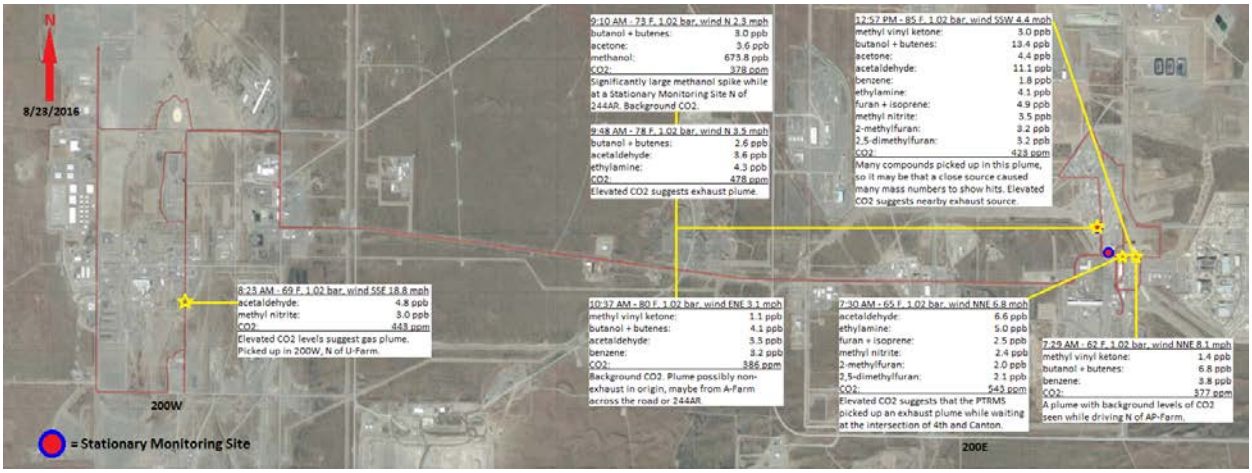
Mobile Lab Results from 8-23-16

The mobile laboratory was used to determine vapors at the Hanford tank farm while travelling through the Hanford tank farms and in specific stationary sites. The specific stationary sites were near the ***242-A Evaporator*** and just southeast of ***A-Farm***. A plume was detected while travelling in west area. The results from 8-23-2016 indicate compounds that are typical of partial combustion products, rather than tank sources. There was one plume of unknown origin. In any case, all detected compounds are below the ***Occupational Exposure Limits (OEL)*** for each compound as shown in the table below. Vapor plumes detected were very short durations (less than 2 mins typically) and therefore will not challenge the constant levels of exposure needed to challenge the OEL. The levels detected are consequently well below any immediate effects but may be above odor thresholds. The chemical listing and their associate OELs can be found here:

..\..\..\References\Industrial Hygiene Chemical Vapor Technical Basis RPP-22491_-_Rev_1.pdf



Chemical	OEL	Maximum Concentration Detected (<2 mins)
Methanol	200 ppm	0.6738 ppm
Acetaldehyde	25 ppm (Ceiling Limit) [1]	0.011 ppm
Methyl Vinyl Ketone (MVK)	0.2 ppm(Ceiling Limit)[2]	0.0014 ppm
1-butanol/butene	20 ppm	0.00134 ppm
Furan+ Isoprene	Furan: 0.001ppm	0.0049 ppm[3]
Benzene	0.5 ppm	0.0038 ppm
2-Methylfuran	0.001 ppm	0.0032 ppm[4]
2,5-Dimethylfuran	0.001 ppm	0.0032 ppm[5]

[1] The ceiling limit is the concentration that should not be exceeded during any part of the working exposure.
[2] The ceiling limit is the concentration that should not be exceeded during any part of the working exposure. Currently not in COPC list, Information gathered from CDC/NIOSH.
[3] The passing plume had only a few minutes of concentration and therefore does not challenge the OEL.
[4] The passing plume had only a few minutes of concentration and therefore does not challenge the OEL.
[5] The passing plume had only a few minutes of concentration and therefore does not challenge the OEL.

Acetone	250 ppm	0.0044 ppm
Ethylamine	5 ppm	0.005 ppm
Methyl Nitrite	0.1 ppm	0.0035 ppm
CO2	5000 ppm	370 ppm