

MEMORANDUM

TO	Dawn MacNeil, STPA	FILE NO.	S-1293-16
FROM	Dianne Theriault	SHIFT:	0630 to 1830
TEL	(902) 539-3012	CC:	Shawn Bernon, STPA
FAX	(902) 539-3381		Wilfred Kaiser, STPA
DATE	22 nd April, 2009		Terry Smith, ALL-TECH
		STPA NO.	CO2-0019

**SUBJECT: 21st April, 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 21st of April, 2009. Jennifer Andrews and Reg Peters 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 10°C
- Wind Direction: East 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 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 Jennifer Andrews 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:

Shawn Bernon shawn@tarpondscleanup.ca, Wilfred Kaiser wilfred@tarpondscleanup.ca, Nancy LeDrew nancy@tarpondscleanup.ca, Trish Magliaro trish@tarpondscleanup.ca, Terry Smith tsmith@toalltech.com, Phyllis Low pilow@toalltech.com, Dianne Theriault dtheriault@toalltech.com, Darren Gardiner dgardiner@croworld.com, Darren Lawless dlawless@toalltech.com, Kevin Mac Pherson kevinmacp@cbcl.ca, Kathy Harquail kharquail@toalltech.com

Real-time Airborne PM₁₀ Concentration Results
Sydney Tar Ponds Agency – Tar Cell
21st April, 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 20m East of Lingan Rd. and Fredrick St. intersection	0700	155	26	East	Upwind	Background	No observations seen to affect sampling integrity
2 40m South of CO2 main gate	0700	155	30	East	Downwind	No activity observed on site	No observations seen to affect sampling integrity
3 40m South of CO2 main gate	0730	155	29	East	Downwind	Excavators in operation	No observations seen to affect sampling integrity
4 45m Southeast of Spar Rd. and Spar Rd. Extension intersection	0800	155	42	Southwest	Upwind	Background	No observations seen to affect sampling integrity
5 40m East of CO2 main gate	0800	155	22	Southwest	Downwind	Excavators in operation	No observations seen to affect sampling integrity
6 40m East of CO2 main gate	0820	155	25	Southwest	Downwind	Excavators in operation	No observations seen to affect 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
7 45m Southeast of Spar Rd. and Spar Rd. Extension intersection	0900	155	19	Southwest	Upwind	Background	No observations seen to affect sampling integrity
8 40m East of CO2 main gate	0900	155	13	Southwest	Downwind	Excavators in operation	No observations seen to affect sampling integrity
9 40m East of CO2 main gate	0925	155	16	Southwest	Downwind	Excavators in operation	No observations seen to affect sampling integrity
10 45m Southeast of Spar Rd. and Spar Rd. Extension intersection	1000	155	15	Southwest	Upwind	Background	No observations seen to affect sampling integrity
11 40m East of CO2 main gate	1000	155	12	Southwest	Downwind	Excavators in operation	No observations seen to affect sampling integrity
12 40m East of CO2 main gate	1030	155	10	Southwest	Downwind	No activity observed on site	No observations seen to affect sampling integrity
13 45m Southeast of Spar Rd. and Spar Rd. Extension intersection	1100	155	13	Southwest	Upwind	Background	No observations seen to affect 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
14 40m East of CO2 main gate	1100	155	11	Southwest	Downwind	Excavators in operation	No observations seen to affect sampling integrity
15 40m East of CO2 main gate	1115	155	11	Southwest	Downwind	Excavators in operation	No observations seen to affect sampling integrity
16 45m Southeast of Spar Rd. and Spar Rd. Extension intersection	1200	155	11	Southwest	Upwind	Background	No observations seen to affect sampling integrity
17 40m East of CO2 main gate	1200	155	11	Southwest	Downwind	Excavators in operation	No observations seen to affect sampling integrity
18 40m East of CO2 main gate	1225	155	15	Southwest	Downwind	Excavators in operation	No observations seen to affect sampling integrity
19 45m Southeast of Spar Rd. and Spar Rd. Extension intersection	1300	155	9	Southwest	Upwind	Background	No observations seen to affect sampling integrity
20 40m East of CO2 main gate	1300	155	11	Southwest	Downwind	No activity observed on site	No observations seen to affect 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
21 40m East of CO2 main gate	1345	155	9	Southwest	Downwind	Excavators in operation	No observations seen to affect sampling integrity
22 45m Southeast of Spar Rd. and Spar Rd. Extension intersection	1400	155	9	Southwest	Upwind	Background	No observations seen to affect sampling integrity
23 40m East of CO2 main gate	1400	155	13	Southwest	Downwind	Excavators in operation	No observations seen to affect sampling integrity
24 40m East of CO2 main gate	1425	155	11	Southwest	Downwind	Excavators in operation	No observations seen to affect sampling integrity
25 45m Southeast of Spar Rd. and Spar Rd. Extension intersection	1500	155	10	Southwest	Upwind	Background	No observations seen to affect sampling integrity
26 40m East of CO2 main gate	1500	155	11	Southwest	Downwind	Excavators in operation	No observations seen to affect sampling integrity
27 40m East of CO2 main gate	1520	155	14	Southwest	Downwind	Excavators in operation	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 45m Southeast of Spar Rd. and Spar Rd. Extension intersection	1600	155	10	Southwest	Upwind	Background	No observations seen to affect sampling integrity
29 40m East of CO2 main gate	1600	155	10	Southwest	Downwind	Excavators in operation	No observations seen to affect sampling integrity
30 40m East of CO2 main gate	1625	155	12	Southwest	Downwind	Excavators in operation	No observations seen to affect sampling integrity
31 45m Southeast of Spar Rd. and Spar Rd. Extension intersection	1700	155	13	Southwest	Upwind	Background	No observations seen to affect sampling integrity
32 40m East of CO2 main gate	1700	155	13	Southwest	Downwind	Excavators in operation	No observations seen to affect sampling integrity
33 40m East of CO2 main gate	1745	155	12	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 ($\mu\text{g}/\text{m}^3$)
40m South of CO2 main gate	0700 to 0759	30	990
40m East of CO2 main gate	0800 to 0859	53	990
40m East of CO2 main gate	0900 to 0959	68	990
40m East of CO2 main gate	1000 to 1059	79	990
40m East of CO2 main gate	1100 to 1159	90	990
40m East of CO2 main gate	1200 to 1259	103	990
40m East of CO2 main gate	1300 to 1359	113	990
40m East of CO2 main gate	1400 to 1459	125	990
40m East of CO2 main gate	1500 to 1559	137	990
40m East of CO2 main gate	1600 to 1659	148	990
40m East of CO2 main gate	1700 to 1759	161	990

VOC Monitoring

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