

## MEMORANDUM

<b>TO</b>	Dawn MacNeil, STPA	<b>FILE NO.</b>	S-1312-06
<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>	6 <sup>th</sup> May, 2009	<b>STPA NO.</b>	<b>CO2-NSL-0037</b>

**SUBJECT: 5<sup>th</sup> May, 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 5<sup>th</sup> of May, 2009. Reg Peters 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 8°C
- Wind Direction: North to East

**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 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 – Tar Cell, Sysco Site**  
**5<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 100m Northeast of pug mill	0700	155	5	North	Upwind	Background	No observations seen to affect sampling integrity
2 100m East of railway maintenance building	0700	155	15	North	Downwind	No activity observed on site	No observations seen to affect sampling integrity
3 100m East of railway maintenance building	0740	155	11	North	Downwind	Trucks moving material	No observations seen to affect sampling integrity
4 100m Northeast of pug mill	0800	155	4	North	Upwind	Background	No observations seen to affect sampling integrity
5 100m East of railway maintenance building	0800	155	12	North	Downwind	Trucks moving material	No observations seen to affect sampling integrity
6 100m East of railway maintenance building	0845	155	5	North	Downwind	Trucks moving material	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 100m Northeast of pug mill	0900	155	3	North	Upwind	Background	No observations seen to affect sampling integrity
8 100m East of railway maintenance building	0900	155	23	North	Downwind	Trucks moving material	No observations seen to affect sampling integrity
9 100m East of railway maintenance building	0930	155	18	North	Downwind	Trucks moving material	No observations seen to affect sampling integrity
10 100m Northeast of pug mill	1000	155	3	North	Upwind	Background	No observations seen to affect sampling integrity
11 100m East of railway maintenance building	1000	155	7	North	Downwind	No activity visible from sampling location	No observations seen to affect sampling integrity
12 100m East of railway maintenance building	1040	155	5	North	Downwind	Trucks moving material	No observations seen to affect sampling integrity
13 100m Northeast of pug mill	1100	155	4	North	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 100m East of railway maintenance building	1100	155	6	North	Downwind	Trucks moving material	No observations seen to affect sampling integrity
15 100m East of railway maintenance building	1120	155	6	North	Downwind	Trucks moving material	No observations seen to affect sampling integrity
16 100m Northeast of pug mill	1200	155	5	North	Upwind	Background	No observations seen to affect sampling integrity
17 100m East of railway maintenance building	1200	155	7	North	Downwind	Trucks moving material	No observations seen to affect sampling integrity
18 100m East of railway maintenance building	1235	155	9	North	Downwind	Trucks moving material	No observations seen to affect sampling integrity
19 100m Northeast of pug mill	1300	155	5	North	Upwind	Background	No observations seen to affect sampling integrity
20 100m East of railway maintenance building	1300	155	7	North	Downwind	No activity visible from sampling location	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 100m East of railway maintenance building	1325	155	8	North	Downwind	No activity visible from sampling location	No observations seen to affect sampling integrity
22 150m East of pug mill	1400	155	5	East	Upwind	Background	No observations seen to affect sampling integrity
23 90m North of railway maintenance building	1400	155	7	East	Downwind	Trucks moving material	No observations seen to affect sampling integrity
24 90m North of railway maintenance building	1430	155	8	East	Downwind	Trucks moving material	No observations seen to affect sampling integrity
25 150m East of pug mill	1500	155	5	East	Upwind	Background	No observations seen to affect sampling integrity
26 90m North of railway maintenance building	1500	155	9	East	Downwind	Trucks moving material	No observations seen to affect sampling integrity
27 90m North of railway maintenance building	1525	155	12	East	Downwind	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
28 150m East of pug mill	1600	155	6	East	Upwind	Background	No observations seen to affect sampling integrity
29 90m North of railway maintenance building	1600	155	8	East	Downwind	Trucks moving material	No observations seen to affect sampling integrity
30 90m North of railway maintenance building	1620	155	9	East	Downwind	Trucks moving material	No observations seen to affect sampling integrity
31 150m East of pug mill	1700	155	5	East	Upwind	Background	No observations seen to affect sampling integrity
32 90m North of railway maintenance building	1700	155	6	East	Downwind	Trucks moving material	No observations seen to affect sampling integrity
33 90m North of railway maintenance building	1745	155	6	East	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 ( $\mu\text{g}/\text{m}^3$ )
100m East of railway maintenance building	0700 to 0759	13	990
100m East of railway maintenance building	0800 to 0859	22	990
100m East of railway maintenance building	0900 to 0959	43	990
100m East of railway maintenance building	1000 to 1059	49	990
100m East of railway maintenance building	1100 to 1159	55	990
100m East of railway maintenance building	1200 to 1259	63	990
100m East of railway maintenance building	1300 to 1359	71	990
90m North of railway maintenance building	1400 to 1459	79	990
90m North of railway maintenance building	1500 to 1559	90	990
90m North of railway maintenance building	1600 to 1659	99	990
90m North of railway maintenance building	1700 to 1759	105	990



### VOC Monitoring

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