

## Abstract 2366

# Challenges faced and approaches used by hydrogeologists in environmental baseline monitoring related to shale gas developments: case studies from active areas in northern England. <u>A S Butcher</u>, P L Smedley, R S Ward, R A Bell, S Burke, J Bearcock, A J Newell, C J Milne, M J Bowes

The British Geological Survey (BGS) has initiated science-based environmental monitoring programmes in Lancashire and Yorkshire in northern England where planning applications were submitted by energy companies for the development of shale gas. This monitoring is independent of the industry and regulators and represents the first independent, integrated monitoring programmes to characterise the environmental baseline in areas subject to interest from the shale gas industry.

Some local opinion – our contacts, our 'audience'

Our perception of the challenges we faced in presenting our role to the general public and landowners in these area was mitigated by investing time in meeting them either on a one-to-one basis or at town hall meetings.







**Contact information** 

### Public and landowner engagement and follow-up

At a one to one level we could canvas opinion (which varied broadly), we could assert our independent role and we could offer insights into our proposed activities. We could also tailor discussions to whatever technical level was necessary, aided by guidance and review documents, schematics, geological models and sections and flyers. Where more major activities were undertaken we posted flyers detailing activities and showing details of equipment.

'Terrain mapping' for monitoring site selection This 'terrain mapping' of opinions helped us identify where public and landowners were receptive so we could undertake sampling, surveying, then drill and install equipment for other monitoring for a range of parameters including seismicity and soil gas assessment.

![](_page_0_Picture_15.jpeg)

![](_page_0_Picture_16.jpeg)

This helped with the chronology of how we planned and undertook the establishment of the groundwater monitoring networks to complement existing surface and groundwater monitoring sites.

![](_page_0_Picture_18.jpeg)

![](_page_0_Picture_19.jpeg)

What we learnt through our experiences

- In contentious situations it is important to state your role.
  - It helps if you are independent.
  - Acknowledge public interest and concern.
- **Be well-briefed**, invest time in developing knowledge of an area and the interested parties through terrain mapping.
- **Engage the public** and their representatives.
- Use models, flyers and materials to explain technical information.
- Advertise / inform about activities -you'll always be noticed.
- Emphasise access to data and outputs and timescales.
- Feed back information. Explain it and its significance.

![](_page_0_Picture_30.jpeg)