**PRAMP Air Canister Sampling 2017-2018 Review**

**\***Please note that this was only an initial high-level review to initiate conversation

Table 1. There were nine (9) Compounds That Exceeded Thresholds in 2017-2018 Canisters That Were **Above** the MDL.

|  |  |
| --- | --- |
|  | **Number of Exceedances** |
|  | **# of events (# of thresholds exceeded per event)** |
| **Compound** | **2017** | **2018** |
| Carbonyl Sulphide | 3 (1) | - |
| Carbon Tetrachloride | 3 (1) | 1 (1) |
| Benzene | 2 ( 2/5) | 2 (1/2) |
| Isoprene | 1 (1) | - |
| Acrolein | 1 (4) | 2 (4/4) |
| Chloroform | - | 2 (2/2) |
| 1,2,4-Trimethylbenzene | - | 1 (1) |
| Bromodichloromethane | - | 1 (1) |
| Methyl Butyl Ketone | - | 1 (1) |

\*Note: Only exceedances that were above the method detection limit (MDL) are presented above. The MDL is the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from the method blank results.

Table 2. There were ten (10) Compounds that exceeded thresholds in the 2017-2018 Canisters That Were **Below** the MDL.

|  |  |
| --- | --- |
|  | **Number of Exceedances** |
|  | **# of events (# of thresholds exceeded per event)** |
| **Compound** | **2017** | **2018** |
| 1-Butene | 3 (1) | 3 (1) |
| Pentyl mercaptan | 3 (1) | 3 (1) |
| tert-Butyl mercaptan | 3 (1) | 3 (1) |
| 1,2,4-Trichlorobenzene | 3 (1) | 3 (1) |
| 1,2-dibromoethane | 3 (1) | 3 (1) |
| Acrolein | 2 (3/3) | 1(3) |
| Benzyl chloride | 3 (1) | 3 (1) |
| Bromodichloromethane | 3 (1) | 2(1) |
| Hexachloro-1,3-butadiene | 3 (2/2/2) | 3 (2/2/2) |
| Naphthalene | 3 (1) | 3(1) |

Some exceedances of thresholds were noted for other compounds/events, but since they were below the MDL, there is reduced confidence in their value. These could be compounds of potential interest for any future study (if the MDL issue could be addressed via instrumentation).

Summary Messages

* An initial scan of the data shows a potential trending that air quality occasionally exceeds some health based thresholds used for the identification of compounds of potential interest.
* Health effects cannot be predicted based upon exceedance of thresholds alone. Exposure information would be needed to quantify the risk. Impact from the intermittent events captured in this data would suggest that health risk to the population is low.
* Odours have the potential to cause indirect health effects. Further study is being undertaken to examine potential linkages between odour and health by numerous organizations such as Universities, Independent researchers, CASA, government etc. Alberta Health remains informed by these studies as they become available.
* Not all air and odour events will be fully represented by this data, though it is a useful tool for the area to identify compounds of interest to target further air monitoring or assessment. For example a short-term focused study using continuous monitoring.
* Air canister sampling has been conducted in the region for approximately 10 years. A review of the data available could help understand and shape future air monitoring in the area.