

## MEMORANDUM

<b>TO</b>	Dawn MacNeil, STPA	<b>FILE NO.</b>	S-1312-18
<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>	15 <sup>th</sup> May, 2009	<b>STPA NO.</b>	<b>CO2-PM-0049</b>

**SUBJECT: 14<sup>th</sup> May, 2009 Real-time Air Monitoring Results  
Sydney Tar Ponds Agency – Tar Cell, Pug Mill  
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 14<sup>th</sup> of May, 2009. Reg Peters and Dwayne Timmons 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 19°C
- Wind Direction: Southwest to West 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 SLR'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 – Tar Cell, Pug Mill**  
**14<sup>th</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 200m Southeast of old incinerator	0700	155	16	Southwest	Upwind	Background	No observations seen to affect sampling integrity
2 Shore Road, 50m South of Broadway St.	0700	155	14	Southwest	Downwind	Activity not visible from sample location	No observations seen to affect sampling integrity
3 Shore Road, 50m South of Broadway St.	0740	155	18	Southwest	Downwind	Activity not visible from sample location	No observations seen to affect sampling integrity
4 200m Southeast of old incinerator	0800	155	24	Southwest	Upwind	Background	No observations seen to affect sampling integrity
5 Shore Road, 50m South of Broadway St.	0800	155	18	Southwest	Downwind	Activity not visible from sample location	No observations seen to affect sampling integrity
6 Shore Road, 50m South of Broadway St.	0820	155	19	Southwest	Downwind	Activity not visible from sample 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
7 200m Southeast of old incinerator	0900	155	28	Southwest	Upwind	Background	No observations seen to affect sampling integrity
8 Shore Road, 50m South of Broadway St.	0900	155	15	Southwest	Downwind	Activity not visible from sample location	No observations seen to affect sampling integrity
9 Shore Road, 50m South of Broadway St.	0920	155	18	Southwest	Downwind	Activity not visible from sample location	No observations seen to affect sampling integrity
10 120m North of rail yard building	1000	155	12	West	Upwind	Background	No observations seen to affect sampling integrity
11 30m South of Holy Redeemer hall	1000	155	16	West	Downwind	No activity observed on site	No observations seen to affect sampling integrity
12 30m South of Holy Redeemer hall	1030	155	12	West	Downwind	Equipment operating	No observations seen to affect sampling integrity
13 120m North of rail yard building	1100	155	12	West	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 Holy Redeemer hall	1100	155	13	West	Downwind	Equipment operating	No observations seen to affect sampling integrity
15 30m South of Holy Redeemer hall	1140	155	14	West	Downwind	Equipment operating	No observations seen to affect sampling integrity
16 130m Northeast of rail yard building	1200	155	13	Southwest	Upwind	Background	No observations seen to affect sampling integrity
17 Shore Road, 50m North of Dominion St.	1200	155	36	Southwest	Downwind	Activity not visible from sample location	No observations seen to affect sampling integrity
18 Shore Road, 50m North of Dominion St.	1230	155	49	Southwest	Downwind	Activity not visible from sample location	No observations seen to affect sampling integrity
19 130m Northeast of rail yard building	1300	155	13	Southwest	Upwind	Background	No observations seen to affect sampling integrity
20 Shore Road, 50m North of Dominion St.	1300	155	23	Southwest	Downwind	Activity not visible from sample 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
21 Shore Road, 50m North of Dominion St.	1320	155	17	Southwest	Downwind	Activity not visible from sample location	No observations seen to affect sampling integrity
22 130m Northeast of rail yard building	1400	155	13	Southwest	Upwind	Background	No observations seen to affect sampling integrity
23 Shore Road, 50m North of Dominion St.	1400	155	22	Southwest	Downwind	Activity not visible from sample location	No observations seen to affect sampling integrity
24 Shore Road, 50m North of Dominion St.	1420	155	20	Southwest	Downwind	Activity not visible from sample location	No observations seen to affect sampling integrity
25 130m Northeast of rail yard building	1500	155	14	Southwest	Upwind	Background	No observations seen to affect sampling integrity
26 Shore Road, 50m North of Dominion St.	1500	155	20	Southwest	Downwind	Activity not visible from sample location	No observations seen to affect sampling integrity
27 Shore Road, 50m North of Dominion St.	1535	155	34	Southwest	Downwind	Activity not visible from sample 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 130m Northeast of rail yard building	1600	155	14	Southwest	Upwind	Background	No observations seen to affect sampling integrity
29 Shore Road, 50m North of Dominion St.	1600	155	35	Southwest	Downwind	Activity not visible from sample location	No observations seen to affect sampling integrity
30 Shore Road, 50m North of Dominion St.	1625	155	24	Southwest	Downwind	Activity not visible from sample location	No observations seen to affect sampling integrity
31 130m Northeast of rail yard building	1700	155	13	Southwest	Upwind	Background	No observations seen to affect sampling integrity
32 Shore Road, 50m North of Dominion St.	1700	155	27	Southwest	Downwind	Activity not visible from sample location	No observations seen to affect sampling integrity
33 Shore Road, 50m North of Dominion St.	1745	155	22	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 ( $\mu\text{g}/\text{m}^3$ )
Shore Road, 50m South of Broadway St.	0700 to 0759	16	990
Shore Road, 50m South of Broadway St.	0800 to 0859	35	990
Shore Road, 50m South of Broadway St.	0900 to 0959	52	990
30m South of Holy Redeemer hall	1000 to 1059	66	990
30m South of Holy Redeemer hall	1100 to 1159	80	990
Shore Road, 50m North of Dominion St.	1200 to 1259	123	990
Shore Road, 50m North of Dominion St.	1300 to 1359	143	990
Shore Road, 50m North of Dominion St.	1400 to 1459	164	990
Shore Road, 50m North of Dominion St.	1500 to 1559	191	990
Shore Road, 50m North of Dominion St.	1600 to 1659	221	990
Shore Road, 50m North of Dominion St.	1700 to 1759	246	990



### VOC Monitoring

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