

Application for Authorization to Inject

- VI. Saga Petroleum LLC has checked all wells that fall within the ½ mile radius of the proposed SWD well, the U.D. Sawyer #11, and has found that none of these wells penetrate the Devonian to a depth equal to or greater than the proposed SWD well. This investigation has further shown that all these wells have a good cement seal around their casing shoe and will therefore prevent the upward migration of the disposed water into any potable water zone.
- VII. The proposed average daily injection rate for the subject well is 10,000 BWPD; the maximum daily injection rate would be 15,000 BWPD. This will be a closed system with an average pressure of zero and a maximum pressure of 1000 psi. Attached is an analysis of produced Devonian water from the Santa Fe Pacific 27-2 (Unit F, Sec. 27-T9S-R36E). This should be representative of Devonian water in the field. Devonian water has been reinjected into the Lower Devonian (Montoya) in several disposal wells adjacent to the area of review with no indication of incompatibility.
- VIII. The injection zone is an Ordovician dolomite known as the Lower Devonian (Montoya). The top of the Lower Devonian (Montoya) in this well is at 12,375', and is 344' thick. The zone will be selectively perforated from 12,616' - 12,683'. The main source of drinking water in this area comes from the Cretaceous formation, the base of which is at 180'. The Ogallala overlies the Cretaceous, but pinches out in certain areas around the zone of interest. There are no known sources of drinking water underlying the injection interval.
- IX. After perforation, the well will be stimulated with 2000 gallons of 15% NEFE HCl and ball sealers.
- X. Log and test data is on file with the Division.
- XI. Attached is an analysis of the water from a water well approximately 1 mile northwest of the proposed disposal. This is the only well which could be located.
- XII. Saga Petroleum LLC has examined the available geologic and engineering data and can find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground source of drinking water.
- XIII. The required "Proof of Notice" is attached.
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