

Case Study

Defensible VOC Monitoring Reduces Risk for Oil and Gas Client in Colorado

Quandary Consultants, LLC a Colorado-based consultant used a network of VOC monitors and Cloud-based interface to deliver defensible and actionable air quality data.



Project

Quandary Consultants, LLC

Services

8 x AQS1 Air Quality Stations

Location

Colorado, USA

Measurements

VOCs, weather sensors and telemetry

Date

August 2019

Sector

Oil & Gas



The customer



Quandary Consultants, LLC is an environmental and regulatory consulting company headquartered in Denver, Colorado. Since 2016 Quandary has become the consultant of choice for numerous oil and gas, construction and municipal clients. The staff of scientists, engineers, hydrologists, geologists and regulatory analysts help clients manage complex environmental regulatory challenges and health and safety concerns.

In response to recent oil and gas regulations in Colorado, Quandary has specialized in continuous air quality monitoring services for clients in oil and gas exploration, completions and production.

The problem

On April 16, 2019, Governor Polis signed into law Senate Bill 19-181, the most sweeping and progressive oil and gas legislation passed since the boom in hydraulic fracturing. SB 19-181 directs the Colorado Oil and Gas Conservation Commission to “regulate the development and production of the natural resources of oil and gas in the state of Colorado in a manner that protects public health, safety, and welfare, including protection of the environment and wildlife resources.” In response, the Colorado Department of Public Health and Environment and the Colorado Air Quality Control Commission require operators to comply with site-specific air quality protection measures, including continuous air emission monitoring to eliminate or minimize air emissions to help protect communities near oil and gas facilities. Effective October 17, 2019 all drilling permits within 2,000 feet of occupied buildings are required to comply with SB 19-181 regulations.



The solution



Quandary was approached by an existing oil and gas client to conduct continuous air quality monitoring for VOCs near two of the client’s drilling and production operations in northeastern Colorado. The client had solicited several monitoring proposals and ultimately selected Quandary as their approach offered cost-effective and reliable 24/7 fenceline air monitoring with real-time data access and storage through Aeroqual Cloud, an easy-to-use secure web-based interface.

The client signed off on the Aeroqual solution supplied by The JJ Wilbur Co. A network of eight AQS1 air quality stations were deployed around various drilling sites to measure VOC emissions in part-per-billion concentrations. An integrated meteorological station combined weather data with emissions data for source apportionment reporting and 4G-enabled modems transmit the data to Aeroqual Cloud in real-time. JJ Wilbur supplied solar panels and battery systems for remote power operation.



“Aeroqual AQS1 monitors were a logical choice for this project. The monitors exhibited reliable long-term operation using solar and battery power at remote sites without access to AC power.”

John Van Kirk
Senior Environmental Scientist at Quandary Consultants

Evaluation

Quandary’s project manager John Van Kirk noted that, “Aeroqual AQS1 monitors were a logical choice for this VOC monitoring project as we were already familiar with the cloud-based application from using Dust Sentry units for monitoring PM₁₀ at a highway construction project. In addition, Aeroqual’s monitors exhibited reliable long-term operation using solar and battery power at remote sites without access to AC power.”

This innovative, easy to deploy system, has given Quandary a technical and commercial advantage in helping it’s clients to minimize risk. By generating defensible and actionable air quality data Quandary’s client is able to comply with SB 19-181 and protect communities near their installations.