Summary of findings from latest UEC submission

Ray Leissner to: Stacey Dwyer 07/24/2012 09:16 AM
Cc: Philip Dellinger

From: Ray Leissner/R6/USEPA/US
To: Stacey Dwyer/R6/USEPA/US@EPA
Cc: Philip Dellinger/R6/USEPA/US@EPA

Summary of results of UECs latest submissions 7-23-12.docx

Ray Leissner, Env. Eng.
Ground Water / UIC Section (6WQ-SG)
(214) 665 - 7183
USEPA, Region 6

The FIRST STEP in protecting your ground water is to have your well tested.

00597.pdf

Summary

The information provided includes pump tests which show isolation between the A and B sands in the area of the B sand ore body, identifies faults which form a graben running SW to NE encompassing the ore body, fluid level measurements and a computer simulation indicating a more easterly GW flow direction in the area of the B sand, and the results of calculations using too many over simplified assumptions that indicate the upgradient water wells would not capture water within the proposed exempted aquifer.

These submissions do not address the first criterion. They have not modeled to the extent necessary to adequately show the capture capacity of the up gradient wells. Nor have they provided modeling demonstrating that the down gradient wells, existing inside and directly outside of the redrawn 1/4 mile AOR, will not capture water currently within the proposed exemption.

Item Provided	**Finding**	**Useful in addressing the current use criterion**
Pump tests data	Two pump tests were conducted. One was thrown out. Results imply there is isolation between the A and B sands in the area of the B sand ore body.	Not directly. Pump tests aid in determining aquifer characteristics. Isolation may be useful in other matters.
Subsurface structure	The submission describes a graben environment formed by two faults running SW – NE	Does not address the current use criterion. However, the cross sections indicate significant offset that could impede drawdown from a pumping well.
Fluid level measurements	Fluid levels from 4 wells in the B sand indicate a more easterly GW flow direction across the B sand ore body. The full extent of this change in flow direction appears to be localized.	Does not address the current use criterion but may be a factor in the development of a GW capture model for down gradient wells.
Computer simulation of GW gradient	Results appear to agree with the fluid level measurements. One well, MBLW7, appears to be a mis-measurement.	Does not address the current use criterion but may be a factor in the development of a GW capture model for down gradient wells.
Discussion of results of calculating capture zones for well upgradient.	The discussion provided describes the rationale used to determine several factors that were part of the calculations. This description is not enough to determine if sufficient analysis was used to calculate the 16 foot down gradient capture zone for a well upgradient of the exemption.	While this effort may potentially lead to addressing the current use criterion, for those wells for which it was applied, the complete calculation, with all factors, needs to be available for scrutiny and determination for appropriateness. In addition, an appropriate technique would need to be applied to those wells down gradient with the potential to draw from the proposed exempted aquifer.