**KPK Martin T. Hard README**

**Overview**

The KPK Martin T. Hard deployment is led by the Air Toxics and Ozone Precursors Program (ATOPs) within the Air Pollution Control Division (APCD) of the Colorado Department of Public Health and Environment (CDPHE). The deployment was initiated to respond to emissions first identified by the MOOSE (Mobile Oil & Gas Optical Sensor of Emissions). The KPK Martin T. Hard oil and gas facility is located just southeast of a residential RV Park in Fort Lupton, Colorado. The KPK Martin T. Hard facility consists of a crude oil storage tank and a pump jack. The crude oil storage tank was measured to be emitting benzene, an air toxic regulated by HB21-1189, a known carcinogen that has acute and chronic impacts at low concentrations. The goal of this deployment is to determine whether the storage tank and/or pump jack is emitting benzene. This README file explains the instruments used, compounds detected, units of measurement, and specifications relevant for data interpretation.

**Measurement Specifications**

**BTEX (Benzene, Toluene, Ethyl Benzene, Xylenes)**

|  |  |
| --- | --- |
| **Instrument Manufacturer** | Pollution Analytical Equipment |
| **Instrument Model** | PyxisGC BTEX |
| **Compounds Detected** | Benzene, Toluene, Ethyl Benzene, Xylenes (BTEX) |
| **Units** | ppbV, ppbV, ppbV, ppbV |
| **Detection Limits (in units)** | 0.05, 0.05, 0.25, 1 |
| **Sampling Resolution** | 597 seconds (9 minutes, 57 seconds) |
| **Notes** | Sampling onto the preconcentrator occurs during the last 6 minutes of each sampling period. |

**Health Guideline Value (HGV) / Level 1 Acute Exposure Guideline Levels (AEGL) Reference Guide**

These concentrations are established by the EPA (AEGL) and CDPHE (HGV) for the compounds measured at this deployment that can cause acute health effects.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Exposure Time** | **Benzene (ppbV)** | **Toluene (ppbV)** | **Ethyl Benzene (ppbV)** | **Xylenes (ppbV)** |
| 10 min | 130000 | 67000 | 33000 | N/A |
| 30 min | 73000 | 67000 | 33000 | N/A |
| 60 min | 52000\*/9\*\* | 67000\*/2000\*\* | 33000\*/5000\*\* | 2000\*\* |
| 4 hr | 18000 | 67000 | 33000 | N/A |
| 8 hr | 9000 | 67000 | 33000 | N/A |

\*1 hour AEGL  
\*\*1 hour HGV