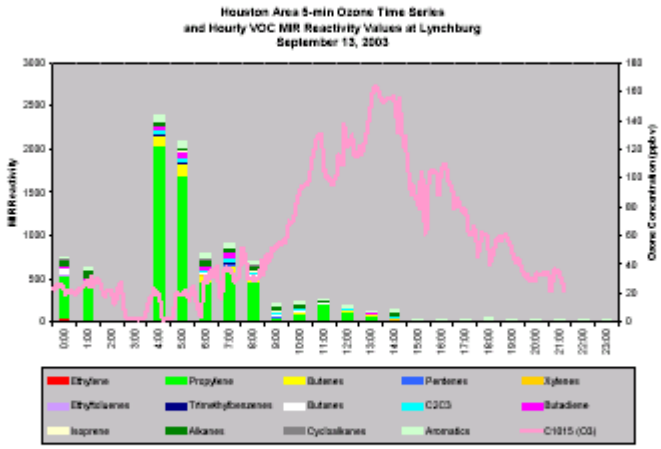
Lynchburg Ferry – 09/13/03



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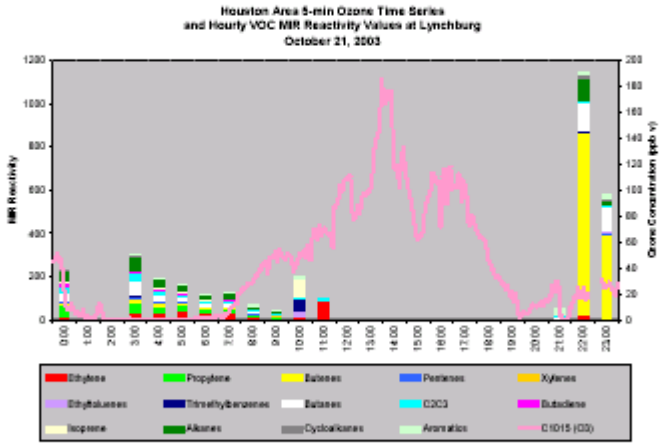
Lynchburg Ferry – 10/21/03



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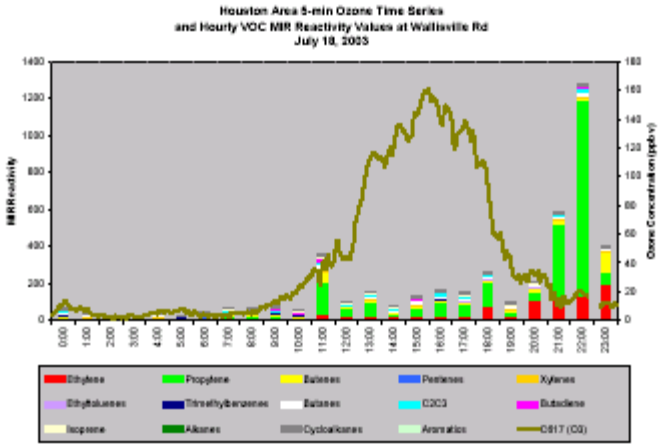
Wallisville Road – 07/18/03



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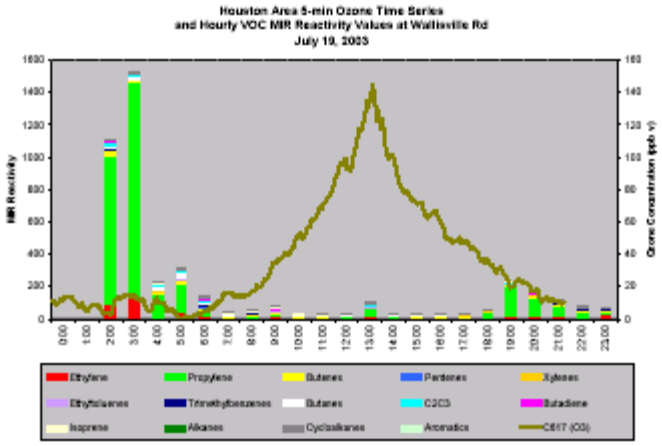
Wallisville Road – 07/19/03



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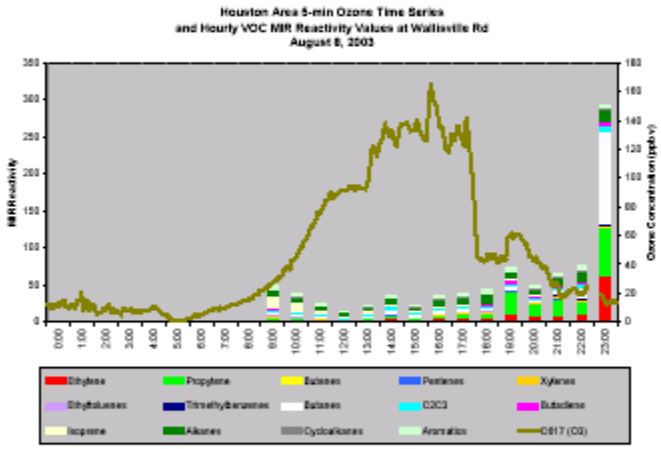
Wallisville Road – 08/08/03



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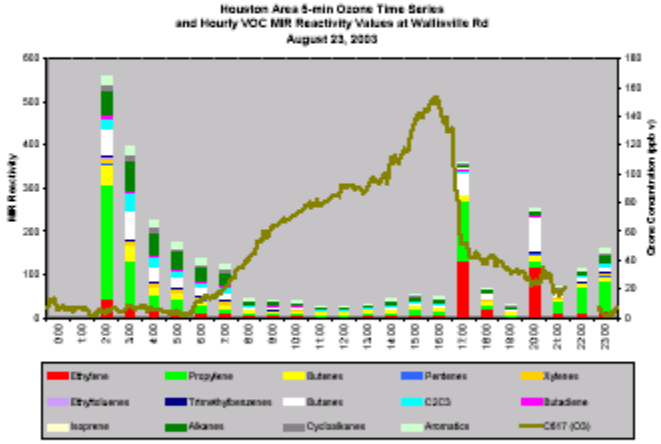
Wallisville Road – 08/23/03



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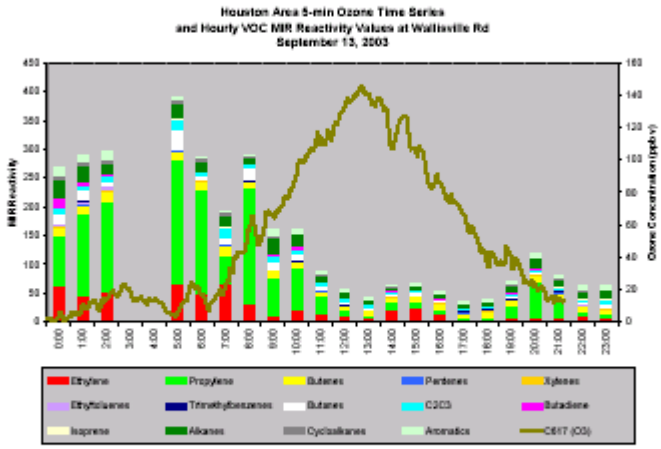
Wallisville Road – 09/13/03



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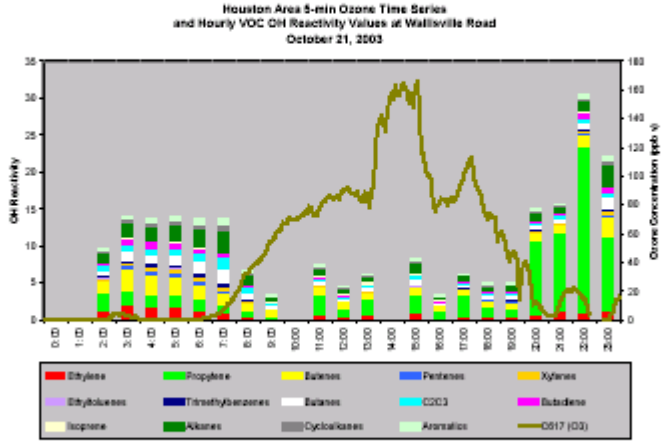
Wallisville Road – 10/21/03



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Summary

- 31 ozone exceedances at HRM/TCEQ sites having Auto-GCs
- High reactivity (MIR > 166 or OH reactivity > 10) was measured during 9 exceedances
- High reactivity was measured during or preceding (on same day) 26 exceedances

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Next Steps

- Apportion reactivity on exceedance days by chemical class
- Combine with trajectory analysis to analyze upwind/downwind exceedances and source regions

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