

## MEMORANDUM

<b>TO</b>	Dawn MacNeil, STPA	<b>FILE NO.</b>	S-1325-02
<b>FROM</b>	Dianne Theriault	<b>SHIFT:</b>	0630 to 1715
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<b>DATE</b>	25 <sup>th</sup> May, 2009	<b>STPA NO.</b>	<b>COCW-0038</b>

**SUBJECT: 22<sup>nd</sup> May, 2009 Real-time Air Monitoring Results  
Sydney Tar Ponds Agency – Vertical Cut-off Walls  
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 22<sup>nd</sup> of May, 2009. Keith Neville 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 23°C
- Wind Direction: Southwest to Northwest to Northeast to North

**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 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  
 22<sup>nd</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 1m East of Victoria Rd. and Cape Breton St. intersection	0700	155	20	Southwest	Upwind	Background	No observations seen to affect sampling integrity
2 10m East of Lingan Rd. and Spar Rd. intersection	0700	155	24	Southwest	Downwind	Equipment operating	No observations seen to affect sampling integrity
3 10m East of Lingan Rd. and Spar Rd. intersection	0725	155	23	Southwest	Downwind	Equipment operating	No observations seen to affect sampling integrity
4 1m East of Victoria Rd. and Cape Breton St. intersection	0800	155	20	Southwest	Upwind	Background	No observations seen to affect sampling integrity
5 10m East of Lingan Rd. and Spar Rd. intersection	0800	155	36	Southwest	Downwind	Equipment operating	No observations seen to affect sampling integrity
6 10m East of Lingan Rd. and Spar Rd. intersection	0840	155	21	Southwest	Downwind	Equipment operating	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 30m North of Victoria Rd. and Cape Breton St. intersection	0900	155	34	Northwest	Upwind	Background	No observations seen to affect sampling integrity
8 20m East of coke ovens security trailer	0900	155	22	Northwest	Downwind	Equipment operating	No observations seen to affect sampling integrity
9 100m South of coke ovens security trailer	0945	155	24	Northwest	Downwind	Equipment operating	No observations seen to affect sampling integrity
10 50m North of CO5 gate on Cape Breton St.	1000	155	21	Northwest	Upwind	Background	No observations seen to affect sampling integrity
11 100m South of coke ovens security trailer	1000	155	24	Northwest	Downwind	Equipment operating	No observations seen to affect sampling integrity
12 100m South of coke ovens security trailer	1020	155	22	Northwest	Downwind	Equipment operating	No observations seen to affect sampling integrity
13 50m North of CO5 gate on Cape Breton St.	1100	155	20	Northwest	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 300m Southwest of coke ovens security trailer	1100	155	22	Northwest	Downwind	Equipment operating	No observations seen to affect sampling integrity
15 300m Southwest of coke ovens security trailer	1130	155	14	Northwest	Downwind	Equipment operating	No observations seen to affect sampling integrity
16 50m North of CO5 gate on Cape Breton St.	1200	155	15	Northwest	Upwind	Background	No observations seen to affect sampling integrity
17 300m Southwest of coke ovens security trailer	1200	155	16	Northwest	Downwind	Equipment operating	No observations seen to affect sampling integrity
18 300m Southwest of coke ovens security trailer	1215	155	15	Northwest	Downwind	Equipment operating	No observations seen to affect sampling integrity
19 20m Northeast of Lingan Rd. and Frederick St. intersection	1300	155	14	Northeast	Upwind	Background	No observations seen to affect sampling integrity
20 10m North of Cape Breton St. and Victoria Rd. intersection	1300	155	14	Northeast	Downwind	Equipment operating	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 10m North of Cape Breton St. and Victoria Rd. intersection	1340	155	28	Northeast	Downwind	Equipment operating	No observations seen to affect sampling integrity
22 20m Northeast of Lingan Rd. and Frederick St. intersection	1400	155	7	Northeast	Upwind	Background	No observations seen to affect sampling integrity
23 10m North of Cape Breton St. and Victoria Rd. intersection	1400	155	20	Northeast	Downwind	Equipment operating	No observations seen to affect sampling integrity
24 10m North of Cape Breton St. and Victoria Rd. intersection	1425	155	23	Northeast	Downwind	Equipment operating	No observations seen to affect sampling integrity
25 5m Northeast of Lingan Rd. and Frederick St. intersection	1500	155	11	North	Upwind	Background	No observations seen to affect sampling integrity
26 40m North of Cape Breton St and Victoria Rd. intersection	1500	155	20	North	Downwind	Equipment operating	No observations seen to affect sampling integrity
27 40m North of Cape Breton St and Victoria Rd. intersection	1535	155	15	North	Downwind	Equipment operating	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 5m Northeast of Lingan Rd. and Frederick St. intersection	1600	155	44	North	Upwind	Background	Dust from trucks on Frederick St.
29 40m North of Cape Breton St and Victoria Rd. intersection	1600	155	19	North	Downwind	Equipment operating	No observations seen to affect sampling integrity
30 40m North of Cape Breton St and Victoria Rd. intersection	1630	155	11	North	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 ( $\mu\text{g}/\text{m}^3$ )
10m East of Lingan Rd. and Spar Rd. intersection	0700 to 0759	24	990
10m East of Lingan Rd. and Spar Rd. intersection	0800 to 0859	53	990
20m East / 100m South of coke ovens security trailer	0900 to 0959	76	990
100m South of coke ovens security trailer	1000 to 1059	99	990
300m Southeast of coke ovens security trailer	1100 to 1159	117	990
300m Southeast of coke ovens security trailer	1200 to 1259	133	990
10m North of Cape Breton St. and Victoria Rd. intersection	1300 to 1359	154	990
10m North of Cape Breton St. and Victoria Rd. intersection	1400 to 1459	176	990
40m North of Cape Breton St. and Victoria Rd. intersection	1500 to 1559	194	990
40m North of Cape Breton St. and Victoria Rd. intersection	1600 to 1659	209	990



### VOC Monitoring

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