



## CORE VALUES

Our core values are the foundation of Chesapeake and essential to our success. They are the lens through which we evaluate every decision we make. We demonstrate commitment to our core values in words and actions, building a stronger, more prosperous Chesapeake for all of our stakeholders.



### Integrity and Trust

Be truthful and ethical  
Acknowledge errors and be accountable for results  
Do what we say we will do



### Respect

Protect our employees, stakeholders and the environment  
Appreciate different behavioral styles and seek out different opinions  
Promote inclusion and the diversity of thoughts and ideas



### Transparency and Open Communication

Be clear in our business strategies  
Work with a One Chesapeake mindset and share best practices



### Commercial Focus

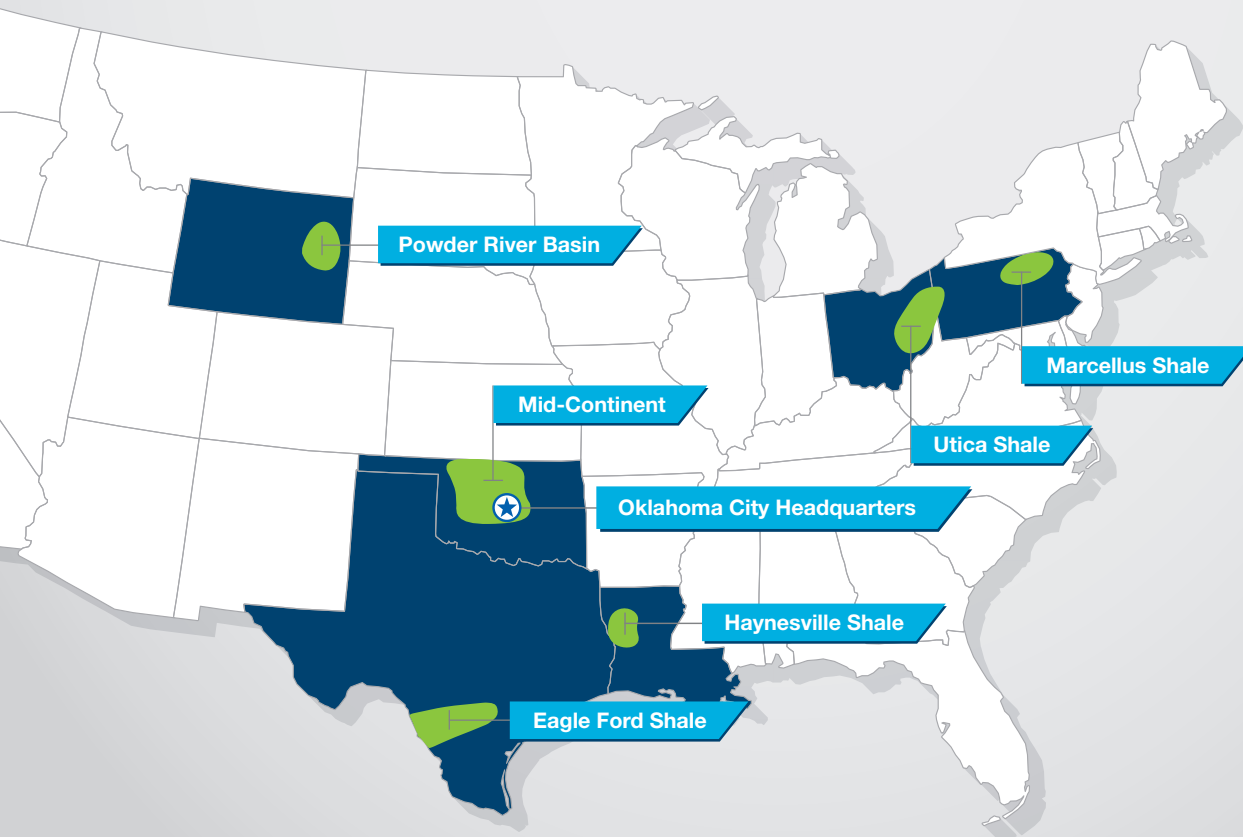
Be investment advisors  
Be stewards of corporate resources and the environment  
Take prudent risks, employing innovative ideas and technology



### Change Leadership

Elevate innovative solutions  
Pursue continuous development and improvement  
Seek to deliver more than what is expected  
Reward risk taking and learn from failures

## OPERATIONS MAP



## Letter to Stakeholders

June 2018 marks my fifth year with Chesapeake. As I reflect on these five years, one word best defines our journey: transformation. We are truly a company transformed — because our shareholders demanded it, because the market challenged us and because it was the right thing to do for our stakeholders.

I came to Chesapeake to build something great with our stellar employees. In working to advance the company, we have experienced significant change that we have tackled with hard work, agility and a commitment to our core values.



The pages that follow serve as a check-in to measure our transformation progress. Our core values demand transparency and accountability, both of which are reflected in this document and through our online [corporate responsibility report](#).

Reviewing our progress allows me to honor the incredible commitment and accomplishments of our employees. I believe that no other team of people had the skills or talent to attack the challenges that we faced in 2013. What impresses me the most is our employees' continued drive for improvement. With each success, we extend our goals further, committing as a team to do better for our stakeholders.

In 2017, we met many financial goals in line with our business strategies. We also had our most outstanding Environment, Health, Safety and Regulatory (EHSR) performance to date with an industry-leading employee safety record, a Total Recordable Incident Rate (TRIR) of .05. In addition, we prevented more spills — decreasing our reportable spills count by more than 70% since 2013.

*We are truly a company transformed — because our shareholders demanded it, because the market challenged us and because it was the right thing to do for our stakeholders.*

A question I recently posed to our team was, “How do we outperform?” The consensus was that we must step up and do more, and this starts by ensuring our work culture is aligned with our business strategies. For this reason, we launched a culture shaping process to help build employee ownership while improving individual and company performance. As One Chesapeake we are working to enhance collaboration, communication and accountability to maximize company value.

As we move forward with a One Chesapeake mindset, we have a renewed determination to deliver improved financial performance and hold ourselves to the highest ethical standards. These past five years of transformation will now serve as our foundation of excellence. We can do better and will do better, living our core values every day.

A handwritten signature in black ink that reads "Robert D. Lawler".

**Robert D. Lawler**  
President, Chief Executive Officer and Director  
May 2018

## Company Overview

As a leading independent producer in the United States, Chesapeake discovers and develops its diverse resource base of unconventional oil and natural gas assets with careful attention to safety and environmental stewardship. Within its portfolio, the company also owns oil and natural gas marketing and natural gas compression businesses. We are committed to executing our business strategies and maximizing shareholder returns by operating responsibly and reducing risk.

**9,500**

wells operated

**548**

mboe average  
daily production

**1.9**

bboe in  
proved reserves

**3,223**

employees

as of December 31, 2017

### FINANCIAL PERFORMANCE AND SUSTAINABILITY

Paramount to being a responsible company is holding ourselves accountable to our shareholders. This means supporting the financial health of our organization by delivering on our business strategies and performance goals. Although 2017 brought the continued challenges of a low commodity price environment, we responded with integrity and hard work — creating a long-term path for Chesapeake to the benefit of our shareholders, our employees and the communities where we operate.

#### BUSINESS STRATEGIES

Financial Discipline  
Profitable and Efficient Growth  
from Captured Resources  
Exploration  
Business Development



#### 2017 KEY FINANCIAL ACCOMPLISHMENTS

Reduced company costs by \$500 million  
Netted approximately \$1.3 billion in proceeds  
from asset and property sales  
Reduced term secured debt by approximately  
\$1.3 billion, or 32%  
Continued to reduce legal complexity,  
and increase efficiencies and synergies,  
for cost savings

*In a year when we delivered significant improvements in the financial health of the company, we also celebrated record safety and environmental performance. Cost cutting does not mean compromising our commitment to our employees, our neighbors or the environment.*

# Corporate Responsibility Approach

Corporate responsibility is embedded in Chesapeake's culture, and our core values guide us to conduct our business with integrity and continuous improvement. We set a high standard for ourselves — and our partners — recognizing the responsibility entrusted to us by our stakeholders.



## ABOUT OUR REPORT

In our seventh year of reporting, we are publishing both a comprehensive online report and a 2017 highlights document focusing on our progress and performance on issues material to our business.

We referenced a number of reporting guidelines, including the Global Reporting Initiative (GRI) Sustainability Reporting Standards and the Oil and Gas Industry Guidance on Voluntary Sustainability Reporting produced by the International Petroleum Industry Environmental Conservation Association (IPIECA), when determining our reporting parameters and data table inclusions. An index of reported indicators is available on the Responsibility home page of [chk.com](http://chk.com). We also reviewed the Disclosing the Facts investor scorecard as an additional third-party source for greater reporting transparency.

Our performance data table can be found on page 16 of this highlights document. This table reflects our operations at year-end 2017. Data and information included in this document were subject to internal review and are believed to be correct at the time of reporting. For certain reporting elements, later changes in categorization could affect data after publication.

### Table of Contents

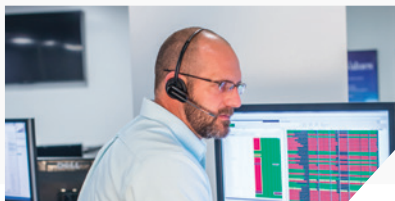
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## Corporate Responsibility: Transformation Timeline

### 2013

- CEO Doug Lawler joins company, launches transformation
- Core values and business strategies introduced
- Corporate Risk and Compliance Department created
- Code of Business Conduct significantly updated
- Aligned employee compensation to top financial and operational metrics, including safety and environmental performance
- Operations Support Center begins remote drilling monitoring of active rigs



### 2014

- Supplier Code of Conduct introduced; nearly 3,000 business partners trained in first year
- Executive compensation tied to company performance
- Declassified Board of Directors and removed supermajority voting requirements
- Launched a comprehensive contractor management system
- Operations Support Center implements remote monitoring and shut-down capabilities for production sites



## Engaging Our Stakeholders

With respect and open communication as core values, engagement with our stakeholders is an opportunity for greater transparency. Regular interaction with those who have impact on, or are impacted by, our business allows us to both listen and educate, and deepen those relationships that matter most to our operational conduct. We value the opinions of our stakeholders and are committed to two-way communications.

Stakeholder Type	How We Engage	Engagement Frequency
<b>Business Partners</b>	Safety and Code of Conduct trainings, employee engagement, ethics helpline and website	Regular and ongoing, ethics helpline and website available 24/7
<b>Community</b>	Owner Relations team interactions, Social Responsibility team contact and meetings, donation request application and review process, emergency responder trainings, field employee engagement	Daily employee engagement, donation reviews three times per year, bimonthly emergency responder trainings (on average)
<b>Employees</b>	Intranet, town hall and other leadership meetings, HR business partner interactions, trainings, performance management program and professional development opportunities, targeted email communications, ethics helpline and website	Daily and ongoing, intranet and ethics helpline and website available 24/7
<b>Government</b>	Meetings, agency interactions, Political Action Committee (PAC) activities, lobbying activities	Daily, ongoing
<b>Investors</b>	Annual shareholder meeting, conferences and road shows, financial reports, Board and Investor Relations team contact, earnings statements and calls	Daily and ongoing, regular meeting and conference participation, annual shareholder meeting in May and quarterly earnings communications
<b>Media</b>	Press releases, social media, self-published reports, leadership interviews and phone calls, Media team contact	Daily, ongoing
<b>Royalty Owners</b>	Owner Relations team interactions, employee engagement, ethics helpline and website	Daily and ongoing, ethics helpline and website available 24/7
<b>Special Interest Groups</b>	Memberships and meetings, employees in advisory engagement roles	Regular, ongoing

## 2015

- Launched technology initiative to integrate all company data into one system for better information exchange and collaboration
- Social Responsibility program aligned to business model and core values
- Celebrated 20th anniversary of company's longest running employee volunteering program — Chesapeake Mentoring



## 2016

- Diversity and Inclusion Council launched to promote inclusion practices
- Corporate Responsibility Report transitioned to web-based to increase transparency and timeliness
- 10-year anniversary of water conservation and recycling program which became Aqua Renew®



## 2017

- Best employee safety record in company history
- Lowest number of recordable spills since 2013
- Launched culture shaping process to strengthen workplace communication and collaboration



## Highlighting 2017

To determine the content for our 2017 Corporate Responsibility Highlights document, we identified and evaluated top stakeholder concerns, company priorities and key responsibility issues for the year. We gathered and analyzed this combination of internal and external factors by conducting a four-step topic focus process. Our comprehensive corporate responsibility report can be found at [chk.com/responsibility](http://chk.com/responsibility).

### STEP 1: Identify Topics of Interest to Stakeholders

Through a variety of inputs, including stakeholder engagement by our employees, peer benchmarking and a review of scorecards and reporting guidelines, we identified topics most relevant to our stakeholders.

### STEP 2: Validate Stakeholder Representation

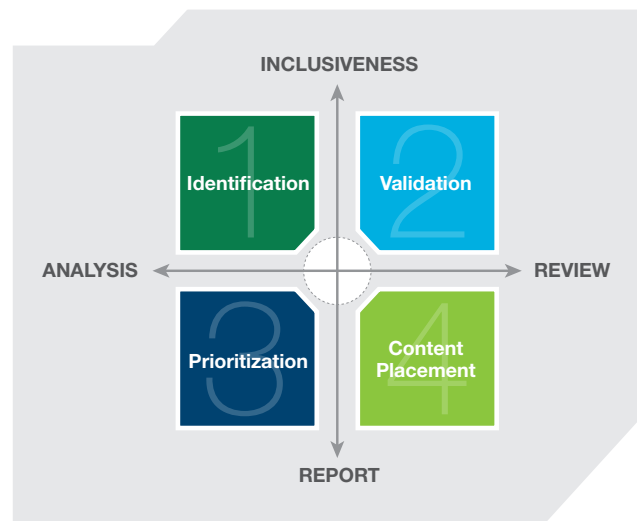
After collecting the data, we confirmed our primary stakeholder groups were included and that no stakeholder group had disproportionate representation.

### STEP 3: Prioritize Key Issues

We analyzed our research, weighing each topic to determine those of greatest relevance and comparing them against our company values, strategies and business objectives.

### STEP 4: Determine Content Placement

In this final stage, we reviewed each key topic and determined whether it should be included in our highlights document or in our web-based report. Those topics of great relevance to both our stakeholders and our business objectives are included in this publication. Also, specific to this year, we emphasized a transformation review for those topics highlighted in the following pages.



## Operating with Integrity

Chesapeake works hard to maintain the confidence of our stakeholders. We earn this trust by acting in an ethical manner to protect our people, the environment and the communities where we operate. This starts by having accountability at all levels and systems in place to uphold our high standards for conduct.

### OUR CULTURE, OUR CORE VALUES

To initiate and lead Chesapeake's transformation, Doug Lawler introduced company core values as his first act as CEO. Our core values drive our commitment to responsible operations by guiding our decision making. We measure ourselves against these values, recognizing that success is not achieved unless we operate under these tenets.

Living our core values starts at the board level. Elected by our shareholders, Chesapeake's Board of Directors oversees the long-term health and success of our business. In support of the transformation, our board implemented governance practices to make our directors more accountable to shareholders. Some of these changes include annual elections for all directors, declassifying the board and expanding the number of directors to allow for more diverse candidates.

### SETTING CLEAR EXPECTATIONS

Our codes of conduct define our strict standards for ethical behavior at every level. In 2013 we significantly updated our Business Code of Conduct to better communicate our expectations and set a high level of accountability across the organization. These efforts resulted in a code rating of "A" by the NYSE Governance Services, surpassing our previous "D+" rating.

To help employees understand expectations around the Code, the company regularly hosts training sessions, and all new employees learn about the Code during their new employee onboarding process. Beyond enterprise-wide Code training, Chesapeake also hosts specialized compliance training sessions tailored to certain employees' job functions and work types.

As part of the transformation, we adopted Chesapeake's first Supplier Code of Conduct, holding our suppliers to the same high standards as our employees. We monitor compliance in a number of ways, including operational site checks conducted by our Security team.

### A STRICT STANDARD FOR SUPPLIERS

Chesapeake is dedicated to maintaining an ethical, safe and high-performing supply chain process. We recognize that supplier relationships, and the proper management of these relationships, are critical to responsible corporate performance.

To become a Chesapeake supplier, a company participates in a thorough qualification process that studies a number of factors, most notably safety and environmental records.

In 2017, the Supply Chain team created a risk-based program to classify the company's suppliers. This model provides a framework that will encourage more frequent recertification for those suppliers with higher risk profiles.



### CHESAPEAKE ETHICS AND INTEGRITY HELPLINE

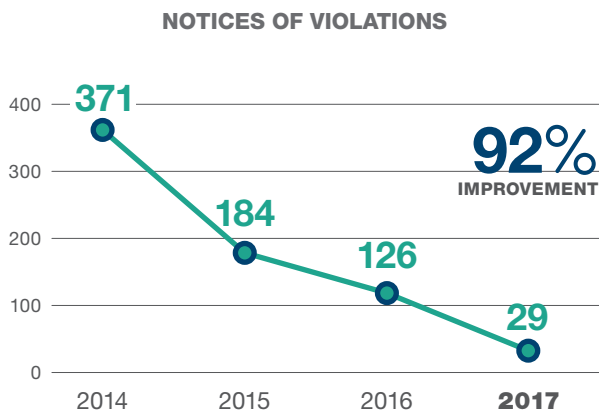
We expect our employees and suppliers to report conduct that may be unethical, illegal or in violation of our Codes. One of the resources we offer for reporting ethics concerns is the Chesapeake Ethics and Integrity Helpline. Anyone can call 877-245-8007 or visit [chkethics.com](http://chkethics.com) to make an anonymous and confidential report.



## COMPLIANCE AS OUR BASELINE

Part of our commitment to operating with the highest ethical standards is compliance with all laws, rules and regulations. Employees are expected to understand and comply with the laws affecting our work, and we all share responsibility for detecting and preventing noncompliance.

Increasing the awareness of regulations has made a substantial difference in our performance, positively impacting our relationships with regulators, local governments and our communities.



*“Our long-term success can only be achieved if each of us acts in a manner that supports our values and is in full compliance with the law. Nothing is more personally important to me at Chesapeake.”*

**— CEO Doug Lawler**

## BEING PROACTIVE TO MANAGE RISK

Maintaining a culture committed to ethical behavior and compliance is a foundation of risk management. We integrate risk management throughout our business, utilizing the three lines of defense model as a framework.



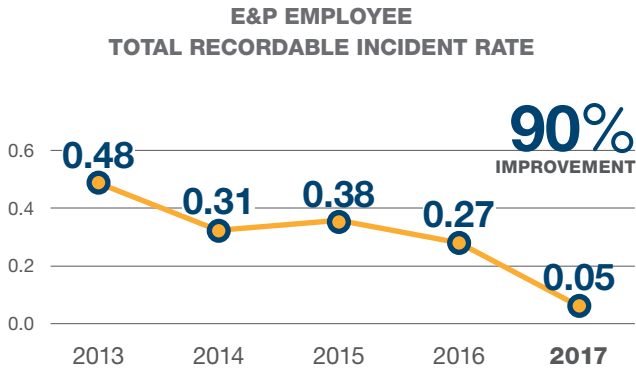
The first line of defense works to identify risk at the frontlines of the organization. The second line of defense — our Risk and Compliance Department led by Chief Risk & Compliance Officer Patrick Craine — provides impartial enterprise risk and compliance analyses and reports directly to our Board’s Audit Committee.

The third line of defense is our Internal Audit Department, an independent and objective assurance group that also reports directly to the Board’s Audit Committee. This group conducts independent risk-based audits of department and business unit controls and processes.

Should a risk require treatment, management oversees the development and execution of specific mitigation plans to reduce the risk to an acceptable level. Even after treatment, we commit to continuing to monitor for the identified risk. We view risk management as a cycle incorporating five key aspects: identification, assessment, evaluation, treatment, monitoring and reporting.

# Protecting Our People

In 2017 we celebrated our best safety performance in company history — an employee TRIR of .05. We attribute this 90% improvement in our safety record to our transformed culture that prioritizes safety above all else.



Each employee received a hard hat sticker to recognize a record-low TRIR and reinforce the continued importance of safety.



## S.A.F.E. CULTURE

Our strong safety culture starts at the top and is supported by consistent training and proactive programs. The foundation of our safety training efforts is our Stay Accident Free Every Day (S.A.F.E.) program, which encourages all employees and contractors to take personal responsibility for their safety and the safety of those around them. This behavior-based program addresses the activities that can often lead to safety incidents and encourages actions that create safe work sites and a safe corporate campus.



### Stop Work Authority

This company pledge empowers all people working on our sites to stop any tasks or actions that may pose safety or environmental risks.

### Trainings

Safety trainings are mandatory for all Chesapeake employees. In 2017, employees participated in an average of more than 13 hours of EHSR training per person.

### Good Catch

Safety ownership is a key outcome of this program that encourages employees and contractors to submit safety concerns to the EHSR team. These concerns are evaluated to determine if additional action is required.

### Testimonials

Reinforcing that safety is personal, this program features individuals who suffered injuries from oil and gas-related work testifying to the personal, financial and physical aftereffects of their accidents.

Ensuring that everyone goes home safely every day requires a commitment from all employees. Field employees are often exposed to a greater number of on-the-job hazards, yet employees on our corporate campus can also encounter safety concerns.

To increase safety awareness among corporate campus employees, we host both a training program focused on campus-specific hazards and emphasize our Good Catch program. Through targeted communications we apply safety to the corporate environment, focusing on behavior often caused by distraction or lack of safety knowledge. We also regularly review our corporate campus to suggest and implement safety design improvements. Past safety projects range from installing speed bumps in high traffic areas to redesigning the walking and parking areas near our Child Development Center.

### APPLYING OUR UNCOMPROMISING SAFETY STANDARD TO EVERYONE

Recognizing that safety depends on everyone at our work sites, we facilitate a comprehensive contractor safety management program. Our uncompromising safety standard requires all Chesapeake contractors to complete a prequalification process, including both a Chesapeake safety orientation and an industry orientation course, before arriving on a company location. The orientation sets clear expectations in accordance with SafeLandUSA industry-standard safety guidelines.

We also host quarterly contractor and vendor safety meetings and conduct contractor assessments in the field. These assessments, coordinated with our EHSR audit team, confirm that our contractors are reporting their safety performances accurately.



Contractors and Chesapeake employees gather regularly for safety meetings. During these meetings, the team discusses potential hazards and expectations regarding Chesapeake's commitment to safety.

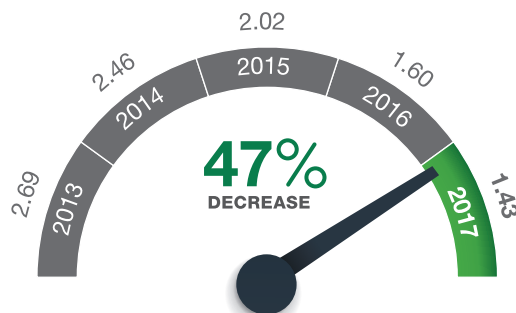
### DRIVING SAFER

Since the beginning of our transformation in 2013, our motor vehicle accident (MVA) rate has decreased by nearly 50%. We attribute this continued decline to our three safe driving programs: driver education, driver monitoring and safe driver recognition.

Chesapeake's drivers participate in seven online and classroom courses, including the Smith Driving System, which offers hands-on driving training common in driver's education and defensive driving curriculum. In field offices where extreme weather is more likely, we offer employees simulator training where they can experience driving on ice, in the snow and in the rain, and receive notes to improve their inclement weather driving.

Through our in-vehicle monitoring system (IVMS), we are able to track employee driver habits and safety concerns. Employees are alerted when they speed, accelerate too fast or brake suddenly. The system also records all accidents and supervisors review reports of their employees' driving behavior on a regular basis.

New for 2017, we expanded our IVMS to further safeguard our employees. Certain Chesapeake team members spend their shifts working independently on remote sites. By wearing a personal monitor connected to the company's IVMS, employees in the field can receive faster response should they experience an emergency. The monitor tracks personal movements, alerting other team members if an employee is immobile for a period of time, and enables two-way communication should help be needed.



MOTOR VEHICLE ACCIDENT RATE

## Protecting Our People

### PREPARED IN CASE OF EMERGENCY

Our emergency procedures require employees to respond to all incidents quickly, with safety as the top priority. Procedures are guided by our Emergency Response Plan (ERP), which provides employees with the framework and action steps critical for responding to incidents in a safe, effective and efficient manner.

As part of our robust ERP, employees are trained using the same management system used by emergency responders from firefighters to the Federal Emergency Management Agency. The National Incident Management System (NIMS) response template enables Chesapeake to work cooperatively and efficiently with local, state and federal agencies in the event of an emergency.

In 2017 we conducted 12 new emergency response training sessions in the field, specifically for onsite contractors. Although these individuals have safety training and experience, it was important to enhance their capabilities and awareness, particularly as it relates to Chesapeake-specific response expectations. More than 200 attendees gained a higher level of safety expertise as a result of these sessions.

Should an incident occur, it is our commitment to learn from it and, where appropriate, improve our processes. To deliver on this commitment, we utilize a root cause investigation system to standardize our reporting, investigation and analysis of incidents.

### PARTNERING FOR A SAFER INDUSTRY

Chesapeake partners with several industry trade organizations to share key safety learnings with our peers. While we may compete in the marketplace, we are united in keeping our employees, partners and neighbors safe. Chesapeake is involved in safety-related committees within the American Exploration & Production Council and the American Petroleum Institute, and actively participates with the American Society of Safety Engineers and the National Safety Council.

We also engage on the local level, participating with regional industry organizations and offering information sessions to first responders. During meetings with firefighters, police officers and emergency response personnel we work to increase local operational site knowledge should an emergency occur. Topics covered include how the energy and production industry works, key industry terminology, potential site hazards and an overview of production site equipment.



*Employees and local first responders gather onsite to conduct an emergency simulation. Drills like these better prepare both teams to work together should an emergency occur.*

### JOB SAFETY ANALYSIS

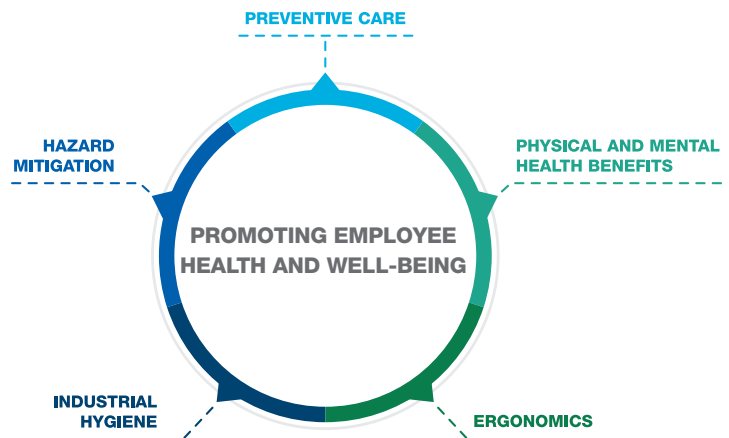
With a goal of anticipating and mitigating potential hazards, Chesapeake performs a job safety analysis (JSA) for every company project. Each JSA documents potential hazards and requires mitigation if a hazard is identified. Before employees or company representatives begin the job, they attend a safety meeting during which they review the JSA.

## EMPLOYEE HEALTH

Protecting our people takes a coordinated and comprehensive approach that begins at the job site and extends to include all of employee well-being.

Across the company, employees are incentivized to complete an annual screening for common health-related issues. Completing a health check offers employees a reduced insurance rate and the opportunity to connect with a specialized health professional if additional follow-up is needed.

For those unable to visit a nearby health professional, Chesapeake offers Teladoc memberships to employees and dependents enrolled in one of our health plans. Through Teladoc, employees can speak with a physician who can diagnose and treat common illnesses via phone or video.



Chesapeake recognizes that wellness goes beyond physical health. We offer an Employee Assistance Program for all employees, from the first day of employment. Through this program employees have access to free, confidential counseling and a referral service, helping employees to locate services and navigate major life changes.

Another aspect of our employee health program is a robust ergonomics initiative, led by an ergonomics specialist. Through the program, employees have the opportunity to receive individual assessments and tailored action plans for correcting improper work positions and habits. These techniques, which range from stretching routines to modified office setups, all work to reduce the incidence of on-the-job injuries and increase worker productivity.

A natural extension of our ergonomics program, Chesapeake's industrial hygiene program utilizes exposure assessments to identify chemical, physical and biological stressors that may impact employee health while on a jobsite. Through the program, we pinpoint potential hazards and develop proactive, situational plans to best protect our employees.



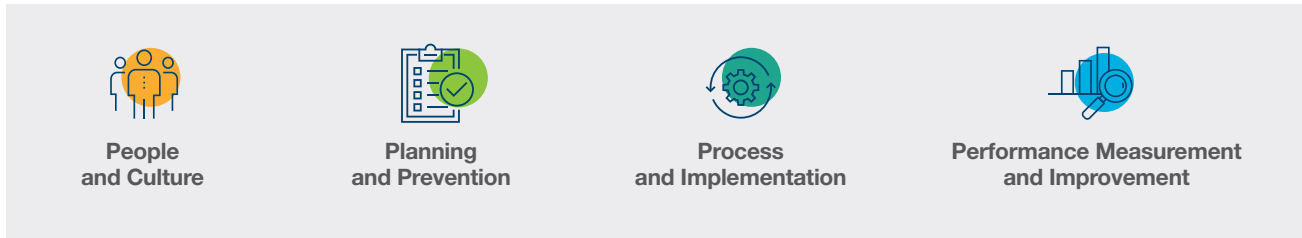
*Field employees complete CPR/AED training every two years. As part of this training, employees learn how to identify a medical emergency and respond with basic lifesaving skills until emergency response personnel arrive.*

*Chesapeake's ergonomics specialist meets with an employee for an in-office assessment. Employees also have access to an online portal that offers virtual tools including a posture evaluation and a training module.*

# Environmental Stewardship

The reputation and strength of our company is built upon safety and environmental stewardship. This starts with a culture of respect – a culture where compliance outweighs convenience and employee ownership means there is accountability at every level. Our [Commitment to Environmental Excellence](#) defines our standards for environmental protection and our EHSR Management System provides the strategy for reaching our performance metrics.

## EHSR MANAGEMENT SYSTEM



## PROTECTING ENVIRONMENTAL SENSITIVITIES

Our site assessment program creates consistent procedures to protect environmental receptors when constructing new locations or conducting maintenance to existing locations.

Prior to initiating construction activity, we carefully assess the varying aspects of a proposed location, from its geography and topography to the existence of sensitive wildlife habitat, cultural resources, residences and other public-occupied sites. Protection of the nation’s waters, including streams, wetlands and floodplains, is also included in the assessment. Our analysis includes both a desktop and field review to identify the presence or absence of these sensitive receptors.



*Through our site assessment program, Texas horned lizards are identified, captured and relocated to avoid harm prior to pad construction.*

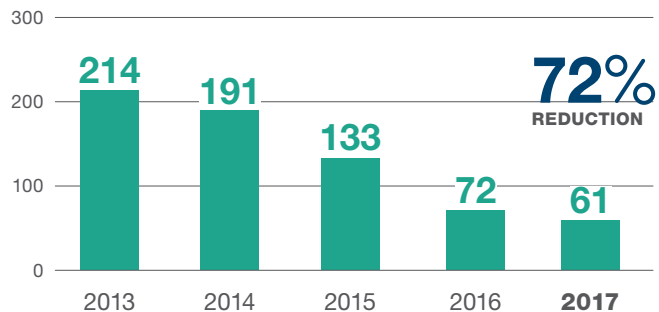


**Process and Implementation:** Central to our site assessment program is going above and beyond compliance requirements. Our procedures mandate flagging any sensitivities within the proposed limits of disturbance (LOD) of our operations, plus a minimum of 100 feet beyond the LOD. If an environmentally sensitive receptor or cultural resource is identified within the proposed LOD, we try to avoid or minimize impacts by relocating site activity or developing a plan to protect the resource, including obtaining necessary environmental permits.

## PREVENTING SPILLS

Since 2013, reducing spills has been one of our key performance objectives; a goal we continue to improve upon each year. In fact, we have decreased our number of reportable spills more than 70% due to spill prevention and containment efforts.

## REPORTABLE SPILLS



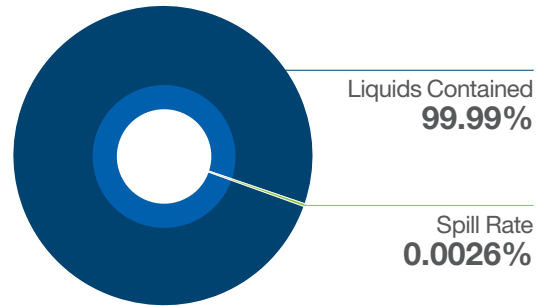


**Planning and Prevention:** Our spill prevention initiatives have enabled us to make significant improvement in our environmental performance. Employees from our Engineering, Operations and EHSR teams collect and analyze spill data, identify spill causes and collaborate to implement operational design improvements to prevent spills. Our prevention efforts focus on five main spill causes: pipeline failure; corrosion; weather; human error; and equipment failure.

In 2017 we handled nearly 280 million barrels of liquids, including freshwater, produced water and oil. We contained 99.99% of these liquids.

If a spill incident occurs, Chesapeake activates a comprehensive, cross-functional team that focuses first on safety, then environmental protection and regulatory compliance. At any time, this team and its resources are ready and available to respond.

### SPILL PREVENTION RESULTS



### SPILL RESPONSE TEAM

#### OPERATIONS:

- » Secure site for safety
- » Collect initial information
- » Determine level of resources needed
- » Initiate containment measures and control the spill

#### EMERGENCY RESPONSE:

- » Initiate emergency response plan and procedures
- » Establish an incident command system on location
- » Unify command with outside responders

#### ENVIRONMENTAL:

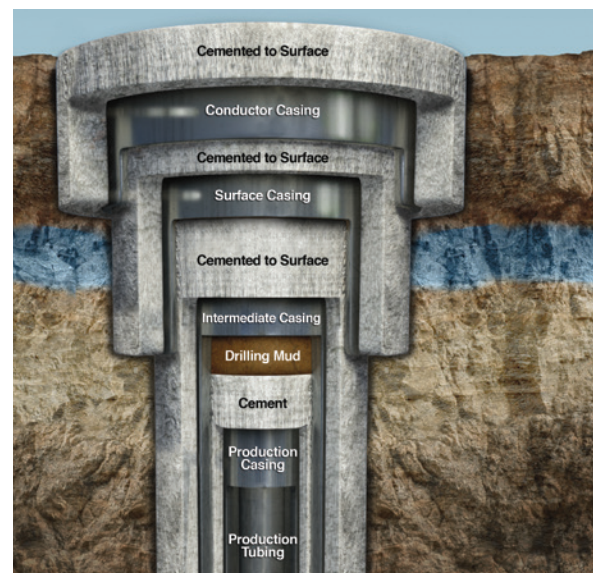
- » Notify appropriate parties
- » Develop a spill delineation plan and a remediation plan
- » Conduct remediation activities

We will not stop improving our spill prevention efforts until we achieve zero spills. Responding efficiently and effectively, and learning from spill incidents, enables us to develop new spill prevention techniques and reduce more spills.

### RESPONSIBLE WATER MANAGEMENT

Protecting water supplies and conserving water sources are critical to both our environmental stewardship efforts and our future operations. We use water during our drilling and completions stages, and our water use varies according to the geology and the specific engineering plans for each well. In 2017 we used approximately 1.61 gallons of water for every 1 mmbtu of energy we anticipate producing over the life of the well.

During the drilling phase, multiple layers of protective steel casing, surrounded by cement, are installed to protect freshwater aquifers and other natural resources. Although the distance between freshwater aquifers and natural gas and oil formations in our plays averages more than 7,700 feet — nearly 1.5 miles — we engineer our wellbore design out of an abundance of caution to prevent the migration of produced fluids and hydrocarbons. We also work with regulatory agencies to ensure we meet or exceed guidelines for wellbore construction.



# Environmental Stewardship

For water sourcing, Chesapeake first seeks to use non-potable water supplies for our operational needs. If non-potable water is not available, we utilize freshwater sources working closely with local, state and federal agencies to evaluate and permit our freshwater usage.



**Performance Measurement and Improvement:** The importance of water sourcing led us to adopt a companywide electronic water tracking system. This system enables us to more accurately monitor our water usage and transportation. Using this system, our field teams are better equipped to track vendor handling of water resources and recognize cost efficiencies.

Another way we practice water stewardship is through our Aqua Renew® initiative, a program that recycles produced water and evaluates freshwater alternatives. Through Aqua Renew®, produced water is treated on-site or trucked to a central location for treatment and testing before being reused in additional completion operations. In 2017, we recycled more than 128 million gallons of produced water.



**RECYCLED  
128 MILLION  
GALLONS OF PRODUCED WATER**

Many of our recycling efforts include operating areas prone to drought cycles. If a drought occurs, we adjust our operations accordingly with emphasis on water recycling.

## PRESERVING AIR QUALITY

We share in the concern that air emissions can affect air quality, which is why we work to reduce our well lifecycle emissions. We implement measures to reduce air emissions from the start of our facility design in addition to complying with local and federal regulations during our operations.

### WELL LIFECYCLE EMISSIONS REDUCTION PRACTICES

#### FACILITY DESIGN AND PRODUCTION OPERATIONS

- » Automatic tank gauging
- » Centralized facility design
- » Increased pipeline infrastructure
- » Leak detection
- » Preventive maintenance practices
- » Solar and wind-powered equipment
- » Facility electrification via Electric Distribution Systems
- » Low or intermittent-bleed pneumatic controllers
- » Natural gas engine emissions controls
- » Remote facility monitoring and shut down
- » Vapor recovery

#### DRILLING AND COMPLETIONS

- » Emissions controls for diesel and natural gas engines
- » Engines powered in part or whole by electric and compressed natural gas
- » Low-sulfur diesel drilling fuel
- » Green completions
- » Remote monitoring





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In addition to facility design improvements, regular maintenance and monitoring can reduce emissions events. Specific to maintenance, we utilize an enterprise-wide software application to centrally manage equipment and work orders. Through this standardization we can also analyze maintenance data to identify preventive site improvements.

Our lease operators conduct onsite monitoring based on standardized site inspections detailed in lease operator guidebooks available for each operating area. These monitoring efforts include performing audio, visual and olfactory (AVO) observations and filing real-time reports which are routed to specialized team members who determine if action is needed.

Chesapeake also uses infrared cameras to both detect methane leaks and direct specific maintenance activities. Forward-looking infrared (FLIR) cameras help our specially-trained field technicians to visualize leaks that may not be detected by the unaided senses, as well as help pinpoint the leak source itself.



**People and Culture:** Our FLIR inspectors are certified, having completed the Optical Gas Imaging Certification Training through the Infrared Training Center. Also, many have lease operator experience or specialized training, giving them both the knowledge and authority to repair certain leaks immediately.



*Employees operate a FLIR camera in Kingfisher, Oklahoma as they work to detect methane leaks.*

Chesapeake complies with state and federal leak detection and repair (LDAR) regulations, including inspecting sites within 60 days of a new well producing to confirm equipment is operating properly. Going beyond regulatory requirements, Chesapeake voluntarily surveys a number of our sites utilizing a risk-based approach. Of the sites we surveyed in 2017, more than 60% were inspected voluntarily.

Should a leak be discovered, it is likely to be repaired on the day of detection. Inspections and leak detections and repairs are recorded to track activity and for compliance assurance and data analysis. Leak trend analysis drives preventive maintenance and directs future inspections.

Chesapeake team members continue to evaluate new technologies that could improve detection capabilities, including exploring pilot testing with monitoring equipment currently in market development. We also work with government agencies and local and national industry peer groups to advance leak detection processes and knowledge. In 2017, we joined The Environmental Partnership, a coalition of U.S. natural gas and oil companies working together to improve the industry's environmental performance through knowledge sharing and collaboration. The Partnership's first initiative focuses on further reducing emissions, including methane.

## Performance Metrics

as of December 31, 2017

ECONOMIC	2017	2016
Revenues	\$9.496 billion	\$7.872 billion
Operated wells	9,500	10,900
Average daily production (mboe/d)	548	635
Proved reserves (bboe)	1.9	1.7
Tax payments (state and federal)	\$206 million	\$161 million

HEALTH AND SAFETY*	2017	2016
Employee Total Recordable Incident Rate (TRIR)	0.05	0.27
Employee Lost Time Incident Rate (LTIR)	0.02	0.10
Employee Days Away, Restricted or Transferred (DART) rate	0.02	0.18
Contractor TRIR	0.58	0.85
Contractor LTIR	0.14	0.30
Contractor DART rate	0.34	0.54
Fatalities	0	0
Motor vehicle accident rate (per million miles)	1.43	1.60
EHSR training hours per employee (average)	13	18

ENVIRONMENT	2017	2016
Greenhouse gas emissions (million metric tons, CO <sub>2</sub> e)**	3.24	3.97
Greenhouse gas emissions intensity (kg CO <sub>2</sub> e/boe)**	9.11	9.86
Methane loss rate**	0.20%	0.24%
Average water used to drill and complete a well (gal/foot)	571	413
Water efficiency rate (gal/mmbtu)	1.61	1.69
Total volume of produced water recycled/reused (gal)	128,052,162	94,216,332
Spills > 100 bbls (number of spills)	11	22
Spills > 100 bbls (total bbls)	2,960	4,432
Spills > 100 bbls (% recovered)	37%	63%
Environmental penalty assessments in excess of \$100,000	0	1

COMMUNITIES	2017	2016
Charitable giving (financial and in-kind)	\$1.78 million	\$1.64 million
Employee giving (workplace campaigns)	\$1.06 million	\$1.05 million
Owner Relations team interactions (phone calls and emails)	~105,700	~122,600

EMPLOYEES	2017	2016
Employee headcount	3,223	3,325
Women in workforce	31%	31%
Women in leadership (supervisor level and above)	22%	22%
Ethnic minorities in workforce	16%	15%
Ethnic minorities in leadership (supervisor level and above)	9%	6%
Veterans in workforce	7%	6%
Voluntary turnover rate	8%	9%
Professional development training hours per employee (average)	29	22

\* E&P only

\*\* Emissions estimate developed under the EPA's Greenhouse Gas Reporting Program (onshore production and gathering and boosting facilities)

Data and information included in this report were subject to internal review and are believed to be correct at the time of reporting. For certain reporting elements, later changes in categorization could affect data after publication.



#### COMMUNICATE WITH THE COMPANY

**Board of Directors**  
 866-291-3401  
[TalktoBoD@chk.com](mailto:TalktoBoD@chk.com)

**Investor Relations**  
 405-935-8870  
[ir@chk.com](mailto:ir@chk.com)

**Compliance and Ethics**  
 877-CHK-8007  
 (anonymous)  
[compliance@chk.com](mailto:compliance@chk.com)  
[chkethics.com](http://chkethics.com)

**Owner Relations**  
 877-CHK-1GAS  
[contact@chk.com](mailto:contact@chk.com)

#### OUR STORIES

Every day Chesapeake employees create value that drives our company forward and capitalizes on our strengths — high-quality assets, advanced technical capabilities and ongoing operating efficiencies, to name just a few. We share these topics in the News and Stories section of [chk.com/media](http://chk.com/media).

✦ Visit [chk.com/responsibility](http://chk.com/responsibility) for our comprehensive corporate responsibility report



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