



PROCEDURE FOR THE PLUGGING AND ABANDONMENT OF A CLASS V INJECTION WELL

Procedure #: UICV-8
(5/11)

Narrative:

Prior to the plugging and abandonment of a Class V injection well the owner/operator shall submit a revised plugging and abandonment plan to KDHE for review and approval. The well shall be plugged and abandoned in a manner which will prevent the movement of fluids. This is best accomplished by filling the well with cement from bottom to surface. The plan shall include both a prognosis and a diagram describing the well plugging. The plan shall include a description of cement mixtures (type, grade, additives), volume of cement to be used, and estimated compressive strength of the cement. Listed below is the procedure for plugging and abandonment which should be incorporated into the plugging plan. The plan shall include a proposed schedule for the plugging operation. In order to provide KDHE the opportunity to witness the plugging, the schedule for the work shall be mutually agreed upon. Plan approval shall be obtained from KDHE before commencing any plugging operation. Alternatives to this procedure which provide a comparable level of protection to the environment and human health will be considered by KDHE.

Procedure:

1. Conduct a pressure mechanical integrity test on the well. The pressure test shall be witnessed by KDHE and the test procedure must follow KDHE Procedure UICV-4 for pressure testing a Class V injection well. If leakage is indicated by the test, the location of the leakage must be identified, the impact to the environment evaluated and this information submitted to KDHE. Submittal of an environmental remediation plan and implementation schedule and/or a repair plan for the well may be required by KDHE for review and approval. No work shall commence until plan approval has been obtained from KDHE.
2. Remove the tubing and packer from the well.
3. Conduct a cement bond log and a gamma ray-neutron log on the well and any other tests or logs determined necessary by KDHE. Submit the logs and test results to KDHE for review and approval. Include an interpretation of the log and tests by a person with the technical expertise to evaluate the data.
4. Based on the evaluation of the logs and tests previously conducted on the well, complete any remedial work determined necessary by KDHE. A plan for remedial work must be submitted to KDHE for review and approval. No remedial work shall commence until plan approval has been obtained from KDHE.
5. Set a cement retainer at the base of the longstring casing just above the injection interval.
6. Displace cement through the retainer, squeezing the injection interval with cement.

7. After cementing the injection interval, close the bottom of the retainer and disconnect the cementing pipe from the top of the retainer.
8. Fill the casing with cement from the retainer to ground surface by pumping cement through the cementing tubing and slowly withdrawing the tubing from the well. Cement must circulate to surface.
9. Remove the cementing tubing from the well. Cement will fall back, therefore fill casing with cement back to surface.
10. Observe cement level in the casing after cement has set for 24 hours. If cement has fallen back, fill with cement back to surface.
11. Remove wellhead equipment.
12. Leave some casing above ground surface. Weld a metal cap on the casing inscribed with the Kansas UIC permit number and the date the well plugging was completed.
13. Submit a map showing the tri-coordinate location (includes elevation) of the remaining wellhead prepared by a licensed professional land surveyor or professional engineer licensed to practice in Kansas.
14. Submit a plugging report with related details to KDHE within 30 days of completing the plugging operation on a form provided by KDHE. Document the work done with appropriate service company cementing reports and "day" reports.