

**Client:** 1410 Wood Buffalo Environmental Association (WBEA)  
**Project:** 20898 Community Odour Monitoring Project - Fort McMurray (AB)  
**Update:** 22/01/2015 Revised report  
**Period:** September 1st, 2014 to November 30th, 2014

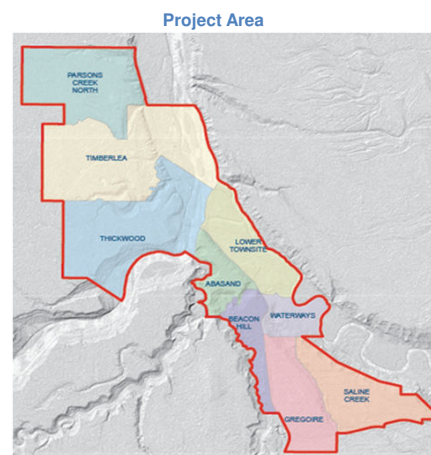


## Summary

### 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 2nd quarter of this second year of monitoring.

Between September and November 2014, 48 complete reports have been received. Eleven (11) participants provided reports during that period. 51 odour observations were analysed. 27% of the odours perceived were attributed to fuel/solvent, 20% to ammonia/cat's pee, 14% to burnt/smoke and 14% to asphalt/tar. Other types of odour observed include: fecal/septic, rotten eggs, chemical/plastic and other (burning tires, oil sands).

Between September and November 2014, 55% of the observations received were reported in the Timberlea area and 39% in the Thickwood area. One observation was also reported in Saline Creek and two in Lower Townsite.

### What's Next

The second quarterly meeting was held on January 14th, 2015. The next meeting will be scheduled in March 2015 (date to be determined). 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			37
Number of Participant who Reported Odours	14	11			14
Number of Reports per Participant	From 1 to 23	From 1 to 11			From 1 to 23
Total Number of Complete Reports	133	48			181
Reports by card / phone / email	0	1			1
Reports by website / smartphone	133	47			180
Total Number of Complete Observations	139	51			190

#### 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.

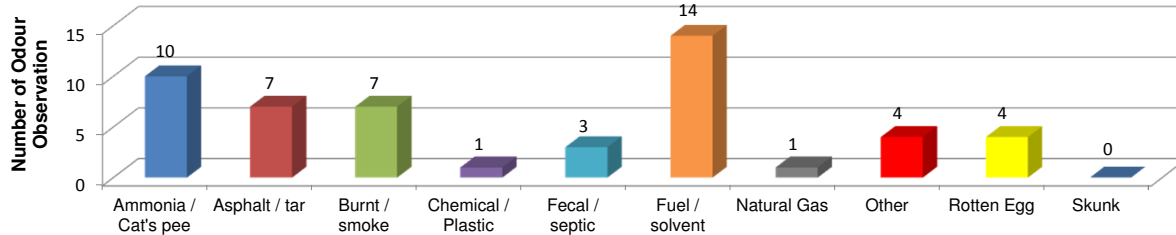
**Observation:** one type of odour with the conditions during which it was observed. If a report indicates 2 or more types of odours, each odour is counted as one observation.

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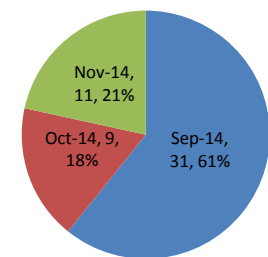


Community Odour Observer Committee - Results (cont'd)

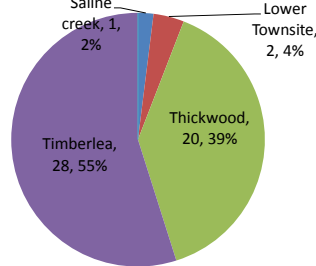
Types of Odour Observations for Sept to Nov 2014



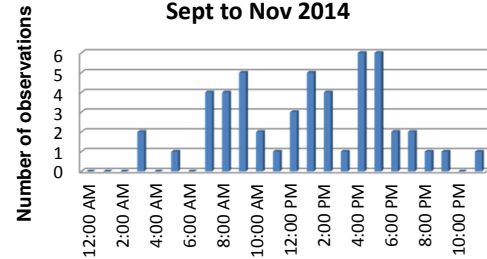
Number of Observations per Month for Sept to Nov 2014



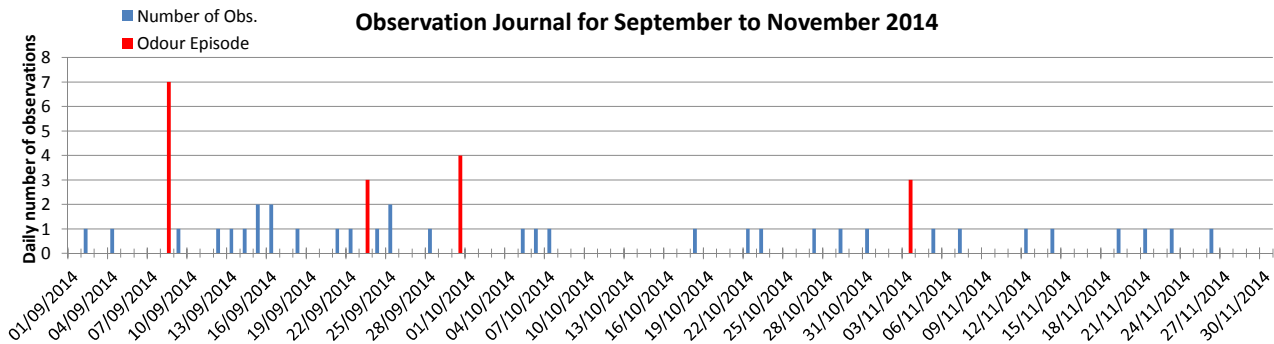
Number of Observations per Project Area for Sept to Nov 2014



Observation per Hour of the Day for Sept to Nov 2014



Observation Journal for September to November 2014



A total of 48 reports were received and analysed. Three (3) reports listed two (2) observations (types of odour) each. The total number of observations analysed is 51. 61% of those observations were reported in September 2014, 18% in October and 21% in November. All observations were received through the website or smartphone except for one that was received by card. Eleven (11) participants submitted observations during that period.

27% of the odour perceived were attributed to fuel/solvent (14 observations), 20% to ammonia/cat's pee and 14% each for asphalt/tar and burnt/smoke. Rotten eggs, fecal/septic, chemical/plastic and other (burning tires, oil sands) accounts for the rest of the odours observed.

Between September and November 2014, 55% (28 obs.) of the observations received were reported in the Timberlea area and 39% (20 obs.) in the Thickwood area. One observation was also reported in Saline Creek and two were reported in the Lower Townsite.

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. 15 observations were reported between 7 AM and 10 AM, 12 observations were reported between noon and 2 PM and 14 observations were between 4 and 6 PM. The remaining observations were scattered throughout the day. There were no observation between midnight and 3 AM. Duration reported were between 1 and 210 minutes (3.5 hours). 80% 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. Four (4) odour episodes were recorded during this quarter. A total of 18 observations were received during those episodes. Between 3 and 7 observations per day were received for those 4 days : September 8th, 23rd and 30th and November 3rd . On September 8th, 2014, 7 observations were received from 6 participants. Four of those seven observations reported ammonia/cat's pee odours in the Thickwood and Timberlea areas. For the other odour episodes, various types of odours were reported: fuel/solvent, asphalt/tar, rotten egg, fecal/septic, burnt/smoke and other.