

## MEMORANDUM

<b>TO</b>	Dawn MacNeil, STPA	<b>FILE NO.</b>	S-1332-23
<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>	26 <sup>th</sup> June, 2009		Terry Smith, ALL-TECH
		<b>STPA NO.</b>	<b>COCW-CL-0066</b>

**SUBJECT: 25<sup>th</sup> June, 2009 Real-time Air Monitoring Results  
Sydney Tar Ponds Agency – Vertical Cut-Off Walls, Clay Wall  
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 25<sup>th</sup> of June, 2009. Dave Reeves and Jeff King 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 26°C
- Wind Direction: 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 180 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 Jeff King 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 – Vertical Cut-Off Walls, Clay Wall**  
**25<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 1m Southeast of Cape Breton St. and Victoria Rd. Intersection (N46°08.840' W060°10.684')	0700	180	0	Southwest	Upwind	Background	No observations seen to affect sampling integrity
2 110m West of Lingan Rd. and Spar Rd. Intersection (N46°09.060' W060°10.692')	0700	180	5	Southwest	Downwind	No activity observed on site	No observations seen to affect sampling integrity
3 110m West of Lingan Rd. and Spar Rd. Intersection (N46°09.060' W060°10.692')	0730	180	4	Southwest	Downwind	Excavators and dump trucks in operation	No observations seen to affect sampling integrity
4 1m Southeast of Cape Breton St. and Victoria Rd. Intersection (N46°08.840' W060°10.684')	0800	180	19	Southwest	Upwind	Background	No observations seen to affect sampling integrity
5 110m West of Lingan Rd. and Spar Rd. Intersection (N46°09.060' W060°10.692')	0800	180	3	Southwest	Downwind	Excavators and dump trucks in operation	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 110m West of Lingan Rd. and Spar Rd. Intersection (N46°09.060' W060°10.692')	0840	180	4	Southwest	Downwind	Excavators and dump trucks in operation	No observations seen to affect sampling integrity
7 1m Southeast of Cape Breton St. and Victoria Rd. Intersection (N46°08.840' W060°10.684')	0900	180	5	Southwest	Upwind	Background	No observations seen to affect sampling integrity
8 110m West of Lingan Rd. and Spar Rd. Intersection (N46°09.060' W060°10.692')	0900	180	5	Southwest	Downwind	Excavators and dump trucks in operation	No observations seen to affect sampling integrity
9 110m West of Lingan Rd. and Spar Rd. Intersection (N46°09.060' W060°10.692')	0915	180	3	Southwest	Downwind	Excavators and dump trucks in operation	No observations seen to affect sampling integrity
10 1m Southeast of Cape Breton St. and Victoria Rd. Intersection (N46°08.840' W060°10.684')	1000	180	1	Southwest	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
11 30m South of Lingan Rd. and Spar Rd. intersection (N46°09.037' W060°10.582')	1000	180	5	Southwest	Downwind	Excavators and dump trucks in operation	No observations seen to affect sampling integrity
12 30m South of Lingan Rd. and Spar Rd. intersection (N46°09.037' W060°10.582')	1035	180	5	Southwest	Downwind	Excavators and dump trucks in operation	No observations seen to affect sampling integrity
13 1m Southeast of Cape Breton St. and Victoria Rd. Intersection (N46°08.840' W060°10.684')	1100	180	5	Southwest	Upwind	Background	No observations seen to affect sampling integrity
14 30m South of Lingan Rd. and Spar Rd. intersection (N46°09.037' W060°10.582')	1100	180	6	Southwest	Downwind	Excavators and dump trucks in operation	No observations seen to affect sampling integrity
15 1m Southeast of Cape Breton St. and Victoria Rd. Intersection (N46°08.840' W060°10.684')	1120	180	7	Southwest	Downwind	Excavators and dump trucks in operation	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
16 1m Southeast of Cape Breton St. and Victoria Rd. Intersection (N46°08.840' W060°10.684')	1200	180	13	Southwest	Upwind	Background	No observations seen to affect sampling integrity
17 30m South of Lingan Rd. and Spar Rd. intersection (N46°09.037' W060°10.582')	1200	180	7	Southwest	Downwind	No activity observed on site	No observations seen to affect sampling integrity
18 30m South of Lingan Rd. and Spar Rd. intersection (N46°09.037' W060°10.582')	1230	180	5	Southwest	Downwind	Excavators and dump trucks in operation	No observations seen to affect sampling integrity
19 1m Southeast of Cape Breton St. and Victoria Rd. Intersection (N46°08.840' W060°10.684')	1300	180	19	Southwest	Upwind	Background	No observations seen to affect sampling integrity
20 30m South of Lingan Rd. and Spar Rd. intersection (N46°09.037' W060°10.582')	1300	180	5	Southwest	Downwind	Excavators and dump trucks in operation	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 30m South of Lingan Rd. and Spar Rd. intersection (N46°09.037' W060°10.582')	1325	180	5	Southwest	Downwind	Excavators and dump trucks in operation	No observations seen to affect sampling integrity
22 1m Southeast of Cape Breton St. and Victoria Rd. Intersection (N46°08.840' W060°10.684')	1400	180	17	Southwest	Upwind	Background	No observations seen to affect sampling integrity
23 30m South of Lingan Rd. and Spar Rd. intersection (N46°09.037' W060°10.582')	1400	180	6	Southwest	Downwind	Excavators and dump trucks in operation	No observations seen to affect sampling integrity
24 30m South of Lingan Rd. and Spar Rd. intersection (N46°09.037' W060°10.582')	1415	180	7	Southwest	Downwind	Excavators and dump trucks in operation	No observations seen to affect sampling integrity
25 1m Southeast of Cape Breton St. and Victoria Rd. Intersection (N46°08.840' W060°10.684')	1500	180	15	Southwest	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
26 30m South of Lingan Rd. and Spar Rd. intersection (N46°09.037' W060°10.582')	1500	180	6	Southwest	Downwind	Excavators and dump trucks in operation	No observations seen to affect sampling integrity
27 30m South of Lingan Rd. and Spar Rd. intersection (N46°09.037' W060°10.582')	1530	180	7	Southwest	Downwind	Excavators and dump trucks in operation	No observations seen to affect sampling integrity
28 1m Southeast of Cape Breton St. and Victoria Rd. Intersection (N46°08.840' W060°10.684')	1600	180	16	Southwest	Upwind	Background	No observations seen to affect sampling integrity
29 30m South of Lingan Rd. and Spar Rd. intersection (N46°09.037' W060°10.582')	1600	180	6	Southwest	Downwind	Excavators and dump trucks in operation	No observations seen to affect sampling integrity
30 30m South of Lingan Rd. and Spar Rd. intersection (N46°09.037' W060°10.582')	1620	180	6	Southwest	Downwind	Excavators and dump trucks in operation	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
31 1m Southeast of Cape Breton St. and Victoria Rd. Intersection (N46°08.840' W060°10.684')	1700	180	14	Southwest	Upwind	Background	No observations seen to affect sampling integrity
32 30m South of Lingan Rd. and Spar Rd. intersection (N46°09.037' W060°10.582')	1700	180	6	Southwest	Downwind	Excavators and dump trucks in operation	No observations seen to affect sampling integrity
33 30m South of Lingan Rd. and Spar Rd. intersection (N46°09.037' W060°10.582')	1745	180	6	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.**

### Summary of Downwind PM<sub>10</sub> Action Levels

Average PM <sub>10</sub> Concentration (µg/m <sup>3</sup> )	Averaging Period (Hours)	Downwind Action Level (µg/m <sup>3</sup> )
5	1	125
5	4	85
5	8	70

### VOC Monitoring

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