

MEMORANDUM

TO Dawn MacNeil, STPA
FROM Grant Harrigan
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DATE 27th March, 2008

FILE NO. S-1100-22
SHIFT: 0630 to 1745
CC: Shawn Bernon, STPA
Wilfred Kaiser, STPA
Terry Smith, ALL-TECH
STPA NO. CP-0107

**SUBJECT: 26th March, 2008, Real-time Air Monitoring Results
Sydney Tar Ponds Agency – Cooling Pond
FINAL REPORT**

Attached is a summary of Real-time particulate (as PM₁₀) results for air monitoring performed on the 26th 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
- Temperature: approximately -3°C (data unavailable from Environment Canada)
- 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 EarthTech's construction activities.*

The downwind location had an exceedance at 1300 of 214 µg/m³. ALL-TECH contacted EarthTech to inform them about the exceedance.

ALL-TECH performs continuous sampling for one hour following an exceedance.

All upwind measurements of PM₁₀ were below the established Site Action Level for this parameter of 155 µg/m³.

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,



Grant Harrigan, B.Tech
Environmental Technologist
ALL-TECH Environmental Services Cape Breton Ltd.

Copied via e-mail:

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Real-time Airborne PM₁₀ Concentration Results
Sydney Tar Ponds Agency – Cooling Pond
26th March, 2008

Sample No. & Air Monitoring Location	Time of Day	PM₁₀ Action Level (µg/m³)	Average Result (µg/m³)	Wind Direction	Relative Position	Description of Activity	Observations that may affect sample
1 35m Northeast of Acadian Lines terminal	0700	155	9	Southwest	Upwind	Background	No observations seen to effect sampling integrity
2 90m Southeast of Inglis Street, Spar Road intersection	0705	155	26	Southwest	Downwind	No activity observed on-Site	No observations seen to effect sampling integrity
3 90m Southeast of Inglis Street, Spar Road intersection	0735	155	10	Southwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
4 90m Southeast of Inglis Street, Spar Road intersection	0800	155	15	Southwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
5 35m Northeast of Acadian Lines terminal	0810	155	12	Southwest	Upwind	Background	No observations seen to effect sampling integrity
6 40m Northwest of STPA building	0835	155	15	Southwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
7 35m Northeast of Acadian Lines terminal	0900	155	7	Southwest	Upwind	Background	No observations seen to effect sampling integrity

Sample No. & Air Monitoring Location	Time of Day	PM ₁₀ Action Level (µg/m ³)	Average Result (µg/m ³)	Wind Direction	Relative Position	Description of Activity	Observations that may affect sample
8 40m Northwest of STPA building	0900	155	16	Southwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
9 40m Northwest of STPA building	0930	155	15	Southwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
10 35m Northeast of Acadian Lines terminal	1000	155	7	Southwest	Upwind	Background	No observations seen to effect sampling integrity
11 40m Northwest of STPA building	1000	155	6	Southwest	Downwind	No activity observed on-Site	No observations seen to effect sampling integrity
12 60m Northwest of STPA building	1045	155	26	Southwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
13 35m Northwest of Inglis Street, Terminal Road intersection	1100	155	12	Southwest	Upwind	Background	No observations seen to effect sampling integrity
14 60m Northwest of STPA building	1100	155	21	Southwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
15 60m Northwest of STPA building	1130	155	37	Southwest	Downwind	Excavators moving material	Visible dust coming from site

Sample No. & Air Monitoring Location	Time of Day	PM ₁₀ Action Level (µg/m ³)	Average Result (µg/m ³)	Wind Direction	Relative Position	Description of Activity	Observations that may affect sample
16 35m Northwest of Inglis Street, Terminal Road intersection	1200	155	11	Southwest	Upwind	Background	No observations seen to effect sampling integrity
17 60m Northwest of STPA building	1200	155	17	Southwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
18 60m Northwest of STPA building	1240	155	34	Southwest	Downwind	Excavators moving material	Visible dust coming from site
19 35m Northwest of Inglis Street, Terminal Road intersection	1300	155	12	Southwest	Upwind	Background	No observations seen to effect sampling integrity
20 60m Northwest of STPA building	1300	155	214	Southwest	Downwind	Excavators moving material	Visible dust coming from site
21 35m Northwest of Inglis Street, Terminal Road intersection	1315	155	10	Southwest	Upwind	Background	No observations seen to effect sampling integrity
22 60m Northwest of STPA building	1315	155	96	Southwest	Downwind	Excavators moving material	Visible dust coming from site
23 35m Northwest of Inglis Street, Terminal Road intersection	1330	155	10	Southwest	Upwind	Background	No observations seen to effect sampling integrity

Sample No. & Air Monitoring Location	Time of Day	PM ₁₀ Action Level (µg/m ³)	Average Result (µg/m ³)	Wind Direction	Relative Position	Description of Activity	Observations that may affect sample
24 60m Northwest of STPA building	1330	155	50	Southwest	Downwind	Excavators moving material	Visible dust coming from site
25 35m Northwest of Inglis Street, Terminal Road intersection	1345	155	12	Southwest	Upwind	Background	No observations seen to effect sampling integrity
26 60m Northwest of STPA building	1345	155	153	Southwest	Downwind	Excavators moving material	Visible dust coming from site
27 35m Northwest of Inglis Street, Terminal Road intersection	1400	155	10	Southwest	Upwind	Background	No observations seen to effect sampling integrity
28 60m Northwest of STPA building	1400	155	44	Southwest	Downwind	Excavators moving material	Visible dust coming from site
29 60m Northwest of STPA building	1415	155	72	Southwest	Downwind	Excavators moving material	Visible dust coming from site
30 60m Northwest of STPA building	1430	155	44	Southwest	Downwind	Excavators moving material	Visible dust coming from site
31 35m Northwest of Inglis Street, Terminal Road intersection	1500	155	8	Southwest	Upwind	Background	No observations seen to effect sampling integrity

Sample No. & Air Monitoring Location	Time of Day	PM ₁₀ Action Level (µg/m ³)	Average Result (µg/m ³)	Wind Direction	Relative Position	Description of Activity	Observations that may affect sample
32 60m Northwest of STPA building	1500	155	27	Southwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
33 60m Northwest of STPA building	1515	155	29	Southwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
34 35m Northwest of Inglis Street, Terminal Road intersection	1600	155	10	Southwest	Upwind	Background	No observations seen to effect sampling integrity
35 40m Northwest of STPA building	1600	155	13	Southwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
36 40m Northwest of STPA building	1620	155	14	Southwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
37 35m Northwest of Inglis Street, Terminal Road intersection	1700	155	13	Southwest	Upwind	Background	No observations seen to effect sampling integrity
38 40m Northwest of STPA building	1700	155	15	Southwest	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 ($\mu\text{g}/\text{m}^3$)
90m Southeast of Inglis Street, Spar Road intersection	0700 to 0759	18	990
90m Southeast of Inglis Street, Spar Road intersection	0800 to 0859	33	990
40m Northwest of STPA building	0900 to 0959	49	990
40m Northwest of STPA building	1000 to 1059	65	990
60m Northwest of STPA building	1100 to 1159	94	990
60m Northwest of STPA building	1200 to 1259	120	990
60m Northwest of STPA building	1300 to 1359	249	990
60m Northwest of STPA building	1400 to 1459	303	990
60m Northwest of STPA building	1500 to 1559	331	990
40m Northwest of STPA building	1600 to 1659	345	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 STPA building	1700 to 1759	360	990

VOC Monitoring

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