

## Case Study

# Building a Reliable Air Monitoring Solution in Challenging Environmental Conditions in Iraq

RSK, in collaboration with Bureau Veritas (BV) Iraq, was commissioned to deliver an Environmental Impact Assessment (EIA) for the Peshkabir Oilfield in Kurdistan, Iraq.



### Project

Peshkabir Oilfield, Kurdistan

### Services

Series 500 handheld monitor

### Location

Iraq

### Measurements

H<sub>2</sub>S, SO<sub>2</sub>, O<sub>3</sub>, VOC, NO<sub>2</sub>

### Date

2016 - 2017

### Sector

Oil & Gas



## The customer



RSK Group Ltd is one of Europe's leading multidisciplinary environmental consultancies with over 60 offices in 23 countries and employs more than 2,000 professionals. The air quality team is based in the UK and works extensively across Europe, Central Asia and the Middle East. Air quality projects include construction, transport and infrastructure, including aviation, road, rail, ports and oil and gas.

In Iraq and Kurdistan RSK offers a broad range of bespoke air quality and noise monitoring services. These are anchored around an internationally accredited laboratory near Basra, Iraq, which was the first combined geotechnical and contaminated land laboratory to be accredited to ISO/IEC 17025.

## The problem

As well as delivering direct services, RSK collaborates with Bureau Veritas (BV) Iraq for providing specialist air quality and noise assessments to major oil and gas companies in the region. BV Iraq was commissioned by the client to deliver an Environmental Impact Assessment (EIA) for the Peshkabir Oilfield in Kurdistan. The environmental monitoring and sampling comprised; ambient air quality, noise, soil and sediment, and both surface and ground water.



Such an extensive and diversified study meant the budgets were restricted for each discipline and respective equipment. The air quality component alone required measurement of five gases (H<sub>2</sub>S, SO<sub>2</sub>, O<sub>3</sub>, VOC and NO<sub>2</sub>) to establish the ambient air baseline.

A limited budget combined with the challenges of a hot, arid climate, and no access to mains power, ruled out conventional air monitoring analyzers. In such situations air quality consultants typically use passive diffusion tubes. However, the client dismissed these due to security issues. Tubes are often stolen or damaged on site by locals before they can be recovered and analyzed.

**“The Aeroqual Series 500 air monitors are compact, reliable and easy to use. We were pleased with their performance and they have been very well received by RSK’s Iraqi field scientists.”**

**Dr Ian Goodacre**  
Director RSK Environment LLC, Middle East

## The solution

The client requested the use of portable handheld air quality meter(s) that were accurate and reliable to measure ambient particulates, noise, and gases. Previously, RSK had deployed the Aeroqual Series 500 portable air monitoring system with good results for a project for LUKOIL in Iraq. On this basis BV Iraq agreed to use the Aeroqual system for the work in Kurdistan as it complied with the client’s budget, security concerns and the regulatory requirements.

The Aeroqual portable air monitoring system consisted of: Series 500 monitor base, interchangeable sensor heads for H<sub>2</sub>S, SO<sub>2</sub>, O<sub>3</sub>, VOC and NO<sub>2</sub>, PC software, USB connector, and robust pelican style carry case. The monitor was mounted on a tripod and the gas data points stored on the internal data logger. When sensor heads were swapped out the Series 500 automatically tagged the gas ID in the dataset which sped up the data analysis after sampling was completed.



## Evaluation

The Aeroqual Series 500 system proved to be an economical solution for this monitoring project. The instrument was compact, portable and reliable. Data capture was high and the gas ID saved in the dataset made it easier for RSK's scientists to characterize the background ambient air quality.

The data recorded by the Series 500 has allowed RSK to identify environmental constraints and variations to the client for regulatory requirements and to develop a cost-effective mitigation plan.