

## MEMORANDUM

<b>TO</b>	Dawn MacNeil, STPA	<b>FILE NO.</b>	S-1288-05
<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>	24 <sup>th</sup> March, 2009		Terry Smith, ALL-TECH
		<b>STPA NO.</b>	<b>TP6D-0005</b>

**SUBJECT: 23<sup>rd</sup> March, 2009, Real-time Air Monitoring Results  
Sydney Tar Ponds Agency – Access Roads  
FINAL REPORT**

---

Attached is a summary of Real-time particulate (as PM<sub>10</sub>) results for air monitoring performed on the 23<sup>rd</sup> of March, 2009. Reg Peters and Shaun Dove, of ALL-TECH Environmental Services Cape Breton Limited (ALL-TECH), performed all air monitoring activities.

Weather conditions on the day of sampling:

- Mainly cloudy with flurries
- Temperature: approximately 2°C
- Wind Direction: South to Southeast

**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 Reg Peters and reviewed by Dianne Theriault. If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,



---

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

Copied via e-mail:

Shawn Bernon [shawn@tarpondscleanup.ca](mailto:shawn@tarpondscleanup.ca), Wilfred Kaiser [wilfred@tarpondscleanup.ca](mailto:wilfred@tarpondscleanup.ca), Nancy LeDrew [nancy@tarpondscleanup.ca](mailto:nancy@tarpondscleanup.ca), Trish Magliaro [trish@tarpondscleanup.ca](mailto:trish@tarpondscleanup.ca), Terry Smith [tsmith@toalltech.com](mailto:tsmith@toalltech.com), Phyllis Low [pilow@toalltech.com](mailto:pilow@toalltech.com), Dianne Theriault [dtheriault@toalltech.com](mailto:dtheriault@toalltech.com), Darren Gardiner [dgardiner@croworld.com](mailto:dgardiner@croworld.com), Darren Lawless [dlawless@toalltech.com](mailto:dlawless@toalltech.com), Kevin Mac Pherson [kevinmacp@cbcl.ca](mailto:kevinmacp@cbcl.ca), Kathy Harquail [kharquail@toalltech.com](mailto:kharquail@toalltech.com)

**Real-time Airborne PM<sub>10</sub> Concentration Results**  
**Sydney Tar Ponds Agency – Access Roads**  
**23<sup>rd</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 150m Southwest of Ferry Street bridge	0700	155	13	South	Upwind	Background	No observations seen to affect sampling integrity
2 70m South of North Pond main gate	0700	155	9	South	Downwind	No activity observed on site	No observations seen to affect sampling integrity
3 70m South of North Pond main gate	0740	155	10	South	Downwind	Machines moving material	No observations seen to affect sampling integrity
4 150m Southwest of Ferry Street bridge	0800	155	10	South	Upwind	Background	No observations seen to affect sampling integrity
5 70m South of North Pond main gate	0800	155	8	South	Downwind	Machines moving material	No observations seen to affect sampling integrity
6 70m South of North Pond main gate	0830	155	11	South	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 150m Southwest of Ferry Street bridge	0900	155	12	South	Upwind	Background	No observations seen to affect sampling integrity
8 70m South of North Pond main gate	0900	155	8	South	Downwind	Machines moving material	No observations seen to affect sampling integrity
9 70m South of North Pond main gate	0930	155	7	South	Downwind	Machines moving material	No observations seen to affect sampling integrity
10 150m Southwest of Ferry Street bridge	1000	155	8	South	Upwind	Background	No observations seen to affect sampling integrity
11 70m South of North Pond main gate	1000	155	6	South	Downwind	No activity observed on site	No observations seen to affect sampling integrity
12 70m South of North Pond main gate	1025	155	6	South	Downwind	Machines moving material	No observations seen to affect sampling integrity
13 20m West of Terminal Road and Inglis Steet intersection	1100	155	17	Southeast	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 90m East of Railway office	1100	155	6	Southeast	Downwind	Machines moving material	No observations seen to affect sampling integrity
15 90m East of Railway office	1145	155	4	Southeast	Downwind	Machines moving materials.	No observations seen to affect sampling integrity
16 20m West of Terminal Road and Inglis Steet intersection	1200	155	8	Southeast	Upwind	Background	No observations seen to affect sampling integrity
17 90m East of Railway office	1200	155	4	Southeast	Downwind	No activity observed on site	No observations seen to affect sampling integrity
18 90m East of Railway office	1245	155	4	Southeast	Downwind	Machines moving material	No observations seen to affect sampling integrity
19 20m West of Terminal Road and Inglis Steet intersection	1300	155	13	Southeast	Upwind	Background	No observations seen to affect sampling integrity
20 90m East of Railway office	1300	155	4	Southeast	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 90m East of Railway office	1340	155	4	Southeast	Downwind	Machines moving material	No observations seen to affect sampling integrity
22 20m West of Terminal Road and Inglis Steet intersection	1400	155	26	Southeast	Upwind	Background	No observations seen to affect sampling integrity
23 90m East of Railway office	1400	155	3	Southeast	Downwind	Machines moving material	No observations seen to affect sampling integrity
24 90m East of Railway office	1425	155	3	Southeast	Downwind	Machines moving material	No observations seen to affect sampling integrity
25 20m West of Terminal Road and Inglis Steet intersection	1500	155	14	Southeast	Upwind	Background	No observations seen to affect sampling integrity
26 90m East of Railway office	1500	155	3	Southeast	Downwind	No activity observed on site	No observations seen to affect sampling integrity
27 90m East of Railway office	1520	155	3	Southeast	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 20m West of Terminal Road and Inglis Steet intersection	1600	155	13	Southeast	Upwind	Background	No observations seen to affect sampling integrity
29 90m East of Railway office	1600	155	5	Southeast	Downwind	Machines moving material	No observations seen to affect sampling integrity
30 90m East of Railway office	1615	155	6	Southeast	Downwind	Machines moving material	No observations seen to affect sampling integrity
31 20m West of Terminal Road and Inglis Steet intersection	1700	155	10	Southeast	Upwind	Background	No observations seen to affect sampling integrity
32 90m East of Railway office	1700	155	7	Southeast	Downwind	Machines moving material	No observations seen to affect sampling integrity
33 90m East of Railway office	1745	155	6	Southeast	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 ( $\mu\text{g}/\text{m}^3$ )
70m South of North Pond main gate	0700 to 0759	10	990
70m South of North Pond main gate	0800 to 0859	20	990
70m South of North Pond main gate	0900 to 0959	28	990
70m South of North Pond main gate	1000 to 1059	34	990
90m East of Railway office	1100 to 1159	39	990
90m East of Railway office	1200 to 1259	43	990
90m East of Railway office	1300 to 1359	47	990
90m East of Railway office	1400 to 1459	50	990
90m East of Railway office	1500 to 1559	53	990
90m East of Railway office	1600 to 1659	59	990
90m East of Railway office	1700 to 1759	66	990



### VOC Monitoring

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