

SPLIT ESTATE *Study Guide*



This study guide is designed to inspire debate, group discussion, and critical thinking about the issues raised in SPLIT ESTATE, as well as offer tools and resources for further investigation into related topics. Educators are encouraged to adapt the contents of this guide to meet their own unique context and educational objectives.

ABOUT SPLIT ESTATE

SPLIT ESTATE maps a tragedy in the making, as citizens in the path of a new drilling boom in the Rocky Mountain West struggle against the erosion of their civil liberties, their communities and their health. Exempt from federal protections like the Clean Water Act, the oil and gas industry has left this idyllic landscape and its rural communities

pockmarked with abandoned homes and polluted waters. As our appetite for fossil fuels increases, despite mounting public health concerns, SPLIT ESTATE cracks the sugar coating on an industry that assures us it is a good neighbor, and drives home the need for alternatives—both here and abroad.

ABOUT THE DIRECTOR

Debra Anderson is a filmmaker and activist. Her documentaries ignite awareness and inspire dialogue and creative action around environmental justice and human rights. Her feature-length directorial debut, *SPLIT ESTATE*, effectively broke the story of health impacts from natural gas drilling and fracking to a national television audience when it premiered in 2009.

The film won the 2010 Emmy for Outstanding Individual Achievement in a Craft: Research, broadcast internationally.



Photograph by Jennifer Esperanza



Photograph by Tina Garnanez

The SPLIT ESTATE Community Engagement Campaign quickly became an integral part of a larger movement, connected with hundreds of citizen action groups and nonprofits to advance a clean and just energy future. The film continues to be utilized as an important tool for change by grassroots activists around the globe.

The Film in Context

To aid in discussions, we have provided definitions for terms used in this film and a quick guide to the pros and cons of the issues.

Split Estate The concept of split estate dates back to British Common Law, which reserved the mineral rights of all land, public and private, to the king. Over time, split estate has come to be defined as a situation in which a property owner is not the same party who owns the rights to extract minerals from underneath the property. In fact, surface owners rarely own their mineral rights, especially in the Western states, and the party who does own them is entitled to extract them—even if the surface owner doesn't want them to. (Legal precedents have established the legal dominance of the mineral estate's development over that of the surface estate's development.)

Fracking (see Hydraulic Fracturing)

Hydraulic Fracturing (Fracking) Hydraulic fracturing is a process used to increase the flow of oil and natural gas from a well. Fracking involves injecting fluid (see Fracking Fluid) containing various ingredients into rock formations, causing them to fracture. Combined with horizontal drilling, this technique has allowed for drilling from a much larger area than would be possible otherwise. Although decades old, the technique proved too costly until the 1990s, when horizontal drilling became available and fracking fluids became more advanced. Subsequently, the fracking process expanded domestically and globally. Fracking has come under scrutiny and criticism because of the potential for pollution of ground water caused by unintended seeps, including the well water of homes near the drilling site, as well as nearby streams and other habitats.

Fracking Fluid A mixture of water, sand, and proprietary chemicals injected into the ground during oil and gas drilling operations. The exact ingredients that are employed by companies in-

involved have not been officially disclosed and due to exemptions enjoyed by drilling companies (e.g. the "Halliburton Loophole"), the ingredients remain proprietary and are not subject to regulation by agencies such as the EPA. In some states, disclosure of fracking compounds is required, but the disparate nature of those regulatory requirements as well as concern for proprietary rights has meant that the information is most often retained by state agencies or posted after the drilling process has concluded. Independent testing has been done on fracking fluids, however. The Endocrine Disruption Exchange, a non-profit organization that was headed by Dr. Theo Colborn, has identified nearly 1000 chemicals recovered from drilling operations, including volatile organic compounds (VOCs), neurotoxins, and other dangerous chemicals, which are heavily regulated when used in most other capacities and contexts.



Halliburton Loophole As part of the 2005 Energy Bill, companies involved in natural gas drilling are exempt from EPA regulation of portions of the Safe Drinking Water Act. Among other things, this means that companies are free to inject toxic chemicals into the ground that would otherwise be illegal without any reporting or oversight.

FRAC Act The Fracturing Responsibility and Awareness of Chemicals Act Bill, introduced to both houses of the United States Congress on June 9, 2009, is aimed at repealing the exemption for hydraulic fracturing in the Safe Drinking Water Act. It would require the energy industry to disclose the chemicals it mixes with the water and sand it pumps underground in the hydraulic fracturing process (also known as fracking), information that has largely been protected as trade secrets. Controversy surrounds the practice of hydraulic fracturing as a threat to drinking water supplies. The gas industry opposes the legislation. This bill would effectively close the Halliburton Loophole. It would also eliminate to some degree the regulatory disparity that currently exists among states where fracking takes place.

Produced Water Water that comes out of a producing well, which includes both water native to the reservoir being drilled and the mixture of water and other fluids injected into the reservoir during drilling operations. Produced water often contains toxic chemicals and is considered an industrial waste material. It is generally placed in evaporation ponds, but this practice is growing increasingly controversial due to health and environmental concerns.

Evaporation Pit A large pit, generally lined with plastic or asphalt, designed to contain contaminated water from drilling operations and to dispose of them via evaporation. Sometimes, the produced water from these pits is extracted and shipped to treatment facilities by trucks. However, given the expense, this is rarely done.

Proppants Small chemical particles of varying types, often proprietary synthetic blends, injected into the ground along with fracking fluid. Proppants are used to hold open the fissures created in rocks during hydraulic fracturing so that the mined material can escape. Proppants remain even after the well has “played out” so, even after the resources are gone, the fissures remain.

Seep When gas escapes from a well unintentionally through the surrounding strata of rock, often endangering local water sources.

Sparging A method that has been employed to remove toxic gases from polluted water sources. A sparging unit releases the gasses trapped in polluted water into the air.

VOCs (Volatile Organic Compounds) VOCs are hydrocarbon compounds that are generally highly toxic, often carcinogenic, and easily absorbed into water (some examples are propane, benzene, toluene, ethylbenzene and xylene.) Since VOCs, both manmade and naturally-occurring, are frequently used in drilling operations, there is a great deal of concern about the potential for ground and drinking water contamination resulting from their use.

Neurotoxicants Substances toxic to the nervous system. Symptoms of exposure may include confusion, weakness, tingling sensations, loss of coordination, fatigue, irritability, behavioral changes, and the development of degenerative brain diseases. Several neurotoxicants have been identified in the fluids injected into the ground during hydraulic fracturing.



Weighing the Issue

Context has to be understood in order to separate reality from rhetoric when we approach issues as complex as fracking and split estate. The following outline is designed to guide students through the major talking points surrounding these issues, helping to clarify the issue and assist in pre- and post-viewing activities.



Benefits

Fracking opens up vast reservoirs of previously inaccessible natural gas reserves.

Producing energy in the U.S. reduces our reliance on oil and gas imports from abroad. This has many benefits, including reducing trade deficits and boosting national economic health; freeing the U.S. from the need to physically protect energy supplies and infrastructure far from home; and allowing the U.S. to cut off support to tyrannical or inhumane but oil-rich regimes.

Drilling has created thousands of new jobs nationally and provided

much needed income to poverty-stricken communities and states, especially in rural areas.

Drilling generates tax dollars for cities, counties, and states, which can be used for schools, infrastructure, police and fire departments, and so forth.

Natural gas burns cleaner than oil or coal, producing less CO₂, a greenhouse gas, as well as fewer toxic chemical byproducts associated with burning coal and oil.



Drawbacks

The fracking of a single well can involve up to 300 tons of chemicals. Companies do not have to reveal what the chemicals are, but studies have shown that these chemicals are often toxic and can pose serious health risks. These chemicals often end up polluting local groundwater sources.

Fracking is extremely water intensive, demanding large amounts of water in areas that are water stressed, such as the Western U.S.

Because the process uses so much water, fracking often takes place near drinking water reservoirs and aquifers for urban and rural communities. A 2009 New York City Department of Environmental Protection report warned that “nearly every activity” associated with natural gas drilling could potentially harm the city’s drinking water supply.

Toxic chemicals are released into the air during the treatment of fracking wastewater. These vapors mix with exhaust from on-site vehicles and generators, creating ground level ozone, a toxic gas which can travel up to 250 miles.

Since the natural gas boom began, funding for and research into sustainable energy sources such as solar and wind have been drastically cut, actually limiting the prospects of the U.S. ending its fossil fuel dependence. Dependency on fossil fuels, and the technological challenges those hard-to-develop resources pose are

exemplified by tar sand development as well as Arctic exploration. In essence, the harder the fossil fuel resource is to develop, the greater the negative impact on the environment. Fracking is the “tip of the spear” in this regard.

Companies do not have to disclose the chemicals used in the fracking process, making it harder for health officials to treat patients with the health issues that often arise near drilling sites.

The above noted health risks apply as much or more to workers, in addition to the accidental risks of drilling.

An increase of earthquakes in heavy fracking areas indicates that fracking is causing seismic disruptions. Eight new studies from University of Oklahoma confirm that fracking is the cause of earthquakes (the reinjection of produced waters being the primary cause).

Natural gas drilling operations release large amounts of methane gas, which is an extremely potent greenhouse gas, raising questions as to whether there is any benefit to burning natural gas over coal.

Discussion Topics and Questions

Pre-Viewing Topics and Questions

SPLIT ESTATE can help students understand and grapple with the legal, social, and health implications of oil and natural gas development in the U.S., and the industry practice known as fracking. It can be especially relevant to a wide range of topics, including a curriculum that focuses on environment, health, policy, law, political science, economics, social studies, renewable energy, geology, engineering, physics, biology, or chemistry.

Students may already be familiar with memes, buzzwords, and talking points that surround this issue. They may be part of communities which already have strong opinions on the issue, or which have drilling going on, in, or near their municipality. To avoid rhetorical traps and help students get to the heart of an issue, it's useful for students to acknowledge and define the rhetorical terms and ideas associated with that issue.



To lay the groundwork for discussions and activities, have students ask the following:

What is natural gas? How do most people use it on a day-to-day basis, if at all?

Where does your water come from? Why is water quality important?

Who oversees the quality of your water?

Have the you heard of fracking before? Where?

What are the benefits of fracking? What are the drawbacks?

If you own your land, do you control what happens on it? What exceptions can you think of?

What makes a happy, healthy community? Jobs and wealth? Business development? Beauty and an unspoiled landscape? Clean air and water? Good government?

Post-Viewing Topics and Discussion

After viewing the film, introduce the following questions to your students:

Did you enjoy the film? What did it make you feel?

Did you feel sympathetic to any of the characters? If so, whom?

Did you feel like both sides had an equal chance to tell their story?

Did you think that the communities in the film benefited from fracking?

Do you have a better understanding of what fracking is and how it works after viewing the film?

Did any of your ideas about fracking, natural gas use, or the health of communities change after viewing the film?


Who do you think benefits the most from fracking?

Companies? Communities? Individuals? Local governments? The global community? Federal government?

For you, is fracking more of an environmental issue, an economic issue, or a democracy/civil rights issue?

If you could summarize this film in one word, what would it be?

Would you recommend this film to others?



Post-Viewing Activities

Ask students their opinion about fracking. Read two articles that argue the issue from opposite perspectives.

Who do they think had a stronger argument?

Do they think that the media influences how people feel about fracking? Have they seen commercials for or against fracking on TV or articles in the local newspaper?

Did the students know about split estate rights? What are their opinions on this?

Do they know anyone involved in the industry or fighting to regulate the industry?

Ask students to write a paragraph summarizing their own opinion on what is most important for a healthy community. This could be jobs, clean water, and so forth. Do we have to choose between jobs and healthy communities? What obstacles do we face?

Set up a debate in the class where students must argue both sides of the issue.

Create a visual representation of the issues raised in this film. Images can be very powerful. Feel free to make it personal, political, comical, or literal. This is a chance to let your students be creative! Students can work independently or collaboratively on this.

Critical Viewing

The ability to discern media's underlying messages is an increasingly critical skill, given the technologically sophisticated commercial culture in which young people are growing up. Most students will have an inherent understanding of media, but many lack the skills or awareness to deconstruct the messaging and meaning of what they see and hear. Identifying the following five aspects of media is the first step in media analysis, helping students understand the motives and effects of messaging.



AUTHOR Who created and disseminated it? This could be a journalist, a corporation, public radio station, think tank, marketing company, political party, and so forth.

CONTENT What's it about? What information, values, ideas, or emotions does it convey?

MEDIUM What is the medium? A web page, radio ad, TV Show, newspaper article?

PURPOSE What is it meant to accomplish? Is it supposed to change minds? Reaffirm values? Sell a product? Incite anger? Glorify something or someone, or discredit them? Who ben-

efits from the dissemination of this message? How?

Once these basics are understood, students will begin to find bias and argument in media, such as personal attacks, circular or "fuzzy" logic, scare quotes, guarding, emotional manipulation, and more. Here are a few questions your students might want to ask as they critically examine the film and media related to the issue:

TARGET Who is it for? What is the target audience or demographic? What defines the audience? Examples include age, class, sex, ethnicity, and geography. How might different people react to the same message?

What kind of audience(s) is this film targeting?



Do you think this film will change people's minds? Are there any people who you think would not have their minds changed by this film?

Who had a message to share in the film? Were they successful?

Have you seen or heard any media relating to the issues of fracking, split estate, and public health? If so, what was it, and was it effective?

Do you know anyone who has a strong opinion on these issues? Do you know if their opinion is based on experience, media, or something else?

What would you have done differently if you were the director?

Articles and Reviews



SPLIT ESTATE is an eye-opening examination of the consequences and conflicts that can arise between surface land owners in the western United States, and those who own and extract the energy and mineral rights below. This film is of value to anyone wrestling with rational, sustainable energy policy while preserving the priceless elements of cultural heritage, private enterprise above-ground, and the precious health not only of people but the land itself.”

- Bill Richardson, former Governor of New Mexico

"You tell an important and compelling story. You have captured brilliantly the issues and are helping tell the story that needs to be spread to a much broader audience."

- Gwen Lachelt, Executive Director, The Oil and Gas Accountability Project

"I urge our elected leaders—especially those who make decisions about energy development and environmental health in the Rocky Mountain West—to confront and tackle the critical issues raised in this film."

- Sandy Buffett, Executive Director, Conservation Voters New Mexico

SPLIT ESTATE is a must-see film for any elected official who deals with natural resources issues and the impact that oil & gas extraction can have on a community. Anyone who sees the film will be changed by the experience—for the better."

- Brian Egolf, New Mexico State Representative

Resources

Further Reading

If you're interested in learning more about these issues, check out these books:

***Silent Spring* by Rachel Carson**

Released in 1962, this seminal book offered the first shattering look at widespread ecological degradation and launched the modern environmental movement.

***Energy in America: A Tour of Our Fossil Fuel Culture and Beyond* by Ingrid Kelley**

Presents a broad, cultural view of America's energy sector for nonscientists and citizens involved in creating sustainable communities.

***Reinventing Fire*, by Amory Lovins**

Heavy on design, data and engineering, this book is an essential primer on how and why we can change the industrial and design model of our society for a sustainable and healthy future.

***The Ecology of Commerce*, by Paul Hawken**

A highly influential book that addresses how environmental and business practices can and should be one and the same, and should not and can no longer be mutually exclusive.

***Under the Surface: Fracking, Fortunes, and the Fate of the Marcellus Shale* by Tom Wilber**

One of the first book length journalistic takes on the 'ground zero' of the fracking boom from a widely respected and thorough reporter. Well researched and highly informative.

***The End of Country: Dispatches from the Frack Zone* by Seamus McGraw**

A native of Pennsylvania, McGraw tells in vivid, personal detail how fracking has affected the families, land, and communities in the land he grew up in.

Online Resources

Split Estate - Official film website

www.splitestate.com

The Endocrine Disruption Exchange and Dr. Theo Colborn

A non-profit dedicated to gathering and disseminating information on the dangers posed by chemicals that interfere with human and animal development and function.

www.endocrinedisruption.org

The Oil and Gas Accountability Project – Earthworks

Earthworks Oil & Gas Accountability Project serves drilling impacted communities around the country, and their website and publications are a great resource.

www.earthworksaaction.org/reform_governments/oil_gas_accountability_project

Natural Resources Defense Council (NRDC)

Founded in 1970, the NRDC is a non-partisan international environmental advocacy group working to protect the planet's wildlife and wild places and to ensure a safe and healthy environment for all living things.

www.nrdc.org

Working Films Reel Power Collection

To address climate change and dirty energy practices, Working Films has brought together sixteen groundbreaking film teams with cutting-edge grassroots organizations to create a dynamic film collaborative. Host a Reel Power film festival, or use the collection in your curriculum.

www.screeninghq.org/collections/details/1/reel-power

Shorestein Center on Media, Politics, and Public Policy

Journalist's Resource Fracking, shale gas and health effects: research roundup

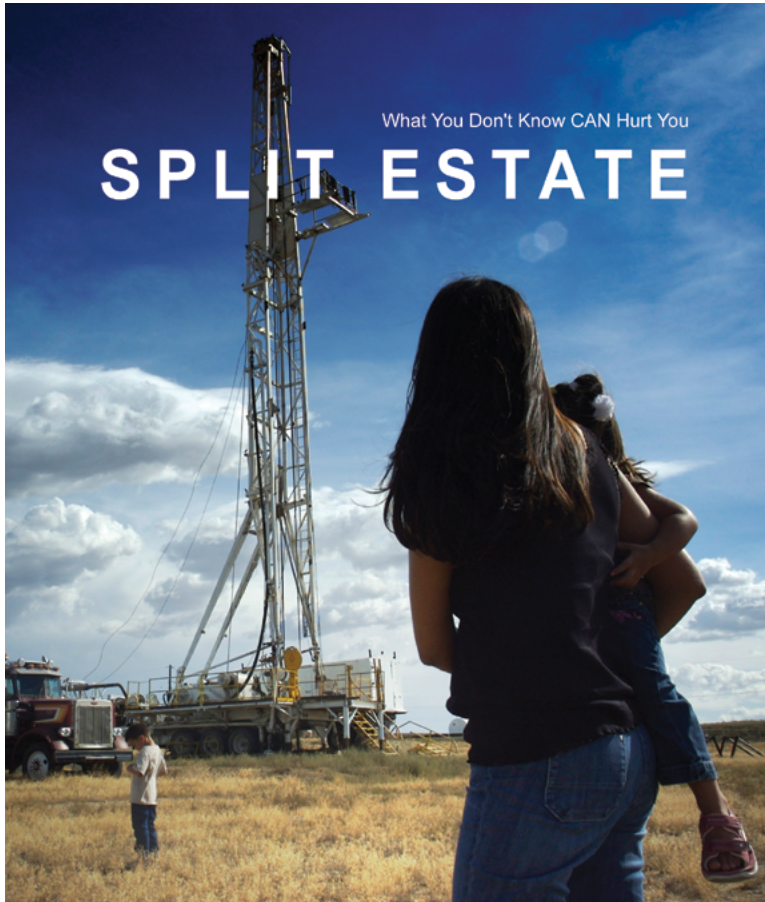
If you're data oriented and want to look into the research and methodologies driving this debate, this page has a ton of recent studies, including the abstract and links to the full papers.

An excellent resource for anyone who wants the facts.

www.journalistsresource.org/studies/environment/energy/fracking-shale-gas-health-effects-research-roundup#

How Did it Go?

Help us build the SPLIT ESTATE community by letting us know how your screening helped spark interest in the issue among students. Share photos, video, and writing on ScreeningHQ.org to show how the film is making an impact.



Where was it held? Who Attended? What went well,

and was it challenging? Did the film inform your students and/or inspire them to meaningful debate and action? THANKS!

We hope that this guide, along with ScreeningHQ.org, helps you to have a meaningful screening that makes an impact. Contact us if you have questions along the way: info@splitestate.com or hello@screeninghq.org.

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