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Kansas
Department of Health and Environment

PROCEDURE FOR THE PLUGGING AND ABANDONMENT OF A CLASS 1 NON-HAZARDOUS WASTE DISPOSAL WELL COMPLETED WITH LONGSTRING CEMENTED AT LOWER PART OF WELL ONLY - NCEMENTED PORTION OF LONGSTRING TO BE REMOVED FROM THE WELL

Procedure #: UICI-12
(4/11)

Narrative:

Prior to the plugging and abandonment of a Class I non-hazardous waste disposal 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. The plugging plan shall include both a prognosis and a diagram describing how the well will be plugged. 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 schedule for the plugging operation. The plugging schedule shall be mutually agreed upon so a representative of KDHE; may have the opportunity to witness the plugging operation. Plan approval shall be obtained from KDHE before commencing any plugging operation. Alternatives to this procedure that provides a comparable level of protection to human health and the environment will be considered by KDHE.

Procedure:

1. Conduct a pressure mechanical integrity test on the well per KDHE guidelines for a pressure mechanical test. The pressure test must be witnessed by KDHE and the test procedure must follow KDHE Procedure #UICI-6 for pressure testing a Class I disposal 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 formation with cement. After cementing the injection zone, close the bottom of the retainer and disconnect the cementing pipe from the top of the retainer.

7. Pump through the cementing pipe a calculated volume of 9 ppg mud to fill the casing with 9 ppg mud to the top of the cemented portion of the longstring. Spot a 50 foot thick cement plug on top of the retainer.

8. Complete remedial cementing of the longstring casing as determined necessary from evaluation of the logs and tests previously conducted on the well. A remedial cementing plan shall be submitted to KDHE for review and approval. Remedial work must have the approval of KDHE.

9. Shoot-off or cut the longstring casing just above the cement top to allow the casing to be pulled from the well. The casing can then be used to emplace mud and cement plugs in the well as the casing is removed from the well. Circulate 9 ppg mud to surface. Any spaces in the well not filled with cement must be filled with 9 ppg mud.

10. Spot a cement plug on top of the remaining casing at the location where the casing was shot-off.

11. 50' cement plugs must be set above and below zones determined necessary. These will include zones such as salt sections, hydrocarbon producing zones and fresh and usable water zones or other zones determined necessary. Cement plugs must be "tagged" to verify the plugs are in place.

12. Set a mechanical bridge plug at the base of the surface casing. Fill the surface casing with cement from bottom to surface by pumping cement through cementing tubing and slowly withdrawing the tubing from the well. Cement must circulate to the surface.

13. Remove the cementing tubing from the well. If cement falls back, fill casing with cement back to surface.

14. Observe cement level in the casing after cement has set for 24 hours. If cement has fallen back, fill with cement back to surface.

15. Remove wellhead equipment.

16. 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 was plugged.

17. 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.

18. Submit a plugging report with related details including service company cementing reports and service company "day" logs to the KDHE within 30 days of completing the plugging operation, on a form provided by KDHE.