

## MEMORANDUM

<b>TO</b>	Dawn MacNeil, STPA	<b>FILE NO.</b>	S-1292-27
<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>	1 <sup>st</sup> May, 2009		Terry Smith, ALL-TECH
		<b>STPA NO.</b>	<b>TP6D-NP-0037</b>

**SUBJECT: 30<sup>th</sup> April, 2009, Real-time Air Monitoring Results  
Sydney Tar Ponds Agency – Access Roads, North 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 30<sup>th</sup> of April, 2009. Shaun Dove, Dwayne Timmons and Kelly Morrison 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 8°C
- Wind Direction: Southwest to West to 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 Dwayne Timmons 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, North Pond**  
**30<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 50m Southeast of Ferry St. and Walker St. intersection	0700	155	9	Southwest	Upwind	Background	No observations seen to affect sampling integrity
2 250m Northwest of Inglis St. and Spar Rd. intersection	0700	155	15	Southwest	Downwind	Machines moving material	No observations seen to affect sampling integrity
3 250m Northwest of Inglis St. and Spar Rd. intersection	0720	155	11	Southwest	Downwind	Machines moving material	No observations seen to affect sampling integrity
4 90m East of Midland depot	0800	155	9	West	Upwind	Background	No observations seen to affect sampling integrity
5 200m Northwest of Inglis St. and Spar Rd. intersection	0800	155	11	West	Downwind	Machines moving material	No observations seen to affect sampling integrity
6 200m Northwest of Inglis St. and Spar Rd. intersection	0830	155	25	West	Downwind	Machines moving material	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 90m East of Midland depot	0900	155	7	West	Upwind	Background	No observations seen to affect sampling integrity
8 200m Northwest of Inglis St. and Spar Rd. intersection	0900	155	25	West	Downwind	Machines moving material	No observations seen to affect sampling integrity
9 200m Northwest of Inglis St. and Spar Rd. intersection	0915	155	18	West	Downwind	Machines moving material	No observations seen to affect sampling integrity
10 90m East of Midland depot	1000	155	8	West	Upwind	Background	No observations seen to affect sampling integrity
11 200m Northwest of Inglis St. and Spar Rd. intersection	1000	155	38	West	Downwind	Machines moving material	No observations seen to affect sampling integrity
12 200m Northwest of Inglis St. and Spar Rd. intersection	1020	155	14	West	Downwind	Machines moving material	No observations seen to affect sampling integrity
13 90m East of Midland depot	1100	155	7	West	Upwind	Background	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>
14 200m Northwest of Inglis St. and Spar Rd. intersection	1100	155	27	West	Downwind	Machines moving material	No observations seen to affect sampling integrity
15 200m Northwest of Inglis St. and Spar Rd. intersection	1130	155	18	West	Downwind	Machines moving material	No observations seen to affect sampling integrity
16 150m East of rail yard building	1200	155	8	Northwest	Upwind	Background	No observations seen to affect sampling integrity
17 25m Southwest of Inglis St. and Spar Rd. intersection	1200	155	49	Northwest	Downwind	Machines moving material	No observations seen to affect sampling integrity
18 25m Southwest of Inglis St. and Spar Rd. intersection	1220	155	28	Northwest	Downwind	Machines moving material	No observations seen to affect sampling integrity
19 150m East of rail yard building	1300	155	13	Northwest	Upwind	Background	No observations seen to affect sampling integrity
20 25m Southwest of Inglis St. and Spar Rd. intersection	1300	155	21	Northwest	Downwind	Activity not visible from monitoring location	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>
21 25m Southwest of Inglis St. and Spar Rd. intersection	1335	155	22	Northwest	Downwind	Machines moving material	No observations seen to affect sampling integrity
22 150m East of rail yard building	1400	155	8	Northwest	Upwind	Background	No observations seen to affect sampling integrity
23 25m Southwest of Inglis St. and Spar Rd. intersection	1400	155	22	Northwest	Downwind	Activity not visible from monitoring location	No observations seen to affect sampling integrity
24 25m Southwest of Inglis St. and Spar Rd. intersection	1425	155	26	Northwest	Downwind	Activity not visible from monitoring location	No observations seen to affect sampling integrity
25 150m East of rail yard building	1500	155	8	Northwest	Upwind	Background	No observations seen to affect sampling integrity
26 25m Southwest of Inglis St. and Spar Rd. intersection	1500	155	15	Northwest	Downwind	Activity not visible from monitoring location	No observations seen to affect sampling integrity
27 25m Southwest of Inglis St. and Spar Rd. intersection	1515	155	31	Northwest	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
28 150m East of rail yard building	1600	155	7	Northwest	Upwind	Background	No observations seen to affect sampling integrity
29 25m Southwest of Inglis St. and Spar Rd. intersection	1600	155	26	Northwest	Downwind	Activity not visible from monitoring location	No observations seen to affect sampling integrity
30 25m Southwest of Inglis St. and Spar Rd. intersection	1645	155	17	Northwest	Downwind	Activity not visible from monitoring location	No observations seen to affect sampling integrity
31 150m East of rail yard building	1700	155	7	Northwest	Upwind	Background	No observations seen to affect sampling integrity
32 25m Southwest of Inglis St. and Spar Rd. intersection	1700	155	12	Northwest	Downwind	Activity not visible from monitoring location	No observations seen to affect sampling integrity
33 25m Southwest of Inglis St. and Spar Rd. intersection	1745	155	9	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 ( $\mu\text{g}/\text{m}^3$ )
250m Northwest of Inglis St. and Spar Rd. intersection	0700 to 0759	13	990
200m Northwest of Inglis St. and Spar Rd. intersection	0800 to 0859	31	990
200m Northwest of Inglis St. and Spar Rd. intersection	0900 to 0959	53	990
200m Northwest of Inglis St. and Spar Rd. intersection	1000 to 1059	79	990
200m Northwest of Inglis St. and Spar Rd. intersection	1100 to 1159	102	990
25m Southwest of Inglis St. and Spar Rd. intersection	1200 to 1259	141	990
25m Southwest of Inglis St. and Spar Rd. intersection	1300 to 1359	163	990
25m Southwest of Inglis St. and Spar Rd. intersection	1400 to 1459	187	990
25m Southwest of Inglis St. and Spar Rd. intersection	1500 to 1559	210	990
25m Southwest of Inglis St. and Spar Rd. intersection	1600 to 1659	231	990
25m Southwest of Inglis St. and Spar Rd. intersection	1700 to 1759	241	990



### VOC Monitoring

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