Well Plugging Procedures

**Water Wells and Water Well Test Holes**

**Uncontaminated**

Fill uncontaminated wells or water well test holes with uncontaminated, compacted drill cuttings and/or uncontaminated surface clay, cement, bentonite pellets or granules, or high solids bentonite grout to within fourteen (14) feet of the land surface, and a minimum of ten (10) feet of the annular space and interior of the well casing shall be filled with cement grout to at least four (4) feet below the land surface. On ordinary uncontaminated wells and test holes, fill the final four feet with clean, compacted native soil to prevent surface water and poor quality water from flowing down the well casing.

To plug uncontaminated groundwater wells, fresh water observation wells, or heat exchange wells in the alluvium and terrace deposits of the Arkansas, Cimarron, Salt Fork of the Arkansas, North Canadian, Canadian, Washita, North Fork of the Red, Salt Fork of the Red River, Red River, and other streams or rivers authorized by the Board, fill the well with clean, uncontaminated silica sand to within sixteen (16) feet of...
the land surface, then two (2) feet of bentonite pellets or granules shall be placed on the uncontaminated silica sand, and finally, a minimum of ten (10) feet of cement grout shall be installed in the annular space and interior of the well casing to at least four (4) feet below the land surface.

**Contaminated**

Contaminated water wells or water well test holes require more precautions and greater protection. If the well or water well test hole is contaminated or it is located at an underground tank site or within 300 feet of the outside perimeter of an existing wastewater lagoon or is located on a tract of land where a wastewater lagoon is proposed, the casing shall be removed or perforated from the bottom of the casing to twenty (20) feet below land surface. If the total depth of the well is in excess of twenty feet (20') below land surface, the cement grout shall be placed by pumping from the bottom of the hole to the land surface. The pipe used to accomplish this is called a “tremie pipe”.

**Monitoring Wells**

The OWRB requires monitoring wells to be plugged within three days after final use. **Option One:** Fill monitoring wells with cement grout, pumped through a tremie pipe, to four (4) feet below the surface, or **Option Two:** fill from the bottom to fourteen (14) feet below the surface with bentonite pellets, granules or high-solids grout. Then add at least ten (10) feet of cement grout to within four feet of the land surface. Fill the remaining four (4) feet with clean, uncontaminated, compacted soil.
Hand-dug well plugging procedures.

Hand-Dug Wells
Remove the lining from the top five (5) feet of the hand-dug well, then fill with clean surface clay or grout to within six (6) feet of surface. Add at least two (2) feet of cement or grout. Fill the top four (4) feet with clean, compacted native soil, unless the OWRB directs you differently.

Geotechnical Borings
The OWRB requires geotechnical borings to be plugged within thirty (30) days after final use.

Fill geotechnical borings with clean drill cuttings, uncontaminated surface clay, cement and/or bentonite pellets or granules from the bottom to fourteen (14) feet below the surface, then at least ten (10) feet of cement grout, and the final four feet to land surface with clean, uncontaminated, compacted soil.

If there is contaminated water or contaminated soil, pump cement grout through a tremie pipe from the bottom of the boring to within four feet of the surface. Fill the remaining four (4) feet with clean, compacted soil.

If the boring is twenty (20) feet deep or less and there is no evidence of groundwater, fill the boring with clean, compacted, uncontaminated soil or drill cuttings to land surface. If it is fourteen (14) feet or less and clean groundwater has been encountered, fill the hole with cement grout or bentonite pellets, granules or high solids grout to within four feet of the surface. Fill the final (4) four feet with clean, compacted soil. (If cement grout is used, mix one 94-pound sack of cement with no more than six gallons of water.)
Useful Definitions

Commercial Plugging: plugging wells or boring as a business, trade or occupation in exchange for payment

Geotechnical Boring: a hole drilled or bored to sample soil, geologic formations or to check groundwater quality

Geothermal Well: a heat pump well

Groundwater Well: any excavation constructed for the production of groundwater

Heat Pump Well: a boring or cased hole that uses the temperature of the geologic formations or groundwater for heating/cooling purposes

Monitoring Well: a well that is used to obtain groundwater samples (for determining chemistry or quality), to detect or remediate pollution or to monitor the unsaturated zone above the water table

Observation Well: any well used to measure the depth to the water table or to determine groundwater flow direction

Piezometer: a cased hole that monitors water pressure or soil moisture tensions

Tremie Pipe: any rigged PVC or metal pipe that can be inserted to the bottom of the well or hole and used to place cement grout pumped for plugging

Water Well Test Hole: any excavation that is constructed to determine the location of fresh groundwater and/or the ability of the aquifer to yield groundwater

Well Driller: an individual, owner-proprietor or partnership, firm or corporation engaged in the business of commercial drilling, plugging, reconstructing or testing for wells

The Oklahoma Water Resources Board requires these procedures in order to Protect Oklahoma’s Groundwater and the Health and Safety of its Citizens.

Oklahoma Water Resources Board
Planning and Management Division
Well Driller/Pump Contractor Program
3800 N Classen Boulevard
Oklahoma City, Oklahoma 73118

Phone 405-530-8800
FAX 405-530-8900
www.owrb.ok.gov