

## MEMORANDUM

<b>TO</b>	Dawn MacNeil, STPA	<b>FILE NO.</b>	S-1100-01
<b>FROM</b>	Grant Harrigan	<b>SHIFT:</b>	0630 to 1915
<b>TEL</b>	(902) 539-3012	<b>CC:</b>	Shawn Bernon, STPA
<b>FAX</b>	(902) 539-3381		Wilfred Kaiser, STPA
<b>DATE</b>	4 <sup>th</sup> March, 2008		Terry Smith, ALL-TECH
		<b>STPA NO.</b>	<b>CP-0086</b>

**SUBJECT: 3<sup>rd</sup> March 2008, Real-time Air Monitoring Results  
Sydney Tar Ponds Agency – Cooling Pond  
FINAL REPORT**

---

Attached is a summary of Real-time particulate (as PM<sub>10</sub>) results for air monitoring performed on the 3<sup>rd</sup> of March, 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:

- Overcast with flurries changing to clear skies
- Temperature: -6°C (data unavailable from Environment Canada)
- Wind Direction: Northwest 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.*

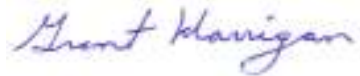
All downwind and upwind measurements of PM<sub>10</sub> were well below the established Site Action Level for this parameter of 155 µg/m<sup>3</sup>.

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. If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,



---

Grant Harrigan, 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 [pjlow@toalltech.com](mailto:pjlow@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 – Cooling Pond**  
**3<sup>rd</sup> March, 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 30m North of Walker Street, Ferry Street intersection	0700	155	7	Northwest	Upwind	Background	No observations seen to effect sampling integrity
2 50m Southwest of STPA building	0700	155	9	Northwest	Downwind	Excavators moving materials	No observations seen to effect sampling integrity
3 50m Southwest of STPA building	0744	155	9	Northwest	Downwind	Excavators moving materials	No observations seen to effect sampling integrity
4 30m North of Walker Street, Ferry Street intersection	0800	155	7	Northwest	Upwind	Background	No observations seen to effect sampling integrity
5 50m Southwest of STPA building	0800	155	10	Northwest	Downwind	Excavators moving materials	No observations seen to effect sampling integrity
6 50m Southwest of STPA building	0815	155	10	Northwest	Downwind	Excavators moving materials	No observations seen to effect sampling integrity
7 70m Northwest of Spar Road, Inglis Street intersection	0900	155	10	North	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 100m Northeast of Inglis Street, Terminal Road intersection	0905	155	11	North	Downwind	Excavators moving materials	No observations seen to effect sampling integrity
9 100m Northeast of Inglis Street, Terminal Road intersection	0944	155	8	North	Downwind	Excavators moving materials	No observations seen to effect sampling integrity
10 70m Northwest of Spar Road, Inglis Street intersection	1000	155	10	North	Upwind	Background	No observations seen to effect sampling integrity
11 100m Northeast of Inglis Street, Terminal Road intersection	1000	155	9	North	Downwind	Excavators moving materials	No observations seen to effect sampling integrity
12 100m Northeast of Inglis Street, Terminal Road intersection	1015	155	9	North	Downwind	Excavators moving materials	No observations seen to effect sampling integrity
13 30m North of Walker Street, Ferry Street intersection	1100	155	6	North	Upwind	Background	No observations seen to effect sampling integrity
14 100m Northeast of Inglis Street, Terminal Road intersection	1100	155	11	North	Downwind	Excavators moving materials	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
15 100m Northeast of Inglis Street, Terminal Road intersection	1130	155	10	North	Downwind	Excavators moving materials	No observations seen to effect sampling integrity
16 30m North of Walker Street, Ferry Street intersection	1200	155	6	North	Upwind	Background	No observations seen to effect sampling integrity
17 100m Northeast of Inglis Street, Terminal Road intersection	1200	155	7	North	Downwind	Excavators moving materials	No observations seen to effect sampling integrity
18 100m Northeast of Inglis Street, Terminal Road intersection	1245	155	10	North	Downwind	Excavators moving materials	No observations seen to effect sampling integrity
19 30m North of Walker Street, Ferry Street intersection	1300	155	4	North	Upwind	Background	No observations seen to effect sampling integrity
20 90m Northeast of Inglis Street, Terminal Road intersection	1300	155	8	North	Downwind	Excavators moving materials	No observations seen to effect sampling integrity
21 90m Northeast of Inglis Street, Terminal Road intersection	1344	155	8	North	Downwind	Excavators moving materials	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
22 30m North of Walker Street, Ferry Street intersection	1400	155	4	North	Upwind	Background	No observations seen to effect sampling integrity
23 90m Northeast of Inglis Street, Terminal Road intersection	1400	155	8	North	Downwind	Excavators moving materials	No observations seen to effect sampling integrity
24 90m Northeast of Inglis Street, Terminal Road intersection	1435	155	4	North	Downwind	Excavators moving materials	No observations seen to effect sampling integrity
25 30m North of Walker Street, Ferry Street intersection	1500	155	3	North	Upwind	Background	No observations seen to effect sampling integrity
26 90m Northeast of Inglis Street, Terminal Road intersection	1500	155	5	North	Downwind	Excavators moving materials	No observations seen to effect sampling integrity
27 90m Northeast of Inglis Street, Terminal Road intersection	1525	155	7	North	Downwind	Excavators moving materials	No observations seen to effect sampling integrity
28 30m North of Walker Street, Ferry Street intersection	1600	155	3	North	Upwind	Background	No observations seen to effect sampling integrity
29 90m Northeast of Inglis Street, Terminal Road intersection	1600	155	24	North	Downwind	Excavators moving materials	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
30 90m Northeast of Inglis Street, Terminal Road intersection	1640	155	4	North	Downwind	Excavators moving materials	No observations seen to effect sampling integrity
31 30m North of Walker Street, Ferry Street intersection	1700	155	3	North	Upwind	Background	No observations seen to effect sampling integrity
32 90m Northeast of Inglis Street, Terminal Road intersection	1700	155	5	North	Downwind	Excavators moving materials	No observations seen to effect sampling integrity
33 20m West of STPA building	1740	155	14	West	Downwind	Excavators moving materials	No observations seen to effect sampling integrity
34 30m North of Walker Street, Ferry Street intersection	1800	155	6	Northwest	Upwind	Background	No observations seen to effect sampling integrity
35 20m West of STPA building	1800	155	10	West	Downwind	Excavators moving materials	No observations seen to effect sampling integrity
36 20m West of STPA building	1830	155	4	West	Downwind	No activity observed	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 ( $\mu\text{g}/\text{m}^3$ )
50m Southwest of STPA building	0700 to 0759	9	990
50m Southwest of STPA building	0800 to 0859	19	990
100m Northeast of Inglis Street, Terminal Road intersection	0900 to 0959	29	990
100m Northeast of Inglis Street, Terminal Road intersection	1000 to 1059	38	990
100m Northeast of Inglis Street, Terminal Road intersection	1100 to 1159	49	990
100m Northeast of Inglis Street, Terminal Road intersection	1200 to 1259	58	990
90m Northeast of Inglis Street, Terminal Road intersection	1300 to 1359	66	990
90m Northeast of Inglis Street, Terminal Road intersection	1400 to 1459	72	990
90m Northeast of Inglis Street, Terminal Road intersection	1500 to 1559	78	990



Location	Duration	Dust Budget Value ( $\mu\text{g}/\text{m}^3$ )	Dust Budget Exceedance Value ( $\mu\text{g}/\text{m}^3$ )
90m Northeast of Inglis Street, Terminal Road intersection	1600 to 1659	92	990
90m Northeast of Inglis Street, Terminal Road intersection	1700 to 1759	102	990
20m West of STPA building	1800 to 1859	109	990

### VOC Monitoring

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