

Anna Kelley
anna.kelley@hamilton-co.org
(513) 946 - 7725

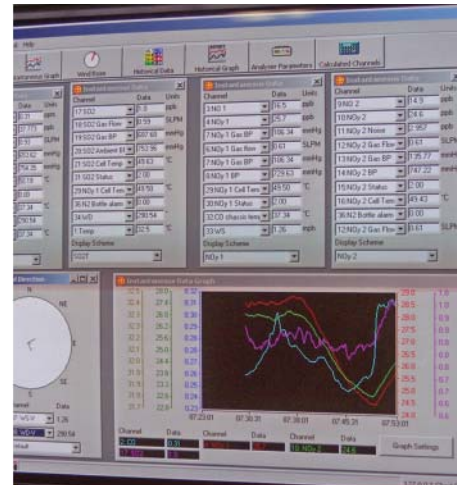
Seth Cloran
seth.cloran@hamilton-co.org
(513) 946 - 7742

Chad McEvoy
chad.mcevoy@hamilton-co.org
(513) 946 - 7722

**HAMILTON COUNTY
ENVIRONMENTAL
SERVICES**

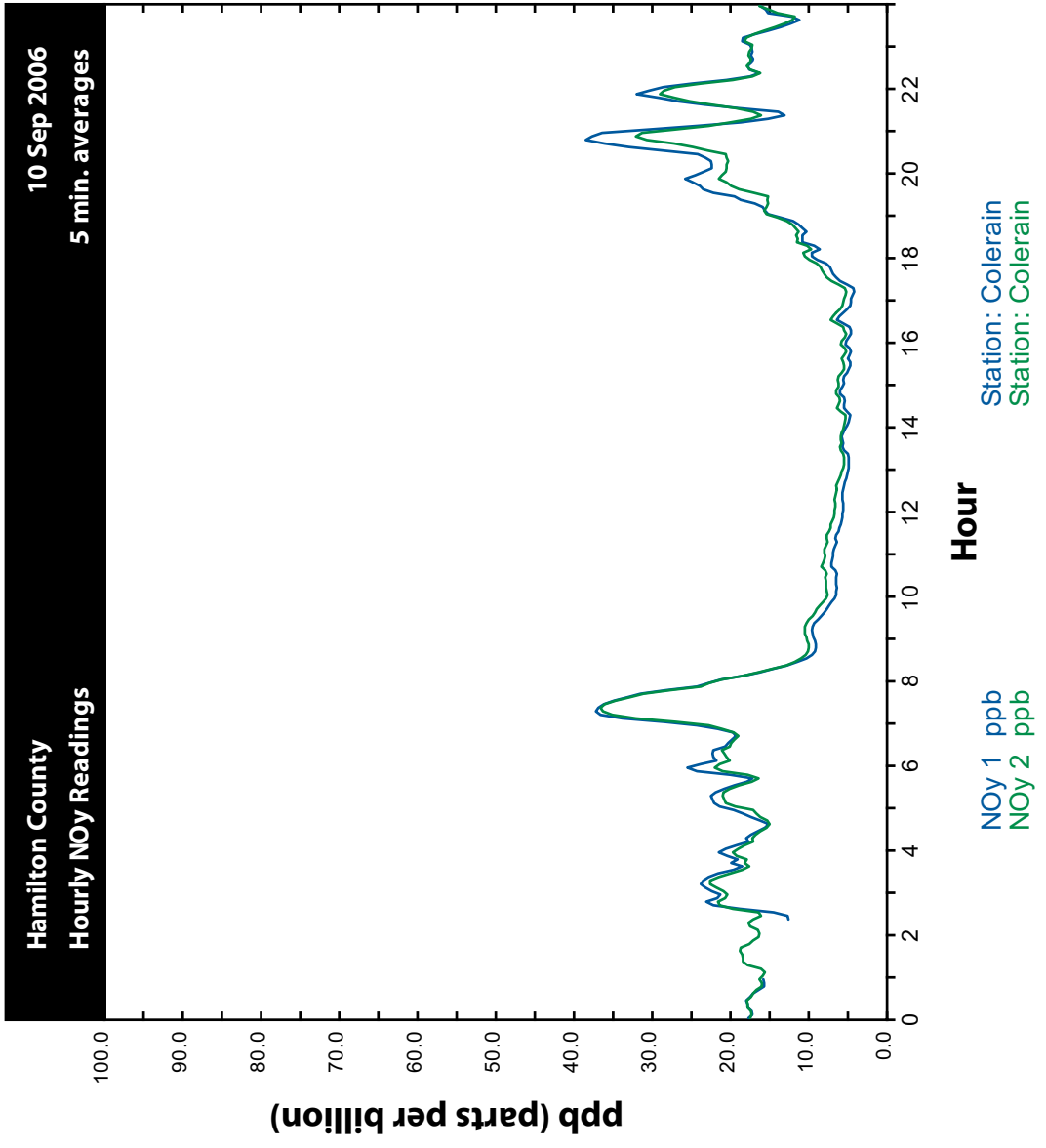
250 William Howard Taft Road • Cincinnati, OH 45219
Phone: 513-946-7777 • Fax: 513-946-7779

www.hcdoes.org



**Hamilton County, Ohio
NCORE Multipollutant Site**

**National Air Monitoring Conference
Las Vegas, Nevada
November, 2006**



Monthly Summary Report

September 2006

Day	CO ppm	NO 1 ppb	NOy 1 ppb	NO 2 ppb	NOy 2 ppb	SO2 ppb
01	0.4	0.6	8.4	0.8	9.8	1.8
02	0.4	0.2	3.7	0.4	5.2	1.5
03	0.4	4.4	8.3	3.6	8.5	1.2
04	0.5	5.0	9.9	5.1	10.8	0.9
05	0.5	7.7	19.5	7.4	19.9	3.5
06	0.5	12.0	22.2	10.6	21.5	1.5
07	0.4	20.3	32.2	19.5	32.2	6.0
08	0.3	16.8	31.3	15.9	30.0	17.3
09	0.3	11.4	23.3	10.2	22.3	9.9
10	0.3	4.6	14.4	4.4	14.4	2.1
11	0.2	2.8	18.3	3.1	18.5	6.6
12	0.2	1.2	13.1	1.4	13.4	1.3
13	0.2	1.0	7.3	1.5	8.7	1.5
14	0.2	5.5	13.5	4.7	12.9	1.1
15	0.3	13.6	22.7	10.3	19.5	1.9
16	0.3	8.9	19.2	9.0	18.8	1.8
17	0.3	5.1	15.4	4.2	14.2	7.7
18	0.2	0.3	8.8	0.8	9.5	3.6
19	0.2	9.9	16.0	8.3	14.5	1.0
20	0.2	12.8	18.7	10.8	17.0	0.7
21	0.3	31.2	44.4	28.6	42.0	7.5
22	0.3	3.6	17.5	4.1	18.3	3.2
23	0.2	0.1	4.4	0.5	5.7	2.6
24	0.2	0.5	3.7	0.6	4.8	2.7
25	0.3	6.9	14.9	5.7	14.1	1.2
26	0.3	21.7	34.9	18.7	31.3	11.3
27	0.3	2.5	15.3	3.3	16.1	10.1
28	0.2	2.0	6.8	1.8	7.4	1.0
29	0.3	17.0	26.1	13.9	23.8	4.1
30	0.3	2.0	10.4	2.2	10.9	10.7
Average	0.3	7.8	16.9	7.0	16.5	4.3
Capture	93.2	95.9	95.9	94.7	94.7	89.5
5 Minute Maximum	0.9	177.8	191.5	165.7	178.0	138.8



About Us

Hamilton County Environmental Services (HCES) houses the Solid Waste Management District and the Air Quality Management Division. The Solid Waste Management District (District) is dedicated to promoting recycling, waste reduction and responsible waste management within Hamilton County. The Air Quality Management Division (AQMD) works with local, state and federal government agencies, businesses, communities and citizens to achieve and maintain healthy air quality. The AQMD serves Butler, Clermont, Hamilton and Warren counties in Southwest Ohio.

The AQMD is organized in two sections:

The **Permits & Enforcement (P&E)** Section works as a local field office under the authority of the Ohio Environmental Protection Agency (OEPA) and the USEPA. The P&E Section monitors the compliance status of the businesses and industry with air pollution sources in the four-county region. Additionally, the P&E Section prepares permit recommendations, conducts facility inspections and reviews, initiates enforcement actions and responds to air quality complaints.

The **Monitoring & Analysis (M&A)** Section maintains continuous and intermittent monitors measuring pollutants on a daily basis throughout Southwest Ohio. The M&A Section also conducts pollen and mold counts, works with local meteorologists to determine when to issue a smog alert, measures air toxic levels, performs anti-tampering inspections, oversees asbestos removal from commercial and industrial facilities, coordinates emissions inventory programs and is responsible for the observation and validation of all stack (source) testing that occurs in the four-county area.

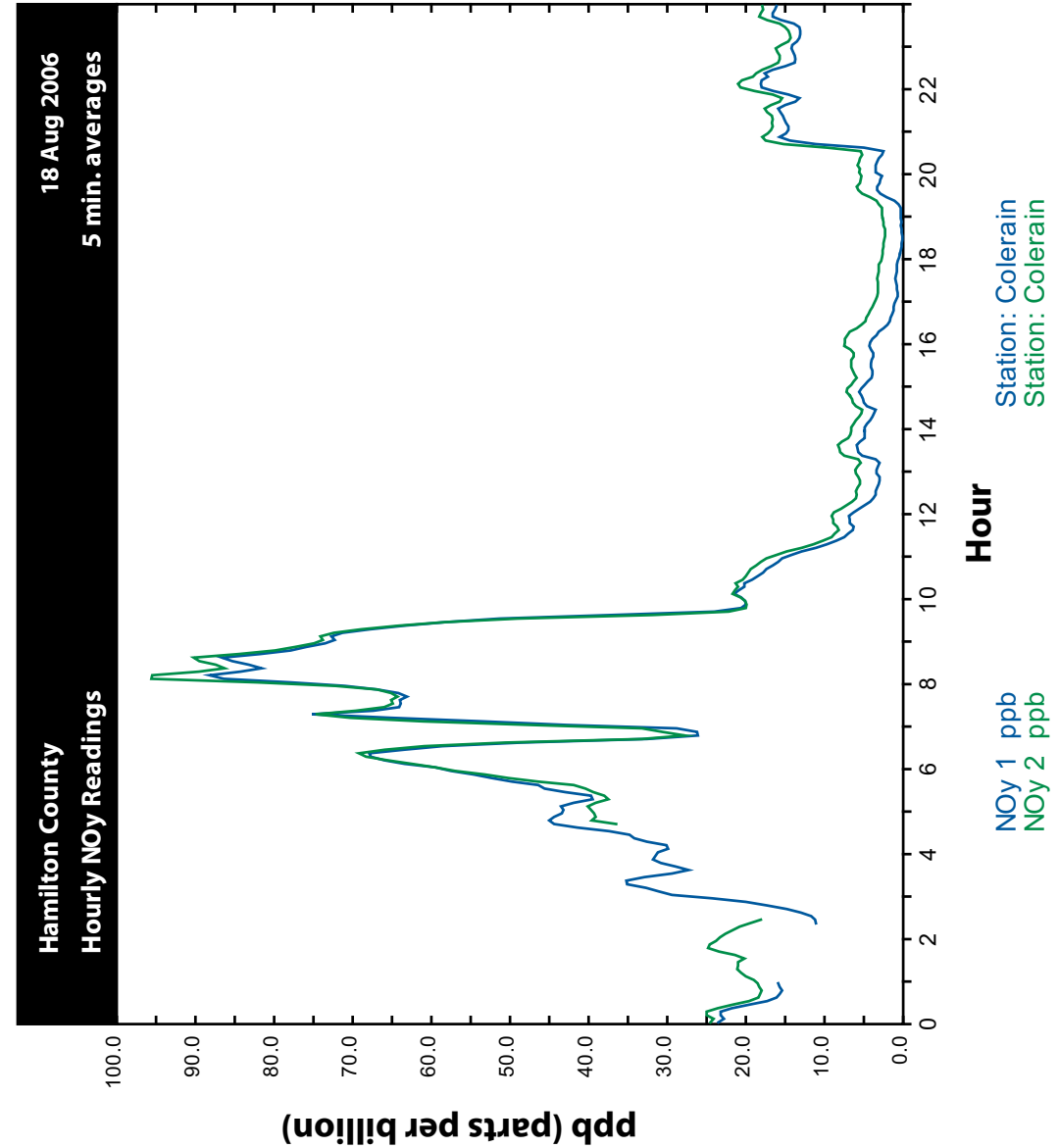
Project Background



Hamilton County Environmental Services (HCES) was selected to operate a NCORE Multipollutant site. After review of the existing network, a site was selected that best meets the National Monitoring Strategy objectives. The site chosen has a long monitoring history and physical space to house the additional monitoring equipment. This site is in an area that is undergoing development and will resemble other urbanized areas.

HCES considered and purchased the ECOTECH CO, SO₂ and NO_y analyzers. Two NO_y analyzers and converters were purchased to perform a NO_y conversion study by placing the converters at two different heights and comparing the concentrations. One converter (NO_y #1) is located at the EPA recommended location atop a 10 meter tower. The second converter (NO_y #2) is placed at the manufacturer designed location, post manifold.

The height difference between the two inlets of the NO_y converters is hypothesized to cause a difference in concentration.



Monthly Summary Report

August 2006

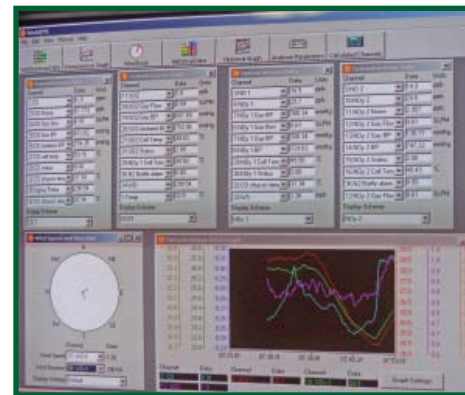
Day	CO ppm	NO 1 ppb	NOy 1 ppb	NO 2 ppb	NOy 2 ppb	SO2 ppb
01	0.3	10.2	19.4	10.6	18.5	3.5
02	0.2	4.5	15.2	5.8	15.6	4.4
03	0.2	1.4	11.2	3.5	12.5	9.7
04	0.2	0.0	6.1	2.7	8.2	2.1
05	0.3	4.3	12.3	6.5	13.5	4.4
06	0.3	0.1	8.8	3.1	10.8	8.7
07	0.3	6.6	12.8	8.1	13.1	2.2
08	0.2	0.0	7.4	2.8	10.1	2.6
09	0.3	0.8	16.3	4.2	19.4	16.7
10	0.3	6.4	19.9	8.2	21.2	4.3
11	0.3	0.9	15.1	3.8	16.6	2.5
12	0.2	0.0	7.4	2.2	8.9	3.8
13	0.2	0.5	8.8	3.6	10.6	8.9
14	0.3	7.9	19.9	9.9	20.5	22.6
15	No Data	No Data	No Data	No Data	No Data	No Data
16	0.2	6.3	17.7	8.3	18.4	1.1
17	0.3	8.2	23.3	10.9	24.5	6.0
18	0.3	10.8	21.7	12.9	22.6	3.6
19	0.3	2.6	10.7	6.0	13.1	2.2
20	0.2	0.0	1.0	1.5	3.2	0.5
21	0.2	5.7	15.5	8.3	16.6	1.6
22	0.3	8.1	17.9	10.5	19.2	2.7
23	0.4	11.5	23.6	7.9	18.1	1.1
24	No Data	16.0	30.2	No Data	No Data	No Data
25	0.6	13.1	30.4	11.8	29.2	15.2
26	0.6	4.8	19.3	4.7	20.0	22.1
27	0.4	0.8	9.6	1.0	11.0	7.7
28	0.4	4.8	19.8	4.5	20.1	3.3
29	0.4	No Data	No Data	0.7	8.2	No Data
30	0.5	1.5	10.0	1.6	11.1	2.4
31	0.5	2.2	11.9	2.2	12.8	3.4
Average	0.3	4.5	14.8	5.9	15.7	6.0
Capture	88.8	91.4	91.4	90.9	90.9	86.5
5 Minute Maximum	1.2	120.8	125.0	108.7	123.6	165.7



Installation

The ECOTECH equipment was received from the manufacturer in late June of 2006 and transported to the site. An uninterruptible power supply was installed in the bay. A rack to secure the calibration gas cylinders was constructed. An existing tower was repaired to achieve the 10 meter guidance specified in the EPA Technical

Assistance Document. This tower holds the new NOy #1 converter.



Representatives from ECOTECH arrived for equipment installation in mid-July, 2006. The equipment was secured in the bay. The glass manifold was installed. The CO, SO2, NOy #2 and calibrator were connected to the glass manifold. The converter box for the NOy #1 was attached to the tower and the sample line run into the station.

The four analyzers and the calibrator were connected to the data logger. The data logger running ECOTECH WinAQMS collects 1, 5, and 60 minute averaged concentrations. The data logger records 39 analyzer parameters and stores data until remote data acquisition. The data logger backs up Hamilton County's main polling computer. ECOTECH's WinCollect software is utilized to view, edit, and interface with the monitoring system.

The calibrator holds 20 gas dilutions and 10 calibration sequences. To measure drift and linearity, the analyzers span and zero each instrument once every two days.

Please refer to the manufacturer for current, updated specifications.

