

MEMORANDUM

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|-------------|-----------------------------|-----------------|-----------------------|
| TO | Dawn MacNeil, STPA | FILE NO. | S-1114-01 |
| FROM | Grant Harrigan | SHIFT: | 0630 to 1145 |
| TEL | (902) 539-3012 | CC: | Shawn Bernon, STPA |
| FAX | (902) 539-3381 | | Wilfred Kaiser, STPA |
| DATE | 2 nd April, 2008 | | Terry Smith, ALL-TECH |
| | | STPA NO. | CP-0112 |

**SUBJECT: 1st April, 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 1st of April, 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 with light snow
- Temperature: approximately 1°C (data unavailable from Environment Canada)
- Wind Direction: 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-TECH terminated all sampling activities for the day at 1145 due to increased precipitation.*

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 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 Colin MacIsaac 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
1st April, 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 35m Northeast of Acadian Lines | 0710 | 155 | 7 | Southwest | Upwind | Background | No observations seen to effect sampling integrity |
| 2 30m Northwest of STPA building | 0710 | 155 | 7 | Southwest | Downwind | Excavators moving materials | No observations seen to effect sampling integrity |
| 3 90m Northwest of STPA building | 0740 | 155 | 9 | Southwest | Downwind | Excavators moving materials | No observations seen to effect sampling integrity |
| 4 30m Northwest of Inglis Street, Terminal Road intersection | 0800 | 155 | 5 | Southwest | Upwind | Background | No observations seen to effect sampling integrity |
| 5 90m Northwest of STPA building | 0800 | 155 | 7 | Southwest | Downwind | Excavators moving materials | No observations seen to effect sampling integrity |
| 6 90m Northwest of STPA building | 0830 | 155 | 12 | Southwest | Downwind | Excavators moving materials | No observations seen to effect sampling integrity |
| 7 30m Northwest of Inglis Street, Terminal Road intersection | 0900 | 155 | 6 | 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 |
|--|-------------|--|-------------------------------------|----------------|-------------------|-----------------------------|---|
| 8 90m Northwest of STPA building | 0900 | 155 | 9 | Southwest | Downwind | Excavators moving materials | No observations seen to effect sampling integrity |
| 9 90m Northwest of STPA building | 0920 | 155 | 7 | Southwest | Downwind | Excavators moving materials | No observations seen to effect sampling integrity |
| 10 30m Northwest of Inglis Street, Terminal Road intersection | 1000 | 155 | 4 | Southwest | Upwind | Background | No observations seen to effect sampling integrity |
| 11 90m Northwest of STPA building | 1000 | 155 | 1 | Southwest | Downwind | Excavators moving materials | No observations seen to effect sampling integrity |
| 12 90m Northwest of STPA building | 1030 | 155 | 9 | Southwest | Downwind | Excavators moving materials | No observations seen to effect sampling integrity |
| 13 30m Northwest of Inglis Street, Terminal Road intersection | 1100 | 155 | 3 | Southwest | Upwind | Background | No observations seen to effect sampling integrity |
| 14 90m Northwest of STPA building | 1100 | 155 | 7 | Southwest | Downwind | Excavators moving materials | 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 ($\mu\text{g}/\text{m}^3$) |
|--------------------------------|--------------|--|---|
| 30m Northwest of STPA building | 0700 to 0759 | 8 | 990 |
| 90m Northwest of STPA building | 0800 to 0859 | 18 | 990 |
| 90m Northwest of STPA building | 0900 to 0959 | 26 | 990 |
| 90m Northwest of STPA building | 1000 to 1059 | 31 | 990 |
| 90m Northwest of STPA building | 1100 to 1159 | 38 | 990 |

VOC Monitoring

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