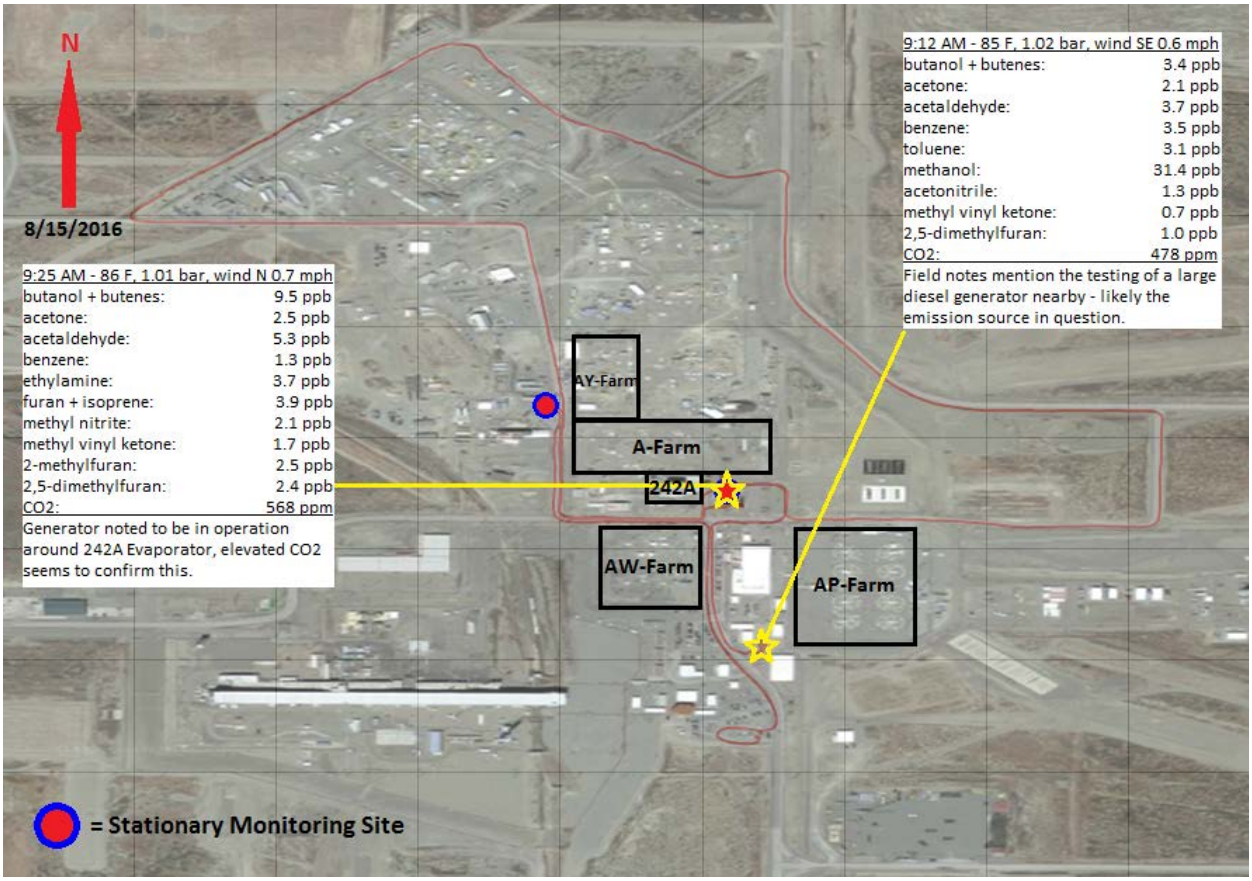
Mobile Lab Results from 8-15-16

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***. Another plume was detection while travelling southwest of ***AP-Tank Farm***. The results from 8-15-2016 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	0.314 ppm
Acetaldehyde	25 ppm (Ceiling Limit) [1]	0.0053 ppm

[1] The ceiling limit is the concentration that should not be exceeded during any part of the working exposure.

Acetonitrile	20 ppm	0.0013 ppm
Methyl Vinyl Ketone (MVK)	0.2 ppm(Ceiling Limit)[2]	0.0017 ppm
1-butanol/butene	20 ppm	0.0034 ppm
Furan+ Isoprene	Furan: 0.001ppm	0.0039 ppm[3]
Benzene	0.5 ppm	0.0035 ppm
2-Methylfuran	0.001 ppm	0.0025 ppm
2,5 Methylfuran	0.001 ppm	0.0024 ppm
Toluene	50 ppm	0.0031 ppm
Acetone	250 ppm	0.0025 ppm
Methyl Nitrite	0.1 ppm	0.0021 ppm
Ethylamine	5 ppm	0.0037 ppm
CO2	5000 ppm	568 ppm

[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.