



California Geologic Energy Management Division

UNDERGROUND INJECTION CONTROL PROGRAM REPORT

PERMITTING & PROGRAM ASSESSMENT

Reporting Period: April 1, 2020 to March 31, 2021

Prepared Pursuant to Public Resources Code Section 3114, subdivision (a)

Senate Bill 1493 (Ch. 742, Stats. of 2018)

Gavin Newsom, Governor, State of California
David Shabazian, Director, Department of Conservation
Uduak-Joe Ntuk, State Oil & Gas Supervisor

(This page is intentionally left blank.)



MESSAGE FROM THE STATE OIL AND GAS SUPERVISOR

Dear California State Legislators,

It's my pleasure to present the California Geologic Energy Management (CalGEM) Division's annual Underground Injection Control (UIC) legislative report. This is the third annual report submitted in response to the legislative report requirements of [Senate Bill 1493 \(SB 1493\) \(Ch. 742, Statutes of 2018\)](#) regarding activities of the UIC Program.



CalGEM's first report reflected a 6-month period of October 1, 2018 to March 31, 2019. The truncated initial report period was set intentionally to allow continuity from the final Senate Bill 83 (Ch. 24, Statutes of 2015) requirements that reported UIC activities from April 1 to September 30, 2018. This third report covers the prescribed 12-month period from April 1, 2020 to March 31, 2021.

As outlined in [Assembly Bill 1057 \(Limon, Ch. 771, Statutes of 2019\)](#), Governor Newsom took initiatives to "strengthen oversight of oil and gas extraction" and ensure that state regulations protect public health, safety, and the environment. Among them is the independent audit of the permitting processes for UIC by the California Department of Finance (DOF), Office of Audits and Evaluations. The audit focused on CalGEM's UIC permitting process, compliance with state regulations and policies, and strengthening operational processes and procedures. The independent audit of the UIC program was completed in November 2020.

Key findings from the report are that: "Based upon the procedures performed on the items selected, CalGEM's UIC project and well permit processes generally complied with UIC statutes and regulations. However, instances of non-compliance and areas of improvement were identified during our review of CalGEM's operational practices and administration of the UIC program." A corrective action plan was required.

In response, CalGEM submitted a corrective action plan on January 22, 2021, which was accepted by DOF on February 10, 2021. In July 2021, CalGEM submitted to DOF an update to the plan, indicating CalGEM is on track to implement all actions and within the identified timeframes. Much of the effort involved in the corrective action plan involves updating Standard Operating Procedures to fully reflect changes to the UIC regulations which became effective on April 1, 2019. When fully implemented, these changes will improve the oversight and transparency of the UIC permitting process.

In parallel with the DOF audit, CalGEM engaged experts from the Lawrence Livermore National Laboratory (LLNL) to conduct a third-party scientific review of UIC project



applications. This scientific review, which assesses the methodology and completeness of each proposed application, will ensure that the state's technical standards for public health, safety, and environmental protection are met before approval of the project. A total of 6 UIC projects were submitted for the LLNL review, 4 in the current report period, and 2 in the previous period. At the end of the reporting period, three projects had been endorsed by LLNL. There are no plans to submit additional UIC project applications for LLNL review.

Significant progress is being made on UIC Project by Project Reviews. With more allocated staffing resources, ongoing reviews increased from 344 last year to 497 as of March 31, 2021. For the first time, the number of ongoing reviews exceeds the number of unreviewed projects, which was 313 at the end of the reporting period.

For more information about the Underground Injection Control program, please visit: [https://www.conservation.ca.gov/calgem/general_information/Pages/UndergroundInjectionControl\(UIC\).aspx](https://www.conservation.ca.gov/calgem/general_information/Pages/UndergroundInjectionControl(UIC).aspx)

Uduak-Joe Ntuk is the 17th California State Oil and Gas Supervisor responsible for managing the California Geologic Energy Management (CalGEM) Division. He was appointed by Governor Newsom in October 2019. Ntuk directs a statewide regulatory, technical, and field operations organization designed to emphasize the safe development of oil and natural gas conservation, which includes protecting public health and safety, environmental quality, and the reduction and mitigation of greenhouse gas emissions associated with the development of hydrocarbon and geothermal resources in a manner that meets the energy needs of the state. He also serves as a Governor's representative to the Interstate Oil and Gas Compact Commission and as a governing board member of the Baldwin Hills Conservancy.



Contents

MESSAGE FROM THE STATE OIL AND GAS SUPERVISOR	3
ABOUT THE CALIFORNIA GEOLOGIC ENERGY MANAGEMENT DIVISION.....	6
CalGEM Districts.....	6
EXECUTIVE SUMMARY.....	7
INTRODUCTION	9
Objective & Scope of Report	9
Report Requirements	9
Contact Information	10
UNDERGROUND INJECTION CONTROL PROGRAM.....	11
1. Projects.....	11
1.1 UIC Project Approvals.....	11
1.2 Pending UIC Project Applications	11
1.3 UIC Project Approval Timeline	12
1.4 UIC Project Application Review	12
1.5 Pending UIC Project Applications	13
2. Aquifer Exemptions.....	13
2.1 Pending Aquifer Exemptions.....	13
2.2 Aquifer Exemption Review	16
3. Enforcement.....	16
3.1 UIC Permit Violations	16
3.2 Enforcement Actions	17
3.3 Shut-In Orders or Requests to Relinquish Permits	17
4. Administration	18
4.1 UIC Program Staffing.....	18
4.2 UIC Program Vacancies.....	21
5. Statutes & Regulations	21
5.1 Statutory or Regulatory Changes to the UIC Program	21
5.2 CalGEM UIC Projects Reviewed in Each District	22
5.3 UIC Projects Not Yet Reviewed for Compliance.....	23
5.4 UIC Summary of Significant Milestones.....	23
5.5 UIC Review Panel	26
APPENDIX A – REFERENCES & DATA SOURCES.....	27
APPENDIX B – PUBLIC RESOURCES CODE § 3114.....	299



ABOUT THE CALIFORNIA GEOLOGIC ENERGY MANAGEMENT DIVISION

The California Geologic Energy Management Division (CalGEM) prioritizes the protection of public health, safety, and the environment in its oversight of the oil, natural gas, and geothermal operations in California. To do that, CalGEM uses science and sound engineering practices to regulate the drilling, operation, and permanent closure of energy resource wells. CalGEM also regulates certain pipelines and facilities associated with production and injection. These regulatory duties include witnessing tests, inspections, and subsurface operations.

When CalGEM was established in 1915 (then known as the Division of Oil and Gas), the initial focus of regulation was the protection of oil and gas resources in the State from production practices that could harm the ultimate level of hydrocarbon recovery. Early CalGEM regulations included well spacing requirements and authority to limit production rates. However, those regulations and the focus of CalGEM have evolved and come to include the protection of public health, safety, and the environment.

CalGEM has grown significantly since it was established in 1915 and has taken major steps to ensure it will be able to handle challenges in a manner consistent with public expectations for a modern, efficient, collaborative, and science-driven regulatory agency.

In 2019, the mission of CalGEM changed to include protecting public health and safety, environmental quality, and the reduction and mitigation of greenhouse gas emissions associated with the development of hydrocarbon and geothermal resources in a manner that meets the energy needs of the state.

CalGEM Districts

In 2020, CalGEM operated five offices in four districts to best serve the needs of the State: Northern, Coastal, Inland, and Southern.¹ Each district has its own offices where staff are available to assist the public and stakeholders with any requests. For more information about CALGEM, visit our website at: <https://www.conservation.ca.gov/calgem>



¹ In 2021, CalGEM reorganized to three districts – Northern, Inland, and Southern – while maintaining all five offices across the state. That change provides greater efficiency and improved consistency in oversight of our oil & gas fields, geothermal wells, and underground gas storage facilities.



EXECUTIVE SUMMARY

This third annual report includes the required information from April 1, 2020 to March 31, 2021. The first report submitted to the Legislature included information covering only a 6-month period (October 1, 2018 to March 31, 2019). [Senate Bill 1493 \(Ch. 742, Statutes of 2018\)](#) extended the reporting requirement of [Senate Bill 83 \(Ch. 24, Statutes of 2015\)](#), hence the initial report was so timed for continuity. It also allowed synchronization with the US EPA 7520 report, which is the source of data for items referenced in Public Resources Code section 3114, subdivision (a)(8) through (a)(10). Moving forward, the reporting cycle will be on a 12-month period until the final report is submitted on July 30, 2024.

The following are key facts from this report:

- A total of two project applications (one new, and one expansion) were approved during this reporting period. Neither of these included recently approved aquifer exemptions (AE).
- Beginning from receipt of application to approval and issuance of the Project Approval Letter (PAL), CalGEM's average project review time was 1088 days or about 36 months.
- Beginning from the date Districts deemed UIC project applications complete, the average time to approval was 757 days. The detailed technical review would not commence until application packages were deemed complete. The average review time of UIC project applications for the State Water Board was 46 days.
- During the reporting period, the monthly average number of pending project applications was 80. Sixty-three of these had been pending for over one year as of March 31, 2021.
- CalGEM sent one AE application to the US EPA – Coalinga/Jacalitos. US EPA approved Coalinga-Jacalitos on March 8, 2021. The approval process took about 55 months to complete. CalGEM review time was 46 months. The application was received in August 2016.
- Fourteen other AE proposals are pending as of March 31, 2021.
- A total of 124 enforcement actions were taken to address and bring into compliance 365 violations. Enforcement action may cover multiple violations.
- There were 46 well shut-ins during this period. Well shut-ins on the record include voluntary relinquishment of injection permits and shut-in notifications from operators as wells automatically lost injection approval under circumstances prescribed in the updated UIC regulations.
- CalGEM had approximately 77 staff working full-time on UIC tasks during the reporting period. There were approximately 10 full-time UIC vacancies.



- The Water Boards had 19 staff positions working on UIC-related tasks during the reporting period. They had one vacancy during the reporting period.
- The number of projects CalGEM initiated for compliance review with applicable statutes and regulations increased to 497 from 344 last year. One project sent to the State Water Board for review was completed and is undergoing LLNL third-party review.
- As of March 31, 2021, 313 projects had not been reviewed for compliance with applicable statutes and regulations within the last 2 years.



INTRODUCTION

Objective & Scope of Report

This annual report on the CalGEM Underground Injection Control (UIC) Program from April 1, 2020, to March 31, 2021, is required by Senate Bill (SB) 1493 (Committee on Natural Resources and Water, Ch. 742, Statutes of 2018), as codified in Public Resources Code section 3114.

SB 1493 extended the reporting requirements outlined in SB 83 (Committee on Budget and Fiscal Review, Ch. 24, Statutes of 2015), changed the reporting frequency from semi-annual to annual, and added eight new data points in addition to those required by SB 83.

This third SB 1493 report is synchronized with the United States Environmental Protection Agency (US EPA) 7520 reporting cycle which is the source of data and information for items referenced in Public Resources Code section 3114, subdivision (a)(8) through (a)(10).

Report Requirements

Public Resources Code section 3114, subdivision (a), requires CalGEM to provide, in consultation with the State Water Resources Control Board (State Water Board), the following information about the UIC Program:

1. The number and location of underground injection control project approvals issued by the Department of Conservation (DOC), including projects that were approved but subsequently lapsed without having commenced injection.
2. The monthly average number of pending project applications.
3. The average length of time to obtain an underground injection control project approval from the date of receipt of the complete application to the date of issuance.
4. The average amount of time to review an underground injection control project proposal by CalGEM and the average combined review time by the State Water Board and regional water quality control boards for each proposed underground injection control project.
5. The number of project proposals pending for over one year.
6. A list of pending aquifer exemptions, if any, and their status in the review process.
7. The average length of time to process an aquifer exemption and the average amount of time to review a proposed aquifer exemption by CalGEM and the average combined review time by the State Water



8. Board and regional water quality control boards for each aquifer exemption proposal.
9. The number and description of underground injection control related violations identified.
10. The number of enforcement actions taken by DOC.
11. The number of shut-in orders or requests to relinquish permits and the status of those orders or requests.
12. The number, classification, and location of staff with work related to underground injection control.
13. The number of staff vacancies for positions associated with underground injection control.
14. Any state or federal legislation, administrative, or rulemaking changes to the program.
15. The number of underground injection control projects reviewed for compliance with statutes and regulations in each district and a summary of findings from project reviews completed during the reporting period, including any steps taken to address identified deficiencies.
16. The number of underground injection control projects that have not been reviewed for compliance with applicable statutes and regulations within the prior two years.
17. Summary of significant milestones in the compliance schedule agreed to with the US EPA, as indicated in the March 9, 2015, letter to CalGEM and the State Water Board from the US EPA, including, but not limited to, regulatory updates, evaluations of injection wells, and aquifer exemption
18. Summary of activities undertaken by the underground injection control review panel established pursuant to Section 46 of Chapter 24 of the Statutes of 2015.

Contact Information

For more information about the UIC Program visit the program webpage:
[https://www.conservation.ca.gov/calgem/general_information/Pages/UndergroundInjectionControl\(UIC\).aspx](https://www.conservation.ca.gov/calgem/general_information/Pages/UndergroundInjectionControl(UIC).aspx)

For questions regarding the content of this report, contact the DOC Public Affairs Office at pao@conservation.ca.gov.



UNDERGROUND INJECTION CONTROL PROGRAM

1. Projects

1.1 UIC Project Approvals

Public Resources Code section 3114, subdivision (a)(1): The number and location of underground injection control project approvals issued by the department, including projects that were approved but subsequently lapsed without having commenced injection.

During the reporting period, CalGEM approved two UIC project applications. This includes one new UIC project and one expansion of an existing project. No newly approved project application lapsed without having commenced injection.

LOCATION/PROJECT COUNTY or CITY	# OF UIC PROJECTS APPROVED
Southern District Office	0
Coastal District Office	0
Inland District Office Kern (2)	2
Northern District Office	0
TOTAL	2

1.2 Pending UIC Project Applications

Public Resources Code section 3114, subdivision (a)(2): The monthly average number of pending project applications.

Pending applications are defined as those that are in the review process and have not yet received a PAL. On average, 80 UIC project applications were pending every month during the reporting period.

During the reporting period, four additional UIC project applications were sent to Lawrence Livermore National Laboratory (LLNL) for an independent scientific review before the final approval and issuance of the PAL. A total of six projects, including the project review mentioned in the previous report, have been reviewed by LLNL, with the final projects sent to the lab on 6/12/2020. Three projects were endorsed by LLNL during the reporting period. The discussions continue the remaining three UIC projects.

In addition to the independent scientific review by LLNL, a court decision



disapproving the Kern County CEQA permitting process required CalGEM to act as the CEQA lead agency for many UIC project reviews during the reporting period. This resulted in a further increase to review scope and complexity, continuing through the end of the reporting period.

1.3 UIC Project Approval Timeline

Public Resources Code section 3114, subdivision (a)(3): The average length of time to obtain an underground injection control project approval from date of receipt of complete application to the date of issuance.

Beginning from the date a UIC project application is deemed complete, an average of 757 days was needed to obtain approval during this reporting period. Applications initiated before the adoption of updated UIC regulations on April 1, 2019, must be brought into compliance with the new regulations before approval.

UIC project applications received undergo cursory reviews to ensure the dataset is complete and meets the regulatory requirements. Districts will not start detailed technical reviews until the package is verified complete. Project applications requiring AEs are not deemed complete until receipt of AE approval by the US EPA Record of Decision is verified.

1.4 UIC Project Application Review

Public Resources Code section 3114, subdivision (a)(4): The average amount of time to review an underground injection control project proposal by CalGEM and the average combined review time by the State Water Board and regional water quality control boards for each proposed underground injection control project.

During the reporting period, the CalGEM average review time for UIC project proposals was 1088 days. CalGEM review time begins the day the application is submitted and concludes when the project approval letter is issued, minus Water Board review time. This includes, among other things, the cursory completeness check, interagency communications, as well as time spent obtaining additional data/information necessary to deem the application complete.

During the reporting period, the Water Boards' average review time was 46 days. The Water Boards' review begins when an application is received from CalGEM. The Water Boards' review concludes when either a No Objection, Objection, or No Intent to Comment letter is sent to CalGEM. This time includes interagency



communications and staff review. CalGEM and the Water Boards' review periods may overlap or take place simultaneously.

1.5 Pending UIC Project Applications

Public Resources Code section 3114, subdivision (a)(5): The number of project proposals pending for over one year.

As of March 31, 2021, there were 63 UIC project proposals that had been pending for over one year. 31 of those 63 proposals were still under CalGEM review which, when completed, will be submitted to the Water Board. Twenty of the 31 applications were awaiting Operator input. The remaining 32 projects had completed CalGEM review, and were under review by the Water Board, undergoing CEQA review, or undergoing review by LLNL.

2. Aquifer Exemptions

2.1 Pending Aquifer Exemptions

Public Resources Code section 3114, subdivision (a)(6): A list of pending aquifer exemptions, if any, and their status in the review process.

There were 15 pending AE applications. The status of these applications, as of March 31, 2021, is provided below.

AQUIFER EXEMPTION STATUS AS OF MARCH 31, 2021

Lynch Canyon (Lanigan)	AE package submitted to EPA on 2/26/2020. CalGEM responding to EPA questions.
Sespe	CalGEM had finalized the AE package. The package will be submitted to US EPA for their review.
Cat Canyon	Awaiting final concurrence letter from State Water Board.
Holser	State Water Board preliminary concurrence was received on 12/7/2018. Preparations are underway for the public comment period.



Oxnard	State Water Board preliminary concurrence was received on 12/7/2018. Preparations are underway for the public comment period.
Lompoc	Under review by CalGEM and the State Water Board. Operator submitted updated application 2/17/21.
Midway-Sunset II (Tulare)	Under review by CalGEM and the State Water Board. Operator submitted updated application 3/2/21.
Kern River	Under review by CalGEM and the State Water Board. Additional Water Board comments received 3/15/21.
Casmalia	Updated application received 5/7/20. Returned to Operator 6/5/20 for revisions.
Deer Creek	Under review by CalGEM and the State Water Board. Received additional updates and comments from State Water Board 2/28/21.
Round Mountain (South Area)	Under review by CalGEM and the State Water Board. Operator responding to State Water Board comments.
Northeast Edison	The proposal is still in an early stage of review by CalGEM. District waiting for operator responses on feedback and additional requirements sent on 5/20/2019.
North Antelope Hills	Application received on 7/9/20. Under review by CalGEM.
Mt. Poso (Dorsey Area)	Updated application received 3/3/21. Submitted to State Water Board for review on 3/17/21.



Lynch
Canyon -
Santa
Margarita

Letter sent to operator formalizing the ceasing of all
injection into the Santa Margarita formation.



2.2 Aquifer Exemption Review

Public Resources Code section 3114, subdivision (a)(7): The average length of time to process an aquifer exemption and the average amount of time to review a proposed aquifer exemption by CalGEM and the average combined review time by the State Water Board and regional water quality control boards for each aquifer exemption proposal.

During the reporting period, CalGEM and the State Water Board completed reviews and submitted to US EPA the Coalinga/Jacalitos AE proposal. US EPA approved Coalinga/Jacalitos on March 8, 2021. US EPA is still reviewing the Lynch Canyon, Lanigan Sands AE proposal submitted during the previous reporting period.

The Coalinga/Jacalitos AE review and approval process took approximately 55 months to complete.

The CalGEM review time for the Coalinga/Jacalitos AE proposal was approximately 46 months. CalGEM review time begins the day the application package is received and concludes the day it is submitted to the US EPA. This time includes the exchange of information through interagency communications, the public comment period, and time spent obtaining additional or missing data and information from operators.

The Water Boards review time begins the day a complete aquifer exemption proposal is received from CalGEM and concludes when a final concurrence letter is issued by the State Water Board. CalGEM and the Water Boards' review periods may overlap or take place simultaneously.

3. Enforcement

3.1 UIC Violations

Public Resources Code section 3114, subdivision (a)(8): The number and description of underground injection violations identified.

During the reporting period, CalGEM identified 365 violations. Effective April 1, 2019, overdue, failure to conduct, or failed mechanical integrity tests were no longer reported as violations but resulted in automatic loss of approval to inject. In such cases, operators were responsible for the immediate cessation of injection into affected wells and notifying CalGEM thereof.



VIOLATIONS IDENTIFIED

Unauthorized Injection / Mechanical Integrity	13
Operations and Maintenance	205
Plugging and Abandonment	0
Monitoring and Reporting Violations	147
Other Violations	0
TOTAL	365

3.2 Enforcement Actions

Public Resources Code section 3114, subdivision (a)(9): The number of enforcement actions taken by DOC.

During the reporting period, 124 UIC-related enforcement actions were undertaken by CalGEM. As circumstances allow, CalGEM often uses the mechanism of a single enforcement action to address a group of multiple violations involving the same operator.

ENFORCEMENT ACTIONS TAKEN

Notice of Violations Issued	78
Consent Agreement	0
Administrative Orders	0
Well Shut-Ins	46
Other Enforcement Actions	0
TOTAL	124

3.3 Shut-In Orders or Requests to Relinquish Permits

Public Resources Code section 3114, subdivision (a)(10): The number of shut-in orders or requests to relinquish permits and the status of those orders or requests.

Note that under applicable regulations wells also may be effectively “shut-in,” via suspension of approval to inject, upon the occurrence of various prescribed triggering events. Some of these triggering events do not presuppose any “violation” by the operator, nor do they contemplate the issuance of an administrative order or a “request to relinquish” as a necessary step. (See, e.g., Cal. Code Regs., tit. 14, §§ 1724.6; 1724.10, subd. (i); 1724.11; 1724.13.)

As noted earlier, under the updated UIC regulations, a failed MIT automatically results in a suspension of injection approval. Consequently, enforcement action is only considered if the shut-in requirement (or other applicable requirements) is not acted upon by the operator.



During the reporting period, nine requests to relinquish injection well permits were received from operators and filed in WellSTAR. As of March 31, 2021, one of the nine wells subject to a “request to relinquish” had been verified as disconnected, and the remaining eight wells had been converted to producers.

The other 37 well shut-ins were either temporary to allow tests/surveys and other well works, or permanent shut-ins in preparation for abandonment.

4. Administration

4.1 UIC Program Staffing

Public Resources Code section 3114, subdivision (a)(11): The number, classification, and location of staff with work related to underground injection control. All staff with duties related to UIC partial or full time were identified and calculated into whole FTE (Full Time Equivalent) positions.

DEPARTMENT OF CONSERVATION

LOCATION	JOB CLASSIFICATION	# of POSITIONS (FTE*)	# of VACANCIES (FTE*)	
Sacramento (HQ)	Supervising Oil & Gas Engineer	1 (0.40)	0 (0)	
	Senior Oil & Gas Engineer	1 (1.00)	0 (0)	
	Associate Oil & Gas Engineer	5 (5.00)	0 (0)	
	Research Data Specialist 1	1 (0.20)	0 (0)	
	Research Data Specialist 2	1 (0.15)	0 (0)	
	Research Data Analyst 2	1 (0.05)	0 (0)	
	Research Data Supervisor 1	1 (0.05)	0 (0)	
	Research Data Supervisor 2	1 (0.05)	0 (0)	
	Research Data Analyst 1 (Data Mgt., Research & Special Projects)	1 (0.10)	0 (0)	
	Engineering Geologist (Data Mgt., Research & Special Projects)	1 (0.30)	0 (0)	
	Associate Environmental Planner (CEQA)	1 (1.00)	0 (0)	
	Attorney (Legal)	2 (1.00)	0 (0)	
	Staff Services Analyst (Program Support Unit)	1 (0.4)	0 (0)	
	HQ TOTAL		18 (9.70)	0 (0)



Sacramento	Supervising Oil & Gas Engineer	1 (0.10)	0 (0)
(Northern District)	Senior Oil & Gas Engineer	3 (0.30)	0 (0)
	Associate Oil & Gas Engineer	4 (0.95)	0 (0)
	Engineering Geologist	7 (0.09)	0 (0)
	DISTRICT TOTAL	15 (1.44)	0 (0)

LOCATION	JOB CLASSIFICATION	# of POSITIONS (FTE*)	# of VACANCIES (FTE*)
Long Beach	CEA (B)	1 (0.05)	0 (0)
(Southern District)	Supervising Oil & Gas Engineer	3 (0.85)	0 (0)
	Senior Oil & Gas Engr. (Supervisor)	7 (2.08)	0 (0)
	Senior Oil & Gas Engr. (Specialist)	2 (0.85)	0 (0)
	Associate Oil & Gas Engineer	17 (8.9)	0 (0)
	Engineering Geologist	14 (4.11)	0 (0)
	Energy & Mineral Resources Engr.	2 (0.25)	0 (0)
	Staff Services Manager 1	1 (0.08)	0 (0)
	Office Technician	4 (0.21)	0 (0)
	Seasonal Clerk	4 (0.16)	0 (0)
	Associate Governmental Program Analyst	2 (0.15)	0 (0)
	DISTRICT TOTAL	57 (17.69)	0 (0)
Ventura & Orcutt	Supervising Oil & Gas Engineer	0 (0)	1 (0.65)
(Coastal District)	Senior Oil and Gas Engineer (Sup.)	3 (1.95)	1 (0.65)
	Associate Oil & Gas Engineer	8 (5.55)	0 (0)
	Energy & Mineral Resources Engr.	2 (0.60)	0 (0)
	Engineering Geologist	12 (5.2)	3 (1.3)
	Office Assistant (Typist)	2 (1.0)	0 (0)
	Office Technician (Typist)	1 (0.5)	1 (0.5)
	Seasonal Clerk	3 (0.9)	0 (0)
	Staff Services Analyst	1 (0.50)	0 (0)
	DISTRICT TOTAL	32 (16.2)	6 (3.1)
Bakersfield	Supervising Oil & Gas Engineer	3 (1.62)	0 (0)
(Inland District)	Senior Oil & Gas Engineer (Sup.)	10 (4.16)	1 (0.3)
	Senior Oil & Gas Engineer (Spec.)	1 (0.50)	0 (0)
	Associate Oil & Gas Engineer	24 (14.94)	10 (6.22)
	Engineering Geologist	24 (8.64)	1 (0.36)



Energy & Mineral Resources Engr.	1 (0.90)	0 (0)
Staff Services Manager I	1 (0.13)	0 (0)
Staff Services Manager II	1 (0.05)	0 (0)
Staff Services Analyst	2 (1.05)	0 (0)
Oil & Gas Technician II	1 (0.01)	0 (0)

LOCATION	JOB CLASSIFICATION	# of POSITIONS (FTE*)	# of VACANCIES (FTE*)
Bakersfield	Office Technician (Typist)	1 (0.20)	0 (0)
(continued)	Office Assistant (Typist)	1 (0.20)	0 (0)
(continued)	DISTRICT TOTAL	71 (32.4)	12 (6.88)
TOTAL – ALL DISTRICTS AND HQ		193 (77.4)	18 (9.98)

Note: Figures shown outside parenthesis are the number of staff per job classification contributing partial times performing UIC related tasks and the current CALGEM organizational chart vacancies.

* FTE: Full-Time Equivalent figures inside parenthesis were based on an estimated percent of staff time spent performing UIC related tasks during the reporting period.

STATE AND REGIONAL WATER BOARDS

LOCATION	JOB CLASSIFICATION	POSITIONS	VACANCIES
State Water Board (Sacramento)	Senior Engineering Geologist	1	0
	Engineering Geologist / Water Resources Control Engineer	7	0
	Attorney	1	0
	STATE WATER BOARD TOTAL	9	0
Central Valley Regional Water Board (Fresno)	Senior Engineering Geologist	1	0
	Engineering Geologist / Water Resources Control Engineer	4	1
	REGIONAL BOARD TOTAL	5	1
Central Coast Regional Water Board (San Luis Obispo)	Senior Water Resources Control Engineer	1	0
	Engineering Geologist	2	0
	REGIONAL BOARD TOTAL	3	0
Los Angeles Regional Water Board	Engineering Geologist / Water Resources Control Engineer	2	0
	REGIONAL BOARD TOTAL	2	0
	TOTAL – STATE AND REGIONAL BOARDS	19	1

Note: Figures for the Water Boards above are dedicated full-time to UIC.



4.2 UIC Program Vacancies

Public Resources Code section 3114, subdivision (a)(12): The number of staff vacancies for positions associated with underground injection control.

See tables above in section 4.1 UIC Program Staffing.

5. Statutes & Regulations

5.1 Statutory or Regulatory Changes to the UIC Program

Public Resources Code section 3114, subdivision (a)(13): Any state or federal legislation, administrative, or rulemaking changes to the program.

5.1.1 Federal Legislation

Nothing to report.

5.1.2 State Legislation

Nothing to report.

5.1.3 Administrative

In February 2020, a Kern County zoning ordinance that enabled a streamlined process for county approval of new oil and gas developments was effectively suspended by the Fifth District Court of Appeals ruling in *King and Gardiner Farms, LLC v. County of Kern* (2020) 45 Cal.App.5th 814. The court held that the environmental impact report upon which the zoning ordinance relied fell short of certain applicable California Environmental Quality Act (CEQA) requirements for addressing identified impacts associated with the implementation of the ordinance and its approval processes.

Due to the invalidation of the environmental impact report and the suspension of the ordinance and county-level approval process related thereto, one consequence of the *King and Gardiner Farms, LLC* ruling was that CalGEM became obliged to step in for Kern County as the CEQA lead agency for several UIC project approval determinations during the reporting period. Before the ruling, consistent with applicable law, as part of its process for “responsible agency” CEQA compliance associated with UIC project approvals in Kern County, CalGEM relied on the environmental impact report for the ordinance prepared by Kern County. Stepping into the lead agency role increased the scope and complexity of oversight functions for CalGEM staff.



On March 8, 2021, in an attempt to redress problems with the environmental impact report identified by the court, the Kern County Board of Supervisors approved the “Supplemental Recirculated Environmental Impact Report (2020/2021) for Revisions to the Kern County Zoning Ordinance – 2020 (A), focused on Oil and Gas Local Permitting” (Kern SREIR). (Available: <https://kernplanning.com/environmental-doc/oil-and-gas-sreir/>.)

As detailed in CalGEM's Notice to Operators number 2021-03, based on Kern County's approval of the SREIR, CalGEM returned to its CEQA “responsible agency” role for Kern County approvals issued on or after April 7, 2021. (Available: https://www.conservation.ca.gov/calgem/for_operators/Pages/NoticetoOperator.aspx.)

That litigation remains ongoing with subsequent developments that are beyond the scope of this reporting period.

5.1.4 UIC Regulatory Changes

No relevant regulatory changes during the reporting period.

5.2 CalGEM UIC Projects Reviewed in Each District

Public Resources Code section 3114, subdivision (a)(14): The number of underground injection control projects reviewed for compliance with statutes and regulations in each district and a summary of findings from project reviews completed during the reporting period, including any steps taken to address identified deficiencies.

As of March 31, 2021, CalGEM has initiated reviews on 497 active UIC projects. This includes 453 ongoing reviews, 43 proposed or actual terminations, and one pending LLNL concurrence at report time.

Consistent with its Revised Memorandum of Agreement, CalGEM coordinates with State Water Board and Regional Water Board staff in the review of existing UIC projects.

DISTRICT	Completed	Ongoing
Southern	0	61
Coastal	0	161
Inland	1	219
Northern	0	12
TOTAL	1	453



Summary of Findings and Steps to Address Deficiencies:

- 422 projects have been found to be lacking data required by Division UIC regulations (CCR Article 4). Missing data and steps to address deficiencies included:
 - Missing pressure data and updated Zone of Endangering Influence (ZEI). Operators were requested to submit new ZEI calculations.
 - Fracture gradient and Maximum Allowable Surface Injection Pressure (MASIP) needed re-evaluation. Operators were required to conduct step-rate tests and submit results to determine MASIP.
 - Determination/evaluation for Base of Freshwater (BFW) and USDW required. Operators were required to submit documentation i.e., electrical logs to confirm the presence/absence of BFW/USDW.
 - Insufficient pressure data to demonstrate containment relative to nearby SDW. Operator submitted additional data to District.
- 31 projects have been found to contain complete and requisite data, and as such are under technical review to confirm they meet all regulatory requirements.
- 43 projects have been terminated or are proposed for termination.
- LLNL has issued preliminary comments on the one project-by-project review forwarded by CalGEM during the previous reporting period. Communications with LLNL were ongoing at report time.

5.3 UIC Projects Not Yet Reviewed for Compliance

Public Resources Code section 3114, subdivision (a)(15): The number of underground injection control projects that have not been reviewed for compliance with applicable statutes and regulations within the prior two years.

As of 3/31/2021, there were 313 UIC projects that had not been reviewed for compliance with applicable statutes and regulations within the prior two years. This total excludes the eight new projects approved after 3/31/2019. The remaining projects are operating under previous approvals and will be reviewed according to a prioritization established by CalGEM.

5.4 UIC Summary of Significant Milestones

Public Resources Code section 3114, subdivision (a)(16): Summary of significant milestones in the compliance schedule agreed to with the US EPA, as indicated in the March 9, 2015 letter to CalGEM and the State Water Board from the US EPA, including, but not limited to, regulatory updates, evaluations of injection wells, and aquifer exemption applications.



5.4.1 Aquifer Exemptions

CALGEM and the State Water Board continue to provide the US EPA and the California Legislature regular updates on the progress of the aquifer exemption process.

As of March 31, 2021, there are 14 aquifer exemption applications undergoing CalGEM and/or State Water Board reviews (see subsection 2.1 Pending Aquifer Exemptions). During the reporting period, a letter was sent to the operator of the fifteenth AE, identified as Lynch Canyon – Santa Margarita, formalizing the ceasing of all injection into the Santa Margarita formation.

5.4.2 Regulatory Updates

No relevant regulatory changes during the reporting period.

5.4.3 Evaluations of Injection Wells

In 2014, CalGEM (then DOGGR) and the State Water Board used a risk-based approach to evaluate if any potential immediate threats existed to groundwater with a current beneficial use (such as irrigation or drinking water). Using this approach, CalGEM compiled a list of wells potentially injecting into non-exempt aquifers and developed a proposed schedule for the US EPA on aquifer exemption proposals. State Water Board staff reviewed the list of wells to evaluate if they had the potential to be an immediate threat to nearby water supply wells. As a result of this review, the Water Boards issued 71 California Water Code section 13267 orders (information orders) for additional information to the operators of 256 UIC wells. Operators were required to submit water quality information for injected fluids and injection zones, to identify the location of all water supply wells within one mile of the UIC well(s), and to provide information to demonstrate that the beneficial uses of groundwater within a one-mile radius of the UIC wells are protected. Previous SB 1493 reporting by CalGEM has provided a summary of information submitted by operators, and actions taken by the Water Boards relating to the information orders issued in 2014 and 2015.

During the current reporting period, CalGEM continued its regulatory oversight of underground injection operations consistent with applicable law, taking appropriate actions as necessary to prevent damage to underground sources of drinking water and other natural resources.

During the current reporting period, additional UIC wells were identified that may pose a threat to a nearby water supply:

- The Los Angeles Regional Water Quality Control Board (LA Regional Board) was notified by CalGEM about a failed mechanical integrity (MI) test on a



UIC well in the Ventura Oil Field. On April 1, 2020, the operator and CalGEM reported back to LA Regional Board staff that the leak was identified at a depth of 3,204 feet below ground surface (bgs). The base of the underground sources of drinking water (USDW) was determined to be 970 feet bgs. CalGEM and LA Regional Board staff co-reviewed additional data submitted by the operator. On April 2, 2020, LA Regional Board staff emailed CalGEM Coastal that the threat to overlying USDW was very low and did not require further action. LA Regional Board staff did not have any objections to proceeding with the proposed remediation of the well.

- Additionally, the LA Regional Board was notified by CalGEM about 8 UIC wells that failed MI testing in the Del Valle, Ventura, and Placerita oil fields. Out of the 8 wells reviewed, 3 were determined to be a low risk for potential impacts to USDW or other beneficial use waters, while the other 5 wells are still being evaluated.
- The Central Coast Regional Water Quality Control Board has worked with CalGEM and oilfield operators to investigate 33 UIC wells located in the Cat Canyon, San Ardo, Casmalia, Sargent, and Barham Ranch oilfields that failed MI testing.
- The Central Valley Regional Water Quality Control Board issued 13267 orders in August 2020 to five operators in the Lost Hills, North Belridge, and South Belridge oil fields requiring that they investigate potential impacts to beneficial use aquifers due to their injection activities. The orders were spurred on by a United States Geological Survey report indicating potential impacts due to injection outside of the oil fields.

5.4.4. Updated UIC MOA Checklist

In April of 2020, CalGEM and the State Water Board reached an agreement on an updated checklist to facilitate their interagency coordination in the review of UIC projects. This update was necessary to align the checklist with changes to UIC regulations which took effect on April 1, 2019. Circa November 2020, CalGEM and the State Water Board memorialized this updated checklist by replacing the Appendix to their Revised Memorandum of Agreement with a new version which incorporates the updated checklist as "Appendix Attachment 2."

CalGEM communicated this development to industry stakeholders through NTO 2020-07. A freestanding Excel version of the checklist is posted on the CalGEM Operator's UIC Webpage at:

<https://filerequest.conservation.ca.gov/RequestFile/2818099>



5.5 UIC Review Panel

Public Resources Code section 3114, subdivision (a)(17): Summary of activities undertaken by the underground injection control review panel established pursuant to Section 46 of Chapter 24 of the Statutes of 2015.

Pursuant to Senate Bill 83 (Committee on Budget and Fiscal Review, Ch. 24, Statutes of 2015), the Secretary of the Natural Resources Agency and the Secretary for Environmental Protection appointed an independent review panel to evaluate the regulatory performance of the administration of the UIC Program and make recommendations on how to improve its effectiveness by evaluating resource needs, statutory or regulatory changes, as well as program organization.

Following the requirements of the legislation, the Panel is comprised of a diverse group of individuals with expertise and scientific background in geology, toxics, oil and gas development, public health, and the environment, as well as representatives from agricultural and environmental justice perspectives.

Additionally, the Panel is required to seek input from a broad range of stakeholders with a diverse range of interests affected by state policies and the general public.

The Panel has the following tasks:

- Observe, comment on, and review a Peer Review conducted by the Groundwater Protection Council (GWPC), a nonprofit organization whose members consist of state groundwater and UIC regulatory agencies.
- Seek input on the findings of the Peer Review from a broad range of stakeholders and the public.
- Issue an independent final evaluation and recommendations to improve the regulatory program.

The Panel's discussions and process are being facilitated by the Lawrence Berkeley National Laboratory.

The Panel plans to build on the findings of the GWPC to help provide the statutorily mandated recommendations. The GWPC released their State of California Class II UIC Program Peer Review in April 2020. Given COVID-19, the Panel faced challenges in convening working group meetings but began to develop draft recommendations which are projected to be finalized and released in 2022.



APPENDIX A – REFERENCES & DATA SOURCES

CalGEM

- Department of Finance (DOF) Underground Injection Control Audit Report: <https://esd.dof.ca.gov/reports/reportPdf/5631D3F7-882E-EB11-9121-00505685B5D1>
- CalGEM Statutes and Regulations (January 2020): <https://www.conservation.ca.gov/index/Documents/CALGEM-SR-1%20Web%20Copy.pdf>
- CalGEM's Aquifer Exemption Status Report, an internal Excel workbook used by staff to monitor the progress of the aquifer exemption application process. The file is shared with the Water Boards and the US EPA.
- US EPA 7520 Mid-Year Reports (EPA Forms 7520-2A and 7520-2B) from UIC Federal Reporting System, which solicits information under the authority of the Safe Drinking Water Act. CALGEM submits the reports to the US EPA twice in a federal fiscal year – an initial report covering activities from Oct 1 to March 31 (mid-year) then a second one covering Oct 1 to September 30 (full-year).
- US EPA Letter to CALGEM (referred to by previous name, DOGGR, in the letter) and the State Water Board dated March 9, 2015, referenced in Public Resources Code section 3114, subdivision (a)(16): <https://www.epa.gov/sites/production/files/2015-07/documents/cswrcb-uic-dswa-compliance-ltr-2015-03-09.pdf>
- 2018 Revised Memorandum of Agreement between CalGEM (referred to as the Department of Conservation Division of Oil, Gas, and Geothermal Resources ("Division")) and the State Water Board: https://www.conservation.ca.gov/calgem/general_information/Documents/2020.10.12_Revised_MOA_with_the_State_Water_Board.pdf
- Well Statewide Tracking and Reporting System (WellSTAR), an electronic database used to maintain, monitor, and track well information: https://www.conservation.ca.gov/calgem/for_operators/Pages/WellSTAR.aspx
- GWPC release of UIC Program Peer Review https://www.gwpc.org/sites/gwpc/uploads/documents/publications/Final_California_Class_II_Peer_Review_4_6_2020.pdf

WATER BOARDS

- Bi-weekly UIC Project Review Status Reports: https://geotracker.waterboards.ca.gov/uic_project_tracking_report
- GeoTracker, a public database used to maintain, monitor, and track UIC well information: <https://geotracker.waterboards.ca.gov/>



- State Water Board Oil and Gas Unit's Aquifer Exemption Status, an internal Excel workbook specifically used to track the progress of aquifer exemption application reviews, interagency communication, and decision milestones.



APPENDIX B – PUBLIC RESOURCES CODE § 3114

§ 3114. (a) By July 30, 2019, and annually thereafter, the Department of Conservation, in consultation with the State Water Resources Control Board, shall report to the fiscal and relevant policy committees of the Legislature on the Underground Injection Control Program. The report shall include, but is not limited to, all the following about activities in the previous 12 months:

(1) The number and location of underground injection control project approvals issued by the department, including projects that were approved but subsequently lapsed without having commenced injection.

(2) The monthly average number of pending project applications.

(3) The average length of time to obtain an underground injection control project approval from date of receipt of complete application to the date of issuance.

(4) The average amount of time to review an underground injection control project proposal by the division and the average combined review time by the State Water Resources Control Board and regional water quality control boards for each proposed underground injection control project.

(5) The number of project proposals pending for over one year.

(6) A list of pending aquifer exemptions, if any, and their status in the review process.

(7) The average length of time to process an aquifer exemption and the average amount of time to review a proposed aquifer exemption by the division and the average combined review time by the State Water Resources Control Board and regional water quality control boards for each aquifer exemption proposal.

(8) The number and description of underground injection control related violations identified.

(9) The number of enforcement actions taken by the department.

(10) The number of shut-in orders or requests to relinquish permits and the status of those orders or requests.

(11) The number, classification, and location of staff with work related to underground injection control.

(12) The number of staff vacancies for positions associated with underground injection control.

(13) Any state or federal legislation, administrative, or rulemaking changes to the program.

(14) The number of underground injection control projects reviewed for compliance with statutes and regulations in each district and a summary of findings from project reviews completed during the reporting period, including any steps taken to address identified deficiencies.

(15) The number of underground injection control projects that have not been reviewed for compliance with applicable statutes and regulations within the prior two years.



(16) Summary of significant milestones in their compliance schedule agreed to with the United States Environmental Protection Agency, as indicated in the March 9, 2015, letter to the division and the state board from the United States Environmental Protection Agency, including, but not limited to, regulatory updates, evaluations of injection wells, and aquifer exemption applications.

(17) Summary of activities undertaken by the underground injection control review panel established pursuant to Section 46 of Chapter 24 of the Statutes of 2015.

(b) This section shall become inoperative on October 1, 2024, and as of January 1, 2025, is repealed.

(Amended by Stats. 2019, Ch. 771. Section inoperative October 1, 2024.

Repealed as of January 1, 2025, by its own provisions.)



(This page is intentionally left blank.)





Contact

CALIFORNIA GEOLOGIC ENERGY MANAGEMENT DIVISION

Headquarters

715 P Street, MS 1803, Sacramento, CA 95814
(916) 445-9686 | Fax: (916) 319-9533
CalGEMPublicTransparencyOffice@conservation.ca.gov

Inland District

11000 River Run Blvd., Bakersfield, CA 93311
(661) 322-4031 | Fax: (661) 861-0279

Northern District

Orcutt Office

195 S. Broadway, Suite 101, Orcutt, CA 93455
(805) 937-7246 | Fax: (805) 937-0673

Ventura Office

1000 S. Hill Road, Suite 116, Ventura, CA 93003
(805) 937-7246 | Fax: (805) 654-4765

Sacramento Office

715 P Street, MS 1803, Sacramento, CA 95814
(916) 322-1110 | Fax: (916) 445-3319

Southern District

3780 Kilroy Airport Way, Suite 400, Long Beach, CA
90806 (562) 637-4400 | Fax: (562) 424-0166

