

**Characterization of Emissions and Occupational Exposure
Associated with Melt Protection Technologies for Magnesium
Die Casting**

Appendix A

October 2007

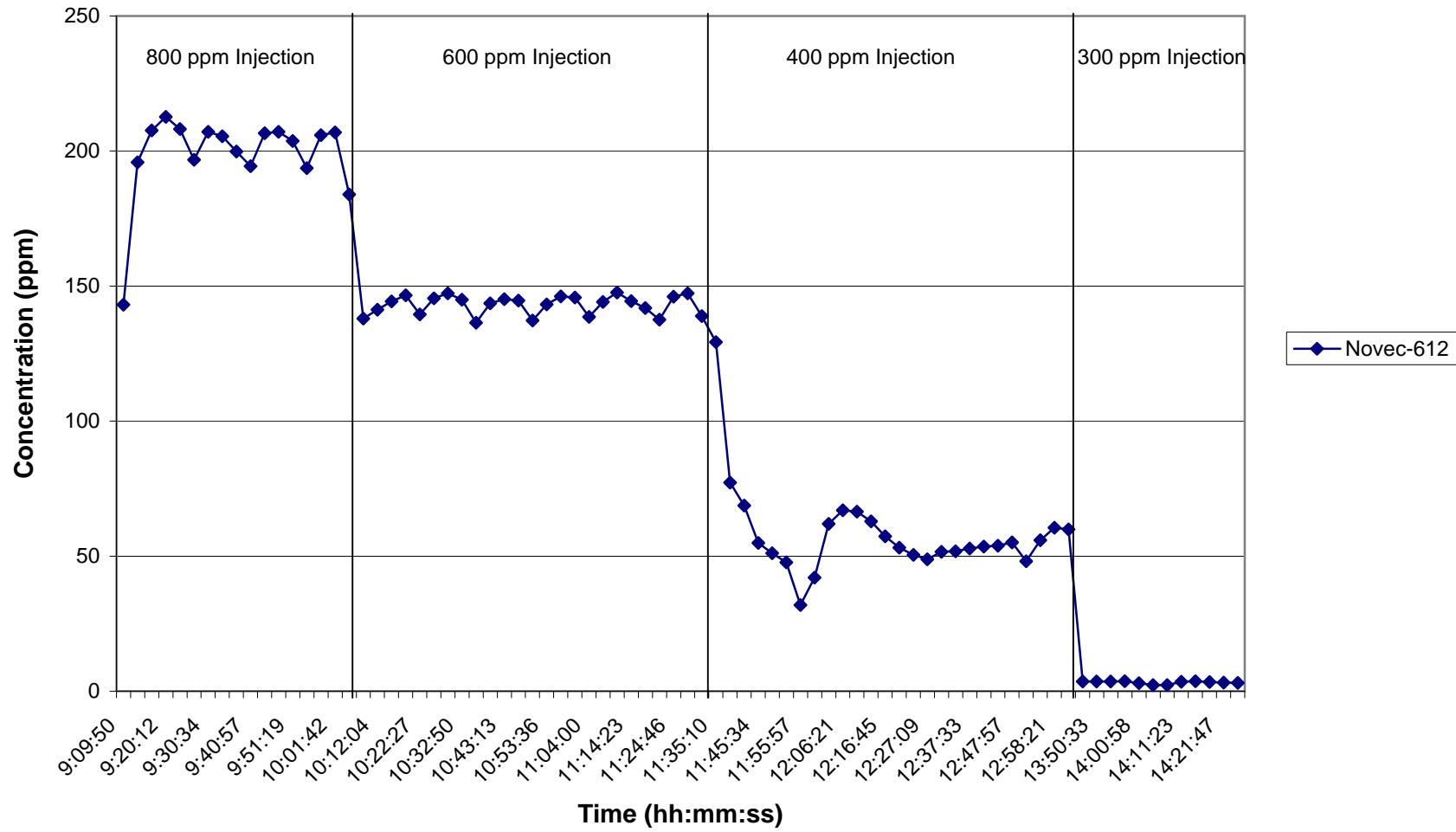
EPA 430-R-07-008

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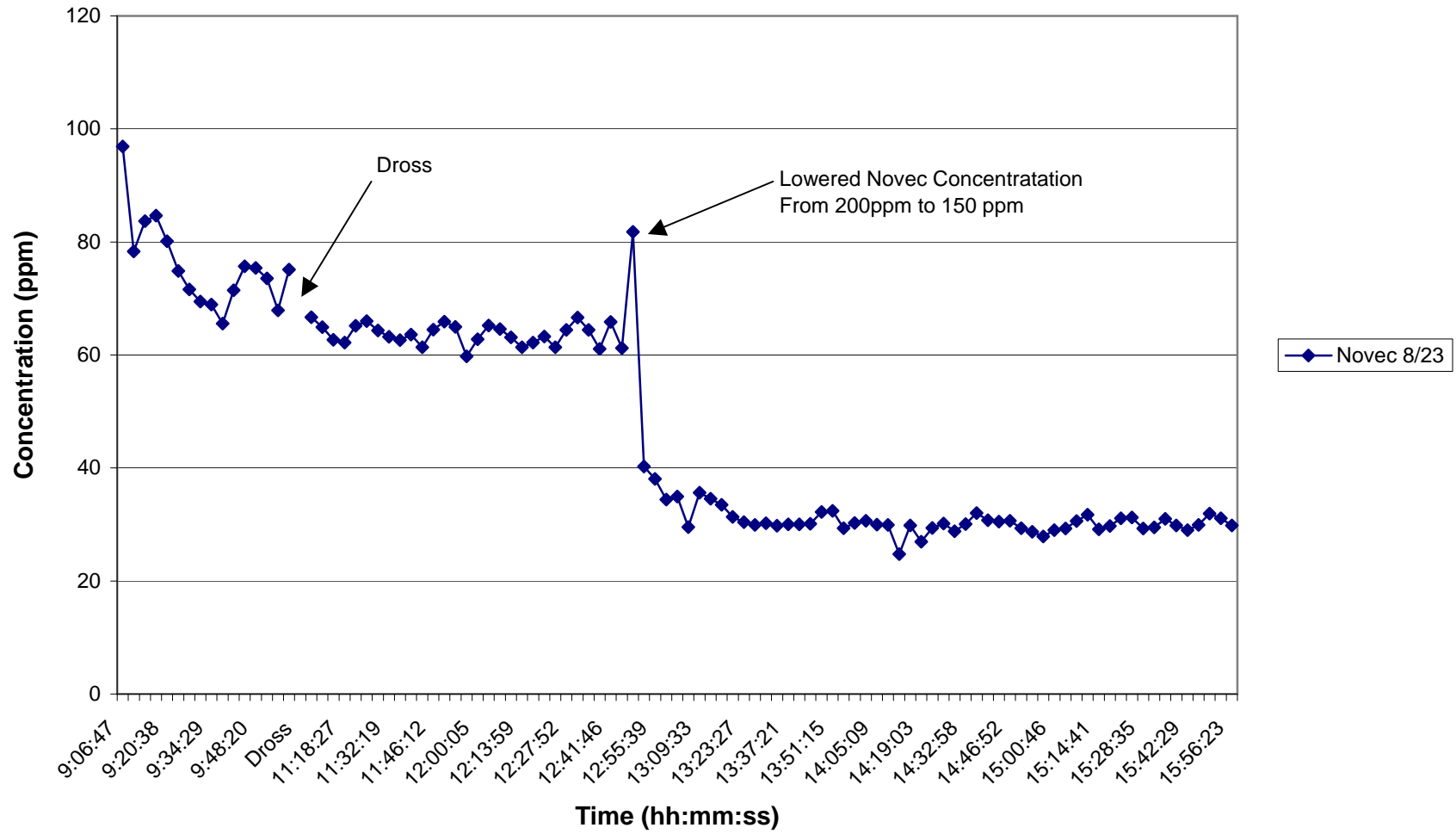
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Appendix A-1
MTG-Shield™ using Novec™ 612 with CO₂ Carrier Gas
Plots

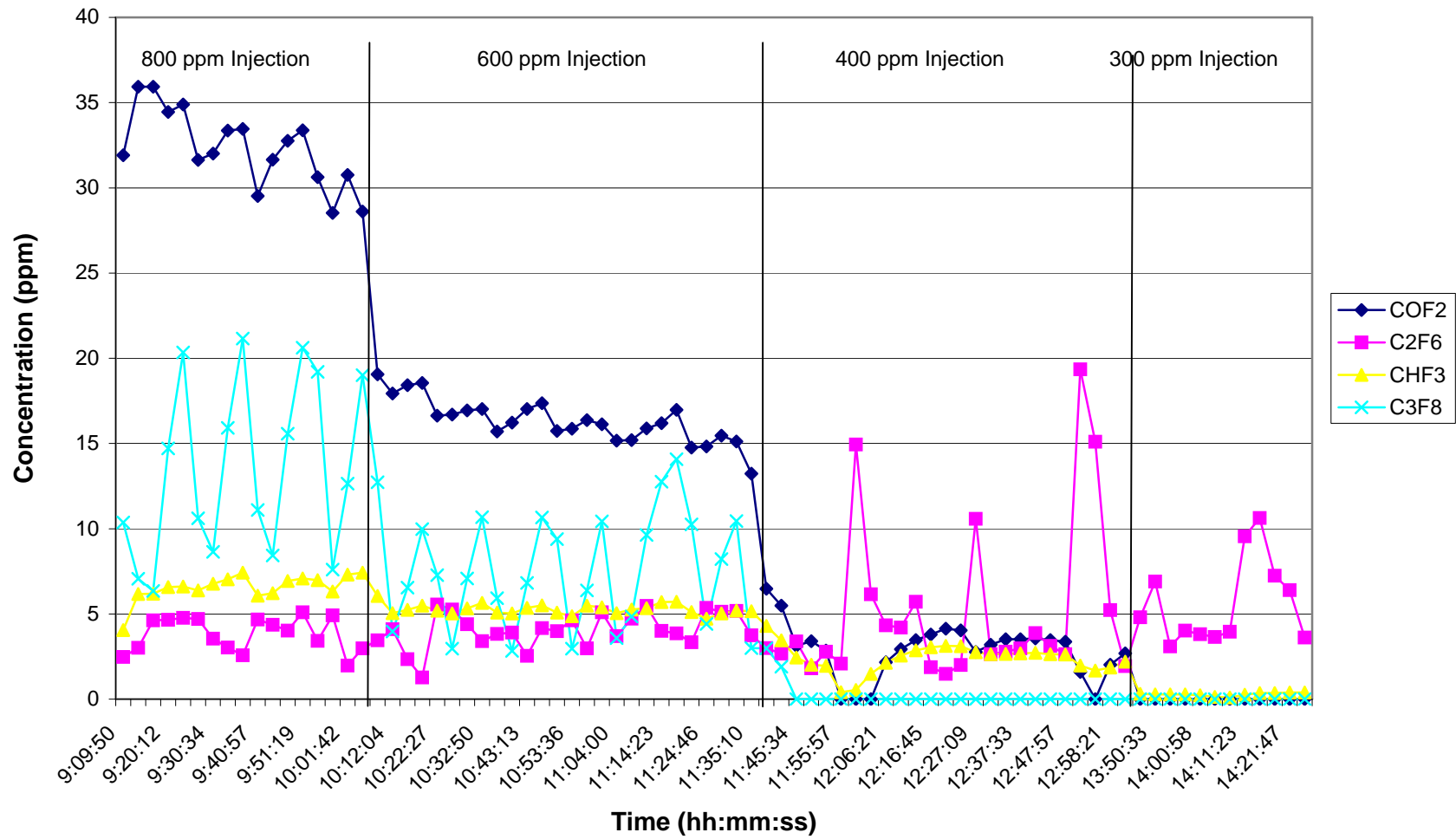
Time Series Plot for Novec™-612 on 8/22/06



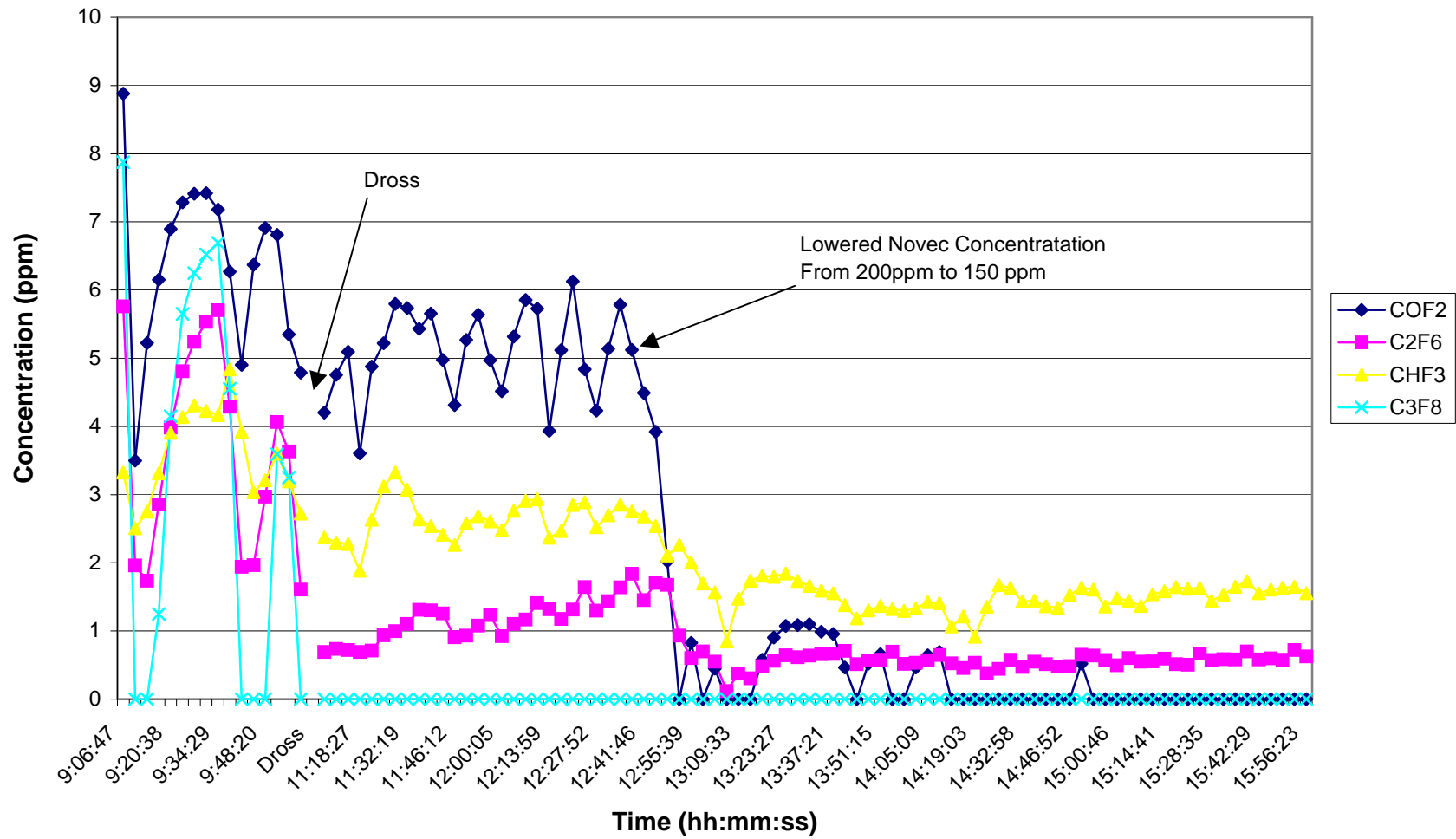
Time Series Plot for Novec™-612 on 8/23/06



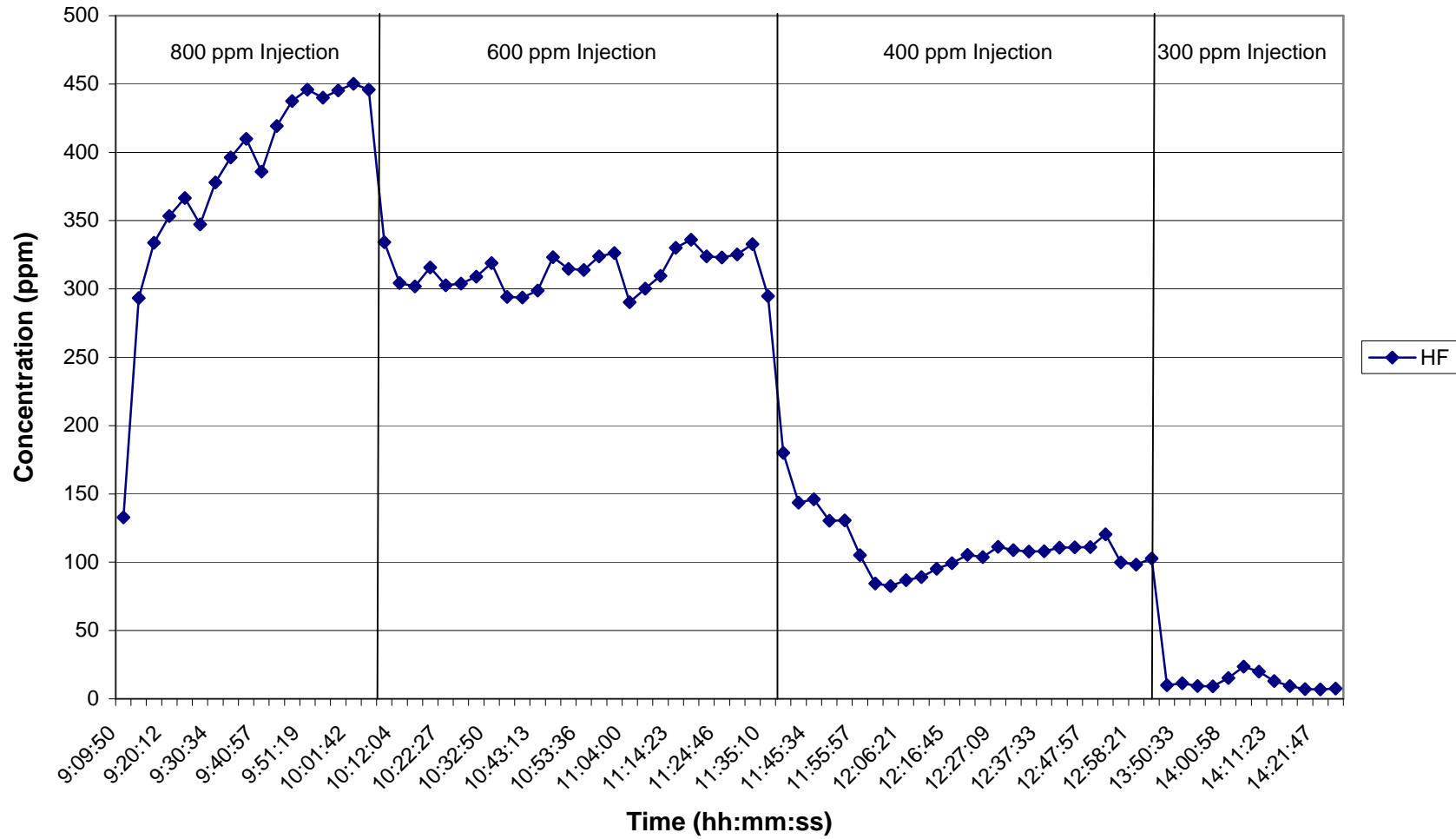
Time Series Plot for PFCs Using Novec™-612 Cover Gas on 8/22/06



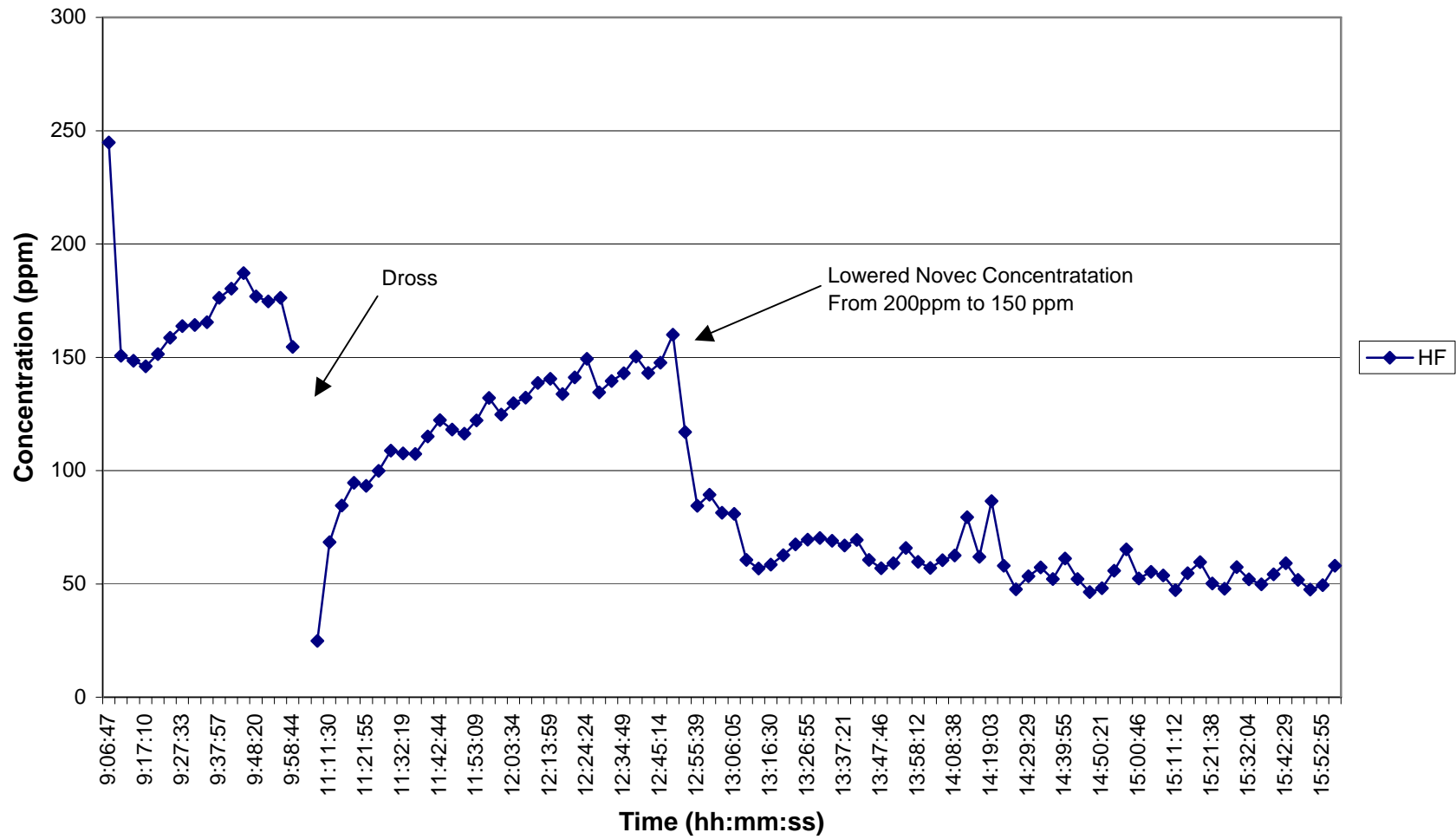
Time Series Plot for PFCs Using Novec™-612 Cover Gas on 8/23/06



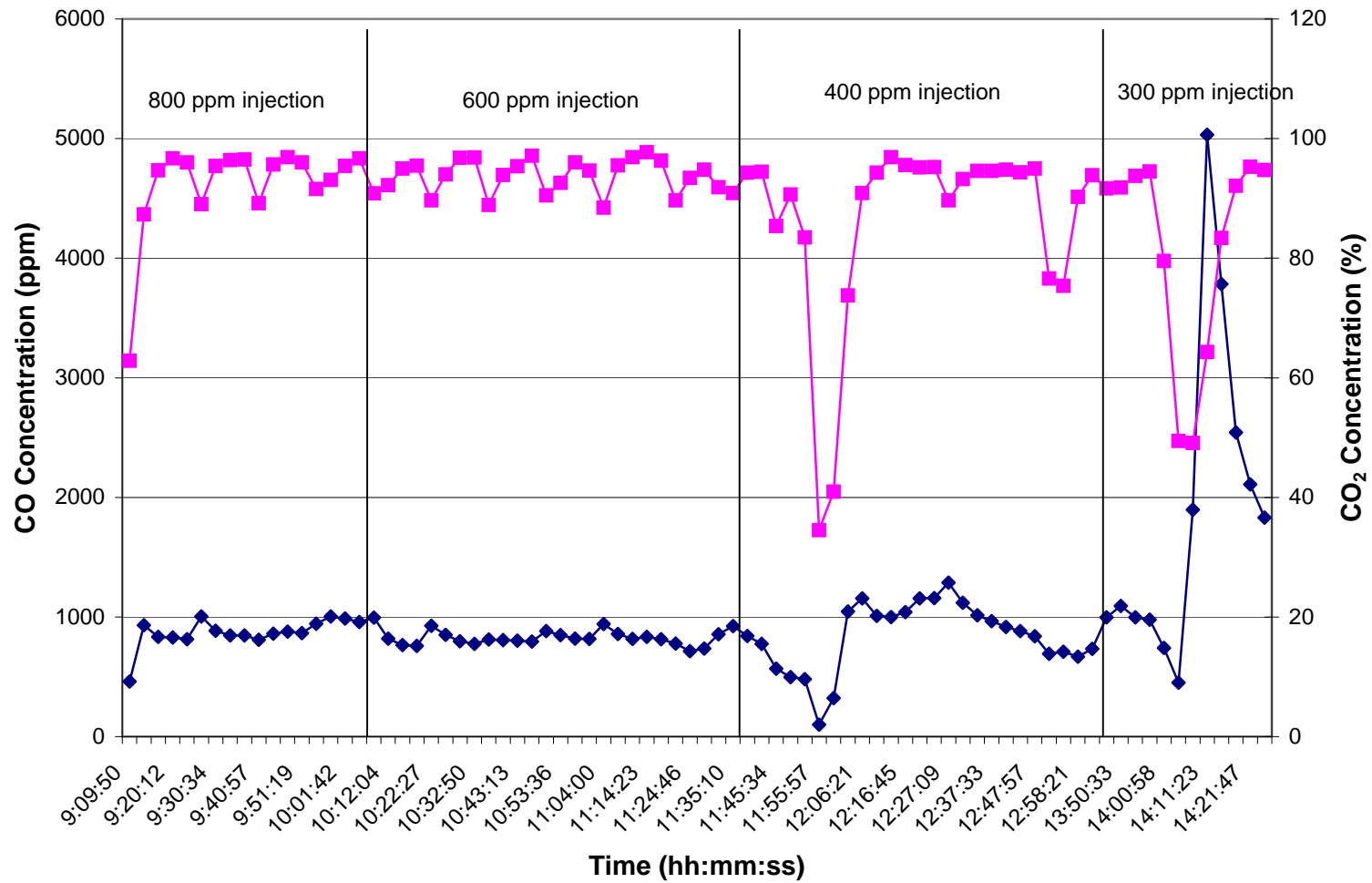
Time Series Plot for HF Using Novec™-612 Cover Gas on 8/22/06



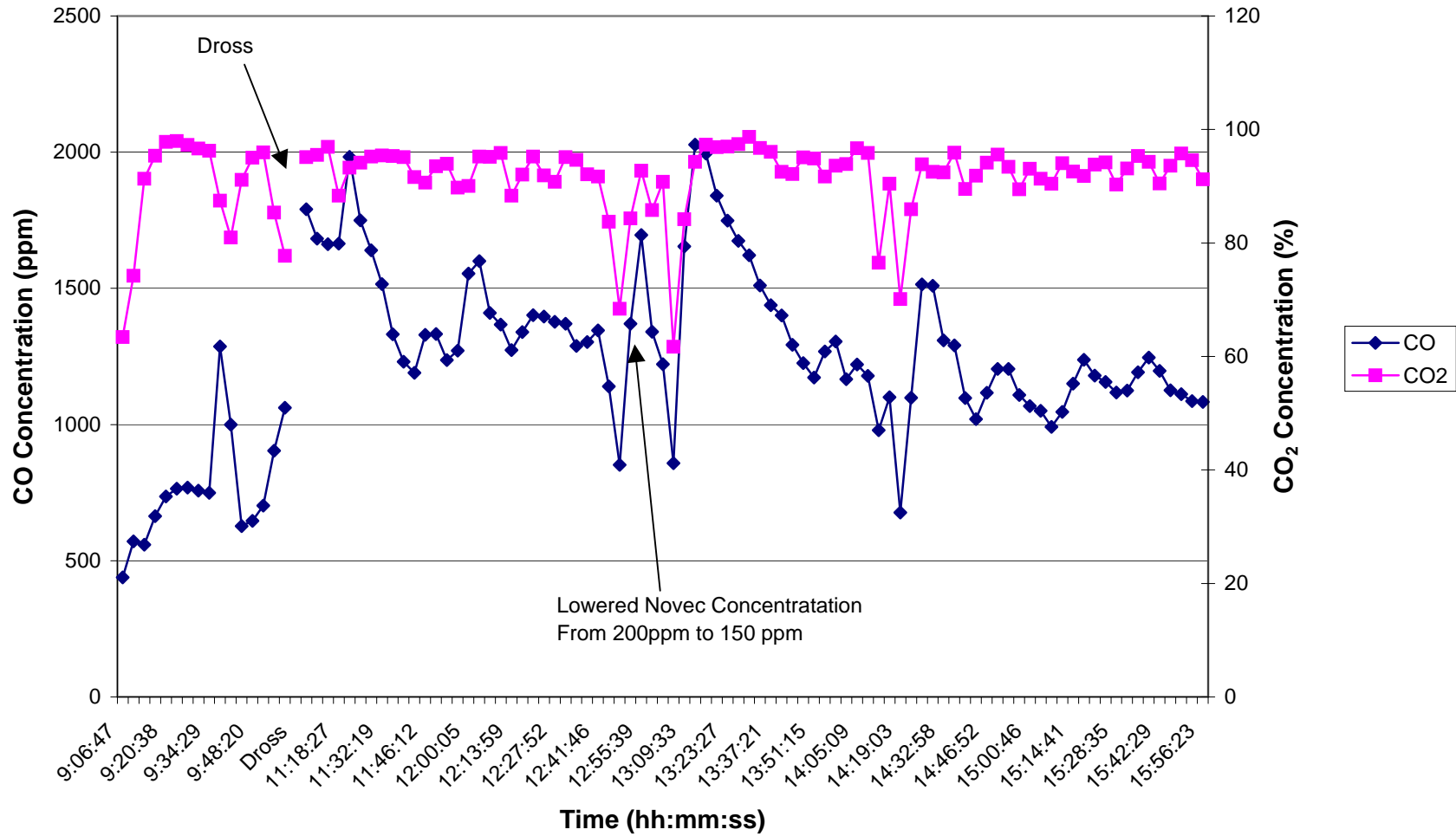
Time Series Plot for HF Using Novec™-612 Cover Gas on 8/23/06



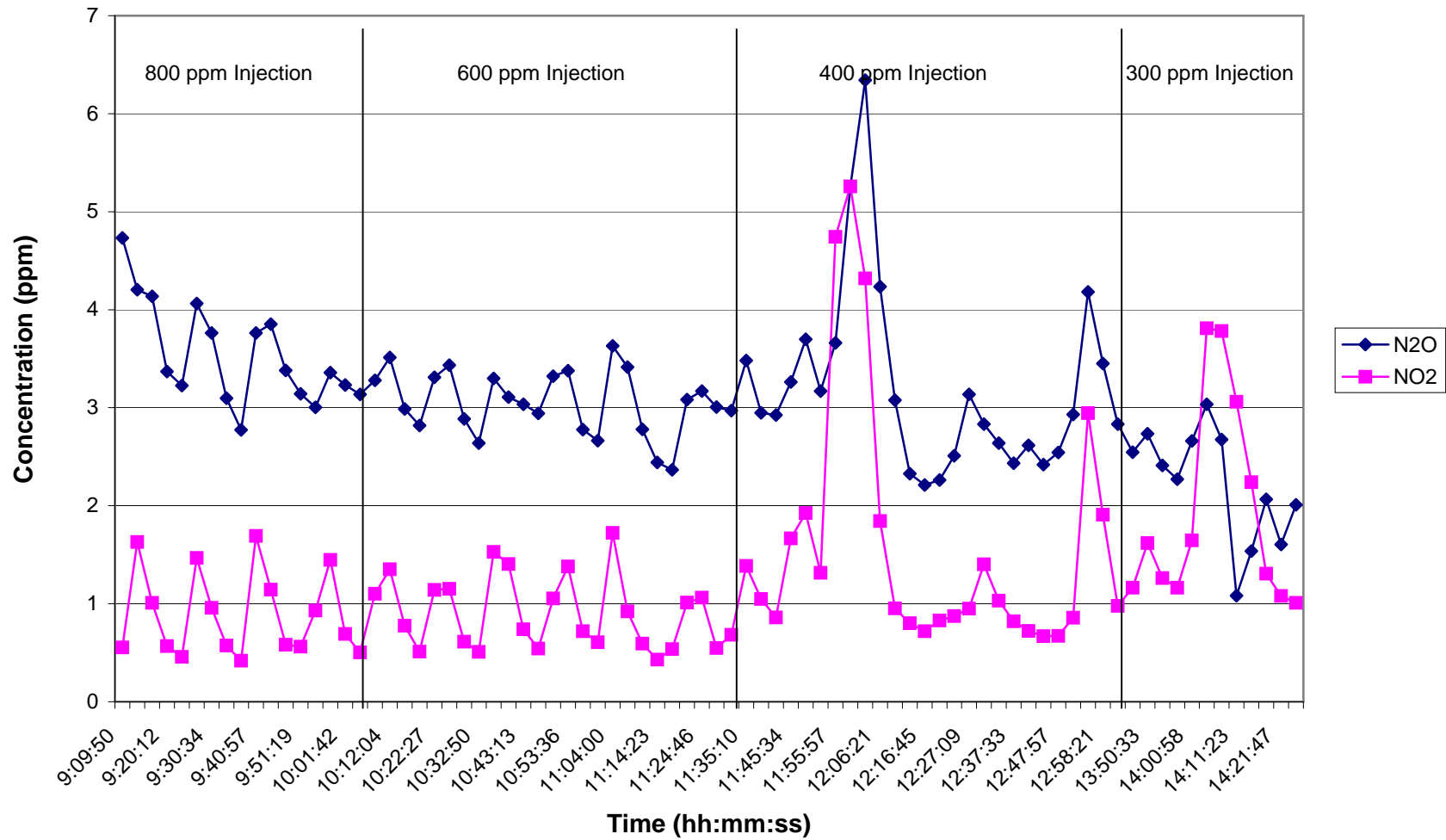
Time Series Plot for CO₂ and CO Using Novec™-612 Cover Gas on 8/22/06



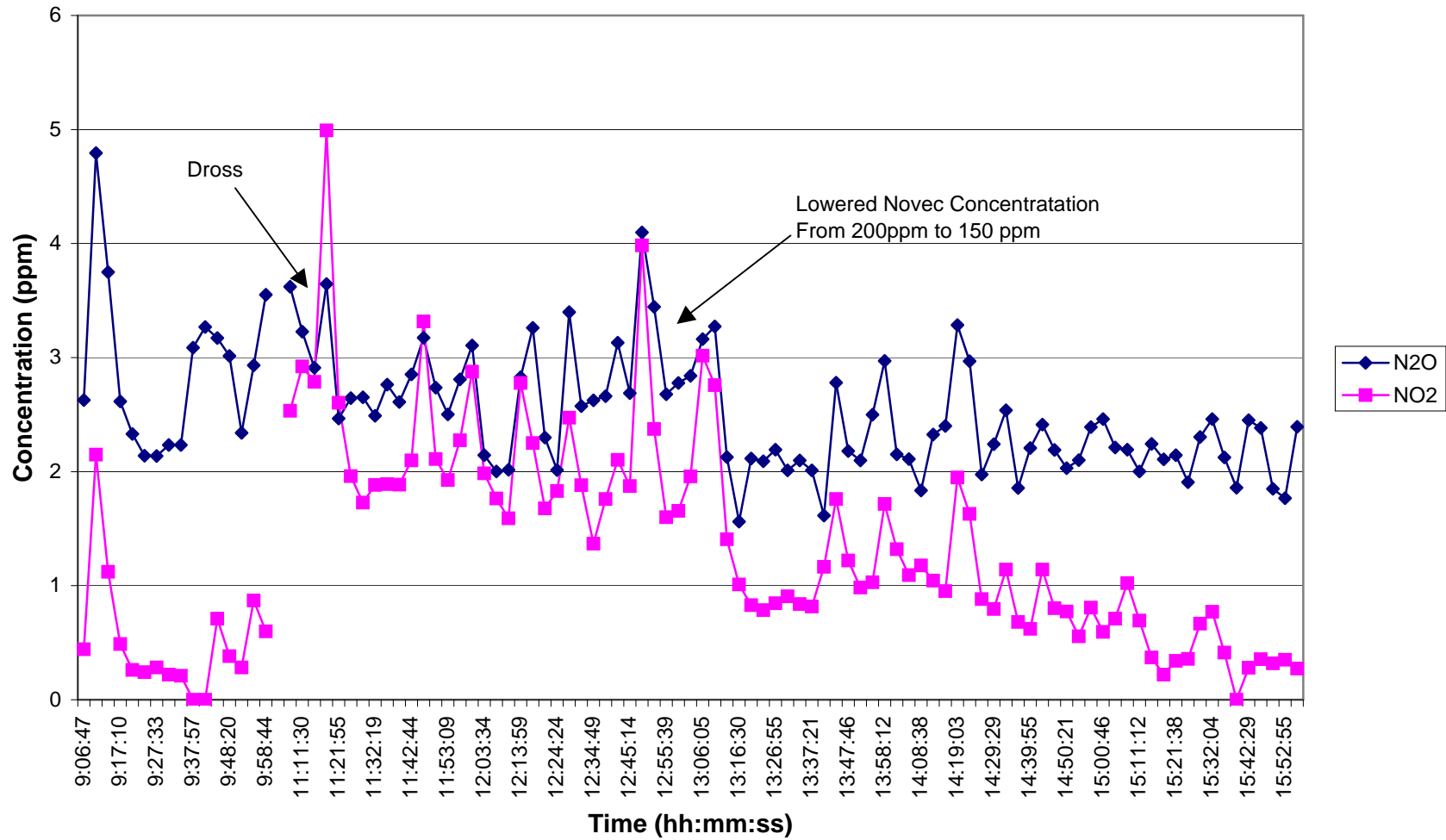
Time Series Plot for CO₂ and CO Using Novec™-612 Cover Gas on 8/23/06



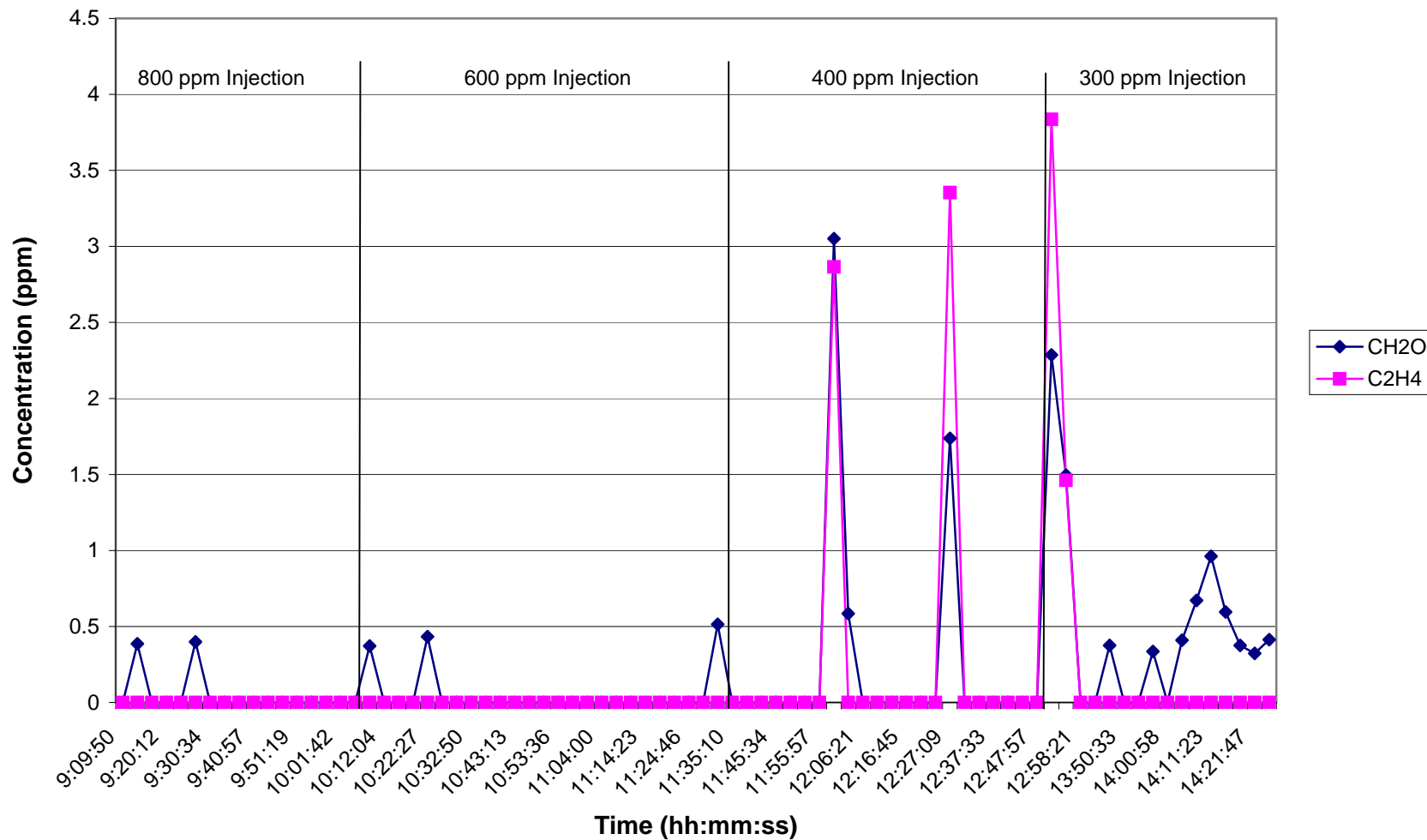
Time Series Plot for Nitrogen Oxides Using Novec™-612 Cover Gas on 8/22/06



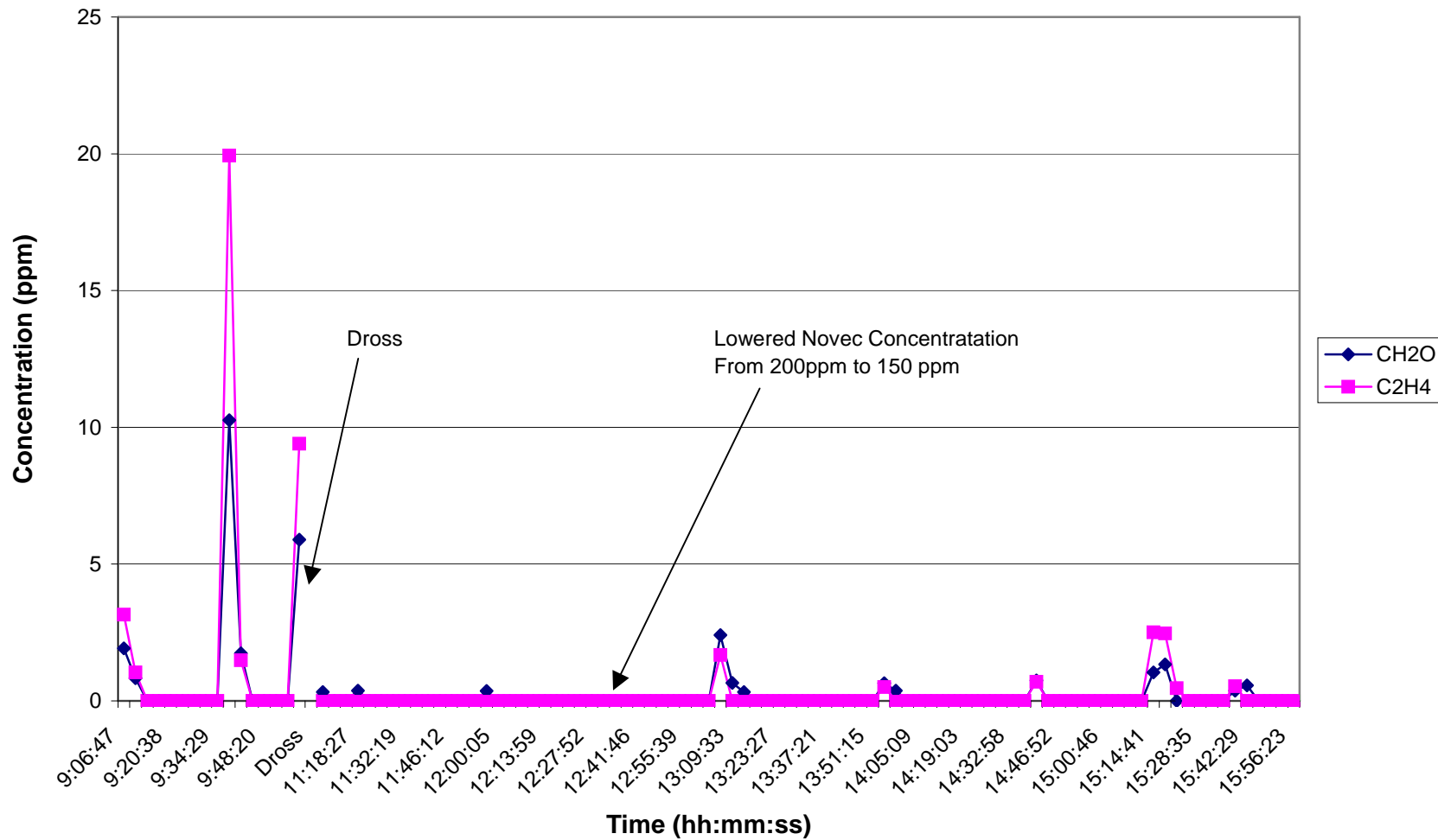
Time Series Plot for Nitrogen Oxides Using Novec™-612 Cover Gas on 8/23/06



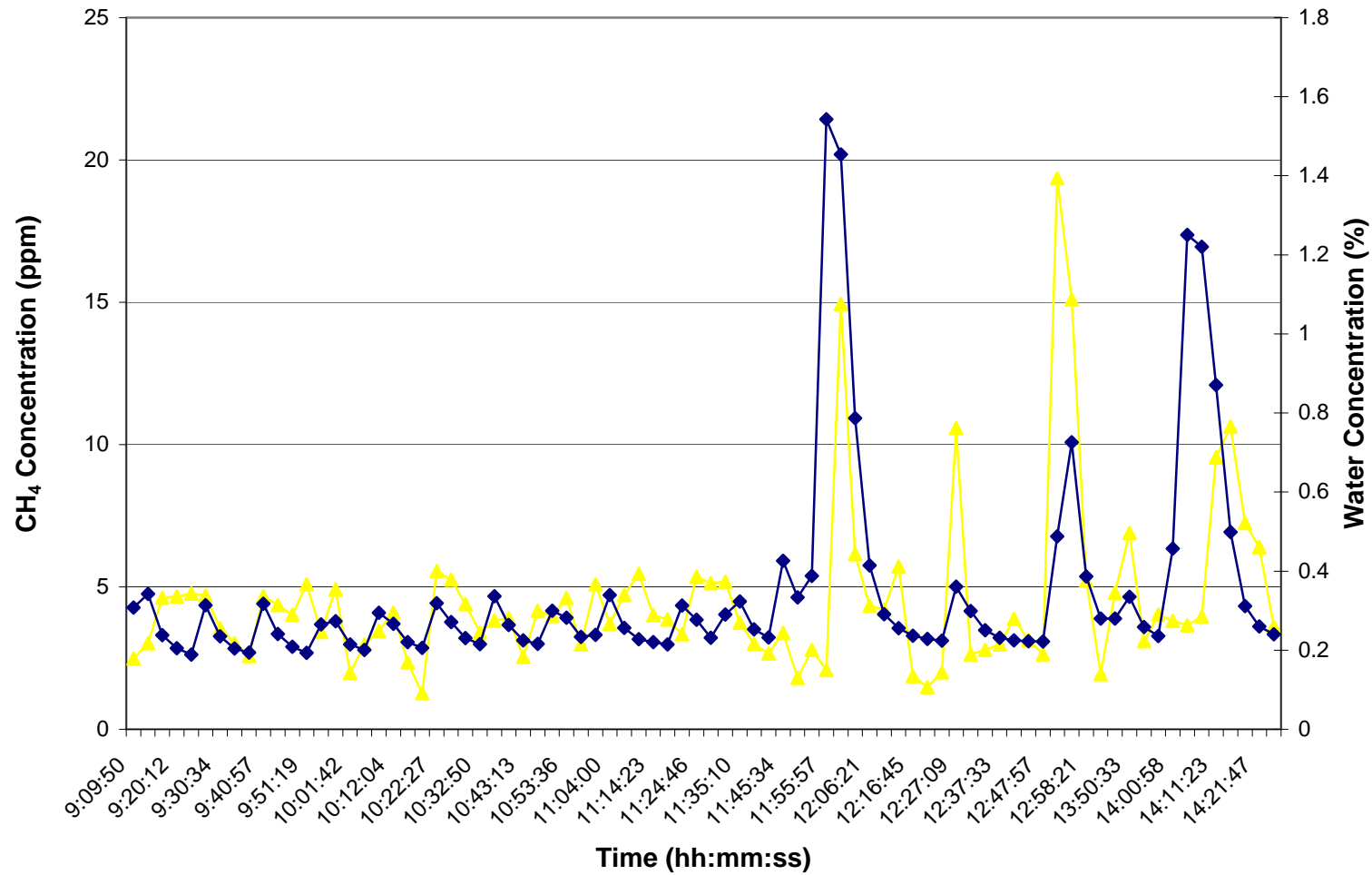
Time Series Plot for CH₂O and C₂H₄ Using Novec™-612 Cover Gas on 8/22/06



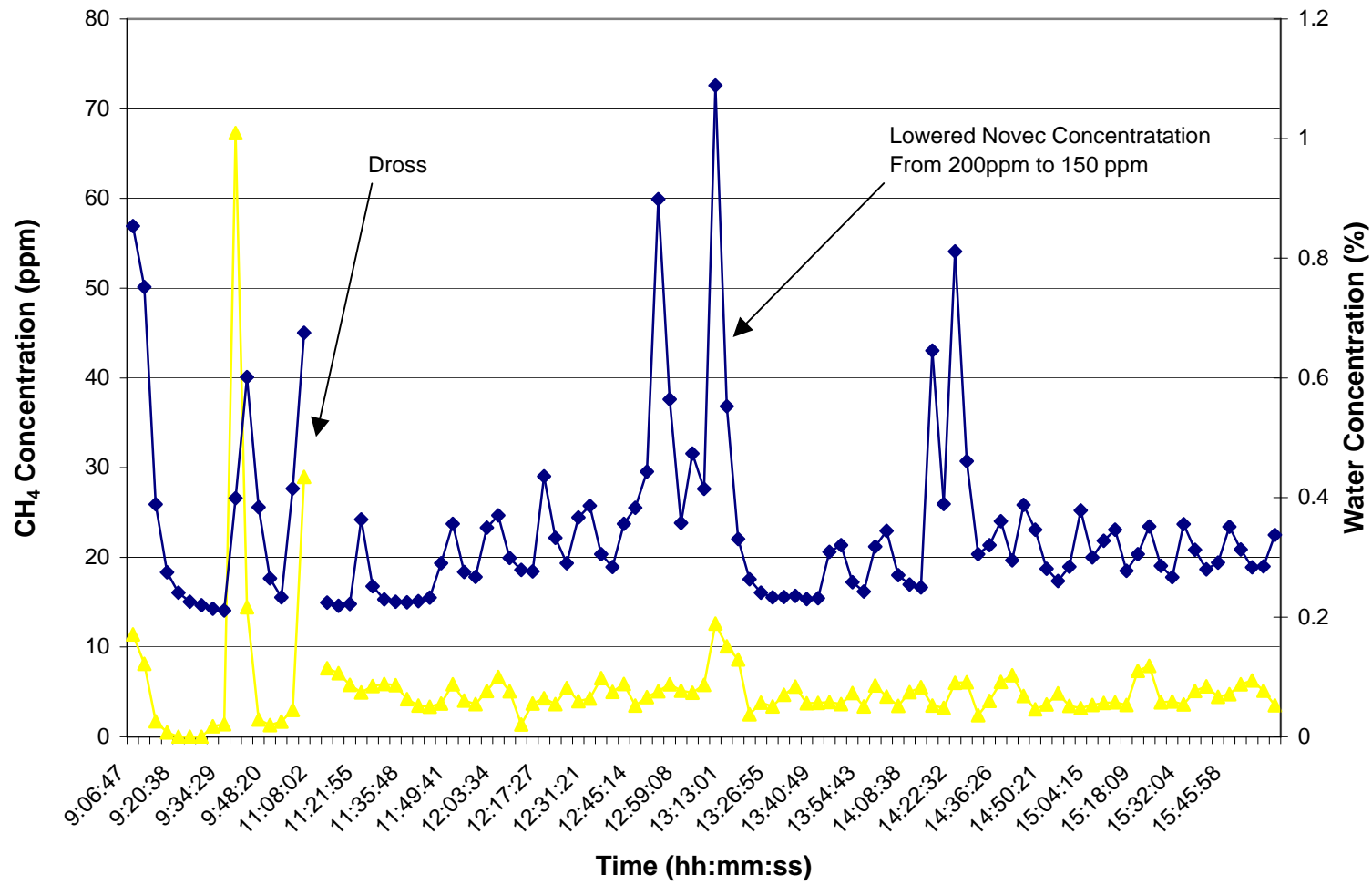
Time Series Plot for CH₂O and C₂H₄ on Using Novec™-612 Cover Gas 8/23/06



Time Series Plot for CH₄ and H₂O Using Novec™-612 Cover Gas on 8/22/06

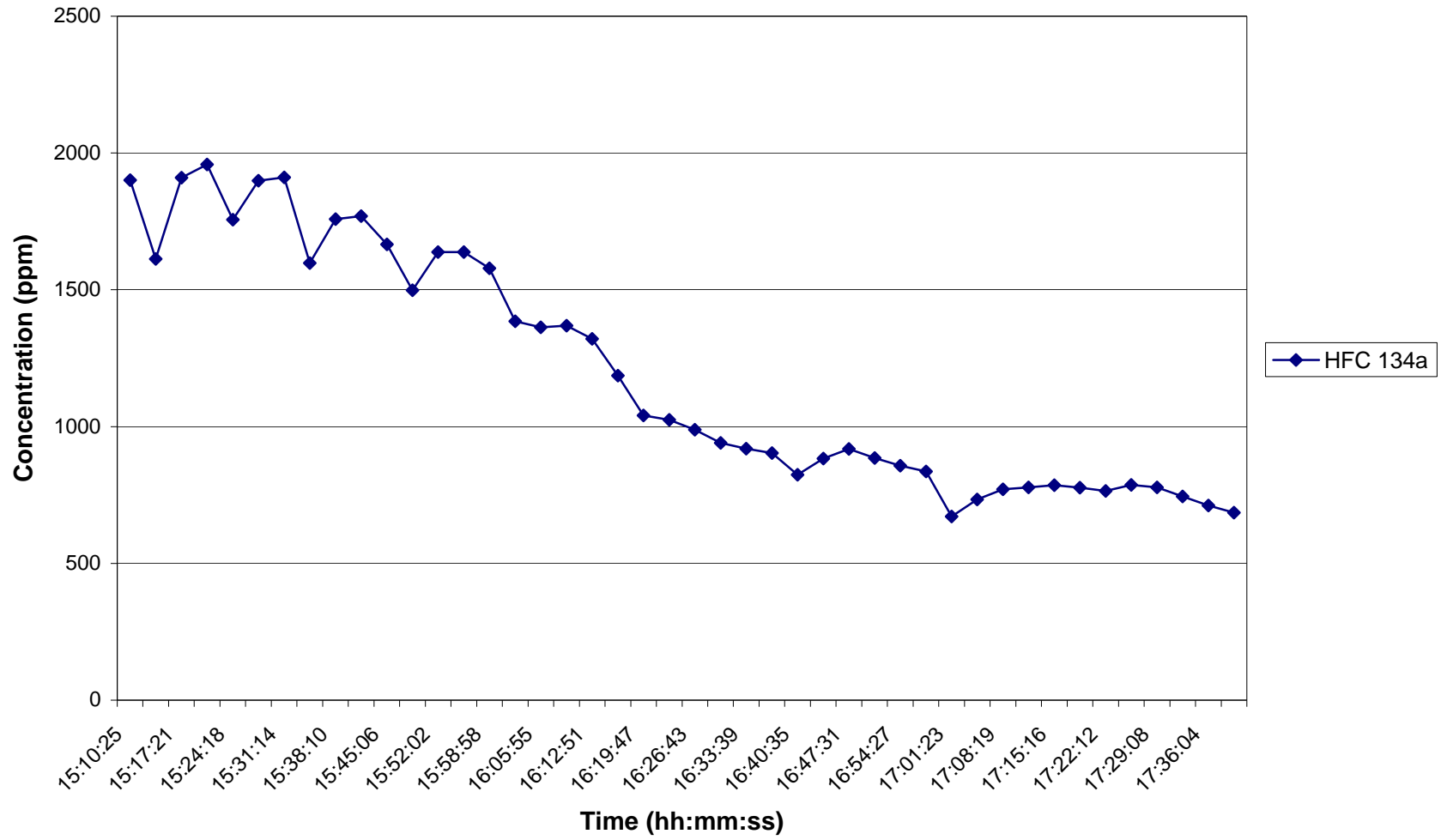


Time Series Plot for CH₄ and H₂O Using Novec™-612 Cover Gas on 8/23/06

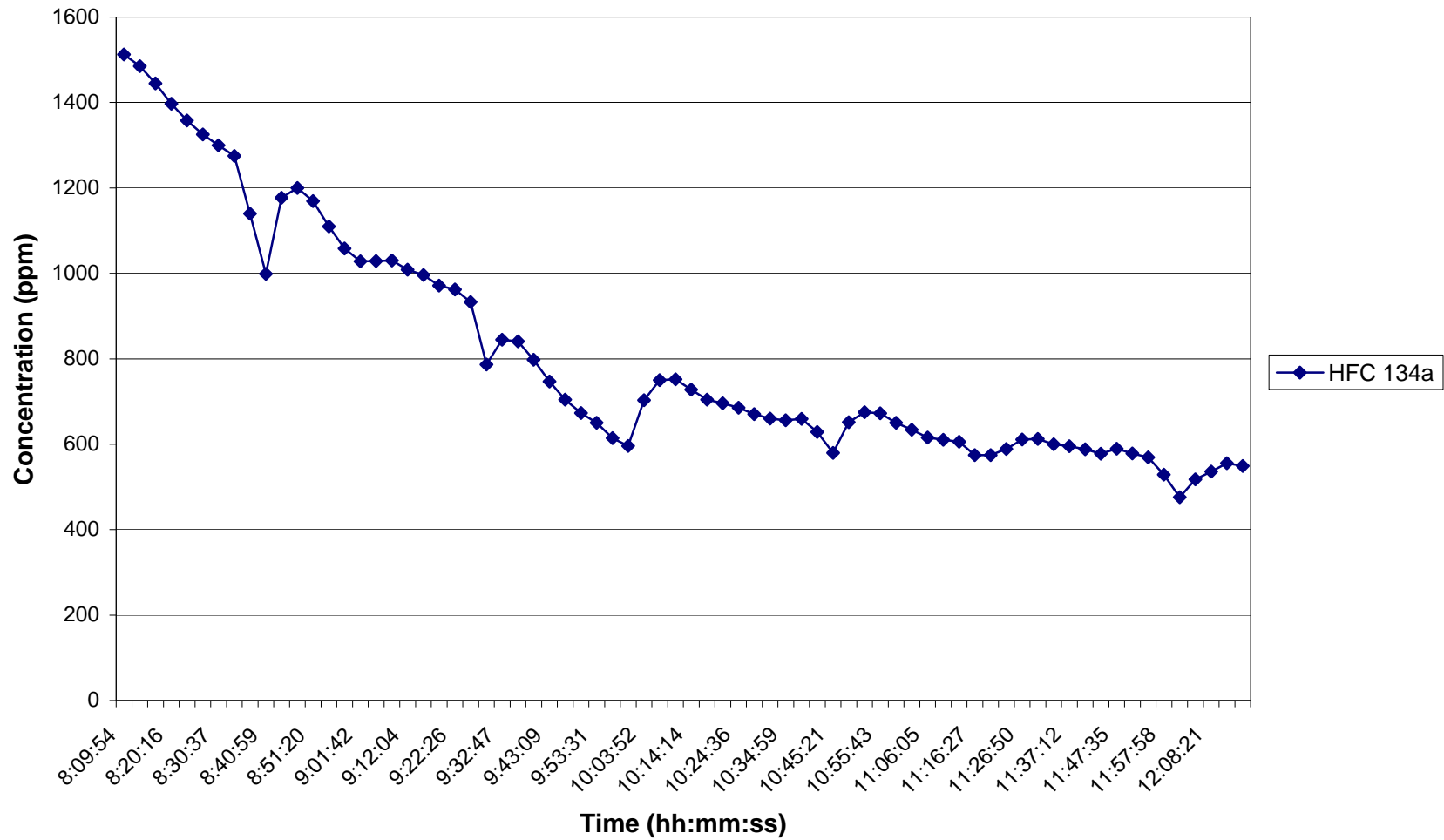


Appendix A-2
AM-Cover™ using HFC-134a with CDA Carrier Gas
Plots

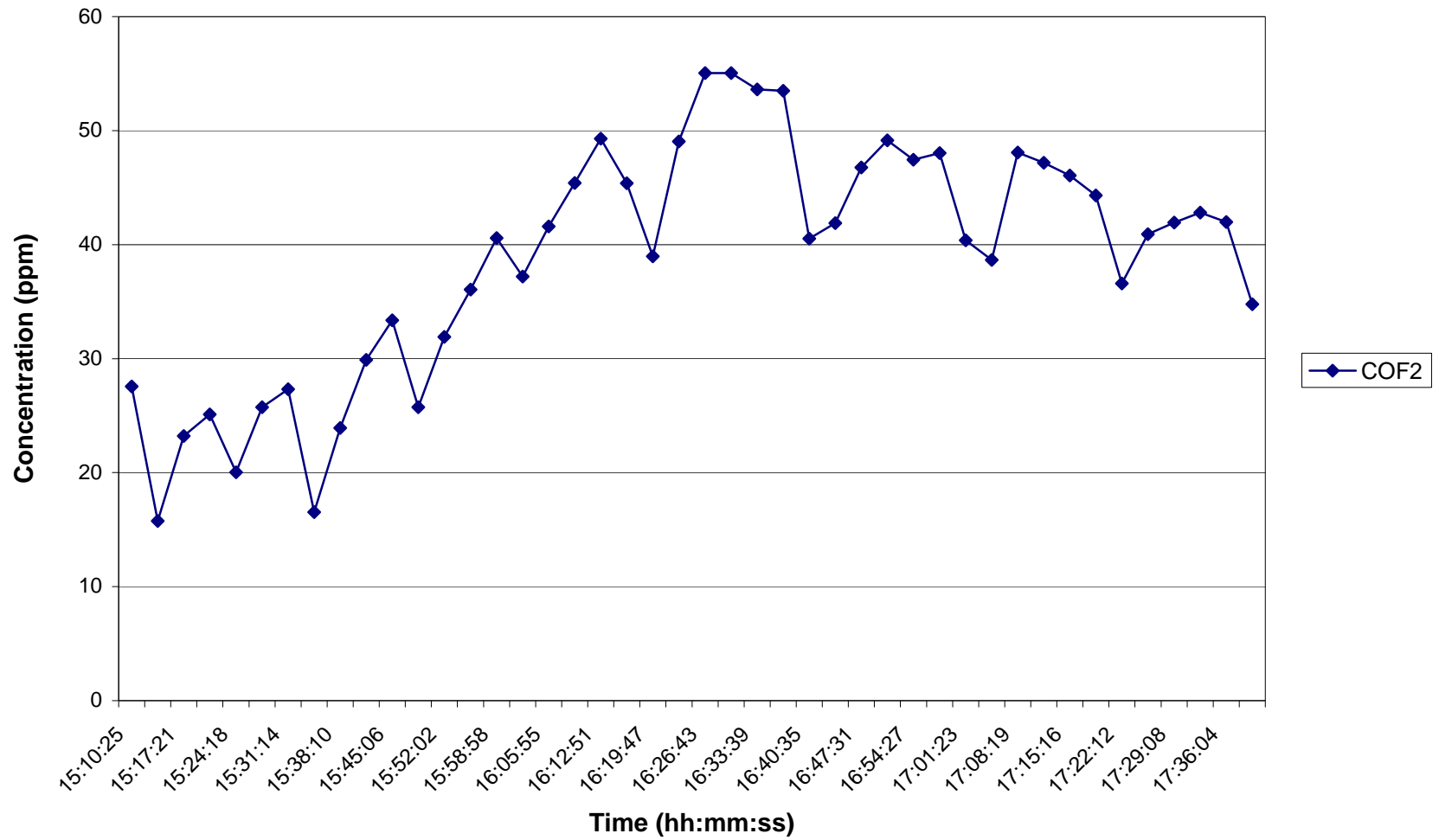
Time Series Plot for HFC-134a During Injection at 4200 ppm on 8/24/06



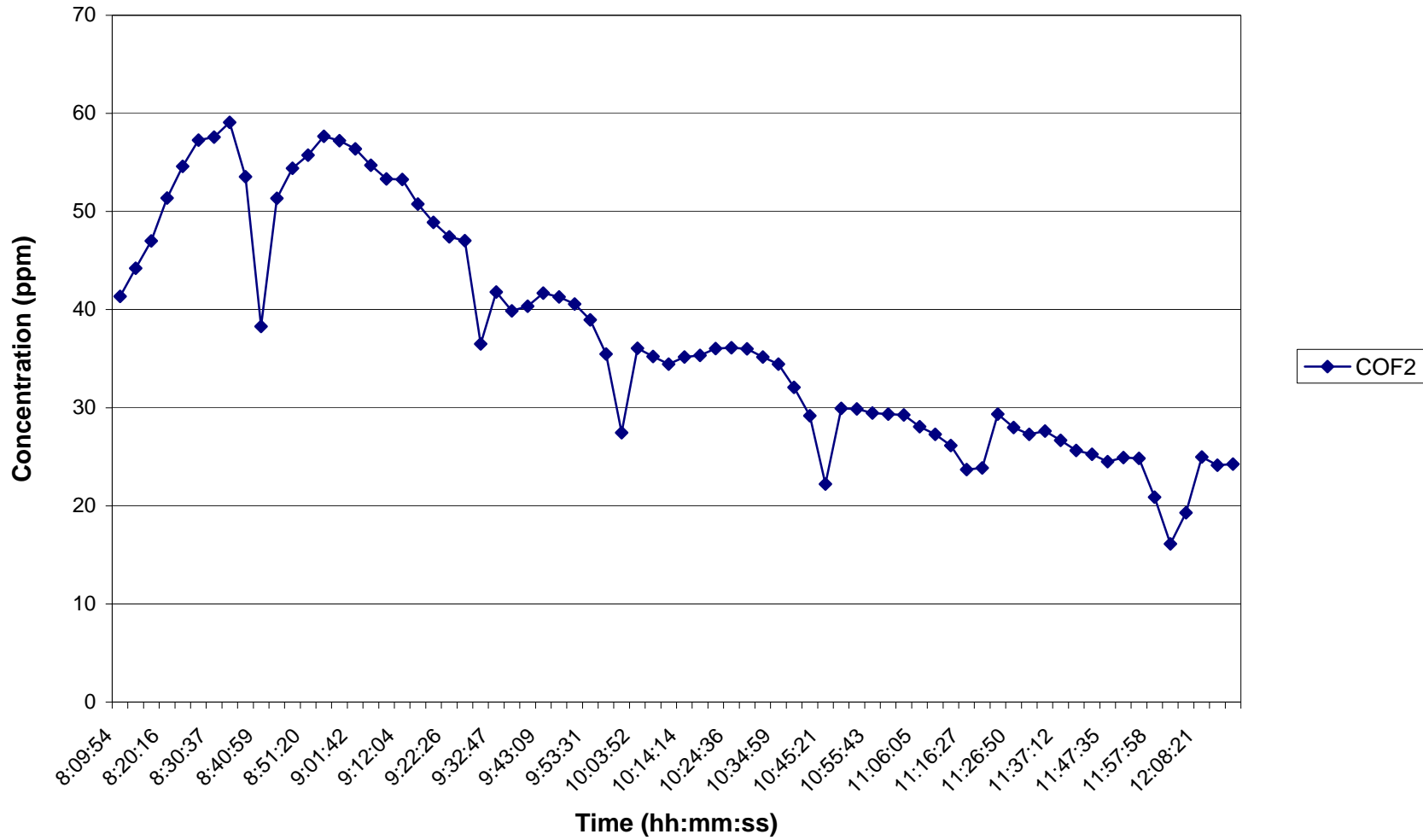
Time Series Plot for HFC-134a During Injection at 3600 ppm on 8/25/06



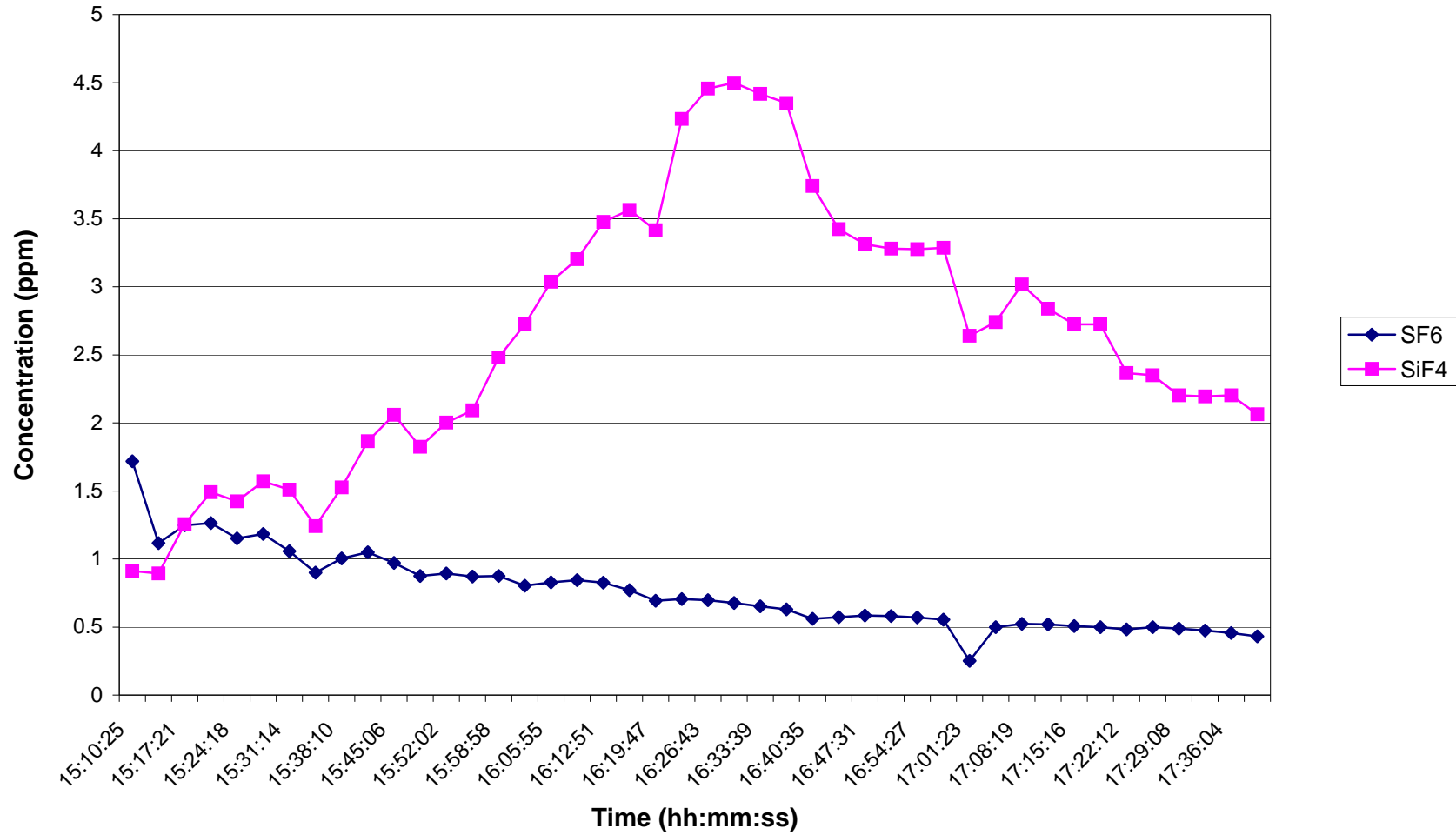
Time Series Plot for COF₂ During HFC-134a Injection at 4200 ppm on 8/24/06



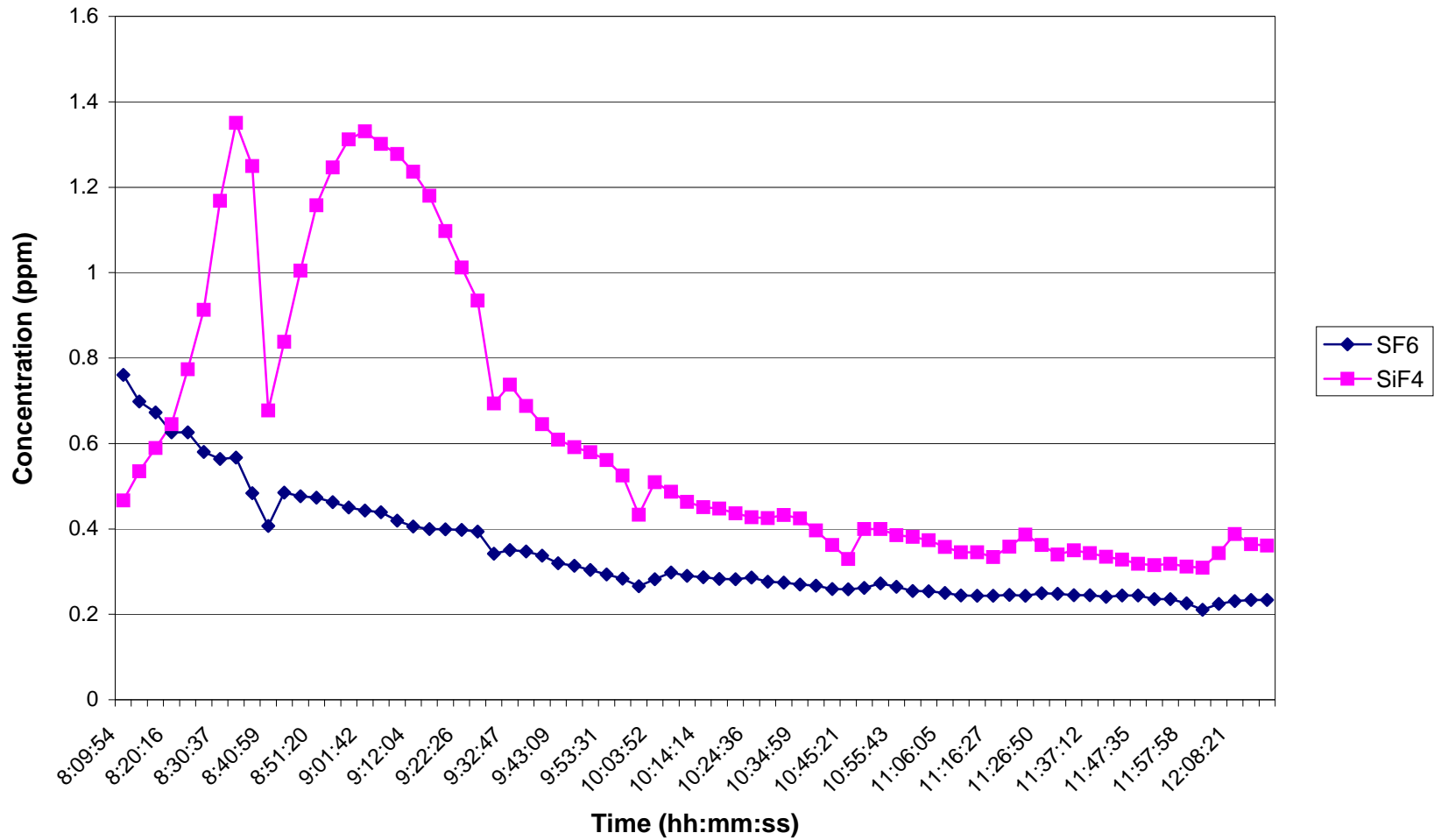
Time Series Plot for COF₂ During HFC-134a Injection at 3600 ppm on 8/25/06



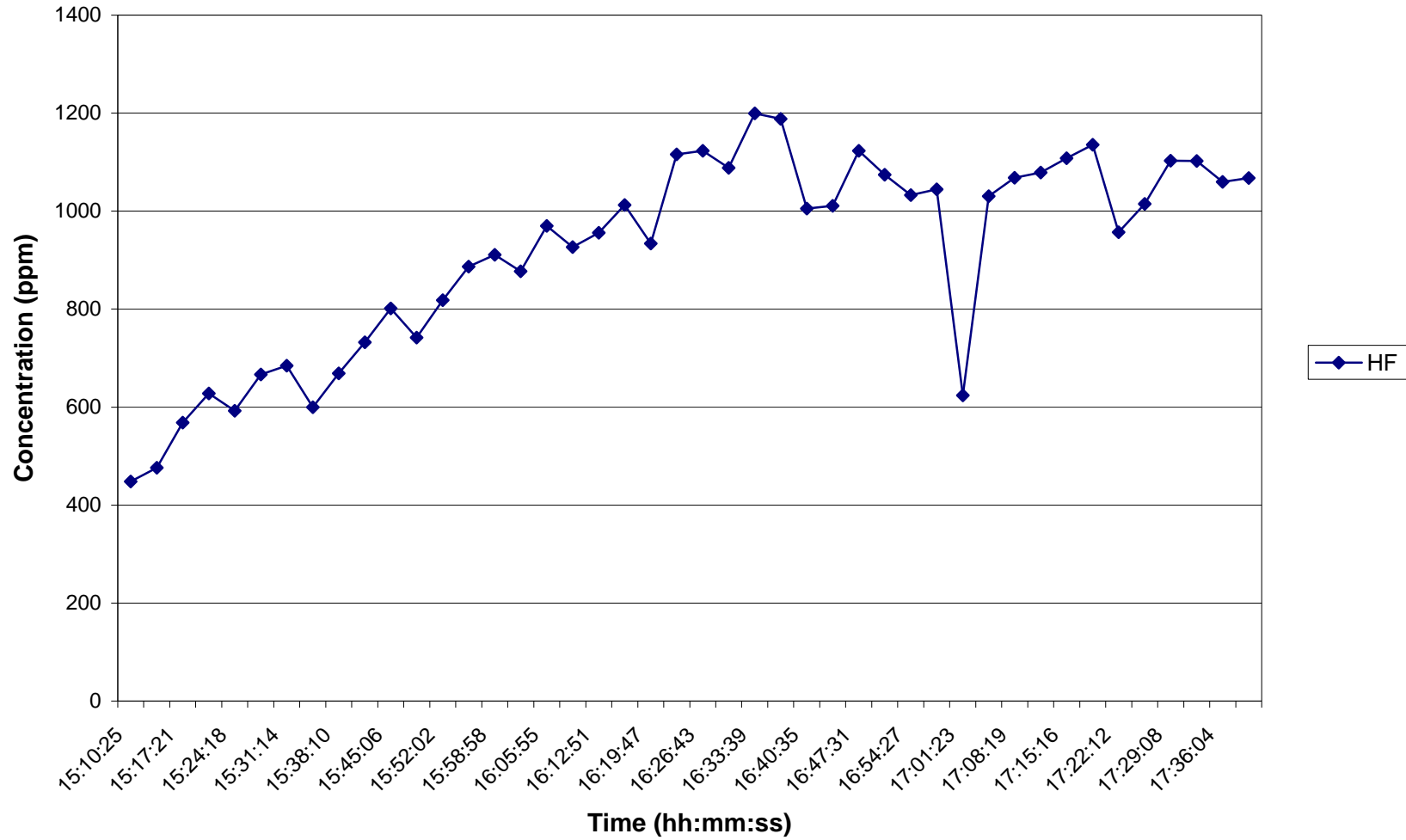
**Time Series Plot for Non-Process By-Products
During HFC-134a Injection at 4200 ppm on 8/24/06**



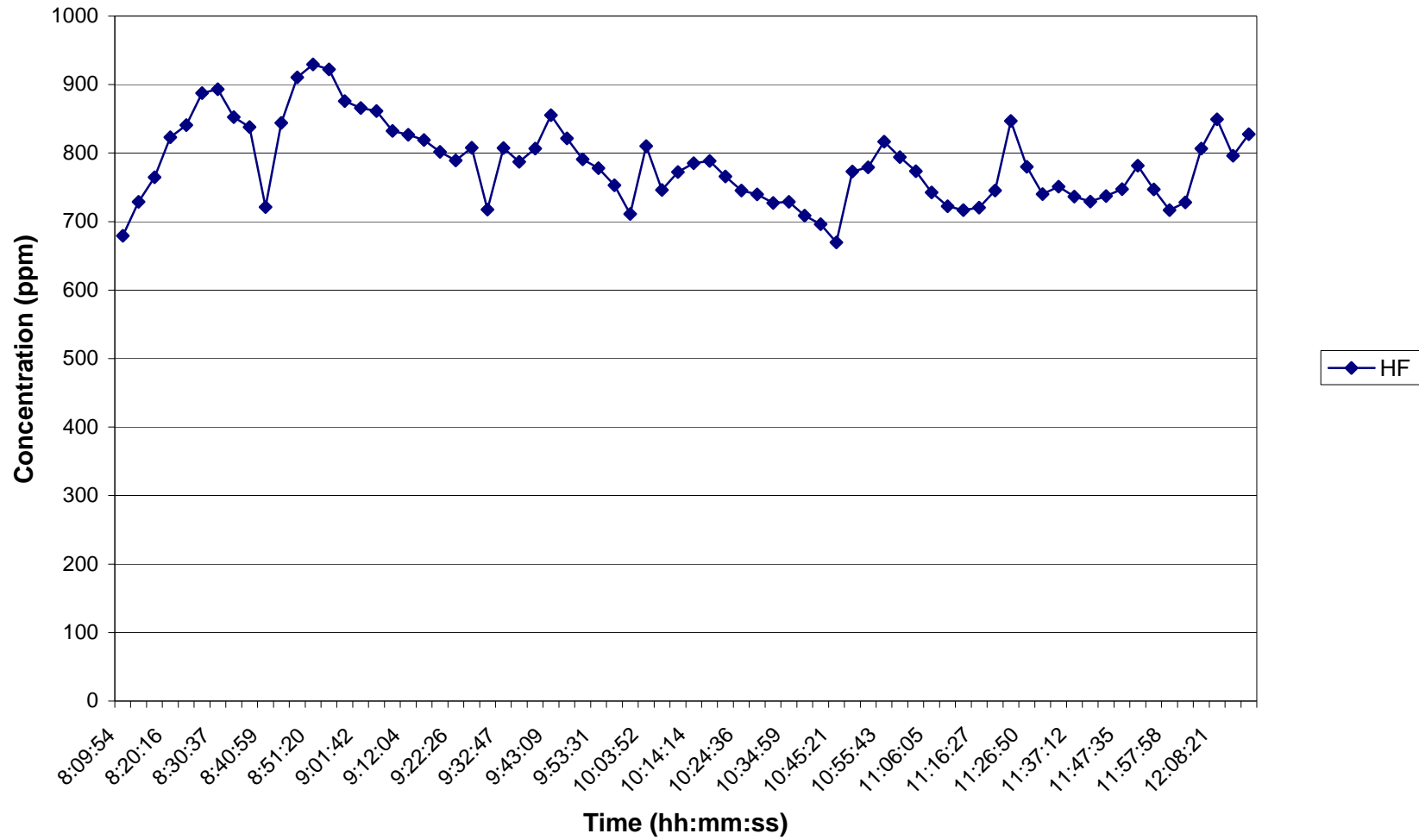
**Time Series Plot for Non-Process By-Products
During HFC-134a Injection at 3600 ppm on 8/25/06**



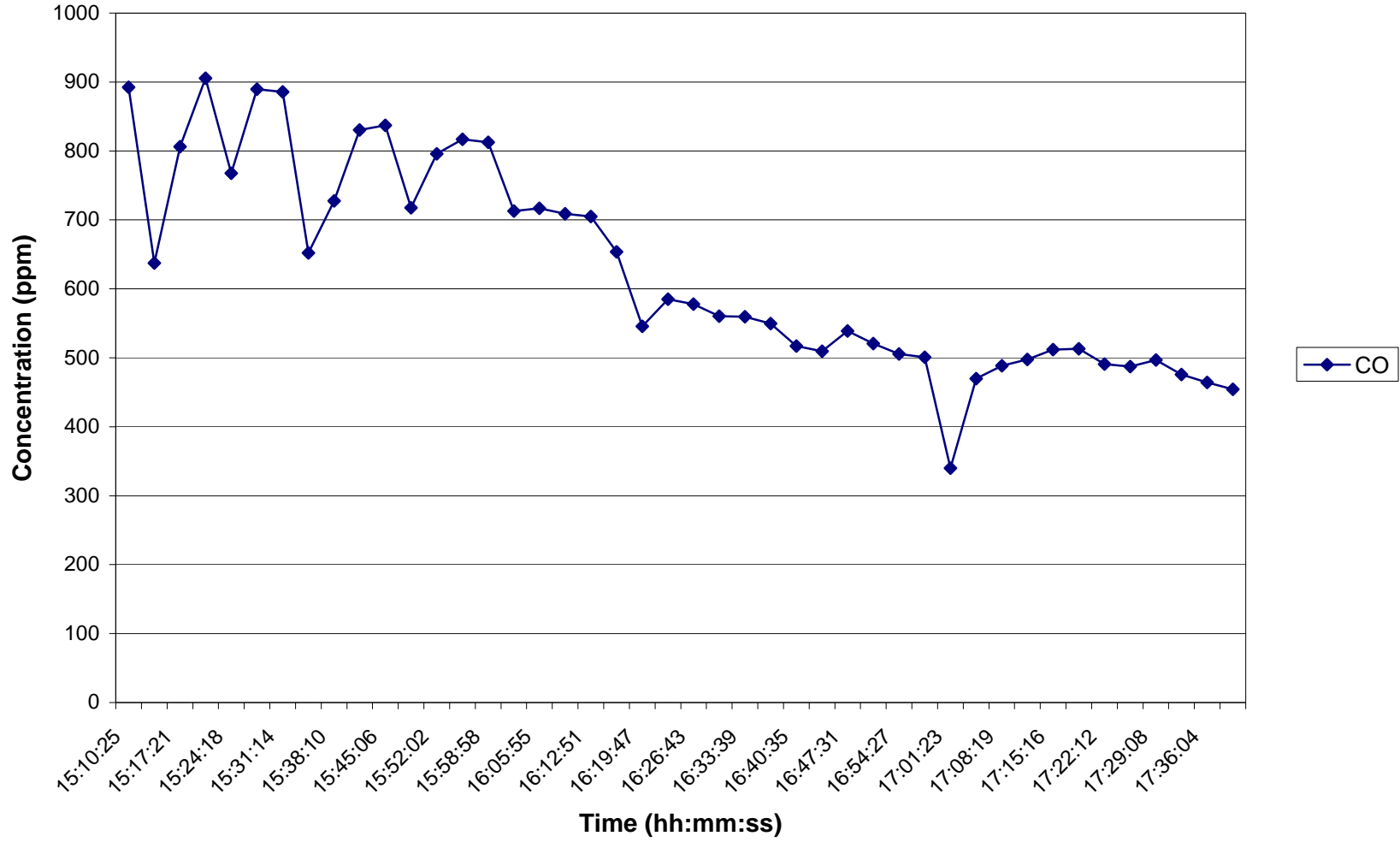
Time Series Plot for HF During HFC-134a Injection at 4200 ppm on 8/24/06



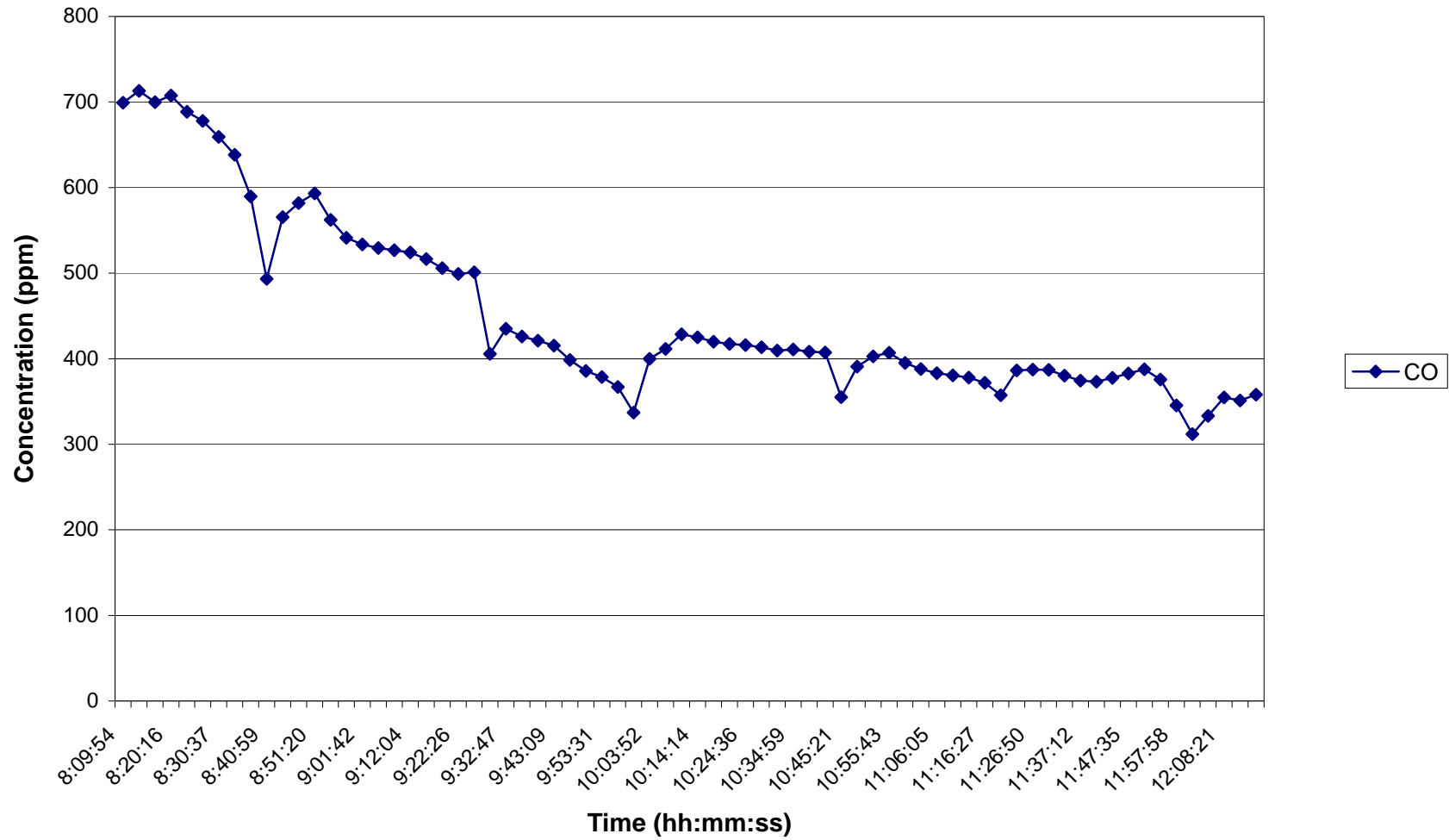
Time Series Plot for HF During HFC-134a Injection at 3600 ppm on 8/25/06



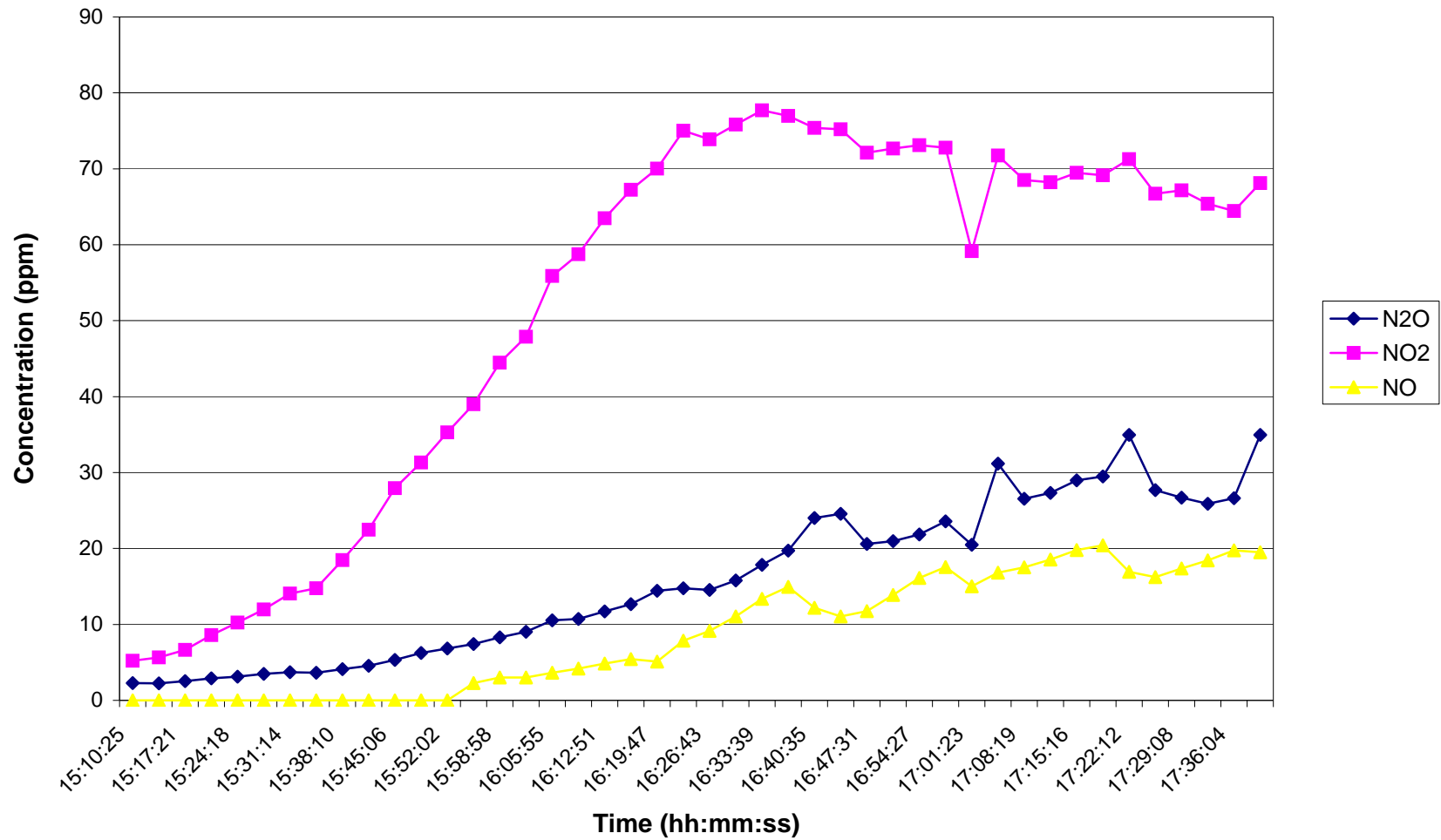
Time Series Plot for CO During HFC-134a Injection at 4200 ppm on 8/24/06



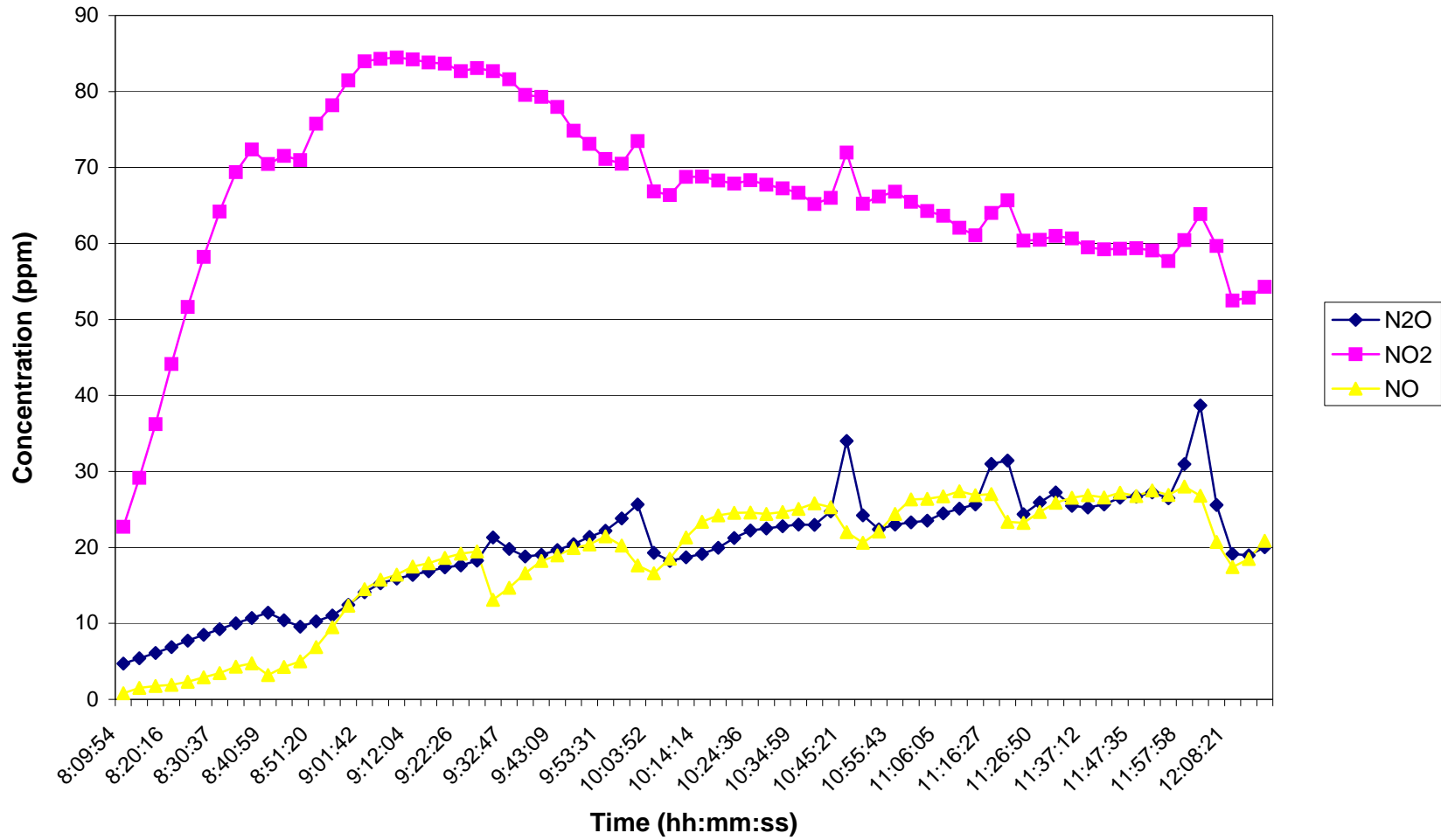
Time Series Plot for CO During HFC-134a Injection at 3600 ppm on 8/25/06



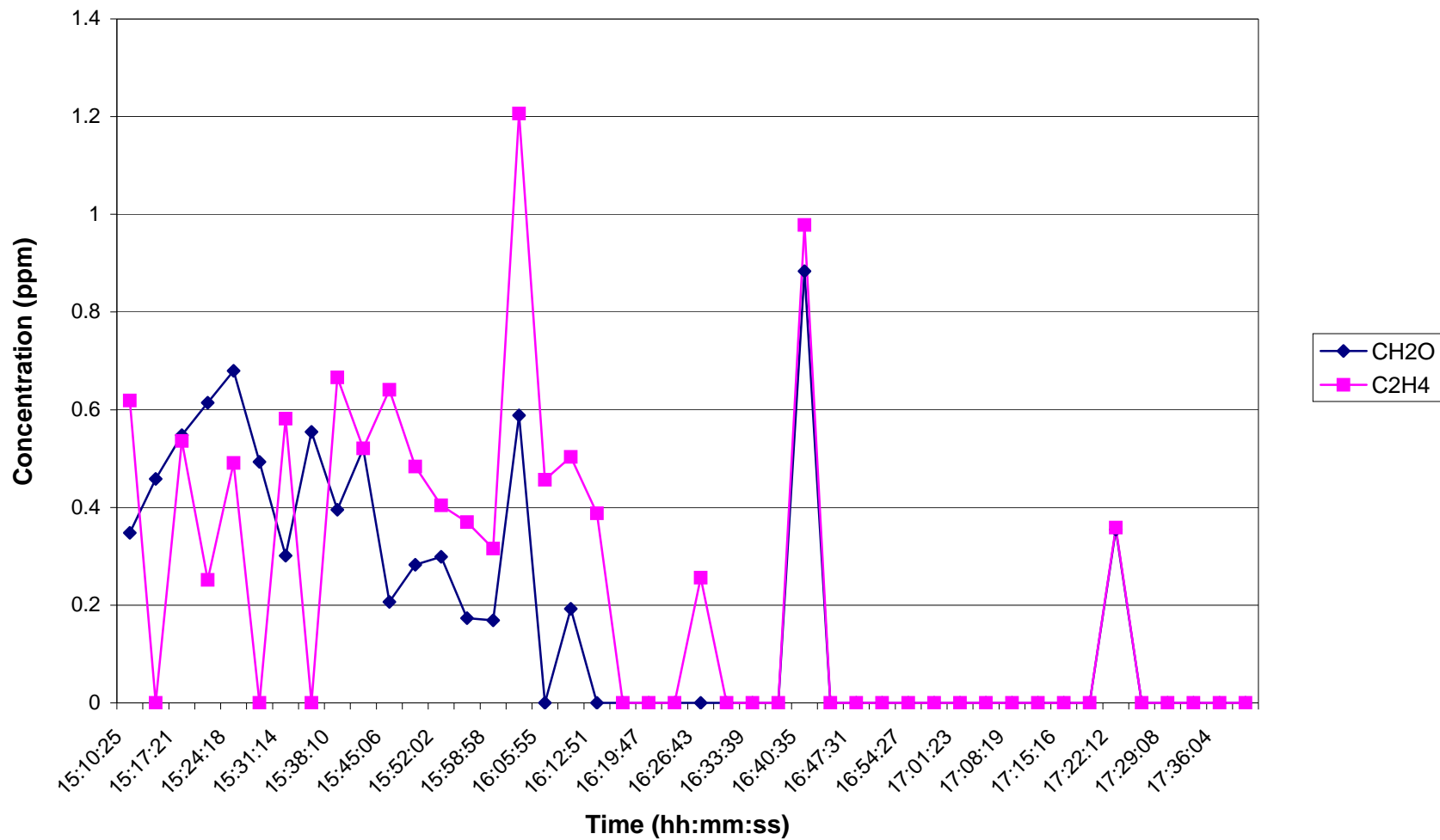
**Time Series Plot for Nitrogen Oxide By-Products
During HFC-134a Injection at 4200 ppm on 8/24/06**



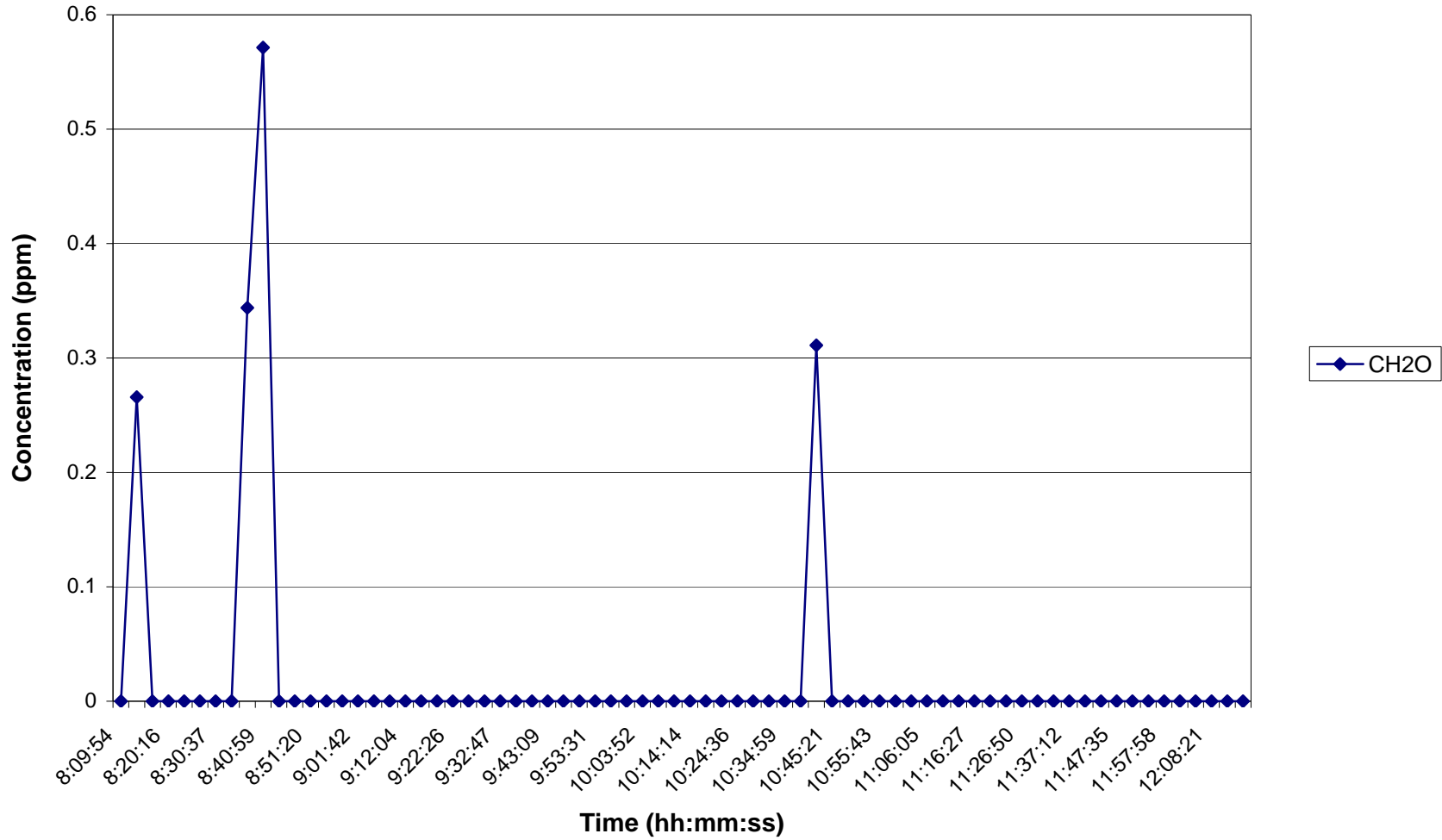
Time Series Plot for Nitrogen Oxide By-Products
During HFC-134a Injection at 3600 ppm on 8/25/06



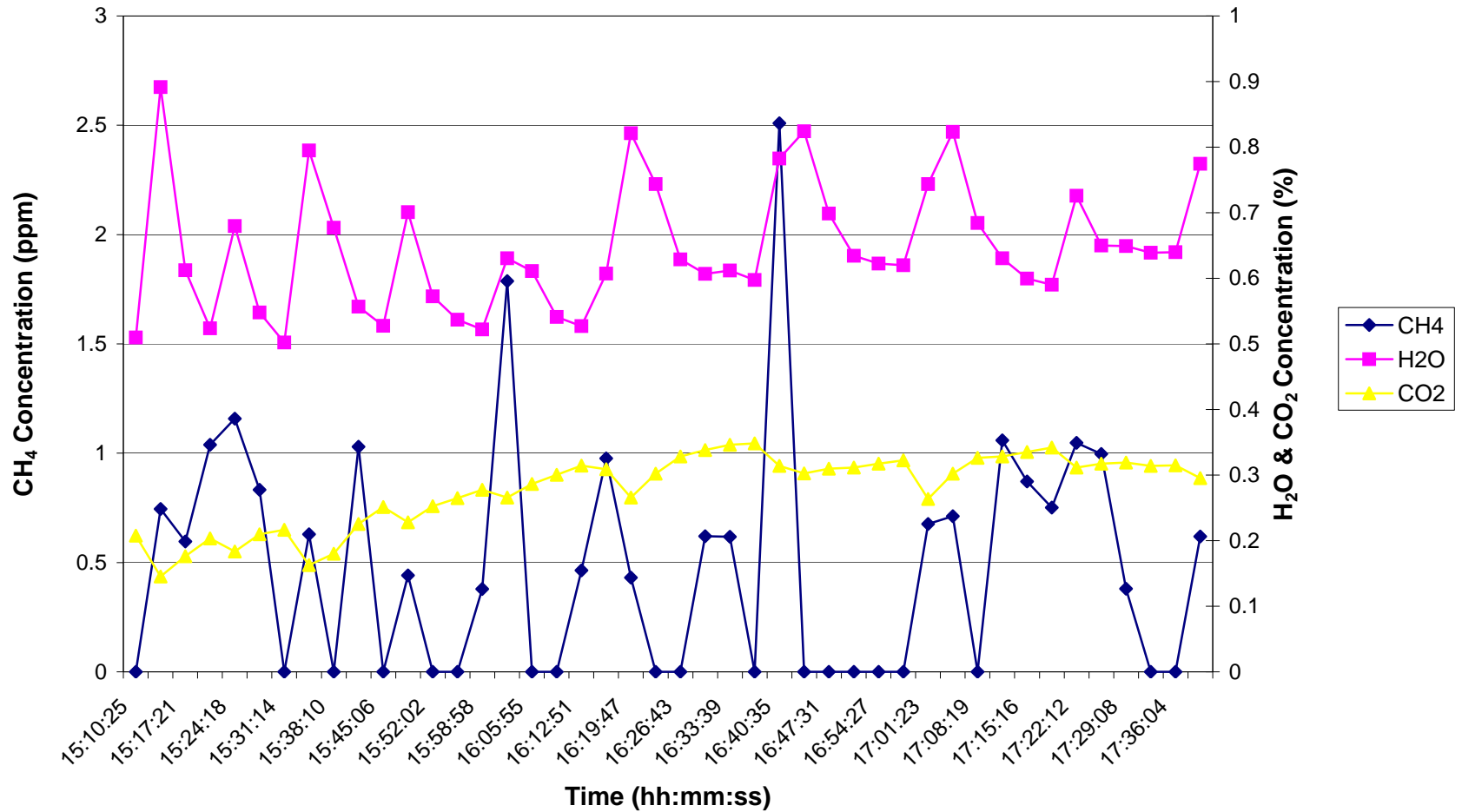
Time Series Plot for CH₂O and C₂H₄ During HFC-134a Injection at 4200 ppm on 8/24/06



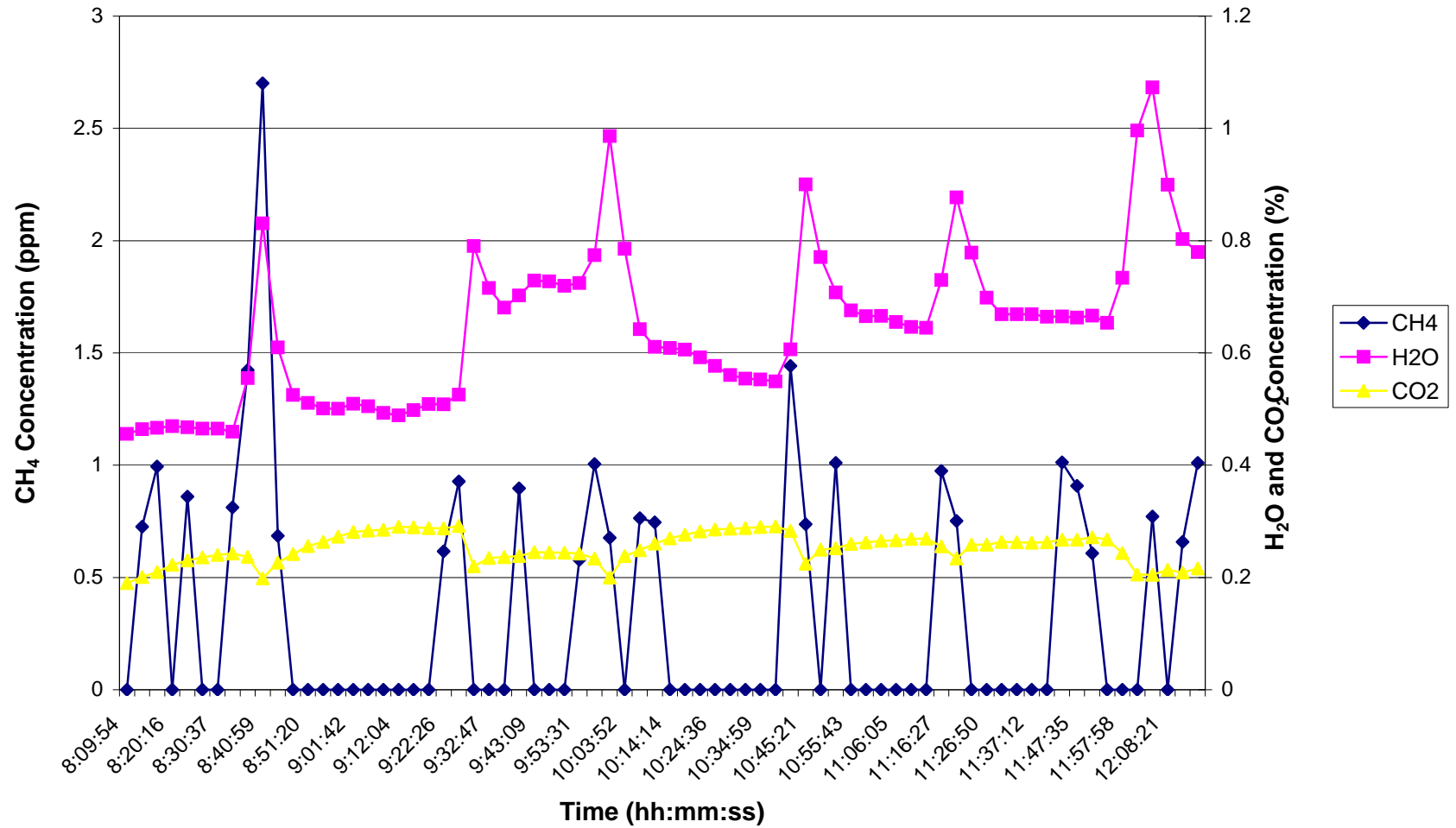
Time Series Plot for CH2O During HFC-134a Injection at 3600 ppm on 8/25/06



**Time Series Plot for Ambient Air Compounds
During HFC-134a Injection at 4200 ppm on 8/24/06**

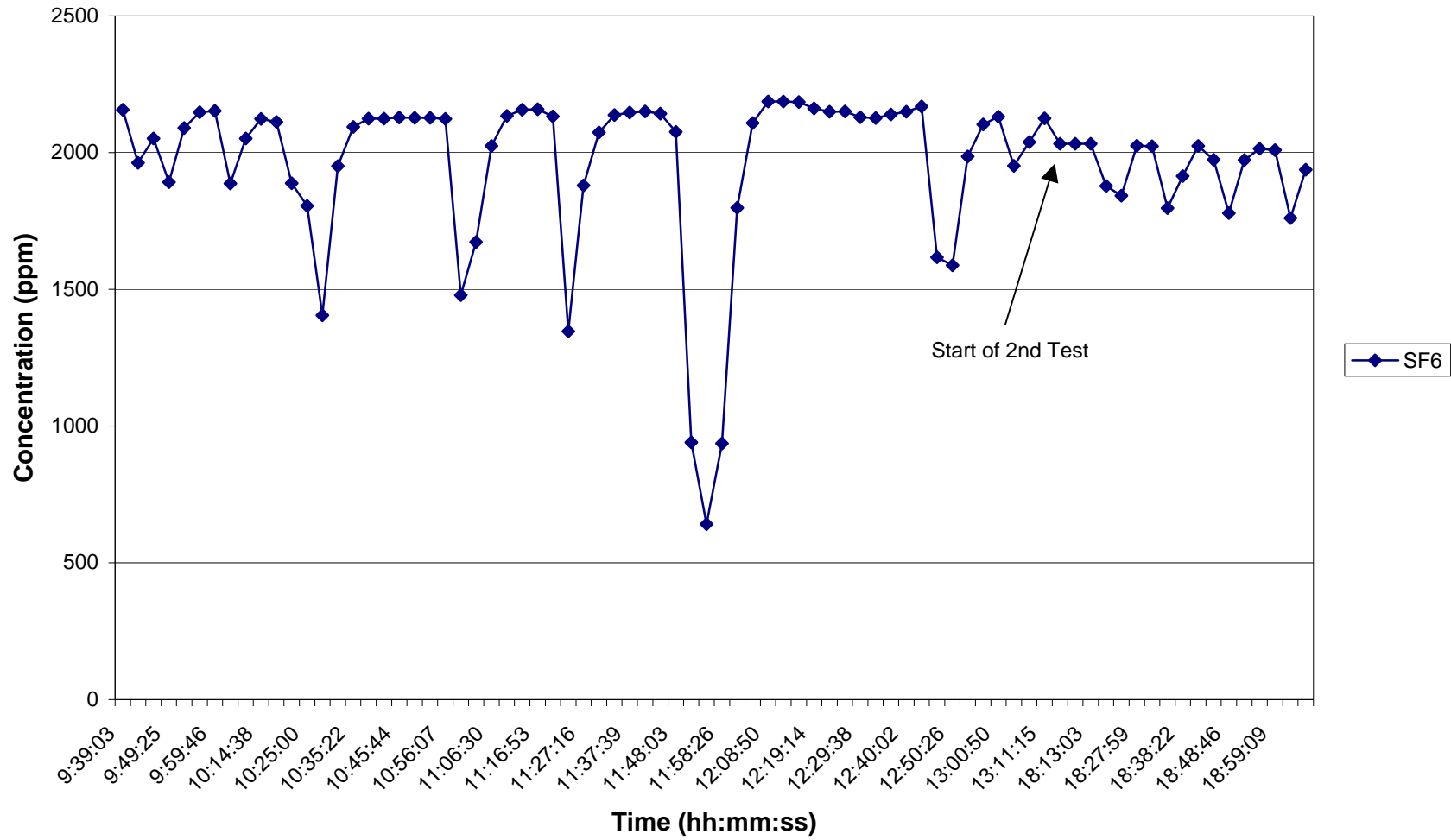


**Time Series Plot for Ambient Air Compounds
During HFC-134a Injection at 3600 ppm on 8/25/06**

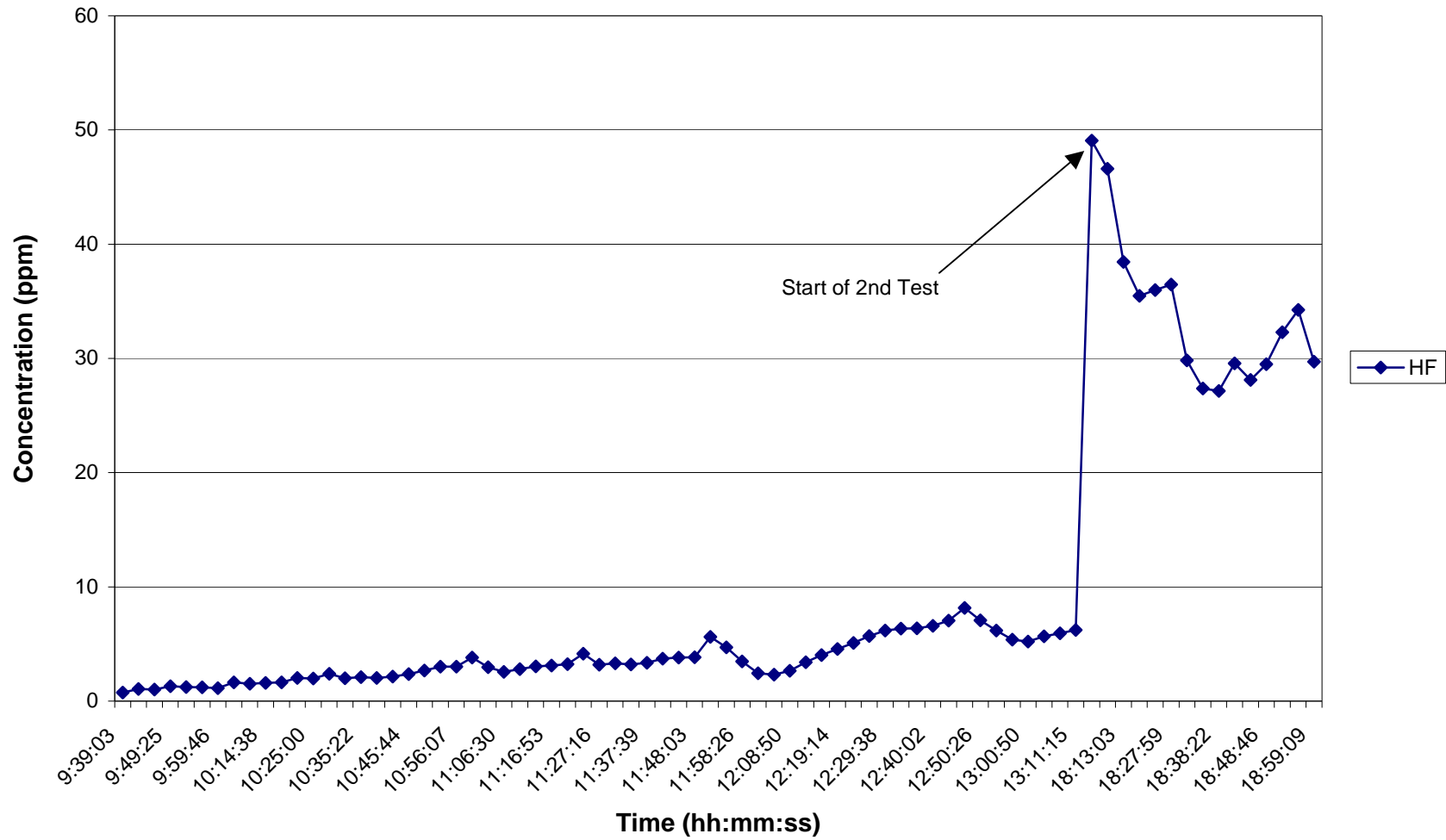


Appendix A-3
SF₆ with CDA Carrier Gas
Plots

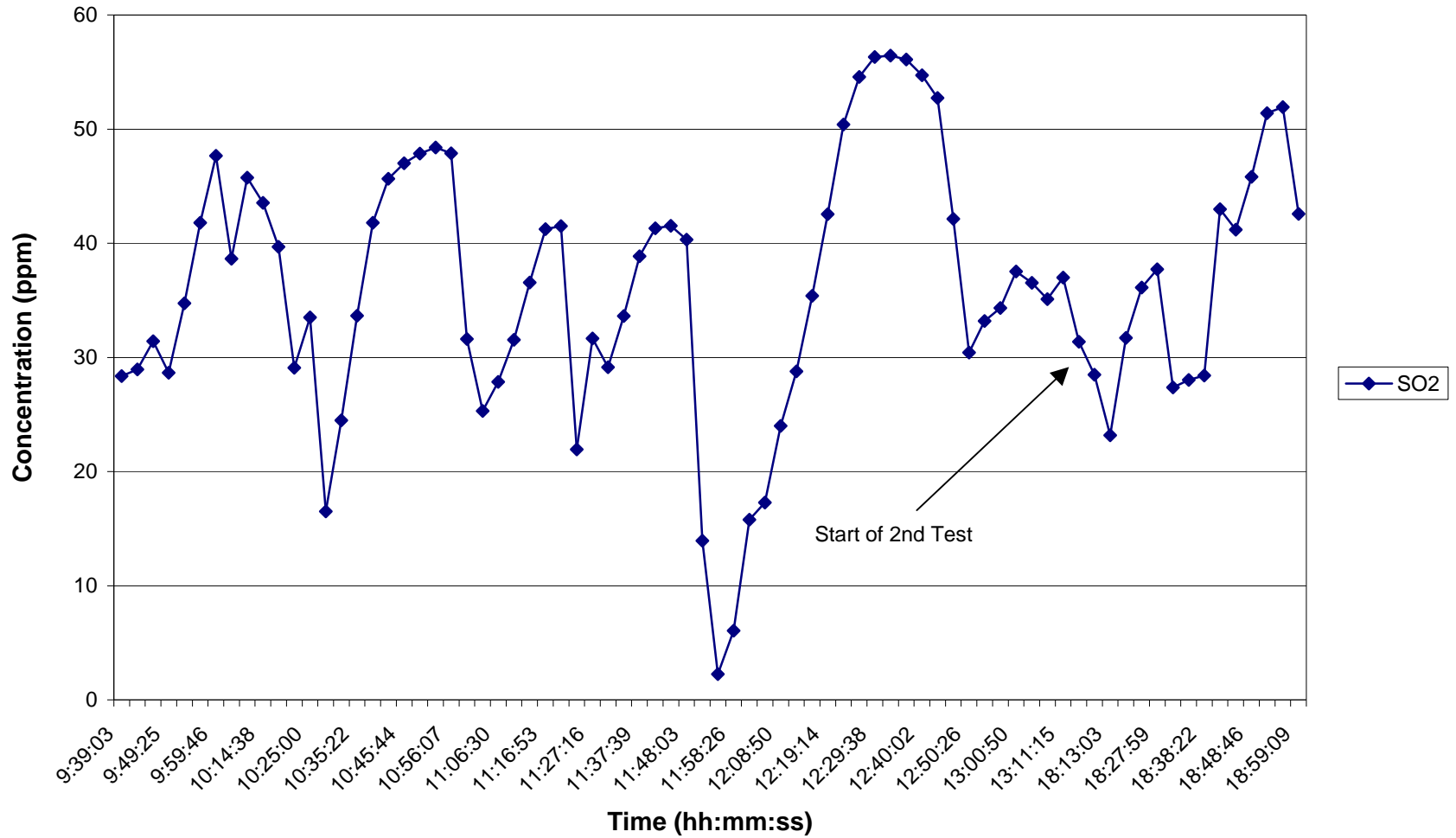
Time Series Plot of SF₆ During SF₆ Injection at 3000ppm on 8/24/06



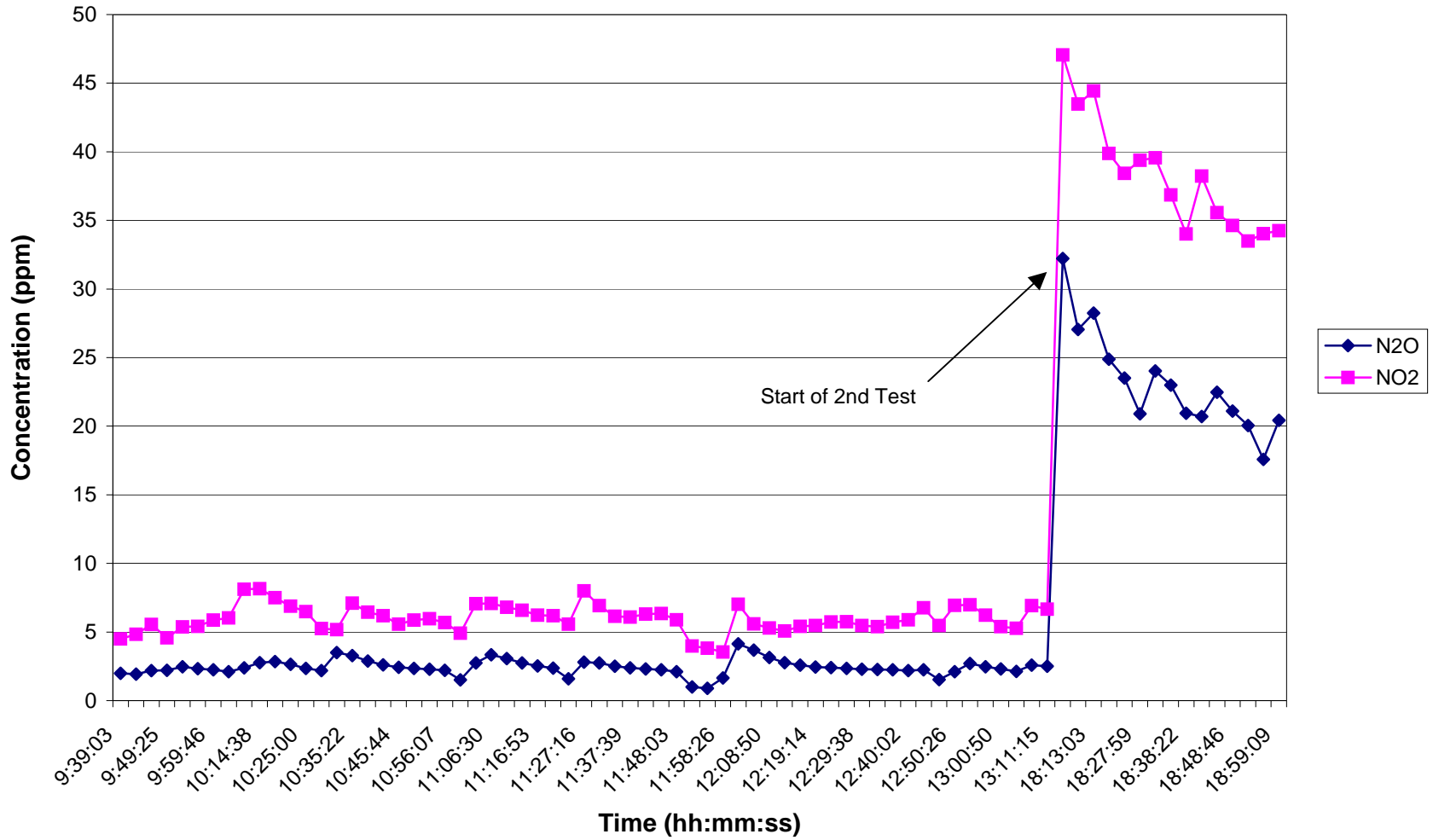
Time Series Plot of HF During SF₆ Injection at 3000ppm on 8/24/06



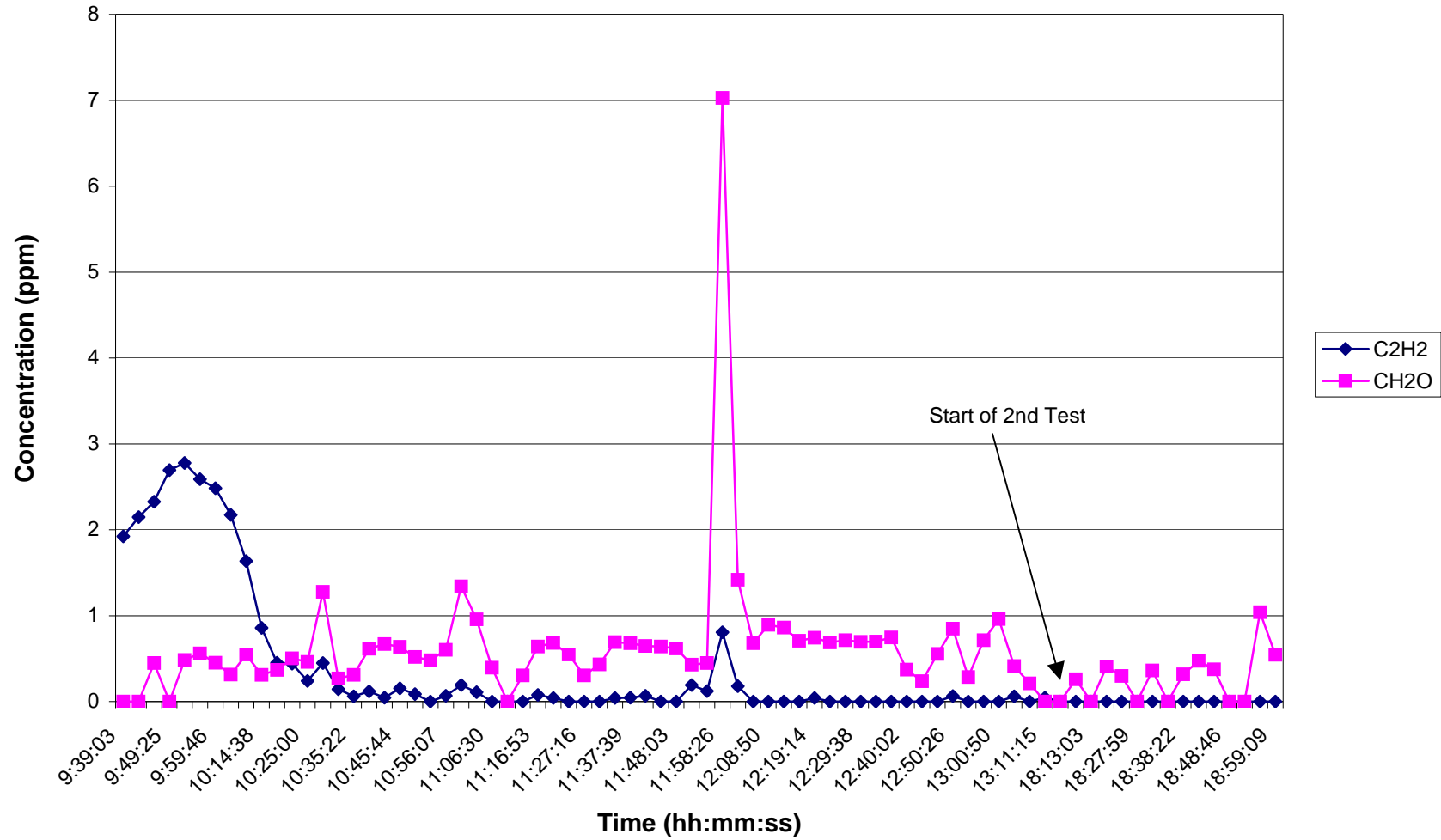
Time Series Plot of SO₂ During SF₆ Injection at 3000ppm on 8/24/06



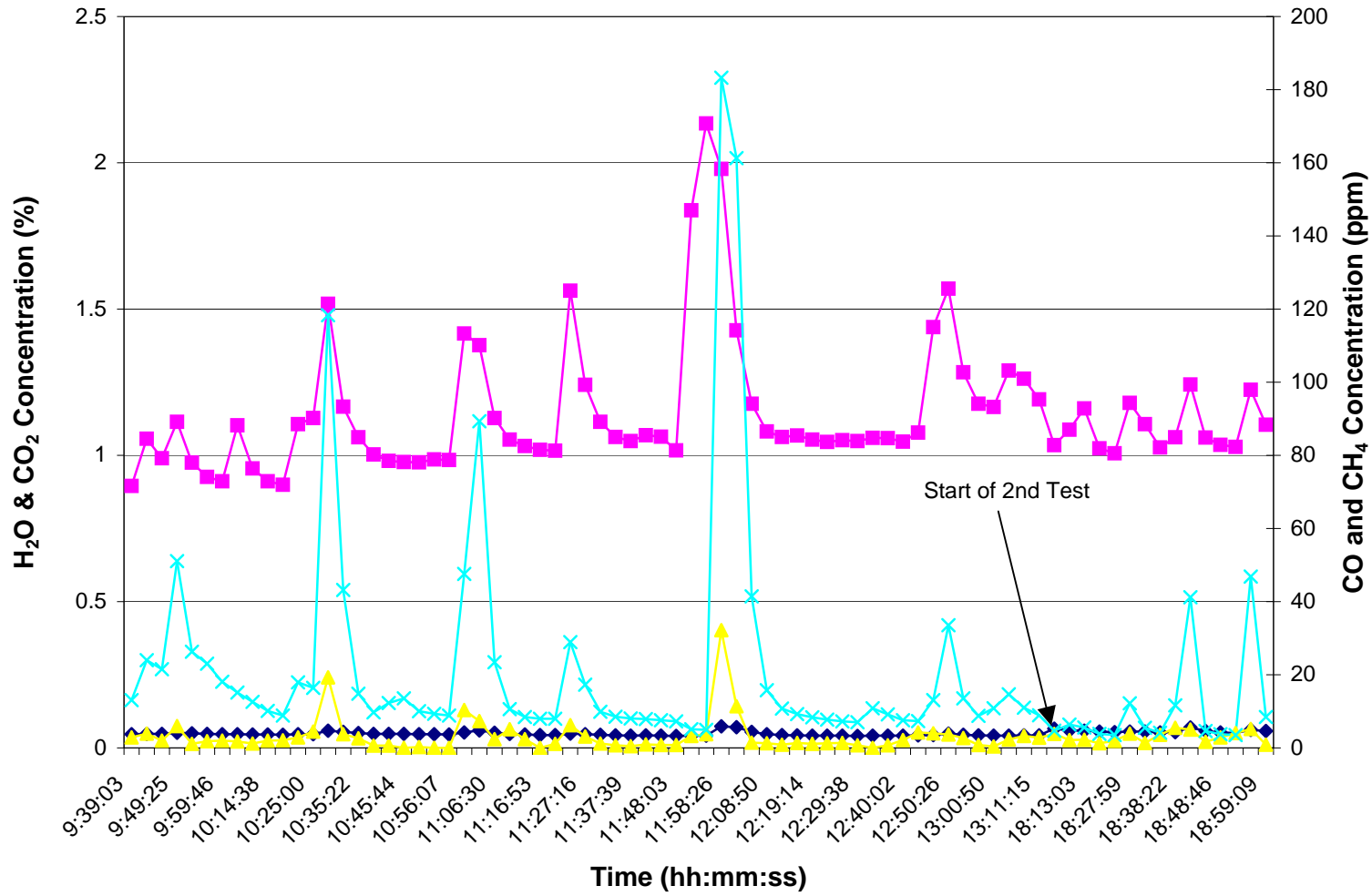
Time Series Plot of N₂O and NO₂ During SF₆ Injection at 3000ppm on 8/24/06



Time Series Plot of C₂H₂ and CH₂O During SF₆ Injection at 3000ppm on 8/24/06

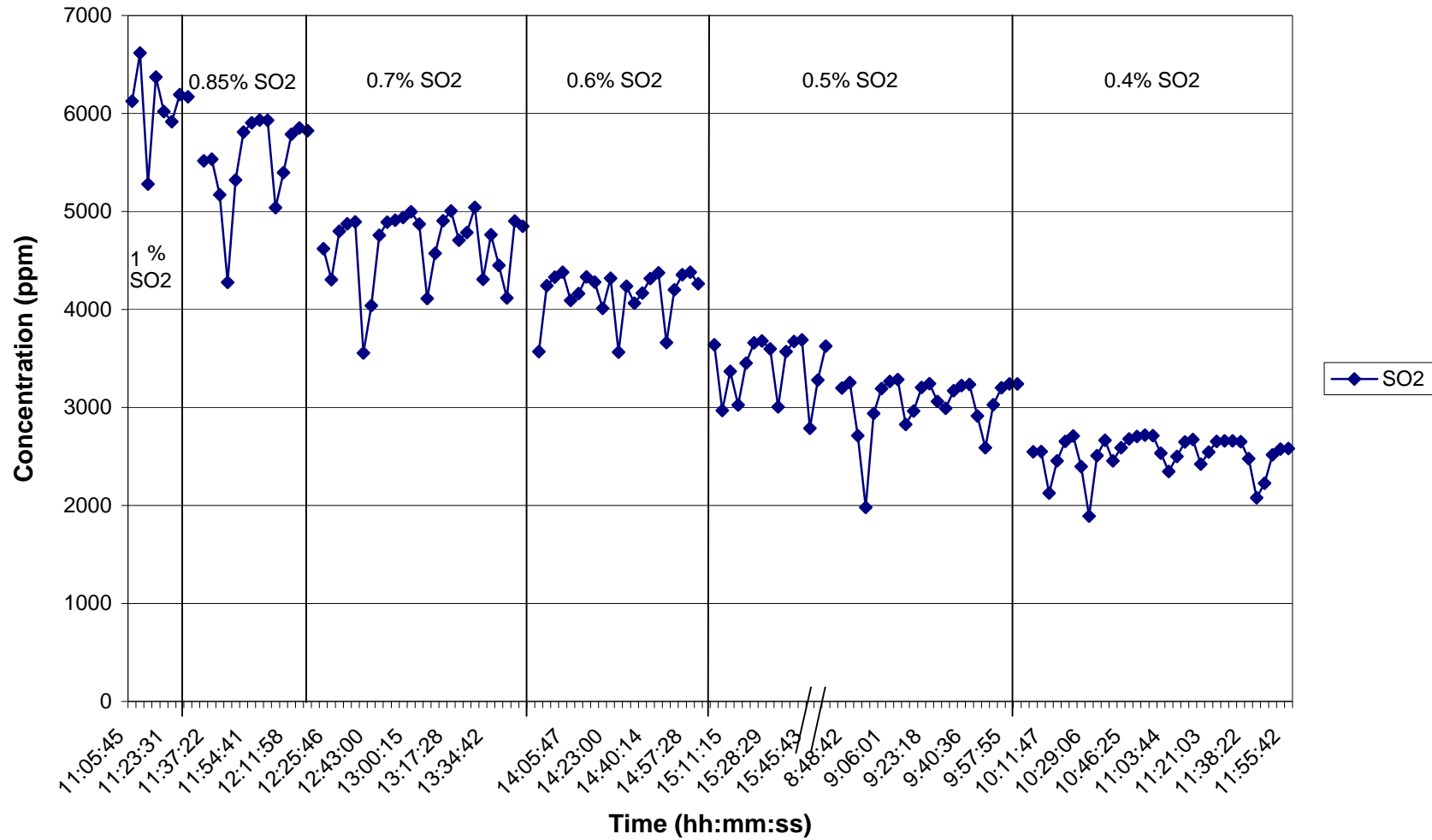


Time Series Plot of Ambient Compounds During SF₆ Injection at 3000ppm on 8/24/06

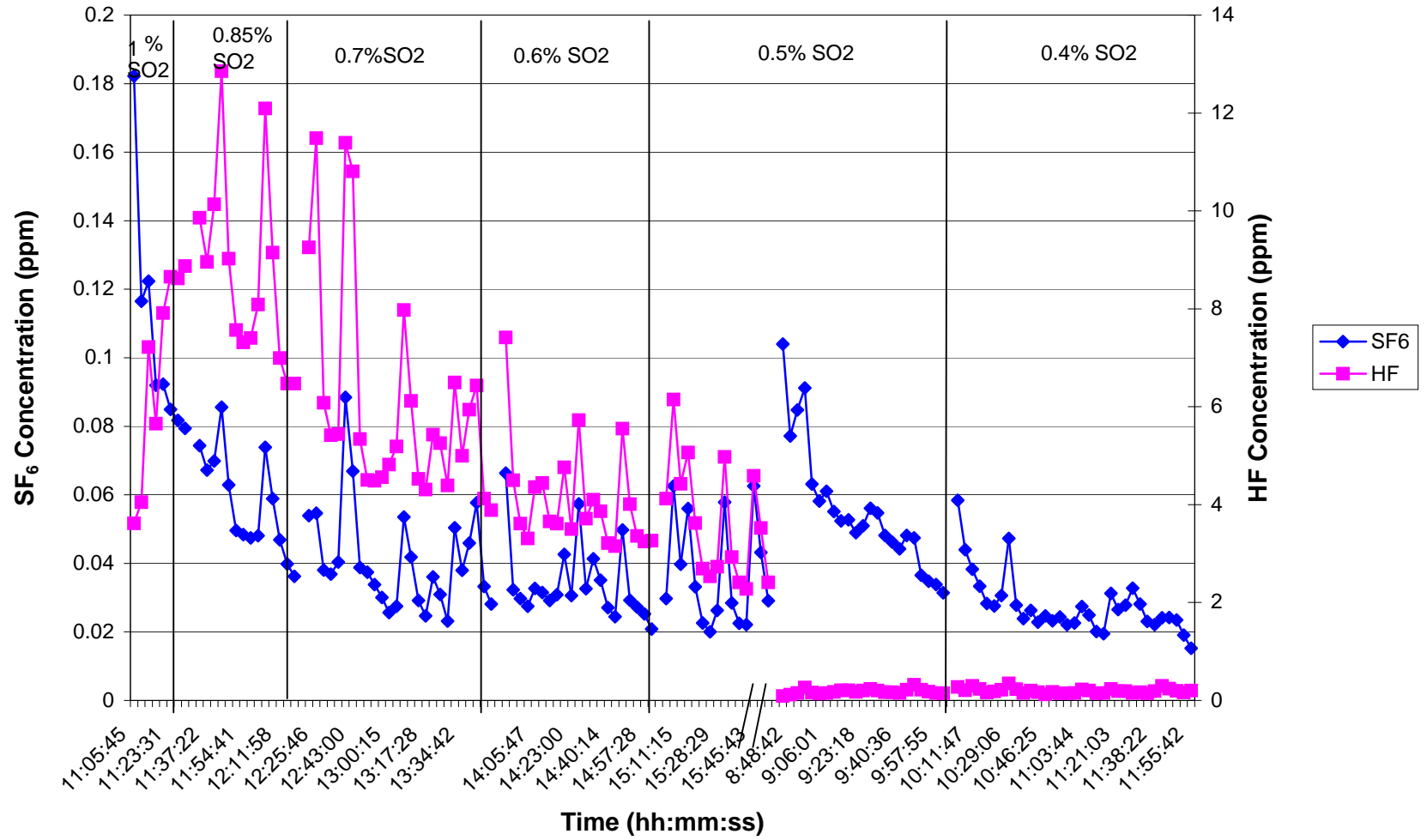


Appendix A-4
Dilute SO₂ with CDA Carrier Gas
Plots

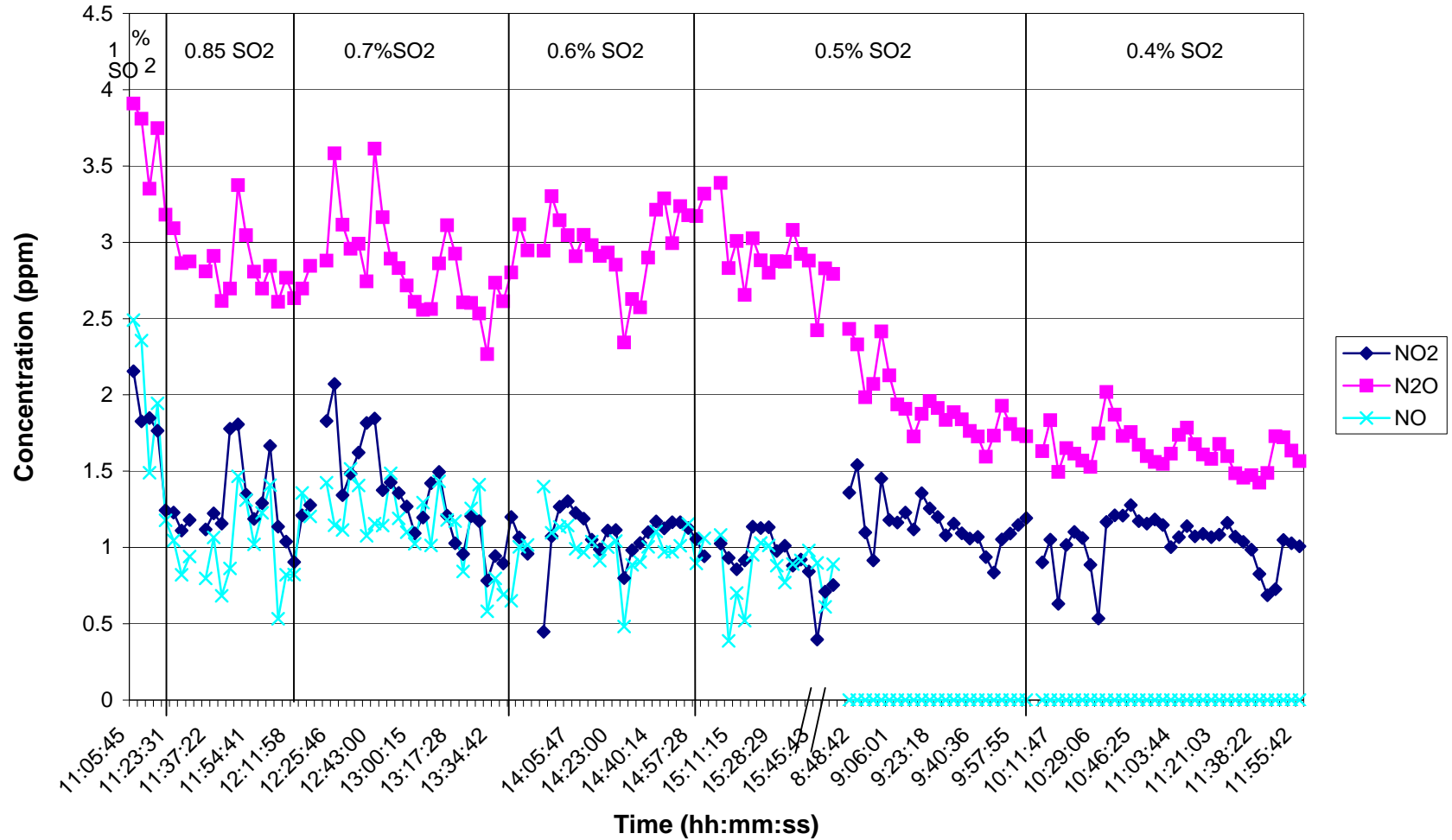
Time Series Plot for SO₂ During SO₂ Cover Gas Injections on 8/28-8/29, 2006



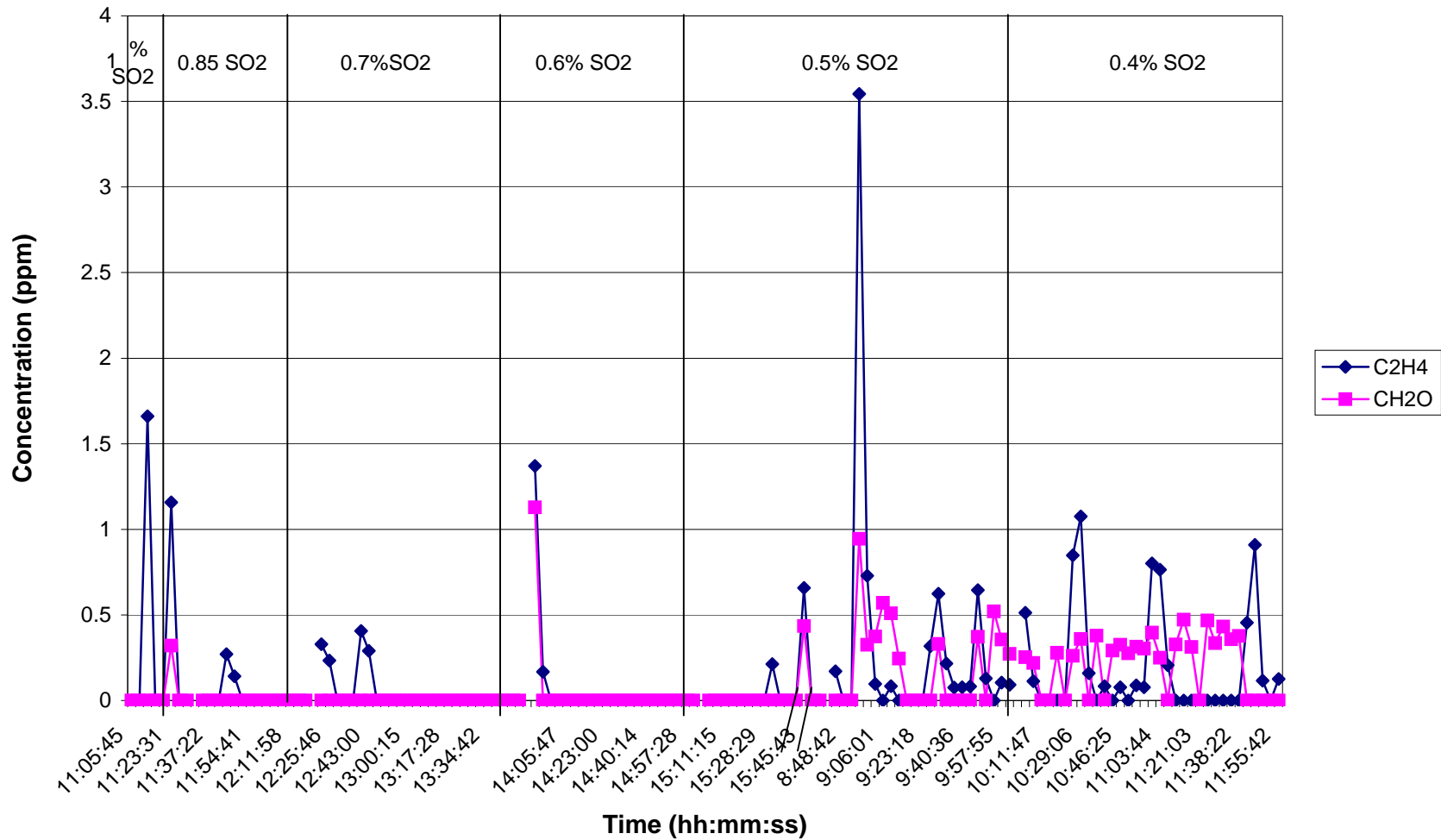
Time Series Plot for SF₆ and HF During SO₂ Cover Gas Injections on 8/28-8/29, 2006



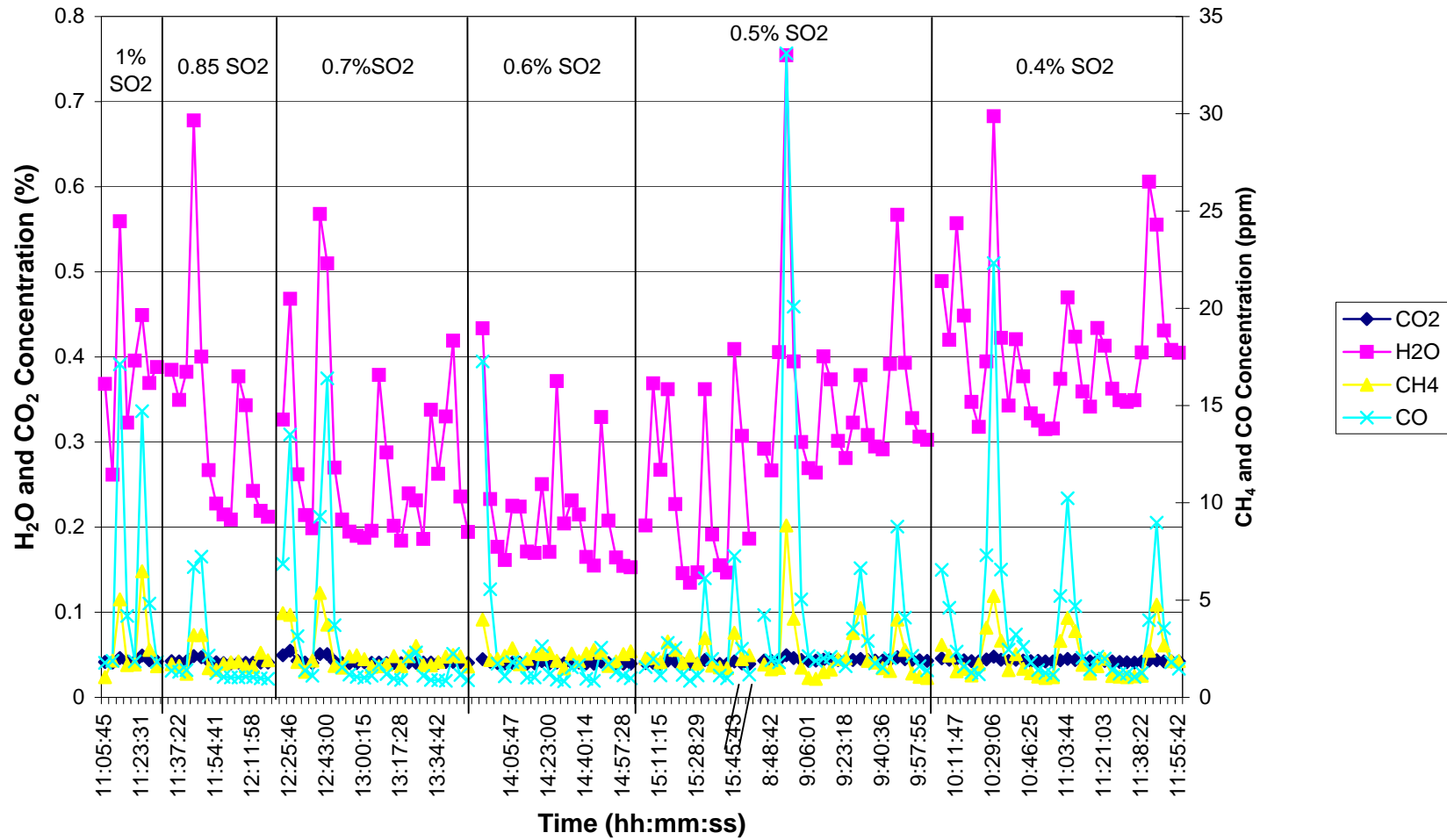
Time Series Plot for Nitrogen Oxides During SO₂ Cover Gas Injections on 8/28-8/29, 2006



Time Series Plot for C₂H₄ and CH₂O During SO₂ Cover Gas Injections on 8/28-8/29, 2006

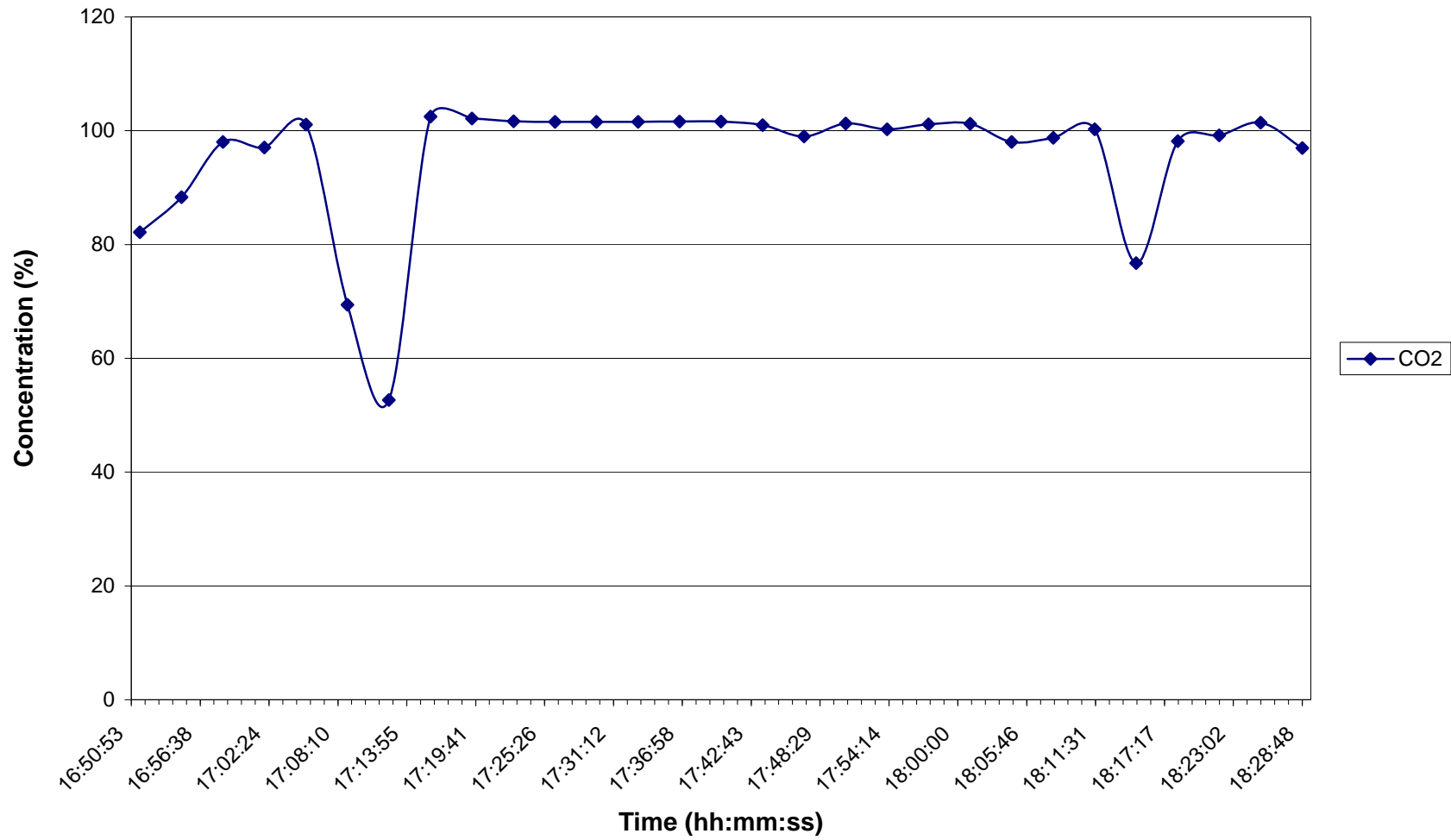


**Time Series Plot for Ambient Compounds During
SO₂ Cover Gas Injections on 8/28-8/29, 2006**

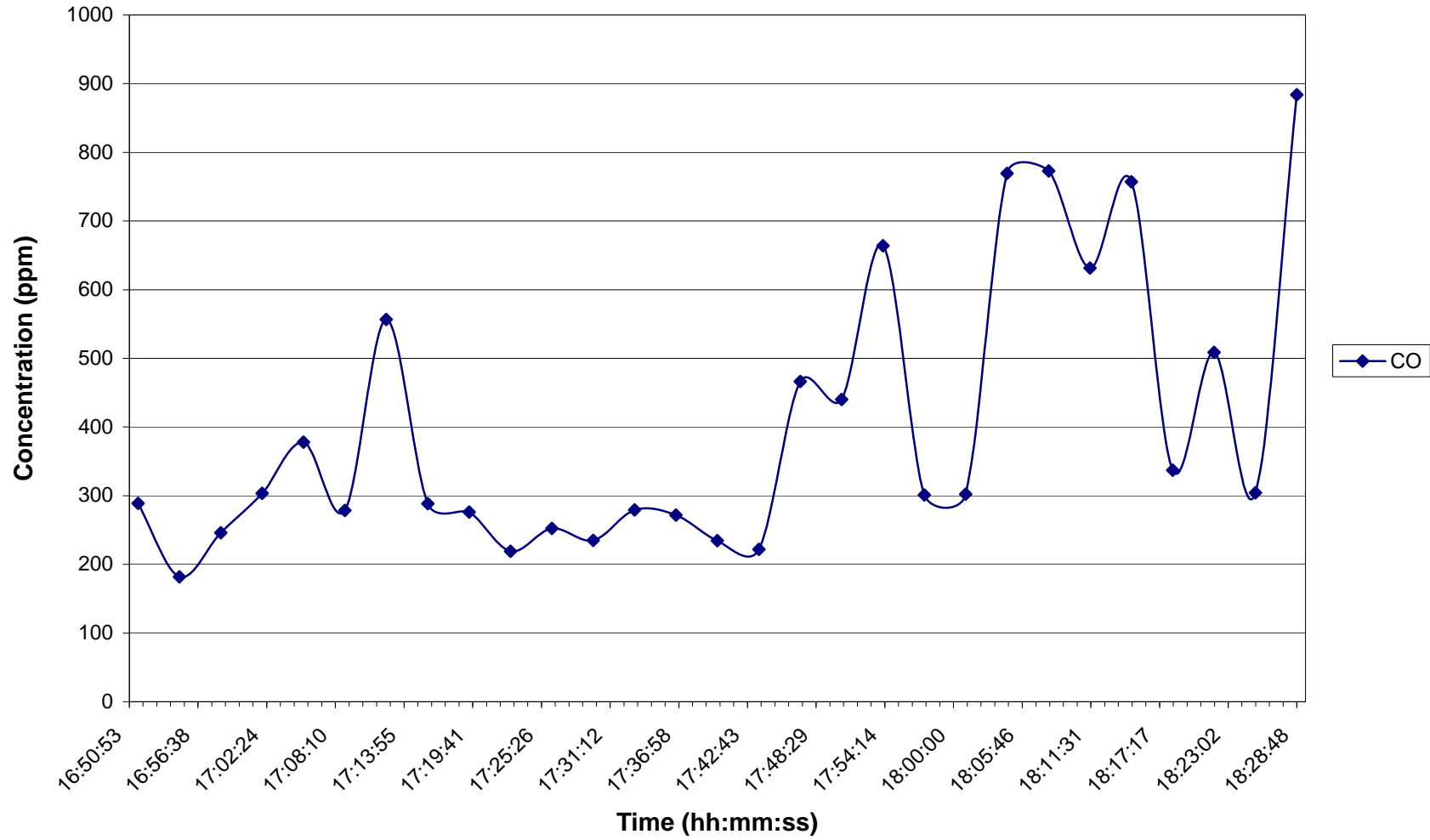


**Appendix A-5
Frozen CO₂ Plots**

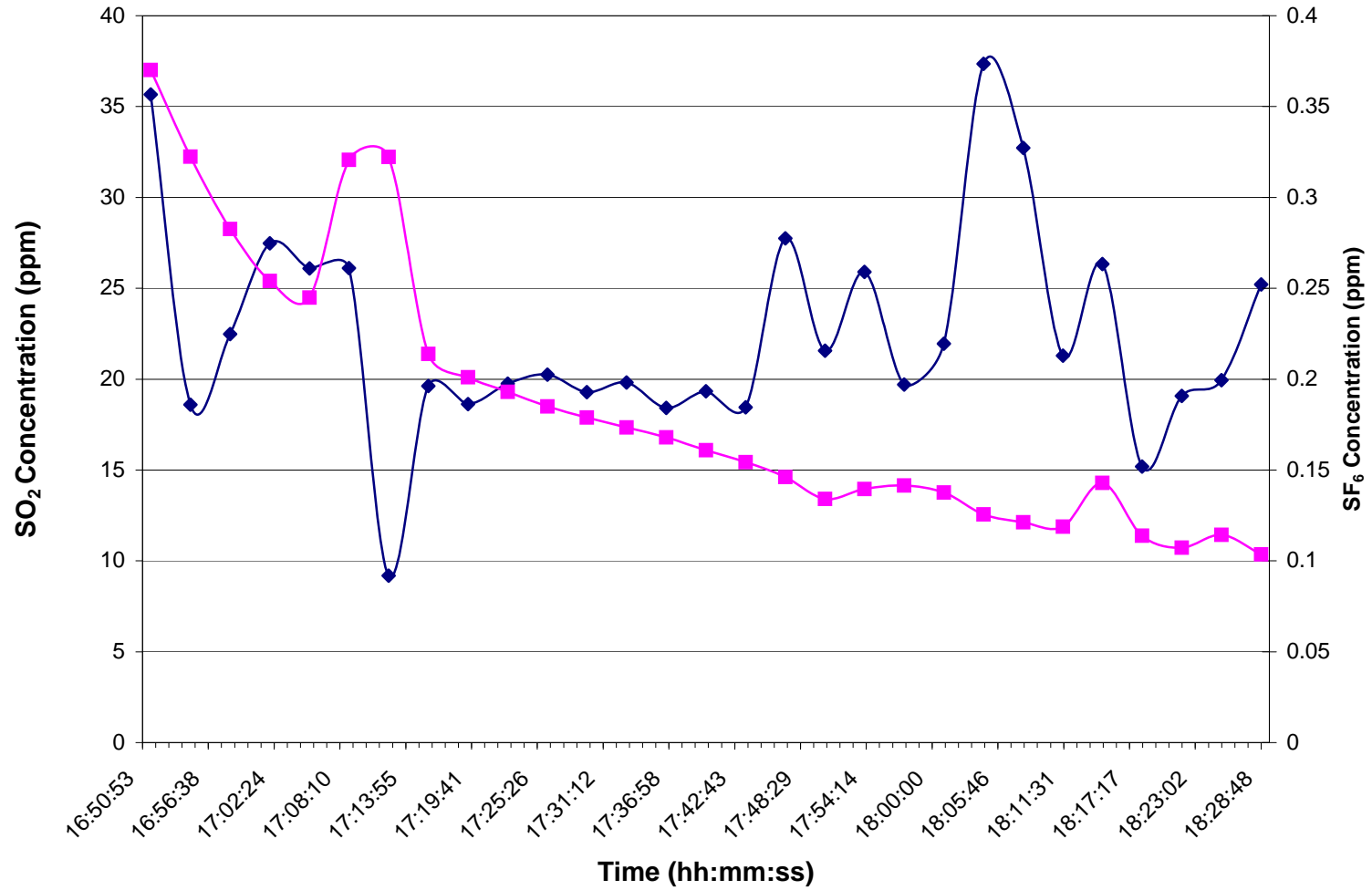
Time Series Plot of CO₂ During CO₂ Injection on 8/29/06



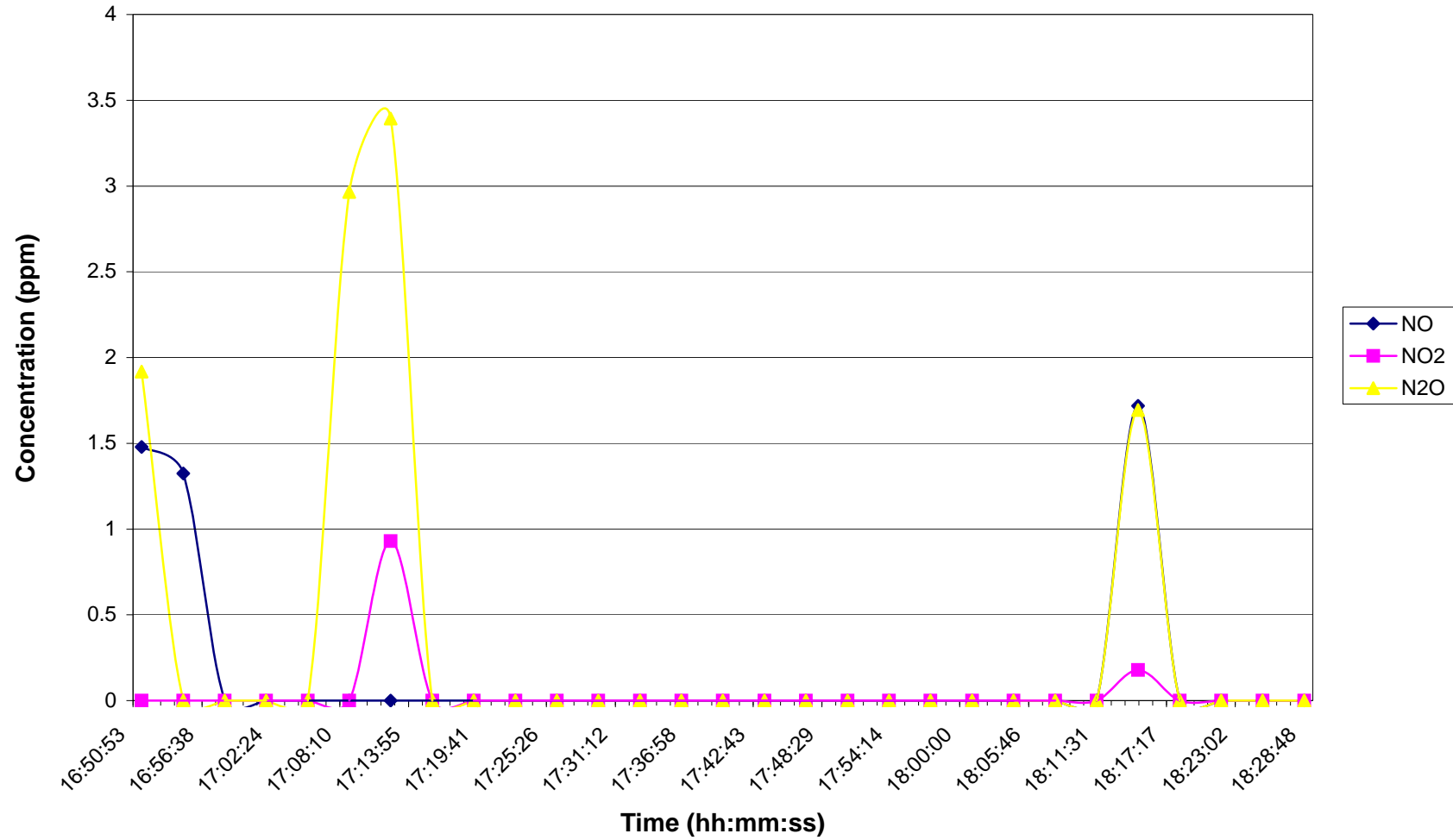
Time Series Plot of CO During CO₂ Injection on 8/29/06



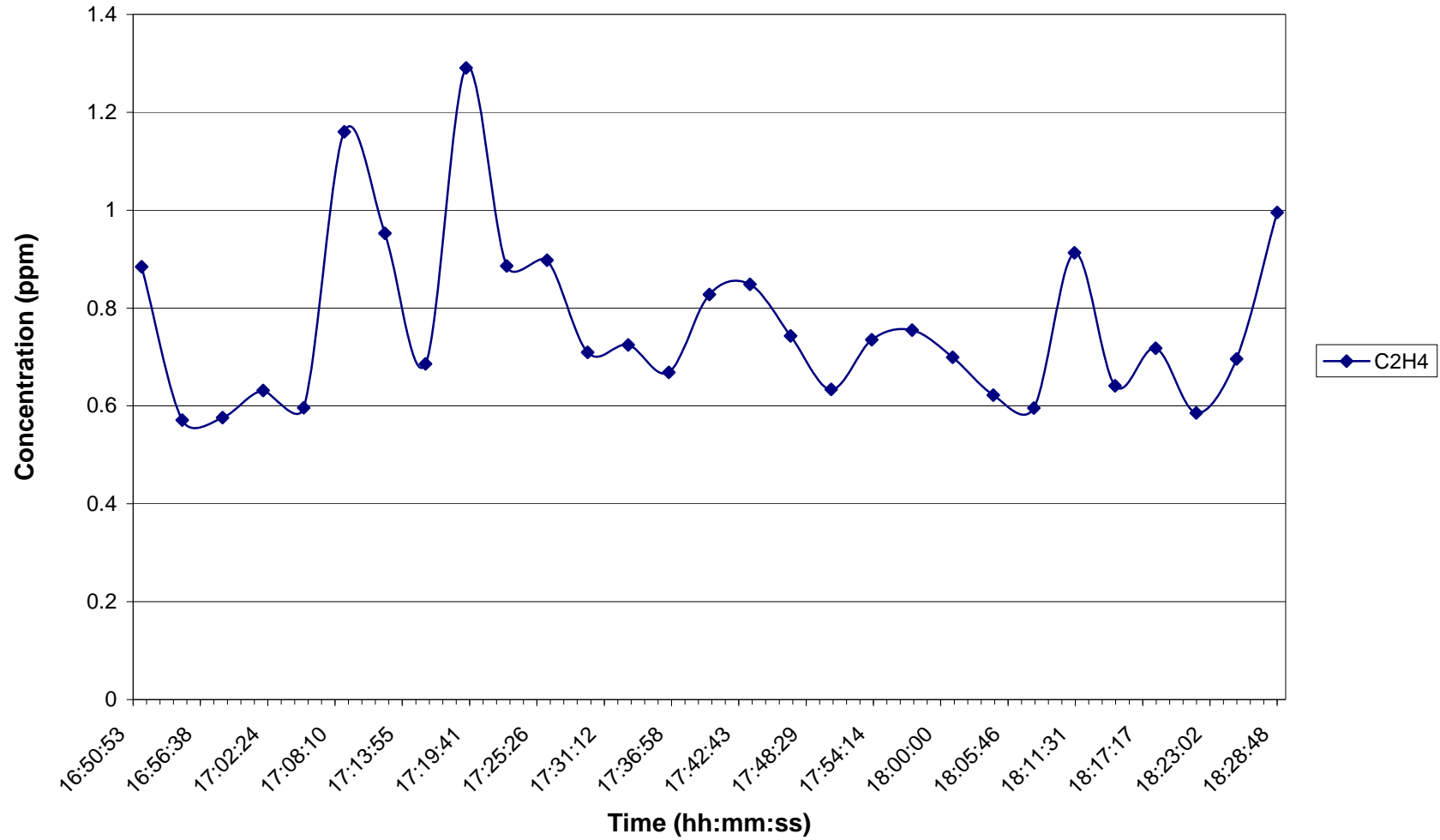
Time Series Plot of SO₂ and SF₆ During CO₂ Injection on 8/29/06



Time Series Plot of Nitrogen Oxides During CO₂ Injection on 8/29/06



Time Series Plot of C₂H₄ During CO₂ Injection on 8/29/06



Time Series Plot of CH₄ and H₂O During CO₂ Injection on 8/29/06

