

## MEMORANDUM

<b>TO</b>	Dawn MacNeil, STPA	<b>FILE NO.</b>	S-1330-08
<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>	12 <sup>th</sup> June, 2009	<b>STPA NO.</b>	<b>CO2-NSL-0072</b>

**SUBJECT: 11<sup>th</sup> June, 2009 Real-time Air Monitoring Results  
Sydney Tar Ponds Agency – Tar Cell, Sysco Site  
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 11<sup>th</sup> of June, 2009. Jennifer Andrews and Reg Peters 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 11°C
- Wind Direction: 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 Jennifer Andrews 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**  
**11<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 30m Northeast of TP2 main entrance (N46°08.721' W060°10.946')	0700	155	6	Southeast	Upwind	Background	No observations seen to affect sampling integrity
2 110m Northeast of railway maintenance building (N46°08.971' W060°11.741')	0700	155	10	Southeast	Downwind	No activity observed on site	No observations seen to affect sampling integrity
3 110m Northeast of railway maintenance building (N46°08.971' W060°11.741')	0740	155	9	Southeast	Downwind	Equipment operating	No observations seen to affect sampling integrity
4 30m Northeast of TP2 main entrance (N46°08.721' W060°10.946')	0800	155	7	Southeast	Upwind	Background	No observations seen to affect sampling integrity
5 110m Northeast of railway maintenance building (N46°08.971' W060°11.741')	0800	155	7	Southeast	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
6 110m Northeast of railway maintenance building (N46°08.971' W060°11.741')	0825	155	7	Southeast	Downwind	Equipment operating	No observations seen to affect sampling integrity
7 30m Northeast of TP2 main entrance (N46°08.721' W060°10.946')	0900	155	8	Southeast	Upwind	Background	No observations seen to affect sampling integrity
8 110m Northeast of railway maintenance building (N46°08.971' W060°11.741')	0900	155	8	Southeast	Downwind	Equipment operating	No observations seen to affect sampling integrity
9 110m Northeast of railway maintenance building (N46°08.971' W060°11.741')	0920	155	8	Southeast	Downwind	Equipment operating	No observations seen to affect sampling integrity
10 30m Northeast of TP2 main entrance (N46°08.721' W060°10.946')	1000	155	15	Southeast	Upwind	Background	No observations seen to affect sampling integrity
11 110m Northeast of railway maintenance building (N46°08.971' W060°11.741')	1000	155	10	Southeast	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
12 110m Northeast of railway maintenance building (N46°08.971' W060°11.741')	1025	155	8	Southeast	Downwind	Equipment operating	No observations seen to affect sampling integrity
13 30m Northeast of TP2 main entrance (N46°08.721' W060°10.946')	1100	155	9	Southeast	Upwind	Background	No observations seen to affect sampling integrity
14 110m Northeast of railway maintenance building (N46°08.971' W060°11.741')	1100	155	15	Southeast	Downwind	Equipment operating	No observations seen to affect sampling integrity
15 110m Northeast of railway maintenance building (N46°08.971' W060°11.741')	1125	155	16	Southeast	Downwind	Equipment operating	No observations seen to affect sampling integrity
16 30m Northeast of TP2 main entrance (N46°08.721' W060°10.946')	1200	155	11	Southeast	Upwind	Background	No observations seen to affect sampling integrity
17 110m Northeast of railway maintenance building (N46°08.971' W060°11.741')	1200	155	9	Southeast	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
18 110m Northeast of railway maintenance building (N46°08.971' W060°11.741')	1220	155	9	Southeast	Downwind	Equipment operating	No observations seen to affect sampling integrity
19 30m Northeast of TP2 main entrance (N46°08.721' W060°10.946')	1300	155	10	Southeast	Upwind	Background	No observations seen to affect sampling integrity
20 110m Northeast of railway maintenance building (N46°08.971' W060°11.741')	1300	155	11	Southeast	Downwind	No activity observed on site	No observations seen to affect sampling integrity
21 110m Northeast of railway maintenance building (N46°08.971' W060°11.741')	1330	155	9	Southeast	Downwind	Equipment operating	No observations seen to affect sampling integrity
22 30m Northeast of TP2 main entrance (N46°08.721' W060°10.946')	1400	155	11	Southeast	Upwind	Background	No observations seen to affect sampling integrity
23 110m Northeast of railway maintenance building (N46°08.971' W060°11.741')	1400	155	15	Southeast	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
24 110m Northeast of railway maintenance building (N46°08.971' W060°11.741')	1420	155	12	Southeast	Downwind	Equipment operating	No observations seen to affect sampling integrity
25 30m Northeast of TP2 main entrance (N46°08.721' W060°10.946')	1500	155	15	Southeast	Upwind	Background	No observations seen to affect sampling integrity
26 110m Northeast of railway maintenance building (N46°08.971' W060°11.741')	1500	155	15	Southeast	Downwind	Equipment operating	No observations seen to affect sampling integrity
27 110m Northeast of railway maintenance building (N46°08.971' W060°11.741')	1520	155	24	Southeast	Downwind	Equipment operating	No observations seen to affect sampling integrity
28 30m Northeast of TP2 main entrance (N46°08.721' W060°10.946')	1600	155	12	Southeast	Upwind	Background	No observations seen to affect sampling integrity
29 110m Northeast of railway maintenance building (N46°08.971' W060°11.741')	1600	155	10	Southeast	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
30 110m Northeast of railway maintenance building (N46°08.971' W060°11.741')	1645	155	15	Southeast	Downwind	Equipment operating	No observations seen to affect sampling integrity
31 30m Northeast of TP2 main entrance (N46°08.721' W060°10.946')	1700	155	8	Southeast	Upwind	Background	No observations seen to affect sampling integrity
32 110m Northeast of railway maintenance building (N46°08.971' W060°11.741')	1700	155	12	Southeast	Downwind	Equipment operating	No observations seen to affect sampling integrity
33 110m Northeast of railway maintenance building (N46°08.971' W060°11.741')	1745	155	10	Southeast	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 ( $\mu\text{g}/\text{m}^3$ )
110m Northeast of railway maintenance building	0700 to 0759	10	990
110m Northeast of railway maintenance building	0800 to 0859	17	990
110m Northeast of railway maintenance building	0900 to 0959	26	990
110m Northeast of railway maintenance building	1000 to 1059	34	990
110m Northeast of railway maintenance building	1100 to 1159	50	990
110m Northeast of railway maintenance building	1200 to 1259	59	990
110m Northeast of railway maintenance building	1300 to 1359	69	990
110m Northeast of railway maintenance building	1400 to 1459	83	990
110m Northeast of railway maintenance building	1500 to 1559	103	990
110m Northeast of railway maintenance building	1600 to 1659	116	990
110m Northeast of railway maintenance building	1700 to 1759	127	990

### VOC Monitoring

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