

Client: 1410 Wood Buffalo Environmental Association (WBEA)  
 Project: 20898 Community Odour Monitoring Project - Fort McMurray (AB)  
 Update: 11/09/2014



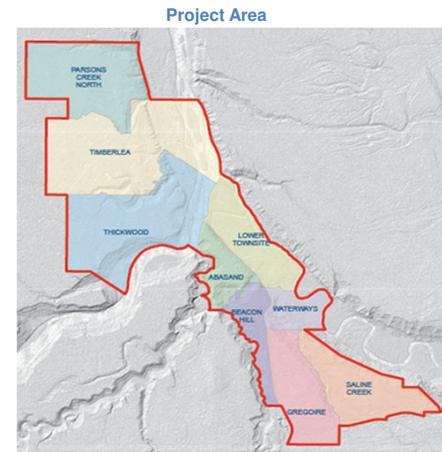
**Period: June 1st, 2014 to August 31st, 2014**

**Summary**

**Context and Objectives**

Odours have become a prominent issue in some communities in the Wood Buffalo region. As a result, WBEA's Human Exposure Monitoring Program (HEMP) monitors, detects and chemically characterizes odour compounds in ambient air. In addition to using specialized instrumentation to detect odours, HEMP is conducting a community-based odour monitoring project. For this initiative, WBEA has recruited volunteer participants from the community of Fort McMurray, Wood Buffalo's urban centre. Fort McMurray draws attention from around the world as the residential and commercial focal point of Canada's Oil sands industry. Residents come from all regions of Canada and around the world, and according to 2010 census, approximately 76,767 people live in Fort McMurray.

Monitoring human exposure to odours in the region is part of a long-term strategy of WBEA. Due to public concerns over odours, HEMP will continue to identify, assess and communicate how odours can be monitored and reported to community members. The main objective of WBEA's Fort McMurray Community Odour Monitoring Project is to involve the community in identifying and monitoring odours in the air in order to determine the impact on residents. The map on the right show the area covered by this project.



The project was launched in February 2013. A first year on monitoring was completed in May 2014. For the 2nd year of monitoring, the recruitment and training was conducted in May 2014 and the odour observations started in June 2014. This 2nd year of the program will end in May 2015.

**Community Odour Observer Committee - Results Summary**

The odour committee is based on the participation of volunteers from the region that supplies specific information about the various odours they perceived during their day-to-day activities. They provide observation through a designated website or by mail. The committee meets on a quarterly basis to review the results of their observations. There were 37 participants registered as volunteer at the end of the 1st quarter of this second year of monitoring.

Between June and August 2014, 133 complete reports have been received. Fourteen (14) participants provided reports during that period. 139 odour observations were analysed. 38% of the odours perceived were attributed to burnt/smoke, 26% to asphalt/tar, 14% to fuel/solvent and 6% to ammonia/cat's pee. Other types of odour observed include: fecal/septic, skunk, rotten eggs, chemical/plastic and other (hydrocarbons, manure, oil sands).

Between June and August 2014, 43% of the observations received were reported in the Thickwood area, 7% in the Lower Townsite area and 48% in the Timberlea area. One observation was also reported in Beacon Hill and another one in Saline Creek.

**What's Next**

The first quarterly meeting will be held on September 23rd, 2014. Volunteers will continue to record their observations.

**Community Odour Observer Committee - Results**

	June to August 2014	Sept. to Nov. 2014	Dec. 2014 to Feb. 2015	March to May 2015	Total - June 2014 to May 2015
Number of Participant at the end of each period	37				37
Number of Participant who Reported Odours	14				14
Number of Reports per Participant	From 1 to 23				From 1 to 23
Total Number of Complete Reports	133				133
Reports by card / phone / email	0				0
Reports by website / smartphone	133				133
Total Number of Complete Observations	139				139

**Definitions:**

**Participant:** registered volunteer for the community odour monitoring project for 2014-2015.

**Report:** a complete report is one submission of information from a participant. A report may list more than one type of odour perceived (or observation). A report must be complete to be analysed.

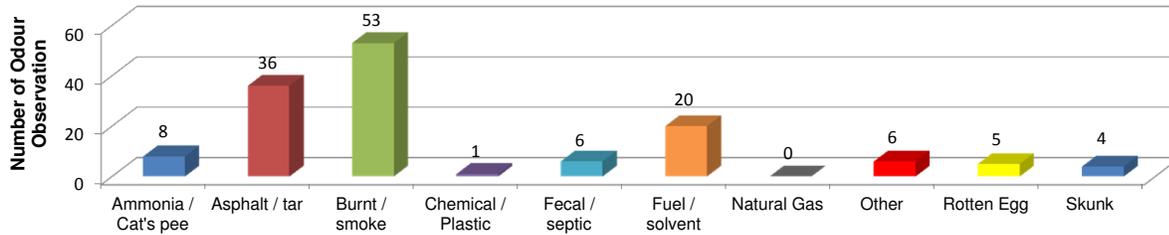
**Observation:** one type of odour with the conditions during which it was observed. If a report indicates 2 or more types of odours, each odour is counted as one observation.

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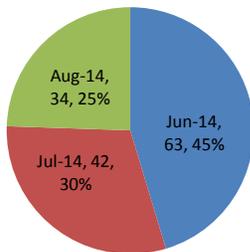


**Community Odour Observer Committee - Results (cont'd)**

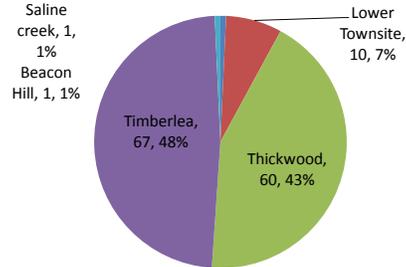
**Types of Odour Observations for June to August 2014**



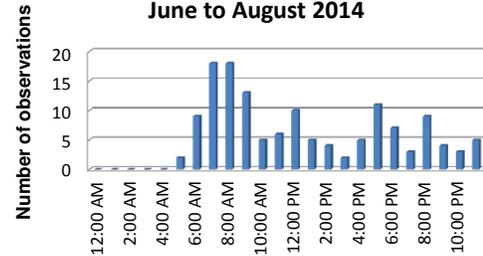
**Number of Observations per Month for June to August 2014**



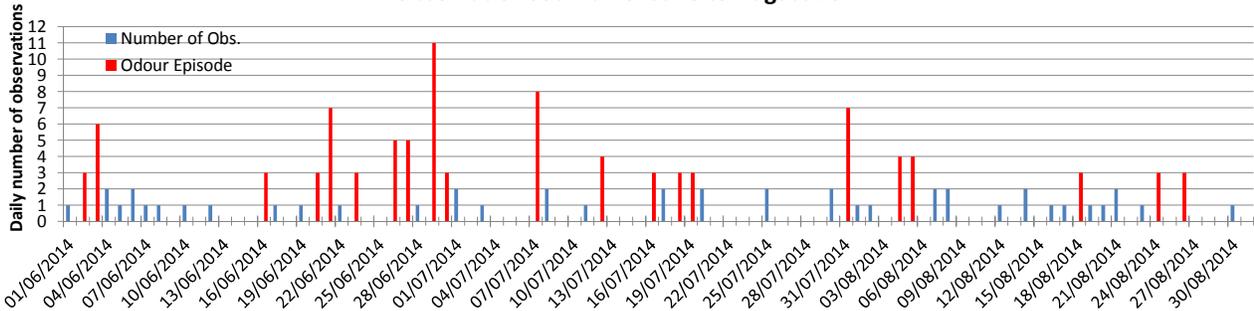
**Number of Observations per Project Area for March to May 2014**



**Observation per Hour of the Day for June to August 2014**



**Observation Journal for June to August 2014**



A total of 139 reports were received. Six (6) of these were incomplete and not included in this analysis. 133 complete reports were analysed. Six (6) reports listed two (2) observations (types of odour) each. The total number of observations analysed is 139. 45% of those observations were reported in June 2014, 30% in July and 25% in August. All observations were received through the website or smartphone. Fourteen (14) participants submitted observations during that period.

38% of the odour perceived were attributed to burnt/smoke (53 observations), 26% to asphalt/tar, 14% to fuel solvent and 6% to ammonia/cat's pee. Rotten eggs, fecal/septic, skunk, chemical/plastic and other (manure, hydrocarbons, oil sands) accounts for the rest of the odours observed.

Between June and August 2014, 43% (60 obs.) of the observations received were reported in the Thickwood area, 7% (10 obs.) in the Lower Townsite area and 48% (67 obs.) in the Timberlea area. One observation was also reported in Beacon Hill and another one in Saline Creek.

Since odour observations are provided by volunteers during their day to day activities, observations are more likely to coincide with daytime and evening than nighttime and also reflect the time for which the volunteer remains at the location of the odour perceived. 54 observations were reported between 6 AM and 10 AM, 10 observations were reported around noon and 23 observations were between 4 and 6 PM. The remaining observations were scattered throughout the day. There were no observations between midnight and 4 AM. Duration reported were between 1 and 299 minutes (close to 5 hours). 78% of observations reported duration of 30 minutes or less.

Odour episodes are considered to occur when 3 observations or more are received for the same day. The observation journal shows the number of observation received daily and the odour episodes are shown in red. Twenty one (21) odour episodes were recorded during this quarter. A total of 94 observations were received during those episodes. Between 3 and 11 observations per day were received for those 21 days. On June 29th, 2014, 11 observations were received, six (6) of them reported burnt/smoke odours. On July 7th, 8 observations of burnt/smoke were received.