

August 8, 2007

Indian Wells Valley Water District – Board of Directors
PO Box 399
Ridgecrest, CA 93556

Dear Board Members:

This letter is regarding the **INDIAN WELLS VALLEY WATER DISTRICT INITIAL STUDY AND DRAFT MITIGATED NEGATIVE DECLARATION FOR THE 2007/2008 WATER SUPPLY IMPROVEMENT PROJECT, MAY 2007**, with focus on **increasing total dissolved solids (TDS) and subsidence.**

Inadequate Water-Quality Information. Because of extremely limited information in the DRAFT, I sought expert advice and received it from two experts:

- an aquatic toxicologist and mitigation specialist,
- a geohydrologist.

Lack of Information. A search of the initial DRAFT document finds no mention of total dissolved solids (TDS) or calcium carbonate (CaCO₃). The possibility of subsidence is swept away within a single casual remark based on unsubstantiated belief

Increased TDS Problem. Increasing TDS, especially due to calcium carbonate, are known issues for District wells. Increasing concentrations are measurable and are observed by many Water District customers also.

The gigantic-plunger effect from turning on and off high-capacity wells (such as proposed by the District) can aggravate the problem. Two things happen here, one physical and one chemical. The physical could include the dislodging of particles as the water reenters voids left when previous water was pumped out. Also, with water that has not moved for longer periods, micro dissolution gradients form between minerals and the water, with the greatest concentration nearest the CaCO₃. Increasing the exchange rate (amounts of water intermittently pumped) will increase the amount of CaCO₃ that could dissolve in the extracted water.

Also, carbonate (CO₃⁻²) can really increase the solubility of arsenic. There are documents to support this.

These affects transmit to non-District wells also.

Possible Future Subsidence. Regarding possible subsidence, it is inadequate to simply mention (p 31 issue c) that existing and proposed well sites and pipeline alignments *are not believed to be* in areas affected by collapse. Future effects must also be addressed. *Belief* needs to be supported by references and their summaries, when describing an aquifer this is and has been in critical overdraft.

Over time without adequate recharge (our aquifer), the overall water level will drop, which will first affect shallower then deeper residential and irrigation wells. Eventually, with even more pumping and lowering of the groundwater, the air spaces that remain begin to collapse, with surface subsidence potentially occurring.

This is a particular concern in areas that have depended primarily on high-rate groundwater pumping to supply their needs. The Albuquerque area is an example, where surface settling is already apparent in a few locations.

One mitigation is to get water elsewhere, another is to pump pristine water back into the aquifer. Realistic justifications and/or solutions must be offered in the DRAFT, with supporting references and summaries.

More Study Needed. This additional information indicates that more literature study and investigation of effects measured elsewhere must be done, to cover what was missing in the INITIAL STUDY. The DRAFT needs to be augmented and realistic mitigations provided, and/or the plan needs revision.

Unfounded Conclusions. This additional information also clarifies that the following answers in the draft are not adequately founded: • “No Impact” on humans near the planned wells and across the valley (p56 b and c) is incorrect. • “Less Than Significant Impact” on HYDROLOGY AND WATER QUALITY (p38 b) is not justified. • “No Impact” because the Project has no “features that would have the potential to substantially degrade water quality” (p 40) is not founded.

Please Respond. Before honorable approval of a revised draft, please augment discussion and summarize references about TDS and subsidence along with planned mitigations. Include interference impacts on nearby shallower private wells and other production wells. Please let me know your credible sources and the basis of your conclusions. Protect our valley’s water into the future; don’t seek quick but risky solutions.

For the Record. I request this letter be entered into the official comment record of the formal Public Hearing of the Negative Declaration.

Thank you for your consideration.

Sincerely,

Annette DeMay
Ridgecrest, CA 93555

CC:

Ms. Lorelei Oviatte, Kern County Senior Planner
Lahontan Regional Water Quality Board
IWV Cooperative Groundwater Management Group