

***Ohio Petroleum Underground Storage  
Tank Release Compensation Board***

**Estimated Unpaid Claims Liability**

**As of June 30, 2020**

**Petroleum Underground Storage Tank Release Compensation Board  
Estimate of Unpaid Reimbursement Liability  
For the Year Ended June 30, 2020**

**Purpose of Report**

The Petroleum Underground Storage Tank Release Compensation Board (the Board) was created in 1989 to administer Ohio's Petroleum Underground Storage Tank (UST) Financial Assurance Fund (the Fund). The Fund was created in response to U. S. Environmental Protection Agency (EPA) regulations requiring responsible persons (UST owners and operators) to demonstrate the capability to pay for correction actions caused by accidental releases of petroleum from UST systems and costs for third party liability resulting from releases. The Fund generally reimburses UST owners up to \$1 million per release, less a deductible. The deductible is based on the number of tanks owned and fees paid in a given year. An owner may receive up to \$4 million per year, depending on the number of tanks owned. To obtain a Certificate of Coverage and be eligible for reimbursement from the Fund, owners must participate in the Fund by paying an annual per-tank fee and certifying compliance with federal and state regulations as well as complying with the Board's internal procedures regarding the reporting and remediation of releases.

The Board annually estimates the unpaid reimbursement liability of the Fund. In fiscal years' 2003 and 2007, as a result of changes in assumptions, the Board engaged a professional actuary firm to perform an independent review of the assumptions and methodology used in developing this estimate as well as to provide an estimate of the Fund's unpaid reimbursement liability for the fiscal year under review. Under the guidance of a professional actuary firm, beginning in fiscal year 2010, management modified the historical analysis framework by adjusting the data available at April 30 to expected June 30 values. These expected values are then used in the development of the loss reserve estimate at June 30.

As a result of ongoing litigation, the Board took action at its January 2015 meeting to suspend the settlement of 221 claims filed by four major oil companies (Held Claims). For fiscal years 2018 and 2019, the Board engaged an independent actuarial firm (the Actuary) to develop an estimate of the liability of the unpaid Held Claims, which was combined with the analysis of the unpaid non-Held Claims performed by Board staff to provide a total loss reserve estimate as of June 30, for each respective year.

During fiscal year 2020, the Board entered into a Settlement Agreement and Release (Agreement) with one of the major oil companies. The Agreement provides for payment to the major oil company of \$12.6 million spread over fiscal years 2020 through 2023 to resolve 143 of the Held Claims (Settled Held Claims). The Agreement also included resuming the settlement process for 34 of the Held Claims for which a subsequent owner or jobber of the subject release site agreed to continue conducting remediation on behalf of the major oil company (Jobber Claims). At its June 10, 2020 meeting, the Board approved contracting with the Actuary for the purpose of assisting the Fund in developing potential claim liability estimates for unpaid claims as of June 30, 2020. The Actuary performed an independent analysis of the Settled Claims, Jobber Claims, and remaining 44 Held Claims; management performed an internal analysis of the non-Held Claims. In addition to the formal report provided to the Fund (Independent Actuarial Analysis), the Actuary reviewed management's internal analysis and provided feedback to management. A copy of the Independent Actuarial Analysis may be obtained, pursuant to Ohio Revised Code 149.43, by writing to the Board at P.O. Box 2280, Westerville, Ohio, 43086-2280 or by calling 614-752-8963.

The author of this report is not an actuary, but discussed certain assumptions with the Actuary who provided the Independent Actuarial Analysis and relied on the Actuary's professional input during development of the estimate of the loss reserves and in the preparation of this report.

The following report and schedules are management's estimate of the Fund's loss reserves for the year ended June 30, 2020.

**Approach**

*Separation of Claims*

To facilitate the Actuary's review, management provided a listing of the 221 Held Claims, which includes the 143 Settled Held Claims and 34 Jobber Claims. In addition, the historical data on all claims as of April 30, 2020

was provided. A database containing only non-Held Claim data as of April 30, 2020 was used by management to prepare the unpaid claim liability estimate for the non-Held Claims.

The Actuary performed an independent analysis of the Held Claims and provided its findings to management. The results of the Actuary's analysis were combined with management's analysis of the non-Held Claims to obtain the total estimate of the Fund's unpaid claims liability as of June 30, 2020. Additionally, the Actuary reviewed management's analysis of the non-Held Claims and provided comments to management.

#### *Use of April 30 data*

Similar to the loss reserve estimate for fiscal year 2019, the Board's staff has prepared this report utilizing data available as of April 30, 2020 to estimate the Fund's unpaid reimbursement liability as of June 30, 2020.

Using data available as of April 30, 2020, adjustments were made to the most current year's data (July 1, 2019 – June 30, 2020) to provide expected values as of June 30, 2020. The adjustment, which assumes no seasonality in the notification or payment of claims is as follows:

Estimated June 30, 2020 value = June 30, 2019 value + (April 30, 2020 value – June 30, 2019 value) x (12/10)

The development of the loss reserve estimate utilized values adjusted to June 30, 2020 for the following items:

- Paid Losses (Reported Exhibit 6)
- Gross Face Value (Reported Exhibit 18)
- Reported Claims by Notification Year (Reported Exhibit 29)
- Closed Claims (Reported Exhibit 30)
- Paid Loss on Closed Claims (Reported Exhibit 11)

The Ratio of Disallowed Costs on Closed Claims to Cumulative Gross Face Value on Closed Claims (Reported Exhibit 25), and the Ratio of Deductible Recoveries on Closed Claims to Cumulative Gross Face Value less Disallowed Costs on Closed Claims (Reported Exhibit 27) use unadjusted April values.

The use of values adjusted to June 30 has the potential to impact the development process. Variances could exist due to abnormalities occurring during the last two months of the fiscal year in relation to the number of claims submitted, amount of gross face value from claims submitted, amount of claim payments, and number of claims closed. However, based upon a comparison of management's expected values against actual data as of June 30, 2020, the utilization of the April 30, 2020 data to develop expected June 30, 2020 values did not result in a significant variance that could have distorted the results of the development process.

#### *Actuarial Methods*

For the review of non-Held Claims, management used the following five actuarial methods in projecting ultimate fund losses by program notification year:

- Paid loss development
- Average loss
- Bornhuetter-Ferguson using average loss and paid loss
- Ultimate gross face value adjusted for disallowed costs and deductible recoveries
- Bornhuetter-Ferguson using ultimate gross face value and paid loss

Based on the results of these five tests, ultimate losses are selected by program notification year.

The estimated liability on the incurred but not reported (IBNR) claims as of June 30, 2020 was determined by estimating the ultimate claims by program release year using the following two actuarial methods:

- Reported claim development
- Bornhuetter-Ferguson using exposures and reported claims

Because of regulatory requirements that the Board receive an Application for Eligibility within one year of the release date, the liability on unreported claims is limited to only the latest release year. For fiscal year 2020, this is the period of July 1, 2019 through June 30, 2020.

In addition to the IBNR claims, 88 applications for eligibility were pending review and determination at June 30, 2020. These are added to the IBNR counts. Based on past history, management estimates 60% of the pending applications for eligibility to seek reimbursement from the Fund will be granted.

**Findings**

The Independent Actuarial Analysis of Fund Liabilities for Held Claims as of June 30, 2020 provided a range of net unpaid claim liability as follows:

Estimate	Total
Optimistic	\$ 11,989,300
Actuarial Central	\$ 13,324,220
Pessimistic	\$ 14,542,250

Following discussions with the Actuary, management selected the Actuary's Actuarial Central Estimate of \$13,234,200 as the total unpaid claim liability for Held Claims. It is management's understanding that the Actuarial Central Estimate reflects assumptions in line with the Fund's historical experience and is neither optimistic, nor pessimistic. The Fund estimated that of the total \$13,324,220 unpaid claim liability estimate provided by the Actuary, \$12,850,220 would be allocated for Held Claims reported prior to June 30, 2020, and \$384,000 would be allocated for Held Claims incurred but not reported as of June 30, 2020.

Management's estimate of the unpaid claim liability for non-Held Claims reported as of the valuation date of June 30, 2020 is \$21,343,300. Management's estimated unpaid claim liability of non-Held Claims incurred but not reported as of June 30, 2020 is \$3,817,500.

Based on management's analysis of non-Held Claims and its selection of the Actuarial Central Estimate for Held Claims, the Fund's total unpaid loss liability as of June 30, 2020 is estimated at \$38,395,020.

The table below details this amount and compares it to the estimate of the unpaid loss liability as of June 30, 2019.

Summary of Unpaid Liabilities				
Valuation Date		Claims Reported As of Valuation Date	Claims Unreported As of Valuation Date	Total
June 30, 2020	Non-Held Claims	\$ 21,343,300	\$ 3,817,500	
	Held Claims	12,850,220	384,000	
	Total	\$ 34,193,520	\$ 4,201,500	\$ 38,395,020
June 30, 2019	Non-Held Claims	\$ 20,201,652	\$ 3,108,800	
	Held Claims	19,883,000	407,000	
	Total	\$ 40,084,652	\$ 3,515,800	\$ 43,600,452

### Reported Claims

The decrease in the estimated unpaid liability for reported claims from the June 30, 2019 valuation is due to the Agreement, which resulted in a decrease in the estimated ultimate loss for Held Claims from the prior year, and claim reimbursements being paid at a rate greater than the increase in the estimated ultimate loss. The estimated ultimate loss increased approximately \$5.48 million from June 30, 2019 to June 30, 2020. The increase in the estimated ultimate loss has three components. The first is the change in the estimates of ultimate losses for Notification Years 2018 and prior, which increased by \$3.19 million. The second component is the estimate of ultimate losses for Notification Year 2019 which totaled \$1.61 million. The third component is the change in the estimate of Unreported Claims, which increased by \$685,700. By comparison, in fiscal year 2020, approximately \$10.68 million was reimbursed.

The following table summarizes the change in the Estimated Unpaid Ultimate Losses:

<u>Estimate as of June 30, 2019</u>	
(1) Notification Years 2018 and Prior	\$ 40,084,652
(2) Unreported Claims	3,515,800
(3) Total	\$ 43,600,452
<u>Change in Estimated Ultimate Claims</u>	
(4) Notification Years 2018 and Prior	\$ 3,187,562
(5) Notification Year 2019	1,605,600
(6) Unreported Claims	685,700
(7) Total	\$ 5,478,862
(8) <u>Paid Losses June 30, 2019 – June 30, 2020</u>	\$ 10,684,294
(9) <u>Unpaid Loss June 30, 2020 [(3)+(7)-(8)]</u>	\$ 38,395,020

### Unreported Claims

Unreported claims has two components:

- Incurred but Not Reported; and
- Undetermined eligibility applications.

The estimated loss on unreported claims increased \$685,700 or 19.5% from \$3,515,800 as of June 30, 2019 to \$4,201,500 as of June 30, 2020. This is a result of an increase in the number of undetermined eligibility applications.

### Changes from Prior Analysis

Changes in the methods used to make selections in the process of determining the estimated ultimate loss will have an impact on the loss reserves. There were no changes from the prior year in the way selections were made for the valuation period ending June 30, 2020.

## Considerations

Revisions in federal law and the Ohio Administrative (OAC) and Revised (ORC) Codes as well as the Board's internal procedures affect the timing and amount of claim reimbursements. The following changes and assumptions are incorporated in previous reports and continue to affect the outcome of management's estimate:

- UST Performance Standards

In 1988, more stringent requirements were mandated for the design, installation, corrosion protection and release detection of petroleum USTs. All existing tanks were required to be upgraded by December 22, 1998. However, because owners were permitted to take their tanks out of service for up to one year prior to replacement or upgrading, management assumes that all tanks meet the new performance standards as of December 22, 1999.

Because the process of removing and replacing tanks leads to the discovery of more releases, the Fund experienced a large number of claims leading up to December 22, 1998. The number of releases versus the number of tanks decreased significantly after the upgrade deadline and management assumes that this reduced frequency will continue.

- Change in Procedures for Providing Notification (1996)

Prior to 1996, no restrictions existed with regards to notifying the Board of a release. Consequently, the Board may have not received notification of a release occurring in 1990 until several years later. However, effective in November 1996, a change to the OAC imposed a one-year time limit for notifying the Board of a discovered release. Releases required to be reported to the State Fire Marshal (SFM) prior to January 1, 1996 were now required to be reported to the Board on or before January 1, 1997. Releases occurring thereafter must be reported to the Board within one year from the date the release or suspected release, whichever is first, was required to be reported to the SFM. This change in reporting resulted in the unusually high number of claims reported to the Board during the 1996 notification year and the corresponding increase in gross face value.

- Change in Procedures for Submitting Costs (1999)

Prior to 1999, no restrictions were placed on the timing of cost submissions. Owners could submit costs at any point during investigation and remediation of the release or alternatively, wait until all corrective action was complete. However, a change to the OAC in 1999 required that all costs incurred for corrective action program tasks completed prior to July 1, 1999 and that were not previously submitted to the Board, be submitted by July 1, 2000. In addition, costs for program tasks that were completed after July 1, 2000 are required to be submitted within a year of the completion date defined within the OAC.

The immediate effect of this change was a significant increase in the amount of costs submitted in the 1999 notification year. Requiring timely submission of costs results in the acceleration of the reported gross face value when compared to costs submitted prior to this change.

- Change in Reimbursement of Non Pre-approved Costs

After the Board's staff reviews a reimbursement application, a settlement determination is issued to the owner. Settlements are generally determined as the gross face value less non-reimbursable and undocumented costs and an individual owner's deductible amount. Beginning in 1999, certain corrective action costs require pre-approval in order to be eligible for full reimbursement. Costs that were not pre-approved as required were subject to a 10% reduction in the amount of reimbursement. In 2003, this 10% reduction was increased to 20% and in April 2005, it was increased to 50%. Effective November 30, 2009, the Board amended its rule, OAC 3737-1-12.1, requiring the pre-approval of costs. As a result of this amendment, only costs exceeding the pre-approved amount by more than 20% or \$6,000, whichever is less, that are not pre-approved are subject to a 50% reduction in the amount of reimbursement.

Because the pre-approval process combined with the penalty for failure to obtain pre-approval when required provides incentive to use the most cost effective cleanup method, management believes mandatory cost pre-approval has the effect of reducing both gross face value and disallowed costs. Additionally, management believes the November 30, 2009 change to the OAC does not impact its estimate of ultimate losses.

- Introduction of Risk Based Corrective Action (RBCA) (1999)

In 1999, a new set of standards for corrective actions was introduced which impacted all releases occurring on or after March 31, 1999. A Risk-Based Corrective Action (RBCA) process was established, allowing for site specific cleanup remedies based on the anticipated future use of the site. Previous to that time, all corrective actions were held to generic standards without consideration of future site use. It was anticipated that the speed of the corrective action process would be accelerated and the overall cost of remediation would be reduced with the implementation of the RBCA process.

Responsible persons with claims, where the release date was before March 31, 1999 (regardless of the status of the corrective action), had the option to remediate their sites in compliance with either the original (non-RBCA) standards or the RBCA process. In loss reserve analyses prior to June 30, 2007, an adjustment was included to reflect the possible impact of the optional RBCA processing. However, beginning with the June 30, 2007 valuation, management assumes the impact from RBCA is imbedded within the data used to develop the estimates and as a result, an adjustment is not necessary.

- Mandatory Risk Based Corrective Action (RBCA) (2005)

Beginning in March 2005, existing clean ups being conducted under the 1992 or 1999 corrective action rules were required to transition to the 2005 RBCA rules by September 1, 2005 or March 1, 2006, respectively, unless approval to remain in an earlier version of the rule was sought from and granted by the SFM. Under the 2005 RBCA rules, the corrective action levels were lowered thereby increasing the amount of corrective action that must be performed to reach acceptable levels of contamination that may remain at the release site. In addition, the 2005 RBCA rules require additional testing and reporting. Consequently, the costs of corrective action are anticipated to increase for releases that were transitioned to or occurred after the implementation of the March 31, 2005 corrective action rules.

- State Fire Marshal's Corrective Action Rules (2012)

Beginning in March 2012, existing clean ups being conducted under the 1992, 1999, or 2005 corrective action rules were required to transition to the 2012 rules by October 1, 2012, unless approval to remain in an earlier version of the rule was sought from and granted by the SFM. For a limited number of releases transitioned from the 2005 to 2012 corrective action rules, the change will decrease the amount of corrective action that must be performed to reach acceptable levels of contamination that may remain at the release site. This, in turn, will reduce the costs to closure of corrective action for this limited number of releases. It is management's belief that costs for transitioning to the 2012 correction action rule do not significantly impact the Fund's liability.

- State Fire Marshal's Corrective Action Rules (2017)

Effective September 1, 2017, the SFM amended rule 1301:7-9-13 of the Administrative Code to include additional chemicals of concern (COCs). Unlike the 2005 and 2012 corrective action rules previously discussed, responsible persons are not required, but may elect, to conduct corrective actions for a release discovered before the effective date of the rule in accordance with the 2017 corrective action rule. Releases discovered on or after September 1, 2017 must be assessed and remediated under the 2017 corrective rule. Chemicals of concern that exceed site specific target levels must be cleaned up to acceptable levels. It is management's belief that any additional costs to test for and clean up these newly added COCs will not significantly impact the Fund's liability.

- Limitations on Annual Reimbursement Amounts

Prior to the 1997 notification year, no restrictions were placed on the amount of funds available to make reimbursements during an annual period. Effective with the 1997 notification year, changes to

the OAC required the Board to annually obligate a set amount of funds for the payment of claims reimbursements. The amounts obligated by notification year were as follows:

Years	Annual Obligated Amount
1997 - 2000	\$15 Million
2001	\$12 Million
2002 – 2005	\$10 Million
2006 – 2009	\$9 Million
2010	\$8 Million
2011-2019	\$9 Million
2020	\$13 Million

- Change in Procedures for Processing and Prioritizing Claims Reimbursement

As a means to collectively settle costs submitted incrementally for reimbursement and to manage the backlog of claims created by the regulations requiring timely submission of corrective action costs for reimbursement, beginning in 2004 and continuing through the 2009 notification year, the Board offered lump sum settlements to three major oil companies for releases for which the SFM had issued a “No Further Action” (NFA) determination. A summary of those lump sum settlements follows:

Notification Year	Lump Sum Payments	Lump Sum Claims
2003	\$663,775	36*
2004	\$1,517,500	91
2005	\$912,000	23
2006	\$1,832,000	34
2008	\$1,820,000	30
2009	\$1,215,000	96

\*In 2007, 24 claims were re-opened and additional costs continue to be submitted with a 25% reduction in the reimbursable costs as determined by the Board.

Until April 2005, applications for claim reimbursement were generally settled on a first-come, first-serve basis. Applications are submitted incrementally as corrective action program tasks are completed. A change to the OAC in 2005 permitted the prioritization of applications based on the NFA status. Consequently, when the SFM issues a determination of NFA, all in-house applications can be simultaneously reviewed and settled.

Both the lump sum settlements and the prioritizing of reimbursement applications according to the NFA status had the affect of accelerating the number of closed claims and the determination of disallowed costs and deductible values. The prioritization of claims also had the unintended effect of increasing the time to review claims for releases with ongoing investigation and remediation. In December 2011, the prioritization of applications based on NFA status was discontinued and all in-house unsettled claims are generally settled on a first-come, first-serve basis.

- Claims Lag

Due to the regulations requiring incremental and timely submission of corrective action costs for reimbursement and staffing limitations, the number of claim reimbursement applications received exceeded the number of claim reimbursement applications settled from the 1999 notification year to the 2010 notification year. This in turn delayed the determination of disallowed costs and the issuance of claim reimbursement payments, affecting the development factors. In notification years 2011 through 2017, the number of claim reimbursement applications settled outpaced the number of claim reimbursement applications received. In notification year 2018, the number of claim reimbursement applications received exceeded the number of claim reimbursement claims settled due to the retirement of key personnel. In notification year 2019, the Board’s staff moved to a teleworking schedule in response to the COVID-19 pandemic, resulting in further delays in claim reimbursement response times and again, the number of claim reimbursement applications received exceeding the number of claim reimbursement applications settled. These delays do not significantly affect the development factors for the June 30, 2020 estimate.



- Ongoing Data Clean-Up

Beginning in 1999, the Board began a re-write of its database system. As part of this project, claims reimbursement data was migrated to the new system and data integrity checks were implemented. Over the past several years, the claims tracking data was reviewed and corrected where appropriate.

In the current reporting period, three claims which were being reviewed for eligibility and not included in the data in prior years, were added to the 2015, 2016 and 2017 notification year's data upon determination of eligibility. It is management's belief that this change does not have a significant impact on its estimate of the Fund's ultimate losses

Although future changes in historical values are not currently anticipated, data corrections may nonetheless be required. However, any changes will continue to be very minimal.

- Claims Suspended Due to Pending Litigation

At its January 2015 meeting, the Board took action to suspend the settlement of any and all claim reimbursement applications filed by or on behalf of any responsible person against whom the Board has authorized the filing of a complaint in litigation. The Board authorized the filing of four complaints and the settlement of claim applications for the reimbursement of costs related to 221 claims were suspended. As of June 30, 2020, there are 44 claims for which the settlement of the claim applications continue to be suspended. In fiscal years 2018 through 2020, the Board retained the Actuary to assist management with determining the impact of this suspension on the Fund's loss reserves. Therefore, it is management's belief that the effect of this suspension on the Fund's loss reserves has been incorporated into the development of the potential claim liability for unpaid claims as of June 30, 2020.

- Claim Settlement Agreement

At its November 20, 2019 meeting, the Board authorized entering into a Settlement Agreement and Release with a major oil company in exchange for a mutual release and covenant not to sue. Pursuant to the Agreement executed on December 5, 2019, the Board agreed to pay and the major oil company agreed to accept \$12.6 million to be paid in four installments as full and complete satisfaction of all claim reimbursement applications that have been or could be submitted by the major oil company or its vendors for corrective action costs it incurred for Fund eligible claims submitted on or before the effective date of the Agreement. This Agreement resulted in the settlement of claimed costs associated with 143 releases. The payment schedule is as follows:

Fiscal year	payment
2020	\$ 4.1 million
2021	\$ 4 million
2022	\$ 4 million
2023	\$ 500,000

The unpaid liability of \$8,500,000 at June 30, 2020 is included in the Independent Actuarial Analysis for the year ended June 30, 2020.

### **Limitations / Caveats**

The results of this analysis are management's estimates and are likely to change from one valuation period to the next. The changes are due not only to the uncertain nature of the claims reimbursement process, but also because the past is used to forecast the future, with the assumption that the conditions that existed in the past will continue.

Summary of Reserve Estimates

As of June 30, 2020

(A) Estimated Loss Reserves From Non-Held Claims Reported Prior to 7/1/20:	\$ 21,343,300
(B) Estimated Loss Reserves From Held Claims Reported Prior to 7/1/20:	12,850,220
(C) Estimated Loss Reserves From Non-Held Claims Reported or Approved After 7/1/20:	3,817,500
(D) Estimated Loss Reserves From Held Claims Reported or Approved After 7/1/20:	384,000
(E) Total Reserves (A) + (B) + (C) + (D):	\$ 38,395,020

Notes:

1. Row (A) is from Reported Exhibit 1, total column (3).
2. Row (B) is from Independent Actuarial Analysis, Exhibit 1, column (10), All Held Claims @ 4/30/20 Actuarial Central Estimate less amount in Row (D)
3. Row (C) is from Unreported Exhibit 1, total column (6).
4. Row (D) is from Independent Actuarial Analysis, Exhibit 2, Actuarial Central, value of (Column 21: Row 2 x Row 7), less (Column 21: Row 2 x Row 7 x Column 23: Row 12), less (Column 21: Row 2 x Row 7 x Column 23: Row 16)
5. For Row (B) the Independent Actuarial Analysis includes payments for Held Claims through June 30, 2020.

Ohio Petroleum Underground Storage Tank Release Compensation Board  
By Notification Year

Reported Exhibit 1  
Held Claims Removed

Summary of Losses and Reserves  
As of 6/30/2020

Notification Year	Ultimate Loss	Paid Loss	Indicated Loss Reserves (1) - (2)	Open Claims	Loss Reserve Per Open Claim (3) / (4)
	(1)	(2)	(3)	(4)	(5)
1989	\$ 22,040	\$ 22,040	\$ -	0	\$ -
1990	29,566,200	29,375,697	190,503	21	9,072
1991	48,879,200	48,422,781	456,419	28	16,301
1992	26,599,700	25,939,629	660,071	13	50,775
1993	22,592,900	22,194,890	398,010	14	28,429
1994	15,942,300	15,364,615	577,685	17	33,981
1995	18,697,600	18,042,438	655,162	13	50,397
1996	27,648,900	26,406,758	1,242,142	23	54,006
1997	7,987,500	7,467,142	520,358	7	74,337
1998	10,346,300	9,724,926	621,374	31	20,044
1999	6,938,300	5,992,248	946,052	15	63,070
2000	2,669,100	2,553,262	115,838	3	38,613
2001	1,767,400	1,602,725	164,675	2	82,338
2002	1,914,700	1,674,911	239,789	5	47,958
2003	1,328,300	1,152,557	175,743	5	35,149
2004	1,103,400	975,989	127,411	4	31,853
2005	3,122,100	2,842,303	279,797	10	27,980
2006	3,576,000	2,866,599	709,401	7	101,343
2007	3,538,300	2,801,405	736,895	9	81,877
2008	4,414,100	3,765,976	648,124	19	34,112
2009	4,957,700	4,712,007	245,693	18	13,650
2010	2,356,500	2,278,322	78,178	11	7,107
2011	2,060,100	1,414,592	645,508	12	53,792
2012	3,314,100	2,041,452	1,272,648	26	48,948
2013	2,717,000	1,604,525	1,112,475	13	85,575
2014	4,845,000	3,623,146	1,221,854	26	46,994
2015	2,607,300	1,442,379	1,164,921	14	83,209
2016	2,843,000	1,447,024	1,395,976	21	66,475
2017	1,836,800	292,263	1,544,537	29	53,260
2018	2,039,500	65,039	1,974,461	43	45,918
2019	1,221,600	-	1,221,600	25	48,864
<b>Total</b>	<b>\$ 269,452,940</b>	<b>\$ 248,109,640</b>	<b>\$ 21,343,300</b>	<b>484</b>	<b>\$ 44,097.73</b>

1. Column (1) is from Reported Exhibit 4, column (7).
2. Column (2) is Actual Paid Loss as of June 30, 2020.
3. Column (4) is from Reported Exhibit 28, Column (2)

Ohio Petroleum Underground Storage Tank Release Compensation Board  
By Notification Year

Reported Exhibit 2

Estimated Ultimate Average Loss  
As of 06/30/2020

Notification Year	Ultimate Loss (1)	Ultimate Claims (2)	Ultimate Average Loss (1) / (2) (3)	Change in Ultimate Average Loss (4)	Percentage Change (4) / Prior (3) (5)
1989	\$ 22,040	1	\$ 22,040		
1990	29,566,200	323	91,536	69,496	315.319
1991	48,879,200	623	78,458	-13,078	-14.288
1992	26,599,700	348	76,436	-2,022	-2.577
1993	22,592,900	352	64,184	-12,252	-16.029
1994	15,942,300	276	57,762	-6,422	-10.006
1995	18,697,600	274	68,239	10,477	18.139
1996	27,648,900	445	62,132	-6,107	-8.949
1997	7,987,500	158	50,554	-11,579	-18.635
1998	10,346,300	211	49,035	-1,519	-3.005
1999	6,938,300	104	66,714	17,680	36.056
2000	2,669,100	65	41,063	-25,651	-38.449
2001	1,767,400	34	51,982	10,919	26.591
2002	1,914,700	45	42,549	-9,433	-18.147
2003	1,328,300	53	25,062	-17,487	-41.098
2004	1,103,400	40	27,585	2,523	10.066
2005	3,122,100	60	52,035	24,450	88.635
2006	3,576,000	61	58,623	6,588	12.661
2007	3,538,300	69	51,280	-7,343	-12.526
2008	4,414,100	73	60,467	9,187	17.916
2009	4,957,700	77	64,386	3,919	6.481
2010	2,356,500	34	69,309	4,923	7.646
2011	2,060,100	47	43,832	-25,477	-36.759
2012	3,314,100	68	48,737	4,905	11.190
2013	2,717,000	49	55,449	6,712	13.772
2014	4,845,000	68	71,250	15,801	28.497
2015	2,607,300	44	59,257	-11,993	-16.833
2016	2,843,000	45	63,178	3,921	6.617
2017	1,836,800	39	47,097	-16,080	-25.453
2018	2,039,500	48	42,490	-4,608	-9.784
2019	1,221,600	25	48,864	6,374	15.002
Total	\$ 269,452,940	4,159			
Exponential Fit:					
Trend (%)			-0.263		
Intercept			\$ 55,111		
R Squared			0.006		

Notes:

1. Column (1) is from Reported Exhibit 4, column (7).
2. Column (2) is from Reported Exhibit 28, column (5).

Ohio Petroleum Underground Storage Tank Release Compensation Board  
By Notification Year

Reported Exhibit 3

Ratio of Ultimate Loss to Ultimate Gross Face Value  
As of 06/30/2020

Notification Year	Ultimate Loss	Ultimate Gross Face Value	Ratio (1) / (2)
_____	_____	_____	_____
	(1)	(2)	(3)
1989	\$ 22,040	\$ 38,000	0.580
1990	29,566,200	47,446,000	0.623
1991	48,879,200	79,045,000	0.618
1992	26,599,700	44,109,000	0.603
1993	22,592,900	38,654,000	0.584
1994	15,942,300	28,957,000	0.551
1995	18,697,600	31,856,000	0.587
1996	27,648,900	48,151,000	0.574
1997	7,987,500	12,934,000	0.618
1998	10,346,300	19,433,000	0.532
1999	6,938,300	11,650,000	0.596
2000	2,669,100	5,347,000	0.499
2001	1,767,400	4,614,000	0.383
2002	1,914,700	4,597,000	0.417
2003	1,328,300	3,768,000	0.353
2004	1,103,400	3,364,000	0.328
2005	3,122,100	7,490,000	0.417
2006	3,576,000	8,433,000	0.424
2007	3,538,300	8,195,000	0.432
2008	4,414,100	11,095,000	0.398
2009	4,957,700	11,017,000	0.450
2010	2,356,500	4,983,000	0.473
2011	2,060,100	5,370,000	0.384
2012	3,314,100	8,895,000	0.373
2013	2,717,000	7,145,000	0.380
2014	4,845,000	10,850,000	0.447
2015	2,607,300	6,611,000	0.394
2016	2,843,000	7,117,000	0.399
2017	1,836,800	5,513,000	0.333
2018	2,039,500	6,327,000	0.322
2019	1,221,600	3,747,000	0.326
<b>Total</b>	<b>\$269,452,940</b>	<b>\$496,751,000</b>	<b>0.542</b>

Notes:

1. Column (1) is from Reported Exhibit 4, column (7).
2. Column (2) is from Reported Exhibit 16, column (4).

Ohio Petroleum Underground Storage Tank Release Compensation Board  
By Notification Year

Reported Exhibit 4

Comparison of Ultimate Loss Estimates  
As of 06/30/2020

Notification Year	Paid Loss Development	Average Loss	Bornhuetter-Ferguson Using Average Loss and Paid Loss	Ultimate Loss Based on Ultimate Face Value Less Disallowed Costs Less Deductible Recoveries	Bornhuetter-Ferguson Using Gross Face Value and Paid Loss	Straight Average	Ultimate Loss
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1989	\$ 22,260	\$ 22,040	\$ 22,258	\$ 22,327	\$ 22,261	\$ 22,229	\$ 22,040
1990	29,941,187	29,393,000	29,930,610	29,205,338	29,926,989	29,679,425	29,566,200
1991	49,891,696	48,594,000	49,853,823	47,924,035	49,834,270	49,219,565	48,879,200
1992	26,984,891	26,448,000	26,964,249	26,243,091	26,956,371	26,719,320	26,599,700
1993	23,286,321	22,176,000	23,236,588	21,958,912	23,226,865	22,776,937	22,592,900
1994	16,300,932	15,732,000	16,269,024	15,621,838	16,262,846	16,037,328	15,942,300
1995	19,318,044	18,358,000	19,255,357	18,153,301	19,241,991	18,865,338	18,697,600
1996	28,666,649	27,590,000	28,582,479	26,778,697	28,519,053	28,027,376	27,648,900
1997	8,223,085	7,900,000	8,193,827	7,790,976	8,183,953	8,058,368	7,987,500
1998	10,831,492	10,128,000	10,760,789	9,949,696	10,742,868	10,482,569	10,346,300
1999	6,722,162	6,968,000	6,749,567	7,111,160	6,765,526	6,863,283	6,938,300
2000	2,952,341	2,665,000	2,915,015	2,451,065	2,887,224	2,774,129	2,669,100
2001	1,907,790	1,734,000	1,881,127	1,664,362	1,870,443	1,811,544	1,767,400
2002	2,039,406	1,935,000	2,020,778	1,827,767	2,001,647	1,964,920	1,914,700
2003	1,491,281	1,325,000	1,454,870	1,223,846	1,432,720	1,385,543	1,328,300
2004	1,336,682	1,120,000	1,278,506	968,832	1,237,920	1,188,388	1,103,400
2005	4,144,572	2,880,000	3,759,937	2,576,560	3,667,642	3,405,742	3,122,100
2006	4,332,498	3,416,000	4,031,275	3,193,695	3,958,210	3,786,336	3,576,000
2007	4,326,659	3,450,000	4,018,805	3,159,763	3,916,883	3,774,422	3,538,300
2008	6,173,328	4,161,000	5,395,886	3,635,388	5,192,821	4,911,685	4,414,100
2009	8,207,550	4,389,000	6,627,889	3,609,830	6,305,561	5,827,966	4,957,700
2010	4,388,603	2,040,000	3,273,622	1,632,730	3,080,273	2,883,046	2,356,500
2011	3,051,012	2,585,000	2,801,925	1,759,534	2,360,707	2,511,636	2,060,100
2012	4,861,358	3,604,000	4,120,139	2,914,536	3,713,695	3,842,746	3,314,100
2013	4,380,975	2,597,000	3,254,440	2,341,131	3,092,865	3,133,282	2,717,000
2014	11,553,030	3,740,000	6,260,206	3,555,111	6,134,956	6,248,661	4,845,000
2015	5,424,505	2,420,000	3,233,629	2,166,160	3,048,530	3,258,565	2,607,300
2016	7,118,406	2,475,000	3,466,464	2,331,956	3,353,963	3,749,158	2,843,000
2017	2,227,276	2,106,000	2,123,502	1,806,390	1,867,130	2,026,059	1,836,800
2018	1,113,955	2,592,000	2,488,444	2,073,105	2,005,904	2,054,682	2,039,500
2019	-	1,350,000	1,336,541	1,227,742	1,215,502	1,025,957	1,221,600
Total	\$301,219,946	\$265,893,040	\$285,561,571	\$256,878,874	\$282,027,589	\$278,316,205	\$269,452,940

Notes:

1. Column (1) is from Reported Exhibit 5, column (4).
2. Column (2) is from Reported Exhibit 8, column (3).
3. Column (3) is from Reported Exhibit 9, column (10).
4. Column (4) is from Reported Exhibit 12, column (4).
5. Column (5) is from Reported Exhibit 13, column (10).
6. Selected ultimate loss in column (7) is based on a rounded average of columns (4) and (5) for notification years 1990 - 2019. For notification year 1989 the actual paid loss was used.

Ohio Petroleum Underground Storage Tank Release Compensation Board  
By Notification Year

Reported Exhibit 5

Ultimate Loss Based on Paid Loss Development  
As of 06/30/2020

Notification Year	Cumulative Paid Loss	Selected Development Factors	Cumulative Development Factors	Ultimate Loss (1) x (3)
	(1)	(2)	(3)	(4)
1989	\$ 22,040	1.010	1.010	\$ 22,260
1990	29,363,466	1.010	1.020	29,941,187
1991	48,435,603	1.010	1.030	49,891,696
1992	25,947,396	1.010	1.040	26,984,891
1993	22,243,294	1.007	1.047	23,286,321
1994	15,386,726	1.012	1.059	16,300,932
1995	18,056,658	1.010	1.070	19,318,044
1996	26,425,548	1.014	1.085	28,666,649
1997	7,478,400	1.014	1.100	8,223,085
1998	9,742,892	1.011	1.112	10,831,492
1999	5,972,791	1.012	1.125	6,722,162
2000	2,568,826	1.021	1.149	2,952,341
2001	1,615,092	1.028	1.181	1,907,790
2002	1,675,548	1.030	1.217	2,039,406
2003	1,164,732	1.052	1.280	1,491,281
2004	977,806	1.068	1.367	1,336,682
2005	2,883,951	1.051	1.437	4,144,572
2006	2,908,546	1.037	1.490	4,332,498
2007	2,807,276	1.035	1.541	4,326,659
2008	3,788,327	1.057	1.630	6,173,328
2009	4,812,243	1.047	1.706	8,207,550
2010	2,305,147	1.116	1.904	4,388,603
2011	1,420,223	1.128	2.148	3,051,012
2012	1,995,560	1.134	2.436	4,861,358
2013	1,614,500	1.114	2.714	4,380,975
2014	3,726,597	1.142	3.100	11,553,030
2015	1,468,973	1.191	3.693	5,424,505
2016	1,519,928	1.268	4.683	7,118,406
2017	321,431	1.480	6.929	2,227,276
2018	78,046	2.060	14.273	1,113,955
2019	-	7.028	100.306	-
Total	\$248,727,566			\$301,219,946

Notes:

1. Paid loss in column (1) is estimated using values available at April 30, 2020.
2. Development factors in columns (2) and (3) are selected in Reported Exhibit 7.







Ohio Petroleum Underground Storage Tank Release Compensation Board  
By Notification Year

Reported Exhibit 8

Ultimate Loss Based on Average Loss  
As of 06/30/2020

Notification Year	Ultimate Claims	Selected Average Loss	Ultimate Loss (1) x (2)
	(1)	(2)	(3)
1989	1	22,040	\$ 22,040
1990	323	91,000	29,393,000
1991	623	78,000	48,594,000
1992	348	76,000	26,448,000
1993	352	63,000	22,176,000
1994	276	57,000	15,732,000
1995	274	67,000	18,358,000
1996	445	62,000	27,590,000
1997	158	50,000	7,900,000
1998	211	48,000	10,128,000
1999	104	67,000	6,968,000
2000	65	41,000	2,665,000
2001	34	51,000	1,734,000
2002	45	43,000	1,935,000
2003	53	25,000	1,325,000
2004	40	28,000	1,120,000
2005	60	48,000	2,880,000
2006	61	56,000	3,416,000
2007	69	50,000	3,450,000
2008	73	57,000	4,161,000
2009	77	57,000	4,389,000
2010	34	60,000	2,040,000
2011	47	55,000	2,585,000
2012	68	53,000	3,604,000
2013	49	53,000	2,597,000
2014	68	55,000	3,740,000
2015	44	55,000	2,420,000
2016	45	55,000	2,475,000
2017	39	54,000	2,106,000
2018	48	54,000	2,592,000
2019	25	54,000	1,350,000
Total	4,159		\$ 265,893,040

Notes:

1. Column (1) is from Reported Exhibit 28, column (5).
2. Selected average loss in column (2) is from Reported Exhibit 10, column (4).

Ohio Petroleum Underground Storage Tank Release Compensation Board  
By Notification Year

Reported Exhibit 9

Ultimate Loss Based on Bornhuetter-Ferguson Using Average Loss and Paid Loss  
As of 06/30/2020

Notification Year	Ultimate Claims	Selected Average Loss	Expected Ultimate Loss (1) x (2)	Selected Development Factors	Cumulative Development Factors	Ratio of Cumulative Paid Loss to Ultimate Loss 1 / (5)	Ratio of Undeveloped Paid Loss to Ultimate Loss Face Value 1 - (6)	Undeveloped Paid Loss (3) x (7)	Cumulative Paid Loss	Ultimate Loss (8) + (9)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1989	1	\$ 22,040	\$ 22,040	1.010	1.010	0.990	0.010	\$ 218	\$ 22,040	\$ 22,258
1990	323	91,000	29,393,000	1.010	1.020	0.981	0.019	567,144	29,363,466	29,930,610
1991	623	78,000	48,594,000	1.010	1.030	0.971	0.029	1,418,219	48,435,603	49,853,823
1992	348	76,000	26,448,000	1.010	1.040	0.962	0.038	1,016,853	25,947,396	26,964,249
1993	352	63,000	22,176,000	1.007	1.047	0.955	0.045	993,295	22,243,294	23,236,588
1994	276	57,000	15,732,000	1.012	1.059	0.944	0.056	882,298	15,386,726	16,269,024
1995	274	67,000	18,358,000	1.010	1.070	0.935	0.065	1,198,699	18,056,658	19,255,357
1996	445	62,000	27,590,000	1.014	1.085	0.922	0.078	2,156,931	26,425,548	28,582,479
1997	158	50,000	7,900,000	1.014	1.100	0.909	0.091	715,427	7,478,400	8,193,827
1998	211	48,000	10,128,000	1.011	1.112	0.899	0.101	1,017,896	9,742,892	10,760,789
1999	104	67,000	6,968,000	1.012	1.125	0.889	0.111	776,776	5,972,791	6,749,567
2000	65	41,000	2,665,000	1.021	1.149	0.870	0.130	346,189	2,568,826	2,915,015
2001	34	51,000	1,734,000	1.028	1.181	0.847	0.153	266,035	1,615,092	1,881,127
2002	45	43,000	1,935,000	1.030	1.217	0.822	0.178	345,231	1,675,548	2,020,778
2003	53	25,000	1,325,000	1.052	1.280	0.781	0.219	290,138	1,164,732	1,454,870
2004	40	28,000	1,120,000	1.068	1.367	0.732	0.268	300,700	977,806	1,278,506
2005	60	48,000	2,880,000	1.051	1.437	0.696	0.304	875,986	2,883,951	3,759,937
2006	61	56,000	3,416,000	1.037	1.490	0.671	0.329	1,122,729	2,908,546	4,031,275
2007	69	50,000	3,450,000	1.035	1.541	0.649	0.351	1,211,529	2,807,276	4,018,805
2008	73	57,000	4,161,000	1.057	1.630	0.614	0.386	1,607,559	3,788,327	5,395,886
2009	77	57,000	4,389,000	1.047	1.706	0.586	0.414	1,815,646	4,812,243	6,627,889
2010	34	60,000	2,040,000	1.116	1.904	0.525	0.475	968,475	2,305,147	3,273,622
2011	47	55,000	2,585,000	1.128	2.148	0.465	0.535	1,381,702	1,420,223	2,801,925
2012	68	53,000	3,604,000	1.134	2.436	0.410	0.590	2,124,578	1,995,560	4,120,139
2013	49	53,000	2,597,000	1.114	2.714	0.369	0.631	1,639,940	1,614,500	3,254,440
2014	68	55,000	3,740,000	1.142	3.100	0.323	0.677	2,533,609	3,726,597	6,260,206
2015	44	55,000	2,420,000	1.191	3.693	0.271	0.729	1,764,656	1,468,973	3,233,629
2016	45	55,000	2,475,000	1.268	4.683	0.214	0.786	1,946,536	1,519,928	3,466,464
2017	39	54,000	2,106,000	1.480	6.929	0.144	0.856	1,802,071	321,431	2,123,502
2018	48	54,000	2,592,000	2.060	14.273	0.070	0.930	2,410,398	78,046	2,488,444
2019	25	54,000	1,350,000	7.028	100.306	0.010	0.990	1,336,541	-	1,336,541
Total	4,159		\$265,893,040					\$ 36,834,004	\$248,727,566	\$ 285,561,571

Notes:

1. Column (1) is from Reported Exhibit 28, column (5).
2. Selected average loss in column (2) is from Reported Exhibit 10, column (4).
3. Development factors in columns (4) and (5) are selected in Reported Exhibit 7.
4. Cumulative Paid Loss in column (9) is estimated using values available at April 30, 2020.

Ohio Petroleum Underground Storage Tank Release Compensation Board  
By Notification Year

Reported Exhibit 10

Preliminary Average Loss Based on Prior Year Estimated Ultimate Loss  
As of 06/30/2020

Notification Year	Ultimate Loss Prior Year	Ultimate Claims	Preliminary Average Loss (1) / (2)	Selected Average Loss
_____	(1)	(2)	(3)	(4)
1989	22,040	1	22,040	22,040
1990	29,529,800	323	91,424	91,000
1991	48,574,200	623	77,968	78,000
1992	26,603,800	348	76,448	76,000
1993	22,274,000	352	63,278	63,000
1994	15,661,500	276	56,745	57,000
1995	18,239,300	274	66,567	67,000
1996	27,665,500	445	62,170	62,000
1997	7,972,500	158	50,459	50,000
1998	10,041,900	211	47,592	48,000
1999	6,944,500	104	66,774	67,000
2000	2,645,600	65	40,702	41,000
2001	1,739,100	34	51,150	51,000
2002	1,940,300	45	43,118	43,000
2003	1,343,100	53	25,342	25,000
2004	1,125,800	40	28,145	28,000
2005	2,869,600	60	47,827	48,000
2006	3,395,200	61	55,659	56,000
2007	3,471,800	69	50,316	50,000
2008	4,148,400	73	56,827	57,000
2009	4,412,400	77	57,304	57,000
2010	2,213,400	34	65,100	60,000
2011	1,961,300	47	41,730	55,000
2012	3,044,500	68	44,772	53,000
2013	2,629,000	49	53,653	53,000
2014	4,236,000	68	62,294	55,000
2015	2,449,500	44	55,670	55,000
2016	2,605,700	45	57,904	55,000
2017	1,640,300	39	42,059	54,000
2018	849,400	48	17,696	54,000
2019	0	25	0	54,000
Total	262,249,440	4,159		

Notes:

1. Column (1) is from the Estimated Unpaid Claims Liability Report as of June 30, 2019, Reported Exhibit 4, column (7).
2. Column (2) is from Reported Exhibit 28, column (5).
3. Selected average loss in column (4) is based on column (3) for notification years 1989 - 2008; the rounded average of column (3) from 2008 through the associated year for notification years 2009 - 2017; and the rounded average of column (3) from 2008 through 2017 for notification years 2018 and 2019.



Ohio Petroleum Underground Storage Tank Release Compensation Board  
By Notification Year

Reported Exhibit 12

Ultimate Loss Based on Ultimate Face Value Less Disallowed Costs Less Deductible Recoveries  
As of 06/30/2020

Notification Year	Ultimate Gross Face Value <u>(1)</u>	Ultimate Disallowed Costs <u>(2)</u>	Ultimate Deductible Recoveries <u>(3)</u>	Ultimate Loss (1) - (2) - (3) <u>(4)</u>
1989	\$ 38,000	\$ 5,548	\$ 10,125	\$ 22,327
1990	47,446,000	8,967,294	9,273,368	29,205,338
1991	79,045,000	14,544,280	16,576,685	47,924,035
1992	44,109,000	8,645,364	9,220,545	26,243,091
1993	38,654,000	7,769,454	8,925,634	21,958,912
1994	28,957,000	5,675,572	7,659,590	15,621,838
1995	31,856,000	6,466,768	7,235,931	18,153,301
1996	48,151,000	9,341,294	12,031,009	26,778,697
1997	12,934,000	1,914,232	3,228,792	7,790,976
1998	19,433,000	3,886,600	5,596,704	9,949,696
1999	11,650,000	2,330,000	2,208,840	7,111,160
2000	5,347,000	1,069,400	1,826,535	2,451,065
2001	4,614,000	1,291,920	1,657,718	1,664,362
2002	4,597,000	919,400	1,849,833	1,827,767
2003	3,768,000	753,600	1,790,554	1,223,846
2004	3,364,000	672,800	1,722,368	968,832
2005	7,490,000	1,498,000	3,415,440	2,576,560
2006	8,433,000	2,007,054	3,232,251	3,193,695
2007	8,195,000	1,950,410	3,084,827	3,159,763
2008	11,095,000	2,640,610	4,819,002	3,635,388
2009	11,017,000	2,622,046	4,785,124	3,609,830
2010	4,983,000	1,185,954	2,164,316	1,632,730
2011	5,370,000	1,278,060	2,332,406	1,759,534
2012	8,895,000	2,117,010	3,863,454	2,914,536
2013	7,145,000	1,700,510	3,103,359	2,341,131
2014	10,850,000	2,582,300	4,712,589	3,555,111
2015	6,611,000	1,573,418	2,871,422	2,166,160
2016	7,117,000	1,693,846	3,091,198	2,331,956
2017	5,513,000	1,312,094	2,394,516	1,806,390
2018	6,327,000	1,505,826	2,748,069	2,073,105
2019	3,747,000	891,786	1,627,472	1,227,742
Total	\$496,751,000	\$100,812,450	\$139,059,676	\$256,878,874

Notes:

1. Column (1) is from Reported Exhibit 16, column (4).
2. Column (2) is from Reported Exhibit 24, column (3).
3. Column (3) is from Reported Exhibit 26, column (5).

Ohio Petroleum Underground Storage Tank Release Compensation Board  
By Notification Year

Reported Exhibit 13

Bornhuetter-Ferguson Using Gross Face Value and Paid Loss  
As of 06/30/2020

Notification Year	Gross Face Value	Selected Ratio	Expected Ultimate Loss (1) x (2)	Selected Development Factors	Cumulative Development Factors	Ratio of Cumulative Paid Loss to Ultimate Loss 1 / (5)	Ratio of Undeveloped Paid Loss to Ultimate Loss 1 - (6)	Undeveloped Paid Loss (3) x (7)	Cumulative Paid Loss	Ultimate Loss (8) + (9)	Calculated Ratio of Loss to Gross Face Value (10) / (11)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1989	\$ 38,000	0.588	\$ 22,327	\$ 1.010	1.010	0.990	0.010	\$ 221	\$ 22,040	\$ 22,261	0.586
1990	47,446,000	0.616	29,205,338	1.010	1.020	0.981	0.019	563,523	29,363,466	29,926,989	0.631
1991	79,045,000	0.606	47,924,035	1.010	1.030	0.971	0.029	1,398,666	48,435,603	49,834,270	0.630
1992	44,109,000	0.595	26,243,091	1.010	1.040	0.962	0.038	1,008,975	25,947,396	26,956,371	0.611
1993	38,654,000	0.568	21,958,912	1.007	1.047	0.955	0.045	983,571	22,243,294	23,226,865	0.601
1994	28,957,000	0.539	15,621,838	1.012	1.059	0.944	0.056	876,120	15,386,726	16,262,846	0.562
1995	31,856,000	0.570	18,153,301	1.010	1.070	0.935	0.065	1,185,333	18,056,658	19,241,991	0.604
1996	48,151,000	0.556	26,778,697	1.014	1.085	0.922	0.078	2,093,505	26,425,548	28,519,053	0.592
1997	12,934,000	0.602	7,790,976	1.014	1.100	0.909	0.091	705,553	7,478,400	8,183,953	0.633
1998	19,433,000	0.512	9,949,696	1.011	1.112	0.899	0.101	999,976	9,742,892	10,742,868	0.553
1999	11,650,000	0.610	7,111,160	1.012	1.125	0.889	0.111	792,735	5,972,791	6,765,526	0.581
2000	5,347,000	0.458	2,451,065	1.021	1.149	0.870	0.130	318,398	2,568,826	2,887,224	0.540
2001	4,614,000	0.361	1,664,362	1.028	1.181	0.847	0.153	255,351	1,615,092	1,870,443	0.405
2002	4,597,000	0.398	1,827,767	1.030	1.217	0.822	0.178	326,099	1,675,548	2,001,647	0.435
2003	3,768,000	0.325	1,223,846	1.052	1.280	0.781	0.219	267,988	1,164,732	1,432,720	0.380
2004	3,364,000	0.288	968,832	1.068	1.367	0.732	0.268	260,114	977,806	1,237,920	0.368
2005	7,490,000	0.344	2,576,560	1.051	1.437	0.696	0.304	783,691	2,883,951	3,667,642	0.490
2006	8,433,000	0.379	3,193,695	1.037	1.490	0.671	0.329	1,049,665	2,908,546	3,958,210	0.469
2007	8,195,000	0.386	3,159,763	1.035	1.541	0.649	0.351	1,109,607	2,807,276	3,916,883	0.478
2008	11,095,000	0.328	3,635,388	1.057	1.630	0.614	0.386	1,404,494	3,788,327	5,192,821	0.468
2009	11,017,000	0.328	3,609,830	1.047	1.706	0.586	0.414	1,493,318	4,812,243	6,305,561	0.572
2010	4,983,000	0.328	1,632,730	1.116	1.904	0.525	0.475	775,126	2,305,147	3,080,273	0.618
2011	5,370,000	0.328	1,759,534	1.128	2.148	0.465	0.535	940,485	1,420,223	2,360,707	0.440
2012	8,895,000	0.328	2,914,536	1.134	2.436	0.410	0.590	1,718,135	1,995,560	3,713,695	0.418
2013	7,145,000	0.328	2,341,131	1.114	2.714	0.369	0.631	1,478,365	1,614,500	3,092,865	0.433
2014	10,850,000	0.328	3,555,111	1.142	3.100	0.323	0.677	2,408,359	3,726,597	6,134,956	0.565
2015	6,611,000	0.328	2,166,160	1.191	3.693	0.271	0.729	1,579,557	1,468,973	3,048,530	0.461
2016	7,117,000	0.328	2,331,956	1.268	4.683	0.214	0.786	1,834,035	1,519,928	3,353,963	0.471
2017	5,513,000	0.328	1,806,390	1.480	6.929	0.144	0.856	1,545,699	321,431	1,867,130	0.339
2018	6,327,000	0.328	2,073,105	2.060	14.273	0.070	0.930	1,927,858	78,046	2,005,904	0.317
2019	3,747,000	0.328	1,227,742	7.028	100.306	0.010	0.990	1,215,502	-	1,215,502	0.324
Total	\$496,751,000		\$ 256,878,874					\$ 33,300,024	\$248,727,566	\$ 282,027,589	

Notes:

1. Column (1) is from Reported Exhibit 16, column (4).
2. Column (2) is the complement of Reported Exhibit 24, column (2) multiplied by the complement of Reported Exhibit 26, column (4).
3. Development factors in columns (4) and (5) are selected in Reported Exhibit 7.
4. Cumulative paid loss in column (9) is estimated using values available at April 30, 2020.





Ohio Petroleum Underground Storage Tank Release Compensation Board  
By Notification Year

Reported Exhibit 15

Estimated Average Gross Face Value  
As of 06/30/2020

Notification Year	Ultimate Gross Face Value	Ultimate Claims	Ultimate Average Gross Face Value (1) / (2)	Change in Ultimate Average Gross Face Value (4)	Percentage Change (4) / Prior (3)
	(1)	(2)	(3)	(4)	(5)
1989	38,000	1	38,000		
1990	47,446,000	323	146,892	108,892	286.557
1991	79,045,000	623	126,878	-20,014	-13.625
1992	44,109,000	348	126,750	-128	-0.101
1993	38,654,000	352	109,813	-16,938	-13.363
1994	28,957,000	276	104,917	-4,896	-4.458
1995	31,856,000	274	116,263	11,346	10.814
1996	48,151,000	445	108,204	-8,058	-6.931
1997	12,934,000	158	81,861	-26,344	-24.346
1998	19,433,000	211	92,100	10,239	12.508
1999	11,650,000	104	112,019	19,920	21.628
2000	5,347,000	65	82,262	-29,758	-26.565
2001	4,614,000	34	135,706	53,444	64.969
2002	4,597,000	45	102,156	-33,550	-24.723
2003	3,768,000	53	71,094	-31,061	-30.406
2004	3,364,000	40	84,100	13,006	18.294
2005	7,490,000	60	124,833	40,733	48.434
2006	8,433,000	61	138,246	13,413	10.744
2007	8,195,000	69	118,768	-19,478	-14.089
2008	11,095,000	73	151,986	33,218	27.969
2009	11,017,000	77	143,078	-8,908	-5.861
2010	4,983,000	34	146,559	3,481	2.433
2011	5,370,000	47	114,255	-32,304	-22.041
2012	8,895,000	68	130,809	16,554	14.488
2013	7,145,000	49	145,816	15,008	11.473
2014	10,850,000	68	159,559	13,742	9.425
2015	6,611,000	44	150,250	-9,309	-5.834
2016	7,117,000	45	158,156	7,906	5.262
2017	5,513,000	39	141,359	-16,797	-10.620
2018	6,327,000	48	131,813	-9,546	-6.753
2019	3,747,000	25	149,880	18,068	13.707
Total	496,751,000	4,159			
Exponential Fit:					
Trend (%)			1.786		
Intercept			87,747		
R Squared			0.291		

Notes:

1. Column (1) is from Reported Exhibit 16, column (4).
2. Column (2) is from Reported Exhibit 28, column (5).

Ohio Petroleum Underground Storage Tank Release Compensation Board  
By Notification Year

Reported Exhibit 16

Comparison of Ultimate Gross Face Value Estimates  
As of 06/30/2020

Notification Year	Gross Face Value Development	Average Gross Face Value	Bornhuetter- Ferguson Using Average Gross Face Value	Ultimate Gross Face Value
_____	(1)	(2)	(3)	(4)
1989	\$ 37,901	\$ 38,000	\$ 37,902	\$ 38,000
1990	47,428,751	47,481,000	47,429,598	47,446,000
1991	79,005,100	79,121,000	79,007,744	79,045,000
1992	44,062,827	44,196,000	44,066,754	44,109,000
1993	38,618,633	38,720,000	38,622,253	38,654,000
1994	28,944,938	28,980,000	28,946,374	28,957,000
1995	31,894,943	31,784,000	31,889,613	31,856,000
1996	48,200,161	48,060,000	48,192,180	48,151,000
1997	12,921,703	12,956,000	12,923,878	12,934,000
1998	19,444,401	19,412,000	19,442,069	19,433,000
1999	11,651,090	11,648,000	11,650,843	11,650,000
2000	5,356,428	5,330,000	5,354,025	5,347,000
2001	4,608,795	4,624,000	4,610,382	4,614,000
2002	4,601,419	4,590,000	4,600,006	4,597,000
2003	3,771,824	3,763,000	3,770,556	3,768,000
2004	3,366,747	3,360,000	3,365,647	3,364,000
2005	7,484,264	7,500,000	7,487,221	7,490,000
2006	8,443,573	8,418,000	8,438,471	8,433,000
2007	8,184,666	8,211,000	8,190,450	8,195,000
2008	11,093,905	11,096,000	11,094,396	11,095,000
2009	11,021,934	11,011,000	11,019,223	11,017,000
2010	5,655,012	4,080,000	5,215,118	4,983,000
2011	5,190,653	5,593,000	5,325,436	5,370,000
2012	9,466,924	8,228,000	8,991,268	8,895,000
2013	8,120,382	6,076,000	7,237,136	7,145,000
2014	12,911,680	8,704,000	10,933,129	10,850,000
2015	7,474,874	5,764,000	6,595,047	6,611,000
2016	8,619,071	6,030,000	7,116,583	7,117,000
2017	5,949,143	5,265,000	5,513,357	5,513,000
2018	5,975,201	6,480,000	6,327,404	6,327,000
2019	6,238,684	3,375,000	3,746,678	3,747,000
Total	\$505,745,627	\$489,894,000	\$497,140,741	\$496,751,000

- Notes:
1. Column (1) is from Reported Exhibit 17, column (4).
  2. Column (2) is from Reported Exhibit 20, column (3).
  3. Column (3) is from Reported Exhibit 21, column (10).
  4. Selected ultimate gross face value in column (4) is based on a rounded average of columns (1) - (3) for notification years 1989 through 2015. Selected ultimate gross face value for notification years 2016 through 2019 is based on column (3).

Ohio Petroleum Underground Storage Tank Release Compensation Board  
By Notification Year

Reported Exhibit 17

Ultimate Gross Face Value Based on Gross Face Value Development  
As of 06/30/2020

Notification Year	Cumulative Gross Face Value <u>(1)</u>	Selected Development Factors <u>(2)</u>	Cumulative Development Factors <u>(3)</u>	Ultimate Gross Face Value (1) x (3) <u>(4)</u>
1989	\$ 37,526	1.010	1.010	\$ 37,901
1990	46,659,772	1.006	1.016	47,428,751
1991	77,202,476	1.007	1.023	79,005,100
1992	42,763,518	1.007	1.030	44,062,827
1993	37,239,603	1.006	1.037	38,618,633
1994	27,760,052	1.005	1.043	28,944,938
1995	30,362,589	1.007	1.050	31,894,943
1996	45,455,555	1.009	1.060	48,200,161
1997	12,102,064	1.007	1.068	12,921,703
1998	18,045,271	1.009	1.078	19,444,401
1999	10,719,637	1.009	1.087	11,651,090
2000	4,869,481	1.012	1.100	5,356,428
2001	4,127,668	1.015	1.117	4,608,795
2002	4,031,918	1.022	1.141	4,601,419
2003	3,229,641	1.023	1.168	3,771,824
2004	2,817,855	1.023	1.195	3,366,747
2005	6,077,874	1.031	1.231	7,484,264
2006	6,758,868	1.015	1.249	8,443,573
2007	6,386,834	1.026	1.281	8,184,666
2008	8,496,466	1.019	1.306	11,093,905
2009	8,289,370	1.018	1.330	11,021,934
2010	4,075,593	1.044	1.388	5,655,012
2011	3,451,820	1.084	1.504	5,190,653
2012	5,832,319	1.079	1.623	9,466,924
2013	4,612,088	1.085	1.761	8,120,382
2014	6,840,302	1.072	1.888	12,911,680
2015	3,630,875	1.091	2.059	7,474,874
2016	3,617,256	1.157	2.383	8,619,071
2017	2,159,657	1.156	2.755	5,949,143
2018	1,806,251	1.201	3.308	5,975,201
2019	809,720	2.329	7.705	6,238,684
Total	\$440,269,919			\$505,745,627

Notes:

1. Cumulative Gross Face Value in column (1) is estimated using values available at April 30, 2020.
2. Development factors in columns (2) and (3) are selected in Reported Exhibit 19.





Ohio Petroleum Underground Storage Tank Release Compensation Board  
By Notification Year

Reported Exhibit 20

Ultimate Gross Face Value based on Average Gross Face Value  
As of 06/30/2020

Notification Year	Ultimate Claims	Selected Average Gross Face Value	Ultimate Gross Face Value (1) x (2)
	(1)	(2)	(3)
1989	1	38,000	\$ 38,000
1990	323	147,000	47,481,000
1991	623	127,000	79,121,000
1992	348	127,000	44,196,000
1993	352	110,000	38,720,000
1994	276	105,000	28,980,000
1995	274	116,000	31,784,000
1996	445	108,000	48,060,000
1997	158	82,000	12,956,000
1998	211	92,000	19,412,000
1999	104	112,000	11,648,000
2000	65	82,000	5,330,000
2001	34	136,000	4,624,000
2002	45	102,000	4,590,000
2003	53	71,000	3,763,000
2004	40	84,000	3,360,000
2005	60	125,000	7,500,000
2006	61	138,000	8,418,000
2007	69	119,000	8,211,000
2008	73	152,000	11,096,000
2009	77	143,000	11,011,000
2010	34	120,000	4,080,000
2011	47	119,000	5,593,000
2012	68	121,000	8,228,000
2013	49	124,000	6,076,000
2014	68	128,000	8,704,000
2015	44	131,000	5,764,000
2016	45	134,000	6,030,000
2017	39	135,000	5,265,000
2018	48	135,000	6,480,000
2019	25	135,000	3,375,000
Total	4,159		\$489,894,000

Notes:

1. Column (1) is from Reported Exhibit 28, column (5).
2. Selected average gross face value in column (2) is from Reported Exhibit 22, column (4).

Ohio Petroleum Underground Storage Tank Release Compensation Board  
By Notification Year

Reported Exhibit 21

Ultimate Gross Face Value Based on Bornhuetter-Ferguson Using Average Gross Face Value  
As of 06/30/2020

Notification Year	Ultimate Claims	Selected Average Gross Face Value	Expected Ultimate Gross Face Value (1) x (2)	Selected Development Factors	Cumulative Development Factors	Ratio of Cumulative Gross Face Value to Ultimate Gross Face Value 1 / (5)	Ratio of Undeveloped Gross Face Value to Ultimate Gross Face Value 1 - (6)	Undeveloped Gross Face Value (3) x (7)	Cumulative Gross Face Value	Ultimate Gross Face Value (8) + (9)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1989	1	\$ 38,000	\$ 38,000	1.010	1.010	0.990	0.010	\$ 376	\$ 37,526	\$ 37,902
1990	323	147,000	47,481,000	1.006	1.016	0.984	0.016	769,826	46,659,772	47,429,598
1991	623	127,000	79,121,000	1.007	1.023	0.977	0.023	1,805,268	77,202,476	79,007,744
1992	348	127,000	44,196,000	1.007	1.030	0.971	0.029	1,303,236	42,763,518	44,066,754
1993	352	110,000	38,720,000	1.006	1.037	0.964	0.036	1,382,650	37,239,603	38,622,253
1994	276	105,000	28,980,000	1.005	1.043	0.959	0.041	1,186,321	27,760,052	28,946,374
1995	274	116,000	31,784,000	1.007	1.050	0.952	0.048	1,527,024	30,362,589	31,889,613
1996	445	108,000	48,060,000	1.009	1.060	0.943	0.057	2,736,625	45,455,555	48,192,180
1997	158	82,000	12,956,000	1.007	1.068	0.937	0.063	821,814	12,102,064	12,923,878
1998	211	92,000	19,412,000	1.009	1.078	0.928	0.072	1,396,799	18,045,271	19,442,069
1999	104	112,000	11,648,000	1.009	1.087	0.920	0.080	931,206	10,719,637	11,650,843
2000	65	82,000	5,330,000	1.012	1.100	0.909	0.091	484,544	4,869,481	5,354,025
2001	34	136,000	4,624,000	1.015	1.117	0.896	0.104	482,714	4,127,668	4,610,382
2002	45	102,000	4,590,000	1.022	1.141	0.876	0.124	568,087	4,031,918	4,600,006
2003	53	71,000	3,763,000	1.023	1.168	0.856	0.144	540,915	3,229,641	3,770,556
2004	40	84,000	3,360,000	1.023	1.195	0.837	0.163	547,793	2,817,855	3,365,647
2005	60	125,000	7,500,000	1.031	1.231	0.812	0.188	1,409,346	6,077,874	7,487,221
2006	61	138,000	8,418,000	1.015	1.249	0.800	0.200	1,679,602	6,758,868	8,438,471
2007	69	119,000	8,211,000	1.026	1.281	0.780	0.220	1,803,616	6,386,834	8,190,450
2008	73	152,000	11,096,000	1.019	1.306	0.766	0.234	2,597,929	8,496,466	11,094,396
2009	77	143,000	11,011,000	1.018	1.330	0.752	0.248	2,729,853	8,289,370	11,019,223
2010	34	120,000	4,080,000	1.044	1.388	0.721	0.279	1,139,525	4,075,593	5,215,118
2011	47	119,000	5,593,000	1.084	1.504	0.665	0.335	1,873,617	3,451,820	5,325,436
2012	68	121,000	8,228,000	1.079	1.623	0.616	0.384	3,158,949	5,832,319	8,991,268
2013	49	124,000	6,076,000	1.085	1.761	0.568	0.432	2,625,048	4,612,088	7,237,136
2014	68	128,000	8,704,000	1.072	1.888	0.530	0.470	4,092,827	6,840,302	10,933,129
2015	44	131,000	5,764,000	1.091	2.059	0.486	0.514	2,964,172	3,630,875	6,595,047
2016	45	134,000	6,030,000	1.157	2.383	0.420	0.580	3,499,327	3,617,256	7,116,583
2017	39	135,000	5,265,000	1.156	2.755	0.363	0.637	3,353,700	2,159,657	5,513,357
2018	48	135,000	6,480,000	1.201	3.308	0.302	0.698	4,521,153	1,806,251	6,327,404
2019	25	135,000	3,375,000	2.329	7.705	0.130	0.870	2,936,958	809,720	3,746,678
Total	4,159		\$489,894,000					\$ 56,870,820	\$440,269,919	\$ 497,140,741

Notes:

1. Column (1) is from Reported Exhibit 28, column (5).
2. Selected average gross face value in column (2) is from Reported Exhibit 22, column (4).
3. Development factors in columns (4) and (5) are selected in Reported Exhibit 19.
4. Cumulative gross face value in column (9) is estimated using values available at April 30, 2020.

Ohio Petroleum Underground Storage Tank Release Compensation Board  
By Notification Year

Reported Exhibit 22

Preliminary Average Gross Face Value  
As of 06/30/2020

Notification Year	Ultimate Gross Face Value Based on Development Method	Ultimate Claims	Preliminary Average Gross Face Value (1) / (2)	Selected Average Gross Face Value
_____	(1)	(2)	(3)	(4)
1989	\$ 37,901	1	37,901	38,000
1990	47,428,751	323	146,838	147,000
1991	79,005,100	623	126,814	127,000
1992	44,062,827	348	126,617	127,000
1993	38,618,633	352	109,712	110,000
1994	28,944,938	276	104,873	105,000
1995	31,894,943	274	116,405	116,000
1996	48,200,161	445	108,315	108,000
1997	12,921,703	158	81,783	82,000
1998	19,444,401	211	92,154	92,000
1999	11,651,090	104	112,030	112,000
2000	5,356,428	65	82,407	82,000
2001	4,608,795	34	135,553	136,000
2002	4,601,419	45	102,254	102,000
2003	3,771,824	53	71,166	71,000
2004	3,366,747	40	84,169	84,000
2005	7,484,264	60	124,738	125,000
2006	8,443,573	61	138,419	138,000
2007	8,184,666	69	118,618	119,000
2008	11,093,905	73	151,971	152,000
2009	11,021,934	77	143,142	143,000
2010	5,655,012	34	166,324	120,000
2011	5,190,653	47	110,439	119,000
2012	9,466,924	68	139,219	121,000
2013	8,120,382	49	165,722	124,000
2014	12,911,680	68	189,878	128,000
2015	7,474,874	44	169,884	131,000
2016	8,619,071	45	191,535	134,000
2017	5,949,143	39	152,542	135,000
2018	5,975,201	48	124,483	135,000
2019	6,238,684	25	249,547	135,000
Total	\$ 505,745,627	4,159		

Notes:

1. Column (1) is from Report Exhibit 17, column (4).
2. Column (2) is from Reported Exhibit 28, column (5).
3. Column (4) is based on column (3) for notification years 1989 - 2009; the rounded average of column (3) from 2000 through the associated year for notification years 2010 - 2017; and the rounded average of column (3) of years 2000 - 2017 for notification years 2018 - 2019.





Ohio Petroleum Underground Storage Tank Release Compensation Board  
By Notification Year

Reported Exhibit 24

Ultimate Disallowed Costs Based on Ratio to Gross Face Value Development  
As of 06/30/2020

Notification Year	Ultimate Gross Face Value	Selected Ratio of Disallowed Costs to Gross Face Value	Ultimate Disallowed Costs (1) x (2)
_____	(1)	(2)	(3)
1989	\$ 38,000	0.146	\$ 5,548
1990	47,446,000	0.189	8,967,294
1991	79,045,000	0.184	14,544,280
1992	44,109,000	0.196	8,645,364
1993	38,654,000	0.201	7,769,454
1994	28,957,000	0.196	5,675,572
1995	31,856,000	0.203	6,466,768
1996	48,151,000	0.194	9,341,294
1997	12,934,000	0.148	1,914,232
1998	19,433,000	0.200	3,886,600
1999	11,650,000	0.200	2,330,000
2000	5,347,000	0.200	1,069,400
2001	4,614,000	0.280	1,291,920
2002	4,597,000	0.200	919,400
2003	3,768,000	0.200	753,600
2004	3,364,000	0.200	672,800
2005	7,490,000	0.200	1,498,000
2006	8,433,000	0.238	2,007,054
2007	8,195,000	0.238	1,950,410
2008	11,095,000	0.238	2,640,610
2009	11,017,000	0.238	2,622,046
2010	4,983,000	0.238	1,185,954
2011	5,370,000	0.238	1,278,060
2012	8,895,000	0.238	2,117,010
2013	7,145,000	0.238	1,700,510
2014	10,850,000	0.238	2,582,300
2015	6,611,000	0.238	1,573,418
2016	7,117,000	0.238	1,693,846
2017	5,513,000	0.238	1,312,094
2018	6,327,000	0.238	1,505,826
2019	3,747,000	0.238	891,786
Total	\$496,751,000		\$100,812,450

Notes:

1. Column (1) is from Reported Exhibit 16, column (4).
2. Selected ratio in column (2) is based on column (3) of Reported Exhibit 25 for notification years 1989 through 1997. For notification years 1998 - 2000, and 2002 - 2005 the average ratio of all years from Reported Exhibit 25 is used. The ratio for notification year 2001 is calculated by excluding claims with a high gross face value or disallowed cost. The ratio for notification years 2006 - 2019 is based on column (3) from Reported Exhibit 25 using the rounded average of years 2000 - 2014.

Ohio Petroleum Underground Storage Tank Release Compensation Board  
By Notification Year

Reported Exhibit 25

Ratio of Disallowed Costs on Closed Claims to Cumulative Gross Face Value on Closed Claims  
As of 06/30/2020

Notification Year	Cumulative Disallowed Costs on Closed Claims	Cumulative Gross Face Value on Closed Claims	Ratio (1) / (2)
_____	(1)	(2)	(3)
1989	\$ 5,486	\$ 37,526	0.146
1990	7,784,266	41,085,587	0.189
1991	12,492,225	67,802,109	0.184
1992	7,601,530	38,689,711	0.196
1993	6,481,011	32,292,044	0.201
1994	4,867,204	24,784,549	0.196
1995	5,425,028	26,765,808	0.203
1996	7,758,549	39,975,425	0.194
1997	1,598,464	10,830,351	0.148
1998	2,548,369	12,459,112	0.205
1999	2,787,298	9,068,478	0.307
2000	928,319	3,553,229	0.261
2001	1,404,409	3,358,579	0.418
2002	419,521	3,116,923	0.135
2003	588,847	2,743,237	0.215
2004	353,629	2,180,932	0.162
2005	460,398	3,045,123	0.151
2006	1,415,153	5,494,307	0.258
2007	914,946	4,749,916	0.193
2008	1,040,193	3,590,956	0.290
2009	820,051	4,339,166	0.189
2010	283,173	1,635,048	0.173
2011	495,963	1,938,287	0.256
2012	568,281	1,707,524	0.333
2013	711,322	2,027,936	0.351
2014	323,814	1,784,033	0.182
2015	305,356	2,080,968	0.147
2016	279,981	1,847,907	0.152
2017	577	262,096	0.002
2018	79,218	207,382	0.382
2019	-	-	0.000
Total	\$70,742,581	\$353,454,249	0.200

Notes:

1. Disallowed costs on closed claims in column (1) uses values available at April 30, 2020.
2. Gross face value on closed claims in column (2) uses values available at April 30, 2020.
3. The rounded average of column (3) for years 2000 - 2014 is .238. This is used in Reported Exhibit 24, column (2) for notification years 2006 - 2019.

Ohio Petroleum Underground Storage Tank Release Compensation Board  
By Notification Year

Reported Exhibit 26

Ultimate Deductible Recoveries Based on Ratio of Deductible Recoveries to Gross Face Value Less Disallowed Costs  
As of 06/30/2020

Notification Year	Ultimate Gross Face Value	Ultimate Disallowed Costs	Ultimate Gross Face Value Less Disallowed Costs (1) - (2)	Ratio of Deductible Recoveries to Total Gross Face Value Less Disallowed Costs (4)	Ultimate Deductible Recoveries (3) x (4)
(1)	(2)	(3)	(4)	(5)	
1989	\$ 38,000	\$ 5,548	\$ 32,452	0.312	\$ 10,125
1990	47,446,000	8,967,294	38,478,706	0.241	9,273,368
1991	79,045,000	14,544,280	64,500,720	0.257	16,576,685
1992	44,109,000	8,645,364	35,463,636	0.260	9,220,545
1993	38,654,000	7,769,454	30,884,546	0.289	8,925,634
1994	28,957,000	5,675,572	23,281,428	0.329	7,659,590
1995	31,856,000	6,466,768	25,389,232	0.285	7,235,931
1996	48,151,000	9,341,294	38,809,706	0.310	12,031,009
1997	12,934,000	1,914,232	11,019,768	0.293	3,228,792
1998	19,433,000	3,886,600	15,546,400	0.360	5,596,704
1999	11,650,000	2,330,000	9,320,000	0.237	2,208,840
2000	5,347,000	1,069,400	4,277,600	0.427	1,826,535
2001	4,614,000	1,291,920	3,322,080	0.499	1,657,718
2002	4,597,000	919,400	3,677,600	0.503	1,849,833
2003	3,768,000	753,600	3,014,400	0.594	1,790,554
2004	3,364,000	672,800	2,691,200	0.640	1,722,368
2005	7,490,000	1,498,000	5,992,000	0.570	3,415,440
2006	8,433,000	2,007,054	6,425,946	0.503	3,232,251
2007	8,195,000	1,950,410	6,244,590	0.494	3,084,827
2008	11,095,000	2,640,610	8,454,390	0.570	4,819,002
2009	11,017,000	2,622,046	8,394,954	0.570	4,785,124
2010	4,983,000	1,185,954	3,797,046	0.570	2,164,316
2011	5,370,000	1,278,060	4,091,940	0.570	2,332,406
2012	8,895,000	2,117,010	6,777,990	0.570	3,863,454
2013	7,145,000	1,700,510	5,444,490	0.570	3,103,359
2014	10,850,000	2,582,300	8,267,700	0.570	4,712,589
2015	6,611,000	1,573,418	5,037,582	0.570	2,871,422
2016	7,117,000	1,693,846	5,423,154	0.570	3,091,198
2017	5,513,000	1,312,094	4,200,906	0.570	2,394,516
2018	6,327,000	1,505,826	4,821,174	0.570	2,748,069
2019	3,747,000	891,786	2,855,214	0.570	1,627,472
Total	\$496,751,000	\$100,812,450	\$395,938,550		\$139,059,676

Notes:

1. Column (1) is from Reported Exhibit 16, column (4).
2. Column (2) is from Reported Exhibit 24, column (3).
3. Selected ratio in column (4) is based on column (5) from Reported Exhibit 27 for notification years 1989 - 2004 and 2006 - 2007. For notification years 2005 and 2008 - 2019, column (4) is based on column (5) from Reported Exhibit 27 using the rounded average of years 2000 - 2014.

Ohio Petroleum Underground Storage Tank Release Compensation Board  
By Notification Year

Reported Exhibit 27

Ratio of Deductible Recoveries on Closed Claims to Cumulative Gross Face Value less Disallowed Costs on Closed Claims  
As of 06/30/2020

Notification Year	Cumulative Deductible Recoveries on Closed Claims  (1)	Cumulative Gross Face Value on Closed Claims  (2)	Cumulative Disallowed Costs on Closed Claims  (3)	Cumulative Gross Face Value less Disallowed Costs on Closed Claims (2) - (3)  (4)	Ratio (1) / (4)  (5)
1989	\$ 10,000	\$ 37,526	\$ 5,486	\$ 32,040	0.312
1990	8,024,626	41,085,587	7,784,266	33,301,321	0.241
1991	14,194,344	67,802,109	12,492,225	55,309,884	0.257
1992	8,095,615	38,689,711	7,601,530	31,088,181	0.260
1993	7,446,876	32,292,044	6,481,011	25,811,033	0.289
1994	6,552,694	24,784,549	4,867,204	19,917,345	0.329
1995	6,083,900	26,765,808	5,425,028	21,340,780	0.285
1996	9,973,454	39,975,425	7,758,549	32,216,876	0.310
1997	2,703,897	10,830,351	1,598,464	9,231,887	0.293
1998	3,568,385	12,459,112	2,548,369	9,910,743	0.360
1999	1,487,034	9,068,478	2,787,298	6,281,180	0.237
2000	1,120,948	3,553,229	928,319	2,624,910	0.427
2001	974,495	3,358,579	1,404,409	1,954,171	0.499
2002	1,356,671	3,116,923	419,521	2,697,401	0.503
2003	1,279,906	2,743,237	588,847	2,154,389	0.594
2004	1,170,062	2,180,932	353,629	1,827,302	0.640
2005	1,663,506	3,045,123	460,398	2,584,725	0.644
2006	2,050,224	5,494,307	1,415,153	4,079,154	0.503
2007	1,895,592	4,749,916	914,946	3,834,970	0.494
2008	1,747,735	3,590,956	1,040,193	2,550,763	0.685
2009	1,585,193	4,339,166	820,051	3,519,114	0.450
2010	659,482	1,635,048	283,173	1,351,876	0.488
2011	745,565	1,938,287	495,963	1,442,324	0.517
2012	854,619	1,707,524	568,281	1,139,242	0.750
2013	906,679	2,027,936	711,322	1,316,614	0.689
2014	988,442	1,784,033	323,814	1,460,218	0.677
2015	808,388	2,080,968	305,356	1,775,612	0.455
2016	630,139	1,847,907	279,981	1,567,927	0.402
2017	214,451	262,096	577	261,519	0.820
2018	118,630	207,382	79,218	128,164	0.926
2019	-	-	-	-	0.000
Total	\$88,911,552	\$353,454,249	\$70,742,581	\$ 282,711,665	0.314

Notes:

1. Deductible recoveries on closed claims in column (1) uses values available at April 30, 2020.
2. Gross face value on closed claims in column (2) uses values available at April 30, 2020.
3. Disallowed costs on closed claims in column (3) uses values available at April 30, 2020.
4. The rounded average of column (5) for years 2000 - 2014 is .570. This is used in Reported Exhibit 26, column (4) for notification years 2005, and 2008 - 2019.

Ohio Petroleum Underground Storage Tank Release Compensation Board  
By Notification Year

Reported Exhibit 28

Summary of Claim Counts  
As of 06/30/2020

Notification Year	Closed Claims	Open Claims	Reported Claims (1) + (2)	IBNR Claims	Ultimate Claims (3) + (4)
_____	(1)	(2)	(3)	(4)	(5)
1989	1	0	1	0	1
1990	302	21	323	0	323
1991	595	28	623	0	623
1992	335	13	348	0	348
1993	338	14	352	0	352
1994	259	17	276	0	276
1995	261	13	274	0	274
1996	422	23	445	0	445
1997	151	7	158	0	158
1998	180	31	211	0	211
1999	89	15	104	0	104
2000	62	3	65	0	65
2001	32	2	34	0	34
2002	40	5	45	0	45
2003	48	5	53	0	53
2004	36	4	40	0	40
2005	50	10	60	0	60
2006	54	7	61	0	61
2007	60	9	69	0	69
2008	54	19	73	0	73
2009	59	18	77	0	77
2010	23	11	34	0	34
2011	35	12	47	0	47
2012	42	26	68	0	68
2013	36	13	49	0	49
2014	42	26	68	0	68
2015	30	14	44	0	44
2016	24	21	45	0	45
2017	10	29	39	0	39
2018	5	43	48	0	48
2019	0	25	25	0	25
<b>Total</b>	<b>3,675</b>	<b>484</b>	<b>4,159</b>	<b>0</b>	<b>4,159</b>

Note:

1. Column (5) equals column (3), as this analysis is limited to claims reported prior to June 30, 2020.
2. Closed claims in column (1) is estimated using values available at April 30, 2020.
3. Open claims for notification year 2019 in column (2) is estimated using values available at April 30, 2020.







Ohio Petroleum Underground Storage Tank Release Compensation Board  
By Release Year - Total (RBCA and Non-RBCA)

Unreported Exhibit 1  
Held Claims Removed

Estimated Ultimate Average Loss

As of June 30, 2020

Release Year	Estimated Reported Claims 07/01/20-06/30/21	Undetermined Eligibility Applications as of 06/30/20	Estimated Approval Percentage	Estimated Additional Claims from Undetermined Eligibility Applications (2) x (3)	Selected Average Loss	Total Ultimate Loss [ (1) + (4) ] x (5)
	(1)	(2)	(3)	(4)	(5)	(6)
ALL	22	88	60%	53	\$ 50,900	\$ 3,817,500

Notes:

1. Column (1) is from Unreported Exhibit 2, total column (11).
2. Selected average loss in column (5) is based on the volume weighted average of the severities for the 2016 through 2018 years using the Ultimate Loss amounts in Reported Exhibit 1.

Ohio Petroleum Underground Storage Tank Release Compensation Board  
By Release Year

Unreported Exhibit 2

Ultimate Claims Based on Bornhuetter-Ferguson Using Exposures and Reported Claims  
As of 6/30/2020

Release Year	Reported Claims as of 06/30/20 (1)	Cumulative Development Factors (2)	Ratio to Ultimate 1 / (2) (3)	Reported Claim Ultimate (1) x (2) (4)	Exposures (5)	Ratio of Indicated Claim Frequency (4) / (5) (6)	Selected Claim Frequency (7)	B-F Reported Claim Ultimate (8)	Selected Ultimate Claims (9)	Total IBNR Claims (9) - (1) (10)	Estimated Reported Claims 7/1/20-06/30/21 (11)
1988	0	\$ 1.0000	\$ 1.0000	0	0	0.0000	0.0000	0	0	0	
1989	344	1.0000	1.0000	344	50,402	0.0068	0.0068	344	344	0	0
1990	489	1.0000	1.0000	489	49,428	0.0099	0.0099	489	489	0	0
1991	543	1.0000	1.0000	543	45,684	0.0119	0.0119	543	543	0	0
1992	409	1.0000	1.0000	409	41,271	0.0099	0.0099	409	409	0	0
1993	288	1.0000	1.0000	288	38,322	0.0075	0.0075	288	288	0	0
1994	291	1.0000	1.0000	291	34,987	0.0083	0.0083	291	291	0	0
1995	205	1.0000	1.0000	205	32,655	0.0063	0.0063	205	205	0	0
1996	161	1.0000	1.0000	161	31,186	0.0052	0.0052	161	161	0	0
1997	192	1.0000	1.0000	192	29,935	0.0064	0.0064	192	192	0	0
1998	178	1.0000	1.0000	178	27,809	0.0064	0.0064	178	178	0	0
1999	66	1.0000	1.0000	66	24,918	0.0026	0.0026	66	66	0	0
2000	36	1.0000	1.0000	36	24,741	0.0015	0.0015	36	36	0	0
2001	40	1.0000	1.0000	40	24,428	0.0016	0.0016	40	40	0	0
2002	43	1.0000	1.0000	43	24,183	0.0018	0.0018	43	43	0	0
2003	57	1.0000	1.0000	57	23,905	0.0024	0.0024	57	57	0	0
2004	41	1.0000	1.0000	41	23,472	0.0017	0.0017	41	41	0	0
2005	67	1.0000	1.0000	67	23,358	0.0029	0.0029	67	67	0	0
2006	57	1.0000	1.0000	57	23,113	0.0025	0.0025	57	57	0	0
2007	72	1.0000	1.0000	72	22,779	0.0032	0.0032	72	72	0	0
2008	73	1.0000	1.0000	73	22,363	0.0033	0.0033	73	73	0	0
2009	59	1.0000	1.0000	59	22,064	0.0027	0.0027	59	59	0	0
2010	41	1.0000	1.0000	41	21,789	0.0019	0.0019	41	41	0	0
2011	56	1.0000	1.0000	56	21,515	0.0026	0.0026	56	56	0	0
2012	61	1.0000	1.0000	61	21,304	0.0029	0.0029	61	61	0	0
2013	61	1.0000	1.0000	61	21,082	0.0029	0.0029	61	61	0	0
2014	59	1.0000	1.0000	59	20,970	0.0028	0.0028	59	59	0	0
2015	35	1.0000	1.0000	35	20,893	0.0017	0.0017	35	35	0	0
2016	44	1.0000	1.0000	44	20,691	0.0021	0.0021	44	44	0	0
2017	41	1.0000	1.0000	41	20,610	0.0020	0.0020	41	41	0	0
2018	44	1.0000	1.0000	44	20,494	0.0021	0.0021	44	44	0	0
2019	2	2.0870	0.4792	4	20,301	0.0002	0.0021	24	24	22	22
Total	4,155			4,157				4,177			

- Notes:
- Cumulative development factors in column (2) are selected in Unreported Exhibit 4.
  - Column (8) is (column (7) x column (5)) x (1 - 1 / column (2)) + column (1).
  - Column (11) is (prior year column (3) - column (3)) / (1 - 1 / column (3)) x column (10) for release year 2019 only. Other release years are equal to 0 because of the Board's one-year reporting requirement.





Ohio Petroleum Underground Storage Tank Release Compensation Board  
By Release Year

Cumulative Closed Claims  
As of 6/30/2020

Table with columns for Release Year and values from 12 to 384. The table shows cumulative data for closed claims from 1988 to 2019.

Cumulative Open Claims  
As of 6/30/2020

Table with columns for Release Year and values from 12 to 384. The table shows cumulative data for open claims from 1988 to 2019.