

## MEMORANDUM

<b>TO</b>	Dawn MacNeil, STPA	<b>FILE NO.</b>	S-1330-07
<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>	11 <sup>th</sup> June, 2009		Terry Smith, ALL-TECH
		<b>STPA NO.</b>	<b>CO2-PM-0071</b>

**SUBJECT: 10<sup>th</sup> June, 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 10<sup>th</sup> of June, 2009. Keith Hennick 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 cloudy
- Temperature: approximately 10°C
- Wind Direction: West 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 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 Keith Hennick 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, Sysco Site**  
**10<sup>th</sup> June, 2009**

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
1 150m East of railway building (N 46°08.949') W 060°11.895')	0700	155	8	West	Upwind	Background	No observations seen to affect sampling integrity
2 80m East of Harbourside School entrance (N 46°09.708') W 060°11.379')	0700	155	8	West	Downwind	No activity observed on site	No observations seen to affect sampling integrity
3 80m East of Harbourside School entrance (N 46°09.708') W 060°11.379')	0730	155	7	West	Downwind	Excavator loading dump trucks	No observations seen to affect sampling integrity
4 150m East of railway building (N 46°08.949') W 060°11.895')	0800	155	13	West	Upwind	Background	No observations seen to affect sampling integrity
5 80m East of Harbourside School entrance (N 46°09.708') W 060°11.379')	0800	155	7	West	Downwind	Excavator loading dump trucks	No observations seen to affect sampling integrity
6 80m East of Harbourside School entrance (N 46°09.708') W 060°11.379')	0825	155	6	West	Downwind	Excavator loading dump trucks	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 150m Southeast of Henry St. and Laurier St. intersection (N46°09.186)' W 060°11.128')	0900	155	4	Southeast	Upwind	Background	No observations seen to affect sampling integrity
8 100m Southeast of railway building (N 46°08.964)' W 060°11.843')	0900	155	6	Southeast	Downwind	Activity not visible from sampling location	No observations seen to affect sampling integrity
9 100m Southeast of railway building (N 46°08.964)' W 060°11.843')	0940	155	4	Southeast	Downwind	Activity not visible from sampling location	No observations seen to affect sampling integrity
10 150m Southeast of Henry St. and Laurier St. intersection (N46°09.186)' W 060°11.128')	1000	155	3	Southeast	Upwind	Background	No observations seen to affect sampling integrity
11 100m Southeast of railway building (N 46°08.964)' W 060°11.843')	1000	155	3	Southeast	Downwind	Activity not visible from sampling location	No observations seen to affect sampling integrity
12 100m Southeast of railway building (N 46°08.964)' W 060°11.843')	1020	155	4	Southeast	Downwind	Activity not visible from sampling 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
13 150m Southeast of Henry St. and Laurier St. intersection (N46°09.186)' W 060°11.128')	1100	155	3	Southeast	Upwind	Background	No observations seen to affect sampling integrity
14 100m Southeast of railway building (N 46°08.964)' W 060°11.843')	1100	155	6	Southeast	Downwind	Activity not visible from sampling location	No observations seen to affect sampling integrity
15 100m Southeast of railway building (N 46°08.964)' W 060°11.843')	1145	155	6	Southeast	Downwind	Dump trucks moving material	No observations seen to affect sampling integrity
16 150m Southeast of Henry St. and Laurier St. intersection (N46°09.186)' W 060°11.128')	1200	155	3	Southeast	Upwind	Background	No observations seen to affect sampling integrity
17 100m Southeast of railway building (N 46°08.964)' W 060°11.843')	1200	155	9	Southeast	Downwind	Activity not visible from sampling location	No observations seen to affect sampling integrity
18 100m Southeast of railway building (N 46°08.964)' W 060°11.843')	1240	155	4	Southeast	Downwind	Activity not visible from sampling 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
19 150m Southeast of Henry St. and Laurier St. intersection (N46°09.186)' W 060°11.128')	1300	155	4	Southeast	Upwind	Background	No observations seen to affect sampling integrity
20 100m Southeast of railway building (N 46°08.964)' W 060°11.843')	1300	155	4	Southeast	Downwind	Activity not visible from sampling location	No observations seen to affect sampling integrity
21 100m Southeast of railway building (N 46°08.964)' W 060°11.843')	1335	155	7	Southeast	Downwind	Dump trucks moving material	No observations seen to affect sampling integrity
22 150m Southeast of Henry St. and Laurier St. intersection (N46°09.186)' W 060°11.128')	1400	155	8	Southeast	Upwind	Background	No observations seen to affect sampling integrity
23 100m Southeast of railway building (N 46°08.964)' W 060°11.843')	1400	155	5	Southeast	Downwind	Dump trucks moving material	No observations seen to affect sampling integrity
24 100m Southeast of railway building (N 46°08.964)' W 060°11.843')	1420	155	4	Southeast	Downwind	Activity not visible from sampling 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
25 150m Southeast of Henry St. and Laurier St. intersection (N46°09.186)' W 060°11.128')	1500	155	4	Southeast	Upwind	Background	No observations seen to affect sampling integrity
26 100m Southeast of railway building (N 46°08.964)' W 060°11.843')	1500	155	5	Southeast	Downwind	Dump trucks moving material	No observations seen to affect sampling integrity
27 100m Southeast of railway building (N 46°08.964)' W 060°11.843')	1545	155	5	Southeast	Downwind	Dump trucks moving material	No observations seen to affect sampling integrity
28 150m Southeast of Henry St. and Laurier St. intersection (N46°09.186)' W 060°11.128')	1600	155	4	Southeast	Upwind	Background	No observations seen to affect sampling integrity
29 100m Southeast of railway building (N 46°08.964)' W 060°11.843')	1600	155	4	Southeast	Downwind	Loader, dump trucks operating	No observations seen to affect sampling integrity
30 100m Southeast of railway building (N 46°08.964)' W 060°11.843')	1620	155	5	Southeast	Downwind	Dump trucks 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
31 150m Southeast of Henry St. and Laurier St. intersection (N46°09.186' W 060°11.128')	1700	155	5	Southeast	Upwind	Background	No observations seen to affect sampling integrity
32 100m Southeast of railway building (N 46°08.964' W 060°11.843')	1700	155	4	Southwest	Downwind	Dump trucks moving material	No observations seen to affect sampling integrity
33 100m Southeast of railway building (N 46°08.964' W 060°11.843')	1745	155	4	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 ( $\mu\text{g}/\text{m}^3$ )
80m East of Harbourside School entrance	0700 to 0759	8	990
80m East of Harbourside School entrance	0800 to 0859	15	990
100m Southeast of railway building	0900 to 0959	20	990
100m Southeast of railway building	1000 to 1059	24	990
100m Southeast of railway building	1100 to 1159	30	990
100m Southeast of railway building	1200 to 1259	37	990
100m Southeast of railway building	1300 to 1359	43	990
100m Southeast of railway building	1400 to 1459	48	990
100m Southeast of railway building	1500 to 1559	53	990
100m Southeast of railway building	1600 to 1659	58	990
100m Southeast of railway building	1700 to 1759	62	990

### VOC Monitoring

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