

## Cities Federal Well No. 2 Salt Water Disposal Application

### Well Data:

- III B. Porous intervals in the Seven Rivers and Queen formations from 3,492' to 3,860' are to be perforated and used for disposal of water. The well was originally drilled as a Yates and Seven Rivers gas well. The Seven Rivers was tested through perforations at 3,492' to 3,678'. The Seven Rivers interval did not yield commercial production. The Seven Rivers interval was abandoned by squeezing it with 200 sacks of cement. The Yates was tested through perforations at 3,300' to 3,363'. Commercial production was established in the Yates and the well was put on production. Prior to conversion for disposal the Yates interval will be squeezed with 100 to 150 sacks of cement.
- The next highest productive formation above the propose disposal zone is the Yates which is found at 3,300' to 3,363' in this well, and the next lower productive formation is the Langley (Strawn) with a top at  $\pm 9,000'$ .
- VII. The subject disposal well is to be converted to disposal to replace the Cities Federal No. The No. 1 well is scheduled to plugged and abandoned due to downhole mechanical problems. The new well will utilize the existing closed disposal system, as well as the existing location, access road and flowline. The maximum disposal volume is anticipated to be 1000 BWPD with a maximum disposal pressure of 1700 psi. Disposal is to be in the same Seven Rivers and Queen formations that were being used by the No. 1 well. Water will be disposed from the same sources as was previously disposed in the No. 1 well, thus no compatibility problems are expected.
- VIII. The Seven Rivers and Queen formations which are to be used for disposal are primarily limestone and dolomite. There are no known underground sources of drinking water overlying or underlying the disposal zone(s).
- IX. The perforations will be broken down with acid. If the zones will not take sufficient water then a fracture treatment may be performed.
- XI. There are no fresh water wells in the area.
- XII. The proposed replacement well is  $\pm 1,600'$  from the original disposal well, which had not shown any evidence of open faults or other hydrologic connection to an underground source of drinking water. No connections are anticipated in the new well.
- XIV. The surface owner and all leasehold owners within one half mile have been notified. The attached letters provides evidence of the notice. Please note that Seay Exploration is an agent for Quantum Energies. Quantum requested a copy of the permit application, and one was hand delivered on April 30,1999. Also attached is a copy of the published legal advertisement.