


# Temporary appraisal drilling and testing at Albury Park wellsite



We are about to start a temporary appraisal drilling and testing programme at our existing gas field wellsite at Albury Park, off New Road, Albury. The purpose of this leaflet is to keep the local community informed about the appraisal drilling and to enable our neighbours to raise any concerns with us as work progresses.

**Community briefing at Albury Hall on Monday 27 April at 7.30pm – see inside**

## Why is appraisal drilling necessary?

The temporary appraisal drilling and testing programme is part of our wider aim to store gas deep underground in our Albury gas field. While we have been granted planning permission by Surrey County Council for the appraisal drilling and testing, we have yet to submit the various applications that will be necessary to secure permission to progress a gas storage project.

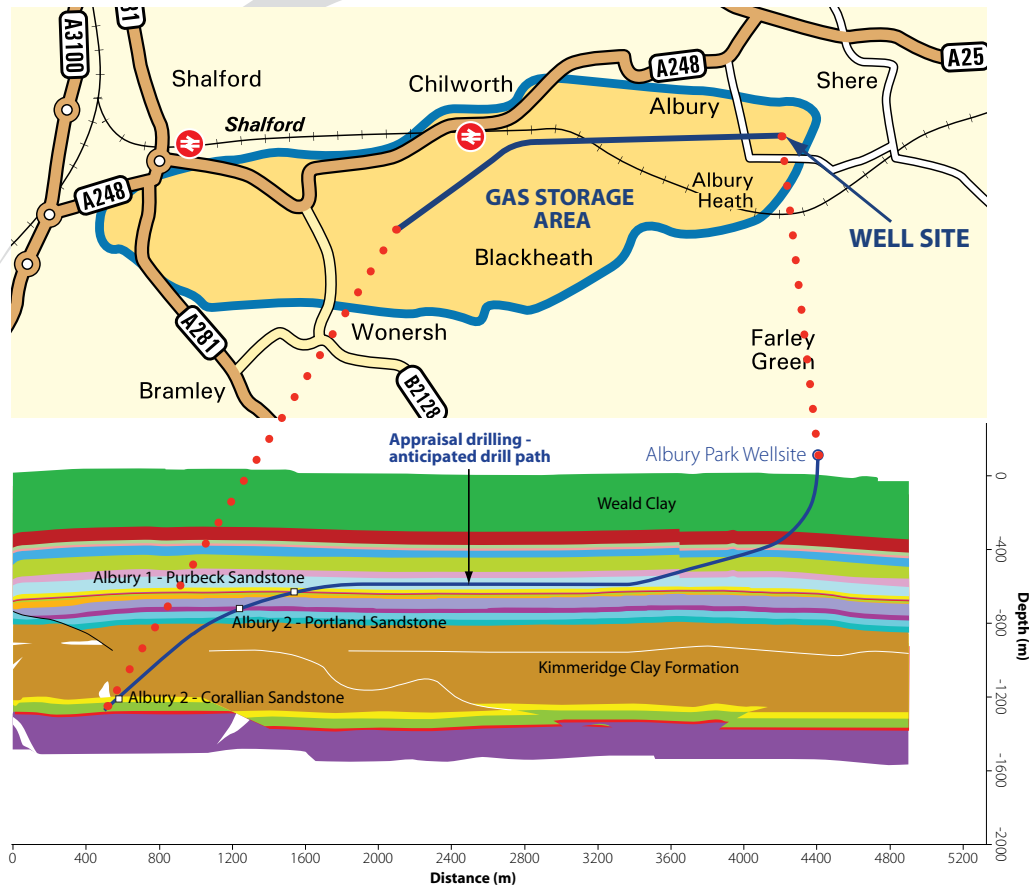
The overall storage project falls into two key parts:

**Albury 1** would involve storage of some six billion cubic feet of gas in porous sandstone

some 600 metres (one third of-a-mile) underground – strata which we already know is suitable for storing gas. This would store sufficient gas to meet the needs of up to 90,000 homes.

**Albury 2** would involve storage of up to 24 billion cubic feet of gas in porous sandstone in separate strata to Albury 1 some 1,400 metres (nearly a mile) underground. Combined with Albury 1, it could satisfy the needs of up to 450,000 homes. We require more knowledge of this lower strata to ascertain its suitability for gas storage and that is why we are now undertaking the appraisal drilling and testing.

### Anticipated Drill Path



### Approximate appraisal drilling timeline

Activity	2009												2010
	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan		
Phase 1 – Site Preparation			■										
Phase 2 – Rig Mobilisation				■									
Phase 3 – Drilling				■	■	■	■	■	■	■	■		
Phase 4 – Rig Demobilisation													
Phase 5 – Initial Testing & Appraisal												■	■
Phase 6 – Ongoing Appraisal												■	■
Phase 7 – Restoration													

All dates are subject to final discharge of planning conditions and clearance to proceed under the Gas Act 1965.

The appraisal drilling and testing work will involve us drilling up to two wells down into the identified strata and then monitoring the rock properties and the outflow of gas that we believe may be there. From this, we can assess the scale of the gas reservoir and its suitability for storing gas.

## Why store gas here?

The Albury gasfield underlies an area of about four square miles between Albury, Bramley, Chilworth and Wonersh. It is one of the few locations in the UK where the geology is suitable for gas storage. Gas has existed there for millions of years – not in caverns as you might expect, but in porous rock. The fact that gas has been contained deep beneath the ground for such a long time is testament that the “reservoir” is secure. If this were not the case, the gas would have long since escaped.

We aim to inject gas from the national gas grid into the gas store when demands are low and store it there until it is needed to meet our national gas supply needs. At that point, the gas storage facility would go into reverse to put gas back into the grid. The Government has highlighted the national need for projects



### The location

of this type. The UK is facing major challenges in ensuring the security of our natural gas supplies in the years ahead and helping to control prices. From a nation that has long been rich in gas, we have now become a net importer. It is, therefore, critical that we have the option to store gas, especially during cold spells when demand increases sharply.

[www.alburygasstorage.info](http://www.alburygasstorage.info)

## Drilling and appraisal phases

While the total appraisal drilling and testing process now getting underway at the Albury wellsite could last up to 3.5 years, there will be very little evidence of any on-site activity beyond the first six months once drilling and initial testing is complete.

### PHASE 1: SITE PREPARATION

*(planned from late April 2009)*

Work will take about six weeks and involve a team of some eight to twelve employees. Their role will be to prepare the site for the drilling rig and its associated equipment. The works will principally involve excavation and installation of a concrete lined well cellar from which the two new wells will be drilled.

*The drilling rig to be used*



The well cellar will be almost 10 metres long, nearly four metres wide and four metres deep and will have two 30 metre pipes of 473mm diameter 'auger bored' into the ground. The civil engineering team will also install concrete pads as a foundation for the rig, erect a 4.5 metre high acoustic fence along the south east boundary of the wellsite as part of the noise controls of the drilling rig, and extend the security fencing around the existing wellsite compound.

### PHASE 2: SITE MOBILISATION

*(planned June 2009)*

Setting up of the drilling rig and associated equipment will take one to two weeks and involve 20 employees. The drilling rig will only be extended to its full 30-metre height when it is drilling. The associated equipment will involve a variety of generators, pumps, tanks and other storage facilities.

### PHASE 3: DRILLING

*(planned from June 2009)*

Because the wellsite is on the very edge of the existing gasfield, the rig will drill directionally to reach the required location in the underground strata. While the vertical depth of the strata is about 1,400 metres (just under a mile), the drill will actually travel some 5,000 metres (over three miles) to reach its target.

There will be a drilling crew of ten employees on any shift and additional personnel will be on site to provide various services as required.

During drilling, fluids will be circulated for lubrication, cooling and the removal of cuttings – just as you may need fluids when drilling a hole in a wall to either cool the bit and/or help remove the cuttings. As each section of the well is drilled, lengths of steel



*Clean enclosed burner - only one would be needed at Albury*

pipings are fed and cemented into the hole to case it. Mud, shale and rock cuttings that are removed are contained in holding tanks and then removed to a licensed waste management facility. On completion, the well will be secured with surface and sub-surface safety valves.

### PHASE 4: DRILLING RIG DEMOBILISATION

*(planned autumn 2009)*

It will take 20 employees one to two weeks to demobilise the rig and remove it from site.

### PHASE 5: INITIAL TESTING AND APPRAISAL

*(planned autumn 2009)*

Once the wells have been completed, a period of some six weeks will be needed for initial testing and appraisal. This will involve removing the drilling fluids from each well and then flowing the gas from the reservoir through some test equipment and then combusting it using a 6.2 metre high 'clean enclosed burner'. Combustion of the gas

through the burner produces a clean gas that rises vertically from the burner with no luminous flame, no odour, no soot and no smoke.

### PHASE 6: ONGOING APPRAISAL

*(planned from winter 2009)*

Once the drilling rig and any equipment associated with the initial testing has been removed from

the site, there will be a longer term appraisal phase. This will involve the regular measuring of the reservoir pressure for a further three years using pressure gauges mounted on the wellhead. There will be very little visible equipment on the wellsite during this time. This monitoring work will be undertaken by staff visiting the site, typically once or twice weekly as required.

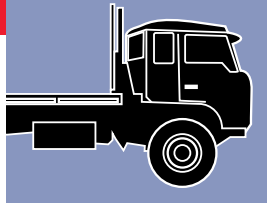
### PHASE 7: RESTORATION AND AFTERCARE

If the appraisal of the underlying geological strata is unpromising, the boreholes will be plugged and made safe in accordance with standard abandonment regulations. Restoration of the wellsite to commercial forestry would then proceed in accordance with the planning permission. This would involve a team averaging eight employees.

## Traffic

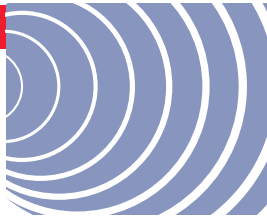
The fact that it has been possible to drill from the existing Albury Park wellsite rather than create a new one has significantly reduced the preliminary construction traffic implications. All HGV movements to and from the site will be via the A25, A248 and New Road. HGVs will not be allowed through Albury Village, Farley Green, or Park Road (off New Road). Access into the site will be via the existing track.

A traffic management plan has been submitted to Surrey County Council in which we demonstrate how we will maintain safety and avoid hold-ups. The plan has been discussed with Albury Parish Council and we have as a result agreed to manage lorries visiting the site so that they do not pass on New Road.



## Noise

The state-of-the-art drilling rig that will be used has been specially chosen for its capacity to have noise suppression applied. In addition, a special 4.5 metre-high acoustic fence will be erected along the south-east boundary of the wellsite. This will enable the work to be undertaken within strict noise limits set by Surrey County Council. In order to ensure compliance, we will engage experts to undertake noise monitoring on a regular basis.



## Lighting

For health and safety reasons, the wellsite will be lit at night during the 24-hour drilling phase only. The lights will be mounted below the height of the surrounding tree screen and will be directed downwards in order to minimise visibility at night from a distance.



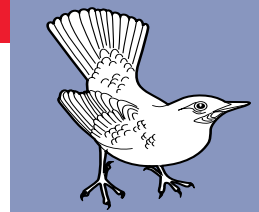
*The drilling rig trailer, like all HGVs visiting the site, is a standard width. No wide loads are planned and no police escorts will be required.*



*Typical acoustic fence*

## Wildlife

The planning conditions include special protection for wildlife. As a result we have undertaken recent badger, bat, bird and newt surveys and established that our work poses no threat. We will be relocating smooth and palmate newts that are currently found in the drainage ditches that surround the wellsite.



## Working hours

Other than during phases 3 and 5, the hours of operation will be 8am to 6.30pm Monday to Friday and 8am to 1pm on Saturdays. During the drilling phase, working will be for 24 hours, seven days-per-week. During the six-week initial testing and appraisal phase, flowing and combusting the gas will occur between 8am and 7pm Monday to Friday and 8am to 1pm on Saturdays.

## What next?

We anticipate that we will have a preliminary idea of the potential of the strata we are drilling to store gas by the end of 2009. It may take longer to draw firm conclusions. We will liaise closely with Albury Parish Council throughout and with the liaison committee it hosts for neighbouring villages and organisations. You can stay up to date by visiting our website [www.alburygasstorage.info](http://www.alburygasstorage.info).

## COMMUNITY BRIEFING

**At the request of Albury Parish Council we are arranging a community briefing about the appraisal drilling and testing at Albury Hall at 7.30pm on Monday 27 April 2009. Everyone who is interested will be welcome.**

[www.alburygasstorage.info](http://www.alburygasstorage.info)



**If you require any further general information please:**

- **Visit our project website: [www.alburygasstorage.info](http://www.alburygasstorage.info) which will be regularly updated**
- **email: [communityinfo@starenergy.co.uk](mailto:communityinfo@starenergy.co.uk)**
- **or call our general information line: 0845 838 5122**

**If you live close to the site and are concerned at any time about any aspect of the site's operation, please call 01256 381625. This line is manned 24-hours a day.**

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