

Commission Shift Glossary of Terms

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Policy Terms

American Petroleum Institute (API) number: A "unique, permanent, numeric identifier" assigned to each well drilled for oil and gas in the United States.¹

Primacy: When the U.S. Environmental Protection Agency (EPA) gives a state, territory, or tribe sole permitting and regulatory authority over a regulated activity. In the case of the Railroad Commission of Texas (RRC), it is the power to oversee injection well permits and enforcement under the EPA's Underground Injection Control (UIC) program. [According to the EPA](#), the Safe Drinking Water Act requires the EPA to develop UIC program requirements that "protect underground sources of drinking water from endangerment by underground injection of fluids." You can learn more about primacy on [the EPA's website](#).^{2, 3}

Underground Injection Control (UIC) Wells & Well classes

- **Injection wells:** Wells that are drilled deep underground into rock formations where companies can dispose of or store waste fluids, like radioactive saltwater from oil and gas wells or carbon dioxide (CO₂). The EPA has created six distinct classes of underground injection wells based on the types of fluid injected into the ground. However, two classes are overseen by the RRC.
 - Class II injection wells:** Injection wells that can be used for the disposal of "produced water" (see definition below) or for enhanced oil recovery. Sinkholes and surface uplift across Texas have been linked to Class II injection wells, and earthquakes caused by Class II injection wells are occurring in every major oil and gas region in Texas.
 - Class VI injection wells:** Injection wells used for long-term geologic sequestration (storage) of CO₂. The EPA issued the first three Class VI well permits in Texas in April 2025, but there are many new proposals that are seeking fast approval now that the RRC has been granted primacy.
- **EPA Classification of Injection Wells:** According to the EPA, [the Underground Injection Control \(UIC\) program consists of six classes of injection wells](#). The goal of the UIC program is to ensure injection activities do not endanger underground sources of

¹ Wikipedia contributors. (2025, October 17). "API well number." In Wikipedia, The Free Encyclopedia. https://en.wikipedia.org/w/index.php?title=API_well_number&oldid=1317343550.

² Environmental Protection Agency. Primary Enforcement Authority for the Underground Injection Control Program. <https://www.epa.gov/uic/primary-enforcement-authority-underground-injection-control-program-0>.

³ Advancement of CCS in Louisiana | The Energy Law Blog. <https://www.theenergylawblog.com/2020/10/articles/energy/energy-natural-resources/advancement-of-ccs-in-louisiana/>

drinking water (USDWs). Each well class is based on the type and depth of the injection activity, and the potential for that injection activity to jeopardize a USDW.⁴ Well classes are as follows⁵:

- **Class I wells** are used to inject hazardous and non-hazardous wastes into deep, isolated rock formations. Overseen and permitted by the Texas Commission on Environmental Quality (TCEQ).
- **Class II wells** are used exclusively to inject fluids associated with oil and natural gas production. Overseen and permitted by RRC.
- **Class III wells** are used to inject fluids to dissolve and extract minerals, also known as “brine mining wells.” The RRC and TCEQ share jurisdiction over different types of brine mining wells.
- **Class IV wells** are shallow wells used to inject hazardous or radioactive waste into or above a geologic formation that contains an underground source of drinking water. Overseen and permitted by TCEQ.
- **Class V wells** are used to inject non-hazardous fluids underground. Most Class V wells are used to dispose of wastes into or above underground sources of drinking water. The RRC and TCEQ share jurisdiction over Class V wells.
- **Class VI wells** are wells used for geologic sequestration of Carbon Dioxide. They are overseen and permitted by RRC.

Terms related to well status

Abandoned wells: Wells that are no longer in use for oil and gas production or underground injection. They may be properly plugged by the operator, or they may be unplugged and inactive but still with an operator on file, or they may be orphaned wells without a responsible operator on file. According to current law, a well may be properly abandoned only if it has been correctly plugged.

Inactive wells: Wells that still have an active operator on file and are not necessarily “orphaned.” As defined in the Texas Administrative code, TAC §3.15(a)(6), an inactive well is “an unplugged well that has been spudded (initially drilled) or has been equipped with cemented casing and that has had no reported production, disposal, injection, or other permitted activity for a period of greater than 12 months.”⁶ Also see “active operation” definition. The RRC lists inactive wells on its monthly [Inactive Well Aging Report](#).

Shut-in well: A production well that may still be capable of producing oil or gas, but is closed off and temporarily inactive. In Texas, wells inactive for less than 12 months qualify as shut-in.

⁴ General Information About Injection Wells | US EPA.

<https://www.epa.gov/uic/general-information-about-injection-wells>

⁵ Underground Injection Control | Ground Water Protection Council.

<https://www.gwpc.org/topics/underground-injection-control/>

⁶ Inactive Well | Oil and Gas Drilling Glossary | IADCLexicon.org. <https://iadclexicon.org/inactive-well/>

Wells might be shut-in for a variety of reasons, including operational issues like equipment failure or downhole leaks, lack of available transportation for the product, or economic factors like low prices or lack of an available market.^{7, 8}

Active operation: As defined in TAC §3.15(a)(1), active operation is “regular and continuing activities related to the production of oil and gas for which the operator has all necessary permits. In the case of a well that has been inactive for 12 consecutive months or longer and that is not permitted as a disposal or injection well, the well remains inactive for purposes of this section, regardless of any minimal activity, until the well has reported production of at least five barrels of oil for oil wells or 50 Mcf of gas for gas wells each month for at least three consecutive months, or until the well has reported production of at least one barrel of oil for oil wells or at least one Mcf of gas for gas wells each month for 12 consecutive months.”^{9,10}

Orphaned well: Unplugged oil, gas, or injection wells for which no viable responsible party can be located, or where the owner is known but bankrupt.¹¹ The RRC defines orphaned wells as “inactive, non-compliant wells that have been inactive a minimum of 12 months and the responsible operator’s Organizational Report (Form P-5) has been delinquent for greater than 12 months.”^{12,13} The RRC publishes a monthly report listing orphaned wells, along with their priority codes.^{14, 15} The Texas Natural Resource Code Section [89.047](#) defines orphaned wells as wells: (A) for which the Commission has issued a permit; (B) for which production of oil or gas or another activity under the jurisdiction of the Commission has not been reported to the Commission for the preceding 12 months; and (C) whose operator’s Commission-approved organization report has lapsed.”¹⁶

⁷ Collins Dictionary. “Shut in a well.” HarperCollins Publishers.

<https://www.collinsdictionary.com/us/dictionary/english/shut-in-a-well#:~:text=shut%20in%20a%20well%20in,to%20arrive>.

⁸ Tracy Lenz, PE, CMA, 30 May 2020. “What does it mean to shut-in a well?” Pecan Tree, Inc.

<https://pecantreeog.com/blog/what-does-it-mean-to-shut-in-a-well>.

⁹ Railroad Commission. Inactive Well Aging Report.

<https://www.rrc.texas.gov/oil-and-gas/compliance-enforcement/hb-2259-hb-3134-inactive-well-requirements/inactive-well-aging-report-iwar/>

¹⁰ Compendium of regulatory requirements governing underground injection of drilling waste.

<https://doi.org/10.2172/819454>

¹¹ Biven, Megan Milliken, and Palacios, Virginia. January 2022. “Eliminating Orphan Wells and Sites in Texas: A Toolkit for Redesigning the Railroad Commission’s Oil and Gas Well Plugging and Cleanup Programs.” Commission Shift.

commissionshift.org/wp-content/uploads/2023/02/Eliminating-Orphan-Wells-and-Sites-in-Texas_CommissionShift.pdf

¹² Orphan Wells with Delinquent P-5 Greater Than 12 Months.

<https://www.rrc.texas.gov/oil-and-gas/research-and-statistics/well-information/orphan-wells-12-months/>

¹³ Texas Constitution and Statutes. 2025. Natural Resources Code Title 3, Subtitle B, Chapter 89:

Abandoned Wells. <https://statutes.capitol.texas.gov/Docs/NR/htm/NR.89.htm>

¹⁴ Ibid.

¹⁵ Railroad Commission. State Managed Well Plugging.

<https://www.rrc.texas.gov/oil-and-gas/environmental-cleanup-programs/state-managed-plugging>.

¹⁶ The truth about P-13 Wells and the Railroad Commission’s responsibility to protect our communities - Commission Shift : Commission Shift.

Zombie well: Unplugged or poorly plugged non-productive wells that leak pollutants like oil, produced water, methane, or hydrogen sulfide into groundwater, aquifers, at the surface, or in the air. These wells often appear inactive and innocuous, but they can “come back to life” and leak fluids or gases at the surface.

P-13 well: Wells initially permitted by the RRC as oil and gas wells, but are either dry holes or otherwise inactive. Once an operator plugs the well to the base of usable quality water, they may then convey the well to a landowner for use as a water well. The modern form used by the RRC to convey the well is called Form P-13.¹⁷

Dry hole: A drilled well that fails to find productive quantities of oil or gas.

Actions related to wells

Stabilized pressure test: A type of mechanical integrity test performed on wells to detect leaks. Ensuring the mechanical integrity of a well prevents leaks that allow production fluids such as oil, gas, or produced water to mix with fresh water. There are several types of mechanical integrity tests, but a stabilized pressure test is required for conventional well completions, including disposal, injection, and storage wells. The test is required after a well workover, before beginning injection operations, and every five years thereafter, or as specified by the RRC. Other tests may be used for more complex well completions. Form H-5 is the form operators submit to the RRC to document the stabilized pressure test. The test requires a pressure recording chart, usually a [one-pen recorder](#) that logs tubing-casing test pressure. The test requires the well to be pressurized and to hold a stable pressure for a minimum of 30 minutes. There is some concern about the integrity of the one pen recorder due to the ease with which the test can be forged and the strong incentive to cheat on the test to avoid the costs of repairing or plugging a failed well. A full list of acceptable test methods for various well completions can be found on the RRC’s [website](#).¹⁸

Static well fluid level test: A type of mechanical integrity test performed on wells to indicate an adequate separation between the base of the deepest usable-quality water at the location of the wellbore and the top of the fluid in the wellbore.¹⁹ Operators submit Form H-15 to the RRC to document the static well fluid level test. The requirement to perform this test will change to apply to inactive wells that are 15 years or older on September 1, 2027, a change from the previous requirement for wells older than 25 years. The static level is the natural level of fluid in a well when it is undisturbed. This level indicates the risk of cross-contamination of oil production

<https://commissionshift.org/news/the-truth-about-p-13-wells-and-the-railroad-commissions-responsibility-to-protect-our-communities/>.

¹⁷ Railroad Commission. Application of Landowner to Condition an Abandoned Well for Fresh Water Production. <https://www.rrc.texas.gov/media/ltcaukal/finalp-13-92104.pdf>.

¹⁸ Railroad Commission. Test Methods. <https://www.rrc.texas.gov/oil-and-gas/applications-and-permits/injection-storage-permits/mechanical-integrity-tests/injection-disposal-mit/test-methods/>

¹⁹ Railroad Commission. Form H-15 Instructions. <https://www.rrc.texas.gov/media/2gjneigx/h15-ins.pdf>

formation layers with other water-containing formations. If the static level of the well is at the same depths as water formations, there is a risk the water outside the well could be contaminated. The static well fluid level can be tested using several methods, one of which uses an echometer to determine the fluid depths.²⁰

Plugging/replugging a well: When a well is no longer profitably producing oil and gas, the wellbore should be sealed with non-permeable materials, such as cement, to isolate aquifers and oil and gas production zones and prevent crossflow and contamination. The lifespan of plugs is limited, and wells may eventually require replugging. Although requirements exist to assess the condition of unplugged wells, there are no requirements to monitor the condition of plugged wells.

Capping a well: A process that is less expensive than plugging and involves sealing the top of a well to prevent the release of fluids and gases. Capped wells require continued monitoring, and capping should be a temporary measure because it leaves the remainder of the well at continued risk of degradation and failure. It also leaves aquifers and production zones at risk of crossflow and contamination should the mechanical integrity of the well be compromised.²¹

Well workover: The process of reentering a well to maintain and repair it in order to restore or increase production.²²

Actions relating to oil & gas infrastructure

Site remediation: A process that involves cleaning the soil or water of a polluted or contaminated site, such as one resulting from extraction or industrial activities, to limit harm to people and the environment and make it safe for reuse. Treatment can occur directly at the site, or contaminants may be removed and treated elsewhere. A physical barrier may also be constructed to contain the hazardous material.

Waste pits: Open-air pits where oil and gas companies dump liquid and solid waste from the oilfield. Every drilled well commonly has a waste pit associated with it. Material disposed of in waste pits may include drilling fluid, spent completion fluid, working fluids, wellbore materials, and other oil and gas production waste. There are many different types of pits. **Reserve pits** may be located at the well pad location, while **commercial facilities** are located off-site and collect waste from multiple wells in the area. If operated improperly, waste pits can sicken nearby community members, contaminate surface and groundwater, release harmful gas, and

²⁰ Downhole Diagnostic. (2023, December 15). 4.1 – Introduction to Fluid Level Survey (Echometer)]. YouTube. <https://www.youtube.com/watch?v=0XFuzR-gBXE>.

²¹ Well Done Foundation. Key differences between capping wells and plugging wells: A comprehensive guide. <https://welldonefoundation.org/key-differences-between-capping-wells-and-plugging-wells-a-comprehensive-guide/>.

²² LearnToDrill. (2023, February 5). What is Workover in Oil and Gas and Why is it Important? <https://www.learntodrill.com/post/workover-in-oil-and-gas#:~:text=Christina%20Queeni,the%20need%20of%20the%20well.>

poison cattle and wildlife.²³ The RRC regulates waste pits under Chapter 4. Waste pits and other waste management facilities include:

- Facilities that don't have to give notice to neighbors or have a hearing with the commission:
 - Reserve pits and mud circulation pits
 - Completion/workover pits
 - Makeup water pits
 - Fresh mining water pits
 - Water condensate pits
 - Produced water recycling pits
- Permitted facilities that require notice and potential hearings:
 - Commercial disposal pits
 - Landfarming and landtreating facilities
 - Reclamation plants
 - On-lease commercial solid oil and gas waste recycling facilities
 - Off-lease or centralized commercial solid oil and gas waste recycling facilities
 - Stationary commercial solid oil and gas waste recycling facilities
 - Off-lease commercial recycling of fluid facilities
 - Stationary Commercial Recycling of fluid facilities

Decommissioning: The process that occurs at the end of the operating life of a well or pipeline that involves shutting down and removing equipment and restoring the site to environmentally safe and usable conditions.

Weatherization: To ensure steady gas supplies, oil and gas operations must retrofit facilities that are deemed "critical" in state law to keep them operational during widespread freezing precipitation events.^{24, 25} The guidance suggests that companies use heat-tracing and insulate components at risk of freezing, build windbreaks or housing to protect critical equipment, and take other measures to keep critical facilities operational so that the natural gas supply chain is not disrupted. Failures on the natural gas supply chain can put electricity production at risk and increase the likelihood of electricity grid blackouts, as occurred during Winter Storm Uri in Texas in 2021.^{26, 27}

²³ Commission Shift. Waste Pits.

[https://commissionshift.org/our-work/cleaning-up-oil-gas/waste-pits/#:~:text=Surface%20waste%20disposal%20sites%20\(SWDs,oil%20and%20gas%20production%20waste](https://commissionshift.org/our-work/cleaning-up-oil-gas/waste-pits/#:~:text=Surface%20waste%20disposal%20sites%20(SWDs,oil%20and%20gas%20production%20waste)

²⁴ 16 TAC 3.65 Critical Designation of Natural Gas Infrastructure

²⁵ 16 TAC 3.66 Weather Emergency Preparedness Standards

²⁶ Railroad Commission of Texas. May 2024. RRC Weatherization Practices Guidance Document – Gas Supply Chain Facilities and Pipeline Facilities.

<https://www.rrc.texas.gov/media/voxij53y/rrc-weatherization-practices-and-recommendations-report.pdf>

²⁷ Arbaje, Paul. (2023, December 14). How gas plants fail and lead to power outages in extreme winter weather. Union of Concerned Scientists.

<https://blog.ucs.org/paul-arbaje/how-gas-plants-fail-and-lead-to-power-outages-in-extreme-winter-weather/>.

Actions relating to operators

Form P-5 / Organization Report: To operate oil, gas, and geothermal wells and pipelines in Texas, companies must maintain an Organization Report, also known as a completed and approved Form P-5. This P-5 report must be completed annually and consists of several parts, including a company address, a listing of current company officers and designated company agents, required financial assurance, and a filing fee. The RRC may not approve the P-5 report for an operator of one or more inactive wells unless the operator has complied with rules for inactive wells, which include plugging the well, removing equipment, or having an approved plugging extension. Additionally, the RRC may not approve organization reports for operators with outstanding enforcement orders and judgments or a final and unappealable order related to a violation.

Full cost bond: Full cost bonding would require companies to purchase a bond that covers the complete estimated decommissioning cost for each individual well. Current bonding amounts, established in 1991,²⁸ however, are significantly insufficient to cover modern decommissioning costs.²⁹

Blanket bond: Operator-posted bonds are intended to cover the costs of plugging and cleaning up wells if an operator fails to meet their decommissioning obligations. Blanket bonding allows a company to post bonds sufficient to cover their full fleet of wells. However, blanket bonding amounts, established in 1991,³⁰ are significantly insufficient to cover actual decommissioning costs.³¹ Blanket bonding also allows operators to skirt their decommissioning liabilities by selling wells that are no longer profitable without having set aside sufficient funds for decommissioning.

Individual well sinking trust funds with full cost bonding: In order to ensure sufficient funding is available for high-cost asset retirement obligations that become due after a well is no longer profitable, it is essential, but not currently required, to set aside sufficient funding for each individual well during its most profitable years of production to cover the full cost of decommissioning and plugging. The operators deposit sufficient funds into a trust that restricts use of the funds to cover asset retirement obligations and is payable to the RRC. Operators can opt to make annual payments over a defined term (e.g. 15 years) until the total expected cost of decommissioning is reached. While the fund is accumulating, the operator would pay for a full cost surety bond to cover the difference between the fund total and the total expected cost of

²⁸ Tex. Nat. Res. Code Sec. 91.104

²⁹ Railroad Commission of Texas. 2026. Cost Calculation. Accessed on Jan 13, 2026.

<https://www.rrc.texas.gov/oil-and-gas/compliance-enforcement/hb-2259hb-3134-inactive-well-requirements/cost-calculation/>

³⁰ Tex. Nat. Res. Code Sec. 91.104

³¹ Railroad Commission of Texas. 2026. Cost Calculation. Accessed on Jan 13, 2026.

<https://www.rrc.texas.gov/oil-and-gas/compliance-enforcement/hb-2259hb-3134-inactive-well-requirements/cost-calculation/>

decommissioning, in the event that the company goes bankrupt before the fund is complete.³²

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Barred operator: An oil and gas operator that is prohibited from obtaining any permit to operate (P-5 Organization Report; Certificate of Compliance and Transportation Authority, drilling permits, etc.) or conduct business because they have been issued an enforcement order by the RRC and have failed to comply with the order.³⁴ Individuals in control of the operating company and any other companies controlled by an officer of the barred company can become barred operators.

Securitization: During Winter Storm Uri, in 2021, gas wells and pipelines froze over, preventing fuel from reaching electric power plants and resulting in over 4.5 million power outages across the state.³⁵ High demand for electricity and natural gas during the storm caused natural gas costs, which are not price controlled, to skyrocket. The Public Utility Commission of Texas issued emergency orders directing the Electric Reliability Council of Texas (ERCOT), Texas' electric grid operator, to set wholesale electricity prices to the maximum allowed price for an extended period with the intent to encourage additional power into the market, even though sending additional electricity to homes and businesses was not physically possible.^{36, 37} Because of the high prices, natural gas utilities and Retail Electric Providers (REPs) incurred "extraordinary costs" that they needed to pay back to pipeline companies and transmission and distribution electric utilities (also called "investor owned utilities" or IOUs), respectively. The Texas Legislature allowed utilities to pay off these costs by turning the debt into "securities" that could be sold as bonds, allowing the debt to be paid back over a long period of time. People who pay electricity or natural gas bills will be paying extra on their utility bills for 30 years until

³² Biven, Megan Milliken, and Palacios, Virginia. January 2022. "Eliminating Orphan Wells and Sites in Texas: A Toolkit for Redesigning the Railroad Commission's Oil and Gas Well Plugging and Cleanup Programs." Commission Shift. commissionshift.org/wp-content/uploads/2023/02/Eliminating-Orphan-Wells-and-Sites-in-Texas_CommissionShift.pdf

³³ Figure from Commission Shift Learn at Lege Presentation January 2025.

³⁴ Railroad Commission of Texas. June 17, 2025. FY 2026 Oil & Gas Monitoring and Enforcement Plan. p. 18.

³⁵ Federal Energy Regulatory Commission and North American Electric Reliability Corporation, The February 2021 Cold Weather Outages in Texas and the South Central United States (2021), <https://www.ferc.gov/media/february-2021-cold-weather-outages-texas-and-south-central-united-states-ferc-nerc-and>.

³⁶ Arnett, Rick. (2024, April 29). Texas Supreme Court set to determine whether Public Utility Commission of Texas violated Texas law. Lloyd Gosselink Rochelle & Townsend, P.C. <https://www.lglawfirm.com/texas-supreme-court-set-to-determine-whether-public-utility-commission-of-texas-violated-texas-law/>.

³⁷ Bryce, Robert. (2022, August 24). Texas Consumers On Hook For \$10 Billion In Debt Incurred During Winter Storm Uri. Forbes. <https://www.forbes.com/sites/robertbryce/2022/08/24/texas-consumers-on-hook-for-10-billion-in-debt-incurred-during-winter-storm-uri/>.

the debt is paid off with interest. IOUs securitized \$2.12 billion,^{38, 39, 40} while natural gas pipeline companies securitized \$3.85 billion in the largest bond sale in Texas history.^{41, 42}

Enhanced oil recovery (EOR): To recover more oil, fluids are injected into formations through a Class II well to push the oil out and produce it from an oil well. Water and carbon dioxide are the fluids frequently used to pressurize the formation.

Terms related to negative effects of oil and gas production

Subsurface pressure: Texas Class II disposal wells inject oil- and gas-related waste into underground geologic formations. These formations can be deep (10,000 feet or more) or shallow (less than 10,000 feet), but regardless of depth, formation pressures increase as pore space fills with injected fluids and has nowhere to escape.

Induced seismicity: Seismic events, or earthquakes, that are formed because of human activities. Many peer-reviewed studies have demonstrated a link between underground injection of oil and gas wastewater and induced seismicity. Seismic events occur when fluids are injected into a fault, causing it to slip. Induced seismicity can also occur as a result of hydraulic fracturing.

Flaring: The practice of burning gas at an oil or gas well instead of sending it to market. Gas burned in flares is typically made up of methane, or “natural gas,” but can include hydrogen sulfide or other contaminants.

Venting: The practice of releasing gas, unburned, from an oil or gas well, instead of sending it to market. Gas that is vented is typically made up of methane, or “natural gas,” but can include other contaminants.

Breakout: Occurs when pressurized underground fluids follow a path of least resistance out of the intended formation or wellbore into aquifers or groundwater. The pathway may be through unplugged or poorly plugged wells, or through underground faults or fissures.

Hazardous substance: According to Texas law, a hazardous substance is: “a substance or mixture of substances that is toxic, corrosive, extremely flammable, combustible, an irritant, or a

³⁸ Tietjen, D. (2022, June 10). Docket No. 52710 - Compliance Filing for Docket No. 52322, Public Utility Commission of Texas. https://interchange.puc.texas.gov/Documents/52710_4_1214587.PDF

³⁹ PUCT. (2021a, Nov). Final Issuance Letter for Subchapter M. Bonds. https://interchange.puc.texas.gov/Documents/52709_4_1165998.PDF

⁴⁰ PUCT. (2022, June 9). Final Issuance Advice Letter for Subchapter N. Bonds. <https://www.ercot.com/files/docs/2022/06/17/FinalIssuanceAdviceLetterSubchapterN.pdf>

⁴¹ RRC. (2022, Feb 8). Financing Order. Case Docket - 0000068943.

<https://rrctx.my.site.com/s/iets-public-file-correspondence/a0yt0000002o2VK/casedoc0000068943>

⁴² “Texas’ Record \$3.5 Billion Muni Deal to Sell After Two-Year Saga - Bloomberg,” accessed January 13, 2026,

<https://www.bloomberg.com/news/articles/2023-03-06/texas-record-3-5-billion-muni-deal-to-sell-after-two-year-saga?embedded-checkout=true>.

strong sensitizer, or that generates pressure through decomposition, heat, or other means, if the substance or mixture of substances may cause substantial personal injury or substantial illness during or as a proximate result of any customary or reasonably foreseeable handling or use, including reasonably foreseeable ingestion by children;” or “a radioactive substance designated as a hazardous substance by the executive commissioner of the Health and Human Services Commission.”⁴³

According to the EPA, “a hazardous waste characteristic is a property which, when present in a waste, indicates that the waste poses a sufficient threat to merit regulation as hazardous. EPA established four hazardous waste characteristics: ignitability, corrosivity, reactivity and toxicity.”⁴⁴

Toxic substance: Substances that are poisonous or can cause illness, death, disease, or birth defects, and may be harmful to life.⁴⁵ Regulated toxic substances may have maximum contaminant levels and exposure limits set by the EPA or the TCEQ.

Resource Conservation and Recovery Act (RCRA) Oil and Gas Exemption: In response to the Love Canal disaster and other environmental harm in the 1970s, the RCRA was passed in 1976 to protect human health from hazards produced from waste disposal. The RCRA, however, was amended in 1980 to offer a significant loophole for the oil and gas industry that exempted drilling fluids, produced water, and other waste associated with oil and gas extraction from being designated as “hazardous waste.”⁴⁶

Hydrogen sulfide: A toxic, flammable gas that is naturally occurring in oil and gas wells. Wells with high levels of hydrogen sulfide (H₂S) are referred to as “sour.” H₂S can cause neurological impairment, vomiting, or even death at high concentrations (>500 parts per million (ppm)).⁴⁷ At low concentrations (0.0005 to 0.3 ppm), H₂S smells of “rotten eggs,” but it can become odorless at higher concentrations. The gas is colorless and heavier than air, presenting greater risks in low-lying areas and enclosed spaces.⁴⁸

⁴³ Texas Tex. Admin. Code 501.002

<https://statutes.capitol.texas.gov/?tab=1&code=HS&chapter=HS.501&artSec=501.002>

⁴⁴ U.S. EPA. March 20, 2026. Defining Hazardous Waste: Listed, Characteristic and Mixed Radiological Wastes. Accessed on May 15, 2026. Retrieved from:

<https://www.epa.gov/hw/defining-hazardous-waste-listed-characteristic-and-mixed-radiological-wastes>

⁴⁵ United States Environmental Protection Agency.”Toxic Substance.”.

https://sor.epa.gov/sor_internet/registry/termreg/searchandretrieve/glossariesandkeywordlists/search.do?details=&vocabName=Environmental%20Issues%20Glossary&filterTerm=toxic&checkedAcronym=false&checkedTerm=false&hasDefinitions=false&filterTerm=toxic&filterMatchCriteria=Contains#:~:text=Definition%20A%20chemical%20or%20mixture.and%20contaminants%20in%20the%20environment

⁴⁶ U.S. Environmental Protection Agency. March 19, 2026. Special Wastes. Accessed on: May 15, 2026. Retrieved from: <https://www.epa.gov/hw/special-wastes>.

⁴⁷ “Hydrogen Sulfide | ToxFAQs™,” Agency for Toxic Substances and Disease Registry, October 2024, <https://www.cdc.gov/TSP/ToxFAQs/ToxFAQsDetails.aspx?faqid=388&toxid=67>.

⁴⁸ Occupational Safety and Health Administration. Hydrogen Sulfide. <https://www.osha.gov/hydrogen-sulfide>.

Produced water: Water naturally occurring in oil and gas formations brought to the surface in an oil and gas well along with the hydrocarbons. Produced water composition varies depending on the formation. It is often high in total dissolved solids and can contain contaminants like salts, hydrocarbons, heavy metals, volatile organic compounds, and naturally occurring radioactive materials and bacteria. Produced water can also potentially contain chemical additives from drilling or fracking fluids like surfactants, corrosion inhibitors, and biocides.⁴⁹

Carbon dioxide (CO₂): A chemical compound containing two oxygen atoms and one carbon atom. CO₂ is the byproduct of burning a carbon-based fuel such as coal, natural gas, wood, or oil. CO₂ in the air is absorbed by plants in the process of photosynthesis, releasing water and oxygen. Rapidly increasing emissions of CO₂ from human fuel combustion, beyond the rate at which plants can absorb CO₂, are trapping heat in the Earth's atmosphere, leading to climate change and global warming.

Key Acronyms

EPA: Environmental Protection Agency

RRC: Railroad Commission of Texas

CCS: Carbon Capture and Storage, or Carbon Capture and Sequestration

CCUS: Carbon Capture Use and Storage, or Carbon Capture Utilization and Sequestration

CO₂: Carbon Dioxide

UIC: Underground Injection Control

EOR: Enhanced Oil Recovery

MIT: Mechanical Integrity Test

UIC: Underground Injection Control

USDW: Underground Sources of Drinking Water

TDS: Total Dissolved Solids

⁴⁹ Lithium Harvest. (2025, May 3). What Is Produced Water Treatment?

<https://lithiumharvest.com/knowledge/produced-water-treatment/what-is-produced-water-treatment/#:~:text=But%20no%20matter%20where%20it,%2C%20corrosion%20inhibitors%2C%20and%20biocides.>

Organizing Terms

Community organizing: a strategy used by social movements, labor unions, under-represented communities, and marginalized groups to gain rights, build collective political power, and create positive change.

Power mapping: A visual or strategic tool to assist community organizers identify key decision makers, allies, opponents, and those who have the power to influence decision makers. This can be a mind map guide to visualize and identify where to apply pressure for maximum impact on desired outcomes.

Advocacy: An act of publicly supporting or recommending specific policies, reforms, or action to influence decision makers or institutions. Advocacy involves presenting evidence, making persuasive arguments and using formal channels like public comments, lobbying, litigation, or media campaigns.

Theory of Change: a framework that explains how and why a desired social change is expected to happen in a community. For organizers, it's a roadmap that connects actions (like campaigns, protests, or education programs) to long-term goals (like policy changes, improved living conditions, or shifts in power dynamics).