

Background Concentration Analysis

SUMMARY

The proposed background concentrations for use with the air quality analysis (AQA) are listed below.

Pollutant	Avg. Time	Monitor Name	AQS ID	Design Value ($\mu\text{g}/\text{m}^3$)
CO	1 HR			
CO	8 HR			
NO2	1 HR			
NO2	ANNUAL			
PM10	24 HR			
PM2.5	24 HR			
PM2.5	ANNUAL			
SO2	1 HR			
SO2	24 HR			
SO2	ANNUAL			

The design values were obtained from the USEPA 2015 Design Value Reports (<https://www.epa.gov/air-trends/air-quality-design-values>).

METHODOLOGY

The methodology used to determine whether an existing ambient air monitor provides measurements that are representative of the air quality near the <Site Name> (Site), is based on three comparative criteria:

- Regional (county-wide) annual emissions;
- Nearby annual emissions; and
- Nearby land use.

Values for each of these criteria have been computed by pollutant for both ambient monitor and the Site location. Values for a monitor nearest to or exceeding the values for the Site are considered representative of the air quality near the Site.

Regional emissions have been computed using data from the most recent (2014) EPA National Emissions Inventory (NEI). The NEI data are reported on a county-wide basis and by 14 different classifications. The classifications have been segmented into industrial emissions (12 of the 14), mobile source emission (1 of the 14), and biogenic emissions (1 of the 14) and the emissions subtotaled based on these classification segments. For the pollutants for this analysis, no biogenic emissions were reported.

Nearby emissions have been computed using reported emissions from the EPA 2014 NEI. The data used are site-wide emissions for the NEI year 2014. Only sites within 10 kilometers (km) of an ambient monitor and the Site were considered.

Nearby land use has been computed using the most recent national land cover data (2011 NLCD). The percentage of area by land use classification has been computed for the region within 10 kilometers

(km) of an ambient monitor and the Site. Land use classifications are grouped by those considered urban or rural.

The Site is located in **<County of Site>** County. There are no operating ambient air monitors for **<list pollutants>** in **<County of Site>** County. There are **<number of monitors in county of Site>** ambient air monitors in **<County of Site>** County; **<list monitors in county of Site by name and AQS ID>**. From the analysis below, for applicable pollutants, the **<Monitor Name>** monitor is most representative of the air quality near the Site.

MONITOR ANALYSIS – <POLLUTANT>

There are no <pollutant> monitors in <County of Site> County nor near the Site. The analysis below demonstrates the <selected monitor name> monitor (AQS ID <AQS ID>) would provide representative <pollutant> concentration measurements indicative of air quality near the Site.

When comparing county-wide emissions, reported <pollutant> emissions for <County of selected monitor> County were approximately <some number or multiplier> higher than for <County of Site> County. When comparing emissions of nearby sites, though reported NEI <pollutant> emissions of sites within 10 km of the monitor location are <some percentage or multiplier> of the total reported NEI <pollutant> emission near the Site, the reported emissions near the monitor location are <some percentage or multiplier> of the total industrial emissions for <County of selected monitor> County. The reported emissions near the Site make up <some percentage or multiplier> of the total industrial emissions for <County of Site> County. Since not all industrial sites are specifically included in the NEI, there are more likely numerous non-reporting industrial sites near the <selected monitor name> monitor. Analysis of the land use within the 10 km of the monitor site supports this assertion. The land use near the monitor has <some percentage or multiplier> the urbanization than the land use near the Site. <some percentage or multiplier> of the urbanization near the monitor (land codes 23 and 24) are indicative of industrial activity.

Regional Emissions Analysis

TIER1NAME	<County of Site>	<County of selected monitor>
TOTAL		
TOTAL INDUSTRIAL		
TOTAL MOBILE		
CHEMICAL & ALLIED PRODUCT MFG		
FUEL COMB. ELEC. UTIL.		
FUEL COMB. INDUSTRIAL		
FUEL COMB. OTHER		
HIGHWAY VEHICLES		
METALS PROCESSING		
MISCELLANEOUS		
OFF-HIGHWAY		
OTHER INDUSTRIAL PROCESSES		
PETROLEUM & RELATED INDUSTRIES		
SOLVENT UTILIZATION		
STORAGE & TRANSPORT		
WASTE DISPOSAL & RECYCLING		

Nearby Emissions Analysis

Site		<Selected monitor name>	
RN	TPY	RN	TPY
TOTAL		TOTAL	

Nearby Land Use Analysis

Land Use Code	Land Code Name	Category	Site	<Selected monitor name>
			Percent	Percent
11	Open Water	Rural		
21	Developed, Open Space	Urban		
22	Developed, Low Intensity	Urban		
23	Developed, Medium Intensity	Urban		
24	Developed, High Intensity	Urban		
31	Barren Land (Rock/Sand/Clay)	Urban		
41	Deciduous Forest	Rural		
42	Evergreen Forest	Rural		
43	Mixed Forest	Rural		
52	Shrub/Scrub	Rural		
71	Grassland/Herbaceous	Rural		
81	Pasture/Hay	Rural		
82	Cultivated Crops	Rural		
90	Woody Wetlands	Rural		
95	Emergent Herbaceous Wetlands	Rural		
TOTAL		Rural		
		Urban		

CASE WHEN THERE ARE MULTIPLE MONITORS IN THE COUNTY OF THE SITE

MONITOR ANALYSIS – <POLLUTANT>

There are <number more than one> <pollutants> monitors in <County of Site> County. The analysis below demonstrates the <selected monitor name> monitor (AQS ID <AQS ID>) would provide representative <pollutant> concentration measurements indicative of air quality near the Site.

When comparing county-wide emissions to reported NEI site-wide <pollutant> emissions of sites within 10 km of the Site, approximately <some percentage or multiplier> of the county-wide reported industrial emissions are from sites near the Site. The reported NEI site-wide <pollutant> emissions of sites within 10 km of the Site and the <selected monitor name> monitor are <some qualifier>. Analysis of the land use within 10 km of the Site is <some qualifier> to the land use around the monitor.

Regional Emissions Analysis

TIER1NAME	<County of Site>
TOTAL	
TOTAL INDUSTRIAL	
TOTAL MOBILE	
CHEMICAL & ALLIED PRODUCT MFG	
FUEL COMB. ELEC. UTIL.	
FUEL COMB. INDUSTRIAL	
FUEL COMB. OTHER	
HIGHWAY VEHICLES	
METALS PROCESSING	
MISCELLANEOUS	
OFF-HIGHWAY	
OTHER INDUSTRIAL PROCESSES	
PETROLEUM & RELATED INDUSTRIES	
SOLVENT UTILIZATION	
STORAGE & TRANSPORT	
WASTE DISPOSAL & RECYCLING	

Nearby Emissions Analysis

Site		<Selected monitor name>	
RN	TPY	RN	TPY
TOTAL		TOTAL	

Nearby Land Use Analysis

Land Use Code	Land Code Name	Category	Site Percent	<Selected monitor> Percent
11	Open Water	Rural		
21	Developed, Open Space	Urban		
22	Developed, Low Intensity	Urban		
23	Developed, Medium Intensity	Urban		
24	Developed, High Intensity	Urban		
31	Barren Land (Rock/Sand/Clay)	Urban		
41	Deciduous Forest	Rural		
42	Evergreen Forest	Rural		
43	Mixed Forest	Rural		
52	Shrub/Scrub	Rural		
71	Grassland/Herbaceous	Rural		
81	Pasture/Hay	Rural		
82	Cultivated Crops	Rural		
90	Woody Wetlands	Rural		
95	Emergent Herbaceous Wetlands	Rural		
		TOTAL		
		Rural		
		Urban		