

## MEMORANDUM

<b>TO</b>	Dawn MacNeil, STPA	<b>FILE NO.</b>	S-1114-07
<b>FROM</b>	Grant Harrigan	<b>SHIFT:</b>	0630 to 1930
<b>TEL</b>	(902) 539-3012	<b>CC:</b>	Shawn Bernon, STPA
<b>FAX</b>	(902) 539-3381		Wilfred Kaiser, STPA
<b>DATE</b>	8 <sup>th</sup> April, 2008		Terry Smith, ALL-TECH
		<b>STPA NO.</b>	<b>CP-0118</b>

**SUBJECT: 7<sup>th</sup> April, 2008, Real-time Air Monitoring Results  
Sydney Tar Ponds Agency – Cooling Pond  
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 7<sup>th</sup> of April, 2008. Colin MacIsaac and Reggie Peters of ALL-TECH Environmental Services Cape Breton Limited (ALL-TECH), performed all air monitoring activities.

Weather conditions on the day of sampling:

- Clear Skies
- Temperature: approximately 6°C (data unavailable from Environment Canada)
- Wind Direction: Southwest to Northeast to North

**Comments:** *ALL-TECH was on-Site at 0630 and sampling began as soon as there was Site activity. Air monitoring was performed during EarthTech'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), TVOC sampling is halted and resumes after the precipitation has ended.

This report has been prepared by Colin MacIsaac and reviewed by Grant Harrigan and Dianne Theriault. If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,



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Grant Harrigan, 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 – Cooling Pond**  
**7<sup>th</sup> April, 2008**

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 Northwest of STPA building	0710	155	21	Southwest	Downwind	No activity observed on-Site	No observations seen to effect sampling integrity
2 25m Northwest of Terminal Road, Inglis Street intersection	0715	155	36	Southwest	Upwind	Background	Varying wind direction
3 100m Northwest of STPA building	0725	155	17	Southwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
4 30m Northwest of former weigh station, East of Inglis Street	0800	155	16	Northeast	Upwind	Background	No observations seen to effect sampling integrity
5 30m Northwest of Inglis Street, Terminal Road intersection	0800	155	11	North	Downwind	Excavators moving material	Calm winds
6 30m Northwest of Inglis Street, Terminal Road intersection	0815	155	10	North	Downwind	Excavators moving material	Calm winds
7 30m Northwest of former weigh station, East of Inglis Street	0900	155	12	Northeast	Upwind	Background	No observations seen to effect 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
8 30m Northeast of Acadian Lines terminal	0900	155	14	Northeast	Downwind	Excavators moving material	No observations seen to effect sampling integrity
9 30m Northeast of Acadian Lines terminal	0935	155	9	Northeast	Downwind	Excavators moving material	No observations seen to effect sampling integrity
10 50m North of STPA building	1000	155	7	Northeast	Upwind	Background	No observations seen to effect sampling integrity
11 30m Northeast of Acadian Lines terminal	1000	155	7	Northeast	Downwind	Excavators moving material	No observations seen to effect sampling integrity
12 30m Northeast of Acadian Lines terminal	1045	155	9	Northeast	Downwind	Excavators moving material	No observations seen to effect sampling integrity
13 50m North of STPA building	1100	155	5	Northeast	Upwind	Background	No observations seen to effect sampling integrity
14 30m Northeast of Acadian Lines terminal	1100	155	9	Northeast	Downwind	Excavators moving material	No observations seen to effect sampling integrity
15 15m North of Inglis Street, Terminal Road intersection	1130	155	22	North	Downwind	Excavators moving material	No observations seen to effect 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
16 65m West of Ferry Street bridge	1200	155	8	North	Upwind	Background	No observations seen to effect sampling integrity
17 15m North of Inglis Street, Terminal Road intersection	1200	155	12	North	Downwind	Excavators moving material	No observations seen to effect sampling integrity
18 30m Northwest of Inglis Street, Terminal Road intersection	1225	155	24	North	Downwind	Excavators moving material	No observations seen to effect sampling integrity
19 60m North of STPA building	1300	155	9	Northeast	Upwind	Background	No observations seen to effect sampling integrity
20 30m Northwest of Inglis Street, Terminal Road intersection	1300	155	10	North	Downwind	Excavators moving material	No observations seen to effect sampling integrity
21 30m Northwest of Inglis Street, Terminal Road intersection	1320	155	16	North	Downwind	Excavators moving material	No observations seen to effect sampling integrity
22 60m North of STPA building	1400	155	8	North	Upwind	Background	No observations seen to effect sampling integrity
23 30m Northwest of Inglis Street, Terminal Road intersection	1400	155	15	North	Downwind	Excavators moving material	No observations seen to effect 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 30m Northwest of Inglis Street, Terminal Road intersection	1420	155	51	North	Downwind	Excavators moving material	No observations seen to effect sampling integrity
25 60m North of STPA building	1500	155	9	North	Upwind	Background	No observations seen to effect sampling integrity
26 40m Northwest of Inglis Street, Terminal Road intersection	1500	155	28	North	Downwind	Excavators moving material	No observations seen to effect sampling integrity
27 40m Northwest of Inglis Street, Terminal Road intersection	1545	155	31	North	Downwind	Excavators moving material	No observations seen to effect sampling integrity
28 60m North of STPA building	1600	155	9	North	Upwind	Background	No observations seen to effect sampling integrity
29 40m Northwest of Inglis Street, Terminal Road intersection	1600	155	23	North	Downwind	Excavator moving material	No observations seen to effect sampling integrity
30 40m Northwest of Inglis Street, Terminal Road intersection	1630	155	18	North	Downwind	Excavator moving material	No observations seen to effect sampling integrity
31 60m North of STPA building	1700	155	22	North	Upwind	Background	Downwind from grass fire

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
32 40m Northwest of Inglis Street, Terminal Road intersection	1700	155	20	North	Downwind	Excavator moving material	No observations seen to effect sampling integrity
33 40m Northwest of Inglis Street, Terminal Road intersection	1745	155	10	North	Downwind	Excavator moving material	No observations seen to effect sampling integrity
34 30m Northwest of former weigh station	1800	155	51	North	Upwind	Background	Downwind from grass fire
35 40m Northwest of Inglis Street, Terminal Road intersection	1800	155	27	North	Downwind	Payloader moving material	No observations seen to effect sampling integrity
36 40m Northwest of Inglis Street, Terminal Road intersection	1845	155	7	North	Downwind	No activity observed on-Site	No observations seen to effect 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 Northwest of STPA building	0700 to 0759	19	990
30m Northwest of Inglis Street, Terminal Road intersection	0800 to 0859	30	990
30m Northeast of Acadian Lines terminal	0900 to 0959	42	990
30m Northeast of Acadian Lines terminal	1000 to 1059	50	990
30m Northeast of Acadian Lines terminal	1100 to 1159	66	990
15m North of Inglis Street, Terminal Road intersection	1200 to 1259	84	990
30m Northwest of Inglis Street, Terminal Road intersection	1300 to 1359	97	990
30m Northwest of Inglis Street, Terminal Road intersection	1400 to 1459	130	990
40m Northwest of Inglis Street, Terminal Road intersection	1500 to 1559	160	990



Location	Duration	Dust Budget Value ( $\mu\text{g}/\text{m}^3$ )	Dust Budget Exceedance Value ( $\mu\text{g}/\text{m}^3$ )
40m Northwest of Inglis Street, Terminal Road intersection	1600 to 1659	181	990
40m Northwest of Inglis Street, Terminal Road intersection	1700 to 1759	196	990
40m Northwest of Inglis Street, Terminal Road intersection	1800 to 1859	213	990

### VOC Monitoring

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