

## MEMORANDUM

<b>TO</b>	Dawn MacNeil, STPA	<b>FILE NO.</b>	S-1293-17
<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>	23 <sup>rd</sup> April, 2009		Terry Smith, ALL-TECH
		<b>STPA NO.</b>	<b>CO2-0020</b>

**SUBJECT: 22<sup>nd</sup> April, 2009 Real-time Air Monitoring Results  
Sydney Tar Ponds Agency – Tar Cell  
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 22<sup>nd</sup> of April, 2009. Colin MacIsaac 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 9°C
- Wind Direction: Southwest

**Comments:** *ALL-TECH was on-Site at 0630 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 Colin MacIsaac 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:

Shawn Bernon [shawn@tarpondscleanup.ca](mailto:shawn@tarpondscleanup.ca), Wilfred Kaiser [wilfred@tarpondscleanup.ca](mailto:wilfred@tarpondscleanup.ca), Nancy LeDrew [nancy@tarpondscleanup.ca](mailto:nancy@tarpondscleanup.ca), Trish Magliaro [trish@tarpondscleanup.ca](mailto:trish@tarpondscleanup.ca), Terry Smith [tsmith@toalltech.com](mailto:tsmith@toalltech.com), Phyllis Low [pilow@toalltech.com](mailto:pilow@toalltech.com), Dianne Theriault [dtheriault@toalltech.com](mailto:dtheriault@toalltech.com), Darren Gardiner [dgardiner@croworld.com](mailto:dgardiner@croworld.com), Darren Lawless [dlawless@toalltech.com](mailto:dlawless@toalltech.com), Kevin Mac Pherson [kevinmacp@cbcl.ca](mailto:kevinmacp@cbcl.ca), Kathy Harquail [kharquail@toalltech.com](mailto:kharquail@toalltech.com)

**Real-time Airborne PM<sub>10</sub> Concentration Results**  
**Sydney Tar Ponds Agency – Tar Cell**  
**22<sup>nd</sup> April, 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 50m South of Spar Road, Spar Road Extension intersection	0700	155	21	Southwest	Upwind	Background	No observations seen to affect sampling integrity
2 50m East of CO2 main gate	0700	155	17	Southwest	Downwind	No activity observed on site	No observations seen to affect sampling integrity
3 50m East of CO2 main gate	0740	155	17	Southwest	Downwind	Excavators moving material	No observations seen to affect sampling integrity
4 50m South of Spar Road, Spar Road Extension intersection	0800	155	25	Southwest	Upwind	Background	No observations seen to affect sampling integrity
5 50m East of CO2 main gate	0800	155	16	Southwest	Downwind	Excavators moving material	No observations seen to affect sampling integrity
6 50m East of CO2 main gate	0820	155	17	Southwest	Downwind	Excavators 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
7 50m South of Spar Road, Spar Road Extension intersection	0900	155	32	Southwest	Upwind	Background	No observations seen to affect sampling integrity
8 50m East of CO2 main gate	0900	155	18	Southwest	Downwind	Excavators moving material	No observations seen to affect sampling integrity
9 50m East of CO2 main gate	0945	155	18	Southwest	Downwind	Excavators moving material	No observations seen to affect sampling integrity
10 50m South of Spar Road, Spar Road Extension intersection	1000	155	31	Southwest	Upwind	Background	No observations seen to affect sampling integrity
11 50m East of CO2 main gate	1000	155	18	Southwest	Downwind	No activity observed on site	No observations seen to affect sampling integrity
12 50m East of CO2 main gate	1035	155	19	Southwest	Downwind	Excavators moving material	No observations seen to affect sampling integrity
13 50m South of Spar Road, Spar Road Extension intersection	1100	155	33	Southwest	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 50m East of CO2 main gate	1100	155	19	Southwest	Downwind	Excavators moving material	No observations seen to affect sampling integrity
15 50m East of CO2 main gate	1145	155	21	Southwest	Downwind	Excavators moving material	No observations seen to affect sampling integrity
16 50m South of Spar Road, Spar Road Extension intersection	1200	155	36	Southwest	Upwind	Background	No observations seen to affect sampling integrity
17 50m East of CO2 main gate	1200	155	22	Southwest	Downwind	Excavators moving material	No observations seen to affect sampling integrity
18 50m East of CO2 main gate	1230	155	22	Southwest	Downwind	Excavators moving material	No observations seen to affect sampling integrity
19 50m South of Spar Road, Spar Road Extension intersection	1300	155	34	Southwest	Upwind	Background	No observations seen to affect sampling integrity
20 50m East of CO2 main gate	1300	155	23	Southwest	Downwind	No activity observed on site	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 50m East of CO2 main gate	1345	155	25	Southwest	Downwind	Excavators moving material	No observations seen to affect sampling integrity
22 50m South of Spar Road, Spar Road Extension intersection	1400	155	35	Southwest	Upwind	Background	No observations seen to affect sampling integrity
23 50m East of CO2 main gate	1400	155	25	Southwest	Downwind	Excavators moving material	No observations seen to affect sampling integrity
24 50m East of CO2 main gate	1445	155	26	Southwest	Downwind	Excavators moving material	No observations seen to affect sampling integrity
25 50m South of Spar Road, Spar Road Extension intersection	1500	155	37	Southwest	Upwind	Background	No observations seen to affect sampling integrity
26 50m East of CO2 main gate	1500	155	26	Southwest	Downwind	No activity observed on site	No observations seen to affect sampling integrity
27 50m East of CO2 main gate	1535	155	26	Southwest	Downwind	Excavators 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 50m South of Spar Road, Spar Road Extension intersection	1600	155	30	Southwest	Upwind	Background	No observations seen to affect sampling integrity
29 50m East of CO2 main gate	1600	155	24	Southwest	Downwind	Excavators moving material	No observations seen to affect sampling integrity
30 50m East of CO2 main gate	1625	155	26	Southwest	Downwind	Excavators moving material	No observations seen to affect sampling integrity
31 50m South of Spar Road, Spar Road Extension intersection	1700	155	29	Southwest	Upwind	Background	No observations seen to affect sampling integrity
32 50m East of CO2 main gate	1700	155	26	Southwest	Downwind	Excavators moving material	No observations seen to affect sampling integrity
33 50m East of CO2 main gate	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 ( $\mu\text{g}/\text{m}^3$ )
50m East of CO2 main gate	0700 to 0759	17	990
50m East of CO2 main gate	0800 to 0859	34	990
50m East of CO2 main gate	0900 to 0959	52	990
50m East of CO2 main gate	1000 to 1059	71	990
50m East of CO2 main gate	1100 to 1159	91	990
50m East of CO2 main gate	1200 to 1259	113	990
50m East of CO2 main gate	1300 to 1359	137	990
50m East of CO2 main gate	1400 to 1459	163	990
50m East of CO2 main gate	1500 to 1559	189	990
50m East of CO2 main gate	1600 to 1659	214	990
50m East of CO2 main gate	1700 to 1759	238	990



### VOC Monitoring

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