

## MEMORANDUM

<b>TO</b>	Dawn MacNeil, STPA	<b>FILE NO.</b>	S-1331-03
<b>FROM</b>	Dianne Theriault	<b>SHIFT:</b>	0630 to 1830
<b>TEL</b>	(902) 539-3012	<b>CC:</b>	Shawn Bernon, STPA Wilfred Kaiser, STPA Terry Smith, ALL-TECH
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<b>DATE</b>	3 <sup>rd</sup> June, 2009	<b>STPA NO.</b>	TP6D-CO-0077

**SUBJECT: 2<sup>nd</sup> June, 2009 Real-time Air Monitoring Results  
Sydney Tar Ponds Agency – Access Roads, Coke Ovens  
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 2<sup>nd</sup> of June, 2009. Jennifer Andrews and Dwayne Timmons of ALL-TECH Environmental Services Cape Breton Limited (ALL-TECH) performed all air monitoring activities.

Weather conditions on the day of sampling:

- Mainly sunny
- Temperature: approximately 18°C
- Wind Direction: Southwest

**Comments:** *ALL-TECH was on-Site at 0630 hours and sampling began as soon as there was site activity, but was later put on standby at 0930 hours due to precipitation. Air monitoring resumed at 1015 hours when weather conditions were within instrument specifications. Air monitoring was performed during AECOM's construction activities.*

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 Jennifer Andrews 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 – Access Roads, Coke Ovens**  
**2<sup>nd</sup> June, 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 10m Northeast of Cape Breton St. and Victoria Rd. intersection	0700	155	8	Southwest	Upwind	Background	No observations seen to affect sampling integrity
2 375m East of Fredrick St. and Lingan Rd. intersection (N46°09.144' W060°10.315')	0700	155	7	Southwest	Downwind	No activity observed on site	No observations seen to affect sampling integrity
3 375m East of Fredrick St. and Lingan Rd. intersection (N46°09.144' W060°10.315')	0730	155	9	Southwest	Downwind	Grader in operation	No observations seen to affect sampling integrity
4 10m Northeast of Cape Breton St. and Victoria Rd. intersection	0800	155	9	Southwest	Upwind	Background	No observations seen to affect sampling integrity
5 375m East of Fredrick St. and Lingan Rd. intersection (N46°09.144' W060°10.315')	0800	155	9	Southwest	Downwind	Roller in operation	No observations seen to affect sampling integrity
6 375m East of Fredrick St. and Lingan Rd. intersection (N46°09.144' W060°10.315')	0820	155	9	Southwest	Downwind	No activity observed on site	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>
7 10m Northeast of Cape Breton St. and Victoria Rd. intersection	0900	155	13	Southwest	Upwind	Background	No observations seen to affect sampling integrity
8 375m East of Fredrick St. and Lingan Rd. intersection (N46°09.144' W060°10.315')	0900	155	9	Southwest	Downwind	No activity observed on site	No observations seen to affect sampling integrity
9 10m Northeast of Cape Breton St. and Victoria Rd. intersection	1015	155	10	Southwest	Upwind	Background	No observations seen to affect sampling integrity
10 375m East of Fredrick St. and Lingan Rd. intersection (N46°09.144' W060°10.315')	1015	155	13	Southwest	Downwind	Grader and roller in operation	No observations seen to affect sampling integrity
11 375m East of Fredrick St. and Lingan Rd. intersection (N46°09.144' W060°10.315')	1045	155	24	Southwest	Downwind	Grader and roller in operation	No observations seen to affect sampling integrity
12 10m Northeast of Cape Breton St. and Victoria Rd. intersection	1100	155	11	Southwest	Upwind	Background	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
13 375m East of Fredrick St. and Lingan Rd. intersection (N46°09.144' W060°10.315')	1100	155	44	Southwest	Downwind	Grader and roller in operation	No observations seen to affect sampling integrity
14 375m East of Fredrick St. and Lingan Rd. intersection (N46°09.144' W060°10.315')	1125	155	39	Southwest	Downwind	Grader and roller in operation	No observations seen to affect sampling integrity
15 10m Northeast of Cape Breton St. and Victoria Rd. intersection	1200	155	17	Southwest	Upwind	Background	No observations seen to affect sampling integrity
16 375m East of Fredrick St. and Lingan Rd. intersection (N46°09.144' W060°10.315')	1200	155	12	Southwest	Downwind	No activity observed on site	No observations seen to affect sampling integrity
17 375m East of Fredrick St. and Lingan Rd. intersection (N46°09.144' W060°10.315')	1235	155	22	Southwest	Downwind	No activity observed on site	No observations seen to affect sampling integrity
18 10m Northeast of Cape Breton St. and Victoria Rd. intersection	1300	155	12	Southwest	Upwind	Background	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
19 8m West of coke ovens brook main gate (N46°09.144' W060°09.791')	1300	155	8	Southwest	Downwind	Activity not visible from monitoring location	No observations seen to affect sampling integrity
20 8m West of coke ovens brook main gate (N46°09.144' W060°09.791')	1325	155	7	Southwest	Downwind	Activity not visible from monitoring location	No observations seen to affect sampling integrity
21 10m Northeast of Cape Breton St. and Victoria Rd. intersection	1400	155	19	Southwest	Upwind	Background	No observations seen to affect sampling integrity
22 8m West of coke ovens brook main gate (N46°09.144' W060°09.791')	1400	155	8	Southwest	Downwind	Grader in operation	No observations seen to affect sampling integrity
23 8m West of coke ovens brook main gate (N46°09.144' W060°09.791')	1445	155	7	Southwest	Downwind	Grader in operation	No observations seen to affect sampling integrity
24 10m Northeast of Cape Breton St. and Victoria Rd. intersection	1500	155	13	Southwest	Upwind	Background	No observations seen to affect sampling integrity
25 8m West of coke ovens brook main gate (N46°09.144' W060°09.791')	1500	155	7	Southwest	Downwind	Activity not visible from monitoring location	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
26 8m West of coke ovens brook main gate (N46°09.144' W060°09.791')	1545	155	7	Southwest	Downwind	Roller and grader in operation	No observations seen to affect sampling integrity
27 10m Northeast of Cape Breton St. and Victoria Rd. intersection	1600	155	14	Southwest	Upwind	Background	No observations seen to affect sampling integrity
28 8m West of coke ovens brook main gate (N46°09.144' W060°09.791')	1600	155	7	Southwest	Downwind	Activity not visible from monitoring location	No observations seen to affect sampling integrity
29 8m West of coke ovens brook main gate (N46°09.144' W060°09.791')	1620	155	7	Southwest	Downwind	Activity not visible from monitoring location	No observations seen to affect sampling integrity
30 10m Northeast of Cape Breton St. and Victoria Rd. intersection	1700	155	14	Southwest	Upwind	Background	No observations seen to affect sampling integrity
31 8m West of coke ovens brook main gate (N46°09.144' W060°09.791')	1700	155	8	Southwest	Downwind	Activity not visible from monitoring location	No observations seen to affect sampling integrity
32 8m West of coke ovens brook main gate (N46°09.144' W060°09.791')	1745	155	4	Southwest	Downwind	No activity observed on site	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 ( $\mu\text{g}/\text{m}^3$ )
375m East of Fredrick St. and Lingan Rd. intersection	0700 to 0759	8	990
375m East of Fredrick St. and Lingan Rd. intersection	0800 to 0859	17	990
375m East of Fredrick St. and Lingan Rd. intersection	0900 to 0959	38	990
375m East of Fredrick St. and Lingan Rd. intersection	1000 to 1059	57	990
375m East of Fredrick St. and Lingan Rd. intersection	1100 to 1159	99	990
375m East of Fredrick St. and Lingan Rd. intersection	1200 to 1259	117	990
8m West of coke ovens brook main gate	1300 to 1359	125	990
8m West of coke ovens brook main gate	1400 to 1459	133	990
8m West of coke ovens brook main gate	1500 to 1559	140	990
8m West of coke ovens brook main gate	1600 to 1659	147	990



Location	Duration	Dust Budget Value ( $\mu\text{g}/\text{m}^3$ )	Dust Budget Exceedance Value ( $\mu\text{g}/\text{m}^3$ )
8m West of coke ovens brook main gate	1700 to 1759	153	990

### VOC Monitoring

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