

- SECTION II.

- WQSIP ELEMENTS BY JURISDICTIONAL AREA

- Corp Commission O&G Water Quality Decision Level Criteria
 - Jurisdictional Area
 - TABLES
 - I -- Specific Jurisdictional Areas of Environmental Responsibility
 - II -- Jurisdictional Areas Verses Beneficial Uses That Could Be Affected
 - III -- Pertinent Water Quality
 - Decision Level Criteria Used by Corp Commission O&G
 - SECTION I
 - STATUTORY AUTHORITY, DEFINITIONS, STANDARDS, JURISDICTION, BENEFICIAL USES AND PROTOCOLS

- Section A. Statutory Authority**

- Subsection B, 27A O.S. Supp 1998, Section 1-1-202 (enacted through Senate Bill 549), mandates that each state environmental agency shall promulgate, by July 1, 2001, a Water Quality Standards Implementation Plan for its jurisdictional areas of environmental responsibility specifying how the agency utilizes and enforces the Oklahoma Water Quality Standards for surface water and groundwater. The Implementation Plan must be promulgated in compliance with the Administrative Procedures Act and pursuant to 27A Section 1-1-202. After initial promulgation, each state environmental agency must review its plan at least every three years thereafter to determine whether revisions to the plan are necessary.
 - Each Water Quality Standards Implementation Plan is to include eight elements or items:
 - Program Compliance with Anti-degradation Requirements and Protection of Beneficial Uses. General description of the processes, procedures and methodologies utilized to

ensure that programs within the agency's jurisdictional areas of environmental responsibility comply with anti-degradation standards and lead to maintenance of water quality where beneficial uses are supported, removal of threats to water quality where beneficial uses are in danger of not being supported, and restoration of water quality where beneficial uses are not being supported.

- Description of Programs Affecting Water Quality - Description of the surface water and/or groundwater quality-related components of pertinent programs within each jurisdictional area.
- Technical Information and Procedures - Technical information, databases, and procedures to be utilized by Corp Commission+ O&G in the WQSIP.
- Integration of WQSIP into Corp Commission O&G Water Quality Activities - Description of how the Water Quality Standards Implementation Plan is and/or will be integrated into the water quality management activities of the agency, including rules, program area policies and guidance, and/or standardized methods of conducting business.
- Compliance with Mandated Statewide Water Quality Requirements - Describes how Corp Commission O&G is or will be complying with mandated statewide requirements affecting water quality developed by other state environmental agencies, including (but not limited to), total maximum daily load (TMDL) development, nonpoint source (NPS) pollution prevention programs, Oklahoma Water Quality Standards (OWQS), OWQS implementation procedures, and the Continuing Planning Process (CPP) document.
- Public and Interagency Participation Summary of written comments and testimony received relative to all public meetings held for the purpose of providing public participation relating to the WQSIP, and new rules related to the WQSIP

- Evaluation of Effectiveness of Agency Activities - Description of methods and means to evaluate the effectiveness of activities conducted pursuant to WQSIP to achieve Water Quality Standards
- To the extent the required elements or items listed above will not result in a rule as defined by the Administrative Procedures Act, that information will be listed in the WQSIP. The Guidance Document of Technical Measures, which covers the Oklahoma Corporation Commission Oil & Gas Conservation Divisions pollution prevention rules that do not specifically reference or use the state's water quality standards, is available from the PA department upon request, as are the other guidance documents referenced in the WQSIP. The partial listing of Conservation Division rules in these guidance documents is not intended to be an exhaustive notation. Compliance with specific areas of the Conservation Division's jurisdiction requires compliance with rules applicable to those operations, which are found in the Oklahoma Corporation Commission Oil and Gas Conservation rules, OAC 165 Chapter 10.

Section B. Pertinent Definitions, Abbreviations and Acronyms for Corporation Commission Oil and Gas Division

- 40 CFR means *Title 40 of the Code of Federal Regulations*
- 104 means *Section 104 of the CWA*, which provides federal grants for water quality management activities & projects
- 106 means *Section 106 of the CWA*, which provides annual grants for water quality management activities (especially for groundwater) and special projects. Currently administered by DEQ
- 303 means *Section 303 of the CWA*, which requires states to review and, as necessary, revise their water quality standards at least every three year
- 303(d) means *Section 303(d) of the CWA*, which requires states to identify waters that do not or are not expected to meet applicable water quality standards (this is sometimes referred to as the 303(d) List). States must also establish priority rankings for the listed waters, taking into account pollution severity and designated beneficial uses of the waters. State must develop TMDLs for waters on this list according to priority rankings
- 303(e) means *Section 303(e) of the CWA*, which requires each state to prepare a CPP document. See also *CPP*
- 305 (b) means *Section 305(b) of the CWA*, which provides the process for and requires the preparation and submittal of a Water Quality Assessment Report (sometimes referred to as the 305(b) Report) by each state. This process was established as a means for the EPA and Congress to determine the status of the Nations waters
- 319 means *Section 319 of the CWA*, which requires development of a State Assessment Report and a Management Program for Nonpoint Source (NPS) pollution problems. The Assessment Report describes the nature, extent, and effects of NPS pollution in each state, as well as the causes and sources of such pollution. The Management Program describes what a state intends to accomplish in the next four-year period to address NPS pollution problems

- 319h means the *Grant Program under section 319h of the CWA*, the funds from which are currently going to the Oklahoma Conservation Commission
- Appendix A means *Appendix A* of the OWQS, OAC 252:730, which has the designated beneficial uses of certain water bodies listed in Figure 3 of the Appendix. For some water bodies are posted under Agricultural uses starting in Figure 3; the TDS, chloride, and sulfate water quality standards for the rest of the water bodies listed in Figure I default to their Appendix F values
- Appendix B means *Appendix B* of the OWQS, OAC 252:730, which details areas with waters of recreational and/or ecological significance
- Appendix D means *Appendix D* of the OWQS, OAC 252:730, which details classifications for groundwater in Oklahoma.
- Appendix E means *Appendix E* of the OWQS, OAC 252:730, which details requirements for development of site specific criteria for certain parameters classifications for groundwater in Oklahoma.
- Appendix F means *Appendix F* of the OWQS, OAC 252:730, which has historic values for TDS, chloride, and sulfate by watershed for most of the watersheds in the state. For many watersheds, both a mean standard (the average value not to be exceeded) and a higher individual sample standard are listed
- Appendix G means *Appendix G* of the OWQS, OAC 252:730, which details the numerical criteria to protect beneficial uses
- Appendix H means *Appendix H* of the OWQS, OAC 252:730, which details the beneficial use designations for certain limited areas of groundwater
- Appendix I means *Appendix I* of the OWQS, OAC 252:730, which details the criteria for groundwater protection
- Aquifer means a formation that contains sufficient saturated, permeable material to yield significant quantities of water to wells and springs. This implies an ability to store and transmit water; unconsolidated sands and gravels are typical examples.
- Background means either

- the normal level of a substance(s), which is characterized by determining the concentration(s) upstream (for surface waters) or hydraulically up gradient (for groundwater) to the potential source of a substance(s) being investigated, or
 - the background water quality around a site, measured as TDS, which is used to determine if the surface or ground water is a resource to be protected (<3000 ppm TDS), or if it is unusable by people (3000 ppm TDS)
-
- BMP means *Best Management Practice(s)*: means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the state or United States. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage
 - BPJ means *Best Professional Judgment*
 - BTEX benzene, toluene, ethyl benzene, and xylenes, light end petroleum components common in condensate and gasoline and present in lower percentages in other petroleum compounds such as crude oil and diesel
 - Contamination means the presence at excessive, unhealthy, and/or potentially damaging levels of a material or substance. For the purposes of the WQSIP, this means that levels of a substance exceeding water quality standards and/or threatening or causing beneficial use impairments are in or affecting a state water body (see Waters of the State)
 - Corp Commission means the *Oklahoma Corporation Commission*
 - CSW means *Culturally Significant Waters* means either:
 - (A) Waters designated as CSW in Appendix A are those identified by recognized tribal authorities as critical to maintaining the waters' utility for cultural, historic, recreational or ceremonial uses and which may require more stringent protection measures to protect human health or aquatic life or both.

- (B) All activities associated with a CSW may require consultation with the duly authorized Tribal authority to assure that the proposed activity is consistent with applicable tribal environmental laws.

- CWA means *Clean Water Act* and amendments thereto
- CWAC as used in OAC 252:730-5-12, means *Cool Water Aquatic Community*, a subcategory of the beneficial use category Fish and Wildlife Propagation where the water quality, water temperature and habitat are adequate to support warm water-intolerant climax fish communities and includes an environment suitable for the full range of cool water fish and wildlife propagation
- DEQ means the Oklahoma *Department of Environmental Quality*
- DRO means *Diesel Range Organics*, a measure of the Total Petroleum Hydrocarbons in the C12 - C38 arrange, measured according to modified EPA methods 8020/8100
- EPA means *Environmental Protection Agency*
- EPA Region 6 means the EPA Region 6 office in Dallas, Texas. Oklahoma is in Region 6
- Field Ops means the *Field Operations* department of the Oklahoma Corporation Commission, Oil & Gas Conservation Division
- Fish and Wildlife Propagation means where the water quality and habitat are adequate to support intolerant climax fish communities and includes an environment suitable for the full range of warm water benthos
- Fish Consumption means the WQS beneficial use designation for the protection of human health for the consumption of fish flesh
- Free Product means the finding of measurable levels of oil or condensate floating on water at the surface or in a (monitoring or drinking water) well
- GRO means *Gasoline Range Organics*, a measure of the Total Petroleum Hydrocarbons in the C6-C12 range, measured according to modified EPA methods 8015/8020

- Heavy Metals - Specific metals listed with the 126 pollutants defined as toxic pollutants pursuant to Section 307 of the CWA, specifically those listed at 40 CFR 122, Appendix D, Tables II and III. Those heavy metals associated with activities regulated by Corp Commission O&G mainly include but are not limited to Arsenic, Barium, Beryllium, Cadmium, Chromium, Copper, Lead, Mercury, Selenium and Uranium.
- HLAC as defined in OAC 252:730-1-2, means Habitat Limited Aquatic Community, a subcategory of the beneficial use category Fish and Wildlife Propagation where the water chemistry and/or habitat are not adequate to support a warm water aquatic community (WWAC). In Oklahoma, this is often an intermittent stream which goes dry seasonally
- HQW means *High Quality Water*, defined as those waters of the state which possess existing water quality which exceeds that necessary to support the propagation of fishes, shellfishes, wildlife, and recreation in and on the water. HQWs must receive special protection against degradation
 - High Quality Waters (HQW) are those waters of the state whose historic water quality and physical habitat provide conditions suitable for the support of sensitive and intolerant climax communities of aquatic organisms whether or not that waterbody currently contains such a community, support high levels of recreational opportunity, and are designated "HQW" waters in Appendix A of this Chapter. These waters will generally have higher quality habitat, a more diverse and more intolerant biotic community and, as a result, may provide more ecological refuges and recreational opportunities than other waters in the same ecoregion with similar chemistry and physical conditions.
 - All waterbodies designated with the limitation indicated by the letters "HQW" in Appendix A are prohibited from having any new point source discharge(s) of any pollutant or increased load or concentration of specified pollutants from existing point source discharge(s), provided however that new point source discharge(s) or increased load of specified pollutants described in OAC 252:730-5-25(b) may be approved by the permitting authority in those circumstances where the discharger demonstrates to the satisfaction of the permitting authority that a new point source discharge or increased load

from an existing point source discharge will result in maintaining or improving the level of water quality which exceeds that necessary to support recreation and propagation of fishes, shellfishes, and wildlife of the direct receiving water and downstream waterbodies designated HQW. As specified in OAC 252:730-3-2(b) and (d), no discharge of any pollutant to a water designated HQW may lower existing water quality.

- Waters designated HQW after July 1, 2007 will demonstrate (1) 95% of water quality measurements for multiple parameters from metals, organics and general physicochemical water quality descriptors better than the promulgated criteria in Appendix G of this chapter at multiple stations on the segment, (2) an unimpaired biological community as determined by the application of Appendix C of Title 252 Chapter 740, and (3) significant local support for promulgation of the HQW designation
- HSA means *Hydrologically Sensitive Area*, defined as an area in
 - Hydro logically Vulnerable which the surface or ground water could easily be polluted by a spill. HSA or hierologically vulnerable areas include the recharge zone of an aquifer (especially aquifers shown to be vulnerable, from surface activities with the potential to contaminate groundwater, by the OWRB in OWRB Technical Report 99-1, Statewide Groundwater Vulnerability Map of Oklahoma), alluvium or terrace deposits, and other permeable zones close to or hydrologically connected to a surface water body or on an aquifer recharge area
 - Land Application means the application of substances including drilling mud, cuttings, waste crude oil and condensate, salt water, pit sludge, pipeline waste and sludge, tank bottoms, and other allowed spilled/released materials and/or soils containing these substances to the land, at approved rates within the capacity of the land to handle without damage, for the purpose of disposal or land treatment; also known as soil farming, as governed by Corp Commission O&G rules OAC 165:10-7-19, 165:10-7-26, 165:10-7-27, 165:10-7-28, and/or 165:10-7-29
 - Migration Pathway means a route by which substances can move from the source to a receptor. A pathway can be

- a) natural, via soil or bedrock porosity, moving with ground or surface water, through the air, and via fracture zones, or
 - b) a manmade conduit such as along an underground utility line, improperly plugged oil and gas well or UIC well bore, improperly operated UIC or producing well bores, and mud plugged well bores
- Mud and/or drilling mud means any mixture of water and clay or other material as is used by the oil & gas industry in the drilling of wells
- Nonpoint Source means a source without a well defined point of origin or a single identifiable origin such as an outfall pipe, often involving the overland flow of substances with storm water or the subsurface flow of chemicals with groundwater over a wide area
- NPDES means the *National Pollutant Discharge Elimination System*, as authorized by Section 402 of the CWA. The DEQ has received delegation of the NPDES program in Oklahoma for most point sources; the EPA has retained permitting authority for jurisdictional areas related to agriculture and the oil and gas industry
- NPS means *nonpoint source* see above
- OAC means *Oklahoma Administrative Code*
- OCC means *Oklahoma Conservation Commission*
- ODA means *Oklahoma Department of Agriculture*
- ODM means *Oklahoma Department of Mines*
- ODW means *Oklahoma Department of Wildlife*
- OERB means the *Oklahoma Energy Resources Board* , which is voluntarily funded by oil & gas producers and royalty owners
- O&G means the *Oil and Gas Conservation Division* of Corp Commission
- ORBCA means *Oklahoma Risk Based Corrective Action* , the form of RBCA adopted by the PST Division of the Oklahoma Corporation Commission see RBCA

- Order refers to an *Interim Order* or *Consent Order*, issued following a hearing before an Administrative Law Judge
- ORW means *Outstanding Resource Water*, Certain waters of the state constitute an outstanding resource or have exceptional recreational and/or ecological significance. These waters include streams designated "Scenic River" or "ORW" in OAC 252: 730 Appendix A, and waters of the State located within watersheds of Scenic Rivers. Additionally, these may include waters located within National and State parks, forests, wilderness areas, wildlife management areas, and wildlife refuges, and waters which contain species listed pursuant to the federal Endangered Species Act as described in OAC 252:730-5-25(c)(2)(A) and OAC 252:740-13-6(c). No degradation of water quality shall be allowed in these waters.
- OSHA means the *Occupational Safety and Health Act* and amendments thereto
- OSU lab means the *Oklahoma State University Soil, Water and Forage Analytical Laboratory*, which analyzes soil and irrigation water samples for a wide variety of cations, anions, Total Soluble Salts, and related compounds from alleged spill or pollution sites for Corp Commission O&G. The lab also analyzes stream water samples for Corp Commission O&Gs NPS stream sampling program
- OWQMC means the *Oklahoma Water Quality Monitoring Council*, consisting of 25 representatives from state agencies, tribes, federal agencies, academia, and other state water quality stakeholder groups
- OWRB means the *Oklahoma Water Resources Board*
- PA means the *Pollution Abatement* within the Oil & Gas Conservation Division of Corp Commission consisting of the Pollution Abatement Department
- Pathway means the route(s) or media via which various substances can reach receptors, or reach a receptor point or location such as a well where receptors are exposed to the substances. Pathways can include both natural routes through water, soil, and air, and manmade conduits
- PBCR means *Primary Body Contact Recreation*,

- Primary Body Contact Recreation involves direct body contact with the water where a possibility of ingestion exists. In these cases, the water shall not contain chemical, physical or biological substances in concentrations that are irritating to skin or sense organs or are toxic or cause illness upon ingestion by human beings
- In waters designated for Primary Body Contact Recreation the following limits for bacteria set forth in (c) of this section shall apply only during the recreation period of May 1 to September 30. The criteria for Secondary Body Contact Recreation will apply during the remainder of the year.
- Compliance with OAC 252:730-5-16 shall be based upon meeting the requirements of one of the options specified in (1) or (2) of this subsection (c) for bacteria. Upon selection of one (1) group or test method, said method shall be used exclusively over the time period prescribed, therefore. Provided, where concurrent data exist for multiple bacterial indicators on the same waterbody or waterbody segment, no criteria exceedances shall be allowed for any indicator group.
 - (1) *Escherichia coli* (*E. coli*): The *E. coli* geometric mean criterion is 126/100 ml. For swimming advisory and permitting purposes, *E. coli* shall not exceed a monthly geometric mean of 126/100 ml based upon a minimum of not less than five (5) samples collected over a period of not more than thirty (30) days. For swimming advisory and permitting purposes, no sample shall exceed a 75% one-sided confidence level of 235/100 ml in lakes and high use waterbodies and the 90% one-sided confidence level of 406/100 ml in all other Primary Body Contact Recreation beneficial use areas. These values are based upon all samples collected over the recreation period. For purposes of sections 303(d) and 305(b) of the federal Clean Water Act as amended, beneficial use support status shall be assessed using only the geometric mean criterion of 126/100 milliliters compared to the geometric mean of all samples collected over the recreation period.
 - (2) *Enterococci*: The *Enterococci* geometric mean criterion is 33/100 ml. For swimming advisory and permitting purposes, *Enterococci* shall not exceed a

monthly geometric mean of 33/100 ml based upon a minimum of not less than five (5) samples collected over a period of not more than thirty (30) days. For swimming advisory and permitting purposes, no sample shall exceed a 75% one-sided confidence level of 61/100 ml in lakes and high use waterbodies and the 90% one-sided confidence level of 108/100 ml in all other Primary Body Contact Recreation beneficial use areas. These values are based upon all samples collected over the recreation period. For purposes of sections 303(d) and 305(b) of the federal Clean Water Act as amended, beneficial use support status shall be assessed using only the geometric mean criterion of 33/100 milliliters compared to the geometric mean of all samples collected over the recreation period.

- Plug means a verifiable barrier located within the wellbore that may be mechanical or cement
- Plume means the substances impact area within a surface water body or ground water area, generally moving downstream or down-gradient from the source
- Pollutant means any material, substance or property which may cause pollution.
- Pollution means (for Corp Commission O&G) the contamination of fresh water or soil, either surface or subsurface, by salt water, mineral brines, waste oil, oil, gas, and/or other deleterious substances produced from or obtained or used in connection with the drilling, development, producing, refining, transporting, or processing of oil or gas within the State of Oklahoma
- Point Source means any discernable, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, well, discrete fissure, container, rolling stock or concentrated animal feeding operation from which pollutants are or may be discharged. This term does not include return flows from irrigation agriculture

- PPWS means *Public and Private Water Supply*, a WQS beneficial use designation for the protection of human health for the consumption of water and consumption of fish flesh and water. Not synonymous with primary and secondary drinking water standards
- ppb means *parts per billion*, the milligrams of a substance per 1,000 kilograms of solid material (usually soil) or the milligrams of the substance per 1000 liters of water (for dissolved substances)
- ppm means *parts per million*, the milligrams of a substance per kilogram of solid material (usually soil) or the milligrams of substance per liter of water (for dissolved substances)
- Property Assessments means a site investigation using soil and water sampling done to determine whether or not there is pollution on a certain property. This is often done by a potential property buyer or company merger partner to determine whether or not they are acquiring polluted property, but may also be done by the owner or lessee of property to determine their possible pollution liabilities. The actual source of the pollution and when the spill/release occurred may not be known or determinable. Pollution cases arising from Property Assessments are assigned to the PA section for further review
- PST means the *Petroleum Storage Tank* Division of the Corporation Commission
- RBCA means *Risk Based Corrective Action*, a methodology for
 - 1) determining the risks to health from specific (analytically measured) concentrations of petroleum compounds in various media (soil, water, air) at specified locations, and
 - 2) determining the cleanup standards to be used and the remediation necessary at pollution sites
- RCRA means the *Resource Conservation and Recovery Act* and amendments thereto
- Receptor means a living organism that can be sickened, injured or killed by any polluting substances released. While the Oklahoma Water Quality Standards regulate what levels of various substances can be allowed in state water bodies, these water

bodies can only be receptor locations of the substances, and are not themselves receptors as Corp Commission uses the term

- Receptor point (or location) means the point or area where a receptor is exposed to various substances by, for example, inhaling vapors, touching or ingesting contaminated soil, or swimming in or drinking polluted water
- RFA means *Request for Assistance*, when the Field Operations section requests assistance on complex and/or surface or subsurface water related pollution and spill cases from staff in the Pollution Abatement section. Some of these cases are directly assigned to PA staff for oversight when responsible parties are delineated and approved remediation plans are on file also, as are cases arising from Phase I or II property assessments
- Remediation means the removal of pollutants from soil and/or water by absorption, excavation, pumping, natural attenuation, biological, chemical, or other means or combination of methods
- RP means *Responsible Party*, the company or other entity legally and financially responsible for cleaning up a spill or other conditions of soil or water constituting pollution
- SEL means the *State Environmental Laboratory* of the DEQs Customer Services Division
- Spill means the unpermitted or unauthorized surface or subsurface release of substances including but not limited to petroleum (gasoline, diesel, crude oil and/or condensate), brine, or drilling mud
- SWS means *Sensitive Water Supply*, is recognized that certain public and private water supplies possess conditions that make them more susceptible to pollution events and require additional protection. These sensitive water supplies shall be maintained and protected.
- TDS means *Total Dissolved Solids*, measured dried at 180 C in a laboratory analytical test or measured in the field with a conductivity meter calibrated to read as TDS
- TMDL means *Total Maximum Daily Load*, a written, pollutant-specific and water body-specific plan establishing pollutant loads for point and nonpoint sources, incorporating safety reserves, to ensure that a specific water body will attain and maintain the

water quality necessary to support existing and designated beneficial uses. The term also includes consideration of increases in pollutant loads

- TPH means *Total Petroleum Hydrocarbons*, found in soil or water by laboratory analyses using DEQ and/or EPA defined methods. GRO and DRO are often summed as TPH, even though the overlap in their analytical ranges and the omission of the (low percent by weight) higher carbon number compounds in DRO analyses makes this inexact
- TSS means *Total Soluble Salts*, the total amount of salts, ppm, dissolved in water according to laboratory (OSU) testing
- UAA means *Use Attainability Analysis*, means the best uses achievable for a particular waterbody given water of adequate quality. The process of use attainability analysis can, and in certain cases must, be used to determine attainable uses for a waterbody.
- UIC means *Underground Injection Control*
- USFWS means the *United States Fish and Wildlife Service*
- USGS means the *United States Geological Survey*
- Waters of the State means all streams, lakes, ponds, marshes, watercourses, waterways, wells, springs, irrigation systems, drainage systems, and all other bodies or accumulations of water, surface and underground, natural or artificial, public or private, which are contained within, flow through, or border upon this State or any portion thereof.
- WQMP means *Water Quality Management Plan*, a statewide plan incorporating the various water quality management program elements under the CWA. Sometimes referred to as the 208 Plan. Water quality management plans are also developed by designated area-wide planning agencies
- WQS (or OWQS) means the *Oklahoma Water Quality Standards*, also means Standards which means when capitalized, this Chapter, which constitutes the Oklahoma Water Quality Standards described in 82 O.S. §1085.30. Whenever this term is not capitalized or is singular, it means the most stringent of the criteria assigned to protect the beneficial uses designated for a specified water of the State

- WQSIP means *Water Quality Standards Implementation Plan*
- WWAC as defined in OAC 252:730, means *Warm Water Aquatic Community*, a subcategory of the beneficial use category Fish and Wildlife Propagation where the water quality and habitat are adequate to support climax fish communities and includes an environment suitable for the full range of warm water benthos

Section C - General Statement; Responsibility for WQSIP Document

- Programs within the Corporation Commissions environmental regulatory authority will be managed to minimize the possibility of contact between regulated substances (including liquid petroleum, natural gas, brine, drilling mud, and drill cuttings) and the fresh waters of the state, and to oversee remediation efforts when problems are found.
- This WQSIP was prepared by the Pollution Abatement Manager and reviewed by staff in the Pollution Abatement section of the Oil & Gas Conservation Division.

Section D. Pertinent Oklahoma Water Quality Standards

- Surface Water
Pursuant to Section 303 of the CWA, Oklahoma's surface water quality standards are promulgated by the ODEQ at OAC 252:730,
 - Beneficial uses are designated for all waters of the state. Such uses are protected through the restrictions imposed by the antidegradation policy statement, narrative criteria and numerical standards. Some uses require higher quality water than others. When multiple uses are assigned to the same waters, all such uses shall be protected. Beneficial uses are also protected by permits or other authorizations issued to meet these Standards for point sources and through practical management or regulatory programs for nonpoint sources. The criteria to protect the beneficial uses designated in OAC 252:730-5-3 or in Appendix A of this Chapter for certain surface waters of the state are described in sections OAC 252:730-5-10 through OAC 252:730-5-20
 - Public and Private Water Supply (PPWS) (252:730-5-10);
 - Emergency Public and Private Water Supplies (252:730-5-11);
 - Fish and Wildlife Propagation (F&W) (OAC 252:730-5-12), according to one of four fishery subcategories:
 - Habitat-Limited Aquatic Community (HLAC)
 - Warm Water Aquatic Community (WWAC)
 - Cool Water Aquatic Community (CWAC)
 - Trout Fishery (Put and Take)
 - Agriculture (Ag) (OAC 252:730-5-13); 4 subcategories
 - (1) The narrative and numerical criteria stated or referenced in this section and in Appendix F of subchapter 5 are designed to maintain and protect the beneficial use classification of "Agriculture". This classification encompasses two subcategories which are capable of sustaining different agricultural applications.

These subcategories are Irrigation Agriculture and Livestock Agriculture.

- (2) Irrigation Agriculture means a subcategory of the Agriculture beneficial use requiring water quality conditions that are dictated by individual crop tolerances.
- (3) Livestock Agriculture is a subcategory of the Agriculture beneficial use requiring much less stringent protection than crop irrigation.
- (4) If a waterbody is designated in Appendix A of subchapter 5 with the Agriculture beneficial use but does not have a designation of a subcategory thereof, the criteria for Irrigation Agriculture shall be applicable.

- Primary Body Contact Recreation (PBCR) (OAC 252:730-5-16);
- Secondary Body Contact Recreation (OAC 252:730-5-17);
- Navigation (OAC 252:730-5-18);
- Aesthetics (OAC 252:730-5-19)
- Fish Consumption (OAC 252:730-5-20)

- Numerical and narrative criteria (OAC 252:730-5-4) apply statewide. Numerical and narrative criteria means concentrations or other quantitative measures of chemical, physical or biological parameters that are assigned to protect a beneficial use. Narrative criteria are generally referred to as statements or other qualitative expressions of chemical, physical or biological parameters that are assigned to protect a beneficial use.
 - Numerical salinity water quality standards have been set only for agricultural beneficial uses (irrigation and watering livestock). Stream segment averages of historic data for chlorides, sulfates, and TDS are available in Appendix F for most stream segments

statewide. The WQS also allows for use of upstream/background data and data from surrounding streams instead of these averages if this data provides a more appropriate basis for setting standards for a specific stream (OAC 252:730 Appendix F).

- Increased mineralization from elements such as, but not limited to, calcium, magnesium, sodium and their associated anions shall not impair any beneficial use. Derivations of certain historic concentrations can be found in Appendix F, which ODEQ interprets as meaning that neither salinity nor other minerals shall be allowed to impair the PPWS, F&W, PBCR, and other beneficial uses listed for streams in the WQS. Even though there are no numerical standards for salinity set for these other beneficial uses, it is Corp Commission O&Gs goal to act within its regulatory authority so as to protect such uses from adverse impacts, including the setting of site-specific numerical water quality criteria.
- Oklahoma WQS contain numeric standards for some of the common components of petroleum (e.g., benzene, ethylbenzene, and toluene) known to have adverse health effects which can be used as indicators of the presence of petroleum for PPWS and F&W (toxicity to aquatic life and toxicity of fish flesh to humans) beneficial uses. Corp Commission O&G has set risk-based criteria for some of the other petroleum compounds with no numeric standards. Narrative criteria including no visible oil also apply
- Sediments. Concentrations or loads of suspended or bedded sediments that are caused by human activity shall not impair the Fish and Wildlife Propagation use or any subcategory thereof. (OAC 252:730-5-12 (f)(8))
- Water quality anti-degradation policy, which applies statewide and is, consistent with the goals of the CWA, is found at OAC 252:730-3. It is the policy of the State of Oklahoma to protect all waters of the state from degradation of water quality, as provided in OAC 252:730-3-2 and Subchapter 13 of OAC 252:740.

this Subchapter are to protect beneficial uses and classifications of groundwater, to assure that degradation of the existing quality of groundwater does not occur, and to provide minimum standards for remediation when groundwater becomes polluted by humans.

- Beneficial uses element standards designates certain beneficial uses for certain classifications of groundwater.
 - List of beneficial uses for groundwater.
 - Public Water Supply. The beneficial use designation of Public Water Supply refers to those groundwaters capable of delivering suitable quantities of groundwater for municipal consumption whether or not treatment is required.
 - Domestic Untreated Water Supply. The beneficial use designation of Domestic Untreated Water Supply refers to those groundwaters capable of delivering suitable quantities of untreated groundwater for domestic consumption.
 - Agriculture. The beneficial use designation of Agriculture refers to that groundwater which is or could be used for irrigation or livestock watering.
 - Industrial and Municipal Process and Cooling Water. The beneficial use designation of Industrial and Municipal Process and Cooling Water refers to that groundwater that is or could be used for a municipal or industrial process or cooling function.
 - Beneficial use designations

- The beneficial uses for General Use Groundwater (Class II), not identified in Appendix H of this Chapter, shall be Domestic Untreated Water Supply, Public Water Supply, Agriculture, and Industrial and Municipal Process and Cooling Water.
- The beneficial uses for Limited Use Groundwater (Class III) and Highly Mineralized Treatable Groundwater (Class IV), not identified in Appendix H of OAC 252:730-7, shall be Agriculture and Industrial and Municipal Process and Cooling Water.
- The beneficial uses for any groundwater identified in Appendix H of Subchapter 7 of OAC 252:730 shall be as designated in that appendix.
- The beneficial use for groundwater which is used for water supply purposes on or after July 1, 2000, has a mean concentration of total dissolved solids of less than 5,000 milligrams per liter, and has not been determined by any state environmental agency to be not suitable for human consumption, shall be Public Water Supply and or Domestic Untreated Water Supply.
- A beneficial use designation for groundwater may be amended or removed only after a demonstration to the satisfaction of the Board that meets one of the following tests:
 - The designated use does not exist due to a condition that was not caused by humans, and treatment

- using Best Available Technology will not achieve the designated use, or
 - The designated use does not exist due to a condition that is attributable to irreversible impacts caused by humans, and the remedy would cause substantial and widespread economic and social impact.
 - Groundwater which has had a beneficial use designation amended removed or shall be identified in Appendix H of OAC 252:730.
- Classifications - Classification of all groundwater shall be designated as follows:
 - Class I: RESERVED
 - General Use Groundwater (Class II): These are groundwaters which have good quality due to natural conditions and generally have a mean concentration of total dissolved solids of less than 3,000 milligrams per liter.
 - Limited Use Groundwater (Class III): These are groundwaters which have poor quality due to natural conditions and generally have a mean concentration of total dissolved solids of greater than or equal to 3000 milligrams per liter but less than 5000 milligrams per liter.
 - Highly Mineralized Treatable Groundwater (Class IV): These are groundwaters which have very poor quality due to natural conditions and generally have a

mean concentration of total dissolved solids of greater than or equal to 5000 milligrams per liter but less than 10,000 milligrams per liter.

- o Protective measures and corrective actions, composed of:
 - The groundwaters of the state shall be maintained to prevent alteration of their chemical properties by harmful substances not naturally found in groundwater.
 - Protective measures adequate to preserve and protect background quality of the groundwater and existing and designated groundwater basin classifications shall be maintained at all times.
 - Protective measures shall also be sufficient to minimize the impact of pollutants on groundwater quality.
 - The concentration of any synthetic substance or any substance not naturally occurring in that location shall not exceed the PQL in an unpolluted groundwater sample using laboratory technology. If the concentration found in the test sample exceeds the PQL, or if other substances in the groundwater are found in concentrations greater than those found in background conditions, that groundwater shall be deemed to be polluted and corrective action may be required.
 - As well as practically measurable levels of toxics listed pursuant to Section 307(a) ([CERCLA](#)) of the CWA, which, if exceeded, constitute groundwater pollution

- and may require corrective action
- Narrative criteria requiring that protective measures be at all times maintained which are adequate to preserve and protect existing and designated groundwater basin classifications and which are sufficient to minimize the impact of pollutants on groundwater quality.
 - Development of prescriptive measures by each state environmental agency in their WQSIP, and subsequent use of such measures, to prevent, control or abate groundwater pollution caused by any person or entity within their jurisdictional area of environmental responsibility.
 - Vulnerability level.
 - Groundwater in certain hydrogeologic basins is further classified according to its vulnerability to contamination as determined by DRASTIC. Such vulnerability levels of hydrogeologic basins shall be identified as Very Low, Low, Moderate, High, and Very High as prescribed in Table 1 of Appendix D of this Chapter. The vulnerability level may vary within each hydrogeologic basin, depending on site-specific hydrogeologic factors.

• Functional Jurisdictions and beneficial uses within the Corporation Commission

Formatted

• Oil and grease (petroleum and non-petroleum related) - Surface waters

Formatted

• When oil (free product, or significant streaming sheen) is seen on the surface of, dissolved within or staining the banks of a water body whether stagnant, intermittent, or continual flow the water body is determined to be only partially or is not supporting of its beneficial uses.

Formatted

• Public and Private Water Supplies

Formatted

• Surface waters of the State shall be maintained free from oil and grease and taste and odors. The quality of the surface waters of the state which are designated as public and private water supplies shall be protected, maintained, and improved when feasible, so that the waters can be used as sources of public and private raw water supplies.

Formatted

• Fish and Wildlife Propagation

Formatted

• All waters having the designated beneficial use of any subcategory of fish and wildlife propagation shall be maintained free of oil and grease to prevent a visible sheen of oil or globules of oil or grease on or in the water. Oil and grease shall not be present in quantities that adhere to stream banks and coat bottoms of water courses or which cause deleterious effects to the biota.

Formatted

• Agriculture

Formatted

- The surface waters of the state shall be maintained so that toxicity does not inhibit continued ingestion by livestock or irrigation of crops.

☞ Primary Body Contact Recreation

Formatted

- ☞ Primary Body Contact Recreation involves direct body contact with the water where a possibility of ingestion exists. In these cases the water shall not contain chemical, physical or biological substances in concentrations that are irritating to skin or sense organs or are toxic or cause illness upon ingestion by human beings.

Formatted

☞ Navigation

Formatted

- ☞ This beneficial use is generally more dependent upon quantity than quality of water.

Formatted

☞ Aesthetics

Formatted

- ☞ To be aesthetically enjoyable, the surface waters of the state must be free from floating materials and suspended substances that produce objectionable color and turbidity.
- ☞ The water must also be free from noxious odors and tastes, from materials that settle to form objectionable deposits, and discharges that produce undesirable effects or are a nuisance to aquatic life.

Formatted

☞ Fish consumption

Formatted: Font: Expanded by 0.3 pt

Formatted: Indent: Left: 5", No bullets or numbering

Formatted

- ☞ The surface waters of the state shall be maintained so that toxicity does not inhibit ingestion of fish and shellfish by

Formatted

humans. The numerical criteria and values for substances listed in the column "Fish Consumption" in Table 2 of Appendix G of OAC 152:730-5 shall apply to surface waters designated as Warm Water Aquatic Community, Cool Water Aquatic Community, or Trout Fishery.

◆ Total Dissolved Solids (TDS), Chlorides (Cl-) beneficial uses for surface water

Formatted

⊕ Public and Private Water Supplies

Formatted

◆ The quality of the surface waters of the state which are designated as public and private water supplies shall be protected, maintained, and improved when feasible, so that the waters can be used as sources of public and private raw water supplies. These waters shall be maintained so that they will not be toxic, carcinogenic, mutagenic, or teratogenic to humans.

Formatted

⊕ Fish and Wildlife Propagation

Formatted

⊖ Surface waters of the state shall not exhibit acute toxicity and shall not exhibit chronic toxicity outside the chronic regulatory mixing zone. Acute test failure and chronic test failure shall be used to determine discharger compliance with these narrative aquatic life toxics criteria.

○

Formatted: Bulleted + Level: 5 + Aligned at: 3.25" + Indent at: 3.5"

⊕ Agriculture subcategories

Formatted: Indent: Left: 3", No bullets or numbering

◆ Protect Irrigation Agriculture subcategory - For the purpose of protecting the Irrigation Agriculture subcategory, neither

Formatted: Font: (Default) Open Sans, Expanded by 0.3 pt

Formatted: List Paragraph

Formatted

long-term average concentrations nor short term average concentrations of minerals shall be required to be less than 700 mg/L for TDS, nor less than 250 mg/L for either chlorides or sulfates

- *o Protect Livestock Agriculture subcategory - For the purpose of protecting the Livestock Agriculture subcategory, neither long-term average concentrations nor short term average concentrations of minerals shall be required to be less than 2500 mg/L for TDS.

⇄ Primary Body Contact Recreation

Formatted

- *o Primary Body Contact Recreation involves direct body contact with the water where a possibility of ingestion exists. In these cases the water shall not contain chemical, physical or biological substances in concentrations that are irritating to skin or sense organs or are toxic or cause illness upon ingestion by human beings.

Formatted

⇄ Navigation

Formatted

- *o This beneficial use is generally more dependent upon quantity than quality of water.

Formatted

⇄ Aesthetics

Formatted

- *o To be aesthetically enjoyable, the surface waters of the state must be free from floating materials and suspended substances that produce objectionable color and turbidity.
- *o The water must also be free from noxious odors and tastes, from materials that settle to form objectionable deposits, and

Formatted

discharges that produce undesirable effects or are a nuisance to aquatic life.

Fish consumption

- o The surface waters of the state shall be maintained so that toxicity does not inhibit ingestion of fish and shellfish by humans. The numerical criteria and values for substances listed in the column "Fish Consumption" in Table 2 of Appendix G of OAC 152:730-5 shall apply to surface waters designated as Warm Water Aquatic Community, Cool Water Aquatic Community, or Trout Fishery.

- Field Ops has four district offices, one in each quadrant (northeast, northwest, southwest, and southeast) of the state. When fully staffed and funded each district has a District Manager, District Supervisor(s), and approximately one Field Inspector for each oil and/or gas producing county in the district. Field Operations staff are the first to respond to spills and pollution complaints, and oversee or approve most surface spills and soil remediation activities. The procedures governing response to and resolution of citizens complaints about environmental matters within Corp Commission O&Gs jurisdiction are found in the Rules of Practice, OAC 165:10-1-6 et seq. O&G Field Inspectors also follow Field Ops guidance documents regarding spills according to the instructions of the District Managers and the Manager of Field Operations as specified by OAC 165:10-7-7 ("...where surface or subsurface pollution is apparent, a district manager or field inspector may direct an alleged violator to take steps necessary to stop and/or clean up pollution").

Formatted: Font: Expanded by 0.3 pt

Formatted: Indent: Left: 5", No bullets or numbering

Formatted

Formatted


- The Pollution Abatement section (PA) within PA assists Field Ops with complex pollution cases, especially those that involve water (surface or ground water) and oversees many complex cases directly. The PA manager can assign complex cases to PA Environmental ~~Coordinators~~ Coordinators. PA and Field Ops also consult with each other about the referral of oil & gas exploration and production sites impacted by spill(s) or pollution where there is no RP. These are referred to the OERB when that is deemed to be the most appropriate action.
 - PA central office staff are often directly assigned cases arising from property assessments or site investigations not directly associated with known spills. For sites overseen by PA, the instructions of and guidance approved by the Manager of Pollution Abatement (OAC 165:10-7-2). The Manager of Pollution Abatement shall supervise and coordinate the administration and enforcement of the rules of Subchapter 7) as to when a cleanup/remediation should be done, and when it is deemed to be sufficient and a closure/no further action letter is written, are followed.
 - PA staff also perform and/or oversee all federal Clean Water Act (CWA) related activities, including
 - monitoring surface and ground waters of the state,
 - determining which surface waters are impaired by substances related to activities the Oil & Gas Conservation Division regulates for the CWA required 303(d) list, 305(b) report, and any necessary TMDLs or cleanup activities.
 - participating in revising Oklahoma's Water Quality Standards and sampling protocols;
 - taking part in state/federal interagency work groups, grant committees, and the Oklahoma Water Quality Monitoring Council (OWQMC);

- writing Corp Commission O&Gs water quality standards implementation plan (WQSIP); and
 - helping other state agencies with required documents to be submitted to the EPA.
- The UIC department sets pollution prevention requirements on saltwater disposal (injection) wells, which return the brine produced with oil to the subsurface from whence it came, and on injection wells used for secondary/tertiary recovery of additional oil and gas within producing fields. UIC has been delegated the federal UIC program for these activities.
- The O&G Technical Department (Tech) oversees technical matters, conservation rules, well drilling and other permits, and most filings for the O&G pollution prevention rules including allowed well locations, well casing requirements, and blowout prevention. Tech may also advise Field Ops and PA about engineering or geological issues within the context of a spill cleanup or pollution matter where necessary and appropriate.
- In order to protect the public, the Pipeline Safety program within the Commission's Transportation Division oversees the design, installation, operation, maintenance and abandonment of all intrastate natural gas and liquid petroleum pipelines subject to 49 Code of Federal Regulations Parts 192 and 195. The department responds to all regulated spills to determine the cause and steps to take to minimize future occurrences. The clean up of these spills are handled by the Oil and Gas Conservation Division.
- The Petroleum Storage Tank (PST) Division oversees pollution site investigations, risk assessments, and remediation arising from overfills, spills, and leaks of fuels, antifreeze, and other substances from underground and above ground storage tanks and their related piping, plus spills at intermediate jobbers who

sell to retailers Non retail storage tanks, including those located at refineries, at the upstream or intermediate shipment points of pipeline operations, and on farms are not in Corp Commission jurisdiction. Historic and abandoned PST spill sites with no viable responsible party that are causing water pollution are remediated by the PST leaking underground storage tank LUST Trust Fund. The PST Division follows its Oklahoma Risk-Based Corrective Action (ORBCA) Guidance Document, which has been formalized into rules.

- This WQSIP is intended for use only with regard to matters within the jurisdiction of the Oil and Gas Conservation Division. The PST Division will have a separate WQSIP for its jurisdictional areas.

Specific Jurisdictional Areas of Environmental Responsibility

 The Oklahoma Corporation Commission has exclusive environmental regulatory jurisdiction, power and authority, and it shall be its duty to promulgate and enforce rules and issue and enforce orders, in the following 12 areas designated as I-XII. The technical and technology based measures already in Corp Commission O&G rules to prevent possible pollution referred to in column 3 of Table 1, that do not use or directly refer to water quality standards, are outlined in the Guidance Document of Technical Measures available from the Commission.

Formatted

Table I
Specific Jurisdictional Areas of Environmental Responsibility

CORP COMMISSION O&G JURISDICTIONAL AREA	CORP COMMISSION O&G ACTIVITY	WQSIP PLAN NEEDED?
---	------------------------------	--------------------

<p>I. The conservation of oil & gas</p>	<p>Tech insures production rates that don't waste oil & gas.</p>	<p>No</p>
<p>II. Field operations for geologic and geophysical exploration for oil, gas and brine.</p>	<p>Tech permitting of seismic survey wells, stratigraphic test wells and core test wells.</p>	<p>No**[1] - Technical pollution prevention</p>
<p>III. The exploration, drilling, development, producing or processing for oil and gas on the lease site including construction, operation, maintenance, closure and abandonment of the facilities and activities.</p>	<p>Permits issued, well records kept, plugging documented by the Tech Dept. Oversight and inspections by Field Ops.</p>	<p>No** Tech-Technical except for notification, remediation of spills and leaks, covered in section X.</p>
<p>IV. The exploration, drilling, development,</p>	<p>Permits issued, well records kept, plugging</p>	<p>No Technical except for notification</p>

<p>production and operation of wells used in connection with the recovery, injection or disposal of mineral brines including construction, operation, maintenance, closure and abandonment of the facilities and activities.</p>	<p>documented by the Tech Dept. Construction, maintenance, and plugging oversight and inspections by Field Ops.</p>	<p>and remediation for spills and leaks, covered in section X.</p>
<p>V. Reclaiming facilities associated with the exploration, drilling, development, producing or transportation of oil or gas; includes processing saltwater, crude oil, natural gas condensate and tank bottoms or basic sediment</p>	<p>Oversight and inspections by Field Ops.</p>	<p>No Technical except for notification and remediation for spills and leaks, covered in section X.</p>

<p>from crude oil tanks, pipelines, pits and equipment.</p>		
<p>VI. Underground injection control pursuant to the federal safe drinking water act and 40 CFR parts 144 through 148 For Class II injection wells, Class V injection wells utilized in the remediation of groundwater, and wells used for the recovery, injection or disposal of mineral brines as defined in the Oklahoma brine development act.</p>	<p>Permits are issued by and inspections done by UIC section except for wells used in remediation cases, which are overseen by PA.</p>	<p>No** Technical except for notification and remediation for spills and leaks, covered in section X.</p>
<p>VII. Tank farms for storage of crude oil and petroleum products located</p>	<p>Oversight and inspections by Field Ops.</p>	<p>No Technical except for spills and leaks,</p>

<p>outside the boundaries of refineries, petrochemical manufacturing plants, natural gas liquid extraction plants. DEQ[2] has jurisdiction inside plants.</p>		<p>covered in section X.</p>
<p>VIII. The construction and operation of pipelines and associated rights-of-way, equipment, facilities or buildings used in the transportation of oil, gas, petroleum, petroleum products, anhydrous ammonia or mineral brine, or in the treatment of oil, gas or mineral brine during the</p>	<p>Permits from and inspections done by Pipeline Safety.</p>	<p>No Technical except for notification and remediation for spills and leaks, covered in section X.</p>

<p>course of transportation. Located outside the boundaries of refineries, petrochemical manufacturing plants, natural gas liquid extraction plants reclaiming facility, mineral brine processing plant.</p>		
<p>ADVANCE 4 IX. The handling, transportation, storage and disposition of saltwater, mineral brines, waste oil and other regulated substances produced from or obtained or used in connection with the drilling, development, producing and</p>	<p>Permission and/or permits for the disposal of drilling mud, contaminated soil or water issued by PA, or by UIC for injection wells. Oversight and inspections by Field Ops or PA or UIC.</p>	<p>No** Technical except for notification and remediation for spills and leaks, covered in section X.</p>

<p>operating of oil and gas wells.</p>		
<p>X. Spills, leaks and discharges either surface or subsurface of deleterious substances associated with facilities and activities specified above or otherwise associated with oil and gas extraction facilities and activities, and other commission-regulated activities, except petroleum storage tanks.</p>	<p>Oversight by Field Ops or PA, including site inspections, overseeing work, reviewing plans, reviewing reports, waste disposal, cleanup or remediation to beneficial use and eventually issuing closure letters.</p>	<p>Yes. Includes spills, spill cleanup activities, and associated problems such as excess erosion.</p>
<p>XI. Subsurface storage of oil, natural gas and liquefied petroleum gas in geologic strata.</p>	<p>Environmental matters apply only to the construction, maintenance, and plugging of the wells in this</p>	<p>No</p>

	<p>program, which is the same as for wells in sections III and VI.</p>	
<p>XII. Groundwater protection for activities subject to the jurisdictional areas of environmental responsibility of the commission.</p>	<p>The Commission does not have separate surface water and groundwater programs, but instead considers the protection of the waters of the state, both surface water and groundwater, in all of its regulatory programs.</p>	<p>No** except for spills and leaks affecting groundwater; covered in section X.</p>

Jurisdictional Areas Verses Beneficial Uses That Could Be Affected

Beneficial uses defined by the ODEQ that could be adversely affected by spills or other activities in the jurisdictional areas of Corp Commission O&G for which WQSIP plans are necessary are:

Table II

Jurisdictional Areas Verses Beneficial Uses That Could Be Affected

Formatted: Font: 14 pt

JURISDICTIONAL AREA	SUBSTANCE(S)	WQS DEFINED BENEFICIAL USE(S) POSSIBLY AFFECTED
II. Field operations for geologic and geophysical exploration.	Drill cuttings, eroded sediments.	Fish and Wildlife, Aesthetics, PPWS, Agricultural
III. The exploration & production of oil and gas spills	Brine, oil & condensate, drilling mud, eroded sediments, occasionally heavy metals	PPWS, Fish and Wildlife, Agriculture, Aesthetics
IV. Activities involving mineral brines - spills	Brine, eroded sediments	Fish and Wildlife, Aesthetics, PPWS, Agricultural
V. Reclaiming facilities spills	Brine, waste oil, drilling mud, occasionally heavy metals	Fish and Wildlife, Aesthetics, PPWS, Agricultural
VI. Underground injection spills	Brine, oil	Fish and Wildlife, Aesthetics, PPWS, Agricultural
VII. Tank farms for storage of crude oil and petroleum spills	Oil	Fish and Wildlife, Aesthetics, PPWS, Agricultural

VIII. The construction and operation of pipelines - spills	Brine, oil, condensate, eroded sediments	Fish and Wildlife, Aesthetics, PPWS, Agricultural
IX. The handling and disposition of saltwater, mineral brines, waste oil and other regulated substances spills	Brine, waste oil, drilling mud, occasionally heavy metals	Fish and Wildlife, Aesthetics, PPWS, Agricultural
X. Spills (and leaks) of various substances	Brine, oil & condensate, drilling mud, occasionally heavy metals	Fish and Wildlife, Aesthetics, PPWS, Agriculture, Aesthetics
XII. Groundwater	Brine, oil & condensate, drilling mud, occasionally heavy metals	PPWS, Agriculture[3]

H. Corporation Commission Assessment and Cleanup/Remediation Water Quality Protocols

- o The ODEQ has developed NLW impairment study for determining when surface water streams are fully supporting, partially supporting, or not supporting (impaired) their designated beneficial uses. The Corporation Commission follows these in its nonpoint source program, and where appropriate in determining

impacts from spills on defined beneficial uses of the waters of the state. Corp Commission O&G has developed its own guidance for determining when a cleanup/remediation at an O&G Division supervised spill site needs to be done, and when the site is sufficiently remediated to avoid impairment of beneficial uses for surface and ground waters.

- OWRBs NLW methodology is used in determining whether or not the defined beneficial uses for surface water bodies are being adversely affected by current or historical spills. Impaired and partially supporting water bodies are placed on the federal 303(d) list. Streams that are determined to be affected by the above substances only once, or $\leq 10\%$ of inspection/sampling events, are considered to be fully supporting of beneficial uses; those whose beneficial uses are considered to be threatened will be listed in the 305b report.
 - Some examples of how the NLW study are used to determine if water bodies are partially supporting or impaired are:
 - The same protocols would apply if the benzene, ethylbenzene, and/or toluene dissolved in stream waters were (in laboratory analysis of water samples) to exceed ODEQ toxicity standards.
 - Since no equivalent NLW impairment guidelines have yet been developed for groundwater, the NLW impairment guidelines are not being used when there are possible groundwater impacts.

SECTION II

WQSIP ELEMENTS BY JURISDICTIONAL AREA

- *A. Corp Commission O&G Water Quality Decision Level Criteria*
 - Environmental impacts resulting from activities regulated by Corp Commission O&G almost always involve petroleum compounds, brine (salinity) components, excess sediments in erosional runoff from point source pollutions (spill pathway), and/or heavy metals (rarely). When possible, action levels for these substances are based on Oklahoma Water Quality Standards (OWQS). However, the existing numerical salinity standards (Appendix F, only for TDS, chloride, and sulfate) are defined for agricultural beneficial uses, not for other uses such as PPWS or F&W. Corp Commission O&G has therefore developed some of its own numeric decision levels for these and other pollutants for agricultural and other beneficial uses when it is necessary to prioritize sites and determine water quality impairment(s) requiring remediation or another remedy. The distance from a site to vulnerable state waters is also considered. These criteria are listed below. ODEQ has been asked to develop new numerical water quality standards for salinity compounds affecting

PPWS and F&W beneficial uses on a stream/watershed specific basis.

- Salinity or petroleum or heavy metals in Class II groundwaters and/or in an aquifer at a drinking water well or in surface water were or are used for human consumption- the human health risk from pollutants in drinking water shall be determined by comparing current or likely future pollution levels at the water supply source with numeric DEQ and EPA drinking water standards. When there is measurable free product in such a well or nearby monitoring well or levels of dissolved oil constituents exceed standards or risk-based levels, the groundwater is considered to be impaired and remediation is probably warranted.

▪

- Salinity in irrigation water surface or groundwater Appendix F standards and OSU guidelines for excessive sodium that could adversely affect crops/pastures are used.
- Salinity in surface water not directly used for irrigation or drinking water Numerical criteria from Appendix F are used.
- Petroleum in groundwater away from drinking water wells
 - 1) Corp Commission O&G defined or Risk Based (RBCA) numerical criteria in Corp Commission O&G guidelines

Formatted: Indent: Left: 2.5", No bullets or

for current and/or likely future levels of BTEX and TPH, to protect human or animal life, and

- 2) the presence of measurable free product, will be used. The levels of GRO and/or DRO and/or other specific petroleum carbon ranges will be used as guidelines on a case by case basis.
- Petroleum in surface waters not at surface drinking water supplies
 - 1) Visual presence of oil and (when there is analytical data)
 - 2) ODEQ standards for benzene, ethylbenzene, and toluene or RBCA numerical criteria are used. GRO and/or DRO and/or other specific carbon range levels can also be used as guidelines on a case by case basis.
- Heavy Metals in groundwater not used for drinking
- Heavy Metals in surface water not used as a drinking water supply ~~ODEQWRB~~ WQ standards for PPWS, F&W, and other beneficial uses are used
- Turbidity resulting from excess sediments in erosional runoff into surface water from point source pollution or caused by point source pollution - ODEQ WQ standards for F&W and Aesthetics determine the need for corrective action.

- Corp Commission O&G Water Quality Decision Level Criteria
 - Environmental impacts resulting from activities regulated by Corp Commission O&G almost always involve petroleum compounds, brine (salinity) components, excess sediments in erosional runoff, and/or (rarely) heavy metals. When possible, action levels for these substances are based on Oklahoma Water Quality Standards (OWQS). However, the existing numerical salinity standards (Appendices F, only for TDS, chloride, and sulfate) are defined for agricultural beneficial uses, not

for other uses such as PPWS or F&W. Corp Commission O&G has therefore developed some of its own numeric decision levels for these and other pollutants for agricultural and other beneficial uses when it is necessary to prioritize sites and determine water quality impairment(s) requiring remediation or another remedy. The distance from a site to vulnerable state waters is also considered. These criteria are listed below. ODEQ has been asked to develop new numerical water quality standards for salinity compounds

affecting PPWS and F&W beneficial uses on a stream/watershed specific basis.

- Salinity or petroleum or heavy metals in Class II groundwaters and/or in an aquifer at a drinking water well or in surface water were used for human consumption- the human health risk from pollutants in drinking water shall be determined by comparing current or likely future pollution levels at the water supply source with numeric DEQ and EPA drinking water standards. When there is measurable free product in such a well or nearby monitoring

well or levels of dissolved oil constituents exceed standards or risk-based levels, the groundwater is considered to be impaired and remediation is warranted.

- Salinity in irrigation water surface or groundwater Appendix H & I standards and OSU guidelines for excessive sodium that could adversely affect crops/pastures are used.
- Salinity in surface water not directly used for irrigation or drinking water numerical criteria from Appendices I are used.
- Petroleum in groundwater away

from drinking water
wells

- Corp Commission O&G defined or Risk Based (RBCA) numerical criteria in Corp Commission O&G guidelines for current and/or likely future levels of BTEX and TPH, to protect human or animal life, and
- The presence of measurable free product, will be used. The levels of GRO and/or DRO and/or other specific petroleum carbon ranges will be used as guidelines on a case by case basis.
 - Petroleum in surface waters not at surface drinking water supplies
- Visual presence of oil and (when there is analytical data)
- ODEQ standards for benzene, ethylbenzene, and toluene or RBCA numerical criteria are used. GRO and/or DRO and/or other specific carbon range levels can also be used as guidelines on a case by case basis.
 - Heavy Metals in groundwater not used for drinking
 - Heavy Metals in surface water not used as a drinking water supply ODEQ WQ standards for PPWS, F&W, and other beneficial uses are used
 - Turbidity resulting from excess sediments in erosional runoff into surface water - ODEQ WQ standards for F&W and Aesthetics determine the need for corrective action. Erosion control and non-point source management is under the jurisdiction of the Oklahoma Conservation Commission (OSS 27A 1-3-101(F))
 - **Table III**
Pertinent Water Quality Decision Level Criteria Used by Corp Commission O&G

SUBSTANCE OR ACTIVITY	REGULATED MATERIALS	MAIN ADVERSE EFFECTS	STANDARDS TO BE APPLIED (OAC 252:730 EXCEPT AS NOTED) TO DETERMINE THE NEED FOR REMEDIATION
<p>Brine, drilling mud containing brine (from brine spills, brine in irrigation water applied to crops or pasture)</p>	<p>Salinity TDS or TSS, sodium, chloride. <u>Sulfate isn't usually from brines.</u></p>	<p>Human Excess sodium causes blood pressure or other problems for sensitive people; F&W- high TDS & chlorides can kill. Agricultural- Excess sodium adversely affects water transport to plant roots; excessive TDS and chloride make water unsuitable for animals to drink.</p>	<p>At drinking water wells and surface drinking water supplies, EPA drinking water standards are used. Irrigation systems (surface or ground water), OSU Lab guidelines for sodium are followed. Non drinking surface waters Based on ODEQ Agricultural use standards, which vary by stream. In watersheds that have historically had low salinity, surface water TDS of 500 ppm and chloride of 250 ppm are standard (appendix I). In watersheds that</p>

<p>Oil & gas spills</p>	<p>Benzene, ethylbenzene, toluene, xylenes, other TPH components, Oil & Grease</p>	<p>Humans, Animals - Unsafe to drink; F&W - oil on water surface interferes with oxygen getting into water; dissolved constituents can be health hazards for aquatic life and/or for humans consuming fish.</p>	<p>historically exceed these TDS/chloride standards, the (OAC 252:730 Appendix F) yearly mean standard and sample standards are used.</p> <p>Class II groundwaters, @ drinking water well and @ surface drinking water supplies - EPA numerical WQ standards for BTEX, measurable free product. Petroleum in Groundwater away from drinking water wells Risk based criteria and the visual presence of free product. Other Surface waters Visual presence of oil (see USAP); ODEQ numeric standards; RBCA.</p>
-----------------------------	--	---	--

<p>Drilling mud, oil pumping stations, gas plants & processing operations</p>	<p>Heavy metals Arsenic, Barium, Cadmium, Chromium +6, Lead, Mercury. <u>High nickel, zinc, silver, & thallium are rarely associated with these</u></p>	<p>Humans, Animals - Health hazard in drinking water; F&W - dissolved metals can be health hazards for aquatic life and for humans consuming fish.</p>	<p>Class II groundwaters or at drinking water wells, ODEQ numerical WQ standards. Risk based criteria used otherwise. ODEQ WQ Toxicity to aquatic life and Toxicity of fish flesh, and PPWS heavy metal numeric standards are used.</p>
<p>Erosion from brine vegetation kills, land abuse or construction</p>	<p>Excess sediment in surface water, turbid water.</p>	<p>F&W excess sediment smothers F&W habitat. Aesthetic, PBCR muddy water is unappealing.</p>	<p>F&W Turbidity standards of 25 NTU for lakes and 50 NTU for streams are used. Oklahoma conservation Commission has jurisdiction over soil conservation, erosion control and non-point source pollution.</p>

The Water Quality Antidegradation requirements - (OAC 252:730 Subchapter 3) It is the Commissions policy to maintain existing defined beneficial uses for surface and ground water throughout the state. Three applications of waters are discussed within the antidegradation policy and are as follows:

- o Application to Outstanding Resource Waters (ORW). Certain waters of the state constitute an outstanding resource or have exceptional recreational and/or

ecological significance. These waters include streams designated "Scenic River" or "ORW" in Appendix A of OAC 252:730, and waters of the State located within watersheds of Scenic Rivers. Additionally, these may include waters located within National and State parks, forests, wilderness areas, wildlife management areas, and wildlife refuges, and waters which contain species listed pursuant to the federal Endangered Species Act as described in OAC 252:730-5-25(c)(2)(A) and OAC 252:740-13-6(c). No degradation of water quality shall be allowed in these waters.

- Application to High Quality Waters (HQW). It is recognized that certain waters of the state possess existing water quality which exceeds those levels necessary to support propagation of fishes, shellfishes, wildlife, and recreation in and on the water. These high quality waters shall be maintained and protected.
- Application to Sensitive Public and Private Water Supplies (SWS) and SWS-R. It is recognized that certain public and private water supplies possess conditions that make them more susceptible to pollution events and require additional protection. These sensitive water supplies shall be maintained and protected.
- (Surface water; Class II General Use Groundwater). Very little of the Oil and Gas related activities regulated by the Commission are located where they could affect the Outstanding Resource waters, High Quality Waters and Sensitive Public and Private Water Supplies of the state, or waters of ecological and/or recreational significance, or Class II Special Source Groundwater (OAC 252:730-7-3). Since the Commission does not regulate point source discharges into surface waters of the state and does not geographically have significant oil & gas operations where Outstanding Resource Water are located, antidegradation for surface waters, though applicable, would rarely, if ever, need to be applied to oil and gas operations.

Jurisdictional Area X, Oil & Gas Conservation Division.

This covers spills of substances associated with facilities and activities specified above or otherwise associated with oil and gas extraction facilities and activities. This section includes spills and leaks and excess erosion associated with all Oil and Gas Conservation Division regulated activities and pipelines, but not those of petroleum storage tanks regulated by the PST Division.

The Eight WQSIP Elements

1. Program compliance with antidegradation and protection of beneficial uses - When spills occur or other environmental problems resulting from current or historic practices are found to have occurred, the goal of the Commission is to prevent impairments of the surface water and groundwaters of the state, and to prevent significant risks to humans, livestock, or other ecological receptors from inhalation of fumes, direct contact, or ingestion. When pollution is found to have impaired the defined beneficial uses of the surface or ground waters of the state, the Commission acts to restore water quality whenever feasible. The Commission O&G does not become involved in specific cases unless a complaint is made pursuant to OAC 165:5-1-25, operator reported or inspection discovery by field staff a spill or a probable or confirmed impairment is found or a potential violation of Commission O&G rules is discerned by Commission O&G staff during an inspection, or a request for approval of a pollution abatement remediation plan is submitted to the agency for review and implementation based off of OAC 165:10-7-5. Recent spills and newly located polluted sites are remediated by the responsible party (RP) or, sometimes, by the Commission using surety (OAC 165:10-1-10), to the extent necessary to meet Commission goals, insofar as is possible. Most cases that affect only soil are handled by the Field Operations staff. PA staff are called in to assist Field Ops or to directly manage cases when the waters of the state are possibly or are affected or PA staff skills are more suited to the site, as per the agreement between these two Commission sections. Where no RP can be found, pollution sites on the surface caused by historic exploration and/or production activities may be referred to the Oklahoma Energy Resources Board (OERB), which is voluntarily funded by oil and gas producers and royalty owners. If the OERB receives information that shows evidence that water quality has been threatened through a surface testing procedure, the OERB will report test results to the Commission.

Specific Commission guidelines and procedures to be followed include:

- To ensure the earliest possible response to a spill of petroleum, drilling mud, oilfield brine, or related compounds from storage tanks or other oilfield production-related facilities and activities including pipelines and disposal facilities, operators, contractors, drillers, service companies, pit operators, transporters, pipeline companies, or other persons conducting operations regulated by

the Commission must promptly notify the Commission when spills or leaks are found (165:10-7-5(c)(1));

- The operator shall immediately undertake cleanup activities voluntarily or when notified by the Commission Field Operations staff (165:10-7-7(c)). Field Operations provides guidance and recommends surface soil cleanup levels in their Oklahoma Corporation Commission Guidelines for Responding to and Remediating Spills. The Commission can fine RPs that fail to perform adequate cleanups, and/or shut down their operations (165:10-7-5 (c)(2), 165:10-7-7(d));
- Spills or extensive pollution problems that cannot be cleaned up promptly under Field Operations supervision using their guidelines, those which have significant surface or ground water contamination plume(s), or those which Field Operations staff cannot handle due to workload, staff skills, or other considerations, will be assigned to Pollution Abatement staff.
- In Pollution Abatement oversight cases, and/or in response to a spill or pollution complaint for surface or ground water, when there is determined to be a responsible party (RP), the Commission may request when necessary, a thorough site investigation including an assessment that includes soil and/or groundwater and/or surface water observations, measurements, and/or sampling and laboratory analyses in the area(s) most likely to be impacted. Sampling for various substances upstream and downstream, or upgradient and downgradient, of the probable source(s) is often necessary to determine if there is a water body impairment. The Commission may choose to undertake its own investigation, or to accompany the RP and split samples, or to exercise oversight in other ways.
- If a pollution remediation or other remedy is determined to be necessary, Corp Commission O&G staff will determine or approve the appropriate soil and water action and cleanup levels.

Remediation of petroleum pollution problems overseen by Pollution Abatement are handled through either a risk based corrective action (RBCA) process, where risks to human receptors are modeled and risks to domestic animals or other receptors are considered, or by using the guidance listed below);

- PA provides guidance in their Site/Risk Assessment and Cleanup Guidelines for Petroleum Hydrocarbon and Heavy Metal Pollution. RPs can use either the RBCA methodology or the fixed numerical standards in the guidance, which includes numerical standards for petroleum compounds listed in the Soil and Groundwater Petroleum Products Remediation Index Table. Standard RBCA methodologies including but not limited to ORBCA (plus TPH), ASTM (American Society for Testing and Materials), the Gas Technology Institute method, and the US Military's TPH Working Group guidelines are acceptable to Corp Commission O&Gs PA department.
- The fixed or RBCA levels will be utilized on a site-specific basis such that state Water Quality Standards or other more appropriate numerical criteria will be met at the nearest potential downgradient or downstream water body (receptor point or location) and/or receptor as specified in the Commission Water Quality Decision Level Criteria. Potential pollution recipients considered include:
 - Persons, farm animals, and wildlife (receptors),
 - Surface water bodies (beyond the immediate mixing zone), and
 - Ground water aquifers at the point where they are used for water supply or directly discharge into surface water bodies or into springs.
 - Class III ground waters and or surface waters whose natural chemical or other characteristics, including a TDS >

3000 mg/l, make them unsuitable for human or other beneficial use are not considered to be protected.

- Corp Commission O&G may as appropriate monitor or require the owner or other responsible party (RP) to monitor surface and/or ground waters onsite and/or between sources and potential receptors to ensure that appropriate Water Quality Standards will be met before pollutants can reach a possible receptor/recipient.
- When a cleanup or remediation at a site that has affected or significantly threatened water body impairment is completed, appropriate water quality monitoring in the nearest downgradient or downstream water bodies will be done to ensure that water quality standards have been met.
- Petroleum, oilfield brine-related high TDS, or other oil-field related materials can be found in a stream or an aquifer resulting from historic (now prohibited) practices, or from recent events. This can create what are for current practical purposes "irreversible man-induced impacts" (40 CFR 131.10(g)(3)) when either:
 - There is no RP to perform or pay for the extensive remediation, and/or
 - There is no technically feasible way to do a remediation without causing more environmental damage to correct than to leave pollutants in place.
- In cases where this occurs the Commission will:
 - Monitor or request that the ODEQ or Oklahoma Conservation Commission monitor the affected streams and/or groundwater as necessary, or
 - When there is no RP and a cleanup becomes feasible make a request for a cleanup with State Funds; or
 - If remediation to restore a listed water body for its beneficial uses cannot be done, Corp Commission O&G may request that the listed beneficial uses be

- Downgraded by the ODEQ to a lower use or
 - That listed beneficial uses be removed entirely (OAC 252:730-5-2).
2. Application of Use Support Assessment Protocols - This applies to samples taken of streams or other surface water bodies as a result of a pollution complaint or known spill. Samples are taken by responsible parties and/or Commission staff as necessary. Streams on the 303d list or listed in a federal 305b report, 319(h) report, or other listing of likely affected waters are also sampled as part of Corp Commission O&Gs NPS program. Whenever possible monitoring is done in all four seasons (spring, summer, fall, and winter) of the year. If a stream segment is sampled more than once in the same week, sites at least one mile apart are chosen whenever possible.
- The Corp Commission O&Gs Water Quality Decision Level Criteria guidelines are used in determining whether or not surface water bodies are being affected by current or historical spills.
 - The standards listed in Corp Commission O&Gs Water Quality Decision Level Criteria and Table III are used to determine if ground water is likely impaired, and if remediation and/or provision for an alternate source of drinking water is recommended.
3. Programs Affecting Water Quality- Leaks, drips, drops, historic sources and upwelling from UIC wells have in some cases impaired the surface or ground waters of the state. When possible, Corp Commission O&G determines how water quality is affected, and then initiates actions where beneficial uses are not being met to restore water quality when and where possible. RPs either perform cleanups, or demonstrate that the substances found do not pose a threat to receptors or cause state water quality standards to be exceeded.
- Commission staff under PA staff direction sample (monitor) ground and surface waters of the state in response to complaints.
 - Commission staff will monitor and request that other state agencies such as the OWRB/ODEQ assist them to monitor surface water bodies that may be

affected by historic or unknown spill or pollution sites with possible Oil & Gas related sources, including

- Allegedly impaired waters listed on the federal 303d list,
- Waters included in a federal 305b report, 319(h) report, or other listing of likely affected waters, or
- When there is a reason such as known land environmental damage or historic sources in an area to suspect resultant water quality problems.
 - Surface waters found to be impaired or only partially supporting will be placed or kept on the 303(d) list; surface waters found to be fully supporting as defined by ODEQ water quality standards and not threatened will be removed from all lists and reports of impaired water bodies; water bodies found to be exceeding standards once or likely threatened will be included in the 305b report.

4. Technical Information and Procedures for Implementation

- Field Ops provides the Oklahoma Corporation Commission Guidelines for Responding to and Remediating Spills.
- PA provides the Site/Risk Assessment and Cleanup Guidelines for Petroleum Hydrocarbon and Heavy Metal Pollution and an Oilfield Pollution Prevention pamphlet oriented to minimizing spills and proper waste disposal.
- Corp Commission O&G and the Oklahoma Cooperative Extension Service collaborated to write Pollution Prevention at Exploration and Production Sites in Oklahoma, Water Quality Series publication E-940.
- Corp Commission O&G provides the Guidance Document of Technical Measures for environmental jurisdictional areas not covered by the WQSIP. Water Quality monitoring data is kept in a spreadsheet, which is used in the determination of water body impairment.

5. Integration of WQSIP into Agency Water Quality Management Activities.
Additional rules and policies may be necessary to implement the WQSIP.

6. Compliance With Mandated Statewide Water Quality Management Activities Developed by Other State Environmental Agencies (TMDLs, nonpoint source pollution prevention programs, NPDES) part of its cooperative water quality protection activities with other agencies, a Corp Commission O&G representative participates in:
- i. Meetings to develop and/or revise Oklahoma's Water Quality Standards, including the USAP;
 - ii. NPS Working Group meetings, and revision of the 319(h) Plan and the NPS Management and Assessment plan reports submitted to the EPA;
 - iii. TMDL/303d Working Group meetings, and handling water quality monitoring, listing, and de-listing of streams on the 303d list and in the 305b report from alleged oilfield related sources;
 - iv. 104b grant meetings, and voting to decide how this grant money will be spent;
 - v. OWQMC meetings and programs;
 - vi. Meetings to revise the CPP document submitted to the EPA;
 - vii. EQIP meetings and voting recommendations;
 - viii. OWRB Basin Planning, wetlands, and other workgroup meetings and document revisions;
 - ix. WQSIP meetings, and review of state agency Plans; and
 - x. The Oil & Gas Conservation Division will also work with the DEQ in its establishment as per SB 549 of a statewide database for all water quality monitoring data. Cases involving sites with monitoring wells are not closed until all wells and borings are abandoned according to OWRB rules. If spills and leaks from Commission regulated activities are found to be contributing to water quality problems in a stream or watershed, the Commission will attempt to cooperate with the TMDL activities of other state agencies and/or increase its own enforcement activities. However, at present the Commission receives no funding for TMDL or other NPS or Clean Water Act related programs and cannot commit to

doing all that may be necessary, especially for historic and other sites with no responsible party, until sufficient funding for staff salaries, sampling costs, necessary cleanup or TMDL work, participation in 319h or 104b activities, and other NPS related activities are in place.

7. Public Participation. This will be done as part of any rulemaking process as per the Administrative Procedures Act, and for all work related to federal or state programs where public participation is required. The summary of written comments and testimony received pursuant to the promulgation of the Oil and Gas Conservation Division's WQSIP may be obtained from the public record of the Commission's Cause RM No. 200100005, wherein notice was provided by publication and mailing, as summarized in the *Agency Rule Report* for the Cause.

8. Evaluation of Effectiveness of Agency WQSIP Activities (to achieve Water Quality Standards). - The Commission reviews regulated activities to ensure that waters of the state are being protected and will propose rule changes if and when problems are seen. Monitoring will be done as necessary at surface and ground water pollution cleanup sites to confirm the effectiveness of remedial activities. This may be integrated with the 303d/305b stream monitoring program. Program management, staffing levels and oversight, employee training, forms, procedures, equipment, and information availability will also be reviewed to determine their effect on the overall efficacy of the program.

9. Action Levels – Surface Water

- Public and private water supplies
 - Radioactive Materials
 - There shall be no discharge of radioactive materials in excess of the criteria found in Title 10 Code of Federal Regulations Part 20, Appendix B, Table 2.
 - Oil and grease
 - For Public and Private Water Supplies, surface waters of the state shall be maintained free from oil and grease and taste and odors.

- Fish and wildlife propagation
 - pH
 - The pH values shall be between 6.5 and 9.0 in waters designated for fish and wildlife propagation, unless pH values outside that range are due to natural conditions.
 - Oil and grease
 - All waters having the designated beneficial use of any subcategory of Fish and Wildlife Propagation shall be maintained free of oil and grease to prevent a visible sheen of oil or globules of oil or grease on or in the water.
 - Oil and grease shall not be present in quantities that adhere to stream banks and coat bottoms of water courses or which cause deleterious effects to the biota.
 - Toxic substances
 - Surface waters of the state shall not exhibit acute toxicity and shall not exhibit chronic toxicity outside the chronic regulatory mixing zone.
 - Turbidity
 - Turbidity from other than natural sources shall be restricted to not exceed the following numerical limits:
 - Cool Water Aquatic Community/Trout Fisheries: 10 NTUs;
 - Lakes: 25 NTUs; and
 - Other surface waters: 50 NTUs.
 - In waters where background turbidity exceeds these values, turbidity from point sources shall be restricted to not exceed ambient levels.
 - Numerical criteria apply only to seasonal base flow conditions.
 - Elevated turbidity levels may be expected during, and for several days after, a runoff event.
 - Sediments
 - Concentrations or loads of suspended or bedded sediments that are caused by human activity shall not impair the Fish and Wildlife Propagation use or any subcategory thereof.
- Agricultural
 - Criteria to protect Irrigation Agriculture subcategory
 - For the purpose of protecting the Irrigation Agriculture subcategory, neither long-term average concentrations nor short term average concentrations of minerals shall be required to be less than 700 mg/L for TDS, nor less than 250 mg/L for either chlorides or sulfates.
 - Criteria to protect Livestock Agriculture subcategory.

- For the purpose of protecting the Livestock Agriculture subcategory, neither long-term average concentrations nor short term average concentrations of minerals shall be required to be less than 2500 mg/L for TDS.
- Secondary body contact recreation
 - Waters so designated shall be maintained to be free from human pathogens in numbers which may produce adverse health effects in humans.

10. Action Levels – Groundwater

- Chemical Constituents
 - Groundwaters shall not contain chemical constituents in concentrations that adversely affect any beneficial use. At a minimum, groundwaters with the designated beneficial uses of public water supply and domestic untreated water supply shall not contain concentrations of chemical constituents in excess of the maximum contaminant levels specified in the following provisions:
 - Organic Contaminants in 40 CFR 141.61(a)
 - Synthetic Organic Contaminants in 40 CFR 141.61(c)
 - Inorganic Contaminants in 40 CFR 141.62(b)
 - Disinfection Byproducts in 40 CFR 141.64
 - Disinfectants in 40 CFR 141.65(a)
- Toxicity
 - Groundwaters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life associated with any beneficial use(s).
- Radioactivity
 - At a minimum, groundwaters with the designated beneficial uses of public water supply and domestic untreated water supply shall not contain concentrations of radionuclides in excess of limits specified in 40 CFR 141.66.
- Geochemical and Physical Composition
 - The geochemical and physical composition of groundwaters shall not be altered such that mobilization of any introduced or in-situ contaminants, natural or non-natural, occurs and impairs any beneficial use.
- Secondary drinking water contaminants 40 CFR part 143
 - Chloride – 250 mg/l
 - Total Dissolved Solids – 500 mg/l
 - At a minimum, groundwaters with the designated beneficial uses of public water supply and domestic untreated water supply shall not exceed the criteria limits presented in 40 CFR 143.3.

Corrective Action

- Groundwater that has been polluted as a result of human activities shall be restored to a quality that will support the beneficial uses designated in OAC 252:730-7-3 for that groundwater, or as otherwise specified in a site-specific remediation plan approved by an agency of competent jurisdiction.
- Measures to remedy, control or abate groundwater pollution caused by any person shall be the responsibility of each state environmental agency within its jurisdictional areas. Such measures shall be prescribed in the Water Quality Standards Implementation Plan of each such agency. When regulating activities that have the potential to contaminate groundwater from the surface, state environmental agencies shall consider the vulnerability level of an affected hydrogeologic basin (for example, more stringent measures such as siting limitations, lagoon liners, or additional monitoring wells may be required to protect groundwater in hydrogeologic basins with High or Very High vulnerability levels).