

APPENDIX I
GLOSSARY AND ACRONYMS

NOTES

GLOSSARY

Absorption Oil	A hydrocarbon liquid used to absorb and recover components from natural gas as it is processed.
Acid Gas	A gas that forms an acid when it is mixed with water. In petroleum production and processing, the most common acid gases are hydrogen sulfide and carbon dioxide.
Amine	Any of several compounds such as, but not limited to, monoethanolamine (MEA), employed in treating natural gas. The amines are generally used in water solutions to remove hydrogen sulfide and carbon dioxide from gas and liquid streams.
Asbestos	A mineral fiber, used for insulation, that can pollute air or water and cause cancer or asbestosis when inhaled. EPA has banned or restricted its use in manufacturing and construction and regulates its disposal.
Basic Sediment and Water (BS&W)	The water and other extraneous material present in crude oil
Bottoms	<ol style="list-style-type: none"> 1. The liquids and residue, such as heavy hydrocarbons, solids, sands, and emulsions that collect in the bottom of treating vessel or remain in the bottom of storage tanks after a period of service. 2. The residual fractions remaining in the bottom of a fractionating tower after lighter components have been distilled off as vapors.
Characteristically Hazardous Waste	A waste that is regulated by RCRA Subtitle C as hazardous because it displays one or more of the hazardous waste characteristics.
Clean Air Act (CAA) Amendments	1990 amendments to CAA expanding EPA enforcement powers and adding restrictions on air toxics, ozone-depleting chemicals, stationary and mobile emissions sources, and emissions implicated in creating acid rain and global warming.
Code of Federal Regulations (CFR)	Regulations based on federal statute; Reference notation is “[volume number] CFR (Code of Federal Regulations) [part.section].” For example: 29 CFR 1910.120

Comprehensive Environmental Responsibility, and Liability Act (CERCLA)	1980 Federal law authorizing identification and remediation of unsupervised hazardous waste sites and spill reporting. (Also called Superfund)
Contaminant	<p>Any physical, chemical, biological, or radiological substance or matter that has an adverse affect on air, water, or soil, or</p> <p>A harmful, irritating, or nuisance material in concentrations exceeding those normally found in the ambient air, water, or soil.</p>
Corrosion	A complex chemical or electrochemical process by which metal is destroyed (e.g., between water and pipes that the water contacts, chemicals touching a metal surface, or contact between two metals).
Corrosive	RCRA (40 CFR 261.22) defines corrosivity as having a pH #2 or \$12.5 or being able to corrode steel at a rate greater than 6.35 mm per year.
Department of Transportation (DOT)	The United States agency that enforces regulations governing the transport of hazardous and nonhazardous materials, including transportation by pipelines.
Emulsion	The dispersion of fine particles of an immiscible liquid and/or solids with another liquid in which the particles are suspended. A mixture of crude oil and formation water commonly creates an emulsion. It generally requires time, heat, and in some cases, chemicals to separate water and oil emulsions.
Enhanced Recovery	Efforts to increase ultimate production of oil and gas from a reservoir. This term will be considered to encompass other nomenclature in common usage such as pressure maintenance, secondary recovery, and tertiary recovery. All enhanced recovery techniques include methods for supplementing natural reservoir forces and energy, or otherwise increasing ultimate recovery. Such techniques include water injection, gas injection, gas cycling, and miscible chemicals and thermal processes.
Filtration	A treatment process for removing solid (particulate) matter from a fluid by passing the fluid through porous media such as sand or a man-made filter.
Fracturing Fluid	Materials used in formation fracturing well stimulation process.

Glycol	A group of compounds used to dehydrate gaseous or liquid hydrocarbons or to inhibit the formation of hydrates. Commonly used glycols are ethylene glycol (EG), diethylene glycol (DEG), and triethylene glycol (TEG).
Ground Water	The fresh water found under the surface of the earth in aquifers. Ground water is used for supplying wells and feeds springs.
Hazardous Materials Transportation Act (HMTA)	<p>Any substance designated or listed in the following sources, exposures to which results or may result in adverse affects on the health of safety of employees:</p> <ul style="list-style-type: none">○ Any substance defined under section 101(14) of the Comprehensive Environmental Response Compensation and Liability Act (CERCLA)○ Any biological agent and other disease-causing agent as defined in section 101(33) of CERCLA○ Any substance listed by the U.S. Department of Transportation as hazardous materials under 49 CFR 172.101 and appendices
Hazardous Waste	A solid waste that may pose a substantial or potential hazard to human health or the environment when improperly managed. It possesses at least one of four characteristics (ignitability, corrosivity, reactivity, or toxicity), and/or is listed as a hazardous waste as defined in 40 CFR 261
Hazardous Waste Characteristics	Any one of the four categories used in defining characteristically hazardous waste: ignitability, corrosivity, reactivity, and toxicity (defined in 40 CFR 261.20-261.24).
Hydrate	A solid material resulting from the combination of a hydrocarbon with water under pressure.
Ignitable	As a measure characterizing hazardous waste, ignitability applies to a liquid having a flash point less than 140°F.
Landfarming	A process in which waste deposited on or in the soil is naturally degraded by microbes.

Material Safety Data Sheet (MSDS)	Information required under the OSHA Hazard Communication Standard (HCS) on the identity of hazardous chemicals, health and physical hazards, exposure limits, and precautions. Section 311 of SARA Title III requires facilities to submit MSDSs under certain circumstances.
Mud	The liquid circulated through the wellbore during rotary drilling and workover operations. In addition to its function of bringing cuttings to the surface, drilling mud cools and lubricates the bit and drill stem, protects against blowouts by holding back subsurface pressures, and deposits a mud cake on the wall of the borehole to prevent loss of fluids to the formation. Originally a suspension of clays in water, the mud used in modern drilling is a more complex mixture of liquids, reactive solids, and inert solids. The liquid phase may be fresh water, diesel oil, or crude oil, often containing one or more conditioners.
National Emissions Standards for Hazardous Air Pollutants (NESHAP)	Federal emissions standards set by EPA for toxic air pollutants.
Neutralization	Decreasing the acidity or alkalinity of a substance by adding alkaline or acidic materials to it.
Naturally Occurring Radioactive Materials (NORM)	Elements that are radioactive in their natural physical states (i.e., not man-made) but do not include source or special nuclear material. NORM can be associated with oil and gas production and includes the elements uranium, thorium, radium, and radon and their daughter products. NORM has been found in downhole tubing scale, in above-ground processing equipment, salt water disposal/injection wells and associated equipment, and in soils contaminated by well workovers, tank cleaning, salt water leaks, pipe cleaning, and other associated operations.
pH	A measure of the acidity or alkalinity of a liquid or solid material.
Pig	A scraping tool forced through a pipeline or flowline to clean out accumulations of water, wax, rust, scale, and/or debris from the walls of the pipe.
Pig Trap	A pipeline quick connection for inserting or removing a pig.
Pigging Waste	Water, wax, rust, scale, and/or debris removed from the walls of pipelines after cleaning with a pig or scraper.

Pollutant	Any chemical or waste product that contributes to pollution.
Pollution	The alteration of the physical, thermal, chemical, or biological quality of, or the contamination of land, air, or water that renders it harmful, detrimental, or injurious to humans, animal life, vegetation, or property, or to public health, safety or welfare, or impairs the usefulness or the public enjoyment of the land, air, or water for any lawful or reasonable purpose.
Polychlorinated Biphenyl (PCB)	A group of toxic, pathogenic, teratogenic, and persistent chemicals used in transformers and capacitors (and other oil-filled electrical equipment) for insulating purposes and in gas pipeline systems as a lubricant. PCBs may accumulate in human or animal tissue. PCBs were banned by law for sale in 1974.
Produced Water	The water (brine) brought up from the hydrocarbon bearing strata during the extraction of oil and gas. It may include formation water, water that has been injected into the formation, and any chemicals added downhole or during the oil/water separation process.
Recycle	<p>To reclaim the useful constituents of a waste for reuse, or to use or reuse a waste as a substitute for a commercial product, or as a feedstock in an industrial process.</p> <ul style="list-style-type: none">○ A material is "recycled" if it is used, reused, or reclaimed.○ A material is "reclaimed" if it is processed to recover a usable product, or if it is regenerated. Examples are recovery of lead values from spent batteries and regeneration of spent solvents. <p>A material is "used or reused" if it is either:</p> <ul style="list-style-type: none">○ Employed as an ingredient (including use as an intermediate) in an industrial process to make a product (for example, distillation bottoms from one process used as feedstock in another process). However, a material will not satisfy this condition if distinct components of the materials are recovered as separate end products (as when metals are recovered from metal-containing secondary materials)○ Employed in a particular function or application as an effective substitute for a commercial product.

Reserve Pit	Pit used to store additional drilling fluids for use in drilling operations and/or dispose of wastes generated by drilling operations and initial completion procedures. Usually an excavated, earthen-walled pit, typically temporary in nature, that receives natural rock cuttings, drilling fluids, and water runoff from around the drilling rig.
Resource Conservation and Recovery Act (RCRA)	1976, 1984; Federal law that established regulations for the management and disposal of solid and hazardous wastes currently generated, treated, stored, disposed, or distributed.
Rigwash	Waters used to wash down the rig floor, including rainwater. Its primary component is fresh water, sometimes containing minor amounts of household type detergents.
SARA Title III	Section of Superfund Amendments and Reauthorization Act requiring public disclosure of chemical information and development of emergency response plans.
Scale	A deposit formed in place by chemical action or temperature and pressure changes on surfaces in contact with water; e.g., calcium carbonate, magnesium carbonate, calcium sulfate.
Scrubber	A vessel through which a gas or fluid is passed to remove liquid and foreign matter.
Solvent	Substance (usually liquid) capable of dissolving one or more other substances to form a solution.
Sump	A pit or tank that catches liquid runoff for drainage or disposal. Also, a low place in a vessel or tank for accumulating settleings that are later removed through an opening in the bottom of the vessel.
Superfund	Commonly used to refer to the program, operated under the legislative authority of CERCLA, which funds and carries out the EPA solid waste emergency and long-term remedial activities. More specifically, the Superfund is the remediation fund for cleanups of sites contaminated by hazardous substances and for legal action to force those responsible for the sites to clean them up. It is funded by taxes on chemical feedstocks and petroleum products. Many states also have Superfund laws.

Superfund Amendments and Reauthorization Act (SARA)	1986 federal law reauthorizing and expanding the jurisdiction of CERCLA.
Surface Water	All water naturally open to the atmosphere, and all springs, wells, or other collectors directly influenced by surface water.
Surfactant	A substance, such as detergent or soap, that affects the properties of the surface of a liquid or solid by concentrating in the surface layer (e.g., assists in the cleaning of oily materials).
Toxic Substances Control Act (TSCA)	1976; Federal law authorizing EPA to gather information on chemical risks, and provide regulation and enforcement related to those risks.
Toxicity	A waste exhibits the characteristic of toxicity if, using the Toxicity Character Leachate Procedure, described below, the extract from a representative sample of the waste contains any of the contaminants listed by the EPA, at a concentration equal to or greater than the respective value given by the EPA.
Toxicity Characteristic Leachate Procedure (TCLP)	Required test under RCRA to determine if a waste will be defined as hazardous, because of its toxicity. TCLP determines the potential for the toxic constituents or the organic compounds of a waste to leach out and contaminate ground water. See 40 CFR 261, Appendix II.
Underground Injection Control (UIC)	The program under the Safe Drinking Water Act (SDWA) that regulates the use of injection wells to pump fluids into the ground.
Vapor Recovery System	Any combination of hoods or ventilation systems that captures or contains organic vapors and directs them to an abatement or recovery device.
Volatile	Description of any substance that evaporates easily (the tendency of a liquid to assume the gaseous state).
Volatile Organic Compound (VOC)	A highly evaporative organic material. Does not include compounds designated by EPA as having negligible photochemical reactivity.

Workover

The performance of one or more of a variety of remedial operations on a producing well to try to increase production. Examples of workover operations are deepening, plugging back, pulling and resetting liners, repairing mechanical equipment failures, squeeze cementing, or other work involved in changing the producing interval in a well.

ACRONYMS AND ABBREVIATIONS

API	American Petroleum Institute
BS&W	basic sediment and water
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CAA.....	Clean Air Act
CFR.....	Code of Federal Regulations
CO ₂	carbon dioxide
COS.....	carbonyl sulfide
DOT	The United States Department of Transportation
E&P.....	Exploration and Production
EPA	The United States Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-To-Know Act
H ₂ S.....	hydrogen sulfide
HAZMAT.....	hazardous material, defined by OSHA and DOT
HMTA	Hazardous Materials Transportation Act
kg.....	kilogram
lb.....	pound
MEA	monoethanolamine
MSDS.....	Material Safety Data Sheet
NESHAPS.....	National Emissions Standards for Hazardous Air Pollutants
NGL.....	natural gas liquid
NORM	naturally occurring radioactive material
OSHA	The United States Occupational Safety and Health Administration

PCB.....polychlorinated biphenyl
pHpotential of hydrogen, measure of acidity
ppm.....parts per million
RCRAResource Conservation and Recovery Act
RRC.....Railroad Commission of Texas
SARA.....Superfund Amendments and Reauthorization Act
SO₂.....sulfur dioxide
TDHTexas Department of Health
TNRCCTexas Natural Resource Conservation Commission