

## MEMORANDUM

<b>TO</b>	Dawn MacNeil, STPA	<b>FILE NO.</b>	S-1312-04
<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>	5 <sup>th</sup> May, 2009	<b>STPA NO.</b>	<b>CO2-NSL-0035</b>

**SUBJECT: 4<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 4<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 18°C  
- Wind Direction: Southwest to West

**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**  
**4<sup>th</sup> May, 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 100m Northeast of railway building	0700	155	5	Southwest	Upwind	Background	No observations seen to affect sampling integrity
2 50m South of old incinerator	0700	155	15	Southwest	Downwind	No activity observed on site	No observations seen to affect sampling integrity
3 50m South of old incinerator	0730	155	13	Southwest	Downwind	Trucks dumping material	No observations seen to affect sampling integrity
4 100m Northeast of railway building	0800	155	3	Southwest	Upwind	Background	No observations seen to affect sampling integrity
5 50m South of old incinerator	0800	155	10	Southwest	Downwind	Trucks dumping material	No observations seen to affect sampling integrity
6 50m South of old incinerator	0815	155	17	Southwest	Downwind	Trucks dumping 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 railway building	0900	155	9	Southwest	Upwind	Background	No observations seen to affect sampling integrity
8 50m South of old incinerator	0900	155	13	Southwest	Downwind	Trucks dumping material	No observations seen to affect sampling integrity
9 50m South of old incinerator	0920	155	13	Southwest	Downwind	Trucks dumping material	No observations seen to affect sampling integrity
10 100m Northeast of railway building	1000	155	7	Southwest	Upwind	Background	No observations seen to affect sampling integrity
11 50m South of old incinerator	1000	155	11	Southwest	Downwind	No activity observed on site	No observations seen to affect sampling integrity
12 50m South of old incinerator	1035	155	18	Southwest	Downwind	Trucks dumping material	No observations seen to affect sampling integrity
13 100m Northeast of railway building	1100	155	9	Southwest	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 50m South of old incinerator	1100	155	18	Southwest	Downwind	Trucks dumping material	No observations seen to affect sampling integrity
15 50m South of old incinerator	1130	155	18	Southwest	Downwind	Trucks dumping material	No observations seen to affect sampling integrity
16 100m Northeast of railway building	1200	155	12	Southwest	Upwind	Background	No observations seen to affect sampling integrity
17 50m South of old incinerator	1200	155	17	Southwest	Downwind	Trucks dumping material	No observations seen to affect sampling integrity
18 50m South of old incinerator	1215	155	17	Southwest	Downwind	Trucks dumping material	No observations seen to affect sampling integrity
19 100m Northeast of railway building	1300	155	11	Southwest	Upwind	Background	No observations seen to affect sampling integrity
20 50m South of old incinerator	1300	155	17	Southwest	Downwind	No activity observed on site	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 50m South of old incinerator	1345	155	16	Southwest	Downwind	Trucks dumping material	No observations seen to affect sampling integrity
22 100m Northeast of railway building	1400	155	11	West	Upwind	Background	No observations seen to affect sampling integrity
23 150m South of old incinerator	1400	155	20	West	Downwind	Trucks dumping material	No observations seen to affect sampling integrity
24 150m South of old incinerator	1420	155	20	West	Downwind	Trucks dumping material	No observations seen to affect sampling integrity
25 100m Northeast of railway building	1500	155	12	West	Upwind	Background	No observations seen to affect sampling integrity
26 150m South of old incinerator	1500	155	16	West	Downwind	Trucks dumping material	No observations seen to affect sampling integrity
27 150m South of old incinerator	1535	155	19	West	Downwind	Trucks dumping 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 100m Northeast of railway building	1600	155	13	West	Upwind	Background	No observations seen to affect sampling integrity
29 150m South of old incinerator	1600	155	16	West	Downwind	Trucks dumping material	No observations seen to affect sampling integrity
30 150m South of old incinerator	1615	155	21	West	Downwind	Trucks dumping material	No observations seen to affect sampling integrity
31 100m Northeast of railway building	1700	155	12	West	Upwind	Background	No observations seen to affect sampling integrity
32 150m South of old incinerator	1700	155	30	West	Downwind	Trucks dumping material	No observations seen to affect sampling integrity
33 150m South of old incinerator	1745	155	20	West	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 ( $\mu\text{g}/\text{m}^3$ )
50m South of old incinerator	0700 to 0759	14	990
50m South of old incinerator	0800 to 0859	28	990
50m South of old incinerator	0900 to 0959	41	990
50m South of old incinerator	1000 to 1059	56	990
50m South of old incinerator	1100 to 1159	74	990
50m South of old incinerator	1200 to 1259	91	990
50m South of old incinerator	1300 to 1359	108	990
150m South of old incinerator	1400 to 1459	128	990
150m South of old incinerator	1500 to 1559	146	990
150m South of old incinerator	1600 to 1659	165	990
150m South of old incinerator	1700 to 1759	190	990



### VOC Monitoring

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