3TM Consulting, LLC

Environmental Science | Environmental Engineering | Environmental Forensics

There are air pollution projects…
and then there are air pollution projects…

3TM Consulting, LLC has completed what we believe to be the largest air pollution assessment project in US history. This work was for a confidential client in support a toxic tort / property damage Class Action lawsuit. The details are confidential; however, the technical workup is briefly described below. The work was performed over a period of three years and included a team of environmental engineers and scientists, meteorologists, and data management specialists.

The conceptual site model included several data bases that served as inputs to SCREEN3, AERMOD, and INPUFF air dispersion models:

- Emission Sources Data Base
- Emission Inventory Data Base
- Emission Event Geospatial Data Base
- Meteorological Data Base
- Air Pollution Parameters Data Base
- Receptor Data Base

These data bases were combined into a Master Data Base which housed information on the following:

- 40,248 individual emission events over a nominal 5-year time period
- 13 individual pollutant categories (particulates, gases, PAHs, Dioxins)
- Analysis of $PM_{0.5}$, PM_1, PM_5, and PM_{10} particulates
- 8,760 hours of meteorological data per year
- 52,800 receptor points within a nominal 5,000 square mile area
- 5 individual ambient air concentration averaging times (1-hour to 1-year)
- Collectively, this equated to about 1.21 quadrillion bits of data used to describe regional air quality
- Background conditions
- Confounder sources
- Plume travel distances and trajectories

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