

## MEMORANDUM

<b>TO</b>	Dawn MacNeil, STPA	<b>FILE NO.</b>	S-1292-10
<b>FROM</b>	Dianne Theriault	<b>SHIFT:</b>	0630 to 1830
<b>TEL</b>	(902) 539-3012	<b>CC:</b>	Shawn Bernon, STPA
<b>FAX</b>	(902) 539-3381		Wilfred Kaiser, STPA
<b>DATE</b>	16 <sup>th</sup> April, 2009		Terry Smith, ALL-TECH
		<b>STPA NO.</b>	<b>TP6D-0020</b>

**SUBJECT: 15<sup>th</sup> April, 2009, Real-time Air Monitoring Results  
Sydney Tar Ponds Agency – Access Roads  
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 15<sup>th</sup> of April, 2009. Tyler Rowe and Reg Peters 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 3°C
- Wind Direction: Northwest

**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 Tyler Rowe 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**  
**15<sup>th</sup> April, 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 30m East of railway office	0700	155	10	Northwest	Upwind	Background	No observations seen to affect sampling integrity
2 40m Northwest of STPA building	0700	155	8	Northwest	Downwind	No activity observed on site	No observations seen to affect sampling integrity
3 40m Northwest of STPA building	0730	155	10	Northwest	Downwind	Machines moving material	No observations seen to affect sampling integrity
4 30m East of railway office	0800	155	11	Northwest	Upwind	Background	No observations seen to affect sampling integrity
5 40m Northwest of STPA building	0800	155	5	Northwest	Downwind	Machines moving material	No observations seen to affect sampling integrity
6 40m Northwest of STPA building	0835	155	8	Northwest	Downwind	Machines 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
7 30m East of railway office	0900	155	12	Northwest	Upwind	Background	No observations seen to affect sampling integrity
8 40m Northwest of STPA building	0900	155	4	Northwest	Downwind	Machines moving material	No observations seen to affect sampling integrity
9 40m Northwest of STPA building	0940	155	4	Northwest	Downwind	Machines moving material	No observations seen to affect sampling integrity
10 30m East of railway office	1000	155	11	Northwest	Upwind	Background	No observations seen to affect sampling integrity
11 40m Northwest of STPA building	1000	155	4	Northwest	Downwind	No activity observed on site	No observations seen to affect sampling integrity
12 40m Northwest of STPA building	1045	155	11	Northwest	Downwind	Machines moving material	No observations seen to affect sampling integrity
13 30m East of railway office	1100	155	19	Northwest	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
14 40m Northwest of STPA building	1100	155	9	Northwest	Downwind	Machines moving material	No observations seen to affect sampling integrity
15 40m Northwest of STPA building	1130	155	11	Northwest	Downwind	Machines moving material	No observations seen to affect sampling integrity
16 30m East of railway office	1200	155	11	Northwest	Upwind	Background	No observations seen to affect sampling integrity
17 40m Northwest of STPA building	1200	155	4	Northwest	Downwind	Machines moving material	No observations seen to affect sampling integrity
18 40m Northwest of STPA building	1235	155	4	Northwest	Downwind	Machines moving material	No observations seen to affect sampling integrity
19 30m East of railway office	1300	155	12	Northwest	Upwind	Background	No observations seen to affect sampling integrity
20 40m Northwest of STPA building	1300	155	15	Northwest	Downwind	Machines 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
21 40m Northwest of STPA building	1325	155	8	Northwest	Downwind	Machines moving material	No observations seen to affect sampling integrity
22 30m East of railway office	1400	155	12	Northwest	Upwind	Background	No observations seen to affect sampling integrity
23 40m Northwest of STPA building	1400	155	5	Northwest	Downwind	Machines moving material	No observations seen to affect sampling integrity
24 40m Northwest of STPA building	1425	155	10	Northwest	Downwind	Machines moving material	No observations seen to affect sampling integrity
25 30m East of railway office	1500	155	15	Northwest	Upwind	Background	No observations seen to affect sampling integrity
26 40m Northwest of STPA building	1500	155	11	Northwest	Downwind	No activity observed on site	No observations seen to affect sampling integrity
27 40m Northwest of STPA building	1540	155	17	Northwest	Downwind	Machines 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
28 30m East of railway office	1600	155	15	Northwest	Upwind	Background	No observations seen to affect sampling integrity
29 40m Northwest of STPA building	1600	155	25	Northwest	Downwind	Machines moving material	No observations seen to affect sampling integrity
30 40m Northwest of STPA building	1630	155	19	Northwest	Downwind	Machines moving material	No observations seen to affect sampling integrity
31 30m East of railway office	1700	155	12	Northwest	Upwind	Background	No observations seen to affect sampling integrity
32 40m Northwest of STPA building	1700	155	11	Northwest	Downwind	Machines moving material	No observations seen to affect sampling integrity
33 40m Northwest of STPA building	1745	155	6	Northwest	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 ( $\mu\text{g}/\text{m}^3$ )
40m Northwest of STPA building	0700 to 0759	9	990
40m Northwest of STPA building	0800 to 0859	16	990
40m Northwest of STPA building	0900 to 0959	20	990
40m Northwest of STPA building	1000 to 1059	28	990
40m Northwest of STPA building	1100 to 1159	38	990
40m Northwest of STPA building	1200 to 1259	42	990
40m Northwest of STPA building	1300 to 1359	54	990
40m Northwest of STPA building	1400 to 1459	62	990
40m Northwest of STPA building	1500 to 1559	76	990
40m Northwest of STPA building	1600 to 1659	98	990
40m Northwest of STPA building	1700 to 1759	107	990



### VOC Monitoring

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