

2019

DISCLOSING THE FACTS:

TRANSPARENCY AND RISK IN WATER & CHEMICALS
MANAGEMENT FOR HYDRAULIC FRACTURING OPERATIONS



A COLLABORATIVE PROJECT OF:



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COLLABORATING ORGANIZATIONS

AS YOU SOW promotes environmental and social corporate responsibility through shareholder advocacy, coalition building, and innovative legal strategies. Our efforts create large-scale systemic change by establishing sustainable and equitable corporate practices.

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EXECUTIVE SUMMARY

Disclosing the Facts 2019: Transparency and Risk in Water & Chemicals Management for Hydraulic Fracturing Operations (DTF 2019) is an investor report designed to promote improved water and chemical management and reporting practices among oil and gas producers engaged in horizontal drilling and hydraulic fracturing in the United States and Canada.

Investors are focused on water, because it is a vital resource whose availability has extensive impacts across the economy. Investors' attention to water reflects their increasing focus on the role this resource has on companies' ability to operate as well as the impact companies have on water availability and quality in areas where they are located. As climate change affects the scarcity of water in different regions, investors need assurance that companies are responsibly managing the quantity of water used. The process of hydraulic fracturing uses a range of chemicals, raising the risk of unintended releases that could result in water contamination, and increases the risk of induced seismic activity, among others. Given the oil and gas sector has a relatively low response rate to the CDP water questionnaire,¹ *DTF 2019* seeks to highlight the importance of comprehensive water management.

Disclosing the Facts 2019 ranks companies on disclosures of key elements of their water management processes, seeking not only quantitative information about the impacts of company operations on water but also qualitative information about corporate policies and practices. Sound corporate management of water and chemicals requires thorough, systematic planning — from site development through production and wastewater disposal, advanced equipment design, and practices that efficiently use water and minimize impacts on the surrounding environment and local communities.

Disclosing the Facts 2019 also addresses the very real problem of regulatory inconsistency. Since most regulation of oil and gas production operations is done by states, and state regulation of known risks is uneven, companies must go beyond issuing boiler-plate statements to investors that they comply with regulations. Investors are seeking greater information on risk management practices, especially where they differ from one play² to another, and where practices may go beyond compliance requirements or not.

Disclosing the Facts 2019 poses 25 questions reflecting a systematic approach to water management. The actions of 30 top producing companies are assessed against these criteria, which range from design and operating practices to monitoring and reporting.³

2019 COMPANY SCORES

| COMPANY | TOTAL |
|-----------------------------------|-------|
| Southwestern Energy Co. (SWN) | 23 |
| Apache Corp. (APA) | 22 |
| Anadarko Petroleum Corp. (APC) | 20 |
| Range Resources Corp. (RRC) | 20 |
| Occidental Petroleum Corp. (OXY) | 19 |
| Antero Resources Inc. (AR) | 17 |
| Royal Dutch Shell plc. (RDS) | 17 |
| ConocoPhillips Co. (COP) | 16 |
| Hess Corp. (HES) | 15 |
| Devon Energy Corp. (DVN) | 12 |
| Chesapeake Energy Corp. (CHK) | 11 |
| Newfield Exploration Co. (NFX) | 11 |
| EQT Corp. (EQT) | 8 |
| Noble Energy, Inc. (NBL) | 6 |
| BP plc. (BP) | 5 |
| Chevron Corp. (CVX) | 5 |
| Cimarex Energy Co. (XEC) | 5 |
| Marathon Oil Corp. (MRO) | 5 |
| Cabot Oil and Gas Corp. (COG) | 4 |
| Encana Corp. (ECA) | 4 |
| Equinor ASA (EQNR) | 4 |
| Exxon Mobil Corp. (XOM) | 4 |
| Ultra Petroleum Corp. (UPL) | 3 |
| CNX Resources Corp. (CNX) | 2 |
| Concho Resources Inc. (CXO) | 2 |
| Pioneer Natural Resources (PXD) | 2 |
| EOG Resources, Inc. (EOG) | 1 |
| Total S.A. (FP) | 1 |
| Continental Resources, Inc. (CLR) | 0 |
| Gulfport Energy Corp. (GPOR) | 0 |

1. CDP provides a voluntary framework for companies to report on water management data and practices.

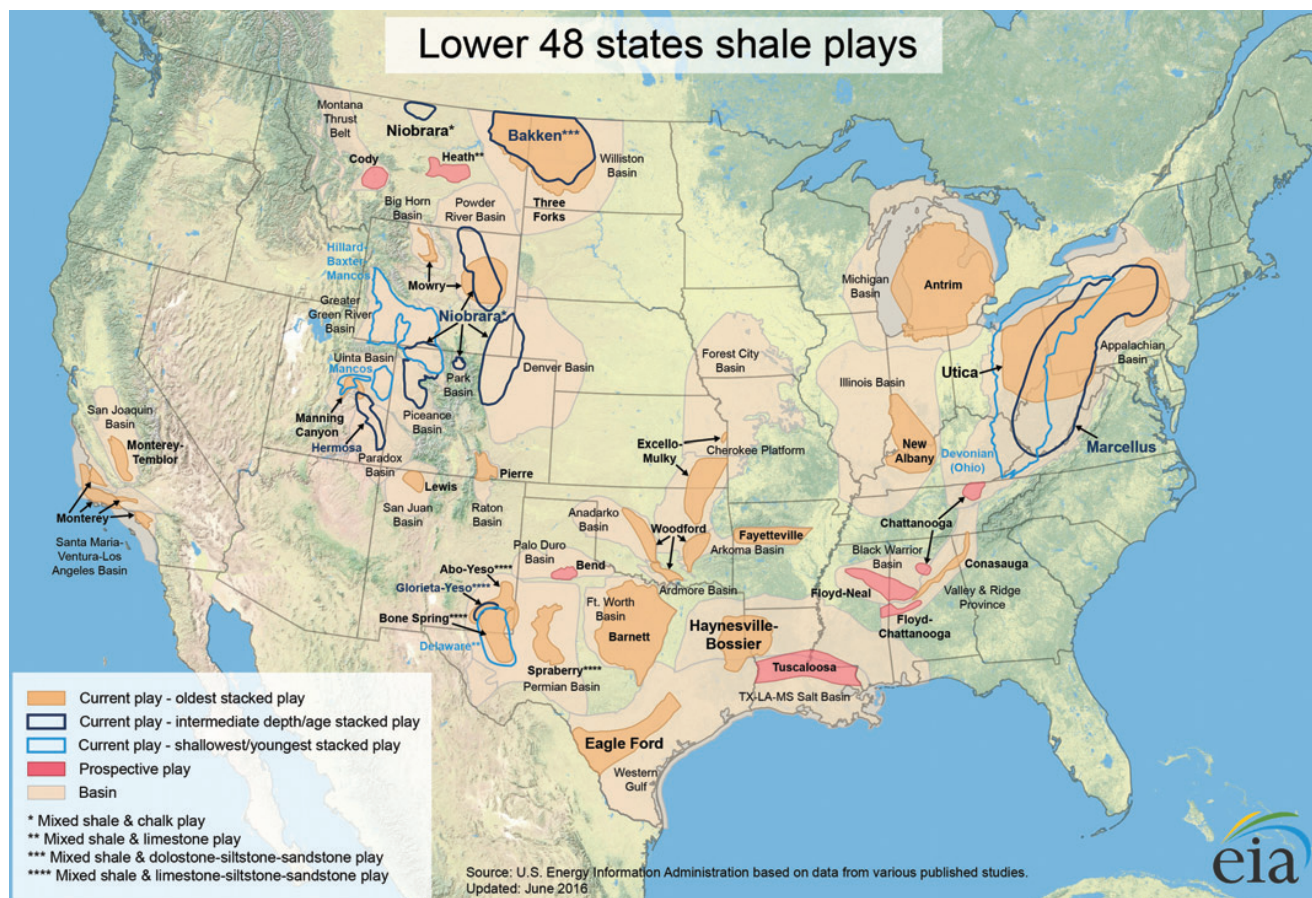
2. A play is a geological formation that contains a significant amount of oil and/or natural gas.

3. See Appendix B for a description of how companies were selected, which plays they were asked to report on, and other methodological issues.

Disclosure Leaders and Laggards: Of the 30 companies scored on 25 indicators, the top scorers were: *Southwestern Energy* (23 points), *Apache Corporation* (22), *Anadarko Petroleum* (20), *Range Resources* (20), and *Occidental Petroleum* (19). The next five were *Antero Resources* (17), *Royal Dutch Shell* (17), *ConocoPhillips* (16), *Hess Corporation* (15), and *Devon Energy* (12). At the bottom of the rankings, *Gulfport Energy* and *Continental Resources* tallied zero, *Total* and *EOG Resources* scored one (1), and *CNX Resources*, *Pioneer Natural Resources* and *Concho Resources* scored two (2). Of the three largest oil and gas companies, *Shell* (17) has offered the greatest disclosures while *Exxon Mobil* (4) and *Chevron* (5) continue to lag.

Most and Least Disclosed Indicators:⁴ Twenty-one of the 30 companies disclosed that they collect reports of “near misses” or close calls that did not result in leaks, spills, injuries, or environmental harms. These companies used such information to proactively identify problems with the goal of preventing or reducing future equipment failures and human errors. Seventeen companies state clearly that their public disclosures of chemicals used for hydraulic fracturing do not include chemicals protected by claims of trade secrecy. Sixteen companies discuss their practices for assuring the operational integrity of their wells. Fifteen companies report, on a play-by-play basis, the percentages of their wastewater recycled and reused for fracturing additional wells. On the other hand, only one company earns credit for disclosing its post-drilling monitoring practices, including chemicals monitored and frequency of monitoring, on a play-by-play basis. A few additional companies disclose such practices but are silent on the frequency of such testing. Three companies earn credit for disclosing their pre-drilling monitoring practices, including the type of chemicals monitored and frequency of monitoring, on a play-by-play basis. As with post-drilling monitoring, a few additional companies disclose that such testing occurs without stating frequency or types of test. Only three companies earn credit for disclosing, in percentage terms (from a base year), quantitative reductions in the toxicity of the chemicals they use for fracturing. Other questions have more evenly dispersed responses.

FIGURE 1: LOWER 48 STATES SHALE PLAYS



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