ALL-TECH
ENVIRONMENTAL SERVICES CAPE BRETON LTD

*1 Inglis Street, Suite 101, P O Box 586*
*Sydney, Nova Scotia, B1P 6H4*
*www.toalltech.com*

*Tel. 902-539-3012*
*Fax: 902-539-3381*
*email@toalltech.com*

# MEMORANDUM

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|---|---|---|---|
| **TO** | Dawn MacNeil, STPA | **FILE NO.** | S-1100-24 |
| **FROM** | Grant Harrigan | **SHIFT:** | 0630 to 1130 |
| **TEL** | (902) 539-3012 | **CC:** | Shawn Bernon, STPA |
| **FAX** | (902) 539-3381 | | Wilfred Kaiser, STPA |
| **DATE** | 28th March, 2008 | | Terry Smith, ALL-TECH |
| | | **STPA NO.** | **CP-0109** |

**SUBJECT: 28th March 2008, Real-time Air Monitoring Results**
**Sydney Tar Ponds Agency – Cooling Pond**
**FINAL REPORT**

Attached is a summary of Real-time particulate (as $PM_{10}$) results for air monitoring performed on the 28th of March, 2008. Reg Peters and Tyler Rowe 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

**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.*

*The downwind location had two exceedances. The first exceedance occurred at 0745 with an average of 463 µg/m³, and the second exceedance occurred at 0800 with an average of 1410 µg/m³. ALL-TECH contacted EarthTech to inform them following both exceedances and activity was subsequently halted. ALL-TECH performed continuous sampling for one hour following the exceedances. Due to an exceedance in the Dust Budget, explained below, Site activities were discontinued for the day. ALL-TECH remained on standby until 1130 to ensure site activity was complete for the day.*

***Budget (at 0900):***
*990µg/m³ > (Budget to that point) + (Highest reading that day X 1hr) + (33 µg/m³ X remaining work hours)*
*990µg/m³ > (658 µg/m³) + (418) + (33 µg/m³ X 8hr)*
*990µg/m³ > (1076 µg/m³) + (264 µg/m³)*
*990µg/m³ < (1340 µg/m³)*

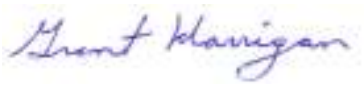
All upwind measurements of $PM_{10}$ were below the established Site Action Level for this parameter of 155 µg/m³.

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 Tyler Rowe 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:
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 pjlow@toalltech.com,Dianne Theriault dtheriault@toalltech.com, Darren Gardiner dgardiner@craworld.com,Darren Lawless dlawless@toalltech.com ,Kevin Mac Pherson kevinmacp@cbcl.ca, Kathy Harquail kharquail@toalltech.com

# Real-time Airborne $PM_{10}$ Concentration Results
# Sydney Tar Ponds Agency – Cooling Pond
# 28th March, 2008

| Sample No. & Air Monitoring Location | Time of Day | $PM_{10}$ Action Level ($\mu g/m^3$) | Average Result ($\mu g/m^3$) | Wind Direction | Relative Position | Description of Activity | Observations that may affect sample |
|---|---|---|---|---|---|---|---|
| 1<br>40m Northeast of intersection of Terminal Road and Inglis Street | 0700 | 155 | 15 | Southwest | Upwind | Background | No observations seen to effect sampling integrity |
| 2<br>30m Northwest of STPA office | 0715 | 155 | 16 | Southwest | Downwind | No activity observed on-Site | No observations seen to effect sampling integrity |
| 3<br>30m Northwest of STPA office | 0745 | 155 | 463 | Southwest | Downwind | Excavators moving materials | Heavy dust from Site |
| 4<br>40m Northeast of intersection of Terminal Road and Inglis Street | 0800 | 155 | 15 | Southwest | Upwind | Background | No observations seen to effect sampling integrity |
| 5<br>30m Northwest of STPA office | 0800 | 155 | 1410 | Southwest | Downwind | Excavators moving materials | Heavy dust from Site |
| 6<br>40m Northeast of intersection of Terminal Road and Inglis Street | 0815 | 155 | 16 | Southwest | Upwind | Background | No observations seen to effect sampling integrity |
| 7<br>30m Northwest of STPA office | 0815 | 155 | 122 | Southwest | Downwind | Excavators moving materials | Heavy dust from Site |

| Sample No. & Air Monitoring Location | Time of Day | $PM_{10}$ Action Level ($\mu g/m^3$) | Average Result ($\mu g/m^3$) | Wind Direction | Relative Position | Description of Activity | Observations that may affect sample |
|---|---|---|---|---|---|---|---|
| 8<br>40m Northeast of intersection of Terminal Road and Inglis Street | 0830 | 155 | 18 | Southwest | Upwind | Background | No observations seen to effect sampling integrity |
| 9<br>30m Northwest of STPA office | 0830 | 155 | 80 | Southwest | Downwind | Trucks dumping material | No observations seen to effect sampling integrity |
| 10<br>40m Northeast of intersection of Terminal Road and Inglis Street | 0845 | 155 | 20 | Southwest | Upwind | Background | No observations seen to effect sampling integrity |
| 11<br>30m Northwest of STPA office | 0845 | 155 | 61 | Southwest | Downwind | Trucks dumping material | No observations seen to effect sampling integrity |
| 12<br>40m Northeast of intersection of Terminal Road and Inglis Street | 0900 | 155 | 19 | Southwest | Upwind | Background | No observations seen to effect sampling integrity |
| 13<br>30m Northwest of STPA office | 0915 | 155 | 37 | 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 ($\mu g/m^3$) | Dust Budget Exceedance Value ($\mu g/m^3$) |
|---|---|---|---|
| 30m Northwest of STPA office | 0700 to 0759 | 240 | 990 |
| 30m Northwest of STPA office | 0800 to 0859 | 658 | 990 |
| 30m Northwest of STPA office | 0900 to 0959 | 695 | 990 |

## VOC Monitoring

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