



855 West Base Line, P.O. Box 920
Rialto, California 92377-0920
Phone (909) 875-1804

Board of Directors

Earl Tillman, Jr.
President
Betty J. Gosney
Vice President
Alan G. Dyer
Donald D. Olinger
Jackie Cox

Administrative Staff

Anthony W. Araiza
General Manager-Secretary
Thomas J. Crowley, P.E.
Assistant General Manager
Deborah L. Sousa
Treasurer
Peggy S. Asche
Administrative Secretary

Fax (909) 875-7284 Administration
Fax (909) 875-1361 Engineering
Fax (909) 875-1849 Customer Service

March 8, 2010

Mr. Wayne Praskins
EPA Project Manager
US EPA (SFD-7-3)
75 Hawthorne Street
San Francisco, CA 94105

Dear Mr. Praskins:

These comments are submitted by the West Valley Water District in response to the United States Environmental Protection Agency's (USEPA's) January 25, 2010, Remedial Investigation/Feasibility Study (RI/FS) for the B.F. Goodrich Superfund Site.

Remedial Alternative 2B is not a viable remedial alternative and should be removed from consideration. This is primarily due to the following facts, inadequate analysis in the RI/FS, and/or other factors not mentioned or considered in the RI/FS:

The reasons are listed below in summary fashion and further explanation follows this summary list:

- 1) The location and technical manner in which the RI/FS proposes reinjection in the Rialto-Colton Basin (the Basin), is technically infeasible based on geologic conditions presented in the RI/FS. Geologically, two reinjection wells are proposed along West Casa Grande Drive, with well screens from 450 to 700 feet below ground surface (bgs). However, as shown in RI/FS in Figure 1-5 at this location (about even with well PW-1), there is an approximately 100 foot thick aquitard interpreted between a depth of approximately 500 to 600 feet bgs.
- 2) Even if the geological conditions were more favorable for reinjection north of the 160-Acre site, a significant period of pilot testing and much more infrastructure would be necessary. The "field testing" discussed in the RI/FS significantly underestimates the level of study needed for proper design. The duration of this pilot testing would at best extend the time to implementation, and will likely demonstrate that reinjection is technically infeasible anywhere in the northern-Basin area, given the Basin hydrogeologic and contaminant conditions.



Mr. Wayne Praskins
March 8, 2010

- 3) There was a lack of analysis presented concerning potential adverse hydraulic (and contaminant migration) implications of reinjection immediately upgradient of the source area.
- 4) Reinjection is a more complex and less implementable Remedial Alternative in relation to water rights than direct potable use, and the RI/FS did not acknowledge this. The Consent Decree for the Basin clearly restricts groundwater extraction only to parties subject to the decree. The very significant and lengthy process of resolving water rights for reinjection by a non-Decree party, will hold-up implementation of any Remedial Alternative including reinjection for years, if not prevent it entirely.
- 5) The RI/FS underplayed and did not highlight important State ARARs related to the reinjection, specifically compliance with RWQCB Basin policies, given reinjection is proposed directly to a drinking water aquifer. This additional ARAR may add significant cost, or time to implementation for the project (e.g. additional treatment requirements).
- 6) There will be very vigorous opposition to any remedial alternative involving reinjection.
- 7) For all of the reasons above, the true cost of Remedial Alternative 2B will increase significantly above that presented in the RI/FS, making it much less feasible. In combination with the technical infeasibility of the Alternative as proposed in the RI/FS, the qualitative rankings for Alternative 2B should change as follows:
 - Reduction in Toxicity/Mobility: decrease to Moderate to Low (from High)
 - this reduction is due to there having been no analysis presented of whether contaminants will be mobilized by reinjection in ways other than anticipated.
 - Implementability: decrease to Low (from Moderate):
 - This reduction is because: this option is less implementable for technical/geologic reasons; an increased need for extensive pilot testing; the potential need for additional treatment; and, from a water-rights perspective.
 - Costs: cost likely will significantly increase if the RI/FS analysis for Alternative 2B is refined, let alone, if reinjection is even shown to be implementable.

Further details regarding the summary comments above follow:

- 1) As stated in the RI/FS, "injection wells are prone to clogging and can potentially require considerable maintenance...", as such, the fact that the reinjection wells in the RI/FS were



Mr. Wayne Praskins
March 8, 2010

grossly proposed as being screened from a depth of 450 to 700 feet bgs, when significant finer grained layers are present, shows that insufficient evaluation of the geological feasibility of reinjection was conducted. The finer grained layers are evident on the geological log for nearest deep well (PW-2A) and are clearly shown on RI/FS Figure 1-5 at the location of well PW-1. On Figure 1-5 of the RI/FS, the B/C Aquitard has an interpreted thickness of more than 100 feet in the vicinity of well PW-1 (along West Casa Grande Drive), and occurs at a depth of about 500 to 600 feet bgs (which is directly in the proposed reinjection well screen zone). These simple geological facts alone raise significant concerns about the feasibility of reinjection of the proposed volume and flow-rate of water along West Casa Grande Drive (in only two wells), and also shows a lack of sufficient analysis of this key geological limitation related to the reinjection proposed in Alternative 2B of the RI/FS.

- 2) Without any pilot testing, which will take several months (if not years), the hydraulic properties of the aquifer at any location in the Basin to receive the intended amount and flowrate of water are unknown and the proposal may not be implementable, even if the geologic conditions were not as infeasible as where/how the RI/FS proposed performing reinjection. The RI/FS does mention, "field testing," as part of the remedial design; however, this testing should have clearly been identified as being critical to the potential success or failure of this remedial option and is more than a minor design consideration and will add very significant costs.
- 3) There may be serious significant unintended hydraulic consequences of reinjection (e.g. contaminant migration in ways/manners other than intended), especially in the north portion of the Basin so close to the source area (10's of feet away), where there is a highly faulted and very heterogeneous depositional environment. Extensive groundwater modeling should be performed solely to assess the potential effect of reinjection on the contaminant distribution and remedial effectiveness of both the 160-Acre efforts and those related to contamination released from properties now owned by the County of San Bernardino.
- 4) The RI/FS in terms of implementability for Alternative 2b states that, "Alternative 2b would not require agreements with the water purveyors for receipt of treated water and use of pumping rights,..." and also in the identification and screening section states, "Other potential advantages to reinjection are the minimization or avoidance of water rights issues,..." These statements are inaccurate and inconsistent with the law of water rights in California. The right to withdraw water is clearly limited in the Basin Consent Decree, and it is an over-reaching assumption of RI/FS that somehow reinjection avoids water rights issues, when in fact it complicates them.



Mr. Wayne Praskins
March 8, 2010

- 5) The RI/FS did not mention one of the most important ARARs for Alternative 2b, which would be a RWQCB permit for reinjection, given the injection proposed is directly in a drinking water aquifer. Although there are Federal injection regulations, state and basin-specific regulations should also be evaluated. In particular, under the RWQCB requirements, treatment may be required to lower levels than anticipated by the RI/FS and/or for constituents not already planned for (e.g. nitrate or metals mobilized/solubilized by reinjection).
- 6) Between the complexities of the water rights questions, the geological infeasibility, lack of any extensive technical analysis of reinjection and/or potential adverse impacts, the need for pilot studies, additional permitting, and environmental analysis outside of the USEPA's purview, there may likely be significant water purveyor and/or public opposition to Alternative 2B.
- 7) There are no additional comments regarding the qualitative ranking of Alternative 2B.

If you have any questions, please feel free to contact my office.

Sincerely,

WEST VALLEY WATER DISTRICT

A handwritten signature in black ink, appearing to read "Anthony Butch Araiza", is written over the typed name and title. The signature is stylized and cursive.

Anthony "Butch" Araiza
General Manager

AWA:pa