

## Out Of The Labs

# Sniffing Oil From The Sky

[Jonathan Fahey](#), 01.21.10, 06:00 PM EST

**Shell is working to detect hydrocarbons in the air and track them to oil deposits under the earth's surface.**



Here's a curious place to look for an oil field buried under thousands of feet of rock: the sky.

But that's where [Royal Dutch Shell](#) ( [RDSA](#) - [news](#) - [people](#) ) is heading in an attempt to survey huge tracts of rugged and remote terrain that might be hiding oil.

The trick is an instrument Shell is perfecting that can sniff molecular signatures of trapped hydrocarbons floating in the air at concentrations of just 10 parts per trillion. Shell puts the instrument on board an aircraft that flies low (about 1,000 feet) over potential oil territory, sniffing the air and comparing that information with other data collected onboard about the chemistry and structure of the terrain below and the local weather conditions.

Put all that information together, Shell thinks, and it can find interesting places to do more traditional, surface-based early exploration like reflection seismology and drilling test wells. This way is relatively cheap, it can cover lots of ground, and it has the potential to find fields in places it would otherwise be hard to get to.

"You can stuff a plane full of these sensors and fly over the desert to get a picture of the subsurface geology. From there you can look for interesting structures," says Dirk Smit, Shell's vice president for exploration technology. "And you can do this over large areas in a short amount of time."