

MINUTE ITEM

This Calendar Item No. 52 was approved as
Minute Item No. 52 by the California State Lands
Commission by a vote of 3 to 0 at its
11-21-06 meeting.

**INFORMATIONAL
CALENDAR ITEM**

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G. Scott

J. Hemphill

A. Reid

**STAFF REPORT ON THE
LONG BEACH TIDELANDS OIL FIELD OPERATIONS,
OIL TRUST FUND, WILMINGTON OIL FIELD,
LOS ANGELES COUNTY**

PARTY:

California State Lands Commission
100 Howe Avenue, Suite 100-South
Sacramento, CA 95825-8202

INFORMATION STATEMENT:

Public Resources Code section 6217.8 (Exhibit A) established in the State Treasury the Oil Trust Fund for the Long Beach tidelands to provide funds for plugging and abandoning wells and removing production facilities in the Long Beach tidelands when the oil operations no longer are producing revenue that could be used for these purposes. Section 6217.8(f) requires the California State Lands Commission to submit a report to the Director of Finance and the appropriate legislative committees on or before January 1, 2007, providing a forecast of when the Long Beach tidelands oil operations will be abandoned and require environmental mitigation and an estimate of the likely costs to abandon these operations and perform the environmental mitigation. The legislative committees to which the report will be submitted are the Assembly Budget Subcommittee No. 3, the Senate Budget and Fiscal Review Subcommittee No. 2 on Resources Environmental Protection and Energy, and the Joint Legislative Budget Committee. The report also will be submitted to the Secretary for Resources.

BACKGROUND:

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

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and submerged lands to the City of Long Beach in the early 1900s, initially for the purpose of harbor development and subject to the public trust for commerce, navigation and fisheries. The legislative grant included the minerals. The Wilmington Oil Field was discovered in 1937, and soon thereafter, the City began oil development and extraction operations in the tidelands. These operations are consistent with the public trust grant. By virtue of several amendments to the public trust grant, the Legislature limited the City's entitlement to the oil and gas revenues from these operations and required the City to pay a major share of these revenues to the State free of the trust. The City is the operator of the oil development and extraction operations on its tidelands. It has entered into operating contracts with oil companies to carry out these operations under its direction. The tidelands oil operations consist of two projects, the newer Long Beach Unit established in the 1960s and the older West Wilmington field established in the late 1930s. The City's contracts governing both operations currently are held by subsidiaries of Occidental Petroleum Corporation.

The legislation providing for the oil development and production operations in the Long Beach tidelands and the City's payment of oil revenues to the State does not address the funding of well plugging and abandonment and removal of production facilities when there no longer is any oil revenue available to cover these costs. As the tidelands oil operations approach the end of their economic life, this issue becomes more and more critical. In January 2000, the City began withholding a portion of the oil revenues it pays to the State monthly. The City deposited the withheld money in an abandonment reserve under its control. The Commission sued the City seeking to stop the withholdings and obtain a return of all money previously withheld. The appellate court, however, ruled that the City's withholding of oil revenues for the purpose of creating an abandonment reserve to be used for future well plugging and abandonment and facilities removal was lawful. By 2005, the City fund had grown to over \$90 million.

When the California Supreme Court declined to hear the case, the Legislature addressed the issue by enacting Public Resources Code section 6217.8 which became effective in July 2005. Section 6217.8 established the Oil Trust Fund, required the City to transfer to the Oil Trust Fund all of the money, principal and interest, in its abandonment reserve and provided for monthly deposits of \$2 million into the Oil Trust Fund from the State's share of tidelands oil revenues. Section 6217.8 would halt the monthly deposits when the Oil Trust Fund reached \$300 million and would require all interest earned on the \$300 million in the Oil Trust Fund to be transferred to the General Fund. At such time as the remaining

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oil revenue payable to the State is insufficient to cover the costs of plugging of wells and removal of production facilities from the Long Beach tidelands, the Commission is authorized to spend the money in the Oil Trust Fund to cover the costs of 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.

Section 6217.8 requires the Commission to submit a report to the Department of Finance and the appropriate legislative committees on or before January 1, 2007, forecasting the time when the tidelands wells will be abandoned and the production facilities removed and estimating the amount of money that will be needed to pay the costs for this work. That report is attached to this calendar item as Exhibit B. The report includes (1) a forecast that well abandonment and production facilities removal requiring money from the Oil Trust Fund will begin in 2036 and (2) an estimate that the costs to the Oil Trust Fund, without accounting for inflation, will be \$243 million. The Commission staff recommends that section 6217.8 be amended to require that all interest earned on the money in the Oil Trust Fund be retained in the Oil Trust Fund rather than be transferred to the General Fund, so that the interest earned by the money in the Oil Trust Fund can provide a hedge against inflation and fully cover the inflated costs of well abandonment and facilities removal in 2036 and beyond.

EXHIBITS:

- A. Public Resources Code Section 6217.8
- B. Tidelands Oil Trust Fund Report

PERMIT STREAMLINING ACT DEADLINE:

N/A (not a "development project" subject to the Act)

STATUTORY AND OTHER REFERENCES:

- A. California Public Resources Code 6217.8

Exhibit A

Public Resources Code 6217.8

6217.8. (a) For purposes of this section, "fund" means the Oil Trust Fund established pursuant to subdivision (b).

(b) The Oil Trust Fund is hereby established in the State Treasury, and the moneys in the fund are hereby appropriated to the commission in accordance with this section.

(c) (1) On or before March 1, 2006, the City of Long Beach shall pay to the State Lands Commission all money, including both principal and interest, in the abandonment reserve fund that the city created in 1999 and that was the subject of the litigation in State of California ex rel. California State Lands Commission v. City of Long Beach (2005) 125 Cal.App.4th 767.

(2) The Controller shall deposit in the fund any funds paid to the commission pursuant to paragraph (1).

(3) Except as provided in paragraph (4), on the last day of each month beginning July 31, 2006, the Controller shall transfer to the fund the amount of two million dollars (\$2,000,000) or 50 percent of remaining oil revenue, as described in subdivision (d) of Section 4 of Chapter 138 of the Statutes of 1964, First Extraordinary Session to the Oil Trust Fund, whichever is less.

(4) Beginning July 1, 2005, and ending December 31, 2005, any contributions to the fund shall be suspended, except those funds described in paragraphs (1) and (2). During that period the Controller shall transfer four million dollars (\$4,000,000) monthly to the General Fund from oil revenues, as described in subdivision (d) of Section 4 of Chapter 138 of the Statutes of 1964, First Extraordinary Session.

(5) Beginning January 1, 2006, and ending June 30, 2006, the amount contributed to the fund shall be the amount specified in paragraph (3). During that period the Controller shall also transfer two million dollars (\$2,000,000) monthly to the General Fund from oil revenues, as described in subdivision (d) of Section 4 of Chapter 138 of the Statutes of 1964, First Extraordinary Session.

(d) (1) The total amount deposited in the fund shall not exceed three hundred million dollars (\$300,000,000). From the date the balance in the fund totals three hundred million dollars (\$300,000,000), all interest earned thereafter shall be transferred to the General Fund.

(2) All interest earned on the money in the abandonment reserve fund specified in paragraph (1) of subdivision (c) shall be transferred to the fund.

(3) The commission shall expend the money from the fund solely to finance the costs of 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.

(4) All money remaining in the fund after completion of all activities described in subdivision (3) shall be transferred to the General Fund.

(e) The moneys deposited in the fund are hereby appropriated to the commission commencing when all of the following conditions are met:

(1) The City of Long Beach adopts a resolution declaring that the oil revenue described in subdivision (d) of Section 4 of Chapter 138 of the Statutes of 1964, First Extraordinary Session, is insufficient to fund the costs of activities described in paragraph (3) of subdivision (d) of this section.

(2) The City of Long Beach transmits to the commission a copy of the resolution and all necessary accompanying documentation, including a plan for expenditures for the activities described in paragraph (3) of subdivision (d).

(3) The commission reviews the material provided in paragraph (2) and notifies the Controller within 60 calendar days of receiving the material specified in paragraph (2), that expenditure from the fund may be made so that activities described in paragraph (3) of subdivision (d) can begin. The commission shall provide a schedule for expenditures for disbursement of moneys from the fund to the City of Long Beach. The commission shall submit a copy of the schedule to the Department of Finance and to the fiscal and appropriate policy committees of the Legislature.

(f) On or before January 1, 2007, the commission shall report to the Director of Finance and the chairpersons of the appropriate legislative committees on both the following:

(1) A forecast of when the tidelands oil fields will be abandoned and require environmental mitigation.

(2) An estimate of the likely costs to mitigate the effects of extraction in the tidelands oil fields.

EXHIBIT B

**CALIFORNIA STATE LANDS COMMISSION
STAFF REPORT ON LONG BEACH TIDELANDS
OIL FIELD OPERATIONS, OIL TRUST FUND,
WILMINGTON OIL FIELD, LOS ANGELES COUNTY
NOVEMBER 2006**

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Estimate of Expected Mitigation Costs -----	Figure 3
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**CALIFORNIA STATE LANDS COMMISSION STAFF REPORT ON
LONG BEACH TIDELANDS
OIL FIELD OPERATIONS ABANDONMENT
WILMINGTON OIL FIELD, LOS ANGELES COUNTY**

I. INTRODUCTION

The State Lands Commission has prepared this report pursuant to the Oil Trust Fund legislation, which is section 6217.8 of the Public Resources Code. Section 6217.8(f) requires the Commission to prepare a forecast of (1) when Long Beach tidelands oil field abandonment and environmental mitigation will occur and (2) what the estimated cost of these liabilities will be.

This report, which discusses the analysis undertaken to respond to these questions, concludes that abandonment activities requiring monies from the Oil Trust Fund will occur in the year 2036, and the cost for paying for these activities, without accounting for inflation, is \$243,000,000.

II. BACKGROUND OF LONG BEACH TIDELANDS OIL DEVELOPMENT

The California Legislature granted to the City of Long Beach (City) in the early 1900s the tide and submerged lands within its boundaries subject to the public trust for commerce, navigation and fisheries. In 1937, General Petroleum discovered the Wilmington Oil Field on a parcel of land given to the Ford Motor Company by the City. After a finding that oil production was consistent with the trust, the City, through its Harbor Department, awarded an oil development and production contract to Long Beach Oil Development Company for trust lands within the Harbor District. In the 1940s and 1950s, the surface above the oil development subsided up to 29 feet in the center of an elliptical bowl. To prevent subsidence throughout a larger area, the City placed a moratorium on drilling wells east of the Los Angeles River. The City and State joined to pass legislation that forced unitization of the subsided areas. Through the newly created units, the City was able to begin waterflooding the oil reservoirs, halting subsidence and increasing oil production.

The State enacted Chapter 29, Statutes of 1956, 1st E.S., requiring the City to pay to the State half of the oil revenue it received and all the natural gas revenue from the tidelands oil and gas operations. In the late 1950s, the City drilled test wells in the offshore area east of the existing tidelands oil development and determined that the Wilmington Oil Field extended southeasterly from the Harbor to the eastern limits of the City. With subsidence being controlled by water injection, the City voters lifted the drilling moratorium and authorized development of the offshore extension of the Wilmington Field. The City mandated that the area be developed from four artificial, landscaped islands rather than using traditional metal platforms. The State enacted Chapter 138, Statutes of 1964, 1st E.S., allowing the City to develop the offshore area as part of the Long Beach Unit (LBU). Chapter 138 also created a Subsidence Fund from LBU revenues for the controlling of subsidence after oil production ceased and

established a revenue sharing formula for tidelands oil revenue. The City awarded the oil development and production contract for Tract 1 of the LBU to a consortium of Texaco, Humble (Exxon), Union, Mobil, and Shell (THUMS). Production began in 1966 with water injection being required simultaneously to prevent subsidence. In the 1990s, ARCO purchased the THUMS stock from its parent companies and joined with the State and City in obtaining legislation for the Optimized Waterflood Plan Agreement (OWPA). The OWPA required ARCO to invest capital in the redevelopment of the field and redefined the sharing of the revenues among ARCO, the City and the State. In 2000, Occidental Petroleum Company purchased ARCO's interest in the Long Beach Unit and formed Oxy Long Beach Inc. to hold the contractual interests.

In the early 1990s, the City became concerned about the huge outstanding abandonment liability associated with the tidelands oil operations. Based on an outside CPA firm's opinion that funding abandonment liabilities was a normal cost of business, the City began in early 2000 to fund the tidelands' abandonment liability from remaining oil revenue, which is the oil revenue payable to the State. The State filed suit against the City, challenging its authority to withhold these funds under the provisions of Chapter 138. After the Court of Appeal concluded that the City was permitted by Chapter 138 to make these withholdings, the State sought legislation establishing the State-controlled Oil Trust Fund for oil field abandonment. The legislation required the City to transfer all funds it had withheld from the State's share of tidelands oil revenues to the Oil Trust Fund.

III. TIDELANDS OIL TRUST FUND

In July 2005, legislation (SB 71) was enacted, and later amended in October 2005 (AB 137), adding Section 6217.8 of the Public Resources Code, that established the Oil Trust Fund for the purpose of funding the costs associated with well abandonment and facilities removal in the Long Beach tidelands. This fund, which resides within the State Treasury, will be appropriated to the State Lands Commission and made available for disbursement to the City when the City has determined that tidelands oil field revenues no longer are sufficient to pay for well abandonment and facilities removal. The law states that the total amount of the fund will not exceed \$300,000,000, and describes the method and funding source by which deposits to the fund will occur.

An initial fund deposit of \$98,395,585.38 was made from a transfer of abandonment reserve funds from the City to the State Lands Commission during March 2006. These abandonment reserve funds had accrued from the State's share of tidelands oil revenues withheld by the City prior to June 2005. Beginning in January 2006, monthly deposits to the fund have been made in the amount of \$2,000,000 from the State's share of tidelands oil revenues. The law states that these deposits will continue at \$2,000,000 per month (or 50% of remaining State oil revenues, whichever is less), providing the fund does not exceed \$300,000,000. At the time of this report, the fund balance is \$119,683,000. In addition to monthly oil revenue deposits, the fund also grows through interest accrued on the fund principal. The Commission staff applied economic assumptions to the tidelands oil field operating models and estimated that the

fund will reach its \$300,000,000 ceiling by 2012. As required by section 6217.8(d)(1), interest earned on the fund after that time will be transferred to the General Fund.

The legislation also contained a requirement that on or before January 1, 2007, the Commission report to the Director of Finance and the chairpersons of the appropriate legislative committees on 1) a forecast of when the tidelands oil fields will be abandoned and require environmental mitigation, and 2) an estimate of the likely costs to mitigate the effects of extraction in the tidelands oil fields. The following discussion in this report addresses both of these items in detail.

IV. FORECAST AND ANALYSIS

Assumptions

In order to prepare an estimate of when abandonment funds will be needed for the Long Beach tidelands oil operations, a forecast of the economic life of the field was prepared. This forecast is based on present day dollar value with no escalation or inflation, and uses an oil price of \$50 per barrel over the life of the forecast. Major assumptions listed on the attached Table 1 provide the framework around which the forecast was built. For purposes of this report, all figures discussed are "net" to the State's revenue interests in the Long Beach tidelands, and rounded to the nearest million dollars..

Forecast

There are two distinct components of the Long Beach tidelands oil operations, the older or more mature West Wilmington Field operated by Tidelands Oil Production Company (TOPKO) and the later developed Long Beach Unit (LBU) operated by THUMS. As the table of assumptions notes, the forecast presented here is derived from economic models for each of the City's contractors, THUMS and TOPKO.

To estimate the precise year when the abandonment fund will be needed, it was necessary to derive the State's cash flow from two economic models. The THUMS model for LBU accounts for certain provisions specific to the Optimized Waterflood Agreement (OWPA), and both the THUMS and TOPKO models take no account of the effects of inflation. The TOPKO operating costs were held constant once maximum gross rate (oil and water) is achieved.

At the present time under the assumed \$50 per barrel oil price, it is forecast that the more mature operations in the West Wilmington Field will end in 2031 and the operations in the LBU will end in 2039. This will result in a portion of the State's tidelands monthly revenue generated by the LBU being diverted to abandonment of the TOPKO operations. Also, at the time TOPKO operations cease, the "post production plan" operations will begin. Those are operations for subsidence control and mitigation, and whose costs are to be paid from tidelands oil revenues, so long as these revenues are available, and thereafter from the "subsidence fund" established by Chapter 138. The economic analysis indicates that the cash flow from LBU will be sufficient to pay for

essentially all the TOPKO well abandonments, and the post production plan costs to the year 2036. Beginning in 2036, however, tidelands revenues from the LBU no longer will be sufficient to pay the remaining TOPKO well abandonments, so disbursements to the City from the Oil Trust Fund will be necessary to complete this work. This cash flow forecast is shown graphically in Figure 1. The forecast also indicates the Oil Trust Fund will reach its legislative maximum of \$300,000,000 by 2012, as shown in Figure 2.

Liability Costs Analysis

The following discussion addresses the quantification of costs estimated for abandonment and mitigation activities.

In this section of the report, the Long Beach tidelands oil operations abandonment liability has been separated into three subcomponents: oil well abandonment; oil gathering, transport and processing facility abandonment (facility abandonment); and oil island abandonment.

As long as the present tidelands oil operations continue, a conservative well abandonment program can be paid for by cash flow from these operations. This program would result in abandoning 479 wells, out of a total of over 1700 wells, during the productive life of the field. This represents an estimated \$30 million in well abandonment costs that can be paid for prior to the abandonment fund being accessed.

At the end of field's productive life, there will be an estimated 881 wells requiring abandonment. This number of wells represents about \$56,000,000 in abandonment costs. In addition to well abandonment, it is estimated that \$83,000,000 in facility abandonment costs will be required. The abandonment of one oil island from LBU is estimated to be \$73,000,000. This brings the total well and facility abandonment costs to be incurred at production operations end to \$212,000,000.

In addition to the above liabilities, there will be some remaining cost liabilities associated with the post production plan activities. These activities are expected to continue for a number of years beyond the field abandonment phase. When post production plan activities no longer are required, the wells and facilities involved in these operations will need to be abandoned. It is estimated that these abandonment costs will be \$31,000,000. These costs would be paid from the subsidence fund. The City, however, believes the subsidence fund will be depleted by that time and not be sufficient to pay those remaining post production abandonment costs. Therefore, these costs have been added to the total costs to be paid from the Oil Trust Fund, as no other method presently exists to pay for them. Adding these costs results in a final liability total of \$243,000,000.

V. ADEQUACY OF FUND AMOUNT

As required in the legislation, this report addresses the timing of expected need of the monies in the Oil Trust Fund and the estimated costs necessary to mitigate the effects of oil extraction activities in the Long Beach tidelands. The costs to mitigate the effects of extraction include those costs associated with the abandonment of wells, removal of onshore and offshore oil extraction equipment and facilities and removal of one artificial offshore oil island. At the present time, the City has made no final determination regarding the disposition of the four offshore islands. For the purpose of this analysis, the staff has included the cost of removal of one island at \$73,000,000, resulting in an estimated mitigation cost of \$243,000,000. However, if all four islands are removed, though that possibility is remote, the mitigation cost will increase to a total of \$462,000,000.

The oil extraction mitigation costs estimated by staff in this report to be \$243,000,000 are based on well abandonment, facility removal and decommissioning, and island excavation costs using present day cost estimates. The reliability of that estimate, however, is subject to uncertainty or risk. Because disbursements from the fund are not expected to start until 2036, the prospect of the mitigation costs increasing due to inflation during that time is a valid concern. Staff has considered that possibility and quantified the effect of a moderate level of inflation on the mitigation costs. At a conservative growth rate of 3% per year over a 35-year period, the mitigation costs would increase from a present day estimate of \$243,000,000 to over \$644,000,000. An inflation scenario of that magnitude would render the fund significantly inadequate to pay for the mitigation costs. Figure 4 illustrates this magnitude showing the Oil Trust Fund at \$300,000,000 and the inflation effects over time, increasing the abandonment liability. The inadequacy of the fund amount would become even further compounded if more than one island is removed.

Because of the degree of uncertainty that remains regarding the ultimate cost of tidelands well and facility abandonment, a reassessment of these costs every four years is recommended. The staff further recommends that section 6217.8 of the Public Resources Code be amended to require that all interest earned on the money in the Oil Trust Fund be retained in the Oil Trust Fund rather than be transferred to the General Fund. In this way, the interest earned on the money in the Oil Trust Fund can provide a hedge against inflation and cover the inflated costs of well abandonment and facilities removal in 2036 and beyond.

VI. REPORT SUMMARY

This report has been prepared pursuant to section 6217.8(f) of the Public Resources Code. The two items that the legislation required the State Lands Commission to report on by January 1, 2007 have been addressed in this report as follows: 1) the tidelands oil fields will require environmental mitigation to be paid from the Oil Trust Fund beginning in the year 2036, and 2) the costs that will need to come from the Oil Trust Fund to abandon wells and facilities to mitigate the effects of extraction in the Long Beach

tidelands are estimated to be \$243,000,000, not accounting for inflation. The report points out that the mitigation cost amounts are subject to a certain degree of uncertainty for reasons discussed, but could be given a greater level of accuracy by reassessing the costs at four year intervals. The report also recommends amending the legislation to permit interest to remain in the Oil Trust Fund in order to provide sufficient monies to account for the effects of inflation.

ASSUMPTIONS

Table 1

Long Beach Tidelands Abandonment Model

Long Beach Unit cash flow model furnished by THUMS. *(This model assumes an unrestricted growth of wells and facilities in the ultimate development of the field, total well count reaches almost 1500) (There are 1692 total well slots within LBU, with 1449 drilled to date)*

Long Beach Wilmington Field cash flow model furnished by Tidelands Oil Production Co. (TOPKO)

(Tidelands model was changed to reflect no inflation and Op. Costs were held constant after constant gross rate is achieved)

Long Beach Unit Optimized Waterflood Computer Program Output for \$50 per barrel of oil case.

Other reference material:

City of Long Beach Gas and Oil Department, Wilmington Oil field 2004 Abandonment Report, and Post Production Costs model "Expected Case" *(Facility costs from 2004 were inflated by the CPI to update to year 2006)*

One price scenario is presented here, \$50 per barrel constant for field life
(Prices and costs are not inflated)

A portion of the well abandonment work is completed during field economic life. *(A phased well abandonment program is assumed to be carried out during remaining field life)*

Once TOPKO's operation becomes uneconomic and is shut-in, a portion of the abandonment of "old" Wilmington field is paid for within constrains of cash flow from LBU.

LBU Optimized Waterflood Computer Program results projected to end of field life.

City of Long Beach Costs associated with TOPKO and LBU operations were assumed to be \$6,000,000 per year.

Oil Trust Fund share in TOPKO abandonment at a minimum of 62.00%
Oil Trust Fund share in LBU abandonment at a minimum of 90.229%
(The above shares are current levels and assume no additions from W.I. owner Q.C.'s)

Estimated average well abandonment costs were \$86,000 per well.

Wells and facilities used in "Post Production Plan" are abandoned by Oil Trust Fund *(As to current Oil Trust Fund share levels shown above)*

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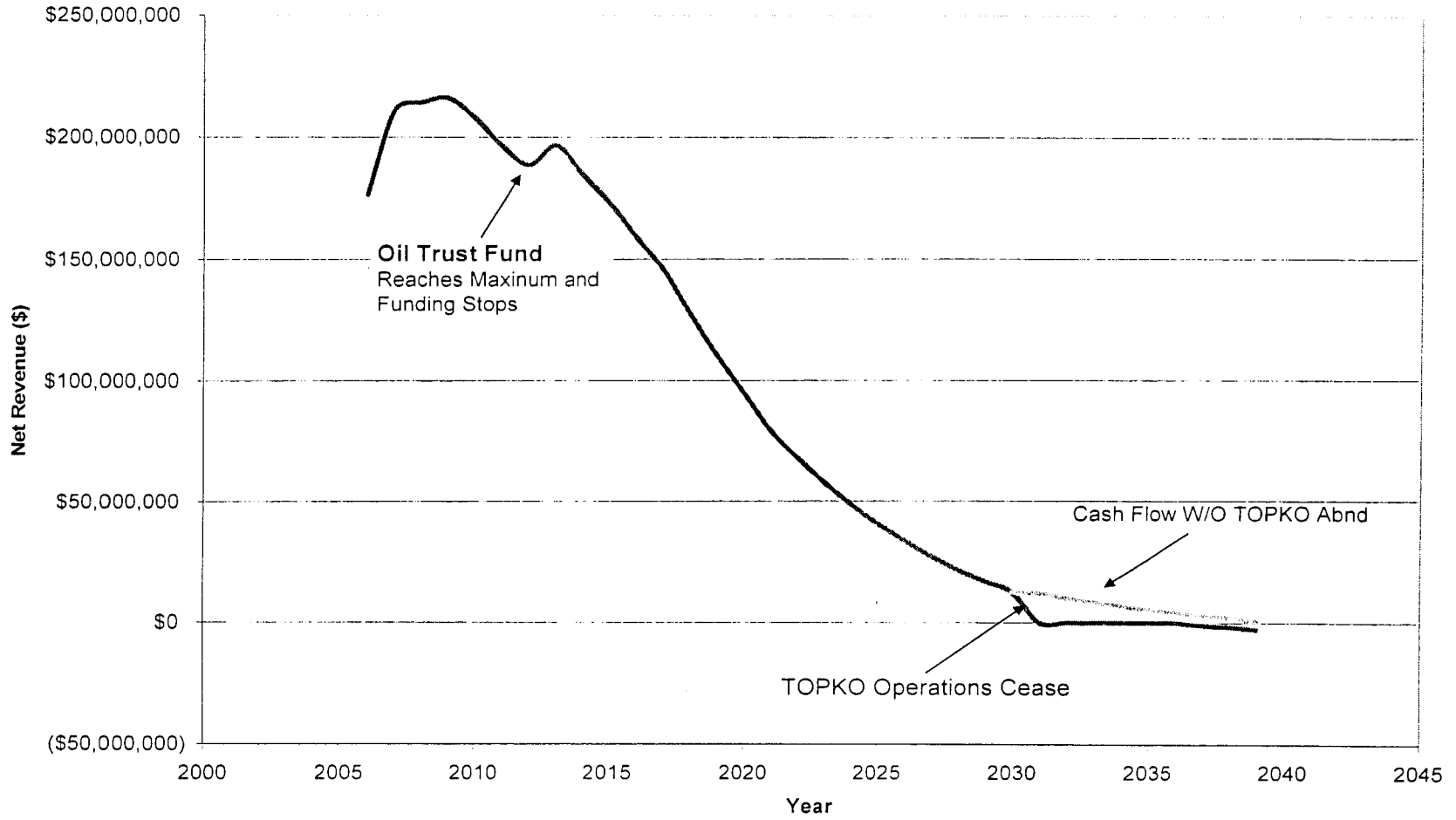
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Long Beach Tidelands Estimated State Cash Flow

Figure 1

With TOPKO Abandonment Costs



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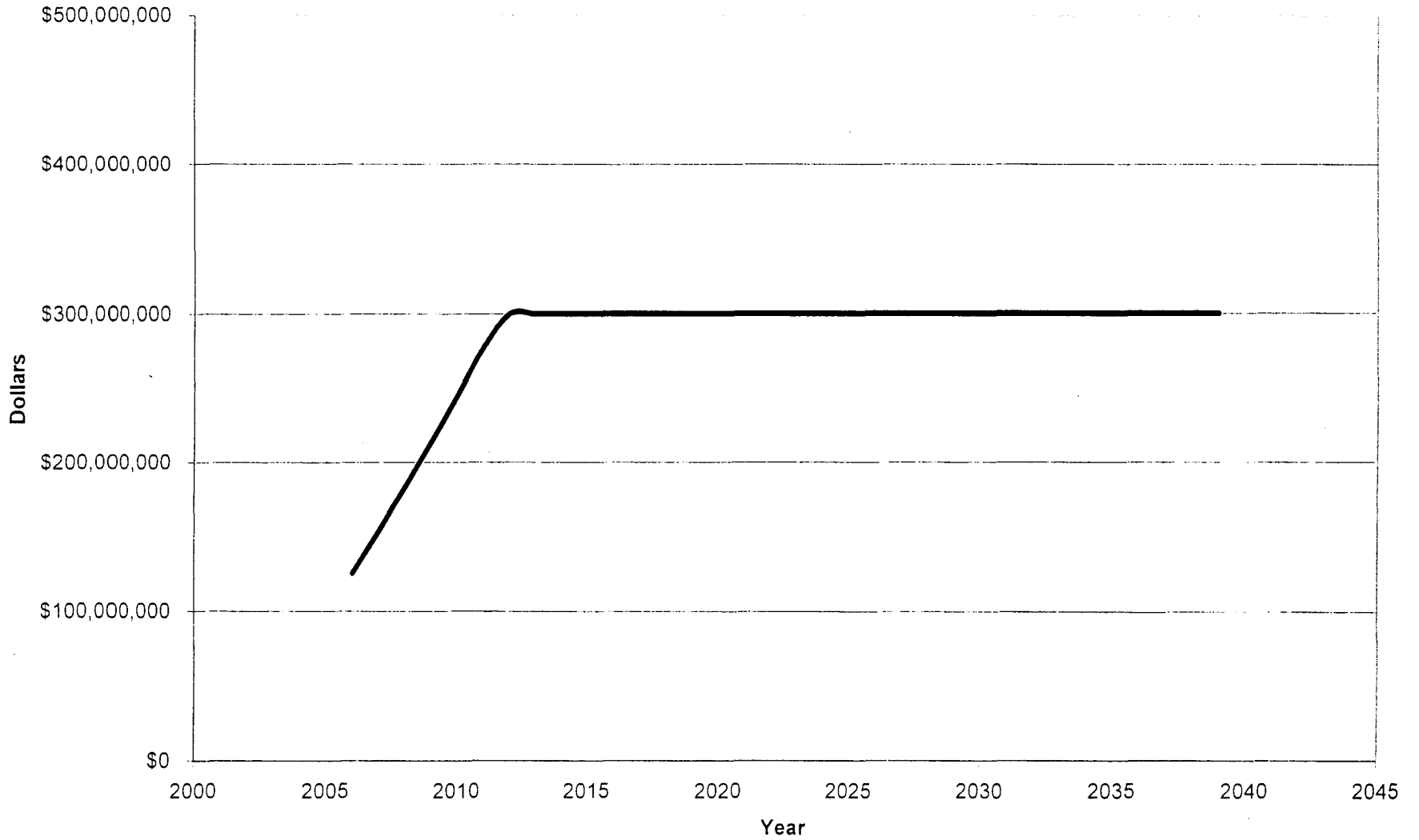
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Long Beach Tidelands \$50/BO Case

Oil Trust Fund Balance by Year

Figure 2



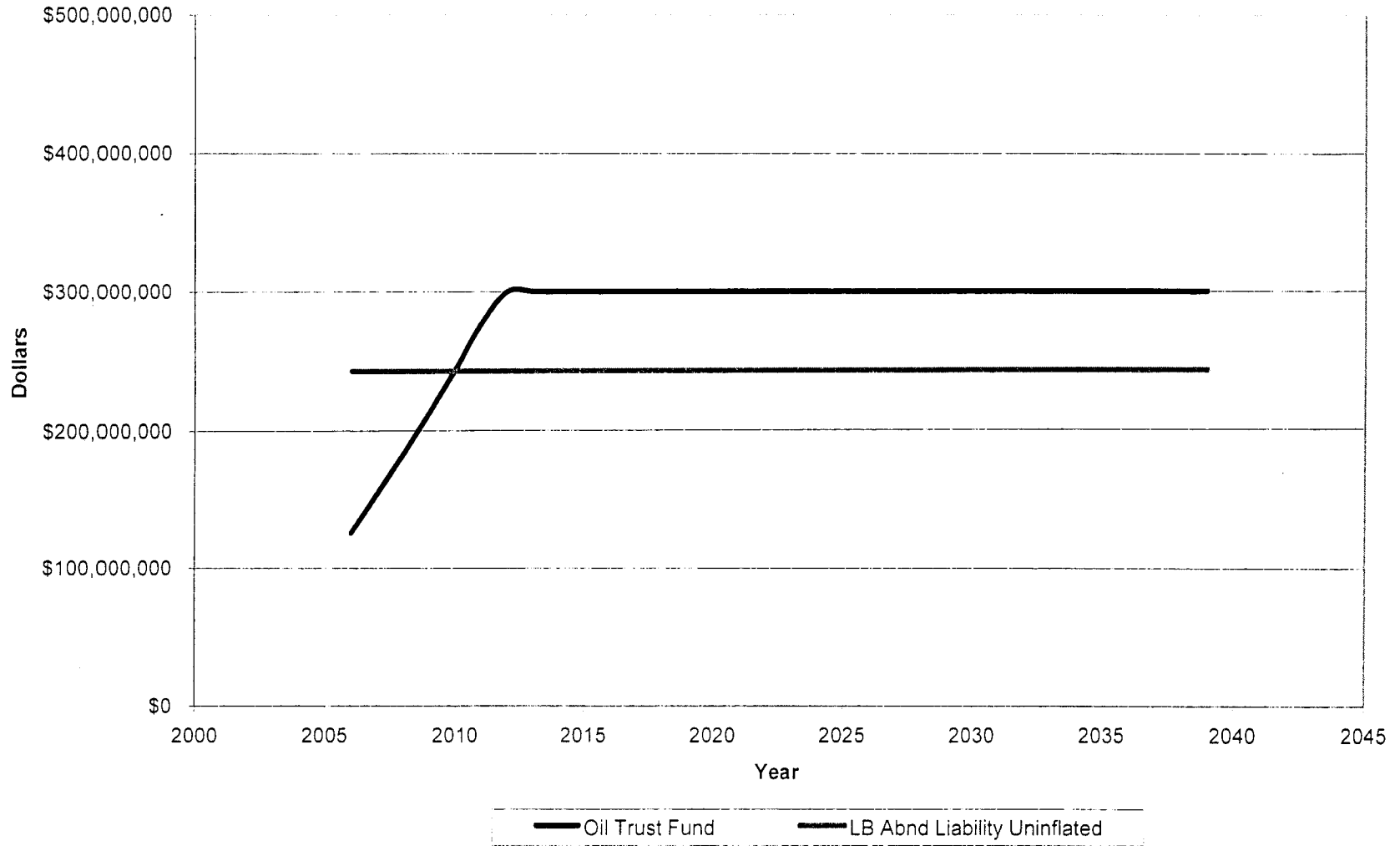
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Long Beach Tidelands \$50/BO Case

Oil Trust Fund and Abandonment Liability

Figure 3



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Long Beach Tidelands \$50/BO Case Oil Trust Fund and Inflated Abandonment Liability

Figure 4

