



State of California • Natural Resources Agency  
Department of Conservation  
**Division of Oil, Gas, and Geothermal Resources**  
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**State Water Resources Control Board**

March 16, 2017

Mr. Michael Montgomery  
United States Environmental Protection Agency—Region IX  
75 Hawthorne Street  
San Francisco, CA 94105-3901

**MARCH 2017 UPDATE ON COMPLIANCE REVIEW**

Dear Mr. Montgomery:

On January 17, 2017, the Division of Oil, Gas, and Geothermal Resources and the State Water Resources Control Board (hereafter the State) provided the United States Environmental Protection Agency (US EPA) with a comprehensive update on the State's compliance status with respect to class II injection wells identified as having been permitted for injection into potentially non-exempt underground source of drinking water (USDW) aquifers. As subsequently agreed to, the State is to provide US EPA with monthly updates on our progress to complete the aquifer exemption proposals (AEs) identified in our January 17, 2017 letter. This letter and enclosure provide a status update on the three categories of pending AEs as described below.

- a) AE proposals that were advanced by the State (with preliminary concurrence from the State Water Board) by February 15, 2017;
- b) AE proposals that appear to have merit that were not advanced by the State by February 15, 2017; and
- c) Fields where the operators have not provided adequate data to support an AE proposal, although such data may come forward in the future. Of these proposals, one operator has since provided enough data to warrant their AE proposal being added to category (b) above.

Of the fields with AE proposals in category (a) (those that have or will receive preliminary concurrence from the State Water Board before February 15, 2017), 12 received concurrence from the State Water Board on or before February 15, 2017.

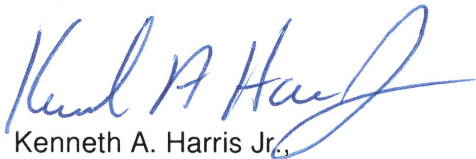
Of the fields in category (b), (AE proposals that appear to have merit that were not advanced by the State by February 15, 2017), the State Water Board has issued one preliminary concurrence letter on February 23, 2017 and has indicated that it expects to concur with an additional nine proposals by the end of May 2017.

The State Water Board has identified additional data and analysis that would more fully support the remaining AE proposals in category (b). The Division is working with operators to collect and develop the additional data and analysis, and a definitive concurrence date cannot be given at this time for these proposals. We should have more clarity about the timeframe for completing these proposals by the next monthly update. Estimated completion dates for the remaining proposals in this category are listed in the enclosed table.

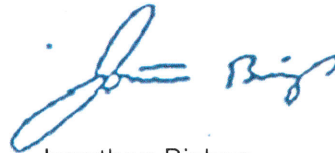
The Division has been working with operators to identify injection wells that are outside the scope of one of the aquifer exemption proposals underway that would be require to shut in under the February 15 stop-injection deadline in regulation. However, the Western States Petroleum Association has obtained a temporary restraining order from the Kern County Superior Court preventing the Division from enforcing the February 15 stop-injection deadline regulation. The temporary restraining order is specific to enforcement of those regulations and does not prevent the Division from exercising its broader statutory authorities to stop injection into USDW aquifers on a case-by-case basis. The Division will be moving forward with individual enforcement actions to stop injection into USDW aquifers that are not within the scope of the aquifer exemption proposals underway. As ever, we will keep you posted on those efforts as they develop.

We believe that our progress to date demonstrates the State's commitment to protect public health and the environment while avoiding unnecessary disruption of oil and gas production. If you have any questions or wish to discuss this matter further, please contact Ken Harris at (916) 323-1777, or [Ken.Harris@conservation.ca.gov](mailto:Ken.Harris@conservation.ca.gov) or Jonathan Bishop at (916) 341-5619 or [Jonathan.Bishop@waterboards.ca.gov](mailto:Jonathan.Bishop@waterboards.ca.gov).

Sincerely,



Kenneth A. Harris Jr.,  
State Oil and Gas Supervisor  
Division of Oil, Gas, and Geothermal Resources



Jonathan-Bishop  
Chief Deputy Director  
State Water Resources Control Board

Enclosure

**STATE WATER RESOURCES CONTROL BOARD AQUIFER EXEMPTION PROPOSAL REVIEW SUMMARY**  
(Updated 03/08/2017)

Field	Name of Formations/ Units Proposed for Exemption	Injection Types <sup>1</sup>	Minimum Formation TDS (mg/L) <sup>1</sup>	Maximum Formation TDS <sup>1</sup> (mg/L)	Federal Criteria <sup>1</sup> (40 CFR 146.4)	Preliminary Concurrence Letter Issued <sup>2</sup>
Arroyo Grande	Dollie Sands	SC, SF, WD	980	2,800	(a), (b)(1)	8/7/2015
Round Mountain	Jewett Sand	SC, SF	2,800	2,800	(a), (b)(1)	4/28/2016
	Pyramid Hill Sand	SC, SF, WF	1,000	2,400	(a), (b)(1)	
	Vedder	SC, SF, WF	1,200	4,000	(a), (b)(1)	
	Walker	WD	1,400	2,400	(a), (b)(1)	
Fruitvale	Santa Margarita	WD	5,630		(a), (c)	6/15/2016
Tejon	Transition Zone	WD	2,231	3,317	(a), (b)(1)	7/22/2016
Mount Poso	Pyramid Hill Sand	SF, WF	1,730		(a), (b)(1)	10/4/2016
	Vedder	SF, WF	2,520		(a), (b)(1)	
Livermore	Greenville Sands Member of Cierbo Formation	WD	6,600	8,500	(a), (c)	11/16/2016
San Ardo	Lombardi Sands	SF, WD	4,500		(a), (c)	12/1/2016
	Aurignac Sands	SC, WF, WD	4,842		(a), (c)	
Lynch Canyon - Lanigan Sand	Lanigan Sand	SC, SF	3,439	4,658	(a), (b)(1)	2/3/2017
Sespe	Basal Sespe	WD	5,700	33,000	(a), (c)	2/3/2017
Jasmin	Cantleberry Sands member of the Vedder Fm.	EOR, WD	380	410	(a), (b)(1)	2/7/2017
Elk Hills - Phase 1	Tulare	WD	4,500	20,000	(a), (c)	2/15/2017
Poso Creek	Basal Etchegoin and Chanac	SC, SF	260	680	(a), (b)(1)	2/15/2017
	Basal Etchegoin	SC, SF	480	1,300	(a), (b)(1)	
Kern Front	Vedder	WD	3,500	10,700	(a), (c)	2/23/2017
Lost Hills - Phase 1	Tulare	SC, SF	3,789	11,135	(a), (c)	March 2017
McKittrick	Tulare	EOR, WD	1,412	34,685	(a), (b)(1)	March 2017
Elk Hills - Phase 2	Tulare	WD	4,500	20,000	(a), (c)	April 2017
Midway-Sunset	Tulare B	SF, WD	3,588	30,337	(a), (c)	April 2017
	Potter Sands	EOR, WD	1,550	22,347	(a), (c)	
	Spellacy Sands	EOR, WD	1,200	38,491	(a), (c)	
	Miocene Shale	EOR, WD	3,000	26,628	(a), (c)	
	Lower Antelope Sands	WD	4,296	24,740	(a), (c)	
North Belridge	Tulare	EOR, WD	8,055	22,540	(a), (b)(1)	April 2017
South Belridge	Tulare	SF, WD	3,498	32,788	(a), (b)(1)	April 2017
Jacalitos and Coalinga	Temblor	SF, WF	3,024	12,730	(a), (b)(1)	May 2017
Cymric	Tulare	SF, WD	1,100	14,100	(a), (b)(1)	May 2017

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Edison (Vol 1)	Pyramid Hills and Vedder	WF	1,110	20,775	(a), (b)(1)	May 2017
	Wicker Sands of Fruitvale Formation	WD	3,300	3,300	(a), (b)(1)	
	Santa Margarita	SC, SF	440	820	(a), (b)(1)	
Edison (Vol 2)	Chanac	SC, SF	570	2,000	(a), (b)(1)	TBD. Questions being generated to send to DOGGR.
Kern Front	Upper Chanac	SC, SF, WD	320	350	(a), (b)(1)	TBD. Application Under Revision.
Cat Canyon	Sisquoc	SC, SF, WF, WD	6,100	26,000	(a), (b)(1)	TBD. Outstanding questions with DOGGR.
Lynch Canyon - Santa Margarita	Santa Margarita	WD	3,700 (estimated) <sup>3</sup>	3,845 (estimated) <sup>3</sup>	(a), (c)	TBD. Outstanding questions with DOGGR.
Zaca	Monterey	WD	5,900	7,200	(a), (b)(1)	TBD. Outstanding questions with DOGGR.
Casmalia	Monterey (All Zones)	EOR, WD	3,700	11,000	(a), (c)	TBD. Questions being generated to send to DOGGR.
Holser	Holser-Nuevo Zone of Modelo Fm.	WD	6,000	9,000	(a), (b)(1)	TBD. Questions being generated to send to DOGGR.
Lompoc	Monterey	WD	4,700	12,100	(a), (c)	TBD. Questions being generated to send to DOGGR.
Oxnard	Pico Formation/Vaca Tar Sand	SC	1,533	15,000	(a), (b)(1)	TBD. Questions being generated to send to DOGGR.
Kern River	Kern River	SC, WD	52	1,200	(a), (b)(1)	TBD. Questions being generated to send to DOGGR.

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**Proposals under Development by DOGGR (not received by State Water Board)**

Edison Northeast
Cat Canyon, Gato Ridge
Kern Bluff
Kettleman Hills
Lompoc, Northwest Area
Kreyenhagen
Chico Martinez
Lost Hills Phase 2
Rosedale Ranch
Round Mountain, South Area
Richfield Oil
Monterey County

**ACRONYMS and ABBREVIATIONS:**

Aquifer Exemption (AE), Enhanced Oil Recovery (EOR), Cyclic Steam (SC), Steam Flood (SF), Water Flood (WF), Waste Disposal (WD), Underground Source of Drinking Water (USDW), feet below ground surface (ft. bgs), Division of Oil, Gas, and Geothermal Resources (DOGGR), To Be Determined (TBD), Not Applicable (N/A), milligrams per liter (mg/L)

Footnote 1 - Information/data obtained from aquifer exemption proposal submitted by DOGGR.

Footnote 2 - *Italics* indicate estimated dates, which are based on timeframes from prior reviews. Subject to change.

Footnote 3 - Concentrations based upon interpretation of geophysical logs.