



CALIFORNIA STATE LANDS COMMISSION

Report on Abandoned Offshore Oil and Gas Wells

This report has been prepared in compliance with the Legislative Analyst Office Supplemental Report of the 2018-19 California State Budget, which contains statements of legislative intent adopted during budget deliberations. Item 3560-001-0001, an update on abandoned oil and gas wells, requires the State Lands Commission to submit a report to the budget committees of the Legislature and the Legislative Analyst's Office by January 10, 2019. This report provides an update on: (1) the status of negotiations with and amount of funding received for the Platform Holly project and the amount received from the Rincon Island Limited Partnership performance bond; (2) the project status and work accomplished, timelines for completion, and latest cost estimates for the Commission's work at Platform Holly and Rincon Island; and (3) the status of lease renegotiations with existing offshore platform and island lessees and the protections to limit future State liability.





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EXECUTIVE SUMMARY

Item 3560-001-0001—State Lands Commission:

- (1) The status of negotiations with and the amount of funding received from ExxonMobil for the Platform Holly project and the amount ultimately received from the Rincon Island Limited Partnership performance bond.
 - The Commission has entered into the first of several agreements with ExxonMobil (Exxon). The Phase 1 Agreement (available at <http://www.slc.ca.gov/Info/SouthEllwood.html>) describes Exxon's assumption of most of the costs associated with plugging and abandoning the wells on Platform Holly (former State Oil and Gas Lease File Nos. 3120 and 3242) and the Ellwood Beach pier leases (former State Oil and Gas Lease File No. 421) offshore the City of Goleta. The Commission is currently negotiating a subsequent agreement with Exxon to address the costs associated with decommissioning the facilities associated with the Ellwood Beach pier leases and Platform Holly and its infrastructure.
 - The Commission has collected \$18 million from the Rincon Island Limited Partnership performance bond and other settlements.
- (2) The project status and work accomplished, timelines for completion, and latest project cost estimates for the commission's work at both Platform Holly and Rincon Island.
 - The Commission and Exxon have finalized plans to plug and abandon the Ellwood Beach pier wells, the upland wells, beginning in January 2019. Plug and abandonment of the Platform Holly wells is estimated to begin by the end of the first quarter of 2019 and last through April 2021. Phase 1 is the plug and abandonment work. Initial planning for facilities decommissioning and removal, known as Phase 2, is anticipated in 2019. Full decommissioning may take 5-7 years. Costs for Phases 1 and 2 depend on the time required to plug and abandon the wells. Based on expenditures to date, total State expenditures for Phase 1 and 2 could reach \$82.8 million.
 - In September 2018, the Commission started plug and abandonment of upland wells located on the onshore portion of the Rincon Leases, recently completing its ninth well. Preparations to plug the Rincon Island wells are underway, with the work projected to start in the first quarter of 2019. Onshore work is expected to continue through October 2019 and Island work is expected to continue through November 2020, with final project completion estimated for June 2021. Initial planning on facility decommissioning is anticipated in 2019. The costs associated with plug and abandonment are expected to reach \$60 million. Final total costs for decommissioning are unknown until plans for the causeway and the Island's final disposition can be evaluated.
- (3) The status of lease renegotiations with existing offshore platform and island lessees and the specific protections put in place to limit future State liability.
 - In 2017, the Commission negotiated a lease amendment with California Resources Corporation (CRC) for operations offshore of Huntington Beach. The amendment included an immediate and ongoing commitment by CRC to abandon idle wells beyond what is required by law, estimate future decommissioning costs, establish a sinking fund, and provide the Commission with



secured collateral enhancing the Commission's position if bankruptcy happened. The Commission is also increasing its security for other oil and gas leases with CRC and intends to use the CRC lease amendment as a model for reducing the State's potential liability with the Commission's other offshore oil and gas lessee, DCOR LLC.

I. The status of negotiations with and the amount of funding received from ExxonMobil for the Platform Holly project and the amount ultimately received from the Rincon Island Limited Partnership performance bond.

a. The Platform Holly Project

In June 2018, the Commission and Exxon, the previous operator of Platform Holly, executed the Phase 1 Agreement. Exxon maintains it is not responsible for decommissioning infrastructure additions and improvements made after Venoco became the lessee. Given the opposing legal positions and related arguments and in the interest of avoiding costly, protracted litigation with uncertain results, the Commission entered into the Phase 1 Agreement, a compromise settlement agreement. The Agreement establishes Exxon's duties to plug and abandon the 30 wells on Platform Holly and two wells on the former PRC 421 lease at its expense with some exceptions. Certain costs under the Agreement will be borne by the Commission. For example, the Commission will cover the costs for the daily operations and maintenance for Platform Holly and the Ellwood Onshore Facility (EOF). The parties will share costs related to the plug and abandonment of seven wells that were redrilled and extended after Venoco, in 1997, became the lessee of Platform Holly.

The Commission has also acted to reduce costs, to the extent possible, by using the \$22 million bond, maximizing any recoveries from the Venoco bankruptcy estate, and litigation initiated by the Commission against Plains Pipelines L.P. (discussed below). Exxon, as part of the Phase 1 Agreement, agreed to waive any right to the \$22 million performance bond and to split any recovery in the Venoco bankruptcy evenly. Exxon estimates that its full share of costs could reach \$350 million when decommissioning is finished. The Commission and Exxon are currently negotiating the Phase 2 agreement to formalize Exxon's role in the final decommissioning of Platform Holly and associated oil and gas facilities. The Commission's position in these negotiations is that Exxon has the responsibility to assume nearly all the costs related to the decommissioning work.

On May 17, 2018, the Commission filed suit in Santa Barbara Superior Court against the owner of Line 901, the line involved in the 2015 Refugio Beach spill, for all costs it has and will incur as a result of Venoco's desertion of its facilities and the Commission's work to decommission Platform Holly. The case is *California State Lands Commission v. Plains Pipeline, L.P., et al.* (Case no. 18CV02504).

b. Rincon Island and Onshore

To date, the Commission has collected \$18 million in connection with the former Rincon Island and onshore leases (former State Lease File Nos. 1466, 410, and 145). This consists of \$8 million received in mid-2017 by ARCO, a prior operator, to settle its partial abandonment liability relating to the causeway and \$10 million received in late 2017 from performance bonds held by Rincon Island Limited Partnership. The \$10 million consisted of a performance bond of \$9.65 million held as a requirement of



the leases and a \$0.35 million bond required by the Division of Oil, Gas, and Geothermal Resources (DOGGR), released to the Commission. No additional payments are expected, though staff is investigating the Commission's legal rights to recover against parties that held financial interests in the former leases.

II. The project status and work accomplished, timelines for completion, and latest project cost estimates for the commission's work at both Platform Holly and Rincon Island.

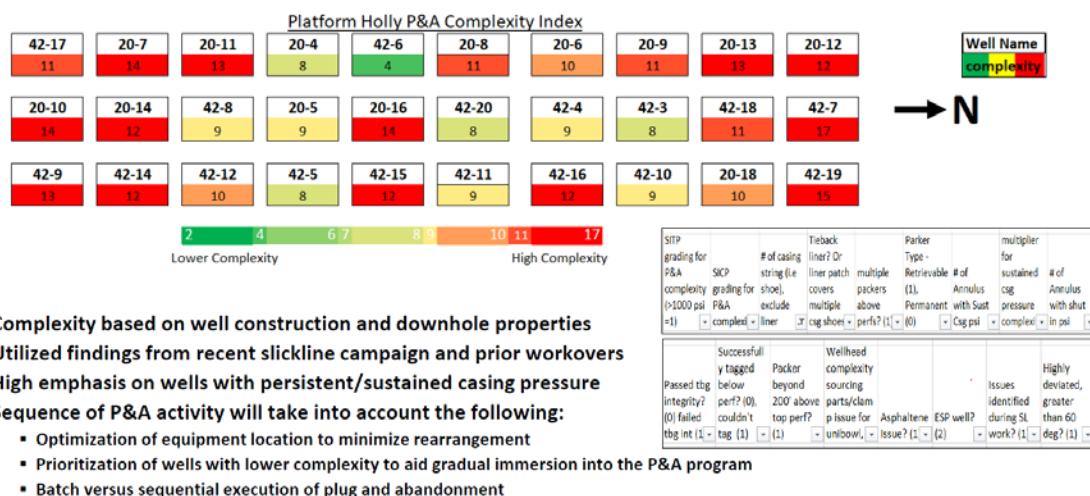
a. The Platform Holly Project

i. Project status

There are two general phases to address Platform Holly and the Lease 421 piers:

- Phase 1: Continuously staff Platform Holly and the EOF to ensure safe operations and plug and abandon the 30 wells on Platform Holly and two wells at the Lease 421 Piers.
 - Phase 2: Decommission and remove the offshore infrastructure.

Phase 1 has been ongoing since Venoco deserted its facilities in May 2017. Now, the Commission, its contractor Beacon West Energy Group, LLC, and Exxon, are preparing to start well plug and abandonment work. In July 2018, Exxon retained an international drilling company to assess the extent of the repairs, replacement, and refurbishment required to the drilling rig and associated equipment to support well abandonment. Significant repairs on the platform are underway, and work will begin in January 2019 to restore functionality of the drilling rig, which will allow the plug and abandonment work on the platform to begin. Recent evaluations show that the well plug and abandonment work at Platform Holly will be complicated, adding time to the process.



Holly Plug and Abandonment Well Complexity and Work Sequence Matrix



The Commission and Exxon are finalizing plans to commence plug and abandonment of the two Lease 421 wells, with preparations already underway. The roadway and causeway leading to the wells were repaired in October 2018. Exxon is expected to start plugging these wells before the end of February 2019. The Commission is negotiating an agreement with Exxon to decommission and remove the piers at Exxon's expense. The Commission anticipates beginning the California Environmental Quality Act (CEQA) analysis for decommissioning the Lease 421 piers in 2019.

The EOF is an onshore treatment facility with equipment essential to the Platform Holly plug and abandonment work and to treating dangerous hydrogen sulfide laden gas that must be bled from the Platform's wells. The Commission continues to repair, operate and maintain the EOF's equipment as part of the plug and abandonment work. Venoco, which owns the EOF, recently sued the Commission for inverse condemnation, seeking compensation for the Commission's occupation of the EOF. The Commission, however, is using the EOF under the State's police powers to protect human health and safety and the environment and is vigorously contesting the litigation.

In mid-to-late 2019, the Commission expects to begin work on Phase 2, starting with the development of an Environmental Impact Report. This process will involve significant public input, alternative approach analysis, permitting, and a discretionary approval by the Commission. The Commission anticipates that Exxon will conduct most, if not all, of the physical engineering and removal of the offshore facilities.

ii. Timelines for completion and project cost estimate

Phase 1 well abandonment is expected to start on Platform Holly in April 2019 and take 20-36 months, ending in April 2021, depending on conditions and weather and the results of drilling rig inspections.



PRC-421 and Platform Holly progress report



Phase 2, the decommissioning and removal of Platform Holly, may take 5-7 years. No platform of comparable size has been decommissioned on the Pacific Coast. The specialized vessels used to remove similar offshore infrastructure are based in the Gulf of Mexico or Asia. The cost to mobilize a specialized vessel to Southern California could range from \$11 to \$49 million before it even begins work.

There are two or three federal platforms in the Outer Continental Shelf that are expected to be decommissioned soon. It is likely that Exxon and those decommissioning the federal platforms can partner to mobilize the appropriate decommissioning resources, allowing multiple platforms to be removed in one mobilization. This would likely reduce costs and minimize cumulative environmental impacts associated with removing offshore oil platforms.

The total costs for Phase 1 and 2 depend on the time it takes to plug the 32 wells. The Commission has expended, on average, roughly \$1.2 million per month to operate and maintain the EOF and Platform Holly. Staff expects this to increase at \$1.5 million per month as Phase 1 intensifies and it becomes necessary to treat and process oil and gas produced from well depressurization. Once complete, the total costs may be \$82.8 million (\$1.2 million x 24 months [5/1/17-5/1/19] + \$1.5 million x 36 months [5/1/2019-5/1/2021]) exclusive of the \$22 million bond and other recoveries the Commission may receive. After the plug and abandonment work is complete, monthly expenditures should decrease significantly because there will be no need to remain on the EOF or maintain permits, insurance, staffing levels, and maintenance associated with operational oil and gas facilities.

b. Rincon Island and Onshore

i. Project status

Phase 1 of the Rincon Island and Onshore Project is the plug and abandonment of the 75 wells on the former leases—the 25 onshore wells and 50 Island wells. The Commission is currently plugging and abandoning the 25 onshore wells, recently completing its ninth well abandonment, and preparing to start plugging the Rincon Island wells.¹ In July 2017, the Commission awarded DrilTek, Inc., an oil services firm, a contract to plug and abandon the wells and maintain safe operations over the oil and gas facilities. The contract requires the Phase 1 work to be complete by June 30, 2021. Since July 2018, Driltek has performed the engineering and logistical planning to support a sustained plug and abandonment operation. In September 2018, plug and abandonment work began on the onshore wells. Each well is plugged by clearing and cementing the well bore to the surface elevation, which is consistent with DOGGR's standards. After each onshore well is plugged, all well sites, including the cement well cellars and remnants, will be cleared and restored to their natural condition, removing any visual trace of the well. This work, plugging wells first then restoring all well sites at once, should reduce costs and minimize delay.

The plug and abandonment of the Island wells should start in the first quarter of 2019 and end by November 2020. DrilTek has developed a logistics plan to move equipment to the Island via the causeway, without the need for barging or other marine mobilization. The workover rig needed to plug

¹ Well 102, a subsea well located approximately 3,000 feet west of Rincon Island is not included in Phase 1. It will be assessed and abandoned as a future project.

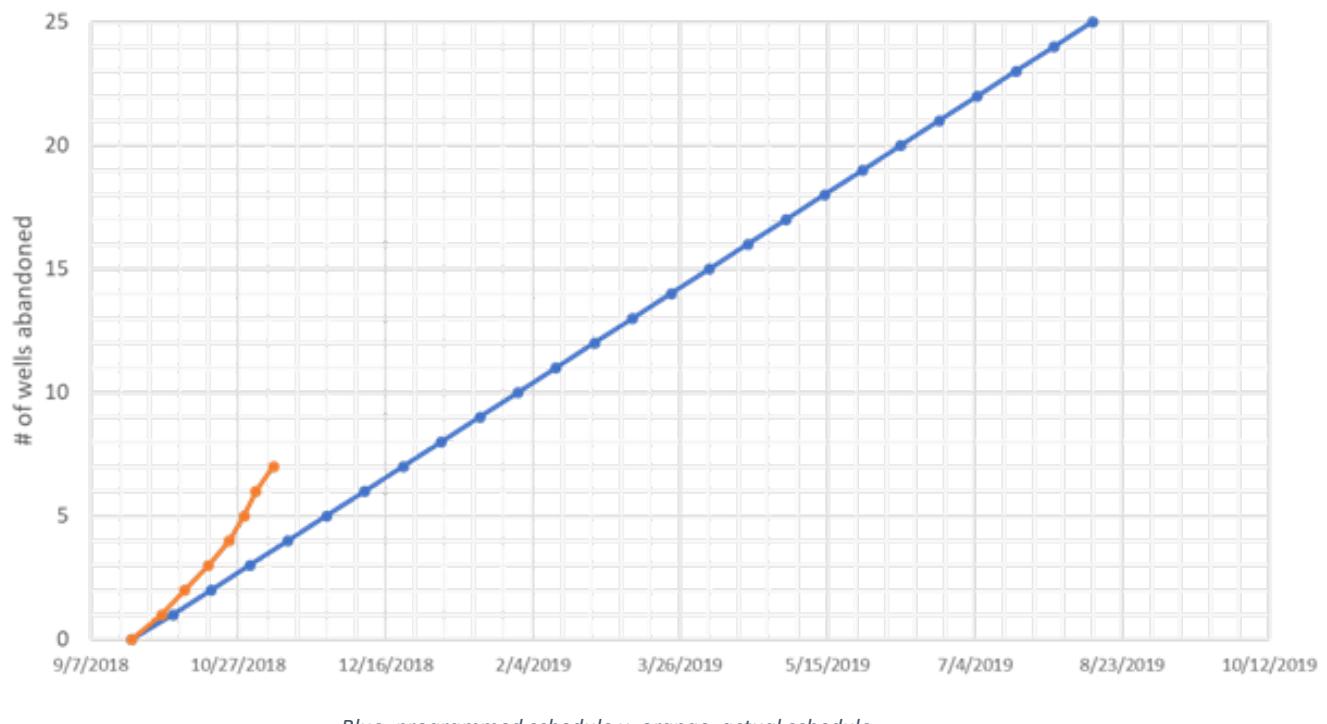


the wells is now on the Island and undergoing refurbishment. And repairs to the Island's facilities are underway in preparation for the plug and abandonment work.

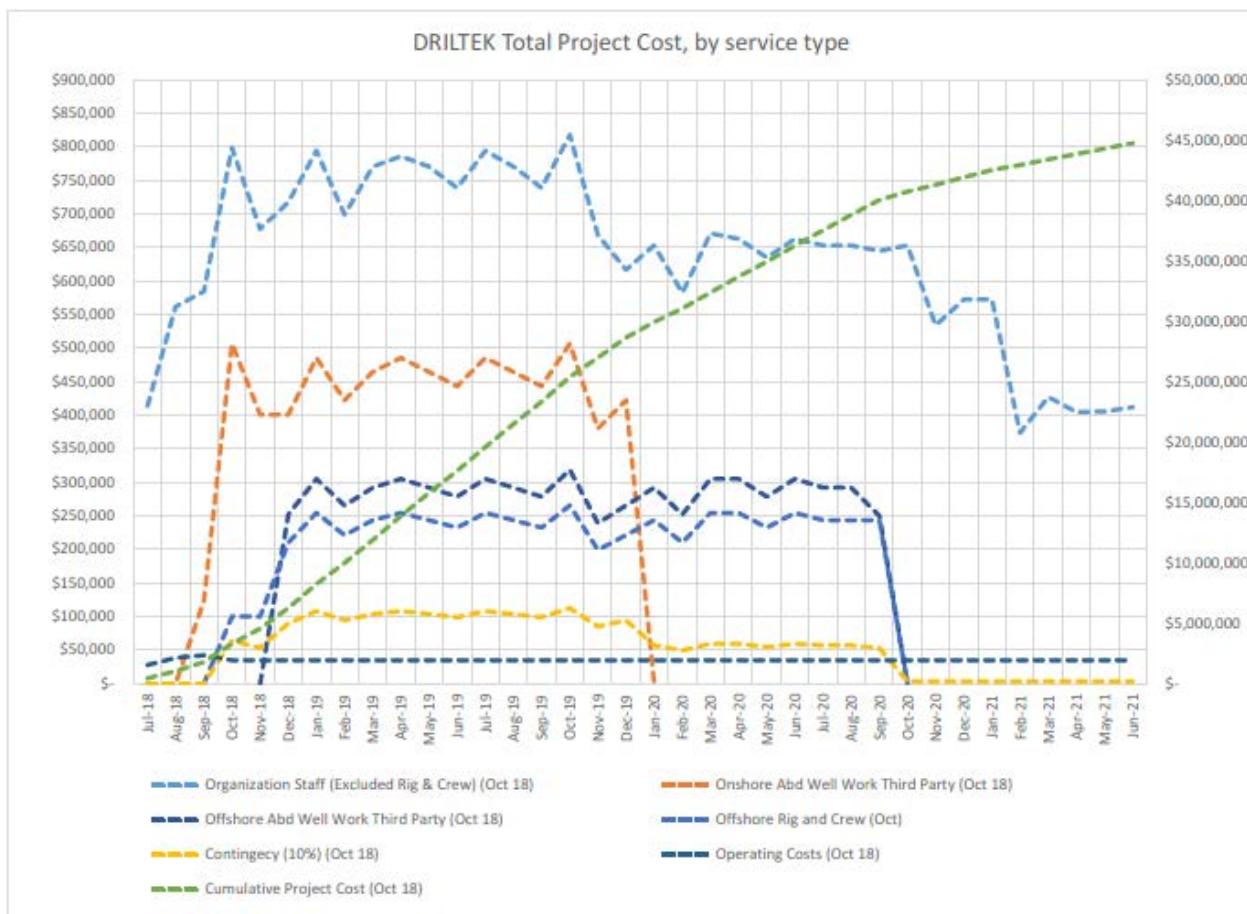
Phase 2, known as decommissioning, involves the final disposition of the Island, causeway, and onshore facilities. The final disposition will require environmental analysis pursuant to CEQA, extensive and comprehensive public input, discretionary approval by the Commission and other agencies, funding, and hiring a decommissioning contractor. The Commission anticipates beginning the CEQA process in July 2019.

ii. Timelines for completion and Project cost estimate

Rincon onshore wells timeline
(Programmed vs. Actual)



DrilTek estimates the plug and abandonment component of Phase 1 to reach \$45 million. Commission staff expects the cost to increase by \$15 million to account for additional permitting, regulatory compliance, unexpected repairs, and other contingencies, bringing the Phase 1 costs to \$60 million by its completion. This \$15 million contingency is necessary to account for unforeseen costs related to working with the dilapidated facilities on Rincon Island and complications that may arise from plugging wells in an open ocean environment. Phase 2 costs are unknown. Phase 2 costs depend on the final disposition of the Island, causeway and other facilities.



Estimated Plug and Abandonment Costs for Phase I

- III. The status of lease renegotiations with existing offshore platform and island lessees and the specific protections put in place to limit future State liability.
 - a. California Resources Corporation (State Oil and Gas Lease File Nos. 91, 163, E-392, 425, 426, 735, 3314, & 4736)

California Resources Corporation (CRC) is the Commission's largest lessee (by production volume), operating oil and gas leases in the West Montalvo Field in Ventura County (20 wells) and Platform Emmy and other well operations off Huntington Beach, Orange County (approximately 260 wells). In 2016, CRC sought to negotiate a royalty rate modification for its Huntington Beach leases, based on a collapse in oil prices. In October 2017, the Commission approved an amendment to CRC's Huntington Beach leases modifying CRC's royalty rate in exchange for immediate and verifiable actions to reduce the State's liability and to actively plan for end-of-lease scenarios. CRC agreed to: 1) immediately plug and abandon idle wells on Platform Emmy, with all 15 idle wells plugged within 5 years; 2) obtain an independent evaluation of costs to abandon and decommission Platform Emmy; 3) commence a program to plug idle wells located onshore starting in 2021 at a rate of 10 wells a year; 4) grant a lien to the State over CRC's private uplands in order to grant the State secured creditor status in the event of a bankruptcy; and, 5)



commit to either a sinking fund or funding well abandonment activities at a minimal rate of \$3 million per year, commencing in 2020.

Now, staff is negotiating with CRC to increase the performance bond held for its West Montalvo leases. Pursuant to the lease terms the bond may be increased once every 5 years. CRC's current bonding is \$2 million. Staff recently ordered that amount be increased to \$7 million in the first quarter of 2019. Staff's review of empirical evidence suggests that the average cost to plug wells in this field is \$0.235 million for each of the 20 wells, amounting to \$4.7 million. The increase to \$7 million will allow for a significant cost buffer if the Commission must take over and decommission the field before the bond can be reevaluated in 5 years.

b. DCOR LLC (State Oil and Gas Lease File Nos. 3033, 3095, & 3413)

DCOR LLC operates two platforms on State lands, Eva and Esther, offshore Orange County. The Commission holds a \$24 million bond and abandonment performance guarantees by the prior operator, Freeport-McMoRan, Inc. Commission staff are currently negotiating with DCOR to increase liability protection for the State. The Commission's goal is to develop a system of liability reduction like the CRC Huntington Beach lease amendment. Commission staff anticipate finalizing negotiations with DCOR and Commission consideration of a lease amendment or other agreement to reduce the State's liability in 2019.

c. Wilmington Oil Field

While the Wilmington Oil Field is not managed pursuant to a State oil and gas lease, the State is responsible for a portion of the field's ultimate decommissioning. Thus, the Commission believes it is important to discuss the Wilmington Oil Field in this report. A large portion of the Wilmington Oil Field, one of the largest oil fields in the nation, is beneath the Long Beach tidelands. The Legislature granted these tide and submerged lands to the City of Long Beach in the early 1900s. The grant included the mineral interests. The Wilmington Oil Field was discovered in 1937, and soon after, the City began oil development and extraction operations in the tidelands. The oil operations include the Long Beach Unit, including four offshore islands, and the West Wilmington Unit established in the early and mid-1960s. The City is the unit operator and CRC is the contractor responsible for day-to-day production, operation, and maintenance. Even though the minerals are granted to the City, the State receives a share of the net profits that would otherwise go to the City. The State's share of revenue is deposited into the General Fund. Various unit and production agreements control the character of the oil operations, including the liability associated with abandoning oil and gas wells and facilities. The State's share of liability is apportioned based on its net profit interest, among other factors. The State retains a large majority of the total abandonment liability at the end of the oil operations. While wells are abandoned as a normal course of oil field operations, those costs are deducted as unit expenses and are paid before net profits are calculated. Once operations cease and revenue is no longer generated, the Oil Trust Fund will be the primary source to fund the substantial abandonment and decommissioning work that will be required.

In 2005, the Legislature enacted SB 71 (Senate Committee on Budget), which created the Oil Trust Fund to fund abandonment costs after unit operations have ceased (i.e., when oil revenue generation is insufficient to cover those costs). The purpose of the legislation was to create an abandonment fund for oil and gas operations in the Long Beach tidelands. Existing law requires monthly deposits (\$2 million or



50 percent of monthly revenue, whichever is less) from the State's share of tidelands oil revenues until the Oil Trust Fund reaches \$300 million. The Commission may spend money in the Oil Trust Fund for well abandonment, pipeline removal, facility removal, remediation and other costs associated with removal of oil and gas facilities from the Long Beach tidelands that are not the responsibility of other parties. Money in the Oil Trust Fund can be used only after the City determines that oil revenue is insufficient to cover abandonment and decommissioning work—an event likely associated with the end of the Wilmington Oil Field's productive life. The cap of \$300 million was reached in June 2014. Since then, the interest earned, a total of \$4.4 million, has been transferred to the General Fund. According to the City of Long Beach Gas and Oil Department, the State's share of the abandonment liability is estimated to be approximately \$836 million, leaving a funding shortfall of \$536 million.

In 2018 the Commission sponsored AB 2404 (O'Donnell), which would have lifted the \$300 million cap on the amount of revenue deposited into the Oil Trust Fund, for the State's share of future abandonment costs of the West Wilmington and Long Beach Units. Unfortunately, AB 2404 was held in the Senate Appropriations Committee. The Commission will continue to work with the Legislature to address the State's share of the abandonment liability in the Wilmington Oil Field.