



Geologic Energy Management Division

Idle Well Program Report

An Overview of Idle, Hazardous, and Idle-Deserted Wells, and Deserted and Hazardous Facilities in California

Reporting Period: January 1, 2020 to December 31, 2020

Prepared Pursuant to Assembly Bill 2729 (Williams, Ch. 272, Stats. of 2016)
Senate Bill 724 (Lara, Ch. 652, Stats. of 2017)
Senate Bill 551 (Jackson, Ch. 774, Stats. of 2019)

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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 idle and orphan well report. This is the third annual report submitted in response to the legislative reporting requirements of Public Resources Code section 3206.3 regarding the status of idle and long-term idle wells (LTIW) in the California. This year's report also provides information on hazardous and idle-deserted wells and deserted and hazardous facilities in California, in accordance with the requirements of Senate Bill (SB) 724 (Lara, Ch. 652, Stats. of 2017) and SB 551 (Jackson, Ch. 774, Stats. of 2019). (Pub. Resources Code, §3258, subdivision (d).)



In our two prior idle well reports (2018 and 2019), CalGEM (then DOGGR) reported that there were 29,292 and 37,095 idle wells in 2018 and 2019 respectively, of which 17,576 and 17,560 were LTIW in 2018 and 2019 respectively. In 2018, 1,346 idle wells were plugged and abandoned, increasing to 1,927 idle wells plugged and abandoned in 2019. There were 690 idle wells returned to active use in 2019, increasing from 107 in 2018. Operators with approved idle well management plans (IWMPs) eliminated 988 LTIWs in 2018, and an additional 543 LTIW in 2019.

In 2020, a total of 37,612 wells met the definition of an idle well of which 17,786 were LTIWs. This slight increase over the number observed in 2019 is likely the result of industry impacts resulting from the COVID-19 pandemic. 2,154 idle wells were plugged and abandoned, and 532 idle wells were returned to active use. Under the approved IWMPs, a total of 558 LTIW were eliminated either by plugging and abandonment or returning to use.

The increases observed in the total number of idle wells plugged and abandoned and the number of LTIW eliminated on approved IWMPs demonstrate CalGEM's continued progress in identifying idle wells, enforcing requirements for the elimination of long-term idle wells, and meeting the intent of the legislation despite many challenges. In 2020,



50% of the permits issued by CalGEM were for plug and abandonment or re-abandonment, demonstrating the focus on statewide idle well management. While the new idle well regulations have jumpstarted the plugging and abandonment by operators of their long-term idle wells, at the current rate of plugging and abandonment it will take decades to fully remediate these wells.

In addition to tracking the number of idle and long-term idle wells in California, CalGEM has also evaluated the potential population of potentially orphan wells. For this reporting period of calendar year 2020, CalGEM has identified close to 3,000 wells it believes to be potentially orphan (likely to have no responsible solvent operator), and close to 3,000 tanks, pressure vessels, and other surface facilities identified through inspection as being idle or out of service. For wells and facilities for which there is no solvent operator responsible for their abandonment and decommissioning, responsibility for their remediation falls to the state. If remediation of these wells and facilities falls to the state, the cost of abandonment and decommissioning would be significant. The current funding available to CalGEM to plug and abandon orphan wells and decommission attendant facilities is insufficient to address remediation needs in a timely manner. And as California's oil production continues to decline, the inventory of oil and gas production wells and facilities that need appropriate remediation will continue to grow, especially as the state accelerates its transition away from fossil fuels.

CalGEM's recent efforts to accelerate abandonment of idle wells and facilities, and to reduce state liability, are in line with its renewed mission and efforts to strengthen its oversight of oil and gas operations. Beginning in late 2019, CalGEM implemented major policy and programmatic changes, including prioritizing protecting public health, safety, and the environment in its oversight of the oil, natural gas, and geothermal industries, while working to help California achieve its climate change and clean energy goals. And, as detailed in the following pages, CalGEM has created and is implementing arguably one of the most comprehensive idle well management requirements in the nation.

For more information about the Idle Well Program, visit the program webpage: https://www.conservation.ca.gov/calgem/idle_well

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.





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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, maintenance, 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 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

Effective in 2021, CalGEM now operates out of three districts to best serve the needs of the State: Northern, Inland, and Southern. In 2021, CalGEM merged the Northern and Coastal Districts into one Northern District to bring about parity in district size. Each district has its own offices where staff are available to assist the public and stakeholders. For more information about CalGEM, visit our website at <https://www.conservation.ca.gov/calgem>.



EXECUTIVE SUMMARY

California's crude oil production has declined steadily in the last few decades, increasing the number of nonproductive wells throughout California. Currently there are over 37,000 known idle wells in California, all of which will eventually come to their end of life. Operators will be required to plug and abandon the wells and decommission associated production facilities. In addition, there are over 60,000 active wells that will eventually come to the end of their life as California moves to phase out oil extraction in the state. Left un-remediated, these wells and facilities can contaminate waterways and soil, serve as a source of climate and air pollutants, and can present physical hazards to people and wildlife.

Because of the risk and potential liability posed by idle wells in the State, DOC sponsored Assembly Bill 2729 (AB 2729) (Williams, Ch. 272, Statutes of 2016) to discourage operators from leaving their wells in an idle state by increasing bonding requirements, requiring operators to maintain bonds for the life of the well, increasing idle well fees, reauthorizing the use of idle well management plans, and directing CalGEM to promulgate regulations to better protect public health, safety, natural resources, and the environment from risks associated with idle wells. More specifically, AB 2729 established new definitions for "idle well" and "long-term idle well," updated fees assessed on idle wells, revised parameters for plans for the management and elimination of long-term idle wells (LTIW), and mandated the review, evaluation, and update of CalGEM idle well regulations. The reporting period addressed in this report reflects CalGEM's third year implementing these revised statutory requirements.

The Requirements for Idle Well Testing and Management regulations developed by CalGEM took effect on April 1, 2019. The requirements include testing requirements for idle wells that operators plan to return to use, a testing waiver plan that allows operators to forego testing an idle well if the operator commits to plugging and abandoning the well, an idle well inventory and evaluation that operators of idle wells must submit, engineering analysis for idle wells idle that have been idle for 15 years or longer, filing requirements for idle well management plans, and monitoring requirements for inaccessible idle wells. CalGEM has received of a cumulative 74 Testing Compliance Work Plans and 23 Testing Waiver Plans since 2019. These idle well regulations provide for the most rigorous testing standards for idle wells in the country and prevent damage to life, health, property, and natural resources. CalGEM anticipates that the new rules will continue to accelerate the elimination of idle and LTIWs.



The following key facts related to idle wells during the 2020 calendar year are included in this report:

- 37,612 wells met the definition of idle well and 17,786 of those met the definition of LTIW at some point during this reporting period.
- During the reporting period, the status of 2,154 idle wells changed from idle to plugged.
- During the reporting period, the status of 532 idle wells changed from idle to active.
- 57 operators submitted 2020 IWMPs and CalGEM approved 54 IWMPs.
 - 49 operators were found to be in compliance with the terms of their approved IWMPs at the conclusion of CalGEM's annual review.
 - One operator was granted an extension until July 1, 2021 to meet the terms of their 2020 IWMP and met the terms of their 2020 IWMP in June 2021.
 - One operator voluntarily voided their 2020 IWMP.
 - Three operators had their IWMPs canceled by CalGEM due to failure to comply with the terms of their approved IWMPs. The operators are required to immediately pay idle well fees for each of their wells idle in 2019. Failure to pay will result in CalGEM pursuing additional enforcement action against these operators.
- Based upon the terms of the approved IWMPs, operators were expected to eliminate a minimum of 511 LTIWs across the State in 2020.
 - Operators eliminated 558 LTIWs.
 - Operators applied 124 elimination credits earned in 2018 and 2019 towards their 2020 IWMP minimum elimination requirements.
 - 17 operators eliminated more LTIWs than was required by their approved IWMP, resulting in those operators earning 174 elimination credits. Earned elimination credits may be used to meet the minimum elimination requirements of the IWMP for the two following years.

In 2020, CalGEM collected \$3,014,000 in idle well fees for wells that met the definition of an idle well in the preceding calendar year. Idle well fees are deposited into the Hazardous Idle Deserted Well Abatement Fund (HIDWAF). The balance of the HIDWAF on June 30, 2021 was \$7,514,000 which reflects a \$10 million loan that was made to the general fund in 2020.¹ This loan is scheduled to be repaid in Fiscal Year 2022-23. The HIDWAF is an important fund as it is one of two main funding sources available for CalGEM to use to cover the cost of state abandonments.

¹ This balance includes idle wells fee payments received as of June 6, 2021, which includes fees assessed in 2021.



In addition to the idle wells and LTIWs, CalGEM has evaluated the universe of potentially orphan wells, meaning they likely have no solvent responsible operator. As of June 2021, CalGEM has identified 2,734 wells as orphan or potentially orphan and close to 3,000 facilities as potentially orphan. As CalGEM continues its inventorying efforts, this number will likely increase.

The costs associated with abandonment and decommissioning of orphan wells and facilities are highly variable depending on well and facility condition, size, location, and other factors. Since 2011, CalGEM has plugged and abandoned 174 wells (and some attendant facilities) across the state with a total cost of over \$16 million. Not reflecting well-specific cost drivers, the average cost to the State to plug and abandon wells since 2011 has been about \$ 95,000 per well. This average has increased as of the time of publication for this report, and the most recent information can be found in the Administration's January 10 BCPs for 2022.

While the cost of plugging and abandonment is highly variable and dependent on many factors, if this average well cost is extrapolated across orphan, deserted, and potentially deserted wells identified in this report, the potential liability to the state for plugging and abandoning these wells would be approximately \$260 million. This estimate has since increased dramatically at the time of publication, and the most recent information can be found in the Administration's January 10 BCPs for 2022. Next year's report will include a more thorough breakdown of these numbers. The cost associated with decommissioning the roughly 3,000 facilities identified as potentially orphan is uncertain at this time, making it difficult to assess potential statewide liability associated with facilities.

While operators are plugging and abandoning long-term idle wells at a significantly higher rate to comply with their IWMPs, there were roughly 17,560 idle wells in 2019 that met the definition of LTIW, suggesting that at the current rate, and with no changes to regulations or to the rate at which operators submit IWMPs in lieu of idle well fees, the timeframe for operators to plug and abandon their LTIWs in California could take decades. Similarly, given the current level of funding available to support state abandonment, abandoning and decommissioning the full inventory of orphan and potentially orphan wells and facilities in California could also take decades.



As demonstrated in this report, CalGEM has continued to make significant progress to identify idle wells, increase funds to address wells that have not been appropriately plugged and abandoned, and work with operators to reduce the inventory of idle wells. Additionally, CalGEM has made progress toward identifying orphan and potentially orphan wells and facilities and working with operators to reduce the inventory of idle wells. Taking into account the limited resources to support state abandonment, CalGEM is working to refine its approach to prioritize wells and facilities for abandonment and decommissioning, to minimize the risk this infrastructure poses to people and the environment.



INTRODUCTION

Objective & Scope of the Report

This idle well report provides a comprehensive accounting of the idle well population to the California Legislature and the public in accordance with Public Resources Code sections 3206.3 and 3258. This report covers the idle well counts, orphan well counts, and IWMP statistics in California from January 1, 2020 through December 31, 2020.

Public Resources Code section 3206.3, subdivision (a)(1) requires that this report address the following:

1. A list of all idle and long-term idle wells in the State by American Petroleum Institute identification number, operator, field, and pool.
2. A list of all wells whose idle or long-term idle status changed in the preceding year by American Petroleum Institute identification number with the disposition and current status of each well.
3. A list of orphan wells remaining, the estimated costs to abandon those orphan wells, and a timeline for future orphan well abandonment with a specific schedule of goals. Idle and LTIWs that have become orphan wells shall be identified in the list. For the purposes of this report, an orphan well is a well that has no party responsible for it, leaving the State to plug and abandon it.
4. A list of all operators with plans filed with the Supervisor for the management and elimination of all long-term idle wells and the status of those plans.
5. Any additional relevant information as determined by the Supervisor.

Idle well information is drawn from operator records submitted to CalGEM. These records include monthly volumetric reporting, IWMPs, and well histories required for permits to abandon wells. In the 2018 and 2019 Idle Well Reports, CalGEM identified 29,292 wells and 37,095 wells respectively that met the definition of idle well. For the 2020 reporting period, CalGEM identified 37,612 wells that met the definition of idle well. The increasing trend in the idle well inventory between 2018, 2019, and 2020 can be attributed to better tracking of the number of idle wells due to CalGEM's transition to Well Statewide Tracking and Reporting (WellSTAR) for much of its data management. The small increase in the number of idle wells between 2019 and 2020 likely correlates to decreased oil prices, loss of revenue for operators, and staffing reductions associated with the COVID-19 pandemic.



It is important to note that with the transition to a web-based reporting system, several operators have failed to report their production as required by statute. When WellSTAR assesses production each month, the wells that operators have failed to submit production reporting for may be incorrectly identified as idle.

This year's report also serves as a status report in accord with Public Resources Code section 3258. Under Public Resources Code section 3258, subdivision (d), CalGEM is to report on:

1. The number of hazardous wells, idle-deserted wells, deserted facilities, and hazardous facilities remaining;
2. The estimated costs of abandoning and decommissioning those wells and facilities; and
3. A timeline for future abandonment and decommissioning of those wells and facilities with a specific schedule of goals.

CalGEM must also provide recommendations to the Legislature for improving and optimizing the involvement of local agencies in the process of plugging and abandoning wells and decommission facilities, considering the factors unique to each of CalGEM's districts and must consult with local agencies in developing these recommendations. (Pub. Resources Code, § 3258, subd. (d)(1)(B).)

Finally, CalGEM must include information from field inspections of hazardous wells, idle-deserted wells, deserted facilities, and hazardous facilities to be used to prioritize those wells and facilities in the specific schedule of goals. (Pub. Resources Code, § 3258, subd. (d)(1)(C).)

Definitions

CalGEM is required to report on the number of hazardous wells, idle-deserted wells, deserted facilities, and hazardous facilities. This requirement introduces new definitions to the ones already used by CalGEM. As such, all relevant definitions are defined below.

Hazardous well and Idle-deserted well

A "hazardous well" is defined as "an oil and gas well determined by the supervisor to be a potential danger to life, health, or natural resources and for which there is no operator determined by the supervisor to be responsible for its plugging and abandonment under [Public Resources Code] [s]ection 3237." (Pub. Resources Code, §3251, subd. (d).) An "idle-deserted well" is defined as "an oil and gas well determined by the supervisor to be deserted under [Public Resources Code] [s]ection 3237 and for which there is no operator



responsible for its plugging and abandonment under [Public Resources Code] [s]ection 3237.” (Pub. Resources Code, § 3251, subd. (e).)

Foundational to both of these definitions is the requirement to report the number of wells for which there is no solvent operator responsible for plugging and abandonment. While CalGEM is refining its process for identifying orphan wells and delineating “hazardous wells” from “idle-deserted wells,” for purposes of this report, CalGEM has provided an evaluation of wells that are either “orphan” or that appear likely to be “orphan” based on various considerations. Three categories comprise this landscape of wells that are orphan or potentially orphan: orphan, deserted, and potentially deserted wells.

Orphan Wells

“Orphan” wells are those wells that have been determined to be deserted as demonstrated through a final plugging and abandonment order, consistent with Public Resources Code section 3237, and have also been determined by CalGEM to have no legally responsible current or prior operator with sufficient financial resources to fully cover the costs of plugging and abandonment, as described in Public Resources Code section 3237, subdivision (c). These wells fit the statutory definition of “idle-deserted” and may also fit the definition of “hazardous,” as presented in Public Resources Code section 3251. For purposes of this report, wells in this group are described as “Orphan,” and are listed in Appendix A-6.

Deserted Wells

As part of developing a process for identifying orphan wells, CalGEM has identified the current population of “deserted” wells. Deserted wells are those wells that have been determined to be deserted as demonstrated through a final plugging and abandonment order, consistent with Public Resources Code section 3237, but have not yet been definitively determined to be orphan because a determination of financial resources held by legally responsible current or prior operators has not yet been completed. For purposes of this report, wells in this group are described as “Deserted,” and listed in Appendix A-7.

Potentially Deserted Wells

Similarly, CalGEM has also identified the current population of “potentially deserted” wells. Potentially deserted wells are those wells that have not yet been determined to be “deserted,” but for which other evidence suggests the wells likely have no responsible operator. These are wells for which CalGEM has not yet taken action to memorialize an official desertion determination but for which CalGEM is nonetheless aware of evidence that appears to support a desertion determination. This evidence includes failure to pay



idle well fees, the operational history of the well, the lack of response from the operator, and other evidence, as allowed under Public Resources Code section 3237. Based on this evidence, CalGEM anticipates that in many cases, after completing its review, these wells will likely be found to have no legally responsible current or prior operator with financial resources sufficient to cover the costs of plugging and abandonment. For this report, wells identified in Appendix A-8 are defined as wells for which operators have not paid idle well fees for the last three consecutive invoice years 2018, 2019, and 2020, as it is like there is no legally responsible current or prior operator with resources sufficient to cover the costs of plugging and abandonment.

Deserted and Hazardous Facilities

For purposes of this report, CalGEM is to report the number of deserted facilities and hazardous facilities. A “deserted facility” is defined as a “production facility determined by the supervisor to be deserted under [Public Resources Code] [s]ection 3237 and for which there is no operator responsible for its decommissioning under [Public Resources Code] [s]ection 3237.” (Pub. Resources Code, §3251, subd. (a).) A “hazardous facility” is defined as “a production facility determined by the supervisor to be a potential danger to life, health, or natural resources and for which there is no operator determined by the supervisor to be responsible for its decommissioning under [Public Resources Code] [s]ection 3237.” (Pub. Resources Code, § 3251, subd. (c).) Foundational to both these definitions is that the facility has no operator responsible for its decommissioning. While CalGEM refines its process for identifying deserted and hazardous facilities, this report provides analysis on facilities that are potentially orphan.

Potentially Orphan Facilities

For the purposes of this report, potentially orphaned facilities are defined as facilities that inspections have concluded are idle or out of service. Facilities include tanks, pressure vessels, secondary containment vessels, and above and beyond ground pipelines. See Appendix A-9 for the list of potentially orphan facilities from inspections.

Contact Information

For more information about the Idle Well Program, visit the program webpage:

https://www.conservation.ca.gov/calgem/idle_well

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



Acronyms

TERM	DESCRIPTION
CaIGEM	California Geologic Energy Management Division
DOC	Department of Conservation
IWMP	Idle Well Management Plan
LTIW	Long-term idle well
NTO	Notice to Operators
WellSTAR	Well Statewide Tracking and Reporting



CALIFORNIA'S IDLE AND ORPHAN WELL PROBLEM

While California's crude oil production has declined steadily in the last few decades, the state remains one of the nation's top crude oil producers, accounting for about 4% of U.S. production in 2019.² There are over 37,000 known idle wells, wells that have not produced for at least 24 months and have not been plugged and abandoned, in California. All of these wells will eventually come to their end of life, and operators will be required to plug and abandon the wells and decommission the associated production facilities. California also currently has over 60,000 active wells, which will also eventually come to the end of their life—a transition that is potentially accelerated by California's move toward phasing out oil extraction in the State by 2045.³

While it is the responsibility of operators to properly plug and abandon their wells and decommission attendant facilities, many operators in California may not have the financial health required to support the costs of doing this work, leaving the responsibility and costs of plugging and abandonment, decommissioning, and environmental remediation to the State.

Operators are required to file indemnity bonds when drilling, reworking, or acquiring a well, to support the cost of plugging a well should it be deserted. (Pub. Resources Code, §§ 3204, 3205.) However, the minimum bond amounts required by statute are generally insufficient to fully cover the costs of plugging and abandonment of the well and decommissioning the associated facilities. Recognizing this may increase the potential state liability associated with orphan and potentially orphan wells and associated facilities, Assembly Bill 1057 (Ch. 771, Stats. of 2019) was enacted in 2019, authorizing CalGEM to evaluate the risk the operator will desert its well or wells and the potential threats the operator's well or wells pose to life, health, property, and natural resource, and based on that evaluation, to undertake a process to require additional financial security if deemed necessary. (Pub. Resources Code, § 3205.3.) The additional security required by CalGEM must be based on CalGEM's estimation of the reasonable costs of properly plugging and abandoning all the operator's wells and decommissioning any attendant production facilities in accordance with Section 3208, not to exceed thirty million dollars (\$30,000,000). CalGEM has begun to develop its process for evaluating risks and its method for estimating costs.

² U.S. EIA, Crude Oil Production, Annual, Thousand Barrels, 2019.

³ <https://www.gov.ca.gov/2021/04/23/governor-newsom-takes-action-to-phase-out-oil-extraction-in-california/>



IDLE AND LONG-TERM IDLE WELLS IN CALIFORNIA

In accordance with statute, this report provides key statistics and information regarding California's inventory of idle wells and long-term idle wells. All statistics and data required by Public Resources Code section 3206.3 can be found in the following appendixes:

See Appendix A-1 for the list of all wells that met the definition of idle well at any point in the 2020 calendar year.

See Appendix A-2 for the list of all wells that had a status change from idle well to long-term idle well in the 2020 calendar year.

See Appendix A-3 for the list of all wells that had a status change from idle well to plugged.

See Appendix A-4 for the list of wells that had a status change from idle well to active.

See Appendix A-5 for the list of operators with 2020 IWMPs and their status.

1. Idle & Long-Term Idle Wells in the State

37,612 wells met the definition of idle well at some point during the 2020 calendar year. Of the total idle well population, 17,786 idle wells have been idle for eight or more years and thus meet the statutory definition of LTIW.

1.2 Idle & Long-Term Idle Wells That Changed Status in 2020

A total of 1,378 idle wells changed status from idle wells to LTIW during the 2020 calendar year.

During the 2020 reporting period a total of 2,686 wells no longer met the definition of idle well. A total of 2,154 idle wells changed status from idle to plugged, as they were plugged in accordance with Public Resources Code section 3208. A total of 532 idle wells changed status from idle to active by maintaining production of oil or natural gas, maintaining production of water used in production stimulation, or being used for enhanced oil recovery, reservoir pressure management, or injection for six continuous months. (Pub. Resources Code, § 3008, subd. (d).)



2. Plans for the Management & Elimination of Long-Term Idle Wells

2.1 Idle Well Management Plan Requirements and Status

Under Public Resources Code section 3206, subdivision (a)(2), in lieu of paying annual idle well fees, operators may file an IWMP that provides for the management and elimination of all the operator's LTIWs. An operator may eliminate a LTIW by either properly plugging and abandoning the well in accordance with the requirements of Public Resources Code section 3208 or demonstrating to CalGEM's satisfaction that the well has maintained production of oil or gas or been used for injection for a continuous six-month period. (Pub. Resources Code, § 3206, subd. (a)(2)(A).)

In filing an IWMP, an operator commits to eliminating a minimum percentage of their LTIWs each calendar year. The required rate of elimination of LTIWs is based on the total number of statewide idle wells in the operator's possession on January 1 of each year. Unless and until the operator has no LTIWs, the operator must eliminate the required rate of wells annually. The required elimination rates are as follows:

- Operators with 250 or fewer idle wells must eliminate at least 4% of their LTIWs annually.
- Operators with 251 to 1,250 idle wells must eliminate at least 5% of their LTIWs annually.
- Operators with more than 1,205 idle wells must eliminate at least 6% of their LTIWs annually.

Public Resources Code section 3206, subdivision (a)(2)(B)(iii) affords operators the opportunity to receive credits for eliminating greater than the minimum required number of LTIWs. These credits may be applied to future minimum elimination requirements in the operator's IWMP but expire after two years.

In this reporting period, CalGEM received and approved IWMPs from 54 oil and gas operators. An additional three IWMPs were submitted but, after reviewing the IWMPs, CalGEM determined that the operator was either not eligible to submit an IWMP, because the operator had a prior IWMP revoked within the past five (5) years; the operator had no idle wells; or the operator submitted the IWMP in error.



Based upon the terms of the approved IWMPs, operators were expected to eliminate a minimum of 511 LTIWs. Operators eliminated 558 LTIWs. Operators also applied 124 credits earned in prior years for LTIW eliminated in excess of the requirements of their IWMP. Seventeen operators eliminated more LTIWs than required by their approved IWMPs, earning 174 elimination credits in the year 2020 that can be used for elimination credits on the operator's IWMP for up to two years. On January 1, 2021, the Supervisor conducted an annual review of each approved 2020 IWMP which yielded the following results:

- 49 operators were found to be compliant with the terms of their approved IWMPs.
- One operator was granted an extension until July 1, 2021 to meet the terms of the 2020 IWMP due to hardship related to COVID-19. This operator has eliminated a cumulative 29 LTIWs as of June 2021 and has met the terms of their 2020 IWMP.
- 558 LTIWs were eliminated in 2020 as part of approved IWMPs, this includes LTIWs eliminated by the operator who was granted an extension.
- 124 elimination credits earned in prior years (2018 and 2019) were applied in 2020.
- In total 682 LTIWs were effectively eliminated in 2020, including the operator granted an extension. 558 LTIW were eliminated in 2020, the remaining were elimination credits from previous years.
- One operator eliminated all their LTIWs in the State.
- One operator voluntarily voided their 2020 IWMP.
- Three operators had their IWMPs canceled by CalGEM due to failure to comply with the terms of their approved IWMPs. These operators are required to pay idle well fees for each of their wells that was idle in 2019. Failure to pay will result in CalGEM pursuing enforcement action against these operators.

2.2 Non-Compliant Idle Well Management Plans

If an operator fails to comply with their approved IWMP, then the IWMP for that operator is revoked and the operator is not eligible to propose a new IWMP for the next five years. However, the operator may appeal to DOC's Director regarding the Supervisor's determination of non-compliance and revocation of their IWMP. If the Supervisor's determination that the operator failed to comply with the IWMP is not timely appealed, or if the Director upholds the Supervisor's determination upon appeal, then the operator is required to immediately file the idle well fees due for each year that the operator failed to comply with the IWMP. If an operator fails to pay the idle well fees, failure to file the idle well fee due for any well is conclusive evidence of desertion, permitting the Supervisor to order the well abandoned pursuant to Public Resources Code section 3237.



CalGEM issued Notices of Cancellation to three operators for failing to comply with the requirements of their IWMPs submitted in 2020. (Pub. Resources Code, § 3206, subd. (a)(2)(B)(v).)

- Caleco, LLC., Operator Code C0803
- Royale Energy, Inc., Operator Code R4085
- Commander Oil Company, Ltd., Operator Code C7200

These operators are required to immediately pay idle well fees for each of their wells idle in 2019. Failure to pay will result in CalGEM pursuing enforcement action against these operators.

3. Idle Well Fees

The state's idle well management regulations are designed to encourage operators to proactively manage their aging infrastructure, including plugging and abandoning their idle wells. The regulations require operators to either 1) file an Idle Well Management Plan, in which they commit to eliminating a specific number of long-term idle wells each year, or, under Public Resources Code section 3206 (a), 2) to pay annual fees for their idle wells. Fees are assessed on idle wells that are idle for three years or longer and can be between \$150 and \$1500 per well depending on the age of the well.

During this reporting period, idle well fees were assessed based on the idle well inventory for the 2019 calendar year. In this effort, CalGEM assessed fees on 347 operators and, as of December 31, 2020, collected a total of \$3,014,000 in idle well fees for the 2020 collection year. Two operators submitted payments of \$14,400 and \$4,500 respectively for overdue fees covering 2018 to 2020. Idle well fees are deposited into the Hazardous Idle Deserted Well Abatement Fund (HIDWAF). The balance of the HIDWAF on December 31, 2020 was \$3,584,000, which reflects a \$10 million loan to the general fund.

Of the 347 operators to whom CalGEM sent idle well fee invoices, CalGEM identified 194 operators that failed to file idle well fees for 1,382 idle wells in 2020. Three operators submitted a partial payment on a total of 70 wells. Four operators submitted payments late on a total of 27 wells.



HAZARDOUS AND IDLE-DESERTED WELLS AND DESERTED AND HAZARDOUS FACILITIES IN CALIFORNIA

CalGEM is actively working to identify wells that have been deserted and for which there is no solvent responsible party and can therefore be considered orphaned. Before declaring a well orphan, CalGEM researches the financial solvency for all potentially responsible parties to determine whether there is a responsible party with the financial resources to full cover the cost to plug and abandon the well. (See Pub. Resources Code, §§ 3237, subd. (c) & 3206.3, subd. (a)(1)(C).) The financial solvency test is a factual inquiry into the solvency of the current operator and other parties that may be legally responsible for plugging and abandoning the well or decommissioning the facilities under Public Resources Code section 3237. CalGEM identifies and analyzes evidence that the well has been deserted, reviews the transfer history of the well, and investigates the financial solvency of potentially legally responsible operator entities. This process requires sustained effort from multiple programs.

If CalGEM determines the current operator does not have the financial resources to fully cover the cost to plug and abandon the well and decommission the facilities, previous operators that operated the well after January 1, 1996, may be held responsible for the cost to plug and abandon the well or decommission the facilities. (Pub. Resources Code, § 3237, subds. (c)(1) and (c)(2). The statute does not allow CalGEM to hold a mineral interest owner responsible to plug and abandon the well and decommission attendant production facilities unless the mineral interest owner retained a right to control the well operations that exceeds the scope of an interest customarily reserved in the lease. (Pub. Resources Code, § 3237, subd. (c)(3).)

If CalGEM determines that a well is deserted and that no entity legally responsible for the abandonment or decommissioning has sufficient financial resources to fully cover the cost of the work, then the well is added to the orphan well list for the Supervisor's consideration of undertaking plugging and abandonment of the well or decommissioning of the attendant deserted production facilities. However, the Supervisor is not prohibited from appointing agents to complete the work to plug and abandon a deserted well without the financial solvency test being complete if the Supervisor has ordered the plugging and abandonment of a well and the work is not commenced in good faith and continued to completion. (Pub. Resources Code, § 3226.) In such situations, CalGEM will conduct a financial solvency test in tandem with or after the work has been completed to determine if there is a solvent entity legally responsible for the work. If CalGEM identifies real or



personal property belonging to a responsible entity, then CalGEM will work with the State Controller's Office to secure a lien against those assets in pursuit of reimbursement for the work performed.

The costs associated with the state-funded plugging and abandonment of an orphan well and decommissioning of the attendant facilities falls to three funds established by statutes, managed by CalGEM, and funded through the payment of assessments and idle well fees. These funds are described below:

1. **Oil, Gas, and Geothermal Administrative (OGGA) Fund:** Senate Bill (SB) 724 (Lara, Ch. 652, Statutes of 2017) temporarily increased CalGEM's expenditure authority to plug deserted wells and decommission deserted facilities from this fund from \$1 million to \$3 million annually through fiscal year 2021-2022. If CalGEM fails to spend \$3 million, the unspent balance does not roll over to the next fiscal year. Since fiscal year 2015-16, CalGEM has expended its full authorization in the amount of \$10 million, except for \$1 million which was the result of a defaulted contract in fiscal year 2019. These expenditures covered the abandonment of 70 wells. (Pub. Resources Code, § 3261, subds. (a) & (b).)
2. **Hazardous and Idle-Deserted Well Abatement Fund (HIDWAF):** Existing law continuously appropriates this fund without regard to fiscal year, to mitigate a hazardous or potentially hazardous condition by well plugging and abandonment, decommissioning the production facilities, or both. This fund receives revenue from idle well fees, to plug wells and decommission facilities deserted by operators subject to idle well fees. As of June 30, 2021, the balance of the HIDWAF was \$7,514,000, which reflects a \$10 million loan made to the general fund. CalGEM collects idle well fees for all wells that met the definition of idle well in the preceding calendar year.
3. **Oil and Gas Environmental Remediation (OGER) Account:** The OGER Account, which is established in the OGGA Fund, receives funding from civil penalties associated with enforcement actions. Upon appropriation, CalGEM may use moneys in the Account to plug wells, decommission attendant facilities, or otherwise remediate sites that pose a danger to life, health, water quality, wildlife, or natural resources. The Legislature set the appropriation for the OGER Account at \$54,000 in 2018 and 2019. As of June 30, 2021, the balance of the OGER account was \$133,000. (Pub. Resources Code, § 3261, subds. (a) & (b).)



These three funds help to pay down the State's potential liability from orphan wells and facilities. CalGEM spends funds to plug and abandon orphan wells through contracts that are put out to bid.

1. Inventory of Orphan, Deserted, and Potentially Deserted Wells

In accordance with statute, this report also provides key statistics and information regarding California's inventory of orphan wells remaining, the estimated costs of abandoning those orphan wells, and a timeline for future orphan well abandonment with a specific schedule of goals. In summary, CalGEM has estimated that, as of June 2021, there are approximately 2,734 orphan or potentially orphan wells (60 orphan wells; 33 deserted wells; 2,641 potentially deserted wells) and close to 3,000 facilities as potentially orphan. As CalGEM continues with its inventorying process, this number is likely to increase.

See Appendix A-6 for the list of idle wells determined to be orphan.

See Appendix A-7 for a list of wells determined to be deserted (with order numbers).

See Appendix A-8 for a list of wells determined to be potentially deserted wells.

Since 2019, CalGEM has issued orders to 18 operators requiring them to plug and abandon 114 wells. These wells are considered 'deserted,' as they are wells for which orders are issued for their plug and abandonment. Of these, 81 have been declared orphan. Of these orphan wells, 21 have been plugged and abandoned and 56 wells are under contract for state abandonment. When we include 4 wells that were declared orphan prior to 2019 and have yet to be plugged and abandoned, as of June 2021, there were a total of 60 wells declared orphan. See Appendix A-6 for a list of wells declared orphan. The remaining 33 deserted wells have not yet been determined to be orphan. See Appendix A-7 for a list of wells determined to be deserted.

CalGEM has also identified the current population of "potentially deserted" wells. Potentially deserted wells are those wells that have not yet been determined to be "deserted," but for which other evidence suggests the wells likely have no responsible operator. These are wells for which CalGEM has not yet taken action to memorialize an official desertion determination but for which CalGEM is nonetheless aware of evidence that appears to support a desertion determination. This evidence includes failure to pay idle well fees, the operational history of the well, the lack of response from the operator, and other evidence, as allowed under Public Resources Code section 3237. For a full version of Public Resources Code sections 3206 and 3237 please see Appendices B-1 and



B-2. CalGEM anticipates that in many cases, after completing its review, these wells will likely be found to have no legally responsible current or prior operator with financial resources sufficient to cover the costs of plugging and abandonment.

It is worth noting, that failure to pay idle well fees is not the only evidence of desertion that CalGEM may rely upon in ordering a well plugged and abandoned. Under Public Resources Code section 3237, credible evidence of desertion may also include, but is not limited to: the operational history of the well or production facility, the response or lack of response of the operator to inquiries and requests from CalGEM, the extent of compliance by the operator with the requirements, and other actions. Similarly, a rebuttable presumption of desertion arises if: a well has not been completed to production or injection and the drilling machinery has been removed from the well site for at least six months; the well's production or injection equipment has been removed from the well site for at least two years; the operator has failed to comply with an order of the supervisor within the time provided by an order or has failed to comply with an order on a timely basis; an operator fails to designate an agent; an operator acquiring a well or production facility fails to comply with transfer requirements; or an operator fails to maintain the access road to a well or production facility. As such, the list of wells provided in Appendix A-7 and A-8 may under-report the number of deserted and potentially deserted wells because the list only includes those wells that are deserted due to the operator's failure to pay idle well fees.

CalGEM estimates that as of June 2021, there are 2,641 wells associated with 880 operators that are potentially deserted due to the operator's failure to pay idle well fees for three consecutive years, and for which plug and abandonment orders have not yet been issued. For this report, potentially deserted wells are defined as wells for which operators have not paid idle well fees for the last three consecutive invoice years 2018, 2019, and 2020. These wells are the most likely to have no legally responsible current or prior operator with resources sufficient to cover the costs of plugging and abandonment. However, as CalGEM continues its evaluation of potentially deserted and orphan wells, including evaluation of other types of evidence of desertion, this number is expected to grow.

The table on the next page shows the number of wells with unpaid idle well fees year over year, including across consecutive years.



NONPAYMENT OF IDLE WELL FEES, BY YEAR, INCLUDING FOR CONSECUTIVE YEARS					
Invoice Year	2018	2019	2020	2019 & 2020	2018, 2019 & 2020
Calendar Year During Which Well was Idle	2017	2018	2019	2018 & 2019	2017, 2018 & 2019
Numbers of wells with unpaid Idle well fees	2911	3345	3426	2977	2734
Operators with unpaid Idle well fees	914	966	1103	922	891

Source: Idle Well Program Fees Inventory

2. Inventory of Potentially Orphan Facilities

The identification of orphan facilities is ongoing by CalGEM. Historically, facilities have not been tracked to the same extent that wells have. CalGEM has been monitoring oil and gas wells for over 100 years. However, the development of data on facilities, including tanks, vessels, pipelines, and other surface equipment commenced approximately 10 years ago. Considerable work has been done in recent years to better identify tanks and vessels used for processing the production fluids emanating from oil and gas wells. The process of identifying sensitive and environmentally sensitive pipelines started even more recently.

For facilities not directly associated with a particular well, the facility may not be identified until final lease restoration occurs. Since this does not occur until the last well on the lease is about to be abandoned, it is difficult to determine if a facility is in danger of being deserted except by inspection. If a facility is idle and the wells associated with the facility are also idle, the likelihood that the facility will become deserted and eventually orphan is very high.

CalGEM is strengthening efforts to identify facilities for which there is no solvent operator responsible for decommissioning. To date 2,890 facilities have been found to be potentially orphan. (Appendix A-9.)



3. Prioritization for plugging and abandonment of orphan wells and decommissioning orphan facilities

CalGEM continues to identify appropriate criteria for prioritizing orphan wells for state abandonment. Factors that may increase the likelihood that an orphan or potentially orphan well poses a hazard, and therefore warrants a higher priority for state abandonment, include both well-specific characteristics, such as its age and its condition, as well as geographic characteristics, such as the well's proximity to sensitive areas or populations of people.

Factors CalGEM generally considers prioritizing orphan wells for plugging and abandonment include such things as:

- If the well is a critical well;⁴
- If the well is located in an urban area, or in an area with a higher population density;
- If the well is located in a Disadvantaged Community, as defined by Version 3.0 of the California Communities Environmental Health Screening Tool (CalEnviroScreen);
- If the well is located in an area with known geologic hazard, such as subsidence, landslides, or in an area with a history of damage due to seismicity;
- If the well is located within an aquifer exemption area;
- If the well has issues identified through inspection, such as if the well is open to the atmosphere, has pressure in the casing or tubing at the surface, or leakage or corrosion is observed;
- The age of the well;
- Landowner complaints;
- Other factors as described in California Code of Regulations, title 14, section 1772.4, subdivision (a)(10).

While CalGEM has data for many of these factors, CalGEM remains limited in its ability to inspect all potentially deserted wells. However, CalGEM continues to develop its method for prioritizing wells to be declared orphaned and for plugging and abandonment with consideration of these limitations.

The identification of orphan facilities will be an ongoing effort for CalGEM. Field inspections are the most common means by which these facilities may be identified. A concentrated

⁴ California Code of Regulations, title 14, section 1720, subdivision (a), defines a critical well as one within 300 feet of any building intended for human occupancy and any airport runway, or within 100 feet of any dedicated street or highway, water body, public recreational facility, or wildlife preserve.



effort will be taking place in the next two years to identify and appropriately address orphan facilities. CalGEM will leverage its GIS capabilities to utilize collected data from inspections to identify, map, and categorize idle and out of service facilities. During this process, potential hazards will also be identified which will assist in determining prioritization.

Once a facility is declared deserted or hazardous, efforts will be made to find interested stakeholders. These stakeholders could include property owners, royalty interests, city governments, county governments, and/or other potentially impacted governmental or land owners. CalGEM will, inform stakeholders of the situation, and develop a plan for the proper equipment removal and site restoration. This will be an ongoing effort, with those facilities identified as hazardous being the top priority for removal.

4. Costs of Abandonment and Decommissioning

The costs of plugging and abandoning orphan wells are highly variable and, in many cases, difficult to predict. When an operator plugs and abandons one of their own wells, they are generally aware of the conditions of the well, including problems with obstructions that they may encounter. When CalGEM plugs and abandons an orphan well, it may lack critical information about the condition of the well. For example, the well could be as old as 100 years, and CalGEM may not know if the previous operator attempted to plug and abandon the well in the past; the well may have undocumented oil field and household refuse; the well may have damaged, collapsed, or severed casing; or other information that is critical to understanding potential cost drivers in a plugging and abandonment project. Costs can range from as low as \$11/foot in a rural oilfield with no wellbore damage to over \$200/foot in an urbanized area with high ancillary costs, such as temporarily moving utility lines, higher staging and mobilization costs, and the presence of “junk” which may obstruct downhole operations leading to delays and cost overruns. The table below indicates the average cost to abandon a well in each CalGEM District. Please note that these cost figures are averages and the actual costs to abandon any specific well can vary.

Since 2011, CalGEM has plugged and abandoned 174 wells (and some attendant facilities) across the state with a total cost of over \$16 million. Not reflecting well-specific cost drivers, the average cost to the State to plug and abandon wells since 2011 has been approximately \$95,000 per well. The average cost has increased has of time of publication of this report – the most recent estimate is included in the Administration’s January 10 BCPs.



Average Cost to Abandon Any Well (Orphan or Otherwise) FY2011-2021

CALGEM DISTRICT	AVERAGE ABANDONMENT COST
Coastal	\$50,928
Inland	\$97,714
Northern	\$112,351
Southern	\$231,979

The table below shows CalGEM payments for state abandonments and the number of wells abandoned under each contract. Because the State pays for the abandonment of wells that have no responsible, solvent operator, the data in the table provides an appropriate representation of the cost to abandon orphan wells.

CalGEM Well Abandonment Contract Payments FY 2010-11 to FY 2020-21

CONTRACT NUMBER	CONTRACTOR	NUMBER OF WELLS	TOTAL PAYMENTS
2011-007	C. Case Company	4	\$312,728.65
2011-008	Excalibur	5	\$245,417.05
2011-011	Rival Well Services	2	\$102,282.50
2012-004	MMI Services	1	\$64,293.06
2012-005	MMI Services	3	\$84,149.24
2012-007	AllenCo	1	\$250,322.19
2012-008	AllenCo	9	\$990,887.92
2012-010	MMI Services	1	\$619,474.75
2013-006	C. Case Company	5	\$333,834.93
2014-002	Excalibur	7	\$392,551.25
2014-016	C. Case Company	3	\$130,865.00
2014-017	Rival Well Services	4	\$120,000.00
2015-030	C&J Well Services	5	\$351,015.95
2015-031	Snow's Oil Field	9	\$593,581.00
2015-033	Rival Well Services	2	\$867,826.80
2017-001	C. Case Company	6	\$379,677.76
2017-002	Paul Graham Drilling	7	\$599,983.00
2017-016	Snow's Oil Field	6	\$390,335.10
2017-019	Snow's Oil Field	5	\$580,129.38



2017-020	Rival Well Services	3	\$983,161.00
2018-020	Driltek, Inc.	2	\$281,155.45
2018-027	Driltek, Inc.	2	\$1,304,734.98
2019-001	Driltek, Inc.	3	\$472,046.00
2019-002	South Valley Companies, Inc.	1	\$30,000.00
2019-003	South Valley Companies, Inc.	2	\$60,000.00
2019-008	Driltek, Inc.	9	\$1,900,174.14
2019-009	Driltek, Inc.	1	\$171,080.00
2019-010	Paul Graham Drilling	8	\$505,327.00
2019-017	General Production Services of California, Inc.	55	\$2,631,327.60
2020-026	Driltek, Inc.	1	\$645,572.00
2020-027	General Production Services of California, Inc.	2	\$149,175.18
TOTALS		174	\$16,543,108.88

While the cost of plugging and abandonment is highly variable and dependent on many factors, if this average well cost were to be extrapolated to the orphan, deserted, and potentially deserted wells identified in this report, the potential liability to the state for plugging and abandoning these wells would be approximately \$260 million.⁵ This is based on the assumption that all wells identified do not have a solvent responsible operator. This estimate has since increased dramatically at the time of publication, and the most recent information can be found in the Administration's January 10 BCPs for 2022. Next year's report will include a more thorough breakdown of these numbers.

There are some fields and leases where there are large consolidated production facilities that remain in use even as operators carry out significant numbers of well abandonments. There are also close to 3,000 identified facilities that are idle or out of service and have not been abandoned. CalGEM has made some conservative estimates for removal of the various surface facility types like tanks, pressure vessels, and tank settings which include secondary containment basins and berms, plant piping, and other small production equipment. CalGEM anticipates further developing and improving this cost estimating by staff as it implements Public Resources Code sections 3205.3 and 3205.7. There are some unknown variables, such as the amount of oil-contaminated soil, but

⁵ Total number of orphan, deserted, and potentially deserted wells identified in this report (2,734 wells) multiplied by the average cost to the state to plug and abandon a well (\$95,000). As CalGEM continues to expand its inventory, this number is likely increase.



overall, the costs for the removal of surface equipment and land restoration can be reasonably estimated upon inspection since most of the surface facilities are visible and the difficulty of removal can be determined. Facilities located in urban, suburban, and environmentally sensitive areas, will require additional considerations when estimating remediation costs.

In recent years, there have been several projects undertaken to remove surface facilities from oil and gas fields providing reference points for facility decommissioning cost estimates. Projects to remove equipment have been carried out in Huntington Beach, East Los Angeles, Sansinena, Ventura, Brea, and Wilmington oil fields in recent years. From these projects, costs of removing items such as tanks, vessels, pipelines, electrical equipment, well cellars, and associated asphalt and concrete have been identified. While not intended to be wholly representative, the estimated costs of removal of select equipment informed by these projects are shown below.

EQUIPMENT TYPES	ESTIMATED REMOVAL COST (\$)
Tanks (500 Bbl)	100,000 per unit
Vessels	50,000 per unit
Concrete and Asphalt	200,000 per site
Buildings	100,000 per site
Miscellaneous Equipment	200,000 per site
Soil Decontamination	500,000 per site

Source: CalGEM staff estimates

Although the costs of specific facility removal projects can be estimated based on physical inspection of the work to be done, estimating the overall costs for orphan or potentially orphan facilities based on average or estimated costs remains highly uncertain. Some or many of the 2,890 facilities and components listed as potentially orphan in Appendix A-9 may ultimately be properly removed by their operator and thus not become orphan. In addition, property owners and other interested parties frequently take on removal costs in order to develop these properties. Further, since each facility site is unique in terms of what is required to be decommissioned and remediated, the total potential cost is difficult to estimate.



5. Timeline for Future Abandonment and Decommissioning of Orphan Wells and Orphan Facilities

CalGEM is appropriated funds annually to plug and abandon wells that have been declared orphan. (Public Resources Code, § 3258, subdivision (a)(1).) temporarily increased the annual appropriation for orphan well abandonment from \$1 million to \$3 million per fiscal year commencing on July 1, 2018. Based on the aforementioned average costs, it is estimated that 23 to 100 wells may be plugged and abandoned for fiscal years 2021-2022.

Given that current funding levels support the plugging and abandonment of wells on the order of dozens a year, and that there are currently likely upwards of 3,000 orphan or potentially orphan wells in California, the current levels of funding are insufficient to address the full scope of this issue in a timely manner.

6. Recommendations for Improving and Optimizing Local Agency Involvement

State efforts to address California's orphan wells and facilities will require the engagement of local governments and agencies, especially as oil extraction sites have implications for local governments, including local land use decisions. Recognizing the need for improved planning and coordination in addressing former oil extraction sites, Governor Newsom, in a September 2020 Executive Order,⁶ directed the California Environmental Protection Agency and the California Natural Resources Agency, in consultation with the Office of Planning and Research, the Department of Finance, the Governor's Office of Business and Economic Development and other local and federal agencies, to develop strategies, recommendations and actions to manage and expedite the responsible closure and remediation of former oil extraction sites as the state transitions to a carbon-neutral economy. Through this effort, the state will engage state, local, and federal agencies, as well as other impacted stakeholders, to develop recommendations and actions, including on how to improve local agency involvement in not only the closure and abandonment of these sites, but also to support redevelopment in a way that protects people and prioritizes local benefits.

⁶ Governor's Exec. Order No. N-79-20 (Sept. 23, 2020).



Through this effort, opportunities to establish ongoing, geographically focused engagement on issues associated with abandonment will be explored. These opportunities for engagement include coordinating responses to well incidents; prioritizing wells and facilities for abandonment; establishing notification requirements for abandonments; identifying opportunities for state-local cost sharing for plugging and abandonments; establishing well or lease site restoration criteria; and facilitating coordination on development activities for former oil extraction sites. It is especially important to address many of these issues in urban settings, particularly abandonment project planning, since local public works, public health, and first responders might need to be engaged during an abandonment effort.



APPENDIX A

A-1 2020 Calendar Year Idle Well Inventory

List of all wells that met the definition of idle well at any point in the 2020 reporting period. The list includes the API number and designation of the well, well type, operator, field, district, county, pool, and LTIW status identified for each well.

A-2 Idle Wells That Changed Status from Idle to Long-Term Idle Well

List of all idle wells that met the definition of LTIW for the first time in the 2020 reporting period. The list includes the API number and designation of the well, well type, operator, field, district, county, and pool.

A-3 Idle Wells That Changed Status from Idle to Plugged

List of all idle wells that changed status to plugged in the 2020 reporting period. The list includes the API number and designation of the well, well type, operator, field, district, county, pool, and LTIW status identified for each well.

A-4 Idle Wells That Changed Status from Idle to Active

List of all idle wells that changed status to active in the 2020 reporting period. The list includes the API number and designation of the well, well type, operator, field, district, county, pool, and LTIW status identified for each well.

A-5 Operators with 2020 IWMPs & Current Status

List of all operators with IWMPs submitted in 2020 and the status of each IWMP as of the annual review, including the minimum number of LTIWs required to be eliminated, the effective number of LTIWs eliminated, credits applied, and credits earned for LTIWs eliminated in excess of the minimum requirement.

A-6 Idle Wells Declared Orphan

List of all idle wells that have been determined to be orphaned. The list includes the API number, well type, last known operator name and code, field, district, county, status, pool, order number and date declared orphan for each well.

A-7 Idle Wells Determined to be Deserted

List of all idle wells which have been determined to be deserted as demonstrated through a final plugging and abandonment order, consistent with Public Resources Code section 3237, but have not yet been definitively determined to be orphan because a determination that



there is no legally responsible current or prior operators has not yet been completed (a total of 33 wells). The list includes the API number, the operator name and code.

A-8 Idle Wells Determined to be Potentially Deserted

List of all idle wells that have not yet been determined to be “deserted,” but for which the operator failed to pay idle well fees for the last three consecutive years 2018, 2019 and 2020 suggesting the wells likely have no responsible operator (a total of 2,641 wells). The list includes the well's API number, operator names and codes for 2020, 2019 and 2018, well designation, district name, field name, county name and pool name.

A-9 Facilities and Components Determined to be Potentially Orphan

List of idle and/or out of service facilities and components that are potentially orphan, which are identified for this report as facilities that inspections have concluded are idle or out of service. The list includes tanks; pressure vessels; facility settings that include the secondary containment structures; leases with an assortment of non-functioning equipment; and both above-ground and below-ground pipelines that are not in service. The list has the four (4) districts in separate tabs and includes oil/gas field, lease, last known operator, subject type, subject status, location, district, and county.



APPENDIX B – PUBLIC RESOURCES CODE SECTIONS

B-1 Public Resources Code section 3206

Public Resources Code section 3206

- (a) The operator of any idle well shall do either of the following:
- (1) No later than May 1 of each year, for each idle well that was an idle well at any time in the last calendar year, file with the supervisor an annual fee equal to the sum of the following amounts:
 - (A) One hundred fifty dollars (\$150) for each idle well that has been an idle well for three years or longer, but less than eight years.
 - (B) Three hundred dollars (\$300) for each idle well that has been an idle well for eight years or longer, but less than 15 years.
 - (C) Seven hundred fifty dollars (\$750) for each idle well that has been an idle well for 15 years or longer, but less than 20 years.
 - (D) One thousand five hundred dollars (\$1,500) for each idle well that has been an idle well for 20 years or longer.
 - (2) File a plan with the supervisor to provide for the management and elimination of all long-term idle wells
 - (A) For the purposes of the plan required by this paragraph, elimination of an idle well shall be accomplished when the well has been properly abandoned in accordance with Section 3208, or it has been shown to the division's satisfaction that, since the well became an idle well, the well has maintained production of oil or gas or been used for injection for a continuous six-month period.
 - (B) A plan filed pursuant to this paragraph shall meet all of the following requirements and conditions:
 - (i) The plan shall specify the time period that it covers. The plan and any renewal of the plan shall cover a time period of no more than five years and shall be subject to approval by the supervisor who may prioritize the order in which idle wells are addressed.
 - (ii) The plan shall be reviewed for performance annually by the supervisor, and be subject to amendment by the supervisor, or by the operator with the approval of the supervisor.
 - (iii) The required rate of long-term idle well elimination shall be based upon the number of idle wells under the control of an operator on January 1 of each year, as specified in clause (iv). If the operator has eliminated more wells than required in the prior two years, the supervisor may deduct from the new requirement the net total of long-term idle wells eliminated in excess of those previously required. In addition, the



supervisor may require additional well testing requirements as part of the plan.

- (iv) Unless and until the operator has no long-term idle wells, the plan shall require that operators with 250 or fewer idle wells eliminate at least 4 percent of their long-term idle wells each year, and, in no case, less than one long-term idle well; operators with 251 to 1,250, inclusive, idle wells eliminate at least 5 percent of their long-term idle wells each year, and, in no case, less than one long-term idle well; and operators with more than 1,250 idle wells eliminate at least 6 percent of their long-term idle wells each year, and, in no case, less than one long-term idle well.
- (v) An operator who fails to comply with the plan, as determined by the supervisor after the annual performance review, is not eligible to use the requirements of this paragraph, for purposes of compliance with this section, for any of its idle wells. That operator may not propose a new idle well plan for the next five years. An operator may appeal to the director pursuant to Article 6 (commencing with Section 3350) regarding the supervisor's rejection of a plan and plan amendments and the supervisor's determination of the operator's failure to comply with a plan. If the supervisor's determination that the operator failed to comply with the plan is not timely appealed, or if the director upholds the supervisor's determination upon appeal, then the operator shall immediately file the fees required under paragraph (1) for each year that the operator failed to comply with the plan.
- (b) All fees received under this section shall be deposited in the Hazardous and Idle Deserted Well Abatement Fund, which is hereby created in the State Treasury. Notwithstanding Section 13340 of the Government Code, the moneys in the Hazardous and Idle-Deserted Well Abatement Fund are hereby continuously appropriated to the department for expenditure without regard to fiscal year, to mitigate a hazardous or potentially hazardous condition, by well plugging and abandonment, decommissioning the production facilities, or both, at a well of an operator subject to the requirements of this section.
- (c) Failure to file, for any well, the fee required under this section shall be conclusive evidence of desertion of the well, permitting the supervisor to order the well abandoned pursuant to Section 3237.
- (d) Nothing in this section prohibits a local agency from collecting a fee for regulation of wells.
- (e) This section shall become operative on January 1, 2018.

(Amended by Stats. 2018, Ch. 742, Sec. 3. (SB 1493) Effective January 1, 2019.)



Public Resources Code section 3206.1

- (a) By June 1, 2018, the division shall review, evaluate, and update its regulations pertaining to idle wells. The update shall include idle well testing and management requirements that, at a minimum, include all of the following:
 - (1) Appropriate testing, as determined by the supervisor, to determine whether the fluid level is above the base of an underground source of drinking water.
 - (2) Appropriate testing, as determined by the supervisor, to verify the mechanical integrity of the well.
 - (3) Appropriate remediation, as determined by the supervisor, of idle wells if there is an indication of a lack of mechanical integrity.
 - (4) For a well that has been an idle well for 15 years or more, an engineering analysis demonstrating to the division's satisfaction that it is viable to return the idle well to operation in the future.
- (b) If the operator demonstrates to the division's satisfaction that the well is not within one half mile of an underground source of drinking water, testing required under the regulations implementing this section shall not be required until at least two years after the well becomes an idle well. This subdivision shall not be construed to prohibit or limit any other testing required under this chapter.
- (c) At the discretion of the supervisor, the regulations implementing this section may provide an option for temporary or partial well abandonment in lieu of compliance with the requirements of the regulations implementing this section.
- (d) If the operator does not remediate an idle well as required by the regulations implementing this section, or the operator does not demonstrate that an idle well is economically viable as required by the regulations implementing this section, then the operator shall plug and abandon the idle well in accordance with Section 3208.
- (e) Failure to file to comply with the requirements of the regulations implementing this section shall be conclusive evidence of desertion of the well, permitting the supervisor to order the well abandoned pursuant to Section 3237.
- (f) For purposes of this section, an "underground source of drinking water" has the same meaning as in the federal Safe Drinking Water Act (42 U.S.C. Sec. 300f).

(Added by Stats. 2016, Ch. 272, Sec. 11. Effective January 1, 2017.)

Public Resources Code section 3206.2

- (a) (1) The division, in consultation with the State Air Resources Board, shall initiate a study to be conducted by independent experts of fugitive emissions from idle, idle- deserted, and abandoned wells in the state. The independent experts selected shall have experience measuring and documenting emissions from multiple idle and abandoned wells and well



sites, preferably at multiple locations within the state.

(2) In developing the parameters of the study, the division shall seek input from researchers with expertise in fugitive emissions, oil and gas operators, and people with relevant experience in nongovernmental organizations. The parameters of the study shall (A) be conducted based on a total well sample not to exceed 500 wells, (B) utilize existing information and technology tools that allow data collection without disruption to a well site, (C) limit surface disturbance associated with any emissions sampling, and (D) limit the total cost of the study to a maximum of one million dollars (\$1,000,000).

(3) In implementing the study, the division shall seek to minimize costs to operators, and the testing conducted pursuant to this section shall not conflict with a scheduled routine maintenance operation of the well or associated equipment.

(4) The study shall be conducted to measure emissions of air pollutants, including, but not limited to, greenhouse gases, toxic air contaminants, and volatile organic compounds, from idle wells, idle-deserted wells, and abandoned wells that can contribute to climate change or endanger occupational and public health and safety through their toxicological properties.

(5) The division shall work with the independent experts, oil and gas operators, and nongovernmental organizations to identify a stratified random sample of wells, and set of pollutants to be measured, from which measurement data can be used to extrapolate to the total number of idle, idle-deserted, and abandoned wells in the state. To the maximum extent possible, the sample shall include emissions data already collected from wells in the state.

(6) The sample of wells shall include idle-deserted wells identified by the division, previously abandoned wells, and idle wells that are ordered or permitted to be plugged and abandoned by the division.

(7) For purposes of undertaking the study, for a well that is selected for measurement as part of the sample but which is also scheduled to be plugged, abandoned, or reabandoned, before the initiation of physical work to plug, abandon, or reabandon the well the division or the contracted independent experts, with oversight from the division, shall have testing performed for leaks on the well and associated equipment either (A) in accordance with the United States Environmental Protection Agency Reference Method 21, as set forth in Appendix A-7 to Part 60 of Title 40 of the Code of Federal Regulations, as it read on January 1, 2019, (B) by using an optical gas imaging instrument that is operated by a technician with a certification or training in infrared theory, infrared inspections, and heat transfer principles, or (C) in accordance with an alternative methodology developed for the purposes of this study.



- (8) If, pursuant to paragraph (7), a well is found to emit hydrocarbons in observable quantities using an optical imaging device or in concentrations greater than 1 percent by volume using a United States Environmental Protection Agency Reference Method 21 instrument when tested before the initiation of physical work, the division or the contracted independent experts shall ensure additional testing is performed using a direct measurement method consisting of high volume sampling, bagging, or a calibrated flow measuring instrument to determine the flow rate of atmospheric emissions of total and speciated hydrocarbon pollutants before the initiation of physical work.
- (b) Oil and gas operators with wells selected for purposes of sampling under this section shall make reasonable efforts to permit access to the wells to the division and the independent experts contracted to undertake the study if adequate notice is provided to the operator to ensure appropriate safety precautions are taken at the well site. All oil and gas operators with wells selected for sampling shall submit to the division a certification stating that no action was taken to reduce emissions from the sampling site within 72 hours of the sampling taking place so as to reduce the value of measurements taken.
- (c) On or before January 1, 2022, the department shall post all results of testing conducted pursuant to subdivision (a) on the department's internet website in a machine-readable format. On or before January 1, 2021, the department shall produce and post to the department's internet website an interim progress report describing the status of the study conducted pursuant to this section, including, but not limited to, the number of wells where testing has been completed, the number of wells remaining to be tested, study costs, and any preliminary testing results, as available and subject to the requirement described in paragraph (2) of subdivision (d).
- (d) (1) On or before July 1, 2022, the independent experts contracted to undertake the study shall complete a written document that includes an executive summary of the findings, a description of the results, the findings, and an estimate of hydrocarbon emissions from the state's idle, idle-deserted, and abandoned wells. (2) Before public release pursuant to subdivision (e), the written document shall be provided for peer review and comments, to the operators whose wells were included in the sample, and to a group of independent experts and nongovernmental organizations selected by the division.
- (e) On or before January 1, 2023, the division shall make the results of the study, as per the written document required pursuant to subdivision (d), available on its internet website.
- (f) This section shall remain in effect only until January 1, 2024, and as of that date is repealed.

(Added by Stats. 2019, Ch. 772. Repealed as of January 1, 2024 by its own provisions.)



Public Resources Code section 3206.3

(a) (1) Notwithstanding Section 10231.5 of the Government Code, on or before July 1, 2019, and annually thereafter until July 1, 2026, the supervisor shall, in compliance with Section 9795 of the Government Code, prepare and transmit to the Legislature a comprehensive report on the status of idle and long-term idle wells for the preceding calendar year. The report shall include all of the following:

(A) A list of all idle and long-term idle wells in the state by American Petroleum Institute identification number and indicating the operator, field, and pool.

(B) A list of all wells whose idle or long-term idle status changed in the preceding year by American Petroleum Institute identification number with the disposition and current status of each well.

(C) A list of orphan wells remaining, the estimated costs of abandoning those orphan wells, and a timeline for future orphan well abandonment with a specific schedule of goals. Idle and long-term idle wells that have become orphan wells shall be identified in the list. For the purposes of this report, an orphan well is a well that has no party responsible for it, leaving the state to plug and abandon it.

(D) A list of all operators with plans filed with the supervisor for the management and elimination of all long-term idle wells and the status of those plans.

(E) Any additional relevant information as determined by the supervisor. (2) The report shall be made publicly available and an electronic version shall be available on the division's internet website. (b) For the report due on or before July 1, 2021, and each report thereafter, the division shall conduct inspections of production facilities attendant to long-term idle wells to ensure compliance with the requirements of this chapter. Information summarizing violations and pertinent findings in these inspections shall be included in the applicable report required to be prepared and transmitted pursuant to subdivision (a). (c) Information on how to access the plans described in subparagraph (D) of paragraph (1) of subdivision (a) shall be on the division's internet website. (d) After July 1, 2026, the division shall continue to regularly provide updated information describing idle and long-term idle wells on the division's internet website.

(Amended by Stats. 2019, Ch. 774.)

Public Resources Code section 3206.4

(a) Any city or county may request from the supervisor a list of all idle wells, as defined in subdivision (d) of Section 3008, within its jurisdiction.



- (b) After receiving the list from the supervisor, the city or county may identify idle wells identified pursuant to subdivision (a) within its jurisdiction which it has determined, based on a competent, professional evaluation, have no reasonable expectation of being reactivated, and formally request the supervisor to make a determination whether the wells should be plugged and abandoned.
- (c) Upon receiving the written request of a city or county, as specified in subdivision (b):
- (1) The supervisor may, within 60 days of receiving a written request from a city or county, require the operator or operators to file a statement for each well outlining those reasons why the wells should not be plugged and abandoned.
 - (2) The supervisor shall, within 120 days of receiving a written request, make a determination as to whether any of these wells should be plugged and abandoned, pursuant to the criteria contained in this chapter. (d) Failure of the operator to file, for any well, the statement required under this section shall be conclusive evidence of desertion of the well, thereby permitting the supervisor to order the well abandoned.
- (Amended by Stats. 2017, Ch. 652, Sec. 3. (SB 724) Effective January 1, 2018.)

B-2 Public Resources Code section 3237

- (a) (1) The supervisor or district deputy may order the plugging and abandonment of a well or the decommissioning of a production facility that has been deserted whether or not any damage is occurring or threatened by reason of that deserted well or production facility. The supervisor or district deputy shall determine from credible evidence whether a well or production facility is deserted.
- (2) For purposes of paragraph (1), "credible evidence" includes, but is not limited to, the operational history of the well or production facility, the response or lack of response of the operator to inquiries and requests from the supervisor or district deputy, the extent of compliance by the operator with the requirements of this chapter, and other actions of the operator with regard to the well or production facility.
- (3) A rebuttable presumption of desertion arises in any of the following situations: (A) If a well has not been completed to production or injection and drilling machinery have been removed from the well site for at least six months. (B) If a well's production facilities or injection equipment has been removed from the well site for at least two years. (C) If an operator has failed to comply with an order of the supervisor within the time provided by the order or has failed to challenge the order on a timely basis. (D) If an operator fails to designate an agent as required by Section 3200. (E) If a person who is to acquire a well or production facility that is subject to a purchase, transfer, assignment, conveyance, exchange, or other disposition fails to comply with Section 3202. (F) If an operator has



failed to maintain the access road to a well or production facility site passable to oilfield and emergency vehicles.

(4) The operator may rebut the presumptions of desertion set forth in paragraph (3) by demonstrating with credible evidence compliance with this division and that the well or production facility has the potential for commercial production, including specific and detailed plans for future operations, and by providing a reasonable timetable for putting those plans into effect. The operator may rebut the presumption set forth in subparagraph (F) of paragraph (3) by repairing the access road.

(b) An order to plug and abandon a deserted well or to decommission a production facility may be appealed to the director pursuant to the procedures specified in Article 6 (commencing with Section 3350).

(c) (1) The current operator, as determined by the records of the supervisor, of a deserted well that produced oil, gas, or other hydrocarbons or was used for injection is responsible for the proper plugging and abandonment of the well or the decommissioning of deserted production facilities. If the supervisor determines that the current operator does not have the financial resources to fully cover the cost of plugging and abandoning the well or the decommissioning of deserted production facilities, the immediately preceding operator shall be responsible for the cost of plugging and abandoning the well or the decommissioning of deserted production facilities.

(2) The supervisor may continue to look seriatim to previous operators until an operator is found that the supervisor determines has the financial resources to cover the cost of plugging and abandoning the well or decommissioning deserted production facilities. However, the supervisor may not hold an operator responsible that made a valid transfer of ownership of the well prior to January 1, 1996.

(3) For purposes of this subdivision, "operator" includes a mineral interest owner who shall be held jointly liable for the well and attendant production facilities if the mineral interest owner has or had leased or otherwise conveyed the working interest in the well to another person, if in the lease or other conveyance, the mineral interest owner retained a right to control the well operations that exceeds the scope of an interest customarily reserved in a lease or other conveyance in the event of a default.

(4) No prior operator is liable for any of the costs of plugging and abandoning a well or decommissioning deserted production facilities by a subsequent operator if those costs are necessitated by the subsequent operator's illegal operation of a well or production facility.

(5) If the supervisor is unable to determine that an operator who acquired ownership of



a well after January 1, 1996, has the financial resources to fully cover the costs of plugging and abandonment of the well or decommissioning deserted production facilities, the supervisor may undertake plugging and abandonment of the well or decommissioning deserted production facilities pursuant to Article 4.2 (commencing with Section 3250).

(d) (1) Notwithstanding any other provision of this chapter, the supervisor or district deputy, at his or her sole discretion, may determine that a well that has been idle for 25 years or more and that fails to meet either of the following conditions is conclusive evidence of desertion, and may order the well abandoned:

(A) The operator is operating in compliance with a valid idle well management plan that is on file with the supervisor pursuant to paragraph (2) of subdivision (a) of Section 3206 or is covered by an indemnity bond provided under Section 3204, subdivision (a) of Section 3205, or subdivision (a) of Section 3205.2.

(B) The well meets the relevant testing standards for idle wells required under the regulations implementing this chapter.

(2) The supervisor or district deputy shall provide the operator a 90-day notice of warning once a determination has been reached pursuant to this subdivision that a well has been deserted. An operator may rebut the determination, made pursuant to paragraph (1), of the supervisor or district deputy by demonstrating compliance with subparagraphs (A) and (B) of paragraph (1).

(3) An order to plug and abandon a deserted well under this section due to the supervisor's or district deputy's determination of an operator's noncompliance with either subparagraph (A) or (B) of paragraph (1) may be appealed to the director pursuant to the procedures specified in Article 6 (commencing with Section 3350).

(Amended by Stats. 2017, Ch. 652, Sec. 4. Effective January 1, 2018.)

B-3 Public Resources Code section 3251

For the purposes of this article, the following definitions apply:

(a) "Deserted facility" means a production facility determined by the supervisor to be deserted under Section 3237 and for which there is no operator responsible for its decommissioning under Section 3237.

(b) "Decommission" has the same meaning and requirements, as applicable, as the definition established in Section 1760 of Title 14 of the California Code of Regulations.

(c) "Hazardous facility" means a production facility determined by the supervisor to be a potential danger to life, health, or natural resources and for which there is no operator



determined by the supervisor to be responsible for its decommissioning under Section 3237.

(d) "Hazardous well" means an oil and gas well determined by the supervisor to be a potential danger to life, health, or natural resources and for which there is no operator determined by the supervisor to be responsible for its plugging and abandonment under Section 3237.

(e) "Idle-deserted well" means an oil and gas well determined by the supervisor to be deserted under Section 3237 and for which there is no operator responsible for its plugging and abandonment under Section 3237.

(Repealed and added by Stats. 2017, Ch. 652, Sec. 8. (SB 724) Effective January 1, 2018.)

Public Resources Code section 3251.5

(a) Notwithstanding Section 3251, a well shall be deemed a hazardous well if it has been determined by the supervisor to pose a present danger to life, health, or natural resources and has been abandoned in accordance with the requirements of the division in effect at the time of the abandonment 15 or more years before the date of the supervisor's determination that it poses such a danger.

(b) Reabandonment initiated by the supervisor shall not be affected by the timeline established in this section.

(Added by Stats. 1987, Ch. 1322, Sec. 2.)



APPENDIX C – REFERENCES & DATA SOURCES

The following were used as references for this report:

- California Public Resources Code
- Title 14 of the California Code of Regulations
- Notice to Operators 2018-03: WellSTAR Release 2.0 – New and updated forms, e-permitting, and electronic reporting (CalGEM, March 7, 2018).
- Notice to Operators 2018-14: WellSTAR – New and updated forms, and electronic reporting (CalGEM, December 7, 2018).
- Notice to Operators 2019-01: WellSTAR – New and updated forms, and electronic reporting (CalGEM, January 15, 2019).
- NOTICE TO OPERATORS 2020-04: COVID-19 PANDEMIC GUIDANCE (CalGEM, May 1, 2020).
- Renewal Plan for Oil and Gas Regulation: Changing past practices to usher in a new era of oil and gas regulation (CalGEM, October 2015).
- Orphan Wells in California: An Initial Assessment of the State's Potential Liabilities to Plug and Decommission Orphan Oil and Gas Wells (California Council on Science and Technology, November 2018).
- Contract Management Analysis of Plugging & Abandonment Well Costs: (CalGEM, Division of Administration / Performance Review Unit).
- Facilities Project Monitoring Costs of Various Oil Fields in California (CalGEM Cost Estimate).

The following were used as data sources for this report:

- WMP documents submitted by operators.
- WellSTAR: an electronic database used to maintain, monitor, and track well information.



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APPENDIX D – GLOSSARY

TERM	DESCRIPTION
AB 2729	<p>AB 2729 (Williams, Ch. 272, Statutes of 2016) redefined an idle well and a long-term idle well; removed the option for a large operator to secure an escrow account or post a “super blanket bond” to avoid paying idle well fees; allowed an operator to implement an IWMP in lieu of paying idle well fees; and provided a means through which a person who acquires land with one or more wells on it to re-plug and abandon the well(s). It also required the Supervisor, on or before July 1, 2019, and annually thereafter until July 1, 2026, to submit to the Legislature a comprehensive report on the status of idle and LTIWs for the preceding calendar year.</p>
Idle Well	<p>Public Resources Code section 3008, subdivision (d): “Idle well” means any well that for a period of 24 consecutive months has not either produced oil or natural gas, produced water to be used in production stimulation, or been used for enhanced oil recovery, reservoir pressure management, or injection. For the purpose of determining whether a well is an idle well, production or injection is subject to verification by the division. An idle well continues to be an idle well until it has been properly abandoned in accordance with Section 3208 or it has been shown to the division’s satisfaction that, since the well became an idle well, the well has for a continuous six-month period either maintained production of oil or natural gas, maintained production of water used in production stimulation, or been used for enhanced oil recovery, reservoir pressure management, or injection. An idle well does not include an active observation well.</p>



<p>Orphan Wells</p>	<p>“Orphan” wells are those wells that that have been determined to be deserted as demonstrated through a final plugging and abandonment order, consistent with Public Resources Code section 3237, and also have been determined by CalGEM to have no legally responsible current or prior operator with sufficient financial resources to fully cover the costs of plugging and abandonment, as described in Public Resources Code section 3237, subdivision (c). These wells fit the statutory definition of “idle-deserted” and may also fit the definition of “hazardous,” as presented in Public Resources Code section 3251.</p>
<p>Deserted Wells</p>	<p>Deserted wells are those wells that have been determined to be deserted as demonstrated through a final plugging and abandonment order, consistent with Public Resources Code section 3237, but have not yet been definitively determined to be orphan because a determination of financial resources held by legally responsible current or prior operators has not yet been completed.</p>
<p>Potentially Deserted Wells</p>	<p>Potentially deserted wells are those wells that have not yet been determined to be “deserted,” but for which other evidence suggests the wells likely have no responsible operator. These are wells for which CalGEM has not yet taken action to memorialize an official desertion determination but for which CalGEM is nonetheless aware of evidence that appears to support a desertion determination. This evidence includes failure to pay idle well fees, the operational history of the well, the lack of response from the operator, and other evidence, as allowed under Public Resources Code section 3237.</p>



TERM	DESCRIPTION
Idle Well Fees	Public Resources Code section 3206, subdivision (a)(1): No later than May 1 of each year, for each idle well that was an idle well at any time in the last calendar year, file with the Supervisor an annual fee equal to the sum of the following amounts: (A) One hundred fifty dollars (\$150) for each idle well that has been an idle well for three years or longer, but less than eight years. (B) Three hundred dollars (\$300) for each idle well that has been an idle well for eight years or longer, but less than 15 years. (C) Seven hundred fifty dollars (\$750) for each idle well that has been an idle well for 15 years or longer, but less than 20 years. (D) One thousand five hundred dollars (\$1,500) for each idle well that has been an idle well for 20 years or longer.
Idle Well Management Plan (IWMP)	Public Resources Code section 3206, subdivision (a)(2): File a plan with the Supervisor to provide for the management and elimination of all LTIW. (A) For the purposes of the plan required by this paragraph, elimination of an idle well shall be accomplished when the well has been properly abandoned in accordance with Section 3208, or it has been shown to the division's satisfaction that, since the well became an idle well, the well has maintained production of oil or gas or been used for injection for a continuous six-month period.
Long-Term Idle Well (LTIW)	Public Resources Code section 3008, subdivision (e): "Long-term idle well" means any well that has been an idle well for eight or more years.
Measured Depth	The length of the wellbore measured along the path of the well.



TERM	DESCRIPTION
Plug and Abandon	Public Resources Code section 3208, subdivision (a): For the purposes of Sections 3206 and 3207, a well is properly abandoned when it has been shown, to the satisfaction of the Supervisor, that all proper steps have been taken to isolate all oil-bearing or gas-bearing strata encountered in the well, and to protect underground or surface water suitable for irrigation or farm or domestic purposes from the infiltration or addition of any detrimental substance and to prevent subsequent damage to life, health, property, and other resources. For purposes of this subdivision, proper steps include the plugging of the well, decommissioning the attendant production facilities of the well, or both, if determined necessary by the Supervisor.
SB 724	SB 724 (Lara, Ch. 652, Statutes of 2017) temporarily increased funding dedicated to plug and remediate deserted oil and gas wells and oil field facilities from \$1 million to \$3 million. It required the Division to establish criteria to prioritize deserted wells and facilities for remediation. This bill made several technical and conforming changes to the Public Resources Code related to timelines for permitting and idling of oil wells. This bill clarified existing law to specify that the Division, as a part of an order requiring the plugging and abandonment of a deserted well, may also require the operator to address the adjacent production equipment associated with the well and conduct site remediation if necessary.



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