

## MEMORANDUM

**TO** Dawn MacNeil, STPA  
**FROM** Dianne Theriault  
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**DATE** 16<sup>th</sup> March, 2009

**FILE NO.** S-1285-01  
**SHIFT:** 0730 to 1845  
**CC:** Shawn Bernon, STPA  
Wilfred Kaiser, STPA  
Terry Smith, ALL-TECH

**STPA NO.** **COCW-0036**

**SUBJECT: 14<sup>th</sup> March, 2009, Real-time Air Monitoring Results  
Sydney Tar Ponds Agency – Coke Ovens Vertical Cutoff Walls  
FINAL REPORT**

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Attached is a summary of Real-time particulate (as PM<sub>10</sub>) results for air monitoring performed on the 14<sup>th</sup> of March, 2009. Colin MacIsaac and Jennifer Andrews of ALL-TECH Environmental Services Cape Breton Limited (ALL-TECH) performed all air monitoring activities.

Weather conditions on the day of sampling:

- Mainly cloudy
- Temperature: approx. 1°C
- Wind Direction: Southwest

**Comments:** *ALL-TECH was on-Site at 0730 and sampling began as soon as there was site activity. Air monitoring was performed during AECOM's construction activity.*

All downwind and upwind measurements of PM<sub>10</sub> were below the established Site Action Level for this parameter of 155 µg/m<sup>3</sup>.

All downwind and upwind measurements of Total Volatile Organic Compounds (TVOC) were below the established Site Action Level for this parameter of 0.66 ppm. Each measurement is the average of a 15 minute sample. A minimum of 2 samples were taken downwind and 1 sample upwind every hour. All measurements were found to be below the detection limit of the instrument. Levels above detection limit will be noted in the table below.

Due to operational criteria, during periods of precipitation (snow and rain) and high humidity, TVOC sampling is halted and resumes after the precipitation has ended.

This report has been prepared by Colin MacIsaac and reviewed by Dianne Theriault. If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,



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Dianne Theriault, B.Tech  
Environmental Technologist  
**ALL-TECH Environmental Services Cape Breton Ltd.**

Copied via e-mail:

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**Real-time Airborne PM<sub>10</sub> Concentration Results**  
**Sydney Tar Ponds Agency – Coke Ovens Vertical Cutoff Walls**  
**14<sup>th</sup> March, 2009**

<b>Sample No. &amp; Air Monitoring Location</b>	<b>Time of Day</b>	<b>PM<sub>10</sub> Action Level (µg/m<sup>3</sup>)</b>	<b>Average Result (µg/m<sup>3</sup>)</b>	<b>Wind Direction</b>	<b>Relative Position</b>	<b>Description of Activity</b>	<b>Observations that may affect sample</b>
1 70m South of Spar Road, Spar Road Extension intersection	0800	155	7	Southwest	Upwind	Background	No observations seen to affect sampling integrity
2 10m Southwest of Fredrick Street and Curry Lane intersection	0800	155	8	Southwest	Downwind	No activity observed on site	No observations seen to affect sampling integrity
3 10m Southwest of Fredrick Street and Curry Lane intersection	0830	155	5	Southwest	Downwind	No activity observed on site	No observations seen to affect sampling integrity
4 70m South of Spar Road, Spar Road Extension intersection	0900	155	8	Southwest	Upwind	Background	No observations seen to affect sampling integrity
5 10m Southwest of Fredrick Street and Curry Lane intersection	0900	155	4	Southwest	Downwind	Drilling	No observations seen to affect sampling integrity

<b>Sample No. &amp; Air Monitoring Location</b>	<b>Time of Day</b>	<b>PM<sub>10</sub> Action Level (µg/m<sup>3</sup>)</b>	<b>Average Result (µg/m<sup>3</sup>)</b>	<b>Wind Direction</b>	<b>Relative Position</b>	<b>Description of Activity</b>	<b>Observations that may affect sample</b>
6 10m Southwest of Fredrick Street and Curry Lane intersection	0915	155	4	Southwest	Downwind	Drilling	No observations seen to affect sampling integrity
7 70m South of Spar Road, Spar Road Extension intersection	1000	155	8	Southwest	Upwind	Background	No observations seen to affect sampling integrity
8 10m Southwest of Fredrick Street and Curry Lane intersection	1000	155	7	Southwest	Downwind	Drilling	No observations seen to affect sampling integrity
9 10m Southwest of Fredrick Street and Curry Lane intersection	1045	155	4	Southwest	Downwind	Drilling	No observations seen to affect sampling integrity
10 70m South of Spar Road, Spar Road Extension intersection	1100	155	7	Southwest	Upwind	Background	No observations seen to affect sampling integrity
11 10m Southwest of Fredrick Street and Curry Lane intersection	1100	155	5	Southwest	Downwind	Drilling	No observations seen to affect sampling integrity

Sample No. & Air Monitoring Location	Time of Day	PM <sub>10</sub> Action Level (µg/m <sup>3</sup> )	Average Result (µg/m <sup>3</sup> )	Wind Direction	Relative Position	Description of Activity	Observations that may affect sample
12 10m Southwest of Fredrick Street and Curry Lane intersection	1145	155	4	Southwest	Downwind	Drilling	No observations seen to affect sampling integrity
13 70m South of Spar Road, Spar Road Extension intersection	1200	155	6	Southwest	Upwind	Background	No observations seen to affect sampling integrity
14 10m Southwest of Fredrick Street and Curry Lane intersection	1200	155	3	Southwest	Downwind	Drilling	No observations seen to affect sampling integrity
15 10m Southwest of Fredrick Street and Curry Lane intersection	1230	155	5	Southwest	Downwind	Drilling	No observations seen to affect sampling integrity
16 70m South of Spar Road, Spar Road Extension intersection	1300	155	7	Southwest	Upwind	Background	No observations seen to affect sampling integrity
17 10m Southwest of Fredrick Street and Curry Lane intersection	1300	155	5	Southwest	Downwind	Drilling	No observations seen to affect sampling integrity

<b>Sample No. &amp; Air Monitoring Location</b>	<b>Time of Day</b>	<b>PM<sub>10</sub> Action Level (µg/m<sup>3</sup>)</b>	<b>Average Result (µg/m<sup>3</sup>)</b>	<b>Wind Direction</b>	<b>Relative Position</b>	<b>Description of Activity</b>	<b>Observations that may affect sample</b>
18 10m Southwest of Fredrick Street and Curry Lane intersection	1335	155	3	Southwest	Downwind	Drilling	No observations seen to affect sampling integrity
19 70m South of Spar Road, Spar Road Extension intersection	1400	155	7	Southwest	Upwind	Background	No observations seen to affect sampling integrity
20 10m Southwest of Fredrick Street and Curry Lane intersection	1400	155	4	Southwest	Downwind	Drilling	No observations seen to affect sampling integrity
21 10m Southwest of Fredrick Street and Curry Lane intersection	1445	155	5	Southwest	Downwind	Drilling	No observations seen to affect sampling integrity
22 70m South of Spar Road, Spar Road Extension intersection	1500	155	8	Southwest	Upwind	Background	No observations seen to affect sampling integrity
23 10m Southwest of Fredrick Street and Curry Lane intersection	1500	155	7	Southwest	Downwind	Drilling	No observations seen to affect sampling integrity

<b>Sample No. &amp; Air Monitoring Location</b>	<b>Time of Day</b>	<b>PM<sub>10</sub> Action Level (µg/m<sup>3</sup>)</b>	<b>Average Result (µg/m<sup>3</sup>)</b>	<b>Wind Direction</b>	<b>Relative Position</b>	<b>Description of Activity</b>	<b>Observations that may affect sample</b>
24 10m Southwest of Fredrick Street and Curry Lane intersection	1515	155	4	Southwest	Downwind	Drilling	No observations seen to affect sampling integrity
25 70m South of Spar Road, Spar Road Extension intersection	1600	155	9	Southwest	Upwind	Background	No observations seen to affect sampling integrity
26 10m Southwest of Fredrick Street and Curry Lane intersection	1600	155	6	Southwest	Downwind	Drilling	No observations seen to affect sampling integrity
27 10m Southwest of Fredrick Street and Curry Lane intersection	1645	155	6	Southwest	Downwind	Drilling	No observations seen to affect sampling integrity
28 70m South of Spar Road, Spar Road Extension intersection	1700	155	9	Southwest	Upwind	Background	No observations seen to affect sampling integrity
29 10m Southwest of Fredrick Street and Curry Lane intersection	1700	155	7	Southwest	Downwind	Cleaning equipment	No observations seen to affect sampling integrity

Sample No. & Air Monitoring Location	Time of Day	PM <sub>10</sub> Action Level (µg/m <sup>3</sup> )	Average Result (µg/m <sup>3</sup> )	Wind Direction	Relative Position	Description of Activity	Observations that may affect sample
30 10m Southwest of Fredrick Street and Curry Lane intersection	1745	155	6	Southwest	Downwind	Cleaning equipment	No observations seen to affect sampling integrity
31 70m South of Spar Road, Spar Road Extension intersection	1800	155	9	Southwest	Upwind	Background	No observations seen to affect sampling integrity
32 10m Southwest of Fredrick Street and Curry Lane intersection	1800	155	6	Southwest	Downwind	Cleaning equipment	No observations seen to affect sampling integrity

**Notes:** Air sample duration for each monitoring event was 15 minutes.



### Comparison of Downwind Daily Results for Dust Budget

Location	Duration	Dust Budget Value ( $\mu\text{g}/\text{m}^3$ )	Dust Budget Exceedance Value ( $\mu\text{g}/\text{m}^3$ )
10m Southwest of Fredrick Street and Curry Lane intersection	0800 to 0859	7	990
10m Southwest of Fredrick Street and Curry Lane intersection	0900 to 0959	11	990
10m Southwest of Fredrick Street and Curry Lane intersection	1000 to 1059	17	990
10m Southwest of Fredrick Street and Curry Lane intersection	1100 to 1159	22	990
10m Southwest of Fredrick Street and Curry Lane intersection	1200 to 1259	26	990
10m Southwest of Fredrick Street and Curry Lane intersection	1300 to 1359	30	990
10m Southwest of Fredrick Street and Curry Lane intersection	1400 to 1459	35	990
10m Southwest of Fredrick Street and Curry Lane intersection	1500 to 1559	41	990

Location	Duration	Dust Budget Value ( $\mu\text{g}/\text{m}^3$ )	Dust Budget Exceedance Value ( $\mu\text{g}/\text{m}^3$ )
10m Southwest of Fredrick Street and Curry Lane intersection	1600 to 1659	47	990
10m Southwest of Fredrick Street and Curry Lane intersection	1700 to 1759	54	990
10m Southwest of Fredrick Street and Curry Lane intersection	1800 to 1859	60	990

### VOC Monitoring

Monitoring Method	Yes	No
Sustained Odours Observed		•
P.I.D. Required	•	