

MEMORANDUM

TO Dawn MacNeil, STPA
FROM Grant Harrigan
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DATE 7th February, 2008

FILE NO. S-1074-06
SHIFT: 0630 to 1830
CC: Shawn Bernon, STPA
Wilfred Kaiser, STPA
Terry Smith, ALL-TECH

STPA NO. CP-0063

**SUBJECT: 6th February, 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 6th of February, 2008. Peter Ibrahim 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 1°C (data unavailable from Environment Canada)
- Wind Direction: Southwest to Northwest to North to East

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. No samples were taken between 0815 and 1100 due to high humidity. ALL-TECH was on standby until humidity levels decreased and sampling resumed at 1100.*

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 well 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 Peter Ibrahim and reviewed by Grant Harrigan and Dianne Theriault. 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
6th February, 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 North of Northwest corner of STPA office building	0705	155	5	Southwest	Downwind	Background	No observations seen to effect sampling integrity
2 50m South of Intercolonial Street fixed station	0708	155	7	Southwest	Upwind	Background	No observations seen to effect sampling integrity
3 60m Northeast of Inglis Street and Terminal Road intersection	0730	155	9	Northwest	Downwind	Excavators moving materials	No observations seen to effect sampling integrity
4 100m West of Inglis Street and Spar Road intersection	0800	155	4	Northwest	Upwind	Background	No observations seen to effect sampling integrity
5 60m Northeast of Inglis Street and Terminal Road intersection	0800	155	20	Northwest	Downwind	Excavators moving materials	No observations seen to effect sampling integrity
6 100m West of Inglis Street and Spar Road intersection	1100	155	10	North	Upwind	Background	No observations seen to effect sampling integrity
7 20m Northwest of Inglis Street and Terminal Road intersection	1100	155	7	North	Downwind	Excavators moving materials	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 Northwest of Inglis Street and Terminal Road intersection	1116	155	8	North	Downwind	Excavators moving materials	No observations seen to effect sampling integrity
9 100m West of Inglis Street and Spar Road intersection	1200	155	13	North	Upwind	Background	No observations seen to effect sampling integrity
10 30m North of Inglis Street and Terminal Road intersection	1200	155	27	Northwest	Downwind	Excavators moving materials	No observations seen to effect sampling integrity
11 40m North of Inglis Street and Terminal Road intersection	1216	155	32	Northwest	Downwind	Excavators moving materials	No observations seen to effect sampling integrity
12 100m West of Inglis Street and Spar Road intersection	1304	155	10	North	Upwind	Background	No observations seen to effect sampling integrity
13 60m North of Inglis Street and Terminal Road intersection	1310	155	14	Northwest	Downwind	Excavators and Dump Trucks moving materials	No observations seen to effect sampling integrity
14 60m North of Inglis Street and Terminal Road intersection	1326	155	22	Northwest	Downwind	Excavators and Dump Trucks moving materials	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
15 100m West of Inglis Street and Spar Road intersection	1400	155	22	North	Upwind	Background	No observations seen to effect sampling integrity
16 60m North of Inglis Street and Terminal Road intersection	1400	155	24	Northwest	Downwind	Excavators and Dump Trucks moving materials	No observations seen to effect sampling integrity
17 60m North of Inglis Street and Terminal Road intersection	1415	155	22	Northwest	Downwind	Excavators and Dump Trucks moving materials	No observations seen to effect sampling integrity
18 100m West of Inglis Street and Spar Road intersection	1500	155	18	North	Upwind	Background	No observations seen to effect sampling integrity
19 60m North of Inglis Street and Terminal Road intersection	1500	155	25	Northwest	Downwind	Excavators and Dump Trucks moving materials	No observations seen to effect sampling integrity
20 60m North of Inglis Street and Terminal Road intersection	1516	155	21	Northwest	Downwind	Excavators and Dump Trucks moving materials	No observations seen to effect sampling integrity
21 30m Southeast of Ferry Street and Walker Street intersection	1600	155	30	East	Downwind	Excavators and Dump Trucks moving materials	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
22 20m North of STPA office building	1604	155	30	East	Upwind	Background	No observations seen to effect sampling integrity
23 30m Southeast of Ferry Street and Walker Street intersection	1616	155	34	East	Downwind	No Activity Observed	No observations seen to effect sampling integrity
24 100m West of Inglis Street and Spar Road intersection	1700	155	31	North	Upwind	Background	No observations seen to effect sampling integrity
25 100m South of the Southwest corner of STPA office building	1700	155	30	North	Downwind	Excavators moving material	No observations seen to effect sampling integrity
26 100m South of the Southwest corner of STPA office building	1715	155	29	North	Downwind	Excavators moving material	No observations seen to effect sampling integrity
27 100m West of Inglis Street and Spar Road intersection	1742	155	30	North	Upwind	Background	No observations seen to effect sampling integrity
28 100m South of the Southwest corner of STPA office building	1745	155	36	North	Downwind	Background	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 ($\mu\text{g}/\text{m}^3$)
50m North of Northwest corner of STPA office building/ 60m Northeast of Inglis Street and Terminal Road intersection	0705 to 0745	7	990
60m Northeast of Inglis Street and Terminal Road intersection	0800 to 0815	27	990
20m Northwest of Inglis Street and Terminal Road intersection	1100 to 1131	35	990
30m North of Inglis Street and Terminal Road intersection/ 40m North of Inglis Street and Terminal Road intersection	1200 to 1231	65	990
60m North of Inglis Street and Terminal Road intersection	1310 to 1341	83	990
60m North of Inglis Street and Terminal Road intersection	1400 to 1430	106	990
60m North of Inglis Street and Terminal Road intersection	1500 to 1531	129	990
30m Southeast of Ferry Street and Walker Street intersection	1600 to 1631	161	990
100m South of the Southwest corner of STPA office building	1700 to 1730	191	990

Location	Duration	Dust Budget Value ($\mu\text{g}/\text{m}^3$)	Dust Budget Exceedance Value ($\mu\text{g}/\text{m}^3$)
100m South of the Southwest corner of STPA office building	1745 to 1800	227	990

VOC Monitoring

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