

MEMORANDUM

TO	Dawn MacNeil, STPA	FILE NO.	S-1100-19
FROM	Grant Harrigan	SHIFT:	0630 to 1745
TEL	(902) 539-3012	CC:	Shawn Bernon, STPA
FAX	(902) 539-3381		Wilfred Kaiser, STPA
DATE	21 st March, 2008		Terry Smith, ALL-TECH
		STPA NO.	CP-0104

**SUBJECT: 20th March 2008, 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 20th of March, 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:

- Overcast
- Temperature: approximately 0°C (data unavailable from Environment Canada)
- Wind Direction: Northeast to East to Southeast 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.*

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 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. 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
20th March, 2008

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 50m Northeast of STPA building	0710	155	7	Northeast	Upwind	Background	No observations seen to effect sampling integrity
2 20m Northeast of old train station	0710	155	7	Northeast	Downwind	Excavators moving material	No observations seen to effect sampling integrity
3 20m Northeast of old train station	0740	155	10	Northeast	Downwind	Excavators moving material	No observations seen to effect sampling integrity
4 50m Northeast of STPA building	0800	155	11	Northeast	Upwind	Background	No observations seen to effect sampling integrity
5 20m Northeast of old train station	0805	155	7	Northeast	Downwind	Excavators moving material	No observations seen to effect sampling integrity
6 60m Northeast of Acadian Lines terminal	0830	155	7	Northeast	Downwind	Excavators moving material	No observations seen to effect sampling integrity
7 40m Southeast of Cooling Pond main gate	0900	155	7	Northeast	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 60m Northeast of Acadian Lines terminal	0900	155	7	Northeast	Downwind	Excavators moving material	No observations seen to effect sampling integrity
9 90m Southeast of Walker Street, Ferry Street intersection	0945	155	9	East	Downwind	Excavators moving material	No observations seen to effect sampling integrity
10 40m North of STPA building	1000	155	11	East	Upwind	Background	No observations seen to effect sampling integrity
11 90m Southeast of Walker Street, Ferry Street intersection	1000	155	10	East	Downwind	Excavators moving material	No observations seen to effect sampling integrity
12 30m West of Ferry Street Bridge	1045	155	25	Southeast	Downwind	Excavators moving material	Dust from Ferry Street
13 70m South of STPA building	1100	155	25	Southeast	Upwind	Background	No observations seen to effect sampling integrity
14 30m West of Ferry Street Bridge	1100	155	25	Southeast	Downwind	Excavators moving material	Dust from Ferry Street
15 100m Southeast of Inglis Street, Spar Road intersection	1143	155	30	Southwest	Downwind	Excavators 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
16 60m Northeast of Acadian Lines terminal	1200	155	12	Southwest	Upwind	Background	No observations seen to effect sampling integrity
17 100m Southeast of Inglis Street, Spar Road intersection	1200	155	32	Southwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
18 100m Southeast of Inglis Street, Spar Road intersection	1225	155	38	Southwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
19 25m Northwest of Inglis Street, Terminal Road intersection	1300	155	34	Southwest	Upwind	Background	No observations seen to effect sampling integrity
20 100m Southeast of Inglis Street, Spar Road intersection	1305	155	74	Southwest	Downwind	Excavators moving material	Dust coming from activity site
21 150m Southeast of Inglis Street, Spar Road intersection	1325	155	78	Southwest	Downwind	Excavators moving material	Dust coming from activity site
22 25m Northwest of Inglis Street, Terminal Road intersection	1400	155	22	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
23 150m Southeast of Inglis Street, Spar Road intersection	1400	155	21	Southwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
24 100m Southeast of Inglis Street, Spar Road intersection	1420	155	39	Southwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
25 25m Northwest of Inglis Street, Terminal Road intersection	1500	155	19	Southwest	Upwind	Background	No observations seen to effect sampling integrity
26 100m Southeast of Inglis Street, Spar Road intersection	1500	155	28	Southwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
27 100m Southeast of Inglis Street, Spar Road intersection	1525	155	45	Southwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
28 25m Northwest of Inglis Street, Terminal Road intersection	1600	155	37	Southwest	Upwind	Background	No observations seen to effect sampling integrity
29 100m Southeast of Inglis Street, Spar Road intersection	1600	155	39	Southwest	Downwind	Excavators 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
30 100m Southeast of Inglis Street, Spar Road intersection	1615	155	40	Southwest	Downwind	Excavators moving material	No observations seen to effect sampling integrity
31 25m Northwest of Inglis Street, Terminal Road intersection	1700	155	60	Southwest	Upwind	Background	Rain
32 100m Southeast of Inglis Street, Spar Road intersection	1700	155	57	Southwest	Downwind	No activity observed	Rain

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 Northeast of old train station	0700 to 0759	9	990
20m Northeast of old train station	0800 to 0859	16	990
60m Northeast of Acadian Lines terminal	0900 to 0959	24	990
90m Southeast of Walker Street, Ferry Street intersection	1000 to 1059	42	990
30m West of Ferry Street Bridge	1100 to 1159	70	990
100m Southeast of Inglis Street, Spar Road intersection	1200 to 1259	105	990
100m Southeast of Inglis Street, Spar Road intersection	1300 to 1359	181	990
150m Southeast of Inglis Street, Spar Road intersection	1400 to 1459	211	990
100m Southeast of Inglis Street, Spar Road intersection	1500 to 1559	248	990
100m Southeast of Inglis Street, Spar Road intersection	1600 to 1659	288	990

Location	Duration	Dust Budget Value ($\mu\text{g}/\text{m}^3$)	Dust Budget Exceedance Value ($\mu\text{g}/\text{m}^3$)
100m Southeast of Inglis Street, Spar Road intersection	1700 to 1759	345	990

VOC Monitoring

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