



## MEMORANDUM

**Date:** October 8, 2003

**To:** Dr. Douglas Holt, Director, Hillsborough County Department of Health  
Randy Merchant, Director, Florida Department of Health

**From:** Debra J. Price, Ph.D. **Thru:** Rick Garrity, Ph.D.

**Subj:** **Air Sampling around Coronet Junction, Aug 22 - Sept 12, 2003**

Attached are the results of the filter analysis conducted by EPC's laboratory on the samples collected on EPC's new monitors during the subject time frame. Included are the annual averages for the same metals collected during 2002 at EPC's existing sites at the Hillsborough foot of the Gandy Bridge (Gandy) and at Lewis Elementary School in Temple Terrace (Lewis). Also included is a preliminary comparison to the latest EPA health benchmarks available. The results are presented to assist you in your health assessment of the subject area.

Monitoring for toxic metals was initiated at three sites in the vicinity of Coronet Junction, Aug 22, 2003. The three sites include a fire station (Station 25), a ballpark (Kenny/Kelly), and a church (Springhead). Monitored compounds are: total suspended particulates (TSP), arsenic, beryllium, cadmium, chromium, lead, manganese, nickel, antimony, cobalt, selenium, and boron. All three sites utilize TSP high volume samplers with 8 x 10 inch quartz fiber filters and collect samples every three days for 24 hours. The filters are collected and analyzed at EPC's lab with an Inductively Coupled Plasma (ICP) Spectrometer using EPA's Compendium of Methods for the Determination of Inorganic Compounds in Ambient Air (IO-3.4). EPC has been using this methodology, including EPA approved quality assurance procedures, on identical samplers at two other sites (run every six days) in Hillsborough County since January 2001. Minimum detection limits of EPC's laboratory equipment have been established over the past 2 1/2 years of sampling for all compounds except boron, which has only recently been added to our list of targeted compounds. Wind speed and direction information is collected hourly from EPC's Plant City High School monitoring site, approximately 4.5 km from Coronet Industries, Inc.

Even though the air in the vicinity of Coronet Junction appears to be generally the same as other areas, EPC has again confirmed some concerns previously identified to the public. As EPC staff presented to the Board last year, the EPA's Cumulative Exposure Project (1998) and the National Air Toxics Assessment (2002) stated some air toxics were present in urban areas at elevated levels. There are some metals in the air in every urbanized area around the country, including Florida and the Tampa Bay area, which exceed EPA's health benchmarks. These metals include arsenic, cadmium, and

chromium, which are emissions generated in part from combustion of fossil fuels, such as coal and fuel oils. EPA has previously identified these metals, along with a number of other compounds, as compounds of concern. These 33 compounds are called Urban Air Toxics, and EPA, in conjunction with State and local agencies such as EPC, is concentrating efforts to reduce these compounds, by confirming their levels through modeling and monitoring, and by reducing these concentrations to safe levels through regulation.

EPC has compared and contrasted the results among the three new Coronet sites, against the other two existing sites in Hillsborough County, against wind data for the sampling days, against previous data provided from EPA in its Cumulative Exposure Project (released 1998) and its National Air Toxics Assessment (released 2002), and against EPA's inhalation health benchmarks. A number of the metals were not captured at levels above the minimum detection limit (MDL) of EPC's laboratory equipment during this sampling period, and several others were only captured once or twice above the MDL. However, preliminary data analysis on this limited sample set indicates that TSP values are low compared to EPA's former TSP health standard, and that the metals in the air around Coronet Junction are generally the same as or less than those collected at other similar monitors around Hillsborough County and Pinellas County. Winds on the sampling days were generally light, and the three samplers generally registered similar readings, none of which could be attributed to any single source at this time. The hourly wind information is available if needed.

cc: Michael Cooke, FDEP  
Deborah Getzoff, FDEP SWD

					EPA Health Benchmarks			
					Cancer			
					Inhalation	Non-Cancer		
	No. of Samples	Samples <MDL	Average* (ug/m3)	Unit Risk (ug/m3)	RfC (ug/m3)		Exceeds EPA Benchmark	
<b>Kenny/Kelly</b>	(new site around Coronet Junction)			Aug 22 - Sept 12, 2003 data only				
Arsenic	6	2	0.00229	0.000233	0.5		yes	
Beryllium	6	0	0.00013	0.000417	0.02		no	
Cadmium	6	2	0.00090	0.00056	3.5		yes	
Chromium***	6	1	0.00047	0.000083	0.0001		yes	
Lead	6	4	0.00162	0.013	1.5		no	
Manganese	6	0	0.00356	NA	0.05		no	
Nickel****	6	4	0.00348	0.0042	0.24		no	
Antimony	6	6	<MDL	2	0.2		no	
Cobalt	6	6	<MDL	NA	0.005		no	
Selenium	6	6	<MDL	2	0.5		no	
Boron	6	6	<MDL	NA	NA		no	
TSP Dust	6	0	25.00000	NA	NA		no	
<b>Springhead</b>	(new site around Coronet Junction)			Aug 22 - Sept 12, 2003 data only				
Arsenic	4	1	0.00247	0.000233	0.5		yes	
Beryllium	4	0	0.00015	0.000417	0.02		no	
Cadmium	4	2	0.00078	0.00056	3.5		yes	
Chromium***	4	1	0.00030	0.000083	0.0001		yes	
Lead	4	4	<MDL	0.013	1.5		no	
Manganese	4	0	0.00222	NA	0.05		no	
Nickel****	4	3	0.00239	0.0042	0.24		no	
Antimony	4	4	<MDL	2	0.2		no	
Cobalt	4	4	<MDL	NA	0.005		no	
Selenium	4	3	0.00123	2	0.5		no	
Boron	4	4	<MDL	NA	NA		no	
TSP Dust	4	0	20.00000	NA	NA		no	
<b>Station 25</b>	(new site around Coronet Junction)			Aug 22 - Sept 12, 2003 data only				
Arsenic	8	4	0.00282	0.000233	0.5		yes	
Beryllium	8	0	0.00012	0.000417	0.02		no	
Cadmium	8	4	0.00178	0.00056	3.5		yes	
Chromium***	8	1	0.00091	0.000083	0.0001		yes	
Lead	8	6	0.00122	0.013	1.5		no	
Manganese	8	0	0.00428	NA	0.05		no	
Nickel****	8	5	0.00331	0.0042	0.24		no	
Antimony	8	8	<MDL	2	0.2		no	
Cobalt	8	8	<MDL	NA	0.005		no	
Selenium	8	6	0.00120	2	0.5		no	
Boron	8	7	0.01168	NA	NA		no	
TSP Dust	8	0	32.00000	NA	NA		no	
<b>Gandy**</b>	(existing site at east end of Gandy bridge)							
Arsenic	58	38	0.00321	0.000233	0.5		yes	
Beryllium	58	20	0.00022	0.000417	0.02		no	
Cadmium	58	29	0.00057	0.00056	3.5		yes	
Chromium***	58	0	0.00110	0.000083	0.0001		yes	
Lead	58	3	0.00815	0.013	1.5		no	
Manganese	58	0	0.00548	NA	0.05		no	
Nickel****	58	0	0.00270	0.0042	0.24		no	
Antimony	58	54	0.01112	2	0.2		no	
Cobalt	58	35	0.00039	NA	0.005		no	
Selenium	58	39	0.00199	2	0.5		no	
TSP Dust	58	0	31.00000	NA	NA		no	
<b>Lewis**</b>	(existing site at Lewis Elementary School in Temple Terrace)							
Arsenic	59	31	0.00550	0.000233	0.5		yes	
Beryllium	59	21	0.00021	0.000417	0.02		no	
Cadmium	59	30	0.00068	0.00056	3.5		yes	
Chromium***	59	1	0.00095	0.000083	0.0001		yes	
Lead	59	10	0.00521	0.013	1.5		no	
Manganese	59	1	0.00414	NA	0.05		no	
Nickel****	59	1	0.00212	0.0042	0.24		no	
Antimony	59	57	0.01859	2	0.2		no	
Cobalt	59	37	0.00030	NA	0.005		no	
Selenium	59	47	0.00188	2	0.5		no	
TSP Dust	59	0	32.00000	NA	NA		no	
MDL = Minimum Detection Limit								
*Average of values above MDL			***EPA estimates 34% of total chrome is hexavalent chrome					
**Jan-Dec 2002			****EPA estimates 65% of total nickel may be carcinogenic					