



February 26, 2018.

Via Overnight Mail and Email

Alejandra Lopez
California Regional Water Quality Control Board
1685 E Street
Fresno, CA 93706
Alejandra.Lopez@waterboards.ca.gov

*Re: Comments regarding Valley Water Management Company,
McKittrick 1 & 1-3 Facility*

Dear Ms. Lopez:

On behalf of the Center for Biological Diversity (“the Center”), its members, and the public interest, I am writing to submit the following comments regarding the Tentative Monitoring and Reporting Program and Tentative Resolution Providing Staff Direction for Valley Water Management Company McKittrick 1 & 1-3 Facility, Kern County (Resolution R5-2018-XXXX) (the “Proposed Resolution”). The Center strongly urges the Central Valley Regional Water Quality Control Board (“Regional Board”) to issue an emergency order ordering Valley Water Management Company (“Valley Water”) to immediately cease and desist wastewater disposal at the McKittirck 1 & 1-3 facilities to avoid further contamination of our valuable groundwater.

Valley Water’s reckless disposal of tens of billions of gallons of toxic wastewater have resulted in documented groundwater contamination in several groundwater resources and threaten to spread even further each day that this reckless project is allowed to continue its operations.

The Regional Board’s mission is to “preserve, enhance, and restore the quality of California’s water resources and drinking water for the protection of the environment, public health, and all beneficial uses, and to ensure proper water resource allocation and efficient use, for the benefit of present and future generations.” Yet, it has allowed the McKittrick pits to contaminate the area’s groundwater, including groundwater hydrologically connected to water and irrigation wells.

To date, there has been no accountability for Valley Water’s dangerous and damaging pollution. The Regional Board has improperly forced the public to bear the health and safety risks of continued dangerous wastewater dumping near agriculture, water wells, livestock, and homes. Even now, the staff’s options include allowing discharges to continue unabated. Monitoring and reporting is far from adequate at this point. If the public cannot rely on the Regional Board to take meaningful action in cases of *documented and ongoing* contamination, the public’s confidence in the agency’s ability to protect groundwater may be irreparably harmed. The Regional Board should adhere to its mission statement by shutting down these pits.



I. Valley Water's Discharges Have Caused Severe Groundwater Contamination.

As the Staff Report and attachments show, Valley Water's discharges have resulted in groundwater contamination in multiple groundwater resources, including the alluvium currently used for water supply wells.¹ The contamination has migrated downward to the Upper Tulare sand, which currently supplies water supply wells² and to the deeper Tulare regional aquifer, which also serves water supply wells.³

Due to years of Valley Water's discharges and the Regional Board's inaction, the contamination has migrated at least 2.2 miles away from the site, and may have spread "far beyond" the last monitoring well that is capable of detecting the contaminants. As a result, groundwater that had been suitable for municipal and agricultural use is now unsuitable for either.⁴ The harm is particularly detrimental for an area already suffering from a disproportionate amount of pollution. According to the Office of Environmental Health Hazard Assessment, Buttonwillow and the surrounding area are in the 81-85th percentile for communities' pollution impacts.⁵

The presence of toxic chemicals in groundwater beneath the McKittrick facility has been known since at least 2003, when groundwater samples showed elevated levels of electrical conductivity, total dissolved solids ("TDS"), chloride, and boron.⁶ Wastewater can also contain high levels of benzene and other toxic chemicals. Oil industry wastewater contains constituents that are known to be carcinogenic or otherwise harmful to human health. A study by the Division of Oil, Gas, and Geothermal Resources (DOGGR) found that produced water can contain as much as 18 parts per million of benzene, a known carcinogen.⁷ That is 18,000 times the state maximum contaminant level for benzene. California has determined that 1 µg/L of benzene can increase the risk of adverse health impacts.⁸

A recent study showed that routine oil and gas operations such as drilling, completion, and extraction processes, use hundreds of chemicals as solvents, biocides, polymers, surfactants, corrosion inhibitors, and lubricants even in routine operations.⁹ Many of these chemicals are considered harmful to human health. The study found that 22 chemicals were listed on the California Toxic Air Contaminant List; 12 were listed on the Proposition 65 list; 10 were on the US EPA's Drinking Water Standards and Health Advisory List; six were present on the U.S. EPA Contaminant Candidate List 4; three were on the European Chemicals Agency Substance of

¹ Central Valley Regional Water Quality Board Staff Report, Valley Water Management Company, McKittrick 1 & 1-3 Facility, Kern County (2018) ("Staff Report") pp. 3-4.

² *Id.* at p. 4.

³ *Id.*

⁴ Staff Report at p. 11.

⁵ Office of Environmental Health Hazard Assessment, CalEnviroScreen 3.0 Results, conducted at <https://oehha.ca.gov/calenviroscreen> (visited February 25, 2018)

⁶ *Id.* at 5 (citing Hydrogeologic Characterization Report Valley Water Waste Disposal Company, Cymric Field Study (Phase I Study) (2003)).

⁷ DOGGR, Benzene in Water Produced from Kern County Oil Fields Containing Fresh Water (1993).

⁸ 22 Cal. Code Reg., § 64444, Table 64444.

⁹ Stringfellow WT et al., Comparison of chemical-use between hydraulic fracturing, acidizing, and routine oil and gas development, PLoS ONE 12(4): e0175344, <https://doi.org/10.1371/journal.pone.0175344> (2017) ("Stringfellow 2017").



Very High Concern Candidate List; and two were on the OSPAR List of Substances of Possible Concern.¹⁰

Additionally, a large portion of chemicals were not identified or had no associated studies to determine their impacts to human health and the environment. A full 44 percent of chemicals that were identified in the study had no information regarding their toxicity, mass data, or CASRN.¹¹ Moreover, oil companies often withhold information regarding chemical use under dubious claims of trade secrecy, further hindering the ability of the public and regulators from knowing the true extent of risks posed by oil and gas activity. Valley Water has not disclosed what chemicals are contained in the wastewater that it allows to percolate into the groundwater below.

During California's most recent drought, dependency on groundwater resources became even more pronounced, with extensive groundwater draft and water usage restrictions. Such a scenario is likely to occur again and sacrificing groundwater resources to the fossil fuel industry would leave California residents grossly unprepared. As shown by a century-long hydrological record, California undergoes repeated cycles of drought and non-drought due to natural climate variability.¹² During drought periods—when precipitation and snow pack are at a minimum—the state is forced utilize its groundwater reserves to meet its agricultural and drinking water needs. With ever-progressing climate change, such demand will only increase as drought-favorable conditions become more prevalent.¹³ Overall, 85 percent of California's public water systems depend on groundwater for at least part of their drinking water and smaller urban and rural areas often depend entirely on groundwater.¹⁴

Studies show that anthropogenic warming contributed to the severity of the recent California drought. One study attributes as much as 27% of California's 2012-2014 drought severity to anthropogenic warming, with natural variability accounting for the remainder.¹⁵ As a result, drought severity was record-breaking across California.¹⁶ This is because higher temperatures increase soil moisture loss, alter the timing of snowmelt, and decrease reservoir levels due to increased evaporation.¹⁷

By sacrificing the groundwater in the Tulare sands and in other formations potentially impacted by this discharge activity, the Regional Board is essentially refusing to acknowledge that climate change will lead to increasingly severe droughts, which will generate increased demand on

¹⁰ *Id.* at p. 15.

¹¹ *Id.* at p. 11.

¹² See Cheng, L. et al., How has human-induced climate change affected California drought risk? 29 *Journal of Climate* 111 (2016); Diffenbaugh, N.S. et al., Anthropogenic warming has increased drought risk in California, 112 *PNAS* 3931 (2015); Williams, A. Park. et al., Contribution to anthropogenic warming to California drought during 2012-2014, 42 *Geophys. Res. Lett.* 6819 (2015) ("Williams 2015").

¹³ *Id.*

¹⁴ State Water Resources Control Board, Report to the Legislature: [Draft] Communities that Rely on Contaminated Ground Water (2012) ("SWRCB, 2012"), p. 6.

¹⁵ Williams 2015.

¹⁶ *Id.*

¹⁷ Gleick, Peter, Circle of Blue, Clarifying the Discussion about California Drought and Climate Change (2014), available at: <http://www.circleofblue.org/2014/in-the-circle/peter-gleick-clarifying-discussion-california-drought-climate-change/>.



already strained water resources. It is not a question of *if* but rather *when* California will enter another drought period. With continuing improvements in water purification technologies combined with increases in demand, we may one day be inclined to utilize previously untapped groundwater reserves.

The Regional Board is tasked with preparing for this eventuality by protecting aquifers that could be put to future beneficial use.

II. Valley Water's Refusal to Disclose Critical Pollution Information Demonstrates a Disregard for the Law and Public Safety.

The studies conducted by Valley Water have proven to be incomplete, misleading, or simply false.

In 2010, after reporting that sentinel wells were taking on significant amounts of water, Valley Water did not collect water samples to test the water contamination levels.¹⁸ Valley Water also falsely claimed that well soundings were included in field notes, but no such notes were submitted with the report.

In February 2015, Valley Water submitted a report showing wastewater had migrated to multiple sentinel wells. Despite clear evidence to the contrary, the report erroneously concluded that there was no impact on groundwater monitored by the CYM-21D1 well in the deeper Tulare.¹⁹

In 2017, Valley Water tried again to deny that its discharges were contaminating groundwater, contrary to substantial evidence in its own report.²⁰

Even now, Valley Water refuses to disclose basic information about its operations that would help assess the extent of the harm to groundwater. The company is unwilling to report basic facts about its discharges, such as what chemicals are present in the wastewater, and will not disclose the depth of each pit²¹, making estimates on the risk of overflow impossible.

III. Past Regional Board Actions Have Worsened Pollution.

The Regional Board has taken a number of actions to benefit oil companies at the cost of protecting groundwater. In the last year alone, the Regional Board has:

- Adopted General Orders that allow wastewater from stimulated wells to be discharged to land, in violation of state prohibitions²²;

¹⁸ Staff Report at 6 (citing Valley Water Waste Disposal Company, 2010 Semi-Annual Report, McKittrick 1 and 1-3 Ponds Cymric Area).

¹⁹ *Id.*

²⁰ See Staff Report discussion at pp. 9-11.

²¹ Tentative MRP at p. 2.

²² Waste Discharge Requirements General Orders One, Two, and Three for Discharges of Oil Field Produced Wastewater to Land (2017); 14 Cal. Code Reg. § 1786(a)



- Allowed Valley Water's Fee 34 and Race Track Hill pits to continue to operate despite documented groundwater contamination and admitted violations²³;
- Permitted oil companies' to discharge wastewater onto land for irrigation, despite known harmful chemicals present in the wastewater²⁴

A decision by the Regional Board to allow Valley Water's McKittrick Facility to continue its discharges is in fundamental opposition to its mission to protect groundwater.

IV. Allowing Continued Discharge Would Be Contrary to Law

Continued wastewater discharge is a direct violation of the, the federal Clean Water Act, federal Safe Drinking Water Act, the Porter-Cologne Act, the State Board's Anti-Degradation Policy (State Board Order No. 68-16), waste discharge requirements (Resolution 69-199), the applicable Basin Plan, the Safe Drinking Water and Toxic Enforcement Act (Prop 65), and State Health and Safety Regulations.²⁵

Furthermore, Valley Water may be discharging water from wells that have undergone well stimulation. State law prohibits such practices under the state's well stimulation treatment regulations.²⁶

Valley Water's obstruction violates the mandatory reporting requirements of Water Code section 13261. Section 13272 also requires that "any person who, without regard to intent or negligence, causes or permits any oil or petroleum product to be discharged in or on any waters of the state, or discharged or deposited where it is, or probably will be, discharged in or on any waters of the state, shall, as soon as (1) that person has knowledge of the discharge, (2) notification is possible, and (3) notification can be provided without substantially impeding cleanup or other emergency measures, immediately notify the Office of Emergency Services." It is unclear from the documents made publicly available if or when Valley Water notified OES.

V. Monitoring Is Inadequate to Protect Groundwater.

While the Regional Board should continue sampling groundwater in the area to determine the extent of contamination, a Monitoring and Reporting Program by itself is woefully inadequate to stop the spread of contamination. Valley Water is still discharging an enormous volume of wastewater directly onto land—as much as 4.8 million gallons a *day*—and monitoring does nothing to stop the continued degradation of groundwater.

The tentative MRP asserts that its purpose is to "determine if the Discharger is complying with Waste Discharge Requirements Resolution No. 69-199."²⁷ Given the aforementioned Resolution

²³ Order No. R5-2017-0112, Amending Cease and Desist Order No. R5-2015-0093 (Dec. 7, 2017)

²⁴ Order No. R5-2016-0093, Amending Waste Discharge Requirements Order R5-2015-0127 for California Resources Corporation, LLC and North Kern Water Storage District.

²⁵ See, e.g., 22 Cal. Code Reg. § 66261.20 et seq. [requirements for hazardous waste disposal]

²⁶ See 14 Cal. Code Reg. § 1786

²⁷ Tentative MRP at p. 1.



“prohibits the discharges from creating pollution and nuisance,”²⁸ a determination has been made.

Further monitoring and reporting activity may be needed to fully understand the extent of contamination and formulate appropriate remediation and penalties against the discharger, but the Regional Board need not delay imposing an immediate cease and desist order any longer than it already has.

VI. Experts Have Recommended the Closure of Pits

Wastewater disposal via unlined pits is widely acknowledged to be dangerous. According to an independent scientific study on California’s oil and gas practices, a panel of scientists noted that “this practice provides a direct pathway for the transport of produced water constituents, including returned stimulation fluids, into groundwater.”²⁹ The study found that “[t]here is ample evidence of groundwater contamination from percolation pits in California and other states. For example, in California, the Central Valley Regional Water Quality Control Board determined that several percolation pits in Lost Hills and North and South Belridge had impacted groundwater, and ordered their closure.”³⁰

Due to the inherent danger of this type of wastewater disposal, the study recommended that, “If the presence of hazardous concentrations of chemicals cannot be ruled out, [responsible agencies] should phase out the practice of discharging produced water into percolation pits.”³¹ The practice of disposing wastewater into pits has been phased out in some states, including Kansas, Texas, and Ohio.

The Regional Board should adhere to and implement the recommendations of California’s independent scientific assessment.

VII. Documents Relevant to the Regional Board’s Action Have Not Been Made Publicly Available.

Attachment C of the Staff Report lists 44 documents relied upon in drafting the Staff Report. None are available on the Regional Board’s website, precluding the public from making fully informed comments on the proposed action. For example, the Staff Report cites a biological survey that indicates unspecified endangered species may be at risk, but the Staff Report attachments do not include the biological survey.

The Center respectfully requests that these documents and any others relied upon be posted on the Regional Board’s website. The Center reserves the right to supplement these public comments upon review of those omitted materials.

²⁸ Tentative Resolution R5-2017-0031 at p. 1.

²⁹ California Counsel of Science and Technology, An Independent Scientific Study of Well Stimulation in California, Vol. II, July 2015 (“CCST Report”) at p. 110.

³⁰ *Id.* (internal citations omitted).

³¹ *Id.* at 25.



VIII. Conclusion

For far too long, Valley Water has profited at the expense of California's invaluable groundwater resources. Every day of inaction puts more and more groundwater at risk, and makes remediation more costly and potentially infeasible. We are hopeful that the Regional Board will prioritize protecting the public's water supply over Valley Water's pecuniary, private interests. We strongly urge the Regional Board to enforce its cease and desist order immediately and reject any and all orders that purport to allow illegal disposal to continue.

Thank you for the opportunity to comment on this important matter. We welcome the chance to work with the Regional Board going forward.

Respectfully submitted,

Hollin Kretzmann
Center for Biological Diversity
1212 Broadway, Suite 800
Oakland CA 94612
(510) 844-7100