

MEMORANDUM

TO Dawn MacNeil, STPA
FROM Dianne Theriault
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DATE 4th June, 2009

FILE NO. S-1331-06
SHIFT: 0630 to 1830
CC: Shawn Bernon, STPA
Wilfred Kaiser, STPA
Terry Smith, ALL-TECH
STPA NO. TP6D-NP-0080

**SUBJECT: 3rd June, 2009, Real-time Air Monitoring Results
Sydney Tar Ponds Agency – Access Roads, North Pond
FINAL REPORT**

Attached is a summary of Real-time particulate (as PM₁₀) results for air monitoring performed on the 3rd of June, 2009. Nigel MacLean and Jeff King of ALL-TECH Environmental Services Cape Breton Limited (ALL-TECH) performed all air monitoring activities.

Weather conditions on the day of sampling:

- Partly cloudy
- Temperature: approximately 19°C
- Wind Direction: Southwest to West to Southwest

Comments: *ALL-TECH was on-Site at 0630 hours and sampling began as soon as there was site activity. Air monitoring was performed during AECOM'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 Jeff King 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 – Access Roads, North Pond
3rd June, 2009

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 150m East of railway building (N46°08.967' W060°11.731')	0700	155	6	Southwest	Upwind	Background	No observations seen to affect sampling integrity
2 90m Northwest of new truck scale (N46°09.361' W060°11.698')	0700	155	13	Southwest	Downwind	Activity not visible from sampling location	No observations seen to affect sampling integrity
3 90m Northwest of new truck scale (N46°09.361' W060°11.698')	0735	155	10	Southwest	Downwind	Activity not visible from sampling location	No observations seen to affect sampling integrity
4 150m East of railway building (N46°08.967' W060°11.731')	0800	155	6	Southwest	Upwind	Background	No observations seen to affect sampling integrity
5 90m Northwest of new truck scale (N46°09.361' W060°11.698')	0800	155	20	Southwest	Downwind	Excavator operating	No observations seen to affect sampling integrity
6 90m Northwest of new truck scale (N46° ,09.361' W060° ,11.698')	0845	155	13	Southwest	Downwind	Excavator operating	No observations seen to affect 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
7 150m East of railway building (N46°08.967' W060°11.731')	0900	155	6	Southwest	Upwind	Background	No observations seen to affect sampling integrity
8 90m Northwest of new truck scale (N46°09.361' W060°11.698')	0900	155	19	Southwest	Downwind	Excavator operating	No observations seen to affect sampling integrity
9 90m Northwest of new truck scale (N46°09.361' W060°11.698')	0920	155	10	Southwest	Downwind	Excavator operating	No observations seen to affect sampling integrity
10 125m East of railway building (N46°08.955' W060°11.735')	1000	155	9	Southwest	Upwind	Background	No observations seen to affect sampling integrity
11 90m Northwest of new truck scale (N46°09.361' W060°11.698')	1000	155	8	Southwest	Downwind	Excavator operating	No observations seen to affect sampling integrity
12 90m Northwest of new truck scale (N46°09.361' W060°11.698')	1020	155	12	Southwest	Downwind	Excavator operating	No observations seen to affect sampling integrity
13 125m East of railway building (N46°08.955' W060°11.735')	1100	155	6	Southwest	Upwind	Background	No observations seen to affect 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
14 90m Northwest of new truck scale (N46°09.361' W060°11.698')	1100	155	30	Southwest	Downwind	Excavator and dump truck operating	No observations seen to affect sampling integrity
15 90m Northwest of new truck scale (N46°09.361' W060°11.698')	1140	155	24	Southwest	Downwind	Excavator and dump truck operating	No observations seen to affect sampling integrity
16 150m Northeast of railway building (N46°08.965' W060°11.831')	1200	155	6	West	Upwind	Background	No observations seen to affect sampling integrity
17 120m North of TP2 entrance gate (N46°09.002' W060°11.387')	1200	155	54	West	Downwind	No activity observed on site	No observations seen to affect sampling integrity
18 120m North of TP2 entrance gate (N46°09.002' W060°11.387')	1240	155	20	West	Downwind	No activity observed on site	No observations seen to affect sampling integrity
19 150m Northeast of railway building (N46°08.965' W060°11.831')	1300	155	8	West	Upwind	Background	No observations seen to affect sampling integrity
20 120m North of TP2 entrance gate (N46°09.002' W060°11.387')	1300	155	14	West	Downwind	Excavator operating	No observations seen to affect 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
21 120m North of TP2 entrance gate (N46°09.002' W060°11.387')	1330	155	9	West	Downwind	Excavator operating	No observations seen to affect sampling integrity
22 150m Northeast of railway building (N46°08.965' W060°11.831')	1400	155	7	Southwest	Upwind	Background	No observations seen to affect sampling integrity
23 50m Southeast of new truck scale (N46°09.307' W060°11.634')	1400	155	11	Southwest	Downwind	Excavator operating	No observations seen to affect sampling integrity
24 50m Southeast of new truck scale (N46°09.307' W060°11.634')	1425	155	19	Southwest	Downwind	Excavator operating	No observations seen to affect sampling integrity
25 150m Northeast of railway building (N46°08.965' W060°11.831')	1500	155	27	Southwest	Upwind	Background	No observations seen to affect sampling integrity
26 50m Southeast of new truck scale (N46°09.307' W060°11.634')	1500	155	38	Southwest	Downwind	Excavator operating	No observations seen to affect sampling integrity
27 50m Southeast of new truck scale (N46°09.307' W060°11.634')	1530	155	39	Southwest	Downwind	Excavator operating	No observations seen to affect 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
28 150m Northeast of railway building (N46°08.965' W060°11.831')	1600	155	7	Southwest	Upwind	Background	No observations seen to affect sampling integrity
29 50m Southeast of new truck scale (N46°09.307' W060°11.634')	1600	155	26	Southwest	Downwind	Excavator operating	No observations seen to affect sampling integrity
30 50m Southeast of new truck scale (N46°09.307' W060°11.634')	1620	155	26	Southwest	Downwind	Excavator operating	No observations seen to affect sampling integrity
31 150m Northeast of railway building (N46°08.965' W060°11.831')	1700	155	7	Southwest	Upwind	Background	No observations seen to affect sampling integrity
32 50m Southeast of new truck scale (N46°09.307' W060°11.634')	1700	155	27	Southwest	Downwind	Excavator operating	No observations seen to affect sampling integrity
33 50m Southeast of new truck scale (N46°09.307' W060°11.634')	1745	155	10	Southwest	Downwind	No activity observed on site	No observations seen to affect 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 Northwest of new truck scale	0700 to 0759	12	990
90m Northwest of new truck scale	0800 to 0859	29	990
90m Northwest of new truck scale	0900 to 0959	44	990
90m Northwest of new truck scale	1000 to 1059	54	990
90m Northwest of new truck scale	1100 to 1159	81	990
120m North of TP2 entrance gate	1200 to 1259	118	990
120m North of TP2 entrance gate	1300 to 1359	126	990
50m Southeast of new truck scale	1400 to 1459	141	990
50m Southeast of new truck scale	1500 to 1559	180	990
50m Southeast of new truck scale	1600 to 1659	206	990
50m Southeast of new truck scale	1700 to 1759	225	990

VOC Monitoring

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