



Technical Assistance Bulletin

Geothermal Wells and the Potential to Encounter Oil and Gas or Saltwater Bearing Zones May, 2010

In Kansas closed loop geothermal systems are often drilled to depths of 200-400 feet. In certain parts of the state, at these depths there is the potential to encounter oil, gas or salt water bearing zones. When such zones are encountered, there is the risk to the environment and in some cases to the public health and safety. The integrity of the well grout used to prevent fluid migration in the borehole can also be compromised.

The well driller needs to be aware of the oil, gas or salt water zones that might be present at the project location so that these zones can be avoided. This may include the need to drill a test borehole to obtain hydrogeologic information and or a review of available information.

To assist the well contractors the following information is provided:

- Maps depicting areas and depths of shallow oil, gas and salt water bearing zones. This information has been provided by the Kansas geological Survey and the Kansas Corporation Commission.
 - Gas Wells, Depth of 200' or less; [Map](#)
 - Gas Wells, Depth of 300' or less; [Map](#)
 - Gas Wells, Depth of 400' or less; [Map](#)

 - Oil Wells, Depth of 200' or less; [Map](#)
 - Oil Wells, Depth of 300' or less; [Map](#)
 - Oil Wells, Depth of 400' or less; [Map](#)

Salt Water bearing zones: [Map & information](#) (Nemaha & Brown Counties)
[Map](#) and [KGS Publication](#)
[Map & information](#) (Atchinson County)

- A link to the KGS oil/gas well data base which provides depth of wells and locations is as follows:
<http://www.kgs.ku.edu/Magellan/Qualified/index.html>
- Should an oil, gas and/or salt water zone be encountered during the drilling of a geothermal well, the zone must be isolated by cement from remainder of the borehole to protect the public health, safety and the environment and the integrity of the borehole. The appropriate KCC District Office should be contacted for assistance with the plugging. The KCC contact information can be found by clicking on following link: [KCC District Field Offices](#). Special cement mixtures may be required to properly seal off the zone of concern. The KCC District Office will assist in providing contact information for the cementing service companies and also expertise on proper plugging procedures. The KDHE Water Well Program also needs to be contacted at 785.296.3565 or 785.296.5560 during normal business hours or at 785.224.6717 after business hours and on the weekend and holidays.