



MEDIA RELEASE

Ambient Formaldehyde Testing Results

The Ministry of Environment (MOE) is conducting further sampling of ambient formaldehyde at a variety of locations in Prince George this year. This is in response to high levels reported during tests taken in July-August of 2008. Priority is given to testing sites based on public complaints about odour. To date sampling has been conducted on May 26, June 4 and June 17 of 2010. The release includes information from all three sampling events.

Formaldehyde is a volatile organic compound (VOC). It is a colourless and flammable gas at room temperature and is characterized by a pungent odour at higher concentrations. Formaldehyde is a common substance. It is produced mainly through natural processes yet can also be produced by human caused processes such as combustion and off-gassing from building materials and consumer products. For more information on formaldehyde refer to: <http://www.bcairquality.ca/reports/aqofl.html>.

The following table presents a summary of formaldehyde measurements from sampling events on **June 4, 2010** and **June 17, 2010**. Duplicate samples were collected at each location and labelled as 'A' and 'B'. Testing on June 4, 2010 was conducted in response to perceived poor air quality conditions. Testing on June 17, 2010 was conducted to gain a better understanding of baseline levels. For comparison purposes, monitoring results obtained on June 4, 2010 by the Millar Addition Citizen's Coalition (MACC) along with the People's Action Committee for Healthy Air (PACHA) using a different type of sampler are also included. The formaldehyde result from June 4, 2010 is 10 µg/m³ which is less than 20 per cent of the BC Action Level Guideline. All formaldehyde results from June 17, 2010 were below the method detection limits .

FORMALDEHYDE RESULTS: June 4, 2010 and June 17, 2010

Date	Location	BC Action Level (1-hr)	BC Episode Level (1-hr)	Sampler	Sample Results (MOE: 1 hr avg)
Jun/ 4/10	End of 17 th Ave (Ft. George Park)	60 µg/m ³	370 µg/m ³	MOE	A: 10 µg/m³ B: 10 µg/m³
				MACC/PACHA	Below detection limit <i>(detection limit 12 ug/m³)</i>
Jun/17/10	End of Patricia Blvd.	60 µg/m ³	370 µg/m ³	MOE	A and B: Below detection limit <i>(detection limit 2 ug/m³)</i>
				MACC/PACHA	Did not sample in coordination with MOE

The MOE also analyzed its samples for other aldehydes, for which there are no BC objective levels. Results from the June 4, 2010 and June 17, 2010 sampling events for the other measured aldehydes are included in Appendix A. The corresponding raw data is included in Appendix B. Appendix B also contains Acetone results from the May 26, 2010 sampling as they were not available when the May 26, 2010 formaldehyde results were released on June 15, 2010. Samples are named by dates.

July 13, 2010

Formaldehyde air quality objectives

The Province has a two-tiered ambient air quality objective for formaldehyde. The action level (1-hour average of 60 µg/m³) is the target used when managing the level of formaldehyde in an airshed. The episode level (1-hour average of 370 µg/m³) corresponds to the concentration that starts to be of concern to the health of the general population; at this level, it is recommended that immediate steps be taken to reduce the release of formaldehyde into the atmosphere.

The Worker's Compensation Board uses two different standards for formaldehyde as occupational limits: a short-term ceiling of 1230 µg/m³ (1 ppm) and a 8 hour time weighted average of 369 µg/m³ (0.3 ppm).

Health effects of formaldehyde

At low levels, formaldehyde can cause irritation of the eyes, nose, throat and skin. Those with asthma may be more sensitive to these effects. Long term exposure to very high levels of formaldehyde can cause severe pain, vomiting, coma and possible death. Formaldehyde can also cause cancer, most commonly in the throat and nose after long-term exposure in the work environment.

Formaldehyde is unstable in the atmosphere and it is more of a health concern indoors than outdoors. For further information on formaldehyde and its' health effects, please visit <http://www.hc-sc.gc.ca/ewh-semt/pubs/contaminants/psl2-lsp2/formaldehyde/index-eng.php>.

PG AIR's role in the formaldehyde sampling program

Analyses of the samples may take 3 weeks or longer depending on lab circumstances. Data will be forwarded to PG AIR for release after a routine MOE quality control review. PG AIR will then communicate the results and the raw data to the public through media releases and on the PG AIR website (www.pgairquality.com).

All technical inquiries and interpretation of results should be directed to the MOE.

For more information, please contact:

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**APPENDIX A SAMPLE RESULTS OF ALDEHYDES AND KETONES TAKEN ON June 4, 2010 and June 17, 2010
IN PRINCE GEORGE, BC**

PARAMETER	June 4, 2010: SAMPLE RESULT (ug/m3)	June 17, 2010: SAMPLE RESULT (ug/m3)
Acetaldehyde	A: 3 B: < 2.4 (Below Detection)	A and B: < 2.4 (Below Detection)
Acetone	A and B: < 2.3 (Below Detection)	A and B: < 2.3 (Below Detection)
Acrolein	A and B: < 2.3 (Below Detection)	A and B: < 2.3 (Below Detection)
Propionaldehyde	A and B: < 2.4 (Below Detection)	A and B: < 2.4 (Below Detection)
Crotonaldehyde	A and B: < 2.4 (Below Detection)	A and B: < 2.4 (Below Detection)
Butyraldehyde	A and B: < 2.4 (Below Detection)	A and B: < 2.4 (Below Detection)
Benzaldehyde	A and B: < 2.4 (Below Detection)	A and B: < 2.4 (Below Detection)
Isovaleraldehyde & Valeraldehyde	A and B: < 2.4 (Below Detection)	A and B: < 2.4 (Below Detection)
o-Tolualdehyde	A and B: < 2.4 (Below Detection)	A: 7.1 B: < 2.4 (Below Detection)
m-Tolualdehyde	A and B: < 2.4 (Below Detection)	A and B: < 2.4 (Below Detection)
p-Toluealdehyde	A and B: < 2.4 (Below Detection)	A and B: < 2.4 (Below Detection)
Hexaldehyde	A and B: < 2.4 (Below Detection)	A and B: < 2.4 (Below Detection)
2,5-Dimethylbenzaldehyde	A and B: < 2.4 (Below Detection)	A and B: < 2.4 (Below Detection)

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**APPENDIX B RAW DATA ASSOCIATED WITH THE MAY 26, 2010 (ACETONE ONLY), JUNE 4, 2010 and
JUNE 17, 2010 SAMPLES**

Detection Limits

	Formaldehyde	Acetaldehyde	Acrolein	Acetone	Propionalde- hyde	Crotonalde- hyde	Butyraldehyde
Limit of Detection	0.0023						
(mg/m3)	(0.002ppm)	0.0024	0.0023	0.0023	0.0024	0.0024	0.0024
	Benzaldehyde	Isovaleralde hyde&Valeraldehyde	o-Tolualdehyde	m-Tolualdehyde	p-Toluealdehyde	Hexaldehyde	2,5-Dimethylbenzaldehyde
Limit of Detection							
(mg/m3)	0.0024	0.0024	0.0024	0.0024	0.0024	0.0024	0.0024

SampleName	Section	Formaldehyde mg/m3(ppm)	Acetaldehyde mg/m3	Acrolein mg/m3	Acetone	Propionaldehyde
20100604A	20100604A_Front	0.01	0.003	BelowLOD	BelowLOD	BelowLOD
20100604A	20100604A_Back	0.00	BelowLOD	BelowLOD	BelowLOD	BelowLOD
20100604A	20100604A_TOTAL	0.01(0.01)	0.003	BelowLOD	BelowLOD	BelowLOD
20100604B	20100604B_Front	BelowLOD	BelowLOD	BelowLOD	BelowLOD	BelowLOD
20100604B	20100604B_Back	BelowLOD	BelowLOD	BelowLOD	BelowLOD	BelowLOD
20100604B	20100604B_TOTAL	0.01(0.01)	BelowLOD	BelowLOD	BelowLOD	BelowLOD
TripBlank	20100604_tripblank_Fornt	BelowLOD	BelowLOD	BelowLOD	BelowLOD	BelowLOD
TripBlank	20100604_tripblank_Back	BelowLOD	BelowLOD	BelowLOD	BelowLOD	BelowLOD
LabBlank	20100604_tubeblank_Fornt	BelowLOD	BelowLOD	BelowLOD	BelowLOD	BelowLOD
LabBlank	20100604_tubeblank_Back	BelowLOD	BelowLOD	BelowLOD	BelowLOD	BelowLOD

SampleName	Section	Crotonaldehyde mg/m3	Butyraldehyde mg/m3	Benzaldehyde mg/m3	Isovaleraldehyde &Valeraldehyde	o-Tolualdehyde
20100604A	20100604A_Front	BelowLOD	BelowLOD	BelowLOD	BelowLOD	BelowLOD
20100604A	20100604A_Back	BelowLOD	BelowLOD	BelowLOD	BelowLOD	BelowLOD
20100604A	20100604A_TOTAL	BelowLOD	BelowLOD	BelowLOD	BelowLOD	BelowLOD
20100604B	20100604B_Front	BelowLOD	BelowLOD	BelowLOD	BelowLOD	BelowLOD
20100604B	20100604B_Back	BelowLOD	BelowLOD	BelowLOD	BelowLOD	BelowLOD
20100604B	20100604B_TOTAL	BelowLOD	BelowLOD	BelowLOD	BelowLOD	BelowLOD
TripBlank	20100604_tripblank_Fornt	BelowLOD	BelowLOD	BelowLOD	BelowLOD	BelowLOD
TripBlank	20100604_tripblank_Back	BelowLOD	BelowLOD	BelowLOD	BelowLOD	BelowLOD
LabBlank	20100604_tubeblank_Fornt	BelowLOD	BelowLOD	BelowLOD	BelowLOD	BelowLOD
LabBlank	20100604_tubeblank_Back	BelowLOD	BelowLOD	BelowLOD	BelowLOD	BelowLOD

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SampleName	Section	m-Tolualdehyde	p-Tolualdehyde	Hexaldehyde	2,5-Dimethylbenzaldehyde
20100604A	20100604A_Front	BelowLOD	BelowLOD	BelowLOD	BelowLOD
20100604A	20100604A_Back	BelowLOD	BelowLOD	BelowLOD	BelowLOD
20100604A	20100604A_TOTAL	BelowLOD	BelowLOD	BelowLOD	BelowLOD
20100604B	20100604B_Front	BelowLOD	BelowLOD	BelowLOD	BelowLOD
20100604B	20100604B_Back	BelowLOD	BelowLOD	BelowLOD	BelowLOD
20100604B	20100604B_TOTAL	BelowLOD	BelowLOD	BelowLOD	BelowLOD
TripBlank	20100604_tripblank_Fornt	BelowLOD	BelowLOD	BelowLOD	BelowLOD
TripBlank	20100604_tripblank_Back	BelowLOD	BelowLOD	BelowLOD	BelowLOD
LabBlank	20100604_tubeblank_Fornt	BelowLOD	BelowLOD	BelowLOD	BelowLOD
LabBlank	20100604_tubeblank_Back	BelowLOD	BelowLOD	BelowLOD	BelowLOD

SampleName	Section	Formaldehyde	Acetaldehyde	Acrolein	Acetone	Propionaldehyde
20100617A	20100617A_Front	BelowLOD	BelowLOD	BelowLOD	BelowLOD	BelowLOD
20100617A	20100617A_Back	BelowLOD	BelowLOD	BelowLOD	BelowLOD	BelowLOD
20100617A	20100617A_TOTAL	BelowLOD	BelowLOD	BelowLOD	BelowLOD	BelowLOD
20100617B	20100617B_Front	BelowLOD	BelowLOD	BelowLOD	BelowLOD	BelowLOD
20100617B	20100617B_Back	BelowLOD	BelowLOD	BelowLOD	BelowLOD	BelowLOD
20100617B	20100617B_TOTAL	BelowLOD	BelowLOD	BelowLOD	BelowLOD	BelowLOD
TripBlank	20100617_tripblank_Fornt	BelowLOD	BelowLOD	BelowLOD	BelowLOD	BelowLOD
TripBlank	20100617_tripblank_Back	BelowLOD	BelowLOD	BelowLOD	BelowLOD	BelowLOD
LabBlank	20100617_tubeblank_Fornt	BelowLOD	BelowLOD	BelowLOD	BelowLOD	BelowLOD
LabBlank	20100617_tubeblank_Back	BelowLOD	BelowLOD	BelowLOD	BelowLOD	BelowLOD

SampleName	Section	Crotonaldehyde	Butyraldehyde	Benzaldehyde	Isovaleraldehyde &Valeraldehyde	o-Tolualdehyde mg/m3
20100617A	20100617A_Front	BelowLOD	BelowLOD	BelowLOD	BelowLOD	0.0028
20100617A	20100617A_Back	BelowLOD	BelowLOD	BelowLOD	BelowLOD	0.0043
20100617A	20100617A_TOTAL	BelowLOD	BelowLOD	BelowLOD	BelowLOD	0.0071
20100617B	20100617B_Front	BelowLOD	BelowLOD	BelowLOD	BelowLOD	BelowLOD
20100617B	20100617B_Back	BelowLOD	BelowLOD	BelowLOD	BelowLOD	BelowLOD
20100617B	20100617B_TOTAL	BelowLOD	BelowLOD	BelowLOD	BelowLOD	BelowLOD
TripBlank	20100617_tripblank_Fornt	BelowLOD	BelowLOD	BelowLOD	BelowLOD	BelowLOD
TripBlank	20100617_tripblank_Back	BelowLOD	BelowLOD	BelowLOD	BelowLOD	BelowLOD
LabBlank	20100617_tubeblank_Fornt	BelowLOD	BelowLOD	BelowLOD	BelowLOD	BelowLOD
LabBlank	20100617_tubeblank_Back	BelowLOD	BelowLOD	BelowLOD	BelowLOD	BelowLOD

For Immediate Release

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SampleName	Section	m-Tolualdehyde	p-Tolualdehyde	Hexaldehyde	2,5-Dimethylbenzaldehyde
20100617A	20100617A_Front	BelowLOD	BelowLOD	BelowLOD	BelowLOD
20100617A	20100617A_Back	BelowLOD	BelowLOD	BelowLOD	BelowLOD
20100617A	20100617A_TOTAL	BelowLOD	BelowLOD	BelowLOD	BelowLOD
20100617B	20100617B_Front	BelowLOD	BelowLOD	BelowLOD	BelowLOD
20100617B	20100617B_Back	BelowLOD	BelowLOD	BelowLOD	BelowLOD
20100617B	20100617B_TOTAL	BelowLOD	BelowLOD	BelowLOD	BelowLOD
TripBlank	20100617_tripblank_Fornt	BelowLOD	BelowLOD	BelowLOD	BelowLOD
TripBlank	20100617_tripblank_Back	BelowLOD	BelowLOD	BelowLOD	BelowLOD
LabBlank	20100617_tubebank_Fornt	BelowLOD	BelowLOD	BelowLOD	BelowLOD
LabBlank	20100617_tubebank_Back	BelowLOD	BelowLOD	BelowLOD	BelowLOD

Sample Name	Section	Acetone
20100526A	26A_Front	BelowLOD
	26A_Back	BelowLOD
20100526B	26B_Front	BelowLOD
	26B_Back	BelowLOD
Trip Blank	Trip_Blank_Front	BelowLOD
	Trip_Blank_Back	BelowLOD
Lab Blank	Tube_Blank_Front	BelowLOD
	Tube_Blank_Back	BelowLOD