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-1329-11 |
| **FROM** | Dianne Theriault | **SHIFT:** | 0730 to 1730 |
| **TEL** | (902) 539-3012 | **CC:** | Shawn Bernon, STPA |
| **FAX** | (902) 539-3381 | | Wilfred Kaiser, STPA |
| **DATE** | 17th June, 2009 | | Terry Smith, ALL-TECH |
| | | **STPA NO.** | **TP2-0179** |

**SUBJECT: 16th June, 2009 Real-time Air Monitoring Results**
**Sydney Tar Ponds Agency – Material Processing Facility**
**FINAL REPORT**

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Attached is a summary of Real-time particulate (as $PM_{10}$) results for air monitoring performed on the 16th of June, 2009. Shaun Dove and Britney Grant 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 15°C
- Wind Direction: Northwest to Southeast to East

**Comments:** *Air monitoring was delayed until 0730 hours due to precipitation, and began at 0900 hours when weather conditions were within instrument specifications. Air monitoring was performed during AECOM`s construction activities.*

All downwind and upwind measurements of $PM_{10}$ were below the established Site Action Level for this parameter of 180 µg/$m^3$.

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 Britney Grant 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 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 – Material Processing Facility
# 16th June, 2009

| 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>80m East of railway building<br>(N 46° 08.942'<br>W 060° 11.721') | 0900 | 180 | 7 | Northwest | Upwind | Background | No observations seen to affect sampling integrity |
| 2<br>20m Southwest of Inglis St. and Spar Rd. intersection<br>(N 46° 08.869'<br>W 060° 11.215') | 0900 | 180 | 17 | Northwest | Downwind | Excavator moving material | No observations seen to affect sampling integrity |
| 3<br>20m Southwest of Inglis St. and Spar Rd. intersection<br>(N 46° 08.869'<br>W 060° 11.215') | 0920 | 180 | 22 | Northwest | Downwind | Excavator moving material | No observations seen to affect sampling integrity |
| 4<br>80m East of railway building<br>(N 46° 08.942'<br>W 060° 11.721') | 1000 | 180 | 5 | Northwest | Upwind | Background | No observations seen to affect sampling integrity |
| 5<br>20m Southwest of Inglis St. and Spar Rd. intersection<br>(N 46° 08.869'<br>W 060° 11.215') | 1000 | 180 | 5 | Northwest | Downwind | No activity observed on site | No observations seen to affect sampling integrity |

| 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 |
|---|---|---|---|---|---|---|---|
| 6<br>20m Southwest of Inglis St. and Spar Rd. intersection<br>(N 46° 08.869' W 060° 11.215') | 1020 | 180 | 5 | Northwest | Downwind | Excavator moving material | No observations seen to affect sampling integrity |
| 7<br>20m Southwest of Inglis St. and Spar Rd. intersection<br>(N 46° 08.870' W 060° 11.207') | 1100 | 180 | 1 | Southeast | Upwind | Background | No observations seen to affect sampling integrity |
| 8<br>200m East of railway building<br>(N 46° 08.875' W 060° 11.633') | 1100 | 180 | 17 | Southeast | Downwind | Excavator moving material | No observations seen to affect sampling integrity |
| 9<br>200m East of railway building<br>(N 46° 08.875' W 060° 11.633') | 1120 | 180 | 22 | Southeast | Downwind | Excavator moving material | No observations seen to affect sampling integrity |
| 10<br>20m Southwest of Inglis St. and Spar Rd. intersection<br>(N 46° 08.870' W 060° 11.207') | 1200 | 180 | 2 | Southeast | Upwind | Background | No observations seen to affect sampling integrity |
| 11<br>200m East of railway building<br>(N 46° 08.875' W 060° 11.633') | 1200 | 180 | 42 | Southeast | Downwind | No activity observed on site | No observations seen to affect sampling integrity |

| 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 |
|---|---|---|---|---|---|---|---|
| 12<br>200m East of railway building<br>(N 46° 08.875'<br>W 060° 11.633') | 1215 | 180 | 4 | Southeast | Downwind | No activity observed on site | No observations seen to affect sampling integrity |
| 13<br>20m Southwest of Inglis St. and Spar Rd. intersection<br>(N 46° 08.870'<br>W 060° 11.207') | 1300 | 180 | 2 | Southeast | Upwind | Background | No observations seen to affect sampling integrity |
| 14<br>200m East of railway building<br>(N 46° 08.875'<br>W 060° 11.633') | 1300 | 180 | 23 | Southeast | Downwind | Excavator moving material | No observations seen to affect sampling integrity |
| 15<br>200m East of railway building<br>(N 46° 08.875'<br>W 060° 11.633') | 1315 | 180 | 25 | Southeast | Downwind | Excavator moving material | No observations seen to affect sampling integrity |
| 16<br>20m Southwest of Inglis St. and Spar Rd. intersection<br>(N 46° 08.870'<br>W 060° 11.207') | 1400 | 180 | 2 | Southeast | Upwind | Background | No observations seen to affect sampling integrity |
| 17<br>200m East of railway building<br>(N 46° 08.875'<br>W 060° 11.633') | 1400 | 180 | 19 | Southeast | Downwind | Excavator moving material | No observations seen to affect sampling integrity |

| 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 |
|---|---|---|---|---|---|---|---|
| 18<br>200m East of railway building<br>(N 46° 08.875'<br>W 060° 11.633') | 1440 | 180 | 8 | Southeast | Downwind | Excavator moving material | No observations seen to affect sampling integrity |
| 19<br>20m West of Inglis St. and Spar Rd. intersection<br>(N 46° 08.878'<br>W 060° 11.210') | 1500 | 180 | 2 | East | Upwind | Background | No observations seen to affect sampling integrity |
| 20<br>150m Southeast of railway building<br>(N 46° 08.866'<br>W 060° 11.658') | 1500 | 180 | 11 | East | Downwind | No activity observed on site | No observations seen to affect sampling integrity |
| 21<br>150m Southeast of railway building<br>(N 46° 08.866'<br>W 060° 11.658') | 1525 | 180 | 18 | East | Downwind | Zoom Boom operating | No observations seen to affect sampling integrity |
| 22<br>20m West of Inglis St. and Spar Rd. intersection<br>(N 46° 08.878'<br>W 060° 11.210') | 1600 | 180 | 4 | East | Upwind | Background | No observations seen to affect sampling integrity |
| 23<br>150m Southeast of railway building<br>(N 46° 08.866'<br>W 060° 11.658') | 1600 | 180 | 46 | East | Downwind | Excavator moving material | No observations seen to affect sampling integrity |

| 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 |
|---|---|---|---|---|---|---|---|
| 24<br>150m Southeast of railway building<br>(N 46° 08.866'<br>W 060° 11.658') | 1640 | 180 | 19 | East | Downwind | No activity observed on site | No observations seen to affect sampling integrity |

**Notes: Air sample duration for each monitoring event was 15 minutes.**

## Summary of Downwind $PM_{10}$ Action Levels

| Average $PM_{10}$ Concentration ($\mu g/m^3$) | Averaging Period (Hours) | Downwind Action Level ($\mu g/m^3$) |
|---|---|---|
| 20 | 1 | 125 |
| 17 | 4 | 85 |
| 19 | 8 | 70 |

## VOC Monitoring

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