

MEMORANDUM

TO Dawn MacNeil, STPA
FROM Dianne Theriault
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DATE 10th September, 2008

FILE NO. S-1193-07
SHIFT: 0630 to 1930
CC: Shawn Bernon, STPA
Wilfred Kaiser, STPA
Terry Smith, ALL-TECH

STPA NO. PS-0051

**SUBJECT: 9th September, 2008, Real-time Air Monitoring Results
Sydney Tar Ponds Agency – North Pond Pilot Study
FINAL REPORT**

Attached is a summary of Real-time particulate (as PM₁₀) results for air monitoring performed on the 9th of September, 2008. Reg Peters and Colin MacIsaac of ALL-TECH Environmental Services Cape Breton Limited (ALL-TECH), performed all air monitoring activities.

Weather conditions on the day of sampling:
- Mainly Sunny
- Temperature: approximately 23°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 EarthTech's construction activities.*

All downwind and 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) 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,



Dianne Theriault, 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 – North Pond Pilot Study
9th September, 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 15m South of Walker Street, Ferry Street intersection	0700	155	10	Southwest	Upwind	Background	No observations seen to affect sampling integrity
2 20m North of North Pond main gate	0700	155	10	Southwest	Downwind	No activity observed on site	No observations seen to effect sampling integrity
3 20m North of North Pond main gate	0730	155	12	Southwest	Downwind	No activity observed on site	No observations seen to effect sampling integrity
4 50m South of Walker Street, Ferry Street intersection	0800	155	15	Southwest	Upwind	Background	No observations seen to affect sampling integrity
5 20m North of North Pond main gate	0800	155	9	Southwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
6 20m North of North Pond main gate	0845	155	10	Southwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
7 50m South of Walker Street, Ferry Street intersection	0900	155	14	Southwest	Upwind	Background	No observations seen to effect sampling integrity

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
8 20m North of North Pond main gate	0900	155	11	Southwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
9 20m North of North Pond main gate	0935	155	12	Southwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
10 10m North of Intercolonial Fixed Station	1000	155	18	Southwest	Upwind	Background	No observations seen to affect sampling integrity
11 20m North of North Pond main gate	1000	155	14	Southwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
12 20m North of North Pond main gate	1045	155	18	Southwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
13 10m North of Intercolonial Fixed Station	1100	155	14	Southwest	Upwind	Background	No observations seen to affect sampling integrity
14 60m North of Inglis Street, Spar Road intersection	1100	155	32	Southwest	Downwind	Excavators moving material	No observations seen to affect sampling integrity
15 60m North of Inglis Street, Spar Road intersection	1120	155	43	Southwest	Downwind	Excavators moving material	Visible dust coming from activity 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 10m North of Intercolonial Fixed Station	1200	155	10	Southwest	Upwind	Background	No observations seen to affect sampling integrity
17 60m North of Inglis Street, Spar Road intersection	1200	155	16	Southwest	Downwind	No activity observed on site	No observations seen to effect sampling integrity
18 60m North of Inglis Street, Spar Road intersection	1230	155	22	Southwest	Downwind	Machines moving material	No observations seen to effect sampling integrity
19 10m North of Intercolonial Fixed Station	1300	155	13	Southwest	Upwind	Background	No observations seen to affect sampling integrity
20 60m North of Inglis Street, Spar Road intersection	1300	155	20	Southwest	Downwind	Machines moving material	No observations seen to effect sampling integrity
21 60m North of Inglis Street, Spar Road intersection	1315	155	18	Southwest	Downwind	Machines moving material	No observations seen to effect sampling integrity
22 50m South of Intercolonial Street, Ferry Street intersection	1400	155	13	Southwest	Upwind	Background	No observations seen to affect sampling integrity
23 60m North of Inglis Street, Spar Road intersection	1400	155	14	Southwest	Downwind	Machines moving material	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 North of Inglis Street, Spar Road intersection	1445	155	70	Southwest	Downwind	Machines moving material	Visible dust coming from activity site
25 50m South of Intercolonial Street, Ferry Street intersection	1500	155	13	Southwest	Upwind	Background	No observations seen to affect sampling integrity
26 60m North of Inglis Street, Spar Road intersection	1500	155	39	Southwest	Downwind	Machines moving material	Visible dust coming from activity site
27 60m North of Inglis Street, Spar Road intersection	1545	155	16	Southwest	Downwind	Machines moving material	No observations seen to effect sampling integrity
28 50m South of Intercolonial Street, Ferry Street intersection	1600	155	10	Southwest	Upwind	Background	No observations seen to effect sampling integrity
29 60m North of Inglis Street, Spar Road intersection	1600	155	15	Southwest	Downwind	Truck unloading cement	No observations seen to effect sampling integrity
30 60m North of Inglis Street, Spar Road intersection	1635	155	56	Southwest	Downwind	Truck unloading cement	Visible dust coming from activity 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
31 30m North of Intercolonial fixed station	1700	155	9	Southwest	Upwind	Background	No observations seen to effect sampling integrity
32 60m North of Inglis Street, Spar Road intersection	1700	155	14	Southwest	Downwind	Machines moving material	No observations seen to effect sampling integrity
33 60m North of Inglis Street, Spar Road intersection	1720	155	17	Southwest	Downwind	Machines moving material	No observations seen to effect sampling integrity
34 60m North of Inglis Street, Spar Road intersection	1800	155	10	Southwest	Upwind	Background	No observations seen to effect sampling integrity
35 30m North of Intercolonial fixed station	1800	155	15	Southwest	Downwind	Machines moving material	No observations seen to effect sampling integrity
36 60m North of Inglis Street, Spar Road intersection	1845	155	14	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 ($\mu\text{g}/\text{m}^3$)
20m North of North Pond Main Gate	0700 to 0759	11	990
20m North of North Pond Main Gate	0800 to 0859	21	990
20m North of North Pond Main Gate	0900 to 0959	33	990
20m North of North Pond main gate	1000 to 1059	49	990
60m North of Inglis Street, Spar Road intersection	1100 to 1159	87	990
60m North of Inglis Street, Spar Road intersection	1200 to 1259	106	990
60m North of Inglis Street, Spar Road intersection	1300 to 1359	125	990
60m North of Inglis Street, Spar Road intersection	1400 to 1459	168	990
60m North of Inglis Street, Spar Road intersection	1500 to 1559	196	990
60m North of Inglis Street, Spar Road intersection	1600 to 1659	232	990
60m North of Inglis Street, Spar Road intersection	1700 to 1759	248	990

Location	Duration	Dust Budget Value ($\mu\text{g}/\text{m}^3$)	Dust Budget Exceedance Value ($\mu\text{g}/\text{m}^3$)
60m North of Inglis Street, Spar Road intersection	1800 to 1859	263	990

VOC Monitoring

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