Underground Injection Control (UIC)

Aquifer Exemptions and CA Class II Program Compliance Status

May 2022

ED_013796_00001148-00001

What is an Underground Source of Drinking Water (USDW)?

WET - AQUIFER

DRY

Underground Source of Drinking Water

Drinkable Quality Water (<3,000 ppm Total Dissolved Solids (TDS)) of a volume that can sustain a public water supply

And

Potential Drinking-Quality Water (3,000-10,000 ppm TDS)

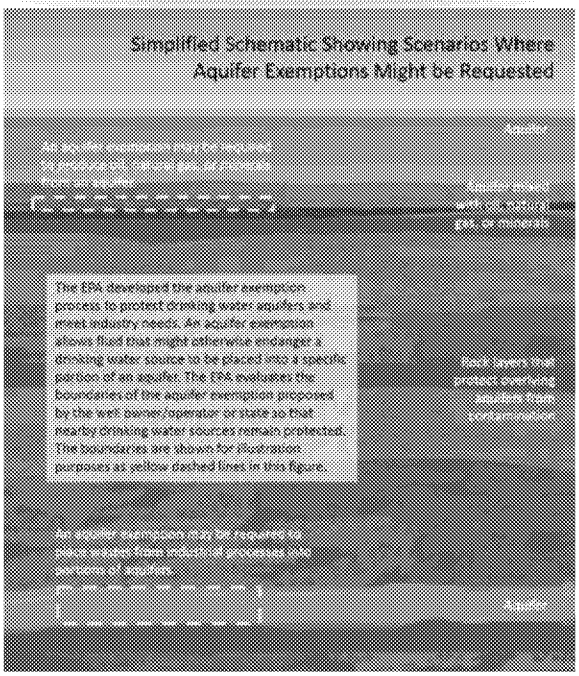
Brine - Salt Water (>10,000 ppm TDS)

BRINE

USDW

3

ClassVIntro 2011.ppt



Aquifer Exemptions

- An action by EPA to remove an aquifer or a portion of an aquifer from SDWA protection as an USDW.
- EPA regulations authorize exemption of aquifers that do not currently serve as a source of drinking water and will not serve as a future source.
- AEs are primarily used to allow mineral, hydrocarbon or geothermal energy production.

2/7/2023

EPA Criteria for Exemptions

- In approving an AE, EPA must first determine that the portion of an aquifer proposed for exemption does not currently serve as a source of drinking water.
  - There are no drinking water wells completed in the proposed exempt area;
  - There are no existing drinking water wells outside the exempt area that will draw water from the proposed exempt area during the life of the well.

EPA Criteria for Exemptions (cont'd)

- EPA then must determine either that the aquifer cannot now and will not in the future serve as a source of drinking water because, e.g.,
  - it contains a commercially producible quantity of oil/gas/mineral;
  - it is situated at a depth or location which makes recovery of water for drinking water purposes economically or technologically impractical;
  - it is so contaminated that it would be economically or technologically impractical to render that water fit for human consumption.

OR

- The TDS content of the aquifer is more than 3,000 and less than 10,000 ppm and it is not reasonably expected to supply a public water system.

Aquifer Exemption Process (CA)

- UIC permit applicants submit an AE request to the State for the proposed exempted area, which includes supporting data (e.g, water well inventory, TDS data, oil field geology and production, etc.).
- The State (CalGEM/State Water Board) reviews the application to determine if the proposed exemption meets federal and state regulatory criteria.
- If criteria are met, the State proposes to exempt the aquifer, elicits public participation, and submits a request for approval of the exemption to EPA.
- The State's public process includes: a 30-day public comment period, a public hearing, and a Response to Comments document.

Aquifer Exemption Process (cont'd)

- After the State submits an AE request, EPA reviews the AE package and may seek additional information from the State.
- EPA documents its final determination to approve or deny the AE request in a Record of Decision (ROD) that explains the factual, technical, and legal basis for the determination.
- This final determination can be appealed by any party within 30 days from the date EPA signs the ROD.

CA Class II Program Compliance Status

- In 2011/2012, EPA conducted a review of the CA Class II UIC program and identified deficiencies; EPA also found discrepancies between approved aquifer exemptions and permitted injection activity.
- In March 2015, the State began implementing a Corrective Action Plan (CAP) to bring the Class II UIC program back to compliance; the CAP included advancing AE proposals to EPA for evaluation/approval, with a scheduled completion date of February 2017.
- By February 2017, the state identified 30 AE packages that would proceed; only those that had a clear path to compliance with state/federal criteria.
- EPA, CalGEM and State Board agreed to extend the timeframe for processing AE packages and allow continued injection.

CA Class II Program Compliance Status (cont'd)

- From 2017-2019 EPA reviewed and approved 19 exemptions.
- State processing of AE requests slowed considerably in late 2019; EPA has reviewed and approved another 2 (total 21 of 29 expected AE proposals); 2 additional AEs submitted.
- In August 2021, the State identified the need to conduct conduit analyses in certain oil and gas fields to assess potential fluid migration between the deep and shallow aquifers; four of the remaining six aquifer exemption packages are undergoing conduit analysis.
- By September 30, 2022, the State commits to:
  - Complete and submit the two AE packages that do not require conduit analysis to EPA;
  - Complete a review and identify problem wells located within active injection areas for the four AE packages requiring conduit analysis;
  - Require operator specific work plans for approval by the State at the completion of each conduit analysis addressing identified problem wells on an ambitious timeline, otherwise affected operations will be shut in.

Approved Aquifer Exemptions

	Approved Aquifer Exemptions	Location
1	Round Mountain Oil Field	Kern County
2	Fruitvale Oil Field	Kern County
3	Tejon Oil Field	Kern County
4	Mount Poso	Kern County
5	Jasmin Oil Field	Kern County
6	Kern Front Oil Field (Vedder)	Kern County
7	Elk Hills - Phase 1	Kern County
8	Elk Hills – Phase 2	Kern County
9	Poso Creek Oil Field	Kern County
10	Kern Front (Upper Chanac)	Kern County
11	Cymric Oil Field	Kern County
12	McKittrick Oil Field	Kern County
13	San Ardo and McCool Ranch Oil Fields	Monterey County
14	Arroyo Grande Oil Field	San Luis Obispo County
15	Edison Oil Field - Phase 1	Kern County
16	Lost Hills Oil Field	Kern County
17	North Belridge Oil Field	Kern County
18	Midway-Sunset Oil Field (deeper formations)	Kern and San Luis Obispo Counties
19	Edison Oil Field - Phase 2	Kern County
20	South Belridge Oil Field - Western Area	Kern County
21	Coalinga and Jacalitos Oil Fields	Fresno County

Aquifer Exemptions In Process

	Aquifer Exemptions under Process	Location	Note
1	Lynch Canyon Oil Field (Lanigan)	Monterey County	In-house
2	Sespe Oil Field	Ventura County	In-house
3	Cat Canyon Oil Field	Santa Barbaba County	
4	Holser Oil Field	Ventura County	
5	Lompoc Oil Field	Santa Barbaba County	
6	Kern River Oil Field	Kern County	
7	Midway-Sunset Oil Field (Tulare)	Kern County	
8	Mount Poso Oil Field - Dorsey Area	Kern County	