

MEMORANDUM

TO	Dawn MacNeil, STPA	FILE NO.	S-1312-03
FROM	Dianne Theriault	SHIFT:	0630 to 1830
TEL	(902) 539-3012	CC:	Shawn Bernon, STPA Wilfred Kaiser, STPA Terry Smith, ALL-TECH
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DATE	5 th May, 2009	STPA NO.	CO2-STPA-0034

**SUBJECT: 4th May, 2009 Real-time Air Monitoring Results
Sydney Tar Ponds Agency – Tar Cell
FINAL REPORT**

Attached is a summary of Real-time particulate (as PM₁₀) results for air monitoring performed on the 4th of May, 2009. Alison Giovannetti and Donald 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 18°C
- Wind Direction: Southwest to West

Comments: *ALL-TECH was on-Site at 0630 and sampling began as soon as there was site activity. Air monitoring was performed during SLR'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 Alison Giovannetti 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 – Tar Cell
4th May, 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 275m South of Spar Rd. and Spar Rd. Ext. intersection	0700	155	9	Southwest	Upwind	Background	No observations seen to affect sampling integrity
2 80m West of CO2 security gate	0720	155	8	Southwest	Downwind	Trucks on site, excavator moving into place	Late sample due to equipment malfunction
3 80m West of CO2 security gate	0740	155	11	Southwest	Downwind	Excavator in operation, trucks dumping	No observations seen to affect sampling integrity
4 275m South of Spar Rd. and Spar Rd. Ext. intersection	0800	155	9	Southwest	Upwind	Background	No observations seen to affect sampling integrity
5 80m West of CO2 security gate	0800	155	7	Southwest	Downwind	Excavator in operation, trucks dumping	No observations seen to affect sampling integrity
6 80m West of CO2 security gate	0830	155	13	Southwest	Downwind	Excavator in operation, trucks dumping	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 275m South of Spar Rd. and Spar Rd. Ext. intersection	0900	155	10	Southwest	Upwind	Background	No observations seen to affect sampling integrity
8 80m West of CO2 security gate	0900	155	20	Southwest	Downwind	Excavator in operation, trucks dumping	No observations seen to affect sampling integrity
9 80m West of CO2 security gate	0945	155	18	Southwest	Downwind	Excavator in operation, trucks dumping	No observations seen to affect sampling integrity
10 275m South of Spar Rd. and Spar Rd. Ext. intersection	1000	155	13	Southwest	Upwind	Background	No observations seen to affect sampling integrity
11 80m West of CO2 security gate	1000	155	11	Southwest	Downwind	No activity observed on site	No observations seen to affect sampling integrity
12 80m West of CO2 security gate	1020	155	15	Southwest	Downwind	Excavator in operation, trucks dumping	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
13 275m South of Spar Rd. and Spar Rd. Ext. intersection	1100	155	12	Southwest	Upwind	Background	No observations seen to affect sampling integrity
14 80m West of CO2 security gate	1100	155	55	Southwest	Downwind	Excavator in operation, trucks dumping	No observations seen to affect sampling integrity
15 80m West of CO2 security gate	1130	155	90	Southwest	Downwind	Excavator in operation, trucks dumping	Wind created visible dust from site
16 275m South of Spar Rd. and Spar Rd. Ext. intersection	1200	155	13	Southwest	Upwind	Background	No observations seen to affect sampling integrity
17 80m West of CO2 security gate	1200	155	48	Southwest	Downwind	Excavator in operation, trucks dumping	No observations seen to affect sampling integrity
18 80m West of CO2 security gate	1220	155	76	Southwest	Downwind	Excavator in operation, trucks dumping	Wind created visible dust from site
19 275m South of Spar Rd. and Spar Rd. Ext. intersection	1300	155	13	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
20 80m West of CO2 security gate	1300	155	12	Southwest	Downwind	Excavator in operation, trucks dumping	No observations seen to affect sampling integrity
21 80m West of CO2 security gate	1330	155	13	Southwest	Downwind	Excavator in operation, trucks dumping	No observations seen to affect sampling integrity
22 125m South of Spar Rd. and Spar Rd. Ext. intersection	1400	155	24	West	Upwind	Background	No observations seen to affect sampling integrity
23 200m West of CO2 security gate	1400	155	12	West	Downwind	Excavator in operation, trucks dumping	No observations seen to affect sampling integrity
24 200m West of CO2 security gate	1445	155	10	West	Downwind	Excavator in operation, trucks dumping	No observations seen to affect sampling integrity
25 125m South of Spar Rd. and Spar Rd. Ext. intersection	1500	155	24	West	Upwind	Background	No observations seen to affect sampling integrity
26 200m West of CO2 security gate	1500	155	13	West	Downwind	No activity observed on site	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
27 200m West of CO2 security gate	1530	155	9	West	Downwind	Excavator in operation, trucks dumping	No observations seen to affect sampling integrity
28 125m South of Spar Rd. and Spar Rd. Ext. intersection	1600	155	17	West	Upwind	Background	No observations seen to affect sampling integrity
29 200m West of CO2 security gate	1600	155	10	West	Downwind	Excavator in operation, trucks dumping	No observations seen to affect sampling integrity
30 200m West of CO2 security gate	1630	155	17	West	Downwind	Excavator in operation, trucks dumping	No observations seen to affect sampling integrity
31 125m South of Spar Rd. and Spar Rd. Ext. intersection	1700	155	15	West	Upwind	Background	No observations seen to affect sampling integrity
32 200m West of CO2 security gate	1700	155	10	West	Downwind	Excavator in operation, trucks dumping	No observations seen to affect sampling integrity
33 200m West of CO2 security gate	1745	155	10	West	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 ($\mu\text{g}/\text{m}^3$)
80m West of CO2 security gate	0700 to 0759	10	990
80m West of CO2 security gate	0800 to 0859	20	990
80m West of CO2 security gate	0900 to 0959	39	990
80m West of CO2 security gate	1000 to 1059	52	990
80m West of CO2 security gate	1100 to 1159	130	990
80m West of CO2 security gate	1200 to 1259	192	990
80m West of CO2 security gate	1300 to 1359	205	990
200m West of CO2 security gate	1400 to 1459	216	990
200m West of CO2 security gate	1500 to 1559	227	990
200m West of CO2 security gate	1600 to 1659	241	990
200m West of CO2 security gate	1700 to 1759	251	990

VOC Monitoring

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