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May 29, 2015

Via Email at commentletters@waterboards.ca.gov.



Ms. Janice Zinky
Oil and Gas Monitoring Unit Chief
State Water Resources Control Board
1001 "I" St. Sacramento, CA, 95814
(916) 341-5897

Re: Comments on the Proposed Draft Model Criteria for Groundwater Monitoring in Areas of Oil and Gas Well Stimulation

Dear Ms. Zinky:

Please accept these comments on behalf of the Center for Biological Diversity, regarding the Proposed Draft Model Criteria for Groundwater Monitoring in Areas of Oil and Gas Well Stimulation, being developed pursuant to SB 4.

The Center appreciates the substantial work done by the State Water Resources Control Board and staff to develop this draft, and we strongly support moving forward with developing and implementing groundwater monitoring criteria as a crucial component of a comprehensive monitoring program for oil and gas operations. We offer the following comments and recommendations for improving and strengthening the proposed criteria.

At the same time, we recognize that the proposed monitoring criteria are only a single component of what must become a comprehensive program to protect water resources from pollution from oil and gas operations. As the proposed draft is deliberately focused on monitoring for groundwater pollution specifically from well stimulation operations, it obviously does not capture all of the pollution associated with oil and gas operations that do not use well stimulation, nor does it capture pollution from the disposal of oil wastewater in injection wells, open pits, treatment facilities, and sold as irrigation water.

Furthermore, we recognize that monitoring only identifies the sources of pollution, and does not on its own provide protection for the state's water resources or public health. According to Mr. Bishop's testimony at the March 10 Senate Joint Oversight Hearing on the Underground Injection Control Program, once a groundwater aquifer is contaminated, the contamination cannot be undone nor can the aquifer be remediated. At best, such contamination can be contained, and even that is highly uncertain.

While we fully support the implementation of monitoring criteria, we strongly urge the Board to develop policies beyond these criteria, and beyond monitoring, to address the many ways that oil and gas operations pollute our state's water resources.

I. Sampling and Testing Requirements Must Include All Constituents Associated with the Target Wells.

It is not possible to detect compounds if we don't test for them. Section 2.1.3, part 6, requires testing of various categories of compounds reported by the operator as "used during well stimulation." These compounds are reported based on the requirements of Section 2.1.2, paragraph 13, which requires that well operators provide "[a] list of chemical additives and tracers anticipated to be used in the well stimulation." Page 9. However, gravel packing, acidizing, drilling muds, well completion fluids, and well maintenance fluids, for example, all might be used in the stimulation well, and although these components might migrate as a result of well stimulation, these chemicals would not necessarily be reported as being "used during well stimulation," and therefore would not be tested for. In order for testing to detect all chemicals migrating from well stimulation treatments, all chemicals used in those wells must be reported.

Similarly, the Groundwater Monitoring Plan Addenda (Page 10) must include all compounds used in stimulation wells. It is impossible to determine baseline conditions if we do not know what compounds to be testing for.

II. Sampling and Testing Requirements Should be Explicit in their Criteria Requiring Additional Testing.

Section 2.1.3, Sampling and Testing Requirements, proposes a methodology that requires the testing for one list of substances (part 5) and requiring additional testing for a second list of additional substances (part 6) only "[if] concentrations of the analytes listed above in part 5 [the first list] change between sampling events suggesting potential impact from a stimulation treatment (based on interpretation of baseline water quality conditions)." Page 12. This approach makes sense only if there is conclusive evidence that none of the substances in part 6 may be able to migrate or be detected more readily than the substances in part 5. The Proposed Draft does not indicate that this is the case, nor does it offer a rationale for placing substances in part 6 instead of part 5. This section is also unclear with respect to what specific criteria would be used to determine if a change in concentrations does or does not suggest potential impact from a stimulation treatment. The criteria should clearly identify what changes in the part 5 analytes would qualify to trigger testing for part 6 compounds.

III. Sampling Should Occur Quarterly.

Section 2.1.3 (page 13) requires groundwater sampling to occur semi-annually. More frequent sampling would substantially reduce the potential time that would elapse before a pollution source was detected. At a minimum, quarterly sampling must be used in the criteria overall, and more frequent sampling should apply if sampling detects contamination at a site.

IV. Reporting Requirements Should Include the Location of Wastewater Disposal Sites.

The Groundwater Monitoring Reports required in Section 2.1.4 require the reporting of "Waste management and disposal procedures, including associated documentation, permits, manifests, and bills of lading," but do not explicitly include the location of the waste disposal site. This section should clarify that the location of waste disposal sites must be reported.

V. The Exemption Criteria Should Identify a Specific Distance from Protected Water.

Section 2.2.1 allows the well operator to apply for an exemption from monitoring requirements if the well operator can provide information that "clearly indicates the absence of protected water in the vicinity of the well to undergo stimulation." Page 14. Paragraph 11 of this same section refers to "no protected waters in the area." Page 15. However, this section does not include a definition of "vicinity" or "area." The criteria should identify a specific distance that is adequate to protect water resources, and the Board should explain the rationale for the distance proposed.

VI. Regional Plans Must Include all Contamination Pathways.

While the regional monitoring plan criteria may be workable in concept, they must be improved to include monitoring of all pathways of contamination, specifically including all oil and gas operations, whether using well stimulation or not, and all waste disposal pathways, including underground injection wells, open disposal pits or sumps, waste treatment systems, and irrigation water.

VII. Monitoring Should Include Currently Exempted Aquifers.

Although SB 4 distinguishes between aquifers that are exempt under the federal Safe Drinking Water Act and those that are not, the Monitoring Criteria should require monitoring in exempt aquifers, as well. As recent revelations have made clear, there are numerous and substantial problems with the exemption of aquifers in California, and many aquifers have been illegally and improperly designated as exempted. Furthermore, there are significant lapses in the documentation of exemptions, and the definition of the boundaries of those aquifers. It may be that many currently exempted aquifers will later be designated non-exempt, because the initial exemption was improper, because of new information, or because the criteria for potential drinking change over time.

Moreover, injection into exempt aquifers may lead to contamination of adjacent or nearby protected aquifers, and therefore must be closely monitored. The Board must fully consider this vitally important issue.

VIII. The Criteria for the Exclusion of Water Wells Should Be Explicitly Defined.

Paragraph 8 of Section 2.1.2, Groundwater Monitoring Plan Requirements, states that "If any water wells identified within 0.5 mile of individual stimulation stages are not to be used for

groundwater monitoring, a justification for their exclusion shall be included." Page 9. However, the section provides no criteria for this exclusion or for evaluating the justification. The criteria for such an exclusion should be explicitly defined.

IX. Analytes Should be Selected by Water District Staff.

Paragraph 5(p) of Section 2.1.3, Sampling and Testing Requirements, requires the well operator to select "at least two additional analytes" for testing, based on a number of criteria. Page 13. Rather than leave it to the well operator to interpret the criteria and make this selection, the decision should be made by water district staff to remove ambiguity and allow for regional consistency.

Thank you for your work on this important issue, and for your consideration of these comments. Please contact me if you have any questions about these comments.

Sincerely,



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