

## MEMORANDUM

<b>TO</b>	Dawn MacNeil, STPA	<b>FILE NO.</b>	S-1313-21
<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>	22 <sup>nd</sup> May, 2009	<b>STPA NO.</b>	TP6D-SP-0059

**SUBJECT: 21<sup>st</sup> May, 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 21<sup>st</sup> of May, 2009. Sue Lanoë and Nigel MacLean 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 20°C
- Wind Direction: South to Southwest

**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 Sue Lanoë 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**  
**21<sup>st</sup> May 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 100m North of Prince Street on Dodd Street	0700	155	17	South	Upwind	Background	No observations seen to affect sampling integrity
2 30m South of Railway Road and Ferry Street intersection	0700	155	15	South	Downwind	Excavators and dump trucks working	No observations seen to affect sampling integrity
3 30m South of Railway Road and Ferry Street intersection	0725	155	12	South	Downwind	Excavators and dump trucks working	No observations seen to affect sampling integrity
4 100m North of Prince Street on Dodd Street	0800	155	13	South	Upwind	Background	No observations seen to affect sampling integrity
5 30m South of Railway Road and Ferry Street intersection	0800	155	12	South	Downwind	Excavators and dump trucks working	No observations seen to affect sampling integrity
6 30m South of Railway Road and Ferry Street intersection	0820	155	11	South	Downwind	Excavators and dump trucks working	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 100m North of Prince Street, Terminal Road intersection	0900	155	14	South	Upwind	Background	No observations seen to affect sampling integrity
8 30m South of Railway Road and Ferry Street intersection	0900	155	12	South	Downwind	Excavators and dump trucks working	No observations seen to affect sampling integrity
9 30m South of Railway Road and Ferry Street intersection	0920	155	10	South	Downwind	Excavators and dump trucks working	No observations seen to affect sampling integrity
10 100m North of Prince Street, Terminal Road intersection	1000	155	16	South	Upwind	Background	No observations seen to affect sampling integrity
11 30m South of Railway Road and Ferry Street intersection	1000	155	12	South	Downwind	Excavators and dump trucks working	No observations seen to affect sampling integrity
12 30m South of Railway Road and Ferry Street intersection	1040	155	13	South	Downwind	Excavators and dump trucks working	No observations seen to affect sampling integrity
13 100m North of Prince Street, Terminal Road intersection	1100	155	18	South	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 30m South of Railway Road and Ferry Street intersection	1100	155	15	South	Downwind	Excavators and dump trucks working	No observations seen to affect sampling integrity
15 30m South of Railway Road and Ferry Street intersection	1135	155	17	South	Downwind	Excavators and dump trucks working	No observations seen to affect sampling integrity
16 25m North of Prince Street on Dodd Street	1200	155	16	Southwest	Upwind	Background	No observations seen to affect sampling integrity
17 30m Southwest of Inglis Street and Ferry Street intersection	1200	155	44	Southwest	Downwind	Excavators and dump trucks working	No observations seen to affect sampling integrity
18 30m Southwest of Inglis Street and Ferry Street intersection	1225	155	30	Southwest	Downwind	No activity observed on site	No observations seen to affect sampling integrity
19 25m North of Prince Street on Dodd Street	1300	155	17	Southwest	Upwind	Background	No observations seen to affect sampling integrity
20 30m Southwest of Inglis Street and Ferry Street intersection	1300	155	33	Southwest	Downwind	Excavators and dump trucks working	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 30m Southwest of Inglis Street and Ferry Street intersection	1320	155	40	Southwest	Downwind	Excavators and dump trucks working	No observations seen to affect sampling integrity
22 25m North of Prince Street on Dodd Street	1400	155	23	Southwest	Upwind	Background	No observations seen to affect sampling integrity
23 30m Southwest of Inglis Street and Ferry Street intersection	1400	155	19	Southwest	Downwind	Excavators and dump trucks working	No observations seen to affect sampling integrity
24 30m Southwest of Inglis Street and Ferry Street intersection	1430	155	26	Southwest	Downwind	Excavators and dump trucks working	No observations seen to affect sampling integrity
25 25m North of Prince Street on Dodd Street	1500	155	18	Southwest	Upwind	Background	No observations seen to affect sampling integrity
26 30m Southwest of Inglis Street and Ferry Street intersection	1500	155	22	Southwest	Downwind	Excavators and dump trucks working	No observations seen to affect sampling integrity
27 30m Southwest of Inglis Street and Ferry Street intersection	1535	155	34	Southwest	Downwind	Excavators and dump trucks working	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 25m North of Prince Street on Dodd Street	1600	155	22	Southwest	Upwind	Background	No observations seen to affect sampling integrity
29 30m Southwest of Inglis Street and Ferry Street intersection	1600	155	28	Southwest	Downwind	Excavators and dump trucks working	No observations seen to affect sampling integrity
30 30m Southwest of Inglis Street and Ferry Street intersection	1625	155	26	Southwest	Downwind	Excavators and dump trucks working	No observations seen to affect sampling integrity
31 25m North of Prince Street on Dodd Street	1700	155	21	Southwest	Upwind	Background	No observations seen to affect sampling integrity
32 30m Southwest of Inglis Street and Ferry Street intersection	1700	155	41	Southwest	Downwind	Excavators and dump trucks working	No observations seen to affect sampling integrity
33 30m Southwest of Inglis Street and Ferry Street intersection	1745	155	26	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 ( $\mu\text{g}/\text{m}^3$ )
30m South of Railway Road and Ferry Street intersection	0700 to 0759	14	990
30m South of Railway Road and Ferry Street intersection	0800 to 0859	26	990
30m South of Railway Road and Ferry Street intersection	0900 to 0959	37	990
30m South of Railway Road and Ferry Street intersection	1000 to 1059	50	990
30m South of Railway Road and Ferry Street intersection	1100 to 1159	66	990
30m Southwest of Inglis Street and Ferry Street intersection	1200 to 1259	103	990
30m Southwest of Inglis Street and Ferry Street intersection	1300 to 1359	140	990
30m Southwest of Inglis Street and Ferry Street intersection	1400 to 1459	163	990
30m Southwest of Inglis Street and Ferry Street intersection	1500 to 1559	191	990



<b>Location</b>	<b>Duration</b>	<b>Dust Budget Value (µg/m<sup>3</sup>)</b>	<b>Dust Budget Exceedance Value (µg/m<sup>3</sup>)</b>
30m Southwest of Inglis Street and Ferry Street intersection	1600 to 1659	218	990
30m Southwest of Inglis Street and Ferry Street intersection	1700 to 1759	252	990

### VOC Monitoring

<b>Monitoring Method</b>	<b>Yes</b>	<b>No</b>
Sustained Odours Observed		•
P.I.D. Required	•	