

## MEMORANDUM

|             |                                 |                 |   |
|-------------|---------------------------------|-----------------|---|
| <b>TO</b>   | Dawn MacNeil, STPA              | <b>FILE NO.</b> | S-1226-07   |
| <b>FROM</b> | Dianne Theriault                | <b>SHIFT:</b>   | 0730 to 1730  |
| <b>TEL</b>  | (902) 539-3012                  | <b>CC:</b>      | Shawn Bernon, STPA<br>Wilfred Kaiser, STPA<br>Terry Smith, ALL-TECH |
| <b>FAX</b>  | (902) 539-3381                  |                 |   |
| <b>DATE</b> | 12 <sup>th</sup> November, 2008 | <b>STPA NO.</b> | <b>PS-0097</b>  |

**SUBJECT: 12<sup>th</sup> November, 2008, Real-time Air Monitoring Results  
Sydney Tar Ponds Agency – South Pond Pilot Study  
FINAL REPORT**

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Attached is a summary of Real-time particulate (as PM<sub>10</sub>) results for air monitoring performed on the 12<sup>th</sup> of November, 2008. Tyler Rowe and Alison Giovannetti of ALL-TECH Environmental Services Cape Breton Limited (ALL-TECH), performed all air monitoring activities.

Weather conditions on the day of sampling:

- Cloudy skies
- Temperature: approximately 5°C
- Wind Direction: Northwest

**Comments:** *ALL-TECH was on-Site at 0730 and sampling began as soon as there was site activity. Air monitoring was performed during EarthTech's construction activities.*

All downwind and upwind measurements of PM<sub>10</sub> were below the established Site Action Level for this parameter of 155 µg/m<sup>3</sup>.

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 Alison Giovannetti and reviewed by Dianne Theriault. If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,



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Dianne Theriault, B.Tech  
Environmental Technologist  
**ALL-TECH Environmental Services Cape Breton Ltd.**

Copied via e-mail:

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**Real-time Airborne PM<sub>10</sub> Concentration Results**  
**Sydney Tar Ponds Agency – South Pond Pilot Study**  
**12<sup>th</sup> November, 2008**

| Sample No. & Air Monitoring Location       | Time of Day | PM <sub>10</sub> Action Level (µg/m <sup>3</sup> ) | Average Result (µg/m <sup>3</sup> ) | Wind Direction | Relative Position | Description of Activity      | Observations that may affect sample               |
|--|-------------|--|-------------------------------------|----------------|-------------------|------------------------------|---|
| 1<br>200m N of STPA building on Inglis     | 0800        | 155  | 8                                   | Northwest      | Downwind          | No activity observed on site | No observations seen to effect sampling integrity |
| 2<br>5m N of Ferry and Walker Intersection | 0815        | 155  | 6                                   | Northwest      | Upwind            | Background                   | No observations seen to affect sampling integrity |
| 3<br>200m N of STPA building on Inglis     | 0845        | 155  | 7                                   | Northwest      | Downwind          | Excavator operating          | No observations seen to effect sampling integrity |
| 4<br>100m E of Ferry St Bridge             | 0900        | 155  | 6                                   | Northwest      | Upwind            | Background                   | No observations seen to affect sampling integrity |
| 5<br>75m N of STPA building on Inglis      | 0900        | 155  | 6                                   | Northwest      | Downwind          | Excavator operating          | No observations seen to effect sampling integrity |
| 6<br>75m N of STPA building on Inglis      | 0940        | 155  | 6                                   | Northwest      | Downwind          | Machines moving material     | No observations seen to effect sampling integrity |
| 7<br>100m E of Ferry St Bridge             | 1000        | 155  | 6                                   | Northwest      | Upwind            | Background                   | No observations seen to affect sampling integrity |

| Sample No. & Air Monitoring Location   | Time of Day | PM <sub>10</sub> Action Level (µg/m <sup>3</sup> ) | Average Result (µg/m <sup>3</sup> ) | Wind Direction | Relative Position | Description of Activity      | Observations that may affect sample               |
|--|-------------|--|-------------------------------------|----------------|-------------------|------------------------------|---|
| 8<br>75m N of STPA building on Inglis  | 1000        | 155  | 7                                   | Northwest      | Downwind          | Workers using hand tools     | No observations seen to effect sampling integrity |
| 75m N of STPA building on Inglis       | 1020        | 155  | 9                                   | Northwest      | Downwind          | No activity observed on site | No observations seen to effect sampling integrity |
| 10<br>100m E of Ferry St Bridge        | 1100        | 155  | 6                                   | Northwest      | Upwind            | Background                   | No observations seen to affect sampling integrity |
| 11<br>75m N of STPA building on Inglis | 1100        | 155  | 7                                   | Northwest      | Downwind          | No activity observed on site | No observations seen to effect sampling integrity |
| 12<br>75m N of STPA building on Inglis | 1130        | 155  | 8                                   | Northwest      | Downwind          | Workers using hand tools     | No observations seen to effect sampling integrity |
| 13<br>100m E of Ferry St Bridge        | 1200        | 155  | 8                                   | Northwest      | Upwind            | Background                   | No observations seen to affect sampling integrity |
| 14<br>75m N of STPA building on Inglis | 1200        | 155  | 9                                   | Northwest      | Downwind          | No activity observed on site | No observations seen to effect sampling integrity |
| 15<br>75m N of STPA building on Inglis | 1215        | 155  | 6                                   | Northwest      | Downwind          | No activity observed on site | No observations seen to effect sampling integrity |

| Sample No. & Air Monitoring Location   | Time of Day | PM <sub>10</sub> Action Level (µg/m <sup>3</sup> ) | Average Result (µg/m <sup>3</sup> ) | Wind Direction | Relative Position | Description of Activity      | Observations that may affect sample               |
|--|-------------|--|-------------------------------------|----------------|-------------------|------------------------------|---|
| 16<br>100m E of Ferry St Bridge        | 1300        | 155  | 7                                   | Northwest      | Upwind            | Background                   | No observations seen to affect sampling integrity |
| 17<br>75m N of STPA building on Inglis | 1300        | 155  | 7                                   | Northwest      | Downwind          | No activity observed on site | No observations seen to effect sampling integrity |
| 18<br>75m N of STPA building on Inglis | 1325        | 155  | 8                                   | Northwest      | Downwind          | No activity observed on site | No observations seen to effect sampling integrity |
| 19<br>100m E of Ferry St Bridge        | 1400        | 155  | 6                                   | Northwest      | Upwind            | Background                   | No observations seen to affect sampling integrity |
| 20<br>75m N of STPA building on Inglis | 1400        | 155  | 6                                   | Northwest      | Downwind          | No activity observed on site | No observations seen to effect sampling integrity |
| 21<br>75m N of STPA building on Inglis | 1435        | 155  | 7                                   | Northwest      | Downwind          | No activity observed on site | No observations seen to effect sampling integrity |
| 22<br>100m E of Ferry St Bridge        | 1500        | 155  | 7                                   | Northwest      | Upwind            | Background                   | No observations seen to affect sampling integrity |
| 23<br>75m N of STPA building on Inglis | 1500        | 155  | 8                                   | Northwest      | Downwind          | No activity observed on site | No observations seen to effect sampling integrity |

| Sample No. & Air Monitoring Location   | Time of Day | PM <sub>10</sub> Action Level (µg/m <sup>3</sup> ) | Average Result (µg/m <sup>3</sup> ) | Wind Direction | Relative Position | Description of Activity      | Observations that may affect sample               |
|--|-------------|--|-------------------------------------|----------------|-------------------|------------------------------|---|
| 24<br>75m N of STPA building on Inglis | 1540        | 155  | 7                                   | Northwest      | Downwind          | No activity observed on site | No observations seen to effect sampling integrity |
| 25<br>100m E of Ferry St Bridge        | 1600        | 155  | 7                                   | Northwest      | Upwind            | Background                   | No observations seen to affect sampling integrity |
| 26<br>75m N of STPA building on Inglis | 1600        | 155  | 7                                   | Northwest      | Downwind          | No activity observed on site | No observations seen to effect sampling integrity |
| 27<br>75m N of STPA building on Inglis | 1645        | 155  | 7                                   | Northwest      | Downwind          | No activity observed on site | 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 ( $\mu\text{g}/\text{m}^3$ ) |
|-----------------------------------|--------------|--|---|
| 200m N of STPA building on Inglis | 0800 to 0859 | 8  | 990   |
| 75m N of STPA building on Inglis  | 0900 to 0959 | 14   | 990   |
| 75m N of STPA building on Inglis  | 1000 to 1059 | 20   | 990   |
| 75m N of STPA building on Inglis  | 1100 to 1159 | 28   | 990   |
| 75m N of STPA building on Inglis  | 1200 to 1259 | 36   | 990   |
| 75m N of STPA building on Inglis  | 1300 to 1359 | 44   | 990   |
| 75m N of STPA building on Inglis  | 1400 to 1459 | 51   | 990   |
| 75m N of STPA building on Inglis  | 1500 to 1559 | 59   | 990   |
| 75m N of STPA building on Inglis  | 1600 to 1659 | 66   | 990   |

### VOC Monitoring

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