

MEMORANDUM

| | | | |
|-------------|---------------------------------|-----------------|-----------------------|
| TO | Dawn MacNeil, STPA | FILE NO. | S-1243-16 |
| FROM | Dianne Theriault | SHIFT: | 0730 to 1730 |
| TEL | (902) 539-3012 | CC: | Shawn Bernon, STPA |
| FAX | (902) 539-3381 | | Wilfred Kaiser, STPA |
| DATE | 24 th December, 2008 | | Terry Smith, ALL-TECH |
| | | STPA NO. | TP2-0078 |

**SUBJECT: 23rd December, 2008, Real-time Air Monitoring Results
Sydney Tar Ponds Agency – Material Processing Facility
FINAL REPORT**

Attached is a summary of Real-time particulate (as PM₁₀) results for air monitoring performed on the 23rd of December, 2008. Colin MacIsaac, Donald MacIsaac and Reg Peters, 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 -6°C
- Wind Direction: West

Comments: *ALL-TECH was on-Site at 0730 hours and sampling began as soon as there was site activity, but was later put on standby at 0800 to 0830 hours, 0930 to 1000 hours, 1020 to 1100 hours, 1230 to 1330 hours and 1430 to 1500 hours due to precipitation. Air monitoring resumed at 1500 hours when weather conditions were within instrument specifications. Air monitoring was performed during AECOM's construction activities.*

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 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 Colin MacIsaac 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 pilow@toalltech.com, Dianne Theriault dtheriault@toalltech.com, Darren Gardiner dgardiner@croworld.com, Darren Lawless dlawless@toalltech.com, Kevin Mac Pherson kevinmacp@cbcl.ca, Kathy Harquail kharquail@toalltech.com

Real-time Airborne PM₁₀ Concentration Results
Sydney Tar Ponds Agency – Material Processing Facility
23rd December, 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 100m Northwest of Ferry Street Bridge | 0815 | 155 | 9 | West | Upwind | Background | No observations seen to affect sampling integrity |
| 2 60m North of Ferry Street, Inglis Street intersection | 0815 | 155 | 12 | West | Downwind | Excavator operating | No observations seen to affect sampling integrity |
| 3 60m North of Ferry Street, Inglis Street intersection | 0845 | 155 | 9 | West | Downwind | Excavator operating | No observations seen to affect sampling integrity |
| 4 100m Northwest of Ferry Street Bridge | 0900 | 155 | 5 | West | Upwind | Background | No observations seen to affect sampling integrity |
| 5 60m North of Ferry Street, Inglis Street intersection | 0900 | 155 | 8 | West | Downwind | Boom Truck operating | No observations seen to affect sampling integrity |
| 6 100m Northwest of Ferry Street Bridge | 1000 | 155 | 5 | West | Upwind | Background | No observations seen to affect 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 |
|---|--------------------|--|--|-----------------------|--------------------------|--------------------------------|---|
| 7 60m North of Ferry Street, Inglis Street intersection | 1000 | 155 | 9 | West | Downwind | No activity observed on site | No observations seen to affect sampling integrity |
| 8 100m Northwest of Ferry Street Bridge | 1100 | 155 | 3 | West | Upwind | Background | No observations seen to affect sampling integrity |
| 9 60m North of Ferry Street, Inglis Street intersection | 1100 | 155 | 10 | West | Downwind | Excavator operating | No observations seen to affect sampling integrity |
| 10 60m North of Ferry Street, Inglis Street intersection | 1145 | 155 | 10 | West | Downwind | Excavator operating | No observations seen to affect sampling integrity |
| 11 100m Northwest of Ferry Street Bridge | 1200 | 155 | 5 | West | Upwind | Background | No observations seen to affect sampling integrity |
| 12 60m North of Ferry Street, Inglis Street intersection | 1200 | 155 | 8 | West | Downwind | No activity observed onsite | No observations seen to affect sampling integrity |
| 13 60m North of Ferry Street, Inglis Street intersection | 1220 | 155 | 8 | West | Downwind | Excavator operating | No observations seen to affect 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 |
|---|-------------|--|-------------------------------------|----------------|-------------------|-------------------------|---|
| 14 100m Northwest of Ferry Street Bridge | 1330 | 155 | 3 | West | Upwind | Background | No observations seen to affect sampling integrity |
| 15 60m North of Ferry Street, Inglis Street intersection | 1340 | 155 | 7 | West | Downwind | Excavator operating | No observations seen to affect sampling integrity |
| 16 100m Northwest of Ferry Street Bridge | 1400 | 155 | 1 | West | Upwind | Background | No observations seen to affect sampling integrity |
| 17 60m North of Ferry Street, Inglis Street intersection | 1400 | 155 | 6 | West | Downwind | Excavator operating | No observations seen to affect sampling integrity |
| 18 60m North of Ferry Street, Inglis Street intersection | 1425 | 155 | 6 | West | Downwind | Excavator operating | No observations seen to affect sampling integrity |
| 19 100m Northwest of Ferry Street Bridge | 1500 | 155 | 0 | West | Upwind | Background | No observations seen to affect sampling integrity |
| 20 60m North of Ferry Street, Inglis Street intersection | 1500 | 155 | 6 | West | Downwind | Excavator operating | No observations seen to affect 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 |
|---|-------------|--|-------------------------------------|----------------|-------------------|-----------------------------|---|
| 21 60m North of Ferry Street, Inglis Street intersection | 1545 | 155 | 7 | West | Downwind | Excavator operating | No observations seen to affect sampling integrity |
| 22 100m Northwest of Ferry Street Bridge | 1600 | 155 | 0 | West | Upwind | Background | No observations seen to affect sampling integrity |
| 23 60m North of Ferry Street, Inglis Street intersection | 1600 | 155 | 7 | West | Downwind | Excavator operating | No observations seen to affect sampling integrity |
| 24 60m North of Ferry Street, Inglis Street intersection | 1645 | 155 | 7 | West | Downwind | No activity observed onsite | No observations seen to affect 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 ($\mu\text{g}/\text{m}^3$) |
|---|--------------|--|---|
| 60m North of Ferry Street, Inglis Street intersection | 0800 to 0859 | 11 | 990 |
| 60m North of Ferry Street, Inglis Street intersection | 0900 to 0959 | 19 | 990 |
| 60m North of Ferry Street, Inglis Street intersection | 1000 to 1059 | 28 | 990 |
| 60m North of Ferry Street, Inglis Street intersection | 1100 to 1159 | 38 | 990 |
| 60m North of Ferry Street, Inglis Street intersection | 1200 to 1259 | 46 | 990 |
| 60m North of Ferry Street, Inglis Street intersection | 1300 to 1359 | 53 | 990 |
| 60m North of Ferry Street, Inglis Street intersection | 1400 to 1459 | 59 | 990 |
| 60m North of Ferry Street, Inglis Street intersection | 1500 to 1559 | 66 | 990 |
| 60m North of Ferry Street, Inglis Street intersection | 1600 to 1659 | 73 | 990 |

VOC Monitoring

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