

MEMORANDUM

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

FILE NO. S-1074-22
SHIFT: 0630 to 1900
CC: Shawn Bernon, STPA
Wilfred Kaiser, STPA
Terry Smith, ALL-TECH
STPA NO. CP-0079

**SUBJECT: 26th February, 2008, (Revised) 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 February, 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 2°C (data unavailable from Environment Canada)
- Wind Direction: West to 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.*

A sustained odour was detected in front of the STPA office building at 1230. No levels of VOCs were detected by the PID. Low flow samples were taken to test for the presence of benzene and naphthalene. Two low flow samples were taken upwind, one for benzene and one for naphthalene. Three low flow samples were taken downwind; one benzene and one naphthalene at the downwind monitoring location and one benzene 20m Northwest of the STPA building. The samples were started at 1320 and ran for a 60 minute period. All 5 samples were to Maxxam at 1500 for analysis. These results will be reported as soon as they are available from the lab. An additional Technician (Peter Ibrahim) was required for the purpose of collecting quick turnaround samples (4 hours).

All downwind and upwind measurements of PM₁₀ were well 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 well 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 February, 2008

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
1 20m South of Intercolonial Street Fixed Station	0655	155	30	West	Upwind	Background	No observations seen to effect sampling integrity
2 30m West of STPA building	0700	155	25	West	Downwind	No activity observed on-site	No observations seen to effect sampling integrity
3 30m West of STPA building	0715	155	29	West	Downwind	Excavator moving materials	No observations seen to effect sampling integrity
4 20m South of Intercolonial Street Fixed Station	0800	155	31	West	Upwind	Background	No observations seen to effect sampling integrity
5 50m Northwest of STPA building	0800	155	38	West	Downwind	Excavator moving materials	No observations seen to effect sampling integrity
6 50m Northwest of STPA building	0815	155	43	West	Downwind	Excavator moving materials	No observations seen to effect sampling integrity
7 40m Northeast of Acadian Lines Terminal	0900	155	36	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 90m Northwest of STPA building	0900	155	45	Southwest	Downwind	Excavator moving materials	No observations seen to effect sampling integrity
9 90m Northwest of STPA building	0915	155	44	Southwest	Downwind	Excavator moving materials	No observations seen to effect sampling integrity
10 20m East of Dodd Street, Ritchie Street intersection	1000	155	30	Southwest	Upwind	Background	No observations seen to effect sampling integrity
11 90m Northwest of STPA building	1000	155	34	Southwest	Downwind	Excavator moving materials	No observations seen to effect sampling integrity
12 90m Northwest of STPA building	1016	155	35	Southwest	Downwind	Excavator moving materials	No observations seen to effect sampling integrity
13 20m East of Dodd Street, Ritchie Street intersection	1100	155	25	Southwest	Upwind	Background	No observations seen to effect sampling integrity
14 90m Northwest of STPA building	1100	155	29	Southwest	Downwind	Excavator moving materials	No observations seen to effect sampling integrity
15 90m Northwest of STPA building	1130	155	28	Southwest	Downwind	Excavator moving materials	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
16 20m East of Dodd Street, Ritchie Street intersection	1200	155	23	Southwest	Upwind	Background	No observations seen to effect sampling integrity
17 90m Northwest of STPA building	1200	155	22	Southwest	Downwind	Excavator moving materials	No observations seen to effect sampling integrity
18 90m Northwest of STPA building	1230	155	19	Southwest	Downwind	Excavator moving materials	No observations seen to effect sampling integrity
19 90m Northwest of STPA building	1300	155	32	Southwest	Downwind	Excavator moving materials	No observations seen to effect sampling integrity
20 30m Northeast of Kia Auto Mall	1310	155	19	Southwest	Upwind	Background	Traffic on Dodd Street
21 90m Northwest of STPA building	1344	155	23	Southwest	Downwind	Excavator moving materials	No observations seen to effect sampling integrity
22 30m Northeast of Kia Auto Mall	1400	155	18	Southwest	Upwind	Background	Traffic on Dodd Street
23 75m Northwest of STPA building	1400	155	24	Southwest	Downwind	Excavator moving materials	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 75m Northwest of STPA building	1430	155	22	Southwest	Downwind	Excavator moving materials	No observations seen to effect sampling integrity
25 75m Northwest of STPA building	1500	155	22	Southwest	Downwind	Excavator moving materials	No observations seen to effect sampling integrity
26 30m Northeast of Kia Auto Mall	1503	155	17	Southwest	Upwind	Background	No observations seen to effect sampling integrity
27 75m Northwest of STPA building	1540	155	21	Southwest	Downwind	Excavator moving materials	No observations seen to effect sampling integrity
28 30m Northeast of Kia Auto Mall	1600	155	20	Southwest	Upwind	Background	No observations seen to effect sampling integrity
29 75m Northwest of STPA building	1605	155	51	Southwest	Downwind	Excavator moving materials	No observations seen to effect sampling integrity
30 30m Northwest of STPA building	1625	155	30	Southwest	Downwind	Excavator moving materials	No observations seen to effect sampling integrity
31 30m Northeast of Kia Auto Mall	1700	155	31	Southwest	Upwind	Background	Traffic on Dodd Street

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 30m Northwest of STPA building	1700	155	38	Southwest	Downwind	Excavator moving materials	No observations seen to effect sampling integrity
33 30m Northwest of STPA building	1725	155	52	Southwest	Downwind	Excavator moving materials	No observations seen to effect sampling integrity
34 30m Northeast of Kia Auto Mall	1800	155	24	Southwest	Upwind	Background	Traffic on Dodd Street
35 30m Northwest of STPA building	1815	155	25	Southwest	Downwind	Shutdown	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 ($\mu\text{g}/\text{m}^3$)
30m West of STPA building	0700 to 0759	27	990
50m Northwest of STPA building	0800 to 0859	68	990
90m Northwest of STPA building	0900 to 0959	113	990
90m Northwest of STPA building	1000 to 1059	148	990
90m Northwest of STPA building	1100 to 1159	177	990
90m Northwest of STPA building	1200 to 1259	198	990
990m Northwest of STPA building	1300 to 1359	226	990
75m Northwest of STPA building	1400 to 1459	249	990
75m Northwest of STPA building	1500 to 1559	271	990
75m Northwest of STPA building	1600 to 1659	311	990

Location	Duration	Dust Budget Value ($\mu\text{g}/\text{m}^3$)	Dust Budget Exceedance Value ($\mu\text{g}/\text{m}^3$)
30m Northwest of STPA building	1700 to 1759	356	990
30m Northwest of STPA building	1800 to 1859	381	990

VOC Monitoring

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