

**RULE 3.7. Geoexchange Wells (Geothermal wells; closed loop earth -coupled heat exchange wells)**

1. Wells drilled for the exclusive purpose of heat exchange are considered as “exempt” by the District. These wells are not designed to produce groundwater and do not require an operating (pumping) permit. “Open Loop” Geoexchange wells are prohibited in the District. All Geoexchange wells shall comply with these minimum rules and standards, as well as the applicable requirements of Rule 4.

2. Each well or well system shall register with the District on a form available online: [www.haysgroundwater.com](http://www.haysgroundwater.com). The planned total depth of the boreholes and, the anticipated depth of any Trinity Aquifer penetration shall be included with the registration. The Middle Trinity, Cow Creek aquifer may not be penetrated without review and approval by the General Manager or a licensed professional geoscientist or engineer working with the District. At the operator’s expense, the District may require that a geophysical log be run in the first borehole in order to identify the geologic formations actually penetrated by the well. Wells which are programmed to bottom in the Upper Trinity shall not be required to run a geophysical log.

3. The District shall levy and collect a registration fee total of \$300 for the first 5 wells to be drilled plus \$60 per additional well. The wells shall be spaced a minimum of 15 feet apart. The Geoexchange well driller must be licensed by the State of Texas.

4. The closed loop shall be constructed of new, hi density polyethylene pipe designed for heat exchange wells. The circulation loop must be of a type that will prevent leakage and not cause contamination to the groundwater system. The heat exchange fluid circulating within the tubing shall be limited to potable water. The circulation loop shall be tested after backfilling has been completed. Should a loss of pressure occur, the system must be shut down and the source of the problem identified. The District must be notified and informed of proposed correctional procedures.

5. The borehole shall be backfilled with Bentonite grout, or Cement-Bentonite grout from total depth to ground surface. The grout shall be placed from bottom hole up using a tremi pipe and hose. The grout product used must be consistent with the aquifer geochemistry, with particular attention paid to the sulfate content of the groundwater. Alternate backfill material such as crushed limestone or sand/gravel may be considered and discussed with the District. All sealing materials must meet Texas Department of Licensing and Regulation standards.

6. Within 60 days of completion, the driller or installer shall submit to the District a completed State Well Report for the first well illustrating well construction. If all boreholes are completed in an identical manner then a statement to that effect should be entered on the State Well Report.

7. Should a borehole encounter a subsurface void or cavern and lose returns, the problem interval shall be identified and the driller or contractor shall recommend a course of action to the General Manager or to a licensed professional geoscientist or engineer working with the District. With District approval the well may be completed, if not, the interval shall be packed off and the well shall be sealed. The borehole shall be plugged in accordance with District Rule 6.3.

**Rules to be edited in order to conform to the new rule 3.7 Geoexchange Wells:**

**Table of Contents:** add *Rule 3.7* after Rule 3.6 in table of contents.

**Rule 2. DEFINITIONS**

Closed Loop Well – add this to beginning of sentence; A **Geoexchange** well.....

Well – replace “closed loop” with **Geoexchange** ....

**Geoexchange Well(s):** (Geothermal well; closed loop earth-coupled heat exchange well) - A well or wells drilled with the specific purpose of earth-coupled heat exchange. Well does not produce groundwater and contains only potable water as a heat exchange fluid. (Add to definitions)

**Rule 3.6. Operating Permit Exemptions**

H. A well or wells drilled and used solely as Geoexchange wells for earth-coupled heat exchange purposes. The well must comply with Rule 3.7. A geoexchange well may not produce groundwater and must be of a “closed loop” design. (Add “H” to Rule 3.6 after “G”)

**Rule 3.7** Add new rules after Rule 3.6.