

## MEMORANDUM

**TO** Dawn MacNeil, STPA  
**FROM** Dianne Theriault  
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**DATE** 9<sup>th</sup> June, 2009

**FILE NO.** S-1331-13  
**SHIFT:** 0630 to 1830  
**CC:** Shawn Bernon, STPA  
Wilfred Kaiser, STPA  
Terry Smith, ALL-TECH  
**STPA NO.** TP6D-SP-0087

**SUBJECT: 8<sup>th</sup> June, 2009 Real-time Air Monitoring Results  
Sydney Tar Ponds Agency –Access Roads, South Pond  
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 8<sup>th</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 17°C
- Wind Direction: Southwest to West

**Comments:** *ALL-TECH was on-Site at 0630 hours and sampling began as soon as there was site activity. 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, South Pond**  
**8<sup>th</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 150m North of Dodd St. and Prince St. intersection (N46°08.462' W060°11.374')	0700	155	3	Southwest	Upwind	Background	No observations seen to affect sampling integrity
2 60m Southwest of Cape Breton St. and Inglis St. intersection (N46°08.619' W060°11.005')	0700	155	2	Southwest	Downwind	No activity observed on site	No observations seen to affect sampling integrity
3 60m Southwest of Cape Breton St. and Inglis St. intersection (N46°08.619' W060°11.005')	0730	155	2	Southwest	Downwind	Activity not visible from monitoring location	No observations seen to affect sampling integrity
4 30m South of fixed station on Intercolonial St. (N46°08.521' W060°11.390')	0800	155	6	Southwest	Upwind	Background	No observations seen to affect sampling integrity
5 180m Northwest of STPA building (N46°08.521' W060°11.390')	0800	155	2	Southwest	Downwind	No activity observed on site	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
6 180m Northwest of STPA building (N46°08.521' W060°11.390')	0820	155	3	Southwest	Downwind	Truck moving material	No observations seen to affect sampling integrity
7 30m South of fixed station on Intercolonial St. (N46°08.521' W060°11.390')	0900	155	5	Southwest	Upwind	Background	No observations seen to affect sampling integrity
8 60m Southwest of Cape Breton St. and Inglis St. intersection (N46°08.619' W060°11.005')	0900	155	2	Southwest	Downwind	Truck moving material	No observations seen to affect sampling integrity
9 60m Southwest of Cape Breton St. and Inglis St. intersection (N46°08.619' W060°11.005')	0940	155	2	Southwest	Downwind	Truck moving material	No observations seen to affect sampling integrity
10 10m North of fixed station on Intercolonial St. (N46°08.526' W060°11.398')	1000	155	3	West	Upwind	Background	No observations seen to affect sampling integrity
11 65m Southwest of Cape Breton St. and Inglis St. intersection (N46°08.620' W060°11.006')	1000	155	2	West	Downwind	Truck moving material	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 65m Southwest of Cape Breton St. and Inglis St. intersection (N46°08.620' W060°11.006')	1045	155	2	West	Downwind	Activity not visible from monitoring location	No observations seen to affect sampling integrity
13 10m North of fixed station on Intercolonial St. (N46°08.526' W060°11.398')	1100	155	4	West	Upwind	Background	No observations seen to affect sampling integrity
14 65m Southwest of Cape Breton St. and Inglis St. intersection (N46°08.620' W060°11.006')	1100	155	3	West	Downwind	Truck moving material	No observations seen to affect sampling integrity
15 65m Southwest of Cape Breton St. and Inglis St. intersection (N46°08.620' W060°11.006')	1125	155	1	West	Downwind	Activity not visible from monitoring location	No observations seen to affect sampling integrity
16 10m North of fixed station on Intercolonial St. (N46°08.526' W060°11.398')	1200	155	4	West	Upwind	Background	No observations seen to affect sampling integrity
17 65m Southwest of Cape Breton St. and Inglis St. intersection (N46°08.620' W060°11.006')	1200	155	3	West	Downwind	Truck moving material	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
18 65m Southwest of Cape Breton St. and Inglis St. intersection (N46°08.620' W060°11.006')	1230	155	2	West	Downwind	Truck moving material	No observations seen to affect sampling integrity
19 10m North of fixed station on Intercolonial St. (N46°08.526' W060°11.398')	1300	155	6	West	Upwind	Background	No observations seen to affect sampling integrity
20 65m Southwest of Cape Breton St. and Inglis St. intersection (N46°08.620' W060°11.006')	1300	155	2	West	Downwind	Truck moving material	No observations seen to affect sampling integrity
21 65m Southwest of Cape Breton St. and Inglis St. intersection (N46°08.620' W060°11.006')	1335	155	3	West	Downwind	Truck moving material	No observations seen to affect sampling integrity
22 10m North of fixed station on Intercolonial St. (N46°08.526' W060°11.398')	1400	155	5	West	Upwind	Background	No observations seen to affect sampling integrity
23 65m Southwest of Cape Breton St. and Inglis St. intersection (N46°08.620' W060°11.006')	1400	155	2	West	Downwind	Truck moving material	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
24 65m Southwest of Cape Breton St. and Inglis St. intersection (N46°08.620' W060°11.006')	1445	155	5	West	Downwind	Truck moving material	No observations seen to affect sampling integrity
25 10m North of fixed station on Intercolonial St. (N46°08.526' W060°11.398')	1500	155	5	West	Upwind	Background	No observations seen to affect sampling integrity
26 65m Southwest of Cape Breton St. and Inglis St. intersection (N46°08.620' W060°11.006')	1500	155	2	West	Downwind	Excavator and truck moving material	No observations seen to affect sampling integrity
27 180m North of Prince St. and Terminal Rd. intersection (N46°08.441' W060°11.276')	1540	155	4	West	Downwind	Excavator moving material	No observations seen to affect sampling integrity
28 20m South of fixed station on Intercolonial St. (N46°08.560' W060°11.406')	1600	155	6	West	Upwind	Background	No observations seen to affect sampling integrity
29 180m North of Prince St. and Terminal Rd. intersection (N46°08.441' W060°11.276')	1600	155	2	West	Downwind	No activity observed on site	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 180m North of Prince St. and Terminal Rd. intersection (N46°08.441' W060°11.276')	1625	155	1	West	Downwind	Excavator moving material	No observations seen to affect sampling integrity
31 20m South of fixed station on Intercolonial St. (N46°08.560' W060°11.406')	1700	155	6	West	Upwind	Background	No observations seen to affect sampling integrity
32 180m North of Prince St. and Terminal Rd. intersection (N46°08.441' W060°11.276')	1700	155	2	West	Downwind	Excavator moving material	No observations seen to affect sampling integrity
33 180m North of Prince St. and Terminal Rd. intersection (N46°08.441' W060°11.276')	1745	155	5	West	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 ( $\mu\text{g}/\text{m}^3$ )
60m Southwest of Cape Breton St. and Inglis St. intersection	0700 to 0759	2	990
180m Northwest of STPA building	0800 to 0859	5	990
60m Southwest of Cape Breton St. and Inglis St. intersection	0900 to 0959	7	990
65m Southwest of Cape Breton St. and Inglis St. intersection	1000 to 1059	9	990
65m Southwest of Cape Breton St. and Inglis St. intersection	1100 to 1159	11	990
65m Southwest of Cape Breton St. and Inglis St. intersection	1200 to 1259	14	990
65m Southwest of Cape Breton St. and Inglis St. intersection	1300 to 1359	17	990
65m Southwest of Cape Breton St. and Inglis St. intersection	1400 to 1459	21	990
65m Southwest of Cape Breton St. and Inglis St. intersection /180m North of Prince St. and Terminal Rd. intersection	1500 to 1559	24	990
180m North of Prince St. and Terminal Rd. intersection	1600 to 1659	26	990
180m North of Prince St. and Terminal Rd. intersection	1700 to 1759	30	990

### VOC Monitoring

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