

GENERAL RULES AND REGULATIONS

**For the Conservation of Crude Oil
and Natural Gas**

**THE STATE CORPORATION COMMISSION
OF THE STATE OF KANSAS**

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GENERAL CONSERVATION RULES

82-3-100. APPLICABILITY; EXCEPTION.

- (a) This article shall apply throughout Kansas unless specifically limited. Special orders may be issued by the commission. These special orders shall prevail over any conflicting regulations.
- (b) An exception to the requirements of any regulation in this article may be granted by the commission, after considering whether the exception will prevent waste, protect correlative rights, and prevent pollution. Each party requesting an exception shall file an application with the conservation division. The applicant shall publish notice of the application pursuant to K.A.R. 82-3-135a and notice of any hearing pursuant to K.A.R. 82-3-135.

(Authorized by and implementing K.S.A. 2014 Supp. 55-152, K.S.A. 55-604, K.S.A. 55-704; effective T-83-44, Dec. 8, 1982; effective May 1, 1983; amended May 1, 1984; amended April 23, 1990; amended Aug. 14, 2015.)

82-3-101. DEFINITIONS.

- (a) As used in these regulations, the following definitions shall apply:
 - (1) "Acreage factor" means the quotient obtained by dividing the acreage attributable to a well by the basic acreage unit as defined in K.A.R. 82-3-207 and K.A.R. 82-3-312 or as decided by the commission on a case-by-case basis in the basic proration order for the common source of supply in which the well is located.
 - (2) "Allowable" means the amount of oil or gas authorized to be produced by order of the commission.
 - (3) "Allowable period" means the time in which the allowable may be produced.
 - (4) "Alternate cementing materials" means materials used in lieu of portland cement blends, as prescribed by commission order, dated March 29, 1985, Docket No. 34,780-C (C-1825), which is adopted by reference.
 - (5) "Artesian pressure" means groundwater under sufficient hydrostatic head to rise above the rock unit containing the aquifer.
 - (6) "Assessment" means any charge against the parties involved in any hearing, application, investigation, or the enforcement of an order, and the assessment on natural gas and oil produced to pay the costs associated with the administration of the oil or gas conservation act.
 - (7) "Attributable acreage" means the acreage assigned to a well in accordance with the well spacing program for each of the prorated fields.
 - (8) "Casing" means tubular materials used to line a well bore.
 - (9) "Casinghead gas" means gas produced that was in solution with oil in its original state in the reservoir.
 - (10) "Cement" means portland cement or a blend of portland cement used in the oil and gas industry to support and protect casing and to prevent the migration of subsurface fluids by the formation of an impermeable barrier.
 - (11) "Coalbed natural gas" means natural gas produced from either coal seams or associated shale.
 - (12) "Coarse ground bentonite" means a nontreated swelling sodium montmorillonite that

exhibits the following properties:

- (A) A moisture content between 13 and 17 percent by dry weight;
 - (B) a clay aggregate particle size between 3/8 and 7/8 of an inch;
 - (C) a pH of 9 or less; and
 - (D) an inert solid percentage of less than 0.15 percent.
- (13) "Commingling" means the mixing of production from more than one common source of supply.
- (14) "Commission" means the state corporation commission.
- (15) "Common source of supply" means each geographic area or horizon separated from any other area or horizon that contains, or appears to contain, a common accumulation of oil, gas, or both.
- (16) "Confining layer" means a formation that serves as a barrier between water-, oil-, or gas-bearing formations.
- (17) "Conservation division" means the division of the commission in charge of the administration of the oil and gas conservation acts, the protection of fresh and usable water, well plugging, saltwater disposal, enhanced recovery, and surface ponds.
- (18) "Contractor" means any person who acts as an agent for an operator as a drilling, plugging, service rig, or seismograph contractor in the operator's oil and gas operations.
- (19) "Core" means a continuous section of formation recovered during drilling.
- (20) "Core hole" means a hole drilled with the intention of collecting geologic information by the recovery of cores.
- (21) "Correlative rights" means the privilege of each owner or producer in a common source of supply to produce from that supply only in a manner or amount that will not have any of the following effects:
- (A) Injure the reservoir to the detriment of others;
 - (B) take an undue proportion of the obtainable oil or gas; or
 - (C) cause undue drainage between developed leases.
- (22) "Day" means a period of 24 consecutive hours.
- (23) "Deliverability" means the amount of natural gas, expressed in Mcf per day, that a well is capable of producing into a pipeline, while maintaining a back pressure against the wellhead. The amount of back pressure to be maintained and the test procedure shall be specified by the commission in the basic proration order for the common source of supply in which the well is located.
- (24) "Department" means the Kansas department of health and environment.
- (25) "Dike" means a permanent structure that meets the following conditions:
- (A) Is constructed at or above the surface of the earth and totally encloses production facilities or lease equipment; and
 - (B) is used to temporarily contain fluids resulting from oil and gas activities and discharged as a result of unforeseen circumstances.

If there is any excavation below the surface of the earth within the containment area, the dike shall be considered an emergency pit and shall require a permit in accordance with K.A.R. 82-3-600.

- (26) "Director" means the director of the conservation division of the commission.
- (27) "Division order" means a dated, written statement, duly signed by the owners and delivered to the purchasers, certifying and guaranteeing the interests of ownership of production and directing payment according to those interests.
- (28) "Drilling time log" means the chronological tabulation or plotting of the rate of penetration of subsurface rocks by the rotary bit.
- (29) "Enhanced recovery" means any process involving the injection of fluids into a pool to increase the recovery of oil or gas.
- (30) "Exploratory hole" means a hole drilled for the purpose of obtaining geological information in connection with the exploration for or production of oil or gas.
- (31) "Field" means a geographic area containing one or more pools.
- (32) "First purchaser" means the person holding the division order and issuing checks to pay any working or royalty interest.
- (33) "Fluid" means a material or substance that flows or moves in a semisolid, liquid, sludge, or gas state.
- (34) "Freshwater" means water containing not more than 1,000 milligrams of total dissolved solids per liter. This upper limit is approximately equivalent to 1,000 parts of salt per million or 500 parts of chlorides per million.
- (35) "Gas" means the gas obtained from gas or combination wells, regardless of its chemical analysis.
- (36) "Gas (cubic foot)" means the volume of gas contained in one cubic foot of space at a standard pressure base and at a standard temperature base. The standard pressure base shall be 14.65 pounds per square inch absolute, and the standard temperature base shall be 60 degrees Fahrenheit.
- (37) "Gas-oil ratio" means the ratio of gas produced, in cubic feet, to one barrel of oil produced during the concurrent period.
- (38) "Gas (sour)" means either of the following:
- (A) Any natural gas containing more than 1 ½ grains of hydrogen sulfide per 100 cubic feet or more than 30 grains of total sulphur per 100 cubic feet; or
 - (B) gas that is found by the commission to be unfit for sale due to its hydrogen sulfide content.
- (39) "Illegal production" means any production in violation of the statutes, rules, regulations, or orders of the commission.
- (40) "Injection" means injection of fluids or natural gas for enhanced recovery, or disposal of brines or fluids into an injection well.
- (41) "Liquid" means a solution or substance, excluding gas, that flows freely at standard temperature and pressure.
- (42) "Mousehole" means a service hole drilled at a slight angle and normally about 30 feet deep on those wells drilled by rotary tools.
- (43) "Mud-laden fluid," as the term is commonly used in the industry, means any

commission-approved mixture of water and clay, and may include additional materials that will effectively seal a formation to which they are applied.

- (44) "Multiple completion" means the completion of any well that permits production from two or more common sources of supply with the common sources of supply completely segregated.
- (45) "Oil (crude)" means any petroleum hydrocarbon that is produced from a well in liquid phase and that existed in a liquid phase in the reservoir.
- (46) "Oil (pipeline)" means oil free from water and basic sediment to the degree that it is acceptable for pipeline transportation and refinery use.
- (47) "Open flow" means the volume of gas that a gas well is capable of producing at the wellhead during a period of 24 hours against atmospheric pressure, computed according to the standard procedure approved by the commission.
- (48) "Operator" means a person who is responsible for the physical operation and control of a well, gas-gathering system, or underground natural gas storage facility.
- (49) "Overage" or "overproduction" means the oil or gas produced in excess of the allowable.
- (50) "Person" means any natural person, corporation, association, partnership, governmental or political subdivision, receiver, trustee, guardian, executor, administrator, fiduciary, or any other legal entity.
- (51) "Pipeline" means any pipes above or below the ground used or to be used for the transportation of oil or gas in either a liquid or gaseous state.
- (52) "Pit" means any constructed, excavated, or naturally occurring depression upon the surface of the earth, which shall include surface ponds as referenced in K.S.A. 55-171 and amendments thereto.
 - (A) "Burn pit" means a pit used for the temporary confinement of oil leakage at a lease site or of materials commonly known as tank bottoms, basic sediment, bottom sediment, bottom settlings, or paraffin, for the purpose of burning these contents.
 - (B) "Containment pit" means a temporary pit constructed to aid in the cleanup and to temporarily contain fluids resulting from oil and gas activities that were spilled as a result of immediate, unforeseen, and unavoidable circumstances.
 - (C) "Drilling pit" means any pit, including working pits and reserve pits, used to temporarily confine fluid or exempt exploration and production waste resulting from oil and gas activities, or store spent drilling fluids generated during the drilling or completion of any oil and gas exploratory hole, service well, or storage well.
 - (D) "Emergency pit" means a permanent pit that is used for the emergency storage of oil or saltwater, or both, discharged as a result of any equipment malfunction.
 - (E) "Haul-off pit" means a pit used to store spent drilling fluids and cuttings transferred from working pits or steel pits at a well location whose surface geologic conditions or near surface geologic conditions, or both, preclude the use of an earthen reserve pit.
 - (F) "Reserve pit" means a pit used to store spent drilling fluids and cuttings transferred from working pits and permitted as a drilling pit.
 - (G) "Settling pit" means a pit used for the collection or treatment of fluids, or both, resulting from oil and gas activities.

- (H) "Working pit" means a pit used to temporarily confine fluids or refuse resulting from oil and gas activities during the drilling or completion of any oil, gas, exploratory, service, or storage well and permitted as a drilling pit.
- (I) "Workover pit" means a pit used to contain fluids during the performance of remedial operations on a previously completed well.
- (53) "Pool" means a single and separate natural reservoir of oil or gas characterized by a single pressure system.
- (54) "Producer" means any person who owns, in whole or in part, a well capable of producing oil or gas, or both.
- (55) "Production" means produced oil, gas, condensate, or casinghead gas.
- (56) "Productivity of a well" means the daily capacity of a well to produce oil or gas.
- (57) "Productivity of a pool" means the sum of the productivities of the wells completed in the pool.
- (58) "Proration" means the regulation of the amount of allowed production to prevent waste or to prevent any of the following in a manner that would favor any one pool as compared to any other pool in this state:
 - (A) Undue drainage between developed leases;
 - (B) unratable taking; or
 - (C) unreasonable discrimination between or among operators, producers, and royalty owners who are within a common source of supply.
- (59) "Purchaser" means any person who purchases production from a well, lease, or common source of supply.
- (60) "Rathole" means the service hole drilled at a slight angle and normally about 40 feet deep on those wells drilled by rotary tools.
- (61) "Reasonable market demand" means the amount of crude petroleum or natural gas that must be produced to satisfy current rates of consumption.
- (62) "Recompletion" means that a well is reworked for the purpose of developing new zones after its initial well completion.
- (63) "Refuse" means any exempt exploration and production waste, as defined in 40 C.F.R. 261.4(b)(5), published July 1, 2000, and hereby adopted by reference, generated from oil and gas activities, including produced or nonproduced accumulated water in a pit or dike.
- (64) "Seismic shot hole" means the borehole in which an explosive is detonated for the purpose of generating a seismic signal.
- (65) "Sensitive groundwater area" means a geographic area designated by the commission as having hydrogeologic, climatic, soil, and other characteristics that make the area's fresh and usable groundwater vulnerable to pollution from oil and gas activities.
- (66) "Shortage" means the amount by which the oil or gas legally produced and either sold or removed from the premises is less than the allowable.
- (67) "Solid" means a material or substance that does not flow freely at standard temperature and pressure.

- (68) "Special order" means an order directed to specifically named persons or to a group that does not constitute a general class and that is dispositive of a particular matter as applied to a specific set of facts.
- (69) "Spill" means any escape of saltwater, oil, or refuse by overflow, seepage, or other means from the vicinity of oil, gas, injection, service, or gas storage wells, or from tanks, pipelines, dikes, or pits, if the wells, tanks, pipelines, dikes, or pits are involved in or related to any of the following:
- (A) The exploration or drilling for oil or gas;
 - (B) the lease storage, treatment, or gathering of oil or gas; or
 - (C) the drilling, operating, abandonment, or postabandonment of wells. For purposes of this regulation, "vicinity" means the area within six feet of the wellhead.
- (70) "Spud date" means the date of first actual penetration of the earth with a drilling bit.
- (71) "Storage oil" means produced oil confined in tanks, reservoirs, or containers.
- (72) "Storage oil (lease)" means produced oil in tanks, reservoirs, or containers on the lease where it was produced.
- (73) "Stratigraphic hole" means a hole, normally of small diameter, that is drilled through subsurface strata for exploratory purposes, with no intent to produce hydrocarbons through the hole being drilled, and does not utilize a detonated explosive for generating a seismic signal.
- (74) "Surface casing" is the first casing put in a well that is cemented into place. It serves to shut out shallow water formations. It also acts as a foundation or anchor for all subsequent drilling activity. For purposes of compliance with K.A.R. 82-3-106, additional strings of casing that are set and cemented in a well bore below the lowest fresh and usable water strata shall be deemed to be surface casing.
- (75) "Tertiary recovery process" means the process or processes described in K.S.A. 79-4217, and amendments thereto.
- (76) "Underage" and "under production" mean the difference between the assigned oil or gas allowable volume and the actual oil or gas production volume if the actual oil or gas production volume is less than the assigned oil or gas allowable volume.
- (77) "Undue drainage" means the uncompensated migration of either oil or gas between or among developed leases within the same common source of supply caused by the unratable production of any well or wells located on one or more of the leases.
- (78) "Usable water" means water containing not more than 10,000 milligrams of total dissolved solids per liter. This upper limit is approximately equivalent to 10,000 parts of salt per million or 5,000 parts of chlorides per million.
- (79) "Waste oil" means any tank bottom; basic sediment; cut oil; reclaimed oil from pits, ponds, or streams; dead oil; emulsions; or other types of oil not defined as pipeline oil.
- (80) "Waterflood" means the process of injecting fluids into one or more wells to enhance the recovery of oil.
- (81) "Well" means any hole or penetration of the surface of the earth for geological, geophysical, or any oil and gas activity.
- (A) "Combination well" means a well that produces both oil and gas, excluding casing-

head gas, from the same common source of supply.

- (B) "Discovery well" means the first well completed in a common source of supply that is not in communication with any other common source of supply.
- (C) "Disposal well" means a well into which those fluids brought to the surface in connection with oil and natural gas production are injected, for purposes other than enhanced recovery.
- (D) "Enhanced recovery injection well" means a well into which fluids are injected to increase the recovery of hydrocarbons.
- (E) "Gas well" means a well that meets either of the following criteria:
 - (i) Produces gas not associated with oil at the time of production from the reservoir; or
 - (ii) produces more than 15,000 standard cubic feet of gas to each stock tank barrel of oil from the same common source of supply, as measured by the gas-oil ratio test prescribed by and reported on the form furnished by the commission.
- (F) "Hardship well" means a well authorized by commission order to produce at a specified rate because reasonable cause exists to expect that production below the specified rate would damage the well and cause waste.
- (G) "Injection well" means a well that is used for any of the following:
 - (i) To inject brine or other fluids that are brought to the surface in connection with natural gas storage operations or oil or natural gas production and that may be commingled with waste waters from gas plants that are an integral part of production operations, unless those waste waters are classified as a hazardous waste at the time of injection;
 - (ii) to conduct enhanced recovery operations for oil or natural gas;
 - (iii) to store hydrocarbons that are liquid at standard temperature and pressure;
 - (iv) to conduct simultaneous injection operations; or
 - (v) to inject permitted fluids.
- (H) "Minimum well" means any oil well that has a productivity of 25 barrels or less per day.
- (I) "Oil well" means a well that has produced one stock tank barrel or more of crude oil to each 15,000 standard cubic feet of gas, as measured by the gas-oil ratio test prescribed by and reported on the form furnished by the commission. One stock tank barrel is equivalent to 42 U.S. gallons measured at 60° F.
- (J) "Service well" means a well drilled for any of the following:
 - (i) The injection of fluids in enhanced recovery projects;
 - (ii) the supply of fluids for enhanced recovery projects; or
 - (iii) the disposal of saltwater.
- (K) "Storage well" means a well used to inject or extract natural gas for storage purposes.

- (82) "Wellhead working pressure" means the static pressure in the annulus while flowing through the tubing, or static pressure in the tubing while flowing through the annulus, except in cases in which the casinghead is not in open communication with the producing formation because of the presence of a packer or other obstruction in the annular space between the casing and tubing. In these cases, the wellhead working pressure shall be determined by adjusting the observed tubing pressure for the effect of friction caused by flow through the tubing, or by using a bottom-hole pressure bomb and correcting back to wellhead conditions.
- (83) "Well history" means the chronological record of the development and completion of a well.
- (84) "Well log" means the written record progressively describing the well's down-hole development.

(b) Any term not defined in this regulation or in any applicable commission rule, regulation, or order shall be interpreted to be consistent with its common use in the industry.

(Authorized by K.S.A. 55-152, 55-602, 55-604, 55-704, and 55-901; implementing K.S.A. 55-152, 55-171, 55-172, 55-602, 55-704, 55-901, and 74-623; effective, T-83-44, Dec. 8, 1982; effective May 1, 1983; amended, T-84-19, July 26, 1983; amended May 1, 1984; amended May 1, 1985; amended May 1, 1986; amended, T-87-46, Dec. 19, 1986; amended May 1, 1987; amended May 1, 1988; amended May 8, 1989; amended April 23, 1990; amended July 29, 1991; amended March 20, 1995; amended Oct. 25, 1996; amended March 19, 1999; amended April 23, 2004; amended Dec. 22, 2006.)

82-3-101a. PROCEDURES FOR DETERMINING LOCATION USING GLOBAL POSITIONING SYSTEM.

Whenever an operator is required to report a location using a global positioning system (GPS), the operator shall obtain and report the GPS reading according to all of the following requirements:

- (a) (1) The GPS unit shall be enabled by the wide area augmentation system (WAAS) when each GPS reading is taken; or
 - (2) if the GPS unit is not capable of using the WAAS system, the unit shall be rated by the manufacturer to be accurate to within 50 feet, at least 95 percent of the time.
- (b) Each GPS reading shall be taken when the GPS unit indicates that the unit is in a stationary position for a sufficient amount of time to meet the accuracy requirement of paragraph (a)(1) or (2).
- (c) Each GPS reading shall be expressed in the decimal form to the fifth place.
- (d) A horizontal reference datum approved by the director shall be used and reported with each GPS reading. Acceptable horizontal reference datums shall include the following: North American datum (NAD) 27, North American datum (NAD) 83, and world geodetic system (WGS) 84.

(Authorized by and implementing K.S.A. 55-152; effective Nov. 5, 2010.)

82-3-102. CLASSIFICATION OF WELLS; DETERMINING AND NAMING COMMON SOURCES OF SUPPLY; NOMENCLATURE COMMITTEE.

Wells shall be classified by the common sources of supply from which they produce. Common sources of supply shall be determined and named by the commission after considering the recommendations of the conservation division and the nomenclature committee of the Kansas geological society. In naming common sources of supply, preference shall be given to common usage and geographic names. Separate common sources of supply within the same field shall, if possible, be named according to the producing formation. The commission may redetermine a common source of supply whenever necessary.

(Authorized by K.S.A. 55-604; implementing K.S.A. 55-603; effective, T-83-44, Dec. 8, 1982; effective May 1, 1983.)

DRILLING AND CONSTRUCTION

82-3-103. NOTICE OF INTENTION TO DRILL; PENALTY.

- (a) Notice required.
 - (1) Intent to drill. Unless otherwise provided by K.A.R. 82-3-115a or K.A.R. 82-3-701, the owner, operator, or any other person responsible for a drilling operation shall submit written notice of the intention to drill to the conservation division for permit approval before the commencement of drilling operations for any of the following:
 - (A) Exploratory holes;
 - (B) a well to be drilled for the discovery or production of oil, gas, or other minerals, including reentry of a previously plugged and abandoned well;
 - (C) a service well;
 - (D) a storage well; or
 - (E) a stratigraphic or core hole.
 - (2) Form and contents. The notice shall be submitted on a form prescribed by the commission. The notice shall be filled in completely and shall contain the following:
 - (A) The operator's name, address, and commission license number;
 - (B) the contractor's name, address, and commission license number;
 - (C) the date on which drilling is anticipated to begin;
 - (D) the lease name, quarter section, section, range, township, county, and the distance of the proposed drilling location from the section's nearest corner, in exact footages;
 - (E) the distance to the nearest lease or unit boundary line;
 - (F) the estimated total depth of the well;
 - (G) the type of drilling equipment to be used;
 - (H) the depth to the bottom of the deepest freshwater at the drill site;
 - (I) the depth to the bottom of the deepest usable water formation at the drill site;
 - (J) for each exploratory hole, the estimated depth to water in each hole and to the top of the uppermost confined aquifer;
 - (K) for each well to be drilled into a common source of supply subject to a basic proration order of the commission, a plat map showing that the well will be located as specified in the basic proration order in relationship to other wells producing from the common source of supply, both within the area subject to proration and within one mile of the boundaries of the prorated area for gas wells and within one-half mile of the boundaries of the prorated area for oil wells;
 - (L) for each well to be drilled in locations not subject to a basic proration order, a plat map showing the well location; and
 - (M) any other relevant information that may be requested by the commission.

- (b) District office notification. Before spudding the well, the operator shall notify the appropriate district office. Failure to notify the appropriate district office before spudding the well shall be punishable by a penalty of not less than \$250 and not more than \$1000.
- (c) Surface casing and cementing. The conservation division shall give surface casing and cementing requirements to the operator along with the approved notice of the intention to drill. Unless otherwise provided, inadequate installation of or failure to install surface casing or failure to complete alternate II cementing pursuant to K.A.R. 82-3-106 shall each be punishable by a penalty of up to \$5000.
- (d) Commencement of drilling. Drilling shall not commence until after commission approval has been received. The operator shall post a copy of the approved notice of intent to drill on each drilling rig. Drilling before receiving commission approval or drilling without an approved notice of intent to drill posted on the drilling rig shall be punishable by a \$1000 penalty.
- (e) Plugging instructions. The conservation division shall give preliminary plugging instructions to the operator along with the approved notice of intention to drill.
- (f) Expiration of approval. The approval of the notice of intent to drill shall expire one year from the date of approval.
- (g) Extension. No extension of the one-year period shall be granted.
- (h) Division of water resources information. The operator may be required by the commission to designate, on the written notice of intention to drill, the source of drilling water and the vested right or permit file number assigned by the division of water resources of the state department of agriculture.

(Authorized by K.S.A. 55-152; implementing K.S.A. 55-151, 55-152, 55-164; effective, T-83-44, Dec. 8, 1982; effective May 1, 1983; amended, May 1, 1985; amended May 1, 1987; amended May 1, 1988; amended April 23, 1990; amended Feb. 24, 1992; amended March 20, 1995; amended Oct. 25, 1996; amended Oct. 26, 2007.)

82-3-103a. DEVIATED HOLES; HORIZONTAL DRILLING; NOTICE AND HEARING REQUIRED.

- (a) The owner, operator, or persons responsible for a drilling operation shall submit written notice of the intention to drill for approval by the conservation division before the commencement of drilling operations, for any hole where intended deviation from the surface to the top of the producing formation exceeds 7°.
- (b) Any hole drilled horizontally into a formation for production or deviated in the manner stated in subsection (a) may be permitted by the commission only after application to the conservation division and notice pursuant to K.A.R. 82-3-135a. The application may be set for hearing by the commission.

(Authorized by K.S.A. 55-152; implementing K.S.A. 55-151; effective May 8, 1989; amended April 23, 1990; amended August 29, 1997.)

82-3-104. POLLUTION; PREVENTION.

Every person who drills a well or test hole, for any purpose, that penetrates formations containing oil, gas, fresh water, mineralized water, or valuable minerals shall case or seal off these formations to effectively prevent migration of oil, gas or water from or into strata that would be damaged by this migration. The effectiveness of the casing or sealing off shall be tested in a manner prescribed or approved by an agent of the commission.

(Authorized by K.S.A. 55-602; implementing K.S.A. 1982 Supp. 55-159; effective, T-83-44, Dec. 8, 1982; effective May 1, 1983.)

82-3-105. WELL CEMENTING.

The use of cement in setting casing or sealing off producing formations, underground porosity gas storage formations, or fresh and usable water formations shall be required.

(Authorized by K.S.A. 55-152 and K.S.A. 2001 Supp. 55-1,115 and 74-623; implementing K.S.A. 55-156 and K.S.A. 2001 Supp. 55-1,115 and 74-623; effective, T-83-44, Dec. 8, 1982; effective May 1, 1983; amended May 8, 1989; amended, T-82-6-27-02, July 1, 2002; amended Oct. 29, 2002.)

82-3-106. SURFACE CASING AND CEMENT.

- (a) Each operator shall set and cement surface casing pursuant to this regulation and the instructions on the notice of intent to drill approved pursuant to K.A.R. 82-3-103 before drilling to any depth to test for or produce oil or gas.
- (b) Each operator shall set and cement surface casing in compliance with the following, which are hereby adopted by reference:
 - (1) Table I and appendix A, as incorporated in the commission order dated August 1, 1991, docket no. 34,780-C (C-1825); and
 - (2) appendix B, as incorporated in the commission order dated June 29, 1994, docket no. 133,891-C (C-20,079).
- (c) Cementing alternatives.
 - (1) Alternate I cementing shall be performed as follows:
 - (A) A single string of surface casing shall be set from surface to the depth specified in the documents adopted in subsection (b).
 - (B) The surface casing shall be cemented continuously from the bottom of the surface casing string to the surface.
 - (2) Alternate II cementing, which includes a primary surface casing string and additional surface casing, shall be performed as follows:
 - (A) The primary surface casing string shall be set to a depth at least 20 feet below all unconsolidated material.
 - (B) The primary surface casing shall be cemented from the bottom of the primary surface casing string to the surface.
 - (C) All additional surface casing strings next to the borehole shall be set and cemented from the depth specified in the documents adopted in subsection (b) to the surface.
 - (i) The operator shall notify the appropriate district office before cementing the additional casing.
 - (ii) The additional cementing shall be completed within 120 days after the spud date unless otherwise provided in the documents adopted in subsection (b).
 - (iii) A backside squeeze shall be prohibited unless permitted by the appropriate district office with consideration of the cement evaluation method to be utilized and submitted as verification of cement placement. "Backside squeeze" shall mean the uncontrolled placement of cement from the surface into the annular space between the primary surface casing and the additional casing.

(d) Methods and materials.

- (1) The operator shall use a drill bit that is at least two and one-quarter inches larger in diameter than the surface casing, when measured from the outside of the casing.
 - (2) The annular space between the surface casing and the borehole shall be filled with a portland cement blend and maintained at surface level.
 - (3) If cement does not circulate, the operator shall notify the appropriate district office immediately and perform remedial cementing sufficient to prevent fluid migration. If the surface casing is perforated, the operator shall pressure-test the surface casing according to district office specifications to ensure mechanical integrity.
 - (4) The use of any material other than a portland cement blend shall be prohibited.
 - (5) The cemented casing string shall stand and further operations shall not begin until the cement has been in place for at least eight hours and has reached a compressive strength of 300 pounds per square inch.
 - (6) The operator shall install centralizers as follows:
 - (A) If the surface casing is 300 feet or less, a centralizer shall be installed at the top of the shoe joint.
 - (B) If the surface casing is more than 300 feet, a centralizer shall be installed at approximately 300 feet and at every fourth joint of casing to the bottom of the surface casing.
 - (7) When total depth has been reached during drilling operations, the operator or contractor shall not move the rig off of the well until the required casing has been run or the well has been plugged. All wells that are subject to the documents adopted in paragraph (b)(2) shall be exempt from the requirements in this paragraph.
- (e) Each operator of a well not in compliance with this regulation shall shut the well in until compliance is achieved.
- (f) Upon written, timely request by an operator, the director may provide an exception to any of the requirements of this regulation. In considering a request for an exception, the director may require the operator to provide financial assurance sufficient to cover the plugging costs for the well. Each request shall demonstrate that fresh and usable water will be protected by the proposed exception.

(Authorized by K.S.A. 2014 Supp. 55-152; implementing K.S.A. 2014 Supp. 55-152, K.S.A. 55-159, K.S.A. 55-162; effective, T-83-44, Dec. 8, 1982; effective May 1, 1983; amended May 1, 1984; amended, T-85-1, Jan. 13, 1984; amended, T-85-51, Dec. 19, 1984; amended May 1, 1985; amended May 1, 1986; amended, T-87-46, Dec. 19, 1986; amended May 1, 1987; amended May 1, 1988; amended May 8, 1989; amended April 23, 1990; amended Feb. 24, 1992; amended March 20, 1995; amended Aug. 14, 2015.)

82-3-107. PRESERVATION OF WELL SAMPLES, CORES, AND LOGS; PENALTY.

- (a) Each operator drilling or responsible for drilling service wells or drilling or recompleting holes for the purpose of the exploration or production of oil or gas, excluding seismic shot holes, shall preserve and retain samples or drill cuttings, cores, and all other information as required under subsection (d).
- (b) All formation samples or drill cuttings normally saved in drilling or recompletion operations and any cores taken shall be retained by the operator for 120 days after the spudding of the well.

- (c) (1) Upon request of the Kansas geological survey as specified in paragraph (c)(2), the samples shall be washed and cut into splits or sets. One set shall be placed in labelled sample envelopes and delivered, at the prepaid expense of the operator, to the Kansas geological survey, sample library, Wichita, Kansas. Upon request of the Kansas geological survey, all cores or core longitudinal sections not required by the operator for well evaluation purposes shall be placed in stratigraphic sequence in adequate boxes, labelled with the well name, location, and footage, and delivered, at the prepaid expense of the operator, to the Kansas geological survey, Lawrence, Kansas.
- (2) The operator shall be given notice that samples or cores are required by a notice appended to or on a copy of the notice of intention to drill returned to the operator by the conservation division or the Kansas geological survey. Delivery of the processed samples or cores shall be made within 120 days of the spud date or date of commencement of recompletion of the well.
- (3) If retention of the core is required by the operator, designated Kansas geological survey staff members shall be provided unrestricted access to the core at the operator's facility during the operator's normal business hours. This access shall be subject to any confidentiality requests made under subsection (e).
- (4) Operators in physical possession of cores requested by the Kansas geological survey shall not dispose of the cores without permission of the Kansas geological survey.
- (5) If the Kansas geological survey requests samples from portions of the hole that are not normally saved in drilling operations, the operator shall provide these samples. The sample library shall accept all washed and cut samples whether or not they were requested.
- (d) (1) The following information shall be delivered to the conservation division, within 120 days of the spud date or date of commencement of recompletion of the well:
 - (A) A copy of the affidavit of completion;
 - (B) core analyses;
 - (C) final drill stem data elements;
 - (D) recorded drill stem fluid recoveries and charts;
 - (E) final electric logs;
 - (F) final radioactivity logs;
 - (G) similar wireline logs or surveys run by operators on all boreholes, excluding seismic shot holes;
 - (H) final logs run to obtain geophysical data;
 - (I) geological well reports; and
 - (J) if available, final electronic log files in a data format and medium approved by the director, including the following:
 - (i) A log American standard code for information interchange standard (LAS) file, using version 2.0 or a newer version; and
 - (ii) an image file.

If electronic log files are available, these files shall be delivered to the conservation

division in lieu of the paper logs required by this regulation.

- (2) For good cause shown, an extension of 60 days may be granted by the supervisor of the production department or the supervisor's designated agent for the submission of the required information. The request for extension shall be submitted in writing and received before the expiration of the 120-day period.
 - (3) The conservation division shall deposit the information with the Kansas geological survey.
 - (4) Failure to deliver the information to the conservation division shall be punishable by a \$500 penalty and operator license review.
- (e)
- (1) If a written request for confidentiality is made to the conservation division within 120 days of the spud date or the date of commencement of recompletion of the well, all information, samples, or cores filed as required in subsections (c) or (d) shall be held in confidential custody for an initial period of one year from the written request.
 - (2) All rights to confidentiality shall be lost if the filings are not timely, as provided in subsections (c) and (d), or if the request for confidentiality is not timely, as provided in paragraph (e)(1).
 - (3) Samples, cores, or information may be released before the expiration of the one-year period only upon written approval of the operator.
 - (4) If a request for an extension is made at least 30 days before the expiration of the initial one-year period, the period of confidentiality may be extended for one additional year.
- (f) Each wire line service company shall furnish to the conservation division, on a form prescribed by the commission, a list of all logging services performed on each hole serviced in the state of Kansas each month by the twentieth day of the month following the month in which the services were performed. Failure to submit or timely submit the list shall be punishable by a \$250 penalty.

(Authorized by K.S.A. 55-152 and 55-164; implementing K.S.A. 55-604 and 55-704; effective, T-83-44, Dec. 8, 1982; effective May 1, 1983; amended May 1, 1984; amended May 1, 1987; amended May 1, 1988; amended May 8, 1989; amended April 23, 1990; amended June 6, 1994; amended Oct. 24, 2008.)

82-3-108. WELL LOCATION; EXCEPTION.

- (a) General setback requirement. Except as provided by subsection (b) or (c), an oil well or gas well shall not be drilled nearer than 330 feet from any lease or unit boundary line.
- (b) Setback requirements for eastern Kansas.
 - (1) An oil well that is drilled to a total depth of less than 2,000 feet and is drilled in one of the following counties shall not be drilled nearer than 165 feet from the nearest lease or unit boundary line: Allen, Anderson, Atchison, Bourbon, Brown, Cherokee, Coffey, Crawford, Douglas, Elk, Franklin, Greenwood, Jackson, Jefferson, Johnson, Labette, Leavenworth, Linn, Lyon, Miami, Montgomery, Neosho, Osage, Shawnee, Wilson, Woodson, and Wyandotte.
 - (2) An oil well that is drilled in Chautauqua County and is drilled to a total depth of less than 2,500 feet shall not be drilled nearer than 165 feet from the nearest lease or unit boundary line.
- (c) Well location exception. A well location exception may be granted to permit drilling within shorter distances than those provided in subsection (a) or (b), whichever is applicable, and to the acreage attributable and assigned allowables, if these exceptions are necessary either to

prevent waste or to protect correlative rights. In granting the exception, the acreage attributable to the well and the assigned allowables shall be considered.

- (d) Application for well location exception. If an exception to this regulation is desired according to subsection (c), an application shall be submitted to the conservation division. The application shall contain the following:
 - (1) A brief explanation of the exception or exceptions requested;
 - (2) the proposed location of the well, including the distance to the nearest lease or unit boundary line;
 - (3) a list of the following:
 - (A) Each offset operator whose lease line is located less than the required distance from the proposed location;
 - (B) each unleased offset mineral owner whose property boundary is located less than the minimum distance required by subsection (a) or (b) from the proposed locations; and
 - (C) the applicant's lessor or lessors, if the applicant operates any lease that will be situated less than the minimum distance required by subsection (a) or (b) from the proposed well location;
 - (4) the acreage attributable to the well; and
 - (5) the allowable requested.
- (e) Additional application requirements. Each application submitted under subsection (d) shall be accompanied by the proposed notice of the intention to drill and a plat, drawn to the scale of one inch equalling 1,320 feet, that accurately shows the following:
 - (1) The property on which the well is sought to be drilled;
 - (2) all other completed, partially drilled, or permitted wells on the property; and
 - (3) all adjacent properties and wells.
- (f) Notice; protest. Notice of the application shall be provided to all parties specified in paragraphs (d)(3)(A), (d)(3)(B), and (d)(3)(C) of this regulation and shall be published as required by K.A.R. 82-3-135a(d). If a protest is filed in accordance with K.A.R. 82-3-135a(e), the application shall be set for hearing by the commission.
- (g) Approval of intent to drill. Upon the issuance of a written permit by the conservation division for the well location exception, the proposed notice of intention to drill shall be approved in accordance with K.A.R. 82-3-103, if all other applicable requirements for approval have been met.
- (h) Allowable required. Each operator of any well drilled nearer than the minimum distance required by subsection (a) or (b) from any lease or unit boundary line without a previously obtained well location exception shall be prohibited from producing either oil or gas until an appropriate allowable is determined.
- (i) Factors considered for allowable. Whenever authority is granted to drill a well at a location other than a location specified by this regulation, the allowable shall be determined by the conservation division for the protection of the correlative rights of all persons entitled to share in the common source of supply in accordance with K.A.R. 82-3-207 and K.A.R. 82-3-312.

(Authorized by K.S.A. 55-152; implementing K.S.A. 55-152, 55-603, 55-605, 55-703a, 55-706; effective, T-83-44, Dec. 8, 1982; effective May 1, 1983; amended May 1, 1984; amended, T-85-51, Dec. 19, 1984; amended May 1, 1985; amended May 1, 1986;

amended May 1, 1987; amended May 1, 1988; amended April 23, 1990; amended Jan. 14, 2005; amended Oct. 24, 2008.)

82-3-109. WELL SPACING ORDERS AND BASIC PRORATION ORDERS.

- (a) Any interested party may file an application for a new or amended well spacing order or basic proration order. Each application shall include the following:
 - (1) If the application is for amendment, a description of the amendment;
 - (2) the well location and depth and the common source of supply;
 - (3) a description of the acreage, with an affirmation that all of the acreage is reasonably expected to be productive from the common source of supply;
 - (4) the proposed well location restriction and provisions for any exceptions;
 - (5) the proposed configuration of units for purposes of acreage attribution;
 - (6) a list of the persons provided notice pursuant to K.A.R. 82-3-135a and the date that notice was provided;
 - (7) the factors proposed to be used in any proration formula;
 - (8) the applicant's license number; and
 - (9) any other relevant information required by the commission.
- (b) Each applicant for a well spacing order or basic proration order or for amendments adding or deleting acreage in an existing well spacing order or basic proration order shall submit the following evidence with the application:
 - (1) A net sand isopachus map of the subject common source of supply;
 - (2) a geological structure map of the subject common source of supply;
 - (3) to the extent practicable, a cross section of logs representative of wells in the acreage affected by the application;
 - (4) data from any available drill stem test;
 - (5) an economic analysis, including a reservoir or drainage study; and
 - (6) any other relevant information required by the commission.
- (c) Each applicant shall file an application with the conservation division. The applicant shall publish notice of the application pursuant to K.A.R. 82-3-135a and notice of any hearing pursuant to K.A.R. 82-3-135.
- (d) Except as otherwise specified in this subsection, the drilling of any wells within an area subject to an application for spacing or proration shall be prohibited until the commission has issued a final order on the application. However, any operator may drill a well during the pendency of the application if the well location conforms to the most restrictive location provisions in the application.

(Authorized by K.S.A. 55-604, K.S.A. 55-704; implementing K.S.A. 55-603, K.S.A. 55-703a, K.S.A. 55-704; effective, T-83-44, Dec. 8, 1982; effective May 1, 1983; amended, T-85-51, Dec. 19, 1984; amended May 1, 1985; amended May 1, 1987; amended May 1, 1988; amended May 8, 1989; amended April 23, 1990; amended Aug. 14, 2015.)

82-3-110. PENALTIES FOR VIOLATIONS OF WELL SPACING, BASIC PRORATION ORDERS.

- (a) Any well drilled or being drilled in violation of an order or rule of the commission in effect at the time drilling commences shall be considered to be an unlawful location. Such a well shall be presumed to be in violation of correlative rights and to constitute waste. A show cause order to determine whether the drilling of the well was necessary to protect correlative rights or prevent waste may be issued by the commission, either upon receipt of a complaint or on the commission's own motion. A hearing shall be held after notice to all interested parties.
- (b) If the commission determines that good cause has not been shown or that an exception should be denied, an order may be issued by the commission requiring the well to be permanently capped or plugged and abandoned in accordance with the rules of the commission, or production at a reduced rate may be permitted by the commission to ensure protection of correlative rights and the prevention of waste.

(Authorized by K.S.A. 1989 Supp. 55-604; K.S.A. 55-704; implementing K.S.A. 1989 Supp. 55-604, 55-605, K.S.A. 55-703a, 55-704; effective, T-83-44, Dec. 8, 1982; effective May 1, 1983; amended April 23, 1990.)

PLUGGING AND ABANDONMENT

82-3-111. TEMPORARILY ABANDONED WELLS; PENALTY; PLUGGING.

- (a) Temporary abandonment approval or plugging required. Within 90 days after operations cease on any well drilled for the purpose of exploration, discovery, service, or production of oil, gas, or other minerals, the operator of that well shall perform either of the following:
 - (1) Plug the well; or
 - (2) file an application with the conservation division requesting temporary abandonment authority, on a form prescribed by the conservation division.
- (b) Approval of temporary abandonment. No well shall be temporarily abandoned as described in subsection (a) unless first approved by the conservation division. If the operations on any temporarily abandoned well or other inactive well are not resumed within one year after the application has been approved, the well shall be deemed a permanently abandoned well, and the operator of the well shall comply with regulations of the commission relating to the plugging of wells. Upon application to the conservation division before the expiration of the one-year period, and for good cause shown, the period may be extended by the conservation division for one year. Additional one-year extensions may be granted by the conservation division. A well shall not be eligible for temporary abandonment status if the well has been shut in for 10 years or more without an application for an exception pursuant to K.A.R. 82-3-100 and approval by the commission. The failure to file a notice of temporary abandonment shall be punishable by a \$100 penalty.
- (c) Right of denial. After an application for temporary abandonment has been filed, the well shall be subject to inspection by the conservation division to determine whether its temporary abandonment could cause pollution of fresh and usable water resources. If necessary to prevent the pollution of fresh and usable water, temporary abandonment may be denied by the conservation division, and the well may be required to be plugged or repaired according to the direction of the conservation division and in accordance with its regulations.
- (d) Plugging of temporarily abandoned wells. At the expiration of any approved temporary abandonment period, each well temporarily abandoned shall be plugged, repaired, or returned to operation in accordance with applicable regulations.
- (e) Certain wells exempted. The requirements of this regulation shall not apply to any well that meets all of the following criteria:
 - (1) The well is fully equipped for production of oil or gas or for injection.
 - (2) The well is capable of immediately resuming production of oil or gas or of injection.
 - (3) The well is subject to a valid, continuing oil and gas lease.
 - (4) The cessation period for the well is less than 365 consecutive days.
 - (5) The well is otherwise in full compliance with all of the commission's regulations.
- (f) Post-exemption requirements. The date on which a well ceases to qualify for the exemption specified in subsection (e) shall be deemed to be the date operations ceased on the well, for purposes of subsection (a).

(Authorized by K.S.A. 55-152; implementing K.S.A. 55-152 and 55-164; effective, T-83-44, Dec. 8, 1982; effective May 1, 1983; amended May 1, 1984; amended May 1, 1985; amended April 23, 1990; amended Jan. 25, 2002; amended Oct. 24, 2008.)

82-3-112. SHUT-OFF TEST; WHEN REQUIRED.

Whenever it appears to the conservation division that any water from any well is migrating or infiltrating into oil-bearing or gas-bearing strata or that any detrimental substances are infiltrating any fresh and usable water, a shut-off test may be required by the conservation division, to be

made at the expense of the operator or owner of that well. The time and procedure for the taking of the test shall be fixed by the conservation division. Reasonable notice of the test shall be given to the owner or operator.

The person legally responsible for the proper care and control of any abandoned oil or gas well from which water is migrating or infiltrating into any oil-bearing or gas-bearing strata, or from which any detrimental substances are infiltrating any fresh or usable water, shall immediately plug or repair the well in accordance with K.A.R. 82-3-114 or 82-3-115 and shall prevent the infiltration of oil, gas, salt water or other detrimental substances into underground fresh and usable water strata.

(Authorized by K.S.A. 55-602; implementing K.S.A. 55-157; effective, T-83-44, Dec. 8, 1982; effective May 1, 1983; amended May 1, 1984; amended May 1, 1988.)

82-3-113. NOTICE OF INTENTION TO PLUG AND ABANDON A WELL; SUPERVISION; PENALTY.

- (a) Notice required; penalty. Before any work is commenced to plug and abandon any well drilled for the discovery of oil or gas, for underground porosity gas storage, or for disposal of salt water, or to plug and abandon any injection well for enhanced recovery, including any well drilled below the fresh and usable water level, the operator shall give written notice to the conservation division of the intention to plug and abandon that well. The notice shall be submitted upon a form furnished by the conservation division and shall contain all of the information requested on it. The failure to file a notice of intention to plug and abandon a well shall be punishable by a \$100 penalty.
- (b) Plugging instructions; scheduling.
 - (1) Upon receipt of the notice, the notice shall be acknowledged by the conservation division by letter to the operator. The letter shall provide instructions to the operator, including the name of the district office that is to be notified, and a requirement that the operator submit a proposed plugging plan.
 - (2) The operator shall notify the appropriate district office of the operator's proposed plugging plan no later than five days before the plugging.
- (c) Exceptions. Exceptions from the notice requirement on the plugging of wells may be granted by the district office if either of the following conditions is met:
 - (1) A drilling rig already at work on location is ready to commence plugging operations on a dry and abandoned well.
 - (2) An emergency situation exists. In this case, the operator shall orally notify and present the plugging proposal to the district office.

(Authorized by K.S.A. 55-152 and K.S.A. 2001 Supp. 55-1,115 and 74-623; implementing K.S.A. 55-152, 55-159, K.S.A. 2001 Supp. 55-164, K.S.A. 55-173, K.S.A. 2001 Supp. 55-1,115 and 74-623; effective T-83-44, Dec. 8, 1982; effective May 1, 1983; amended May 1, 1984; amended May 1, 1985; amended April 23, 1990; amended, T-82-6-27-02, July 1, 2002; amended Oct. 29, 2002.)

82-3-114. PLUGGING METHODS AND PROCEDURE.

- (a) Plugging of producing, storage, and injection wells. In addition to any other applicable requirements in these regulations, the methods and procedure for plugging a well drilled for exploration of oil or gas, for underground porosity gas storage, or for injection shall be as follows:
 - (1) For productive or past-productive oil or gas formations, a cement plug not less than 50 feet in length or a bridge capped with cement shall be placed above each such formation.

- (2) Cement plugs of 50 feet or more in length shall be placed both above and below any fresh or usable water horizons. The lower plug shall extend at least 50 feet below the base of water zones, and the upper plug shall extend at least 50 feet above the top of the water zones.
 - (3) In each well plugged, a cement plug shall be placed near the surface of the ground in a manner that does not interfere with soil cultivation.
- (b) Rathole and mousehole plugging. Each rathole and each mousehole shall be plugged by displacing any mud or water with cement from the bottom of the hole to near the surface in a manner that does not interfere with soil cultivation.
 - (c) Highly permeable formations. If the wellbore has penetrated both a highly permeable formation and an overlying major salt formation, a cement plug of 50 feet or more in length shall be set above the highly permeable formation. Additionally, a cement plug of 50 feet or more in length shall be set in the first formation compatible with cement in each of the following locations:
 - (1) Immediately above the salt formation; and
 - (2) immediately below the salt formation.
 - (d) Well location exceptions. In wells located within 330 feet from the lease or unit boundary or located within less than the minimum distance specified in K.A.R. 82-3-108(b), all zones that are perforated or open in the well and that are being produced on the lease adjacent to that boundary shall be plugged. This requirement shall not apply to zones that are not producing within one-half mile of the well to be plugged.
 - (e) Plugging intervals. All intervals between plugs within the same wellbore shall be filled with an approved heavy, mud-laden fluid of not less than 36 viscosity as measured using the marsh funnel method described in sections 4.1 and 4.2 of the "recommended practice standard procedure for field testing water-based drilling fluids," second edition, dated September 1997 and published by the American petroleum institute. Sections 4.1 and 4.2 of this document are hereby adopted by reference. The approved heavy, mud-laden fluid shall have a weight of not less than nine pounds per gallon. If the requirements of this subsection are not met, a bridge shall be set at all plugging intervals.
 - (f) Alternative plugging methods; when authorized.
 - (1) If the procedures specified in this regulation cannot be followed due to conditions in the casing or wellbore, alternative plug placement while ensuring the protection of fresh and usable water may be authorized by a representative of the commission.
 - (2) The operator, with the approval of the representative of the commission, may place cement in the well by using a dump bailer, pumping through tubing, or using any other method approved by the commission.
 - (g) Tagging plugs. Plugs may be tagged by the commission at the direction of the director of the conservation division.

(Authorized by K.S.A. 55-152 and K.S.A. 2001 Supp. 55-1,115 and 74-623; implementing K.S.A. 55-152, 55-156, 55-157, 55-159, and K.S.A. 2001 Supp. 55-1,115 and 74-623; effective, T-83-44, Dec. 8, 1982; effective May 1, 1983; amended May 1, 1984; amended T-87-3; amended May 1, 1986; amended May 1, 1988; amended May 8, 1989; amended, T-82-6-27-02, July 1, 2002; amended Oct. 29, 2002.)

82-3-115. PLUGGING METHODS AND PROCEDURE FOR CORE AND OTHER STRATIGRAPHIC HOLES; FEES.

The methods and procedure for plugging core and other stratigraphic holes shall be as follows:

- (a) The owner or operator shall notify the commission prior to the plugging of each core or stratigraphic hole pursuant to the requirements of K.A.R. 82-3-113. An on-site inspection of the plugging operation may be conducted by a representative of the commission.
- (b) Each core or stratigraphic hole that penetrates a regionally confined salt water aquifer shall be plugged so as to prevent the migration of salt waters into fresh or usable water.
 - (1) As used in this regulation, a "regionally confined salt water aquifer" means a salt water-bearing zone overlain by an aquitard which, in area, is coextensive with the salt water zone and restricts the movement of the salt water. Aquitard means a zone of low permeability.
 - (2) The hole shall be filled with a cement plug from a point 20 feet below the base of the regionally confined salt water aquifer to within 10 feet of the surface. The remaining hole shall be filled to surface with coarse ground bentonite.
- (c) Each core or stratigraphic hole that does not penetrate a regionally confined salt water aquifer shall be plugged as follows:
 - (1) A bridge and cement plug shall be placed at the depth set forth as the base of the deepest fresh and usable water. The cement plug shall be not less than 50 feet in length or shall be placed to a point within 12 feet of the surface, whichever is the lesser length. The remaining hole shall be filled to the surface with coarse ground bentonite as defined in K.A.R. 82-3-101(a)(12);
 - (2) The interval or intervals between the bottom of any hole and the plug or plugs set in any hole shall be filled with an approved heavy mud-laden fluid of not less than 9.4 pounds per gallon.
- (d) Each core or stratigraphic hole that penetrates multiple usable or fresh water aquifers regionally confined by consolidated rock or strata, as distinguished from usable or fresh water zones in an unconsolidated stratum, shall be filled with cement from the bottom of the hole to the top of the highest aquifer, if identifiable and the remaining hole shall be filled with fine grain materials to within 20 feet of the surface, then with impermeable material to within 12 feet of the surface and the top 12 feet of the hole filled with coarse ground bentonite. If the top of the highest aquifer is not identifiable the hole shall be filled with cement from the bottom to within 12 feet of the surface and the remaining hole filled with coarse ground bentonite.
- (e) Each core or stratigraphic hole that penetrates a usable or fresh water zone resulting in an artesian flow to the surface shall have a cement plug placed immediately above the top of the artesian water zone. The plug shall not be less than 25 feet in length or shall be placed to a point within 12 feet of the surface, whichever is the lesser length. The remaining hole shall be filled with coarse ground bentonite.
- (f) If circulation is lost in the drilling of any hole and circulation cannot be regained, a cement plug shall be placed immediately above the zone of lost circulation. The plug shall not be less than 25 feet in length or shall be placed to a point within 12 feet of surface, whichever is the lesser length. The remaining hole shall be filled with coarse ground bentonite.
- (g) Alternative plugging methods may be specified by the district supervisor when geological conditions warrant.
- (h) Alternative plugging materials may be substituted for coarse ground bentonite upon approval by the Director of the Conservation Division. The Director shall base approval or denial upon material specifications including experimental results supplied by the manufacturer of such

material and will keep a list available of all materials approved. The approval process for alternative plugging materials shall also be applicable to K.A.R. 82-3-115b.

- (i) All core and stratigraphic holes shall be plugged as soon after being used as is reasonably practicable. However, such holes shall not remain unplugged for a period of more than 10 days after the drilling of the hole. An extension may be granted by the district supervisor if access to the hole is prevented by force of nature.
- (j) A minimum fee of \$5 shall be assessed for plugging of core and other stratigraphic holes. The minimum fee for any hole which penetrates a regionally confined salt water aquifer shall be assessed pursuant to K.A.R. 82-3-118.

(Authorized by K.S.A. 1992 Supp. 55-152; implementing K.S.A. 1993 Supp. 55-152, 55-156, 55-157; effective T-83-44, Dec. 8, 1982; effective May 1, 1983; amended May 1, 1984; amended March 20, 1995.)

82-3-115a. INTENT TO DRILL SEISMIC SHOT HOLES; NOTIFICATION; PENALTY; EXEMPTION.

- (a) Each owner, operator, or persons responsible for a seismic operation shall give written notice of the intention to drill for approval by the conservation division before the commencement of drilling operations.
 - (1) Filing. The notice shall be filed with the conservation division at least five days before any drilling is commenced.
 - (2) Contents. The notice shall be on a form prescribed by the commission. The notice shall be filled in completely and signed by the operator or the operator's agent, and shall contain:
 - (A) The seismic company's name, address, and commission license number;
 - (B) the date on which drilling is anticipated to begin;
 - (C) the quarter section, section, township, range and county of the proposed location;
 - (D) the estimated number and depth of seismic shot holes to be drilled in each quarter section;
 - (E) the proposed plugging plan or method to be used for plugging seismic shot holes, and
 - (F) any other information which may be requested by the commission.
- (b) District office notification. Prior to drilling one or more seismic shot holes, the operator shall notify the appropriate district office.
- (c) Emergency situation. When an emergency situation exists, the operator shall orally notify and present the proposal to the district office. The written notice of intention to drill shall be filed with the commission within 24 hours.
- (d) Drilling seismic shot holes without an approved notice or intent or emergency notice shall be punishable by a penalty of up to \$1000.
- (e) Exemption. Seismic operations which do not require the drilling or digging of a hole shall be exempt from the requirements of this regulation.

(Authorization by K.S.A. 1993 Supp. 55-152; implementing K.S.A. 1992 Supp. 55-151, 55-152, 55-164; effective, March 20, 1995.)

82-3-115b. PLUGGING METHODS AND PROCEDURES FOR SEISMIC SHOT HOLES; RETENTION OF LOGS; PENALTY; EXCEPTION; FEES.

- (a) Each seismic shot hole shall be plugged in accordance with the specified methods applicable to the geologic conditions or drilling method used as described in this regulation and in Table IV.
- (b) Each hole drilled with water or water-based muds and each hole that encounters water and does not encounter artesian pressure shall be plugged using the following method.
 - (1) Each seismic shot hole drilled in a single aquifer area shall be plugged from the point of collapse of the last shot with one 50-pound bag of coarse ground bentonite followed by cuttings to within 12 feet of the surface. The top 12 feet of the hole shall be filled with coarse ground bentonite. A non-metallic retrievable plug with identifying mark shall be placed three feet from the surface.
 - (2) Each seismic shot hole drilled in a multiple aquifer area which penetrates only the upper aquifer, may be plugged using the single aquifer method.
 - (3) Seismic shot holes drilled into or through multiple aquifers shall be pre-plugged by filling the hole with coarse ground bentonite to a point at which the bentonite no longer encounters water followed by cuttings to within 12 feet of the surface. The top 12 feet of the hole shall be filled with coarse ground bentonite. A non-metallic retrievable plug with identifying marks shall be placed three feet from the surface. The plug shall be allowed to set at least 15 hours prior to detonation of the explosive charge unless a lesser time is approved by the appropriate district supervisor. The coarse ground bentonite used to fill the hole up to the point where it no longer encounters water shall be poured at a rate no greater than one 50 pound bag per two minutes.
 - (4) Each seismic shot hole that penetrates a saltwater formation shall be plugged from bottom to top with cement. The blend of cement shall be approved by the district supervisor.
 - (5) Alternate plugging material may be substituted for coarse ground bentonite in accordance with procedures set forth in K.A.R. 82-3-115(h).
- (c) Each hole that penetrates a strata which causes water to flow at the surface shall not be charged nor shot and shall be immediately plugged with cement. The plug shall be placed from bottom to top using tubular goods for placement. Prior to plugging, the company shall immediately notify the appropriate district office for plugging instructions.
- (d) If groundwater is not encountered in a seismic shot hole that is drilled with air, dry augured, or otherwise drilled, the hole shall be either pre-plugged or post-plugged by filling the hole with clay or silt sized cuttings from the point of collapse of the last shot to within 12 feet of the surface. The top 12 feet of the hole shall be filled with coarse ground bentonite. A non-metallic retrievable plug with identifying mark shall be placed three feet from the surface.
- (e) The district supervisor may make changes in the plugging requirements on a case-by-case basis and may prescribe other methods where the district supervisor deems other plugging methods to be more appropriate due to geological or hydrogeologic conditions.
- (f) The operator shall submit plugging reports to the Conservation Division Central Office on forms provided by the commission within 90 days after the commencement of each project. All plugging reports shall include:
 - (1) a description of the placement of plugs and the material used;
 - (2) a description of the identifying mark on the non-metallic retrievable plug;

- (3) the name of the licensed person, firm, association, or corporation actually conducting the seismic operation; and
 - (4) a plat map showing the number of holes drilled, the location of each hole, the designated well number of each hole, and other information requested on the plugging report. Requests for confidentiality of plat map information should be made to the Director in accordance with procedures set forth in K.A.R. 82-3-107(e) and will be subject to time limits established in that regulation.
- (g) The operator shall notify the appropriate district office prior to the plugging if the plugging of seismic holes is to occur anytime other than immediately after shooting takes place.
 - (h) When an emergency situation exists, the operator shall verbally notify and present the plugging proposal to the district office. A written plugging report shall be filed with both the district and conservation division office within five days of the completion of the plugging operation.
 - (i) A listing of those areas in which complex, multiple or divided aquifers occur shall be prepared by the commission. This list shall be made available to all drillers of seismic shot holes. Seismic shot holes drilled in these areas shall be plugged in accordance with the guidelines described in subsection (b)(3) of this regulation or as determined by the district supervisor.
 - (j) The driller or on-site geologist shall keep well logs of each hole drilled on forms approved by the commission. The logs shall be retained by the operator. If requested by the Conservation Division, the logs shall be made available contingent upon client approval.
 - (k) A minimum fee of \$5 shall be assessed for plugging of seismic holes. The minimum fee for any hole which penetrates a regionally confined salt water aquifer shall be assessed pursuant to K.A.R. 82-3-118.
 - (l) Seismic operations which do not require the drilling or digging of a hole shall be exempt from the requirements of this regulation.
 - (m) Failure to comply with the provisions of this regulation shall result in the following penalties:
 - (1) \$250 fine for the first offense, plus correction of the violation;
 - (2) Up to \$1000 fine for the second offense and review of operator's license, plus correction of any violations; and
 - (3) Up to \$2000 fine per hole for the third offense, plus 30 days suspension of license, which may be extended if correction of violation does not occur during suspension period, and review of license.

(Authorized by K.S.A. 1993 Supp. 55-152; implementing K.S.A. 1993 Supp. 55-151, 55-152, 55-164; effective March 20, 1995.)

82-3-116. CORE AND OTHER STRATIGRAPHIC HOLES TO BE PLUGGED; AFFIDAVIT.

Before any core or other stratigraphic hole is abandoned, it shall be plugged in accordance with K.A.R. 82-3-115 to properly protect all fresh and usable water formations. The person, firm, association or corporation actually conducting the core or stratigraphic field operations requiring use of the hole, regardless of whether these operations are for their own account or under contract or agreement for the account of others, shall file with the conservation division an affidavit on the form prescribed by the commission. The affidavit shall state the date of drilling, the location of each hole, the method used to plug such hole, and all other information requested by the prescribed form. The affidavit shall be filed within 60 days after the core or other stratigraphic holes in a specifically platted area have been plugged.

(Authorized by K.S.A. 1993 Supp. 55-152; implementing K.S.A. 1993 Supp. 55-152, 55-156, 55-157; effective, T-83-44, Dec. 8, 1982; effective May 1, 1983; amended March 20, 1995.)

82-3-117. PLUGGING REPORT; PENALTY.

(a) Within 60 days after plugging any well drilled for discovery of oil or gas, for underground porosity gas storage, for disposal of salt water, or for injection for enhanced recovery, the owner or operator of the well shall file a well plugging report with the conservation division setting forth the following information:

- (1) The date of drilling;
- (2) the location of the well;
- (3) the method used in plugging the well; and
- (4) all other information required by the commission.

The report shall be made on the form furnished by the commission and shall be verified by the operator.

(b) The failure to file a plugging report shall be punishable by a \$100 penalty.

(c) The operator shall be assessed the cost of the plugging as specified in K.A.R. 82-3-118.

(d) Copies of well plugging records shall be furnished to any person requesting that information upon the payment of two dollars per copy.

(Authorized by K.S.A. 55-152 and K.S.A. 2001 Supp. 55-1,115 and 74-623; implementing K.S.A. 55-152, K.S.A. 2001 Supp. 55-158, K.S.A. 55-159, and K.S.A. 2001 Supp. 55-164, 55-1,115, and 74-623; effective, T-83-44, Dec. 8, 1982; effective May 1, 1983; amended May 1, 1988; amended April 23, 1990; amended, T-82-6-27-02, July 1, 2002; amended Oct. 29, 2002.)

82-3-118. COSTS.

The owner or operator of each plugged well shall pay a fee to the commission, as assessed, at a cost of \$.0325 per foot of well depth plugged. The minimum amount of any fee paid under this regulation shall be \$35.00.

(Authorized by K.S.A. 55-152; implementing K.S.A. 55-152, 55-131; effective T-83-44, Dec. 8, 1982; effective May 1, 1983; amended May 1, 1984.)

82-3-119. (Authorized by K.S.A. 55-152; implementing K.S.A. 55-152, 55-156, 55-157; effective, T-83-44, Dec. 8, 1982; effective May 1, 1983; amended May 1, 1984; revoked Nov 2, 2007.)

OPERATOR LICENSING

82-3-120. OPERATOR OR CONTRACTOR LICENSES: APPLICATION; FINANCIAL RESPONSIBILITY; DENIAL OF APPLICATION; PENALTY.

- (a) (1) No operator or contractor shall undertake any of the following activities without first obtaining or renewing a current license:
 - (A) Drilling, completing, servicing, plugging, or operating any oil, gas, injection, or monitoring well;
 - (B) operating a gas-gathering system, even if the system does not provide gas-gathering services as defined in K.S.A. 55-1,101(a), and amendments thereto; or
 - (C) constructing or operating an underground porosity gas storage facility.

Each operator in physical control of any such well or gas storage facility shall maintain a current license even if the well or storage facility is shut in or idle.

- (2) Each licensee shall annually submit a completed license renewal form on or before the expiration date of the current license.
- (b) To qualify for a license or license renewal, the applicant shall be in compliance with applicable laws, as required in subsection (g), and shall submit the following items to the conservation division:
 - (1) An application meeting the requirements of subsection (c);
 - (2) a \$100 license fee, except that an applicant for a license who is operating one gas well used strictly for the purpose of heating a residential dwelling shall pay an annual license fee of \$25;
 - (3) for each rig as defined in subsection (d), a \$25 fee and copies of property tax receipts on all rigs; and
 - (4) financial assurance in accordance with K.S.A. 55-155(d), and amendments thereto.
- (c) The application for a license or a license renewal shall be verified and filed with the commission showing the following information:
 - (1) The applicant's full legal name and any other name or names under which the applicant transacts or intends to transact business under the license and the applicant's correct mailing address. If the applicant is a partnership or association, the application shall include the name and address of each partner or member of the partnership or association. If the applicant is a corporation, the application shall contain the names and addresses of the principal officers;
 - (2) the number of rigs sought to be licensed; and
 - (3) any other information that the forms provided may require.

Each application for a license shall be signed and verified by the applicant if the applicant is a natural person, by a partner or a member if the applicant is a partnership or association, by an executive officer if the applicant is a corporation, or by an authorized agent of the applicant.

- (d) "Rig" shall mean any crane machine used for drilling or plugging wells. An identification tag shall be issued by the commission for each rig licensed according to this regulation. The operator shall display a current identification tag on each rig at all times.

- (e) "An acceptable record of compliance" shall mean that both of the following conditions are met:
- (1) The operator neither has been assessed by final order of the commission with \$3,000 or more in penalties nor has been cited by final commission order for five or more violations in the preceding 36 months.
 - (2) The operator has no outstanding undisputed orders or unpaid fines, penalties, or costs assessed by the commission and has no officer or director that has been or is associated substantially with another operator that has any such outstanding orders or unpaid fines, penalties, or costs.
- (f) Each operator furnishing financial assurance under K.S.A. 55-155(d)(1), and amendments thereto, shall also furnish a complete inventory of wells and the depth of each well for which the operator is responsible. Each operator furnishing financial assurance under K.S.A. 55-155(d)(2), (4), (5), or (6), and amendments thereto, either shall furnish a well inventory or shall be required to furnish the \$45,000 bond, letter of credit, fee, or other financial assurance based on that amount. Falsification of the well inventory shall be punishable by a penalty of up to \$5,000 and possible suspension of the operator's license.
- (g) (1) If the applicant is registered with the federal securities and exchange commission, the applicant shall demonstrate to the commission that the applicant complies with all requirements of K.S.A. 55-101 et seq. and amendments thereto, all implementing regulations, and all commission orders and enforcement agreements.
- (2) If the applicant is not registered with the federal securities and exchange commission, the applicant shall demonstrate to the commission that the following individuals comply with all requirements of K.S.A. 55-101 et seq. and amendments thereto, all implementing regulations, and all commission orders and enforcement agreements:
- (A) The applicant;
 - (B) any officer, director, partner, or member of the applicant;
 - (C) any stockholder owning in the aggregate more than five percent of the stock of the applicant; and
 - (D) any spouse, parent, brother, sister, child, parent-in-law, brother-in-law, or sister-in-law of any of the individuals specified in paragraphs (g)(2)(A) through (C).
- (h) Upon approval of the application by the conservation division, a license shall be issued to the applicant. Each license shall be in effect for one year unless suspended or revoked by the commission.
- (i) An application or renewal application shall be denied if the applicant has not satisfied the requirements of this regulation. Denial of a license application shall constitute a summary proceeding under K.S.A. 77-537, and amendments thereto. A denial pursuant to K.S.A. 55-155(c)(3) or (4), and amendments thereto, shall be considered a license revocation.
- (j) Upon revocation of a license, no new license shall be issued to that operator or contractor until after the expiration of one year from the date of the revocation.
- (k) The failure to obtain or renew an operator or contractor license before operating shall be punishable by a \$500 penalty.
- (l) Each operator shall notify the conservation division in writing within 30 days of any change in information supplied in conjunction with the license application. If the change involves an increase in the number or depth of the wells listed on the operator's well inventory, the operator's notification shall be accompanied by additional financial assurances to cover the additional number or depth of wells.

(Authorized by K.S.A. 55-152 and 55-1,115; implementing K.S.A. 2009 Supp. 55-155 and K.S.A. 55-164 and 55-1,115; effective, T-83-44, Dec. 8, 1982; effective May 1, 1983; amended May 8, 1989; amended April 23, 1990; amended March 20, 1995; amended Aug. 29, 1997; amended Jan. 25, 2002; amended, T-82-6-27-02, July 1, 2002; amended Oct. 29, 2002; amended Nov. 5, 2010.)

82-3-120a. (Authorized by and implementing K.S.A. 1996 Supp. 55-155 and 55-164; effective Aug. 29, 1997; revoked Jan 25, 2002.)

82-3-121. DESIGNATION OF AN AGENT.

Every person, firm or corporation operating within the state shall designate an agent who will be responsible for certification of compliance with the commission's regulations concerning the drilling, completion or plugging of wells. The designation of an agent shall be set forth on the commission's forms used for licensing of operators and contractors.

(Authorized by and implementing K.S.A. 1982 Supp. 55-154; effective, T-83-44, Dec. 8, 1982; effective May 1, 1983.)

82-3-122. OPERATORS; COMPLAINTS; HEARING.

A hearing may be conducted by the commission if it finds that there is reasonable cause to believe, or upon a written complaint charging, that any operator has violated any of the rules and regulations adopted by the commission pursuant to K.S.A. chapter 55.

(Authorized by K.S.A. 1989 Supp. 55-152, implementing K.S.A. 1989 Supp. 55-152, 55-162; effective T-83-44, Dec. 8, 1982; effective May 1, 1983; amended May 1, 1984; amended April 23, 1990.)

OPERATIONS, REPORTS AND PERMITS

82-3-123. WELL BORE; COMMINGLING OF PRODUCTION.

- (a) Applicability. Commingling of production from more than one source of supply shall be permitted if the total production potential is less than the allowable for a single common source of supply for the immediate area and after application and approval by the conservation division.
- (b) Coalbed natural gas. Each well producing only coalbed natural gas shall be exempt from this regulation.
- (c) Application. Each original application for commingling and one copy shall be filed with the conservation division. The application shall be submitted to the commission on the form provided by the commission and shall be accompanied by the following information:
 - (1) A description of the well with a plat attached showing the location of the subject well, the location of other wells on the lease, the location of offset wells within a ½-mile radius of the subject well, and for each of these wells, the name of the lessee of record or the operator;
 - (2) the names of the upper and lower limits of the sources of supply to be commingled, with proposed perforations or open holes noted;
 - (3) a wireline log of the subject well;
 - (4) the production potential of oil, water, gas, or a combination for each source of supply;
 - (5) the total anticipated production for the formations sought to be commingled; and
 - (6) the applicant's license number.
- (d) Allowable. The maximum well allowable for a well in which commingled production is approved shall be the following:
 - (1) For oil wells, the allowable for the deepest source of supply demonstrating productivity as specified in K.A.R. 82-3-203 or special order; and
 - (2) for gas wells, the allowable specified in K.A.R. 82-3-312, based on the combined actual open-flow potential from all producing zones or as provided by special order.
- (e) Notice; protest. The applicant shall provide notice of the application as required in K.A.R. 82-3-135a. If a protest is filed in accordance with K.A.R. 82-3-135a, the application shall be set for hearing by the commission. Commingling shall be prohibited if the commission finds that waste or a violation of correlative rights is likely to result.
- (f) Application for additional sources of supply. A new commingling application shall be required if the operator desires to open an additional source of supply that was not included in the initial application.

(Authorized by K.S.A. 55-152, K.S.A. 55-604, K.S.A. 55-704; implementing K.S.A. 55-603, K.S.A. 55-605; effective, T-83-44, Dec. 8, 1982; effective May 1, 1983; amended May 1, 1985; amended May 1, 1987; amended May 1, 1988; amended May 8, 1989; amended April 23, 1990; amended Aug. 29, 1997; amended Jan. 25, 2002; amended Jan. 14, 2005; amended Nov. 2, 2007.)

82-3-123a. WELL BORE; COMMINGLING OF FLUIDS.

- (a) When applicable. Well bore commingling of fluids from one or more intervals with fluids from a production interval shall be permitted after application and approval by the conservation division.
- (b) Application. Each original application for commingling and one copy shall be filed with the conservation division. The application shall contain the following information:
 - (1) A plat map showing the location of the subject well, the location of other wells on the lease, the location of offset wells within a ½-mile radius of the subject well, and, for each well, the name of the lessee of record or the operator;
 - (2) the intervals to be commingled, with proposed perforations or open holes noted;
 - (3) a well construction diagram of the subject well;
 - (4) any available water chemistry data demonstrating the compatibility of the fluids to be commingled; and
 - (5) an estimate of the amount of fluids to be commingled.
- (c) Notice; protest. The applicant shall provide notice of the application as required in K.A.R. 82-3-135a. If a protest is filed in accordance with K.A.R. 82-3-135a, the application shall be set for hearing by the commission. Commingling shall be prohibited if the commission finds that waste or a violation of correlative rights is likely to result.

(Authorized by K.S.A. 55-604; implementing K.S.A. 55-603, K.S.A. 55-605; effective May 8, 1989; amended April 23, 1990; amended Jan. 14, 2005; amended Nov. 2, 2007.)

82-3-124. DUAL OR MULTIPLE-COMPLETED WELLS.

- (a) When applicable. Production from more than one common source of supply through the same well bore shall be permitted if separation of each source of supply is maintained and after application and approval by the commission has been obtained.
- (b) Application. Whenever an operator or producer desires to complete a well in more than one common source of supply, an original and one copy of an application requesting approval of dual or multiple completion shall be filed with the conservation division. The application shall be submitted to the commission on the form provided by the commission and shall be accompanied by the following:
 - (1) A description of the well with a plat attached showing the location of the subject well, the location of all other wells on the lease, the location of all offset wells within a ½-mile radius of the subject well, and for each of these wells, the name of the lessee of record or the operator. Well depths and producing sources of supply shall be properly designated on the plat;
 - (2) the names and upper and lower limits of the common sources of supply involved in the dual or multiple completion;
 - (3) a wireline log of the subject well;
 - (4) a complete description of the proposed installation including the size, weight, depth, and condition of all casing and tubing, the size of all drilled holes, the amount of cement used and the location of the tops of cement behind each casing string, the location or intended location of casing perforations, the type of packer to be used and the depth at which it is to be set. A diagram of the proposed installation shall be attached to the application;

- (5) a description of the proposed plan for separately measuring and accounting for the production for each source of supply;
 - (6) a description of storage facilities;
 - (7) a description and diagram of the proposed wellhead to pipeline installation; and
 - (8) the applicant's license number.
- (c) Notice. The applicant shall provide notice of the application pursuant to K.A.R. 82-3-135a.
 - (d) Commission supervision. All dual and multiple completions shall be made and operated under the direction of the commission. Packers shall not be installed, removed, reinstalled, or replaced in such a well, except upon notice to and with the approval of a representative of the commission. If one of the producing sources of supply is abandoned, the plugging of the abandoned source of supply shall be in accordance with the requirements of the commission.
 - (e) Plugging. If any common source of supply in an intended dual or multiple completion is found upon testing to be nonproductive, it shall immediately be plugged under the direction of a commission representative.
 - (f) Packer testing. Dual and multiple-completed wells shall be operated and maintained so as to ensure complete segregation of all fluids from the producing sources of supply. In monitoring installation of packers, and in inspecting dual and multiple-completed wells, tests shall be made by or at the direction of representatives of the commission to determine whether packer leakage exists. These tests may include bottom hole pressure measurements, chemical analysis of oil, water, and gas, and any other tests which indicate the effectiveness of the packer.
 - (g) Packer leakage. Whenever evidence of leakage of the packer in any dual or multiple-completed well is discovered, the packer shall be immediately repaired, a new packer shall be installed, or the affected producing source of supply shall be plugged.
 - (h) Allowable. The allowable for each source of supply shall be determined according to K.A.R. 82-3-203(b) or K.A.R. 82-3-312 for non-prorated common sources of supply or according to the basic proration order for prorated common sources of supply, or both.
 - (i) Packer installation. Operators shall notify the commission and the operators of offset producing leases at least 24 hours before installing a packer.
 - (j) Installation charge. An installation charge for each dual or multiple-completed well, and a charge for any inspection of such a well, shall be made to defray necessary expenses of supervision by the commission.
 - (k) Revocation. Failure of the operator of any dual or multiple-completed well to comply with any of the provisions of this regulation shall constitute grounds for the revocation of the order granting the dual or multiple completion, or the suspension or cancellation of current or future allowables of that well. If the order granting the dual or multiple completion of any well is revoked, all but one of the producing sources of supply shall immediately be sealed off under the direction of the commission.
 - (l) Approval. Tentative approval for dual or multiple-completed wells may be granted by the commission based on extenuating circumstances. Final approval may be granted after proper application.

(Authorized by K.S.A. 55-602; implementing K.S.A. 55-605, 55-706, 55-603; effective, T-83-44, Dec. 8, 1982; effective May 1, 1983; amended, T-85-51, Dec. 19, 1984; amended May 1, 1985; amended May 1, 1987; amended May 1, 1988; amended May 8, 1989; amended April 23, 1990; amended Nov. 2, 2007.)

82-3-125. SURFACE COMMINGLING OF PRODUCTION.

The production from one common source of supply may be commingled on the surface with that from another common source of supply before delivery to a purchaser. However, the commission may prohibit surface commingling whenever this action is deemed advisable.

(Authorized by and implementing K.S.A. 55-604; effective, T-83-44, Dec. 8, 1982; effective May 1, 1983.)

82-3-126. TANK AND TRUCK IDENTIFICATION; PENALTY.

- (a) Tanks. All oil tanks, tank batteries, tanks used for salt water collection or disposal, and tanks used for sediment oil treatment or storage shall be identified by a sign posted on, or not more than 50 feet from the tank or tank battery. The sign shall be of durable construction and shall be large enough to be legible under normal conditions at a distance of 50 feet. The sign shall identify:
 - (1) the name and license number of the operator;
 - (2) the name of the lease being served by the tank; and
 - (3) the location of the tank by unit name, section, township, range, and county.
- (b) The failure to post an identification sign shall be punishable by a \$100 penalty.
- (c) Trucks. Every truck, tank wagon or other vehicle transporting crude petroleum oil, sediment oil, water or brine produced in association with the production of oil or gas shall have the name and address of the owner or lessee painted or otherwise durably marked on both sides of the vehicle.

(Authorized by and implementing K.S.A. 55-1503, 55-1504, K.S.A. 1989 Supp. 55-164; effective, T-83-44, Dec. 8, 1982; effective May 1, 1983; amended April 23, 1990.)

82-3-127. DOCUMENTATION REQUIRED FOR TRANSPORTATION AND STORAGE.

- (a) Transportation.
 - (1) Every person that uses a motor vehicle to transport crude petroleum oil, sediment oil, water or brine produced in association with the production of oil or gas shall possess a run ticket or equivalent documents containing the following:
 - (A) the name and address of the transporter;
 - (B) the name and license number of the operator of the lease;
 - (C) the name of the lease or facility from which the above-named fluids were taken and the location of the tank by unit letter, section, township, range and county;
 - (D) the date and time that fluids were loaded for transportation and unloaded at the destination;
 - (E) the estimated volume of fluids, or the opening and closing tank gauges or meter readings;
 - (F) the signature of the driver;
 - (G) the name and location of the disposal, storage, processing or refining facility to which the fluid is being transported; and
 - (H) the name and address of the party receiving shipment.

- (2) The following information shall be left at the facility from which the fluids were removed;
 - (A) the name and address of the transporter;
 - (B) the date and time that fluids were loaded for transportation;
 - (C) the signature of the driver;
 - (D) the estimated volume of fluids, or the opening and closing tank gauges or meter readings.
 - (3) One copy of the documentation shall be carried in the vehicle during transportation and shall be produced for examination and inspection by any representative of the commission or any federal, state, county or city law enforcement officer upon identification and request.
 - (4) All persons who transport fluids produced in association with the production of oil or gas shall retain a record reflecting the transportation of the fluids for at least three years.
- (b) All persons that store, possess or dispose of fluids produced in association with the production of oil or gas shall retain a record reflecting a complete inventory, including detail of the acceptance and disposition of the fluids, for at least three years.

(Authorized by and implementing K.S.A. 55-1504; effective, T-83-44, Dec. 8, 1982; effective May 1, 1983; amended May 1, 1987.)

82-3-128. REPORTS AND PERMITS; PENALTY.

Verification of any information necessary to administer these rules and regulations or any commission order may be required by the conservation division. The failure to verify requested information shall be punishable by a \$100 penalty.

(Authorized by and implementing K.S.A. 1989 Supp. 55-604, 55-164; effective, T-83-44, Dec. 8, 1982; effective May 1, 1983; amended April 23, 1990.)

82-3-129. (Authorized by K.S.A. 1989 Supp. 55-604; implementing K.S.A. 1989 Supp. 55-176, 55-609; effective, T-83-44, Dec. 8, 1982; effective May 1, 1983; amended April 23, 1990; revoked Aug. 29, 1997.)

82-3-130. COMPLETION REPORTS; PENALTY.

- (a) Within 120 days of the spud date or commencement of recompletion of a well, the operator shall file an original and two copies of an affidavit of completion with the conservation division except as provided by subsection (b).
- (b) If the time requirement for cementing the additional casing, pursuant to K.A.R. 82-3-106 (c)(2)(B), is greater than 120 days, the time for filing the affidavit of completion and two copies, shall be extended accordingly.
- (c) The affidavit of completion shall be filed regardless of the manner in which the well is completed or recompleted, including a well which is dry and abandoned. The affidavit of completion shall be on forms furnished by the commission. The affidavit shall be accompanied by wireline logs of the well, if run. The failure to file the affidavit of completion within the time provided shall be punishable by a \$500 penalty.
- (d) Each operator shall attach legible documentation to the affidavit of completion showing the type, amount, and method of cementing used on all casing strings in the wellbore. The documentation may consist of invoices, job logs, job descriptions, or other similar service company reports.

(Authorized by and implementing K.S.A. 1996 Supp. 55-604, 55-164; effective, T-83-44, Dec. 8, 1982; effective May 1, 1983; amended May 1, 1986; amended May 8, 1989; amended April 23, 1990; amended Aug. 29, 1997.)

82-3-131 VACUUM AND HIGH VOLUME PUMPS; APPLICATION AND APPROVAL.

- (a) Upon application, the installation and use of vacuum pumps in fields that are nearly depleted and the installation and use of high volume pumps may be permitted by the commission. A high volume pump shall mean one that is capable of producing total fluids in excess of 2,500 barrels per day. No application for commission approval shall be required for the installation and use of vacuum or high volume pumps in a field that is unitized for secondary recovery operations.
- (b) The original and one copy of the application shall be filed with the conservation division. The application shall contain the following information:
 - (1) The applicant's license number;
 - (2) the name, location, and producing formation of the well or wells to be pumped;
 - (3) a plat map showing the subject well or wells, the location of all oil and gas wells on the lease, and the location of all offset wells within a ½-mile radius of the subject well or wells and their operators' names;
 - (4) the anticipated maximum daily production of oil, water, and gas;
 - (5) for vacuum pump applications, an estimate of the remaining recoverable hydrocarbon reserves underlying the subject lease;
 - (6) for high volume pump applications, the size and capacity of the pump to be used and the estimated oil-water ratio; and
 - (7) any additional relevant information that the commission may require.
- (c) Each applicant shall provide notice of the application pursuant to K.A.R. 82-3-135a.

(Authorized by K.S.A 55-152; implementing K.S.A. 55-604; effective, T-83-44, Dec. 8, 1982; effective May 1, 1983; amended May 1, 1987; amended May 1, 1988; amended April 23, 1990; amended Nov. 2, 2007.)

82-3-132. RE-ENTRY NOTIFICATION.

Every operator shall notify the conservation division or a district office at least 48 hours before re-entering an abandoned or plugged well. An agent of the commission may conduct on-site inspection of the drilling operations. A report shall be filed by the agent of the commission or, in the absence of an observing agent, by the operator, stating where cement was encountered when drilling out plugs.

(Authorized by K.S.A. 1986 Supp. 55-152; implementing K.S.A. 1986 Supp. 55-160; effective, T-83-44, Dec. 8, 1982; effective May 1, 1983; amended May 1, 1988.)

82-3-133. PENALTIES FOR UNLAWFUL PRODUCTION.

- (a) The production of oil or gas in violation of the provisions of a basic proration order, or otherwise in violation of the statutes or the rules and regulations of the commission, shall be deemed unlawful and shall be presumed to violate correlative rights and to constitute waste.
- (b) Upon the commission's receipt of a complaint or on its own motion, and upon a determination that a well has unlawfully produced, the operator of that well may be ordered by the

commission to shut in the well. The well shall remain shut in until the unlawful production is made up. The violating operator may make application for an exception to the order by showing that the unlawful production was necessary to protect correlative rights or to prevent waste. The exception may be granted by the commission after proper notice and hearing.

- (c) Upon a determination by the commission that a well has produced unlawfully, the following may be ordered:
 - (1) The surface equipment of the unlawfully produced well to be sealed or padlocked for any period of time that the commission may determine;
 - (2) production of the unlawfully produced well at a reduced rate to ensure the protection of correlative rights and the prevention of waste;
 - (3) a penalty of \$500; or
 - (4) any combination of the orders enumerated in paragraphs (c)(1), (2), and (3).
- (d) Any action taken by the commission under this regulation shall be in accordance with the Kansas administrative procedure act.

(Authorized by K.S.A. 2000 Supp. 55-164, K.S.A. 55-152; implementing K.S.A. 2000 Supp. 55-603, K.S.A. 55-605, K.S.A. 55-703; effective, T-83-44, Dec. 8, 1982; effective May 1, 1983; amended April 23, 1990; amended June 1, 2001.)

82-3-133a. BALANCING OVERAGES AND UNDERAGES IN NONPRORATED AREAS; PENALTY.

For purposes of determining whether a particular oil or gas well subject to statewide field rules and regulations is overproduced or underproduced, the following requirements shall apply:

- (a) Operators shall retain records of production volumes for each individual oil and gas well subject to the statewide rules and regulations each month. These records shall show any underage or overage under the applicable statewide rules and regulations. Notwithstanding any other applicable record retention requirements, for purposes of this regulation, these records shall be retained for a minimum of five years.
- (b) Production volumes for oil wells shall be balanced on a quarterly basis. Any overage for oil wells shall be made up in the calendar quarter following the quarter in which it was accrued. Accrued underage shall be used in the quarter after it is accrued, or it shall be canceled.
- (c) Production volumes for gas wells shall be balanced on the semiannual basis of April through September and October through March. Any overage shall be made up in the six-month period following the six-month period in which it was accrued. Accrued underage shall be used in the six-month period after it is accrued, or it shall be canceled.
- (d) Records kept for the subsequent year shall show the amounts that were made up during the time period denoted in subsection (b) or (c), and these amounts shall not be counted against the production allowable in the subsequent year.
- (e) Any underage that is not made up within the time designated in subsections (b) and (c) shall be canceled and may not be reinstated except through application to the commission and for good cause shown.
- (f) Any overage that is not made up within the time designated in subsections (b) and (c) may be eliminated or reduced, at the discretion of the commission, through application to the commission for retroactive assignment of allowable and for good cause shown.
- (g) Any overage that is not made up within the time designated in subsections (b) and (c) shall subject the well and operator to the penalties for overproduction.

(Authorized by K.S.A. 2000 Supp. 55-164, K.S.A. 55-152; implementing K.S.A. 2000 Supp. 55-603, K.S.A. 55-605, K.S.A. 55-703; effective June 1, 2001.)

82-3-134. (Authorized by and implementing K.S.A. 55-152, K.S.A. 55-604, 55-704; effective May 1, 1984; revoked April 23, 1990.)

82-3-135. NOTICE OF HEARINGS.

- (a) Scope. The notice requirements in this regulation apply to each hearing arising under any rule or regulation or statutory provision for the conservation of crude oil and natural gas or for the protection of fresh and usable water, heard by the commission or any agent appointed by the commission.
- (b) Hearings initiated by the attorney general or the commission.
 - (1) Notice of the hearing shall be published by the commission in the Wichita Eagle newspaper and in the Kansas Register. Notice of the hearing shall also be published in the official county newspaper of each county in which the lands affected by the hearing are located. If that county does not have an official county newspaper, notice may be published in any newspaper satisfying the requirements of K.S.A. 64-101 in a county in which the lands affected by the hearing are located.
 - (2) A copy of the notice of the hearing shall be mailed by the commission to each person who has filed for the purpose of receiving notice. The notice shall be mailed not less than 10 days prior to the hearing date.
 - (3) Any additional notice required by any rule, regulation or statute which applies to the hearing or which is necessary to provide due process to any person whose property may be affected by the hearing shall be provided by the commission.
- (c) Hearings initiated by any person other than the attorney general or commission.
 - (1) Anyone who initiates a hearing shall publish notice of the hearing in the Wichita Eagle newspaper and in the official county newspaper of each county in which the lands affected by the hearing are located. Anyone who initiates a hearing may publish notice in any newspaper satisfying the requirements of K.S.A. 64-101 in a county in which the lands affected by the hearing are located, if that county does not have an official newspaper.
 - (2) A copy of the notice of the hearing shall be mailed by the commission to each person who has filed for the purpose of receiving notice. The copy of the notice shall be mailed not less than 10 days prior to the hearing date.
 - (3) Anyone who initiates a hearing shall provide any additional notice required by any rule, regulation or statute which applies to the hearing or is necessary to provide due process to any person whose property may be affected by the hearing.
- (d) Proof of notice. If the commission is required to publish notice, it shall be proven by commission staff that notice has been properly published. Acceptable proof of notice may include an affidavit sworn by the commission staff that notice has been perfected. Anyone who initiates the hearing shall provide that notice has been properly published. An affidavit sworn by the person who initiates the hearing certifying that notice has been perfected may be accepted as proof of notice. The affidavit shall be filed with the commission on or before the hearing date.
- (e) Filing for the purpose of receiving notice. Anyone who desires to receive notice of any hearings shall file annually with the conservation division that person's name, address and other information as may be reasonably required by the commission. The filing shall be on a form required by the commission and shall be accompanied by an annual \$50 fee.

(Authorized by K.S.A. 1989 Supp. 55-152, 55-604, K.S.A. 55-602, 55-704; implementing K.S.A. 1989 Supp. 55-605, 55-706, effective, T-85-51, Dec. 19, 1984; effective May 1, 1985; amended May 1, 1986; amended May 1, 1988; amended April 23, 1990.)

82-3-135a. NOTICE OF APPLICATION.

- (a) Scope. Except as otherwise provided in K.A.R. 82-3-100, 82-3-108, 82-3-109, 82-3-138, 82-3-203, 82-3-208, 82-3-209, 82-3-300, and 82-3-300a, the notice requirements in this regulation shall apply to each application for an order or permit filed pursuant to any regulation, special order, or statutory provision for the conservation of crude oil and natural gas or for the protection of fresh and usable water.
- (b) Production matters. Except as otherwise provided in K.A.R. 82-3-100, 82-3-108, 82-3-109, 82-3-138, 82-3-203, 82-3-208, 82-3-209, 82-3-300, and 82-3-300a, each applicant for an order filed pursuant to K.A.R. 82-3-100 through K.A.R. 82-3-314 shall give notice of the application on or before the date the application is filed with the conservation division by mailing or delivering a copy of the application to the following:
 - (1) Each operator or lessee of record within a one-half mile radius of the well or of the subject acreage; and
 - (2) each owner of record of the minerals in unleased acreage within a one-half mile radius of the well or of the subject acreage.
- (c) Environmental matters. Each applicant for an order or permit filed pursuant to K.A.R. 82-3-400 through 82-3-412 and K.A.R. 82-3-600 through 82-3-607 shall give notice of the application on or before the date the application is filed with the conservation division by mailing or delivering a copy of the application to the following:
 - (1) Each operator or lessee of record within a one-half mile radius of the well or of the subject acreage;
 - (2) each owner of record of the minerals in unleased acreage within a one-half mile radius of the well or of the subject acreage; and
 - (3) the landowner on whose land the well affected by the application is located.
- (d) Publication of notice. Notice of the application shall be published in at least one issue of the official county newspaper of each county in which the lands affected by the application are located. In addition, notice of applications relating to production matters shall also be published in at least one issue of the Wichita Eagle newspaper.
- (e) Protest. Once notice of the application is published pursuant to subsection (d), the application shall be held in abeyance for 15 days for production matters and 30 days for environmental matters, pending the filing of any protest pursuant to K.A.R. 82-3-135b. If a valid protest is filed or if the commission, on its own motion, deems that there should be a hearing on the application, a hearing shall be held. The applicant shall publish notice of the hearing pursuant to K.A.R. 82-3-135.

(Authorized by K.S.A. 2012 Supp. 55-152, K.S.A. 55-704, K.S.A. 2012 Supp. 55-901; implementing K.S.A. 55-605, K.S.A. 2012 Supp. 55-901, K.S.A. 55-1003; effective April 23, 1990; amended Oct. 24, 2008; amended Aug. 16, 2013.)

82-3-135b. PROTESTERS.

Each protest against the granting of an application for an order or permit filed pursuant to K.A.R. 82-3-135a shall be considered under the following conditions and requirements:

- (a) A protest may be filed by any person having a valid interest in the application. Each protest shall be submitted in writing and shall provide the name and address of the protester and the

title and docket number of the proceeding. The protest shall include a clear and concise statement of the direct and substantial interest of the protester in the proceeding, including specific allegations as to the manner in which the grant of the application will cause waste, violate correlative rights, or pollute the water resources of the state of Kansas.

- (b) If the protester opposes only a portion of the proposed application, the protester shall state with specificity the objectionable portion.
- (c) (1) The protest shall be filed with the conservation division according to the following deadlines:
 - (A) For each protest of production matters, within 15 days after publication of the notice of the application required in K.A.R. 82-3-135a; and
 - (B) for each protest of environmental matters, within 30 days after publication of the notice of the application required in K.A.R. 82-3-135a.
- (2) Failure to file a timely protest shall preclude the interested person from appearing as a protester.
- (d) Each protester shall serve the protest upon the applicant at the same time or before the protester files the protest with the conservation division. The protest shall not be served on the applicant by the conservation division.
- (e) To secure consideration of a protest, the protester shall offer evidence or a statement or participate in the hearing.

(Authorized by K.S.A. 55-152, 55-704, and 55-901; implementing K.S.A. 55-605, 55-901, 55-1003; effective April 23, 1990; amended Oct. 24, 2008.)

82-3-136. TRANSFER OF OPERATOR RESPONSIBILITY.

- (a) If operator responsibility is transferred, the past operator shall report this transfer to the conservation division within 30 days of the change upon a form prescribed by the commission.
- (b) The past operator shall furnish a list of all active and inactive wellbores on the lease, unit, gas storage facility, or secondary recovery unit with the notice of transfer.
- (c) Transfers shall not be made to any individual, partnership, corporation, or municipality not currently licensed as an operator, gas gatherer, or gas storage operator.
- (d) Within 90 days of any transfer, the new operator shall change the tank battery identification sign provided for in K.A.R. 82-3-126 to show the new operator information.
- (e) Violations of this regulation shall be punishable by a penalty of up to \$1,000 for the first violation, \$2,000 for a second violation, and \$3,000 plus license review for a third violation.

(Authorized by and implementing K.S.A. 1996 Supp. 55-164, K.S.A. 1996 Supp. 55-604, and K.S.A. 55-704; effective May 1985; amended Aug. 29, 1997.)

82-3-137. CHANGE IN PURCHASERS.

If a purchaser of production changes and if that production is subject to a proration order issued by the commission, the operator shall report this change to the conservation division within 30 days of the change in the purchaser.

(Authorized by and implementing K.S.A. 55-604, 55-704; effective, May 1, 1985.)

82-3-138. NEW POOL APPLICATION.

- (a) Application requirements. Each application for a new pool certificate shall be submitted to the conservation division on the form provided by the conservation division and shall be accompanied by the following:
 - (1) The affidavit of completion;
 - (2) a copy of the results of a state-supervised production test, showing volumes of oil, gas, and water;
 - (3) a certificate of mailing verifying that notice of the application was provided as required in K.A.R. 82-3-135a(b);
 - (4) the exhibits and evidence needed to substantiate the applicant's claim of a new pool; and
 - (5) any other relevant information required by the conservation division.
- (b) New pool certificate. Each newly discovered pool shall be recognized only upon issuance of a certificate by the conservation division, signifying that the application has been approved.

(Authorized by K.S.A. 55-152; implementing K.S.A. 55-603; effective May 1, 1985; amended May 1, 1987; amended May 1, 1988; amended April 23, 1990; amended June 6, 1994; amended Jan. 14, 2005; amended Oct. 24, 2008.)

82-3-139. (Authorized by and implementing K.S.A.1987 Supp. 55-152, K.S.A. 55-602, 55-604, as amended by L. 1988, Ch. 356, Sec. 168, 55-704; effective, May 1, 1986, amended May 8, 1989; revoked April 23, 1990.)

82-3-140. TERTIARY RECOVERY PROJECT CERTIFICATION.

- (a) Any interested party may file an application for certification of a tertiary recovery project. Each application for certification of a tertiary recovery project to the Kansas department of revenue shall be submitted to the conservation division and shall be accompanied by the following:
 - (1) The project name and its legal description;
 - (2) the type of tertiary recovery process to be implemented;
 - (3) exhibits and evidence required to support the application for certification; and
 - (4) any other relevant information that may be required by the commission.
- (b) The applicant shall publish notice of the application pursuant to K.A.R. 82-3-135a.

(Authorized by K.S.A. 55-152, 55-704, and 79-4217; implementing K.S.A. 55-604 and 79-4217; effective, T-87-46, Dec. 19, 1986; effective May 1, 1987; amended May 1, 1988; amended May 8, 1989; amended April 23, 1990; amended Nov. 2, 2007.)

82-3-141. (Authorized by and implementing K.S.A. 1989 Supp. 55-164, 55-604; effective May 1, 1988; amended April 23, 1990; revoked Aug. 29, 1997.)

82-3-142. (Authorized by and implementing K.S.A. 1988 Supp. 55-604, 55-704; effective May 8, 1989; revoked April 23, 1990.)

82-3-143. (Authorized by and implementing K.S.A. 55-604, as amended by L. 1988, Ch. 356, Sec. 168, 55-704; effective May 8, 1989; revoked April 23, 1990.)

82-3-144 to 82-3-199. RESERVED.

OIL CONSERVATION RULES

82-3-200. PREVENTION OF WASTE, PROTECTION OF CORRELATIVE RIGHTS, AND PREVENTION OF DISCRIMINATION BETWEEN POOLS.

- (a) Any person having the right to drill, complete and operate wells from which oil from any common source of supply or pool is produced may produce on a monthly basis not more than that amount of crude oil from any well or lease than the allowable specified by the commission.
- (b) Oil market demand.
 - (1) A monthly hearing may be held by the commission to determine the total statewide oil allowable.
 - (2) The statewide oil allowable shall be the amount of crude petroleum that can be produced daily throughout the state, during the next succeeding proration period, without causing waste.
 - (3) The total statewide allowable shall be allocated by the commission among the prorated pools, leases and wells.
 - (4) Any crude oil which is removed from a lease shall be charged against the allowable established for that lease, except in cases where permission is granted to use waste oil for oiling roads leading to the lease.
- (c) The crude oil allowable shall be that amount of oil which may be produced currently from any pool without causing waste or injury to correlative rights, and without discriminating between pools.
 - (1) In determining allowables, the statistical status of each well or lease, as of the first day of the preceding proration period shall be considered by the commission.
 - (2) Any applicable overages and shortages for each well or lease shall be used in determining the statistical status of that well or lease.
- (d) The provisions of this regulation shall be construed in conjunction with K.A.R. 82-3-202 through K.A.R. 82-3-208.

(Authorized by K.S.A. 1993 Supp. 55-602, 55-604; implementing K.S.A. 1993 Supp. 55-603; effective, T-83-44, Dec. 8, 1982; effective May 1, 1983; amended May 1, 1986; amended June 6, 1994.)

82-3-201. OIL PRODUCTION IN PRORATED AREAS; BALANCING OF UNDERAGES.

Whenever an oil well producing in a prorated area fails to produce its allowable, this shortage or underage shall be carried forward for two months upon the monthly proration report of the commission. The well shall be permitted to produce the underage in addition to its designated allowable. If the commission determines, however, that a proration unit is incapable of producing its allowable, the accrued underages shall be cancelled. Whenever shortages are attributable to the lack of transportation facilities, these shortages shall not be accrued for more than 60 days from the date of the initial productivity test, except as otherwise ordered by the commission.

(Authorized by and implementing K.S.A. 1999 Supp. 55-604; effective, T-83-44, Dec. 8, 1982; effective May 1, 1983; amended May 1, 1986; amended April 23, 1990; amended June 1, 2001.)

82-3-202. PRODUCTIVITIES, METHODS OF DETERMINING, WHEN REQUIRED.

The productivity of all wells in prorated pools in this state shall be determined in accordance with the following rules.

- (a) Type of test. The productivity of each well shall be determined by a physical test conducted in the manner in which the well is normally produced. The initial physical test shall be conducted within 30 days of the filing of the affidavit of completion for the well.
- (b) Supervision. Each test shall be conducted under the supervision of the commission.
- (c) Notice and witnesses. Each operator of a well on which a test is to be conducted shall notify the commission's agent at least 12 hours before the beginning of a test. Any offset operator may witness the test.
- (d) Temporary allowable of a well. After the operator files an affidavit of completion, a temporary allowable for the well shall be established and shall be effective for 30 days.
- (e) Production considered. Only pipeline oil produced during the test shall be considered in determining a well's productivity.
- (f) Pool and Productivity tests.
 - (1) Pool and productivity tests shall be taken initially and on an annual basis, except on wells which produced less than 25 barrels of oil per day at the time of the last current test.
 - (2) Those wells producing less than 25 barrels of oil per day shall be exempt from further testing unless the well becomes capable of producing more than 25 barrels of oil per day or unless otherwise ordered by the commission.
 - (3) Whenever, due to some act or omission of the operator, more than 15 months have lapsed since the last productivity test for a well was conducted, the well shall not be entitled to an allowable until tested, unless otherwise exempt.
 - (4) Any well that was tested less than three months before the date of a scheduled pool test shall not be required to take the pool test.
 - (5) Operators shall be notified 10 days before the start of a pool test.
- (g) Good cause shown. The commission may, on its own motion and for good cause shown, direct the taking of a productivity test of any well or any pool.

(Authorized by and implementing K.S.A. 55-604; effective, T-83-44, Dec. 8, 1982; effective May 1, 1983; amended May 1, 1986; amended May 1, 1988.)

82-3-203. PRODUCTION ALLOWABLE.

- (a) An allowable shall be assigned to each well in a nonprorated pool. The allowable shall be set by the following schedule and shall take effect on the date of first production:

Depth of Producing Interval	Daily Production Allowable (barrels per well per day)
0-4000'	100
4001-6000'	200
Below 6000'	300

- (b) Any interested party may file an application for an exception to this regulation with the conservation division. The application shall include the following:
 - (1) The location of the well and the acreage attributed to the well;
 - (2) the allowable requested;
 - (3) the geological name of the producing formation;
 - (4) the top and bottom depths of the producing formation;
 - (5) a list of the persons provided notice pursuant to K.A.R. 82-3-135a and the date that notice was provided; and
 - (6) any other relevant information that the commission may require.
- (c) The applicant shall publish notice of the application pursuant to K.A.R. 82-3-135a and notice of any hearing pursuant to K.A.R. 82-3-135.

(Authorized by and implementing K.S.A. 55-604; effective, T-83-44, Dec. 8, 1982; effective May 1, 1983; amended May 1, 1984; amended, T 85-51, Dec. 19, 1984; amended May 1, 1985; amended May 1, 1986; amended May 1, 1987; amended May 8, 1989; amended April 23, 1990; amended June 6, 1994; amended Aug. 14, 2015.)

82-3-204. REPORTS BY PRODUCERS.

The producer or operator of each well in prorated pools, including minimum wells, shall file each month a verified statement showing the amount of crude petroleum actually produced by each well and lease. The verified statement shall be filed with the conservation division on or before the 15th day of each month following the month in which the production occurred. The filing of production reports by producers shall be required for the purpose of obtaining allowables.

(Authorized by K.S.A. 55-604; implementing K.S.A. 55-603; effective, T-83-44, Dec. 8, 1982; effective May 1, 1983; amended May 1, 1986; amended May 1, 1988.)

82-3-205. (Authorized by and implementing K.S.A. 55-604, as amended by L. 1988, Ch. 356, Sec. 168; effective, T-83-44, Dec. 8, 1982; effective May 1, 1983; amended May 1, 1984; amended May 1, 1986; amended May 8, 1989; revoked April 23, 1990.)

82-3-206. OIL CONSERVATION ASSESSMENT.

In order to pay the conservation division expenses and administration costs not otherwise provided for, an oil conservation assessment shall be made as follows:

- (a) A charge of 144.00 mills on each barrel of crude oil or petroleum marketed or used each month shall be assessed to each producer. The charge and assessment shall apply only to the first purchase of oil from the producer.
- (b) Each month, the first purchaser of the production shall perform the following:
 - (1) Deduct the assessment per barrel of oil marketed or used from the lease before paying for production;
 - (2) remit the assessment in a single check to the conservation division when making regular oil payments; and
 - (3) account for the deductions on the regular payment statements to producers, royalty owners, and other interested persons.

(Authorized by K.S.A. 2017 Supp. 55-152; implementing K.S.A. 2017 Supp. 55-176; effective, T-83-44, Dec. 8, 1982; effective May 1, 1983; amended May 1, 1986; amended April 23, 1990; amended Dec. 6, 1993; amended Nov. 15, 1996; amended June 1, 2001; amended Dec. 22, 2006; amended June 15, 2018.)

82-3-207. OIL DRILLING UNIT.

This regulation shall apply to all oil wells not covered by a special commission order.

- (a) Standard drilling unit. The standard drilling unit shall be 10 acres, except that the standard drilling unit for the counties and well depths listed in K.A.R. 82-3-108 (b) shall be 2.5 acres.
- (b) Exceptions. Exceptions to the standard drilling unit may be granted by the commission to prevent waste or to protect correlative rights.

(Authorized by and implementing K.S.A. 55-604; effective, T-83-44, Dec. 8, 1982; effective May 1, 1983; amended May 1, 1984; amended May 1, 1986; amended May 1, 1988; amended Aug. 14, 2015.)

82-3-208. VENTING OR FLARING OF CASINGHEAD GAS.

- (a) The venting or flaring of non-sour casinghead gas may be permitted by the director if the operator files an affidavit with the conservation division that states all of the following:
 - (1) The well produces 25 mcf/d or less of casinghead gas.
 - (2) The casinghead gas volume is uneconomic to market due to pipeline or marketing expenses.
 - (3) The operator has made a diligent effort to obtain a market for the gas.
- (b) If the well produces more than 25 mcf/d, venting or flaring may be permitted only by commission order after consideration of the following:
 - (1) The availability of a market or of pipeline facilities;
 - (2) the probable recoverable gas reserves;
 - (3) the necessity for maintenance of reservoir gas pressure to maximize the recoverability of oil reserves from the formation;
 - (4) the feasibility of reinjecting the gas;
 - (5) a reasonable testing period;
 - (6) any anticipated change in the gas-to-oil ratio;
 - (7) the applicant's compliance with the department's applicable air quality regulations; and
 - (8) any other relevant fact or circumstance.
- (c) Any interested party may file an application to vent or flare more than 25 mcf/d of casinghead gas. Each applicant shall file an application with the conservation division. The applicant shall publish notice of the application pursuant to K.A.R. 82-3-135a and notice of any hearing pursuant to K.A.R. 82-3-135.
- (d) Each application shall include a list of the persons provided notice pursuant to K.A.R. 82-3-135a and the date that notice was provided.

- (e) The volume of gas vented or flared under this regulation shall be metered, and the records shall be retained for at least two years. This information shall be reported to the commission semiannually or as designated by the commission.
- (f) All gas venting or flaring shall be done in a manner designed to prevent damage to property and injury to persons who are reasonably expected to be in the vicinity for work, pleasure, or business.

(Authorized by K.S.A. 55-604, K.S.A. 55-704; implementing K.S.A. 55-604, K.S.A. 55-702, and K.S.A. 55-704; effective May 1, 1984; amended May 1, 1986; amended April 23, 1990; amended Jan. 14, 2005; amended Aug. 14, 2015.)

82-3-209. FLARING OF SOUR GAS.

- (a) Sour casinghead gas may be flared only if permitted by commission order, with consideration of the following factors:
 - (1) The availability of a market or of pipeline facilities;
 - (2) probable recoverable gas reserves;
 - (3) the necessity for maintenance of gas pressure in the formation;
 - (4) the feasibility of reinjection of sour gas;
 - (5) any anticipated change in the gas-oil ratio;
 - (6) the hydrogen sulfide content of the gas;
 - (7) the feasibility of desulfurization of the gas;
 - (8) the proposed flaring facility;
 - (9) the applicant's compliance with the department's air quality regulations; and
 - (10) any other relevant fact.
- (b) Each applicant shall file an application with the conservation division. The applicant shall publish notice of the application pursuant to K.A.R. 82-3-135a and any hearing pursuant to K.A.R. 82-3-135.
- (c) Each application shall include a list of the persons provided notice pursuant to K.A.R. 82-3-135a and the date that notice was provided.
- (d) All sour gas flared under this regulation shall be metered and analyzed for its hydrogen sulfide content. This information shall be reported to the commission semiannually or as designated by the commission.

(Authorized by K.S.A. 55-604, K.S.A. 55-704; implementing K.S.A. 55-604, K.S.A. 55-702, K.S.A. 55-703, K.S.A. 55-704; effective May 1, 1987; amended April 23, 1990; amended Aug. 14, 2015.)

82-3-210 to 82-3-299. RESERVED.

GAS CONSERVATION RULES

82-3-300. ASSIGNMENT OF GAS ALLOWABLES IN PRORATED POOLS; NOTICE.

- (a) Request for allowable. A gas well in a prorated common source of supply that is in conformance with all provisions of the applicable basic proration order shall be granted an allowable by the commission on the date of filing the latest of the following:
 - (1) A form as prescribed by the commission requesting an allowable for a gas well in a prorated pool;
 - (2) an acreage plat verifying the location of the well and a description of the acreage to be attributed to the well;
 - (3) the results of the state-supervised test as required by the applicable basic proration order; and
 - (4) in the case of a replacement well, either of the following:
 - (A) Documentation that the operator has plugged the original well, caused the productive perforations to be squeezed, or otherwise isolated the productive zone; or
 - (B) an affidavit filed with the commission stating that the well is disconnected and surface equipment is sealed in preparation to be plugged or returned to other use within one year of the date of being sealed.
- (b) Replacement wells. In the case of a replacement well, any accumulated overage or underage shall be transferred to the replacement well.
- (c) Application for exception. A gas well in a prorated common source of supply that requires exceptions to any provision of the applicable basic proration order may be granted an allowable by the commission only after an application has been filed with the conservation division. Each application shall show the following:
 - (1) The exact location of the well and the acreage attributed to the well;
 - (2) the common source of supply from which the well is producing;
 - (3) the name and address of the purchaser, if known;
 - (4) a statement of the exception being requested and the reasons the exception should be granted;
 - (5) a plat showing the location and approximate depths of all wells and dry holes that have been drilled within one mile from the acreage to be attributed;
 - (6) the applicant's license number;
 - (7) the names and addresses of each person owning a royalty or working interest in the acreage to be attributed, and a certificate of mailing indicating the date on which service of a copy of the application was made to each person;
 - (8) the names and addresses of all operators of producing acreage abutting or adjoining the acreage to be attributed, and a certificate of mailing indicating the date on which service of a copy of the application was made to each operator;

- (9) the names and addresses of all lessees of record of nonproducing acreage abutting or adjoining the acreage to be attributed, and a certificate of mailing indicating the date on which service of a copy of the application was made to each lessee;
 - (10) the names and addresses of all owners of record of the minerals in, or royalty of unleased acreage abutting or adjoining, the acreage to be attributed, and a certificate of mailing indicating the date on which service of a copy of the application was made to each owner;
 - (11) the names and addresses of all persons owning the royalty or leasehold interests in acreage abutting or adjoining the acreage to be attributed that is operated by the applicant or on which the applicant has a lease or an interest in the lease, and a certificate of mailing indicating the date on which service of a copy of the application was made to each person;
 - (12) a statement advising each person listed in paragraphs (7) through (11) of this subsection that the person has 15 days in which to file a protest to the application with the conservation division pursuant to the provisions of K.A.R. 82-3-135b; and
 - (13) any other relevant information that the commission may require.
- (d) Notice of the application. In addition to mailing a copy of the application to each of the persons described in subsection (c), notice of the application shall be published in at least one issue of the official county newspaper of each county in which lands affected by the application are located and in the "Wichita Eagle" newspaper.
- (e) Protest. After notice of the application is published pursuant to subsection (d) and mailed to the persons described in subsection (c), the application shall be held in abeyance for 15 days from the date of publication or mailing, whichever is later, pending the filing of any protest pursuant to K.A.R. 82-3-135b. If a valid protest is filed or if, on the commission's own motion, it is deemed that there should be a hearing on the application, a hearing shall be held. The applicant shall publish notice of the hearing pursuant to K.A.R. 82-3-135.

(Authorized by K.S.A. 55-152 and 55-704; implementing K.S.A. 55-705b, K.S.A. 55-706; effective, T-83-44, Dec. 8, 1982; effective May 1, 1983; amended May 1, 1988; amended April 23, 1990; amended March 20, 1995; amended June 1, 2001; amended Nov. 2, 2007.)

82-3-300a. REINSTATEMENT OF CANCELLED UNDERAGE.

- (a) A cancelled underage for any gas well producing from a common source of supply governed by a basic proration order which provides for the reinstatement of cancelled underage shall not be reinstated by the commission unless an application has been filed with the conservation division and duly verified.

Each application shall show:

- (1) The exact location of the well and the acreage attributed to the well;
- (2) the common source of supply from which the well is producing;
- (3) the name and address of the purchaser, if known, and a certificate of mailing indicating the date the application was served;
- (4) the volume of underage available to be reinstated and the date of its cancellation;
- (5) the applicant's license number; and
- (6) any other information the commission may require.

- (b) Notice of the application shall be published in at least one issue of the official county newspaper of each county in which lands affected by the application are located and in the Wichita Eagle newspaper.

(Authorized by and implementing K.S.A. 55-704, K.S.A. 1989 Supp. 55-706; effective April 23, 1990.)

82-3-301. (Authorized by K.S.A. 55-704; implementing K.S.A. 1982 Supp. 55-703; effective, T-83-44, Dec. 8, 1982; effective May 1, 1983; revoked Jan. 14, 2005.)

82-3-302. (Authorized by and implementing K.S.A. 55-704; effective, T-83-44, Dec. 8, 1982; effective May 1, 1983; revoked May 1, 1988.)

82-3-303. DETERMINATION OF OPEN FLOW OF A GAS WELL.

In the absence of field rules to the contrary, the open flow capacity of a gas well shall be determined by flowing the well into a pipeline for a period of 24 to 72 hours, as required to attain stabilization through approved metering equipment. This procedure shall be known as a one point stabilized flow test. The rate of flow shall be recorded on a standard orifice meter chart, either graphically or mathematically, or recorded electronically in a flow computer connected to a metering device. The rate of flow at the end of the period shall be extrapolated to atmospheric pressure by using the characteristic well slope as determined from a multipoint back-pressure test.

- (a) Multipoint back-pressure test. A multipoint back-pressure test shall be taken for determination of characteristic well slope, "n," as determined from the equation

$$Q = C(P_c^2 - P_w^2)^n$$

where:

- Q = the rate of flow, using MCF per day at 14.65 pounds per square inch absolute and 60°F;
- C = the performance coefficient of the well;
- P_c = wellhead shut-in pressure, expressed in pounds per square inch absolute and using the casing or tubing pressure, whichever is higher;
- P_w = static wellhead working pressure, expressed in pounds per square inch absolute, at the termination of each flow period. Except as otherwise provided, the casing pressure shall be used if the annulus is open to the formation. If the annulus is not open to the formation so that the pressure cannot be measured on a static column, the tubing pressure shall be used if the flowing pressure is corrected for friction. All squared pressures shall be expressed in thousands; and
- n = a numerical exponent characteristic of the particular well, referred to as "slope."

Multipoint back-pressure tests shall be limited to one per commercial gas well. A second test shall be permitted for a commercial gas well only if the well is recompleted into a separate common source of supply or for good cause shown.

The basic procedures for taking a multipoint back-pressure test shall be as follows:

- (1) The well shall be shut in for 72 hours, plus or minus six hours, and the shut-in pressure shall be taken. This shut-in pressure shall be considered stabilized unless readings taken with commission-approved equipment at a shorter period are higher. In this event, the highest recorded pressure during the test shall be used as the shut-in pressure. If the shut-in period appreciably affects the surface pressure, appropriate correction of the surface pressure shall be made in order to account for the pressure due to the liquid column.

- (2) If the well being tested has a pipeline connection, it shall be flowed for at least 24 hours before the shut-in period at a rate high enough to clear the well of liquids.
 - (3) A series of at least four flow tests shall be taken. The tests shall be run in an increasing flow rate sequence. In the case of high liquid-to-gas ratio wells, a decreasing flow rate sequence may be used if the increasing sequence method will not give point alignment. If the decreasing sequence method is used, a statement giving the reasons why the use of this method is necessary, with a copy of the data taken on increasing sequence, shall be furnished to the commission.
 - (4) Each flow test shall extend for not more than two hours. If the wellhead working pressure does not decline more than 0.1 percent of the wellhead shut-in pressure during any 15-minute period before the end of the two-hour flow period, the pressure may be recorded and the next flow test started. All subsequent flow periods shall be of the same duration.
 - (5) If the back-pressure curve cannot be drawn through at least three of the plotted points, the well shall be retested. If upon retest a curve cannot be drawn through at least three of the plotted points, an average curve shall be drawn through the points of the test if the slope of the curve will be not more than 1.0 and not less than 0.5.
 - (6) If the curve drawn through at least three points of the back-pressure test has a slope greater than 1.0 or less than 0.5, the well shall be retested. If upon retest the slope of the curve is greater than 1.0, a curve with a slope of 1.0 shall be drawn through the data point corresponding to the highest rate of flow. If upon retest the slope of the curve is less than 0.5, a curve with a slope of 0.5 shall be drawn through the data point corresponding to the lowest rate of flow.
 - (7) All tests shall be subject to review and approval by a representative of the state corporation commission.
 - (8) The lowest rate of flow on the test shall be at a rate high enough to keep the well clear of liquids.
 - (9) If possible, the working wellhead pressure at the lowest rate of flow shall be drawn down at least five percent of the well's shut-in pressure and, if possible, 25 percent of the well's shut-in pressure at the highest rate of flow. If data cannot be obtained in accordance with this paragraph, a written explanation shall be furnished to the commission.
 - (10) Correction for the compressibility of flowing gas shall be made in accordance with approved commission methods.
 - (11) If the static wellhead working pressure reading cannot be obtained due to packer or dual completion, the pressure shall be calculated by using appendix A in the document adopted by reference in paragraph (b)(4).
 - (12) If a satisfactory test cannot be obtained on wells whose indicated open flow is 500 mcf or less, an exception to the foregoing procedure may be granted by the commission and a slope of 0.85 may be assigned to the well.
 - (13) Upon completion of the test, all the calculations shall be shown on any approved form and shall be accompanied by a back-pressure curve neatly plotted on equal scale log paper of at least three-inch cycles.
- (b) One-point stabilized flow test.
- (1) An initial one-point stabilized flow test shall be made within 30 days from the date of first production of gas into a pipeline, and additional tests shall be taken yearly or as ordered

by the commission. Upon the completion of all flow tests, a copy of the flow calculations shall be submitted to the commission.

- (2) Immediately after the shut-in wellhead pressure is taken, the well shall be opened into the pipeline and gas shall be produced for the subsequent 24 to 72 hours at the test rate as required to reach stabilization. During this time, the working pressure at the wellhead shall be maintained as nearly as possible at 85 percent of the wellhead shut-in pressure, expressed in pounds per square inch gauge, or as close to 85 percent as operating conditions in the field will permit.
- (3) The wellhead working pressure shall never be more than 95 percent or less than 75 percent of the wellhead shut-in pressure of the well being tested unless, in the judgment of the commission's representative, it is impractical to maintain the pressure within these limits. In this case, the well shall be produced at maximum capacity through either the tubing or the annulus, whichever will give the greater drawdown.
- (4) The open flow shall be calculated by use of the formula specified in this paragraph. Flow shall be measured by an approved meter throughout the test period, and the wellhead and meter pressures shall be measured at the close of the test period by gauges approved for use in the state corporation commission's "manual of back pressure testing of gas wells," written pursuant to commission order dated May 15, 1957, docket number 34,780-C (C-1825), which is hereby adopted by reference, including the appendices.

The rate at which the well is producing at the end of the flow period shall be considered the stabilized producing rate corresponding to the wellhead working pressure existing at that time, if the rate is not greater than the average producing rate for the entire flow period. The observed stabilized producing rate shall be converted to open flow by use of the following formula:

$$OF = R \text{ times } \left[\frac{(P_c^2 - P_a^2)}{(P_c^2 - P_w^2)} \right]^n$$

where:

- | | | |
|----------------|---|--|
| OF | = | Open flow, expressed in MCF/D. |
| R | = | Stabilized producing rate, expressed in MCF per day at 14.65 pounds per square inch absolute and 60°F. |
| P _a | = | Atmospheric pressure, expressed in pounds per square inch absolute. |
| P _c | = | Wellhead shut-in pressure of the well, expressed in pounds per square inch absolute. |
| P _w | = | Stabilized wellhead working pressure at rate R, expressed in pounds per square inch absolute. |
| n | = | Characteristic well slope as determined by the multipoint back-pressure test. |

- (5) Shut-in wellhead pressure shall be measured after the well has been shut in for approximately 72 hours. The well shall have been shut in for not less than 66 hours and not more than 78 hours when the shut-in pressure is taken. If the representative of the commission believes that the shut-in pressure taken upon a well is incorrect, the representative may require that the well be blown to clean fluids from the well bore, or may take any other reasonable steps that may be necessary to get a true pressure reading upon the well. If more than one shut-in pressure is taken upon a well during the test period, the highest shut-in pressure obtained shall be used in calculating the open flow of the well.

- (c) Metering devices. An orifice meter, a critical flow prover, or a turbine meter in good operating condition and properly calibrated in accordance with the manufacturer's recommendation shall be the only acceptable metering devices. The owner of the metering device shall have

documentation of any recalibration or refurbishment of the metering device and shall furnish the documentation to the conservation division upon request.

- (d) Gas venting. Gas shall not be vented except when absolutely necessary.

(Authorized by K.S.A. 55-704; implementing K.S.A. 55-703; effective, T-83-44, Dec. 8, 1982; effective May 1, 1983; amended May 1, 1987; amended April 23, 1990; amended June 1, 2007.)

82-3-304. TESTS OF GAS WELLS.

- (a) Initial test.

- (1) Each operator shall conduct a multipoint back-pressure test and a one-point stabilized flow test, as specified in K.A.R. 82-3-303, on each gas well producing at least 250 mcf per day. The tests shall be conducted within 30 days of the first gas sales. The test results shall be filed with the commission within 60 days of the first gas sales.
- (2) Each operator shall conduct a 24-hour shut-in pressure test on each gas well producing less than 250 mcf per day. Each test shall be conducted within 120 days of the first gas sales. The test results shall be filed with the commission within 150 days of the first gas sales.

- (b) Annual test. Before April 1 of each calendar year, each operator shall conduct a one-point stabilized flow test on each gas well producing at least 500 mcf per day. The test results shall be filed with the commission before May 1 of each calendar year.

- (c) Test witnessing. Each test shall be conducted under the supervision of the conservation division, which may have an employee witness any test. A test of any individual well may be required by the commission at any time.

- (d) Coalbed natural gas exemption.

- (1) Any operator of a well producing only coalbed natural gas may seek an exemption from subsection (a) or (b) by filing an application with the conservation division stating that only coalbed natural gas is produced from the well and that testing would be physically impossible or contrary to prudent practices. No well shall be exempt unless the application has been approved by the conservation division.
- (2) If the exemption is granted, the exemption shall continue in effect until the well no longer meets the criteria for exemption. The operator shall notify the conservation division immediately if the well begins producing oil or gas other than coalbed natural gas or if the well characteristics change so that testing becomes possible.

(Authorized by K.S.A. 55-704; implementing K.S.A. 2014 Supp. 55-164 and K.S.A. 55-703; effective, T-83-44, Dec. 8, 1982; effective May 1, 1983; amended May 1, 1986; amended May 1, 1987; amended May 1, 1988; amended April 23, 1990; amended Aug. 29, 1997; amended Jan. 25, 2002; amended Jan. 14, 2005; amended June 1, 2007; amended Oct. 23, 2015.)

82-3-305. GAS TO BE METERED.

- (a) Well, lease, or unitized property. All gas, when produced or sold, shall be metered with an approved meter of sufficient capacity. Gas may be metered from a lease or unitized property as a whole if it is shown that ratable taking can be maintained. Meters shall not be required for gas produced and used on the lease for development purposes and lease operations or for use in primary dwellings.

- (b) Meters: calibration, testing, charts, and records. Each party who owns, maintains, or operates the metering device used to record gas sales from each well or lease in gas fields shall at a minimum test and calibrate the metering device on an annual basis by a method approved by

the conservation division and retain the record of the testing and calibration for at least two years. Each party shall also retain for at least two years the original field record consisting of magnetic tapes, meter charts, electronic records, or records of gas purchases. All information retained shall be made available to the conservation division upon request.

- (c) By-passes. By-passes shall not be connected around meters in a manner that will permit the improper taking of gas.
- (d) Penalties. Each failure to comply with any of the requirements of this regulation shall be punishable by a \$1,000 penalty.

(Authorized by K.S.A. 55-152; implementing K.S.A. 55-164 and 55-703; effective, T-83-44, Dec. 8, 1982; effective May 1, 1983; amended May 8, 1989; amended Dec. 22, 2006.)

82-3-306. REPORT OF GAS PRODUCED.

- (a) Each party who owns, maintains, or operates the metering device used to record gas produced from each well in any prorated gas field shall file a monthly volume report showing the amount of gas actually metered on each well. The volume report shall be filed with the conservation division on or before the 20th day of the succeeding month in which the production occurred. Extensions of the time period within which the volume report shall be filed may be granted by the director. The form or electronic format used for reporting the volume shall be furnished or approved by the commission.
- (b) Each party who owns, maintains, or operates the metering device used to record gas produced from each lease or well in any gas field under statewide general rules and regulations may be directed by the commission to file a volume report showing the amount of gas actually metered on each lease or well for a specified time period. The form or electronic format used for reporting the volume shall be furnished or approved by the commission.

(Authorized by and implementing K.S.A. 55-704; effective, T-83-44, Dec. 8, 1982; effective May 1, 1983; amended May 1, 1988; amended April 23, 1990; amended June 1, 2001.)

82-3-307. GAS CONSERVATION ASSESSMENT.

In order to pay the conservation division expenses and other costs in connection with the administration of the gas conservation regulations not otherwise provided for, an assessment shall be made as follows:

- (a) A charge of 20.50 mills shall be assessed on each 1,000 cubic feet of gas sold or marketed each month. The assessment shall apply only to the first purchaser of gas.
- (b) Each month, the first purchaser of the production shall perform the following:
 - (1) Before paying for the production, deduct an amount equal to the assessment for every 1,000 cubic feet of gas produced and removed from the lease;
 - (2) remit the amounts deducted, in a single check if the purchaser desires, to the conservation division when the purchaser makes regular gas payments for this period; and
 - (3) show all deductions on the regular payment statements to producers, royalty owners, and other interested persons.
- (c) The assessment established by the commission shall not apply to gas that is being returned to the ground for repressuring purposes within the field, but shall apply to gas that is produced and removed from the lease and returned to the ground for storage purposes.

(Authorized by K.S.A. 2017 Supp. 55-152; implementing K.S.A. 2017 Supp. 55-176; effective, T-83-44, Dec. 8, 1982; effective May 1, 1983; amended April 23, 1990; amended Aug. 19,

1991; amended Dec. 6, 1993; amended Nov. 15, 1996; amended June 1, 2001; amended Dec. 22, 2006; amended June 15, 2018.)

82-3-308. (Authorized by and implementing K.S.A. 1982 Supp. 55-703; effective, T-83-44, Dec. 8, 1982; effective May 1, 1983; revoked Aug. 29, 1997.)

82-3-309. (Authorized by and implementing K.S.A. 1982 Supp. 55-703; effective, T-83-44, Dec. 8, 1982; effective May 1, 1983; revoked Aug. 29, 1997.)

82-3-310. NATURAL GAS PIPELINE MAPS.

Upon the request of the conservation division, each operator shall file natural gas pipeline maps of a size and scale prescribed by the commission, indicating the location, size, and extensions of the pipeline, and any portions abandoned or not used.

(Authorized by K.S.A. 55-704; implementing K.S.A. 55-703; effective, T-83-44, Dec. 8, 1982; effective May 1, 1983; amended June 1, 2001.)

82-3-311. DRILLING THROUGH GAS STORAGE FORMATIONS.

- (a) Any person, firm, or corporation who, for any purpose, drills or causes the drilling of a well or test hole that penetrates or bores through any underground stratum or formation utilized for the underground storage of natural gas shall seal off the natural gas storage stratum or formation by either of the following:
 - (1) The methods and materials recommended by the operator of the gas storage facility and approved by the commission or its duly authorized representative; or
 - (2) any methods and materials that the commission determines to be fair, equitable, and reasonable.
- (b) That person, firm, or corporation shall maintain the well or test hole in a manner that protects the stratum or formation at all times against pollution and the escape of natural gas.
- (c) Not less than 30 days before commencing or plugging a well or test hole as referred to in subsection (b), the person, firm, or corporation desiring to commence drilling or plugging operations shall give the operator of the gas storage facility and the commission notice in writing, by registered mail, of the date desired for commencement of drilling or plugging the well.
- (d) Within 10 days after receipt of notice, the operator of the gas storage facility shall forward to the commission its recommendations as to the manner, methods, and materials to be used in the sealing off or plugging operation. The operator of the gas storage facility shall give notice of the recommendations by mailing or delivering a copy to the person, firm, or corporation who seeks to drill or plug a well or test hole. The notice shall be mailed or delivered on or before the date on which the recommendations are mailed to or filed with the commission.
- (e) Any objections or complaints stating why the recommendations proposed by the operator of the gas storage facility are not feasible, practical, or reasonable shall be filed within five days after the recommendation is filed.
- (f) If any objections or complaints are filed or if the commission deems that there should be a hearing on the recommendation of the operator of the gas storage facility, a hearing shall be held. Notice of the hearing shall be published according to K.A.R. 82-3-135.
- (g) Following receipt of the recommendations proposed by the operator of the gas storage facility or the hearing, the manner, methods, and materials to be used in the sealing off or plugging operation shall be prescribed by the commission. Operations shall not commence until the manner, methods, and materials to be used have been prescribed by the commission.

- (h) Any operator of the gas storage facility involved may have a representative present at all times during the drilling, completing, or plugging of the well or test hole and shall have access to all records relating to the drilling, equipping, maintenance, operation, or plugging of the well.
- (i) Each operator of the gas storage facility involved, in conjunction with the commission or its representative and the operator of the well, shall have the right to inspect or test the well to discover any leaks or defects that may affect the underground natural gas storage stratum or formation.
- (j) Each cost and expense necessarily incurred in sealing off the stratum or formation or in plugging, maintaining, inspecting, or testing the well, as recommended by the operator of the gas storage facility and subsequently approved or independently determined by the commission or its representative, that is over and above the ordinary expense of operations using similar methods, shall be paid upon completion by the operator of the gas storage facility involved.

(Authorized by K.S.A. 55-152, K.S.A. 2001 Supp. 55-1,115 and 55-604, K.S.A. 55-704, and K.S.A. 2001 Supp. 74-623; implementing K.S.A. 2001 Supp. 55-1,115, K.S.A. 55-605, 55-706, 55-1203, and K.S.A. 2001 Supp. 74-623; effective, T-83-44, Dec. 8, 1982; effective May 1, 1983; amended, T-85-51, Dec. 19, 1984; effective May 1, 1985; amended May 1, 1988; amended May 8, 1989; amended April 23, 1990; amended, T-82-6-27-02, July 1, 2002; amended Oct. 29, 2002.)

82-3-311a. DRILLING THROUGH CO₂ STORAGE FACILITY OR CO₂ ENHANCED OIL RECOVERY RESERVOIRS.

- (a) Each person, firm, or corporation that, for any purpose, drills or causes the drilling of a well or test hole that penetrates or bores through any stratum or formation utilized for CO₂ storage or CO₂ enhanced oil recovery shall seal off the CO₂ stratum or formation by either of the following:
 - (1) The methods and materials recommended by the operator of the CO₂ storage facility or CO₂ enhanced oil recovery project and approved by the director or the director's authorized representative; or
 - (2) any methods and materials that the director determines to be fair and reasonable.
- (b) Each person, firm, or corporation specified in subsection (a) shall maintain the well or test hole in a manner that protects the stratum or formation at all times from pollution and the escape of CO₂.
- (c) At least 30 days before commencing or plugging a well or test hole as specified in subsection (a), the person, firm, or corporation desiring to commence drilling or plugging operations shall give to the operator of the CO₂ storage facility or CO₂ enhanced oil recovery project and the conservation division written notice, by registered mail, of the date desired for commencement of drilling or plugging the well.
- (d) Within 10 days after receipt of notice, the operator of the CO₂ storage facility or CO₂ enhanced oil recovery project shall forward to the conservation division the operator's recommendations for the manner, methods, and materials to be used in the sealing off or plugging operation. The operator of the CO₂ storage facility or CO₂ enhanced oil recovery project shall give notice of the recommendations by mailing or delivering a copy to the person, firm, or corporation that seeks to drill or plug a well or test hole. The notice shall be mailed or delivered on or before the date on which the recommendations are mailed to or filed with the conservation division.
- (e) Each objection or complaint stating why the recommendations proposed by the operator of the CO₂ storage facility or CO₂ enhanced oil recovery project are not feasible, practical, or reasonable shall be filed within five days after the recommendation is filed.

- (f) If any objections or complaints are filed or if the director deems that there should be a hearing on the recommendation of the operator of the CO₂ storage facility or CO₂ enhanced oil recovery project, a hearing shall be held. Notice of the hearing shall be published according to K.A.R. 82-3-135.
- (g) Following the hearing or receipt of the recommendations proposed by the operator of the CO₂ storage facility or CO₂ enhanced oil recovery project, the manner, methods, and materials to be used in the sealing off or plugging operation shall be prescribed by the director. Operations shall not commence until the director has prescribed the manner, methods, and materials to be used.
- (h) The operator of the CO₂ storage facility or CO₂ enhanced oil recovery project involved may have a representative present at all times during the drilling, completing, or plugging of the well or test hole and shall have access to all records relating to the drilling, equipping, maintenance, operation, or plugging of the well.
- (i) Each operator of the CO₂ storage facility or CO₂ enhanced oil recovery project involved, in conjunction with the conservation division or its representative and with the operator of the well, shall have the right to inspect or test the well to discover any leaks or defects that could affect the CO₂ storage or CO₂ enhanced oil recovery stratum or formation.
- (j) The operator of the CO₂ storage facility or enhanced oil recovery project shall pay each cost necessarily incurred in sealing off the stratum or formation or in plugging, maintaining, inspecting, or testing the well, as recommended by the operator of the CO₂ storage facility or CO₂ enhanced oil recovery project and subsequently either approved or independently determined by the director or the director's representative, that exceeds the ordinary cost of operations using similar methods.

(Authorized by and implementing K.S.A. 2008 Supp. 55-1637; effective Feb. 26, 2010.)

82-3-312. GAS ALLOWABLES AND DRILLING UNIT.

This regulation shall apply to all gas wells not covered by a special commission order.

- (a) Daily allowable. The daily allowable for each well shall be 50 percent of the well's actual open-flow potential, as measured by the testing procedures specified in K.A.R. 82-3-303. Each well in compliance with K.A.R. 82-3-304 shall be entitled to a minimum allowable of 250 mcf per day.
- (b) Coalbed natural gas exemption. Coalbed natural gas wells that are exempt from the requirements of K.A.R. 82-3-304(a) and (c) shall be exempt from subsection (a) of this regulation.
- (c) Standard drilling unit. The standard drilling unit shall be 10 acres.
- (d) Drilling unit exceptions. Exceptions to the standard drilling unit may be granted by the commission to prevent waste or to protect correlative rights.

(Authorized by K.S.A. 55-704; implementing K.S.A. 55-703; effective May 1, 1985; amended May 1, 1986; amended May 1, 1988; amended April 23, 1990; amended Aug. 29, 1997; amended June 1, 2001; amended Jan. 25, 2002; amended Jan. 14, 2005; amended Aug. 14, 2015.)

82-3-313. (Authorized by K.S.A. 55-604, 55-704, implementing K.S.A. 55-602, 55-603, 55-703, as amended by L. 1985, Ch. 183, Sec. 1; effective May 1, 1986; revoked Aug. 29, 1997.)

82-3-314. VENTING OR FLARING OF GAS OTHER THAN CASINGHEAD GAS.

- (a) Coalbed natural gas.

- (1) Without a hearing, the venting or flaring of coalbed natural gas may be permitted by the commission if the requirements specified in this subsection are met. The operator shall file an affidavit with the conservation division. The affidavit shall be submitted on a form supplied by the commission and shall meet the following requirements:
 - (A) Identify the geographic area included in the proposed pilot project;
 - (B) state that there are no gathering or pipeline facilities available;
 - (C) state that venting or flaring of gas is necessary to dewater wells while they are being tested to determine the economic feasibility of installing gathering or other facilities to make the gas marketable and to determine the required capacity of the facilities;
 - (D) state the maximum daily volume of gas anticipated to be vented or flared; and
 - (E) state that the applicant will comply with the department's applicable air quality regulations.
- (2) Venting or flaring for any reason shall not exceed 180 days without reapplication with the commission. Without a hearing, one extension not to exceed 180 days may be granted by the commission.
- (3) The operator shall publish notice of the affidavit and any request for an extension of the venting or flaring period, pursuant to K.A.R. 82-3-135. In addition, the operator shall give notice to the local emergency planning commission (LEPC). If any part of the proposed project area falls within the corporate limits of any city, the operator shall give notice to the city clerk. The operator shall file with the conservation division a certificate of mailing indicating the date on which service of a copy of the affidavit was made to the LEPC or city clerk.

(b) Natural gas.

- (1) Without a hearing, the venting or flaring of natural gas, other than sour gas, may be permitted by the commission if necessary for any of the following purposes:
 - (A) Dewatering or well cleanup;
 - (B) well testing;
 - (C) well cleanup after stimulation or workover;
 - (D) evaluation and testing before connecting to a pipeline;
 - (E) emergencies; or
 - (F) those purposes and conditions specified under K.S.A. 55-102(a), and amendments thereto.
- (2) If a well is to be vented or flared for more than seven days, either pursuant to K.S.A. 55-102(a) and amendments thereto or for any other reason, the operator shall notify the appropriate district office and shall file an affidavit with the conservation division, on a form supplied by the commission. The affidavit shall state that the extended period of time to vent the well is necessary for at least one of the following:
 - (A) The efficient operation of the well;
 - (B) evaluation and determination of whether the quality of gas meets pipeline specifications; or

- (C) evaluation and determination of whether the well is capable of producing in economic quantities.
- (c) Gas measurement; continuing jurisdiction. The volume of gas vented or flared under this regulation shall be metered, measured, or monitored, and the charts or records shall be retained for two years. This information shall be reported to the commission semiannually or as designated by the commission. The continuing jurisdiction with authority to terminate the venting or flaring of gas when necessary shall lie with the commission.
- (d) Protection of persons and property. All gas vented or flared under this regulation shall be done in a manner designed to prevent damage to property and injury to persons who are reasonably expected to be in the vicinity for work, pleasure, or business.
- (e) The venting or flaring of natural gas under conditions not addressed in this regulation may be authorized if the operator files an application and the commission approves the application before the start of the venting or flaring activity.

(Authorized by K.S.A. 55-152; implementing K.S.A. 2003 Supp. 55-102; effective Jan. 14, 2005.)

82-3-315 to 82-3-399. RESERVED

DISPOSAL AND ENHANCED RECOVERY WELL RULES

* 82-3-400. INJECTION ALLOWED ONLY BY PERMIT; PENALTY.

- (a) Authority to inject. Injection shall be permitted only after both of the following conditions are met:
- (1) The operator has filed an application for injection authority with the conservation division in accordance with K.A.R. 82-3-401 and provided notice in accordance with K.A.R. 82-3-402.
 - (2) The conservation division has issued a written permit granting the application.
- (b) Penalty for unauthorized injection. The failure to obtain a written permit from the conservation division before beginning injection operations shall be punishable by a penalty of \$1,000 for first-time violators, \$5,000 for second-time violators, and \$10,000 and operator license review for third-time violators. In addition, each injection well found to be operating without a conservation division permit shall be shut in until compliance is achieved.

(Authorized by K.S.A. 55-151, 55-152, K.S.A. 2000 Supp. 55-164, as amended by L. 2001, ch. 5, sec. 191; implementing K.S.A. 55-151, K.S.A. 2000 Supp. 55-164, as amended by L. 2001, ch. 5, sec. 191; effective, T-83-44, Dec. 8, 1982; effective May 1, 1983; amended May 1, 1984; amended May 1, 1986; amended, T-87-46, Dec. 19, 1986; amended May 1, 1987; amended May 1, 1988; amended May 8, 1989; amended April 23, 1990; amended April 5, 2002.)

* Refer to Declaratory Order, Docket No. 02-CONS-294-CREG dated July 23, 2002.

82-3-401. APPLICATION FOR INJECTION WELL; CONTENT.

- (a) Application form; content. The original and two copies of each application shall be signed and verified by the operator, and filed with the conservation division on a form approved by the commission, and shall provide the following information:
- (1) The name, location, surface elevation, total depth, and plug-back depth of each injection well;
 - (2) a plat showing the location of all oil and gas wells, including producing wells, abandoned wells, drilling wells and dry holes within a ½-mile radius of the injection well, and indicating producing formations and the subsea top of the producing formations;
 - (3) the name and address of each operator of a producing or drilling well within a ½-mile radius of the injection well;
 - (4) the name, description, and depth of each injection interval. The application shall indicate whether the injection is through perforations, an open hole, or both;
 - (5) the depths of the tops and bottoms of all casing and cement used or to be used in the injection or disposal well;
 - (6) the size of the casing and tubing and the depth of the tubing packer;
 - (7) an electric log run to the surface or a log showing lithology or porosity of geological formations encountered in the injection well, including an elevation reference. If such a log is unavailable, an electric log to surface or a log showing lithology or porosity of geological formations encountered in wells located within a one-mile radius of the subject well;

- (8) a description of the fluid to be injected, the source of injected fluid, and the estimated maximum injection pressure and average daily rate of injection in barrels per day;
 - (9) an affidavit that notice has been provided in accordance with K.A.R. 82-3-402;
 - (10) information showing that injection into the proposed zone will be contained within the zone and will not initiate fractures through the overlying strata that could enable the fluid or formation fluid to enter fresh and usable water strata. Fracture gradients shall be computed and furnished to the conservation division by the applicant, if requested by the conservation division;
 - (11) the applicant's license number;
 - (12) any other information that the conservation division requires; and
 - (13) payment of the application fee required by K.A.R. 82-3-412.
- (b) Applications for dually completed wells. In addition to the requirements set out in subsection (a), applications for dually completed injection and production wells shall show that the producing interval lies above the injection interval. Before a well is dually completed, the applicant shall demonstrate that the well has mechanical integrity as specified in K.A.R. 82-3-407 from a point immediately above the producing interval to the surface.
 - (c) Applications for simultaneous injection wells. In addition to the requirements set out in subsection (a), applications for simultaneous injection wells shall demonstrate all of the following:
 - (1) The injection will not adversely affect offsetting production or endanger fresh and usable groundwater.
 - (2) Injection pressure is limited to less than the local injection formation fracture gradient.
 - (3) The injection well is continuously cemented across the injection and producing intervals.
 - (4) The well demonstrates mechanical integrity as specified in K.A.R. 82-3-407.
 - (d) Disposal zone. If the application is for disposal into a producing zone within a ½-mile radius of the applicant's well, the disposal zone shall be below the oil-water contact or 50 feet below the base of the producing zone. For the purposes of this subsection, "disposal zone" means the stratigraphic interval that contains few or no commercially productive hydrocarbons and that is saltwater bearing, and "producing zone" means the stratigraphic interval that contains, or appears to contain, a common accumulation of commercially productive hydrocarbons.
 - (e) Design approval. Each applicant desiring design approval shall place the words "design approval" at the top of the application for injection operations. The design approval application shall be subject to the requirements set forth in subsection (a) of this regulation, K.A.R. 82-3-402(a), and K.A.R. 82-3-403(a).
 - (f) Well modifications. Significant modifications to the type or construction of the injection well shall not require an application, but shall require notice as specified in K.A.R. 82-3-408. However, if the modifications include an increase in injection rate or pressure or an additional perforation or injection zone, neither of which is expressly authorized by the existing permit, an application for injection shall be filed.
 - (g) Multiple enhanced recovery wells. Applications may be filed for more than one enhanced recovery well on the same lease or on more than one lease. The applicant shall provide the requested information for each well included in the application.

(Authorized by K.S.A. 55-901, as amended by L. 2001, ch. 5, sec. 198, 55-151, and 55-152; implementing K.S.A. 55-151, 55-901, as amended by L. 2001, ch. 5, sec. 198, and 55-1003;

effective, T-83-44, Dec. 8, 1982; effective May 1, 1983; amended May 1, 1984; amended, T-85-51, Dec. 19, 1984; amended May 1, 1985; amended May 1, 1986; amended, T-87-46, Dec. 19, 1986; amended May 1, 1987; amended May 1, 1988; amended May 8, 1989; amended April 23, 1990; amended May 3, 1993; amended April 5, 2002.)

82-3-401a. (Authorized by and implementing K.S.A. 1991 Supp. 55-152 and 55-901; effective May 3, 1993; revoked April 5, 2002.)

82-3-401b. (Authorized by K.S.A. 55-901 and 55-152; implementing K.S.A. 55-164, 55-152, and 55-1003; effective March 19, 1999; revoked April 5, 2002.)

82-3-402. NOTICE OF APPLICATION; OBJECTION.

- (a) Notice required. Each applicant shall give notice of the application either to those persons listed in K.A.R. 82-3-135a(c) or according to the provisions of subsection (b) below. Notice shall be mailed or delivered on or before the date the application is filed with the conservation division. Notice of the application shall be published in at least one issue of the official county newspaper of each county in which the lands involved are located.
- (b) Area notice. In lieu of the notice requirements of K.A.R. 82-3-135a(c), an applicant may provide area notice utilizing the following procedure:
 - (1) The application shall state that area notice in accordance with this regulation is being utilized and shall state the approximate maximum number of injection wells that will ultimately be utilized within the project boundaries.
 - (2) The applicant shall notify each of the following parties whose acreage lies partially or fully within a ½-mile radius of the project boundaries, by mailing or delivering a copy of the application and notice:
 - (A) Each operator or lessee of record;
 - (B) each owner of record of the mineral rights of unleased acreage; and
 - (C) each landowner within the project boundaries.
 - (3) Notice of the application shall be published in at least one issue of the official county newspaper of each county in which the affected acreage is located, which shall be defined as a ½-mile radius around the project boundary, and shall contain the following:
 - (A) The name of the operator of the enhanced recovery project;
 - (B) the legal description of the project acreage;
 - (C) the proposed maximum injection rate and pressure;
 - (D) the proposed injection formation or formations and approximate depth;
 - (E) a statement indicating that no wells will be used for injection that are closer to lease or unit boundary lines than allowed by field or general state spacing rules unless further notice is given; and
 - (F) the approximate maximum number of injection wells that will ultimately be utilized in the project.
 - (4) The applicant shall file a memorandum of notification with the register of deeds in each county where the project is located, setting out the information contained in the published notice. The applicant shall provide proof of this filing to the conservation division before the application may be approved and a permit issued.
 - (5) Notice of application for additional injection wells added to a project shall be published in at least one issue of the official county newspaper of the county or counties in which the

well is located, if the well exceeds the required distance from lease or unit boundary lines as provided by field order or general state spacing regulations.

- (6) The applicant shall provide notice of application for each additional injection well that is located less than the required distance from the lease or unit boundary lines, under the field order or general state spacing regulations. A copy of the application shall be mailed to each offsetting operator or unleased mineral owner whose acreage is adjacent to any additional injection well that does not exceed the required distance from the lease or unit boundary lines under the field order or general state spacing regulations. Notice of the application shall be published in at least one issue of the official county newspaper of the county in which the well is located.
 - (7) The publication notice specified in paragraphs (b)(5) and (6) of this regulation shall contain the following information:
 - (A) The name of the operator;
 - (B) the location of proposed injection wells;
 - (C) the proposed maximum injection rate;
 - (D) the proposed maximum injection pressure; and
 - (E) the proposed injection formations and approximate depth.
 - (8) Each application for any significant modifications to the injection permit, including increasing pressure or rate and changing or adding injection formations, shall require the notice specified in paragraphs (b)(2), (3), and (4) of this regulation.
- (c) Objection to application. Objections or complaints shall be filed within 30 days after the notice is published. Each complaint or objection shall conform to the requirements of K.A.R. 82-3-135b and shall state the reasons why the proposed plan, as contained in the application, may cause damage to oil, gas, or fresh and usable water resources.

(Authorized by K.S.A. 55-152 and 55-901; implementing K.S.A. 55-152; effective, T-83-44, Dec. 8, 1982; effective May 1, 1983; amended May 8, 1989; amended April 5, 2002; amended Oct. 24, 2008.)

82-3-403. PERMITTING FACTORS; APPLICATION APPROVAL.

- (a) Permitting factors. When a permit authorizing injection is issued, the following factors shall be considered by the conservation division:
 - (1) Maximum injection rate;
 - (2) maximum surface pressure, formation pressure, pressure at the formation face, or all of the above;
 - (3) the type of injection fluid and the rock characteristics of the injection zone and the overlying strata;
 - (4) the adequacy and thickness of the confining zone or zones between the injection interval and the base of the lowest fresh and usable water; and
 - (5) the construction of all oil and gas wells within a ¼-mile radius of the proposed injection well, including all abandoned, plugged, producing, and other injection wells, to ensure that fluids introduced into the proposed injection zone will be confined to that zone. If deemed necessary by the conservation division to ensure the protection of fresh and usable water, this radius may be determined pursuant to 40 C.F.R. 146.6(a)(2), as published July 1, 2000, which is hereby adopted by reference.
- (b) Conditions for simultaneous injection. Simultaneous injection may be permitted if, in addition to the requirements of subsection (a) above, all of the following conditions are met:

- (1) Injection will not adversely affect offsetting production or endanger fresh and usable groundwater.
 - (2) Injection pressure is limited to less than the local injection formation fracture gradient.
 - (3) The injection well is continuously cemented across the injection and producing intervals.
 - (4) The well demonstrates mechanical integrity.
- (c) Protection of fresh and usable water. Before any formations may be approved for use, determinations shall be made that these formations are separated from fresh and usable water formations by impervious beds to give adequate protection to the fresh and usable water formations.
- (d) In reviewing applications for injection wells, the protection of hydrocarbons and water resources and oil and gas advisory committee recommendations concerning safe depths for injection for all producing areas in the state shall be considered by the conservation division.
- (e) Minimum depth for injection. If no additional information, including well logs, formation tests, water quality data, and water well data, is made available by the operator, table II, "established minimum depths for disposal wells," revised August 1, 1987, and hereby adopted by reference, shall be used by the conservation division in determining the minimum depth for the injection of saltwater.
- (f) For all injection well applications that require wellhead pressure to inject fluids, filed on and after December 8, 1982, the operator shall inject the fluids through tubing under a packer set immediately above the uppermost perforation or open-hole zone, except as specified in K.A.R. 82-3-406. A packer run on the tubing shall be set in casing opposite a cemented interval at a point immediately above the uppermost perforation or open-hole interval.
- (g) Design approval. If the application requests design approval, approval of the design of the proposed well may be obtained before actual construction of the well.
- (1) Each applicant shall be notified by the conservation division of its approval of the well design if both of the following conditions are met:
 - (A) All requirements set forth in K.A.R. 82-3-401(a), K.A.R. 82-3-402(a), and K.A.R. 82-3-403(a) have been met.
 - (B) The design of the proposed well will protect fresh and usable water.
 - (2) Upon completion of each well, the applicant shall submit a copy of the well completion report, on the form furnished by the commission, to the conservation division. The application for the injection of fluid into the proposed well for injection purposes shall be approved, if there are not significant differences between actual construction and the approved designed construction of the proposed well and if the mechanical integrity of the well has been tested according to K.A.R. 82-3-407.
- (h) Emergency authority. Emergency authority to inject or dispose of fluids at an alternate location, if a facility is shut in for maintenance, testing, or repairs, or by order of the commission, may be granted by the conservation division.

(Authorized by K.S.A. 55-151, 55-152, 55-605, 55-901; implementing K.S.A. 55-151, 55-605, 55-901, 55-1003; effective, T-83-44, Dec. 8, 1982; effective May 1, 1983; amended May 1, 1984; amended April 23, 1990; amended April 5, 2002.)

82-3-404. NOTICE OF COMMENCEMENT AND DISCONTINUANCE OF INJECTION OPERATIONS; CESSATION OF PRODUCTION FROM DUALY COMPLETED WELL; PENALTY.

- (a) Immediately upon the commencement of injection operations, the applicant shall notify the conservation division of the date of commencement.
- (b) Within 90 days after permanent discontinuance of injection operations, the operator of the project shall notify the conservation division of the date of the discontinuance and the reasons for discontinuance, and shall follow the provisions of K.A.R. 82-3-111.
- (c) Cessation of production from dually completed well. Upon cessation of commercial production from the producing interval of a dually completed injection well, the injection authority shall be canceled by the conservation division unless the operator, through the filing of a modification, shows all of the following:
 - (1) The perforations at the producing interval are sealed.
 - (2) The casing above the injection packer has mechanical integrity according to K.A.R. 82-3-407.
 - (3) The tubing-casing annulus is filled with a corrosion-inhibiting fluid.
- (d) The failure to notify the commission of commencement or permanent discontinuance of injection operations shall be punishable by a \$100 penalty.

(Authorized by K.S.A. 55-152, 55-156, 55-157, K.S.A. 2000 Supp. 55-164, as amended by L. 2001, ch. 5, sec. 191, and K.S.A. 55-901, as amended by L. 2001, ch. 5, sec. 198; implementing K.S.A. 55-156, 55-157, K.S.A. 2000 Supp. 55-164, as amended by L. 2001, ch. 5, sec. 191, and K.S.A. 55-1003; effective, T-83-44, Dec. 8, 1982; effective May 1, 1983; amended May 1, 1984; amended, T-87-46, Dec. 19, 1986; amended May 1, 1987; amended April 23, 1990; amended April 5, 2002.)

82-3-405. CASING AND CEMENT.

Injection wells shall be cased and the casing cemented so that damage will not be caused to hydrocarbon sources or fresh and usable water resources. Steel surface casing shall be set and cemented in the following manner:

- (a) In existing wells to be converted to injection use, all additional casing that is next to the bore hole shall be cemented by circulating cement to the surface from a point at least 50 feet below the base of the lowest known fresh and usable water. If cement fails to circulate to the surface, staged squeezes shall be required to protect and isolate fresh and usable water resources. Cementing shall be completed with a portland cement blend, except as provided by K.A.R. 82-3-106(d)(3).
- (b) The operator shall notify the appropriate district office before the cementing of the additional casing. A backside squeeze, the uncontrolled placement of cement in the annular space between the surface casing and the production casing from the surface down, shall be permitted only upon request to the appropriate district office. Each request shall be granted only upon the approval of the cement evaluation method to be utilized and submitted as verification of cement placement.
- (c) An exception to the cementing requirements of subsection (a) may be granted by the director or the director's designee. A written request for exception shall be submitted to the conservation division and shall include cement evaluation logs demonstrating that the proposed alternate process adequately protects fresh and usable water resources. The alternate process shall be proposed to be performed between the casing and the borehole at a point at least 50 feet below the base of the lowest known fresh and usable water resources to ensure protection of fresh and usable water resources.

- (d) If the injection zone lies stratigraphically above the Wellington salt and the wellbore has penetrated into or through the salt, a cement plug of at least 50 feet in length shall be placed in the borehole or casing below the injection zone and above the salt. However, if the plug is inside the casing, the annular space between the casing and the well bore shall be protected with cement through the same interval.

(Authorized by K.S.A. 55-152, 55-157, and 55-901, as amended by L. 2001, ch. 5, sec. 198; implementing K.S.A. 55-1003, 55-152, and 55-157; effective, T-83-44, Dec. 8, 1982; effective May 1, 1983; amended May 1, 1984; amended May 1, 1985; amended May 1, 1987; amended May 8, 1989; amended April 23, 1990; amended April 5, 2002.)

82-3-406. INJECTION WELL TUBING AND PACKER REQUIREMENTS.

- (a) Each well permitted after December 8, 1982 shall meet one of the following requirements:
- (1) The well shall be equipped to inject through tubing below a packer.
 - (2) A packer run on the tubing shall be set in casing opposite a cemented interval at a point immediately above the uppermost perforation or open-hole interval. The annulus between the tubing and the casing shall be filled with a corrosion-inhibiting fluid or hydrocarbon liquid.
 - (3) With the prior approval of the conservation division, packerless or tubingless completions may be authorized under the provisions of subsection (b) or (c) of this regulation.
- (b) Injection through tubing without a packer may be authorized by the conservation division if the following requirements are met:
- (1) Surface wellhead injection pressure shall not exceed zero psig.
 - (2) The tubing shall be run to a depth equal to or below the uppermost perforation or open hole of the injection interval.
 - (3) The annular space between the tubing and the casing shall be filled with a corrosion-inhibiting fluid or hydrocarbon liquid that has a specific gravity less than 1.00 and that is displaced and maintained at a point within 50 feet of the bottom of the tubing.
 - (4) Each wellhead shall be equipped with a pressure observation valve on the tubing and the tubing-casing annulus.
 - (5) A positive annulus pressure shall be maintained and monitored.
 - (6) Annulus pressure and injection surface pressure shall be monitored and recorded monthly and kept by the operator for five years.
 - (7) All pressure readings recorded shall be taken during actual injection operations and under static conditions.
- (c) Injection without tubing may be authorized by the conservation division if all five of the following requirements are continuously met during the life of the well:
- (1) The casing shall be cemented continuously from setting depth to surface.
 - (2) Surface wellhead injection pressure shall be recorded monthly and kept by the operator for five years.
 - (3) All pressure readings recorded shall be taken during actual injection operations.

- (4) Mechanical integrity tests shall be performed at least every five years by running a retrievable plug to a depth of no more than 50 feet above the uppermost perforation or open hole of the injection zone or by another method approved by the conservation division.
- (5) It shall be the sole responsibility of the operator of the tubingless completion to maintain the well so that the mechanical integrity tests can be performed as specified, or the well shall be immediately plugged and abandoned by displacing cement from the bottom of the well to the surface.

(Authorized by K.S.A.55-152, 55-901, as amended by L. 2001, ch. 5, sec. 198; implementing K.S.A. 55-152, 55-901, as amended by L. 2001, ch. 5, sec. 198, 55-1003; effective, T-83-44, Dec. 8, 1982; effective May 1, 1983; amended May 1, 1984; amended, T-87-46, Dec. 19, 1986; amended May 1, 1987; amended April 23, 1990; amended April 5, 2002.)

82-3-407. MECHANICAL INTEGRITY REQUIREMENTS; PENALTY.

- (a) Each injection well shall be completed, equipped, operated, and maintained in a manner that will prevent pollution of fresh and usable water, prevent damage to sources of oil or gas, and confine fluids to the interval or intervals approved for injection.

An injection well shall be considered to have mechanical integrity if there are no significant leaks in the tubing, casing, or packer and no fluid movement into fresh or usable water. Mechanical integrity shall be established on each well by one of the following:

- (1) Pressure test. The annulus above the packer, or the injection casing in wells not equipped with a packer, shall be pressure tested at least once every five years under the supervision of a representative of the operator. The date for this test shall be mutually agreed upon by the operator's representative and a representative of the commission. Test results shall be verified by the operator's representative. A minimum of 25 percent of the tests conducted each year shall be witnessed by a representative of the commission. The test shall be conducted in accordance with subsection (b). Injection wells within tubing shall be tested in accordance with K.A.R. 82-3-406.
- (2) Alternate tests. Alternative test methods approved by the commission, including radioactive tracer surveys and temperature surveys, may be used to establish mechanical integrity if conditions are appropriate. The test shall be run at least once every five years under the supervision of a representative of the operator. The date for this test shall be mutually agreed upon by the operator's representative and a representative of the commission. Test results shall be verified by the operator's representative and shall be interpreted as specified in commission-approved procedures. A minimum of 25 percent of the tests conducted each year shall be witnessed by a representative of the commission.
- (3) Monitoring. Once a month, the operator shall monitor and record, during actual injection, the pressure or fluid level in the annulus and any other information deemed necessary by the conservation division. An annual report of information logged shall be submitted to the conservation division in accordance with K.A.R. 82-3-409.
- (4) Dually completed injection wells. For dually completed injection wells, the testing requirements shall include the following:
 - (A) The operator shall determine the fluid level in the annular space in the production casing and the fluid level within the injection tubing. All fluid level determinations shall be performed under static well conditions. The minimum shut-in time shall be 24 hours before determining the fluid level. Fluid level tapes shall be submitted as verification of measurements.

- (B) The operator shall measure and report the oil-to-water ratio of produced fluids from the well. In the case of gas wells, the operator shall report changes in monthly production volumes.
 - (C) The fluid level determination and oil-to-water ratios shall be performed once every three months during the first year of the well's five-year test cycle, and then once a year for the next four years. The repeat test cycle of quarterly reports for one year and annual reports for four years shall begin on the five-year anniversary of the first fluid level test.
- (b) Before operating a well drilled or converted to injection after December 8, 1982, an operator choosing to use a pressure test for the initial mechanical integrity test shall perform the test in the following manner:
- (1) Wells constructed with tubing and a packer shall be pressure tested with the packer in place. A fluid pressure of 300 psig shall be applied. If the operator requests a pressure in excess of 300 psig on the injection application, a test pressure up to the requested pressure may be required. The duration of the test shall be at least 30 minutes. Maintenance of the fluid pressure during the test shall provide assurance of the integrity of the injection casing.
 - (2) For wells constructed with tubing and no packer, a retrievable plug or packer shall be set immediately above the uppermost perforation or open hole zone. A fluid pressure of 300 psig shall be applied. The duration of the test shall be at least 30 minutes. Maintenance of the fluid pressure during the test shall provide assurance of the integrity of the injection casing.
 - (3) For wells constructed with tubing and no packer, a method of pressure testing known as fluid depression may be conducted with prior approval and under guidelines established by the appropriate district office. The fluid in the well shall be depressed with gas pressure to a point in the wellbore immediately above the perforations or open hole interval. The minimum calculated pressure required to depress the fluid in the wellbore shall be no less than 100 psig.
 - (4) For simultaneous injection wells, the following requirements shall be met:
 - (A) Mechanical integrity shall initially be demonstrated at a pressure of 300 psig before installation of downhole simultaneous injection equipment and shall be demonstrated in the same manner each time that the downhole simultaneous injection equipment is removed; and
 - (B) after the initial mechanical integrity test, the operator shall monitor the well once each month and record the oil-to-water or gas-to-water ratio. The operator shall report the oil-to-water or gas-to-water ratio to the commission within 30 days for the first month and then annually at the time of filing the annual report according to K.A.R. 82-3-409. The operator shall immediately report an oil-to-water or gas-to-water ratio at or in excess of 10% over the prior month's ratio to the appropriate district office.
 - (5) In lieu of paragraph (b)(3), the casing may be tested before perforating, upon approval of the conservation division. A fluid pressure of 300 psig shall be applied. If the operator requests a pressure in excess of 300 psig on the injection application, a test pressure up to the requested pressure may be required. The duration of the test shall be at least 30 minutes. Maintenance of the fluid pressure during the test shall provide assurance of the integrity of the injection casing.
- (c) The operator of any well failing to demonstrate mechanical integrity by one of the above methods shall have no more than 90 days from the date of initial failure in which to perform one of the following:

- (1) Repair and retest the well to demonstrate mechanical integrity;
 - (2) plug the well; or
 - (3) isolate the leak or leaks to demonstrate that the well will not pose a threat to fresh or usable water resources or endanger correlative rights.
- (d) Mechanical failures or other conditions indicating that a well is not, or may not be, directing the injected fluid into the permitted or authorized zone shall be cause to shut in the well. The operator shall orally notify the conservation division of any of these failures or conditions within 24 hours of knowledge of any failure or condition. The operator shall submit written notice of a well failure to the conservation division within five days of the occurrence together with a plan for testing and repairing the well. Results of the testing and well repair shall be reported to the conservation division, and all information shall be included in the annual monitoring report to the conservation division. Any mechanical downhole well repair performed on the well that was not previously reported shall also be included in the annual report.
- (e) If the district office has approved the use of any chemical sealant or other mechanical device to isolate the leak before use, the injection pressure into the well shall not exceed the maximum mechanical integrity test pressure. Additionally, the well shall demonstrate mechanical integrity on an annual basis for the duration the well is completed in this manner.
- (f) Each operator choosing a pressure mechanical integrity test on a well permitted for injection before December 8, 1982 or on a well having passed an initial pressure mechanical integrity test as specified in subsection (b) shall conduct the test in the following manner:
- (1) Wells located in areas having saltwater-bearing zones with sufficient bottom-hole pressure to sustain a static fluid level at or above fresh or usable water bearing zones shall be pressure tested as specified in paragraphs (b)(1) and (2), except that the maximum required test pressure shall be limited to 300 psi.
 - (2) Wells located in areas without saltwater-bearing zones with sufficient bottom-hole pressure to sustain a static fluid level at or above fresh or usable water bearing zones shall be pressure tested as specified in paragraphs (b)(1) and (2), except that the maximum required test pressure shall be limited to 100 psi.
 - (3) For wells constructed with tubing and no packer, a method of pressure testing known as fluid depression may be conducted with prior approval and under guidelines established by the commission. The fluid in the well shall be depressed with gas pressure to a point in the wellbore immediately above the perforations or open hole interval. The minimum calculated pressure required to depress the fluid in the wellbore shall be no less than 100 psi unless otherwise approved by the appropriate district office.
- (g) No injection well shall be operated before having passed a mechanical integrity test. The operator's failure to test a well to show its mechanical integrity or to report the oil-to-water or gas-to-water ratio as required under paragraph (b)(4)(B) above shall be punishable by a \$1,000 penalty, and these wells shall be shut in until the required test has been passed or the reports have been furnished.

(Authorized by K.S.A. 55-152, K.S.A. 2000 Supp. 55-164, as amended by L. 2001, ch. 5, sec. 191, K.S.A. 55-901, as amended by L. 2001, ch. 5, sec. 198; implementing K.S.A. 55-152, K.S.A. 2000 Supp. 55-164, as amended by L. 2001, ch. 5, sec. 191, K.S.A. 55-901, as amended by L. 2001, ch. 5, sec. 198, and K.S.A. 55-1003; effective, T-83-44, Dec. 8, 1982; effective May 1, 1983; amended, T-87-46, Dec. 19, 1986; amended May 1, 1987; amended May 8, 1989; amended April 23, 1990; amended April 5, 2002.)

82-3-408. DURATION OF INJECTION WELL PERMITS; MODIFICATION PENALTY.

- (a) Permits authorizing injection into wells shall remain valid for the life of the well, unless revoked by the commission for just cause.

- (b) Modifications of any injection well permit may be made only upon application to the conservation division. Each application shall be submitted on the form furnished by the conservation division. The applicant shall give notice of the application to modify according to the provisions of K.A.R. 82-3-135a.
- (c) An operator shall not be required to file an application to modify any injection well permit but shall file with the conservation division a notice of modification on a form furnished by the conservation division for permit modifications for one or more of the following purposes:
 - (1) The operator seeks to decrease the maximum injection pressure.
 - (2) The operator seeks to decrease the maximum injection rate.
 - (3) The operator seeks to add or delete leases disposing into the well but will not exceed the maximum authorized injection rate and pressure.
- (d) The failure to obtain conservation division approval of any modification to an existing injection well, other than the modifications designated in subsection (c), before resuming injection operations, or the failure to notify the conservation division under subsection (c) shall be punishable by a \$1,000 penalty.

(Authorized by K.S.A. 55-152 and K.S.A. 55-901 implementing K.S.A. 55-1003, K.S.A. 55-152, K.S.A. 55-164, and K.S.A. 55-901; effective, T-83-44, Dec. 8, 1982; effective May 1, 1983; amended May 1, 1985; amended, T-87-46, Dec. 19, 1986; amended May 1, 1987; amended May 8, 1989; amended April 23, 1990; amended March 19, 1999; amended April 5, 2002; amended Nov. 2, 2007.)

82-3-409. RECORD RETENTION; ANNUAL REPORT; PENALTY.

- (a) Each operator of an injection well shall perform the following:
 - (1) Keep current, accurate records of the amount and kind of fluid injected into the injection well; and
 - (2) preserve the records required in paragraph (a)(1) above for five years.
- (b) Each operator of an injection well shall submit a report to the conservation division, on a form required by the commission, showing for the previous calendar year the following information:
 - (1) The monthly average wellhead pressure;
 - (2) the maximum wellhead pressure;
 - (3) the amount and kind of fluid injected into each well; and
 - (4) any other performance information that may be required by the conservation division.

The report shall be submitted on or before March 1 of the following year.

- (c) The failure to file or timely file an annual injection report shall be punishable by a \$100 penalty.

(Authorized by and implementing K.S.A. 55-152, K.S.A. 2000 Supp. 55-164, as amended by L. 2001, ch. 5, sec. 191; effective, T-83-44, Dec. 8, 1982; effective May 1, 1983; amended May 1, 1984; amended May 8, 1989; amended April 5, 2002.)

82-3-410. TRANSFER OF AUTHORITY TO INJECT; PENALTY.

- (a) Authority to operate an injection well shall not be transferred from one operator to another without the approval of the conservation division. The transferring operator shall notify the

conservation division in writing, on a form prescribed by the commission and in accordance with K.A.R. 82-3-136, of the intent to transfer authority to operate an injection well from one operator to another. In addition to the requirements of K.A.R. 82-3-136, the written notice shall contain the following information:

- (1) The name and address of the present operator and the operator's license number;
 - (2) the name and location of the well being transferred;
 - (3) the order or permit number and date of the order or permit authorizing injection;
 - (4) the zone or zones of injection;
 - (5) the proposed effective date of transfer;
 - (6) the signature of the present operator and the date signed;
 - (7) the name and address of the new operator and the operator's license number; and
 - (8) the signature of the new operator and the date signed.
- (b) The transferring operator may be required by the conservation division to conduct a mechanical integrity test as a condition of the transfer.
- (c) Failure to notify the conservation division of a transfer in accordance with this regulation shall subject the operator to penalties under K.A.R. 82-3-136(e).

(Authorized by K.S.A. 55-152, K.S.A. 2000 Supp. 55-164, as amended by L. 2001, ch. 5, sec. 191, and K.S.A. 55-901, as amended by L. 2001, ch. 5, sec. 198; implementing K.S.A. 55-152, 55-1003; effective, T-83-44, Dec. 8, 1982; effective May 1, 1983; amended May 1, 1986; amended May 1, 1987; amended April 23, 1990; amended April 5, 2002.)

82-3-411. AUTHORIZATION FOR EXISTING INJECTION WELLS.

Each injection well authorized by order of the commission on or before December 8, 1982 shall be considered an existing injection well. Injection shall be prohibited in any existing well unless the operator had filed, on or before May 1, 1983, an inventory of existing injection wells on the form prescribed by the commission.

(Authorized by K.S.A. 55-152, 55-901, as amended by L. 2001, ch. 5, sec. 198; implementing K.S.A. 55-152, 55-901, as amended by L. 2001, ch. 5, sec. 198, 55-1003; effective April 5, 2002.)

82-3-412. ASSESSMENT OF COSTS.

An assessment to pay the costs incurred by the conservation division in reviewing, processing, and approving each injection application shall be payable upon the filing of an application as follows:

- (a) Enhanced recovery injection wells.
- (1) A fee of \$200 shall be assessed to each applicant for injection authority to cover the review only of the initial pilot well. A fee of \$100 shall be assessed on each additional well included in the initial injection application except where the well depth of each additional well is less than 1,000 feet. Each additional well having a depth of less than 1,000 feet shall be assessed a fee of \$50.
 - (2) A fee of \$100 for each well shall be assessed to each applicant for any modification to the initial injection well permit or permit adding an injection well or wells except where the well depth of each additional well sought to be modified in the initial order or permit is less than 1,000 feet. Each modification adding an injection well having a depth of less than 1,000 feet shall be assessed a fee of \$50 for each added well.
 - (3) A fee of \$100 shall be assessed to each applicant for any modification to the initial injection well order or permit seeking to make a significant change in the construction of an injection well, to add an injection well to an authorized waterflood, or to increase either the maximum injection pressure or the maximum injection rate.

(4) A fee of \$50 shall be assessed for any other modification of the initial injection order or permit. However, no fee shall be assessed for those modifications specified in K.A.R. 82-3-408(c).

(b) Injection wells.

(1) A fee of \$200 shall be assessed to each applicant for injection authority.

(2) A fee of \$100 shall be assessed to each applicant for any modification to the initial injection order or permit seeking to make a significant change in the construction of the injection well or to increase either the maximum injection pressure or the maximum injection rate.

(3) A fee of \$50 shall be assessed for any other modification to the initial injection order or permit. However, no fee shall be assessed for those modifications specified in K.A.R. 82-3-408(c).

(c) Fee nonrefundable. Once paid, each fee shall be nonrefundable.

(Authorized by and implementing K.S.A. 55-152, 55-176, as amended by L. 2001, ch. 5, sec. 192, and 55-901, as amended by L. 2001, ch. 5, sec. 198; effective April 5, 2002.)

82-3-413 to 82-3-499. RESERVED.

NGPA RULES

- 82-3-500.** (Authorized by and implementing K.S.A. 66-1,185; effective, T-83-44, Dec. 8, 1982; effective May 1, 1983; revoked Aug. 29, 1997.)
- 82-3-501.** (Authorized by and implementing K.S.A. 66-1,185; effective, T-83-44, Dec. 8, 1982; effective May 1, 1983; revoked Aug. 29, 1997.)
- 82-3-502.** (Authorized by K.S.A. 66-1,185; implementing K.S.A. 1986 Supp. 55-706, K.S.A. 66-1,185; effective, T-83-44, Dec. 8, 1982; effective May 1, 1983; amended, T-85-51, Dec. 19, 1984; amended May 1, 1988; revoked Aug. 29, 1997.)
- 82-3-503.** (Authorized by and implementing K.S.A. 66-1,185; effective, T-83-44, Dec. 8, 1982; effective May 1, 1983; revoked Aug. 29, 1997.)
- 82-3-504.** (Authorized by and implementing K.S.A. 66-1,185; effective, T-83-44, Dec. 8, 1982; effective May 1, 1983; revoked Aug. 29, 1997.)
- 82-3-505 to 82-3-599. RESERVED.**

PIT AND SPILL RULES

82-3-600. PIT PERMITS; PENALTY; APPLICATION AND APPROVAL.

- (a) Pits shall not be used to contain fluids resulting from oil and gas activities until approved by the commission. Pits shall be permitted only upon application to and approval by the commission. Use of a pit without a pit permit shall be punishable by a \$500 penalty. Pit permits shall be considered granted unless denied within 10 days after the commission's receipt of the application.

The following types of pits may be authorized by the commission:

- (1) Drilling pit, which shall include reserve pits and working pits;
 - (2) work-over pit;
 - (3) emergency pit;
 - (4) settling pit;
 - (5) burn pit; and
 - (6) haul-off pit.
- (b) Each application shall be verified and filed with the conservation division upon the form prescribed by the commission.
- (c) In reviewing applications for pit permit approval, the protection of soil and water resources from pollution shall be considered by the commission. The chloride concentration of drilling fluids and produced waters to be contained in pits and the geohydrologic characteristics of the pit location shall be considered in determining the pollution risk that a particular pit poses to water resources.
- (d) Work-over pits may be permitted through verbal authorization from the appropriate district office supervisor or a designated staff member, subject to the filing of a pit application within five days after the verbal authorization.
- (1) Requests for verbal authorization shall be made no less than 24 hours before the intended work-over operation. However, if emergency circumstances require immediate work-over operations, requests for verbal authorization may be made less than 24 hours before the intended operation.
 - (2) The operator requesting verbal authorization shall provide the information required on the application form to the appropriate district office at the time of the request.
- (e) Each operator shall notify the appropriate district office, as specified in K.A.R. 82-3-603, that a temporary containment pit was constructed. A permit shall not be required for a containment pit constructed and used in accordance with this subsection.
- (f) Each operator of a pit shall perform the following:
- (1) Install observation trenches, holes, or wells if required by the commission;
 - (2) seal any pit, except burn pits, with liners as specified in K.A.R. 82-3-601a (b)(1) through (6) if the commission determines that an unsealed condition will present a pollution threat to soil or water resources; and
 - (3) prevent surface drainage from entering the pit.
- (g) A pit permit shall not be required for the construction of a dike at an oil and gas facility.

(Authorized by K.S.A. 55-152, K.S.A. 2000 Supp. 55-164, as amended by L. 2001, ch. 5, sec. 191; implementing K.S.A. 55-152, K.S.A. 2000 Supp. 55-164, as amended by L. 2001, ch. 5,

sec. 191, K.S.A. 55-171, K.S.A. 2000 Supp. 74-623, as amended by L. 2001, ch. 191, sec. 16; effective, T-87-46, Dec. 19, 1986; effective May 1, 1987; amended July 29, 1991; amended April 23, 2004.)

82-3-600a. PIT PERMIT REVOCATION.

A pit permit may be revoked by the director of the conservation division if fresh or usable water resources are in danger of becoming polluted by the use of the pit or if the operator of a pit is not in compliance with the permit requirements. Each pit for which the permit has been revoked shall be closed according to K.A.R. 82-3-602.

(Authorized by K.S.A. 55-152, K.S.A. 55-171; implementing K.S.A. 55-152, K.S.A. 2000 Supp. 55-162, K.S.A. 55-171, K.S.A. 2000 Supp. 74-623, as amended by L. 2001, ch. 191, sec. 16; effective April 23, 1990; amended April 23, 2004.)

82-3-600b. (Authorized by K.S.A. 1990 Supp. 55-152, 55-164; implementing K.S.A. 1990 Supp. 55-152, 55-171, 74-623; effective July 29, 1991; revoked April 23, 2004.)

82-3-601. (Authorized by K.S.A. 55-152, as amended by 1986, Ch. 201, Sec. 9; implementing K.S.A. 55-152, as amended by L. 1986, Ch. 201, Sec. 9; L. 1986, Ch. 201, new Section 1, 23; effective, T-87-46; effective May 1, 1987; revoked July 29, 1991.)

82-3-601a. PIT CONSTRUCTION; SENSITIVE GROUNDWATER AREAS; REPORTING.

- (a) Freeboard. All drilling, work-over, burn, and containment pits shall be constructed with a minimum of 12 inches of freeboard. All emergency and settling pits shall be constructed with a minimum of 30 inches of freeboard.
- (b) Pit construction. If required by the conservation division to be sealed, pits shall be constructed so that the bottoms and sides have a hydraulic conductivity no greater than 1×10^{-7} cm/sec. during their use. The hydraulic conductivity shall be established by liners, which shall include any of the following:
 - (1) A natural clay liner;
 - (2) a soil-mixture liner composed of soil mixed with cement, bentonite, clay-type, or other additives to be applied to pits whose walls do not exceed a slope of three to one;
 - (3) a recompacted clay liner composed of in situ or imported clay soils that are compacted or restructured to be applied to pits whose walls do not exceed a slope of three to one;
 - (4) a manufactured liner composed of synthetic material to be applied to pits in a manner that ensures its integrity while the pit is open;
 - (5) a combination of two or more types of liners described in paragraphs (b)(1) through (4);
or
 - (6) any other liner or groundwater protection system acceptable to the conservation division.
- (c) Emergency pit construction. In sensitive groundwater areas as designated in table III as adopted by reference in K.A.R. 82-3-601b, emergency pits shall be sealed. Emergency pits located in sensitive groundwater areas shall be constructed and sealed as set out in paragraphs (b)(1) through (6).
- (d) Construction depth. No pit shall be constructed to a depth greater than five feet above the shallowest existing water table in the vicinity of the well.
- (e) Reporting.

- (1) The hydraulic conductivity of natural liners shall be determined by one of the soil tests approved by the American society of testing and materials and contained in either of the following ASTM publications, both of which are hereby adopted by reference:
 - (A) "Standard test methods for measurement of hydraulic conductivity of saturated porous materials using a flexible wall permeameter," published January 2001; and
 - (B) "standard guide for comparison of field methods for determining hydraulic conductivity in the vadose zone," published December 1990 and reapproved in 1998.

Alternately, the hydraulic conductivity of natural liners shall be determined by using another field or laboratory test approved by the commission and conducted by either the operator or the operator's contractor.

- (2)
 - (A) Test results for pits required to be sealed according to subsection (b) shall be reported to the appropriate district office at the time of spud notification.
 - (B) Written documentation of test results shall be filed with the conservation division on a form prescribed by the commission within five days after spudding the well.
 - (C) Test results for work-over and emergency pits shall be reported to the conservation division when the pit application is filed.
 - (D) The right to verify test results through on-site investigation may be exercised by the conservation division.

(Authorized by K.S.A. 55-152; implementing K.S.A. 55-152, K.S.A. 55-171, K.S.A. 2000 Supp. 74-623; effective July 29, 1991; amended April 23, 2004.)

82-3-601b. SENSITIVE GROUNDWATER AREAS; EXCEPTION PROCEDURE.

- (a) Each operator of an emergency pit in a sensitive groundwater area as designated by "table III: established sensitive groundwater areas for surface ponds," dated March 2000 and hereby adopted by reference, may request an exception to the requirements of K.A.R. 82-3-601a (c).
- (b) Each request for an exception shall be made in writing to the director of the conservation division and shall be submitted with the application for a pit permit. The request shall contain supporting data to show why the exception should be granted.
- (c) An on-site investigation may be conducted by the director or a designee to determine whether the exception request is warranted.

(Authorized by and implementing K.S.A. 55-152, K.S.A. 55-171, K.S.A. 2000 Supp. 74-623, as amended by L. 2001, ch. 191, sec. 16; effective July 29, 1991; amended April 23, 2004.)

82-3-602. CLOSURE OF PITS; DISPOSAL OF PIT CONTENTS; CLOSURE FORM; DRILLING FLUID MANAGEMENT; SURFACE RESTORATION.

- (a) Closure of pits.
 - (1) Unless otherwise specified in writing by the commission, each operator shall close the following:
 - (A) Drilling pits or haul-off pits within 365 calendar days after the spud date of a well;
 - (B) work-over pits within 90 days after work-over operations have ceased; and

- (C) settling pits, burn pits, and emergency pits within 30 days after cessation or abandonment of the lease.
- (2) Any operator may request a pit permit extension of not more than three months, and the request may be granted by the director. An extension may be granted due to pit conditions or for other good cause shown by the operator. Any pit permit extension may be renewed upon additional request by the operator, but no pit permit extension shall be extended beyond six months after the original deadline. Failure to close any pit or to file an extension within the prescribed time limits specified in paragraphs (1)(A) through (C) of this subsection shall be punishable by a \$250 penalty.
- (b) Disposal of pit contents. Before backfilling any pit, operator shall dispose of the pit contents according to K.A.R. 82-3-607 and shall submit the required form pursuant to K.A.R. 82-3-608.
- (c) Closure form. Each operator of a pit shall file a pit closure form prescribed by the commission within 30 days after the closure of the pit. Failure to file the pit closure form in accordance with this subsection shall be punishable by a \$100 penalty.
- (d) Drilling fluid management. Each operator of a reserve pit shall report the drilling fluid management methods utilized for the reserve pit, including the chloride concentration of the drilling fluids, on the affidavit of completion required by K.A.R. 82-3-130.
 - (1) Except as specified in paragraph (d)(2), the chloride concentration shall be calculated according to the following portions of the American petroleum institute's "recommended practice: standard procedure for field testing water-based drilling fluids," second edition, dated September 1997, which are hereby adopted by reference:
 - (A) Section 10.3 on pages 21-22;
 - (B) appendix A; and
 - (C) tables 1 and 5.
 - (2) An alternate test for measuring the chloride concentration may be approved by the director if the alternate test is at least as accurate and precise as the required test.
- (e) Surface restoration. Upon abandonment of any pit, the operator shall grade the surface of the soil as soon as practicable or as required by the commission. The surface of the soil shall be returned, as nearly as practicable, to the condition that existed before the construction of the pit.

(Authorized by K.S.A. 2012 Supp. 55-152, K.S.A. 74-623; implementing K.S.A. 55-171; effective, T-87-46, Dec. 19, 1986; effective May 1, 1987; amended May 1, 1988; amended July 29, 1991; amended April 23, 2004; amended Aug. 16, 2013.)

82-3-603. SPILL NOTIFICATION AND CLEANUP; PENALTY; LEASE MAINTENANCE.

- (a) Spill prevention. Each operator shall act with reasonable diligence to prevent spills and safely confine saltwater, oil, and refuse in tanks, pipelines, pits, or dikes.
- (b) Notification.
 - (1) Each operator shall notify the appropriate district office in accordance with subsection (c) immediately upon discovery or knowledge of any spill that has reached or threatens to reach surface water or that has impacted or threatens to impact groundwater. Each operator shall take immediate action in accordance with procedures specified or approved by the district office to contain and prevent the saltwater, oil, or refuse from reaching surface water or impacting groundwater.
 - (2) Except as otherwise specified in this regulation, each operator shall notify the appropriate district office of any spill, as defined in K.A.R. 82-3-101. This notification

shall meet the requirements of subsection (c) and shall be made not later than the next business day following the date of discovery or knowledge of the spill.

- (3) The notification requirement for spills in paragraph (b)(2) shall not apply to very minor amounts of saltwater, oil, or refuse that unavoidably or unintentionally leak or drip from pumps, machinery, pipes, valves, fittings, well rods, or tubing during the conduct of normal prudent operations and that are not confined in dikes or pits or within the vicinity of the well. This exception shall not apply to ongoing, continual, or repeated leaks or drips, or to leaks or drips that are the result of intentional spillage or abnormal operations, including unrepaired or improperly maintained pumps, machinery, pipes, valves, and fittings.
 - (4) For purposes of this regulation, the point of "discovery or knowledge" shall mean that point when the operator knew or reasonably should have known of the spill.
 - (5) The notification requirement in this subsection shall apply even if the operator knows or believes that the appropriate district office is already aware of the spill.
- (c) Information required with notification. Each operator shall submit the following information in conjunction with the notification requirement in subsection (b):
- (1) The operator's name and license number;
 - (2) the lease name, legal description, and approximate spill location;
 - (3) the time and date the spill occurred;
 - (4) a description of the spilled materials, including type and amount;
 - (5) a description of the circumstances creating the spill;
 - (6) the location of the spill with respect to the nearest fresh and usable water resources;
 - (7) the proposed method for containing and cleaning up the spill; and
 - (8) any other information that the commission may require.
- (d) Penalty for failure to notify. The failure to comply with subsection (b) shall be punishable by a \$250 penalty for the first violation, a \$500 penalty for the second violation, and a \$1,000 penalty and an operator license review for the third violation.
- (e) Cleanup of spill.
- (1) Each operator shall clean up any spill that requires notification under this regulation in accordance with the cleanup method approved by the appropriate district office. The cleanup techniques deemed appropriate and acceptable to the appropriate district office shall be physical removal, dilution, treatment, and bioremediation. Except as otherwise required by law or regulation, each operator shall complete the cleanup of the spill within 10 days after discovery or knowledge, or by the deadline prescribed in writing by the district office.
 - (2) Each operator shall clean up all leaks, drips, and escapes that are excepted from notification under this regulation in accordance with cleanup techniques recognized as appropriate and acceptable by the commission. The following cleanup techniques shall be deemed appropriate and acceptable to the commission: physical removal, dilution, treatment, and bioremediation. Each operator shall accomplish this cleanup upon completion of the routine operation or condition that caused the leak, drip, or escape or within 24 hours of discovery or knowledge of the leak, drip, or escape, whichever occurs sooner.
 - (3) If refuse is transferred in conjunction with a cleanup pursuant to paragraph (e)(1) or (e)(2), each operator shall submit any required forms according to K.A.R. 82-3-608.
- (f) Penalties. Failure to contain and clean up the spill in accordance with this regulation shall be punishable by the following penalties:
- (1) \$1,000 for the first violation;

- (2) \$2,500 for the second violation; and
- (3) \$5,000 and an operator license review for the third violation.

(Authorized by K.S.A. 2012 Supp. 55-152; implementing K.S.A. 2012 Supp. 55-164, K.S.A. 55-172, K.S.A. 74-623; effective, T-87-46, Dec. 19, 1986; effective May 1, 1987; amended May 1, 1988; amended April 23, 1990; amended April 23, 2004; amended Aug. 16, 2013.)

82-3-603a. SPILL NOTIFICATION TO LANDOWNER OR REPRESENTATIVE; PENALTY.

- (a) Notification required. Each operator shall make good faith efforts to notify the landowner or the landowner's representative of any spill or escape that is required to be reported to the conservation division under K.A.R. 82-3-603(b)(1) or (b)(2). This notification to the landowner or landowner's representative shall meet the requirements of subsection (b) and shall be made no later than five business days following the discovery or knowledge of the spill or escape.
- (b) Required information. Each notification shall include the following information:
 - (1) The operator's name;
 - (2) the lease name and approximate spill location;
 - (3) the time and date the spill or escape occurred;
 - (4) a description of the escaped materials, including each type and amount; and
 - (5) the methods being used to clean up the spill.
- (c) "Discovery and knowledge" defined. For the purpose of this regulation, the point of "discovery and knowledge" shall mean the point at which the operator knew or reasonably should have known of the spill or escape.
- (d) Record of notification and retention of records. Each operator shall keep accurate records of each notification made to a landowner or a landowner's representative regarding spills or escapes required under subsection (a). These records may include correspondence, electronic mail, telephone records, and field notes. The operator shall keep these records for at least three years. The records shall be made available to the conservation division upon request.
- (e) Penalty for failure to notify. Failure to comply with subsection (a) shall be punishable by a \$250 penalty for the first violation, a \$500 penalty for the second violation, and a \$1,000 penalty for each subsequent violation.

(Authorized by K.S.A. 55-152 and K.S.A. 2006 Supp. 55-186; implementing K.S.A. 55-164, K.S.A. 2006 Supp. 55-186, K.S.A. 74-623; effective Oct. 26, 2007.)

82-3-604. DISCHARGES INTO EMERGENCY PITS AND DIKED AREAS; REMOVAL OF FLUIDS; PENALTIES.

- (a) Notification of discharge. Each operator shall notify the appropriate district office within 24 hours of discovery or knowledge of any oil field-related discharge of five or more barrels of saltwater, oil, or refuse into an emergency pit or diked area.
- (b) Removal of fluids from pit or dike. Each operator of an emergency pit or diked area shall remove any fluid from the pit or diked area within 48 hours after discovery or knowledge, or as authorized by the appropriate district office, and shall dispose of the fluid according to K.A.R. 82-3-607. The operator shall submit forms pursuant to K.A.R. 82-3-608, unless the fluid is removed to an on-site tank.
- (c) "Discovery or knowledge" defined. For purposes of this regulation, the point of "discovery or knowledge" shall mean that point when the operator knew or reasonably should have known of the discharge.

(d) Penalties. The failure to timely notify the district office of an oil field-related discharge into an emergency pit or diked area in accordance with subsection (a), or the failure to timely remove fluids from an emergency pit or diked area in accordance with subsection (b), shall be punishable by the following penalties:

- (1) \$250 for the first violation;
- (2) \$500 for the second violation; and
- (3) \$1,000 and an operator license review for the third violation.

(Authorized by K.S.A. 2012 Supp. 55-152; implementing K.S.A. 2003 2012 Supp. 55-164, K.S.A. 55-172, and K.S.A. 74-623; effective April 23, 1990; amended June 6, 1994; amended April 23, 2004; amended Aug. 16, 2013.)

82-3-605. (Authorized by and implementing K.S.A. 1993 Supp. 55-152, 55-164, 55-171, 55-172; effective July 29, 1991; amended June 6, 1994; revoked April 23, 2004.)

82-3-606. CHEMICAL DUMPING PROHIBITED; PENALTY.

(a) The dumping or release of chemical substances and other nonexempt waste associated with any drilling or production operation, as listed in K.A.R. 28-31-3, into pits or diked areas shall be strictly prohibited. Nonexempt waste shall include the following:

- (1) Unused acids, or any other unused substances brought onto the lease for potential use in drilling or production operations;
- (2) oil and gas service company wastes, including empty drums, spent solvents, rinsate, spilled chemicals, and waste acid;
- (3) used equipment lubrication oils and hydraulic fluids; and
- (4) sanitary wastes, drums, insulation, and other miscellaneous solid waste.

(b) Any operator or contractor found to be responsible for the dumping or release of chemical substances or nonexempt wastes shall be assessed a \$1,000 penalty for the first violation, a \$5,000 penalty for the second violation, and a \$10,000 penalty for the third violation. Under this regulation, operators and contractors shall be considered responsible for the actions of their subcontractors.

(Authorized by and implementing K.S.A. 55-152, K.S.A. 2000 Supp. 55-164, as amended by L. 2001, ch. 5, sec. 191, and K.S.A. 2000 Supp. 74-623, as amended by L. 2001, ch. 191, sec. 16; effective April 23, 1990; amended April 23, 2004.)

82-3-607. DISPOSAL OF DIKE AND PIT CONTENTS.

(a) Each operator shall perform one of the following when disposing of dike or pit contents:

- (1) Remove the liquid contents to a disposal well or other oil and gas operation approved by the commission or to road maintenance or construction locations approved by the department;
- (2) dispose of reserve pit waste down the annular space of a well completed according to the alternate I requirements of K.A.R. 82-3-106, if the waste was generated during the drilling and completion of the well; or
- (3) dispose of the remaining solid contents in any manner required by the commission. The requirements may include any of the following:
 - (A) Burial in place, in accordance with the grading and restoration requirements in K.A.R. 82-3-602 (e);

- (B) removal of the contents to an on-site disposal area approved by the commission;
 - (C) removal of the contents to an off-site disposal area on acreage owned by the same landowner or to another producing lease or unit operated by the same operator, if prior written permission from the landowner has been obtained; or
 - (D) removal of the contents to a permitted off-site disposal area approved by the department.
- (b) Each violation of this regulation shall be punishable pursuant to K.A.R. 82-3-608(d).
- (c) If refuse is transferred pursuant to this regulation, the operator shall submit forms pursuant to K.A.R. 82-3-608, unless the refuse is removed to the same on-site tank or facility from which the refuse originated.

(Authorized by and implementing K.S.A. 2012 Supp. 55-152 and K.S.A. 2012 Supp. 55-164; effective April 23, 2004; amended Aug. 16, 2013.)

82-3-608. TRANSFER OF REFUSE.

- (a) Each operator shall file a form prescribed by the commission within 30 days after the operator transfers refuse from any pit or diked area or refuse relating to any remediation or cleanup activity.
- (b) The failure to timely submit the form specified in subsection (a) shall be punishable by the following penalties:
- (1) \$250 for the first violation;
 - (2) \$500 for the second violation; and
 - (3) \$1,000 and an operator license review for the third violation.
- (c) The conservation division central office and the district offices may require any operator to transfer refuse from any pit or diked area or refuse relating to any remediation or cleanup activity, if it is reasonably likely that the refuse would cause pollution without the transfer.
- (d) The failure to timely transfer refuse shall be punishable by the following penalties:
- (1) \$1,000 for the first violation;
 - (2) \$2,500 for the second violation; and
 - (3) \$5,000 and an operator license review for the third violation.

(Authorized by and implementing K.S.A. 2012 Supp. 55-152, K.S.A. 2012 Supp. 55-164, and K.S.A. 74-623; effective Aug. 16, 2013.)

CATHODIC PROTECTION

82-3-700. DEFINITIONS.

As used in these regulations for cathodic protection facilities, the following terms shall have the meanings specified:

- (a) "Annular space" means the space between the surface casing and the borewall or the space between two or more strings of surface casing in a cathodic protection borehole.
- (b) "Anode conductor grout" means a mixture having a minimum of 30 percent solids and weighing not less than 10.1 pounds per gallon. This mixture shall consist of 14 gallons of freshwater and 50 pounds of a commercial, single-sack grout that contains a plugging sodium bentonite blended clay with less than 10 percent of inorganic additives to temporarily inhibit sodium bentonite clay hydration during placement.
- (c) "Aquifer" means any geologic formation capable of yielding water in sufficient quantities so that the water can be diverted for beneficial use.
- (d) "Aquifer completion" means a cathodic protection borehole that is installed in an aquifer.
- (e) "Bedrock" means shale, limestone, sandstone, siltstone, anhydrite, gypsum, salt, or other consolidated rock material that can occur at the surface or underlie unconsolidated material.
- (f) "Bentonite cement" means a mixture weighing not less than 14.1 pounds per gallon and consisting of freshwater, Portland cement, and four to eight percent of sodium bentonite clay additive or an equivalent as approved by the director of the conservation division or the manager of groundwater management district #2 or #5 for cathodic protection boreholes drilled in the respective groundwater management district.
- (g) "Bentonite clay grout" means a mixture weighing not less than 9.4 pounds per gallon. This mixture shall consist of freshwater and commercial grouting or plugging sodium bentonite clay containing a high percentage of solids including those manufactured under the trade names of "Volclay" grout and "HolePlug" or a generic equivalent as approved by the director of the conservation division or the manager of groundwater management district #2 or #5 for cathodic protection boreholes drilled in the respective groundwater management district.
- (h) "Cathodic protection borehole" means any excavation penetrating the water table of an aquifer that is drilled, cored, bored, washed, driven, dug, or otherwise constructed for the intended use or purpose of installing equipment to prevent electrolytic corrosion of metallic equipment or facilities.
- (i) "Cathodic surface casing" means the first nonmetallic casing put in a cathodic protection borehole with the annular space grouted from the bottom of the cathodic surface casing to land surface, which serves to shut out shallow water formations and also acts as a foundation or anchor for all subsequent drilling activity.
- (j) "Concrete" means a mixture consisting of one 94-pound bag of Portland cement, an equal volume of sand having a grain-size diameter not larger than 0.080 inches, and five to six gallons of freshwater.
- (k) "Groundwater management district (GMD)" means a continuous area that overlies one or more aquifers, together with any area in between, that is organized for groundwater management purposes, pursuant to K.S.A. 82a-1020 et seq., and amendments thereto.
- (l) "Grout" means concrete, neat cement, bentonite clay grout, bentonite cement, or any other material that meets the following requirements:
 - (1) Is used to create a permanent, impervious, watertight bond; and

- (2) is approved by the director of the conservation division or the manager of groundwater management district #2 or #5 for cathodic protection boreholes drilled in the respective groundwater management district.
- (m) "Multiple aquifer completion" means a cathodic protection borehole that penetrates more than one aquifer.
- (n) "Neat cement" means a mixture consisting of one 94-pound bag of Portland cement and five to six gallons of freshwater.
- (o) "Pitless casing adapter" means a nonmetallic assembly of parts installed in the cathodic surface casing to permit the installation of a conduit through the wall of the cathodic surface casing and sealed to prevent the entrance of any fluids or contaminants.

(Authorized by and implementing K.S.A. 55-152; effective Oct. 25, 1996; amended, T-82-1-21-04, Jan. 21, 2004; amended May 14, 2004.)

82-3-701. INTENT TO DRILL CATHODIC PROTECTION BOREHOLES; NOTIFICATION; PENALTY; EXEMPTION.

This regulation shall apply in Kansas except for groundwater management districts #2 and #5. Each owner, operator, or person responsible for drilling a cathodic protection borehole in groundwater management district #2 or #5 shall apply directly to the manager of that groundwater management district in accordance with K.A.R. 82-3-705.

- (a) Except as set forth in subsection (e) of this regulation, each owner, operator, or person responsible for drilling a cathodic protection borehole shall submit written notice of the intention to drill to the conservation division for permit approval before the commencement of drilling operations.
 - (1) The applicant shall file the notice with the conservation division at least 60 days before commencing any drilling.
 - (2) Each notice shall be submitted on a form prescribed by the commission. The notice shall be filled in completely and signed by the operator or the operator's agent. The notice shall contain the following:
 - (A) The name and address of the owner and, if different from the owner, the name of the operator, and the operator license number;
 - (B) the date on which drilling is anticipated to begin;
 - (C) the well name or number designation, quarter section, section, range, township, county, and the distance of the proposed drilling location from the section's nearest corner, in exact footage;
 - (D) the estimated total depth of the borehole;
 - (E) the type of drilling equipment to be used;
 - (F) the depth to the bottom of the deepest freshwater at the drill site;
 - (G) the depth to the bottom of any usable water formation at the drill site; and
 - (H) any other relevant information requested by the commission.
 - (3) When a "cathodic protection borehole intent" form is filed, the owner, operator, or person responsible shall submit an "application for surface pit" form in accordance with K.A.R. 82-3-600 and, if required by K.A.R. 82-3-602, a pit closure form.

- (b) Before drilling a cathodic protection borehole, the operator shall notify the appropriate conservation division district office.
- (c) Any applicant may submit written requests to the director of the conservation division for an exception to the 60-day intention to drill filing period in emergency situations. Each request shall document why the emergency exists.
- (d) Drilling any cathodic protection borehole without an approved notice of intent or without being granted an exception shall be punishable by a penalty of up to \$1,000.00.
- (e) No permit shall be required for distributed anode systems, shallow "single bell hole" galvanic anode systems, and individual anode installation systems that are less than 25 feet in depth or do not penetrate an aquifer.

(Authorized by K.S.A. 55-152; implementing K.S.A. 55-152 and K.S.A. 2003 Supp. 55-164; effective Oct. 25, 1996; amended, T-82-1-21-04, Jan. 21, 2004; amended May 14, 2004.)

82-3-702. CONSTRUCTION OF CATHODIC PROTECTION BOREHOLES, MEASUREMENTS, LOGGING, REPORTS, PENALTY.

This regulation shall apply in Kansas except for groundwater management districts #2 and #5. Each owner, operator, or person responsible for the construction of a cathodic protection borehole located in groundwater management district #2 or #5 shall be subject to K.A.R. 82-3-706 through K.A.R. 82-3-709.

- (a) Each owner, operator, or person responsible for the construction of a cathodic protection borehole shall use a driller who is licensed by the commission under K.S.A. 55-155, and amendments thereto, or a water well contractor who is licensed by the Kansas department of health and environment under K.S.A. 82a-1201 et seq., and amendments thereto.
- (b) The operator shall construct each cathodic protection borehole in the following manner.
 - (1) The total depths of each borehole and the bottom of the cathodic surface casing shall not exceed the depths permitted on the approved intention to drill.
 - (2) The diameter of the borehole for cathodic surface casing installation shall be at least six inches larger than the nominal outside diameter (OD) of the cathodic surface casing.
 - (3) In aquifer completions, cathodic surface casing shall extend from the surface to 20 feet below the top of the aquifer.
 - (4) In multiple aquifer completions, the cathodic surface casing shall extend from the land surface through the aquifers and 20 feet into shale or other impermeable bedrock.
 - (5) Exceptions to the surface casing depth requirements may be granted by the director of the conservation division upon written request. Each operator requesting an exception shall be required to demonstrate that the exception provides adequate protection of fresh and usable waters.
 - (6) All cathodic surface casing shall be nonmetallic and shall have a standard dimension ratio (SDR) of 26 or less. The SDR shall be calculated by dividing the cathodic surface casing's outside diameter (OD) by its minimum wall thickness (MWT): $SDR = OD/MWT$.
 - (7) The operator shall install centralizers along the entire length of the cathodic surface casing at intervals of not greater than 40 feet, starting at the bottom of the casing.
 - (8) The operator shall grout the annular space either by using a tremie pipe or by following the instructions of individual grout manufacturers. The grout shall be allowed to set undisturbed for at least 24 hours, or for the length of time recommended by individual

grout manufacturer's instructions. Exceptions to this requirement may be granted by the director of the conservation division upon written request. Each operator requesting an exception shall be required to demonstrate that the exception provides equivalent or greater protection to fresh and usable waters. Bentonite clay grout shall not be used where a mineralized aquifer or aquifers transect the borehole.

- (9) The operator shall not make any openings through the cathodic surface casing, except for the installation of a pitless casing adapter.
 - (10) The operator shall not use products designed for drilling purposes that contain organic polymers as either drilling mud or grout.
 - (11) The operator shall install anodes and anode conductors in the borehole beginning at least five feet below the bottom of the cathodic surface casing.
- (c) The operator shall measure each borehole to determine the cathodic surface casing depth and the total depth of the borehole. The operator shall record each measurement.
- (d) The operator shall log each cathodic protection borehole as follows:
- (1) The operator shall collect and record drill cuttings at intervals not greater than five feet or more frequently, if needed to produce an accurate lithologic or driller's log of the entire borehole.
 - (2) The operator shall record any electrical surveys, logs, or other geophysical readings of the borehole and make them a part of the permanent record.
- (e) The operator shall submit a final completion report within 60 days of the start date to the production department of the conservation division. The report shall include all electrical or geophysical readings or logs, as required by the commission.
- (f) (1) Each failure to construct a cathodic protection borehole in accordance with these regulations shall be punishable by a penalty of up to \$2,500.
- (2) Each failure to submit the final report in accordance with subsection (e) of this regulation shall be punishable by a penalty of \$100.

(Authorized by K.S.A. 55-152; implementing K.S.A. 55-152 and K.S.A. 2003 Supp. 55-164; effective Oct. 25, 1996; amended, T-82-1-21-04, Jan. 21, 2004; amended May 14, 2004.)

82-3-703. SURFACE CONSTRUCTION REQUIREMENTS, APPURTENANCES, VAULT AND BELOW-GROUND CONSTRUCTION, PENALTY.

This regulation shall apply in Kansas except for groundwater management districts #2 and #5. Each owner, operator, or person responsible for the construction of a cathodic protection borehole located in groundwater management district #2 or #5 shall be subject to K.A.R. 82-3-706 through K.A.R. 82-3-709.

- (a) All surface construction features of a cathodic protection borehole shall be designed to minimize physical damage to the installation, prevent entry of fluids and contaminants, and prevent unauthorized access.
- (1) The operator shall equip the surface access to each borehole with a waterproof cap, cover, or equivalent housing.
 - (2) At the land surface contact, the cathodic surface casing or vault cover shall be designed to deter unauthorized access.
- (b) Vent pipes shall remove gases from the borehole and shall terminate at least one foot above the highest known flood elevation and at least three feet above land surface.

- (c) The aboveground terminus end of the vent pipe shall be turned 180 degrees and equipped at the terminus end with a 16-mesh or greater brass, bronze, or copper screen or other metallic material with similar hardness if that material is approved by the director of the conservation division.
- (d) Gases shall not be vented or released if the release is a hazard to public health and safety or the environment.
- (e) The top of the cathodic surface casing shall terminate at least three feet above land surface, except as set forth in subsections (f) and (g).
- (f) If the top of the cathodic surface casing terminates below land surface in a vault, the following construction features shall be required:
 - (1) The operator shall install a water-resistant and structurally sound vault to house the top of the cathodic surface casing.
 - (2) The vault and the cover or lid shall be strong enough to support vehicular traffic where this traffic could occur.
 - (3) The operator shall set the top of the vault so that surface fluids are directed away from the vault.
 - (4) The cathodic surface casing shall contact the vault to form a water-resistant and structurally sound seal and connection.
- (g) If the borehole and cathodic surface casing are grouted, the operator shall place grout at least five feet below the bottom of the cathodic surface casing, with grout extending into the cathodic surface casing at least 10 feet in total thickness.
- (h) Cathodic surface casing installations that terminate and are buried below land surface shall meet the same water resistance and structural integrity requirements as those for vaulted-type construction described in subsection (f) of this regulation.
- (i) The operator shall mark all aboveground installations with the commission borehole permit number, which shall be protected from possible damage and shall be easily visible.
- (j) Exceptions to this regulation may be granted by the director of the conservation division upon written request. Each operator requesting an exception shall be required to demonstrate that the requested exception provides an equivalent or greater level of protection to public health and the environment.
- (k) Each failure to construct the surface installation in accordance with this regulation shall be punishable by a penalty of up to \$500.

(Authorized by K.S.A. 55-152; implementing K.S.A. 55-152 and K.S.A. 2003 Supp. 55-164; effective Oct. 25, 1996; amended, T-82-1-21-04, Jan. 21, 2004; amended May 14, 2004.)

82-3-704. PLUGGING METHODS AND PROCEDURES FOR CATHODIC PROTECTION BOREHOLES, SITE RESTORATION, SUBMISSION OF PLUGGING REPORT, PENALTY.

This regulation shall apply in Kansas except for groundwater management districts #2 and #5. Each owner, operator, or person responsible for the plugging of a cathodic protection borehole located in groundwater management district #2 or #5 shall be subject to K.A.R. 82-3-710.

- (a) The operator, owner, or agent of the owner shall plug each cathodic protection borehole in accordance with the following procedures:

- (1) At least 72 hours before the actual plugging, the operator, owner, or agent of the owner shall contact the appropriate conservation division district office for plugging instructions and approval.
 - (2) Before the actual plugging, the operator shall remove any cables and anodes, the vent pipe and anode conductor, and any other materials originally installed in the borehole to a level necessary to ensure that the borehole is properly plugged and to facilitate proper plugging.
 - (3) The operator shall cut off the cathodic surface casing at least three feet below the land surface.
 - (4) The operator shall plug each borehole with grout from at least five feet below the bottom of the cathodic surface casing to the top of the cathodic surface casing. The operator shall place grout with a tremie pipe or any other method approved by the appropriate conservation division district office where the facility or borehole is located if the method provides adequate protection of fresh and usable waters.
 - (5) Where subsurface pressures cause artesian flow, the operator shall maintain a pressure sufficient for placement of the grout plug long enough for the plug to set.
 - (6) The operator shall fill any vent pipe not removed from the borehole with grout.
- (b) The operator shall restore each former cathodic protection borehole site, as close as practical to predrilling condition.
- (1) The operator shall backfill and compact each borehole from three feet below land surface to land surface, with clean topsoil.
 - (2) The operator shall remove from the site all cables and anodes, the vent pipe and anode conductor, all surface casing sections, and any other material installed at the surface or in the borehole.
- (c) The operator shall submit a final plugging report to the production department of the conservation division within 60 days after plugging has been completed, on forms prescribed by the commission.
- (d) Exceptions to this regulation may be granted by the director of the conservation division upon written request. Each operator requesting an exception shall be required to demonstrate that the exception provides adequate protection of fresh and usable waters.
- (e) A cathodic protection borehole shall be considered abandoned if either of the following conditions is met:
- (1) The borehole has not been used for one year, and the owner has not provided a written request to the director for temporary abandonment status pursuant to K.A.R. 82-3-111.
 - (2) The borehole is contaminating or threatening to contaminate a freshwater aquifer.
- (f) Each failure to comply with the provisions of this regulation shall be punishable by a penalty of up to \$1,000.

(Authorized by K.S.A. 55-152; implementing K.S.A. 55-152 and K.S.A. 2003 Supp. 55-164; effective Oct. 25, 1996; amended, T-82-1-21-04, Jan. 21, 2004; amended May 14, 2004.)

82-3-705. GROUNDWATER MANAGEMENT DISTRICTS #2 AND #5: PERMIT TO DRILL CASED AND UNCASSED CATHODIC PROTECTION BOREHOLES; NOTIFICATION; EXCEPTIONS; DRILLING PIT APPLICATION.

This regulation shall apply only within the boundaries of groundwater management districts #2 and #5.

- (a) Except as specified in subsection (g), it shall be a violation of this regulation for the operator, owner, or person responsible to drill or construct either a cased or uncased cathodic protection borehole without first applying for and obtaining a permit to drill and construct a cathodic protection borehole.
- (b) Each individual seeking a permit shall submit an application to the appropriate GMD office at least 60 days before planned construction, on a form furnished by the appropriate GMD. The permit application shall contain the following:
 - (1) The name and address of the owner;
 - (2) the quarter section, section, range, township, and county;
 - (3) the distance from the borehole to the section's southeast corner, in exact footage;
 - (4) the top and bottom depths of any freshwater aquifer;
 - (5) the total borehole depth;
 - (6) the number and depths of the anodes;
 - (7) the top and bottom depths of the anode conductor or anode conductor grout; and
 - (8) any other relevant information requested by the manager of the appropriate GMD.
- (c) Each manager of a GMD shall submit one copy of each cathodic protection borehole application upon which action has been taken to the production department of the conservation division within 10 days of approval.
- (d) The operator, owner, or person responsible shall notify the appropriate GMD office at least 72 hours before drilling each cathodic protection borehole.
- (e) When required by the manager of the appropriate GMD, the operator, owner, or person responsible shall submit a surface pit permit approved by the director of the conservation division with the application for a permit to drill and construct a cathodic protection borehole.
- (f) Drilling a cased or an uncased cathodic protection borehole without an approved permit shall be punishable by a penalty of up to \$1,000. Drilling any cased or uncased cathodic protection borehole without providing notice to the appropriate GMD office in accordance with subsection (d) shall be punishable by a penalty of up to \$1,000.
- (g) No permit shall be required for a cathodic protection anode system that meets the following conditions:
 - (1) Is constructed to a maximum depth below the land surface of 25 feet or less; and
 - (2) does not penetrate an aquifer.

(Authorized by K.S.A. 55-152 and K.S.A. 2003 Supp. 82a-1028; implementing K.S.A. 55-152, K.S.A. 2003 Supp. 55-164, and K.S.A. 2003 Supp. 82a-1028; effective, T-82-1-21-04, Jan. 21, 2004; amended May 14, 2004.)

82-3-706. GROUNDWATER MANAGEMENT DISTRICTS #2 AND #5: DRILLING CONTRACTOR; LOGGING; CONSTRUCTION; REPORTS.

This regulation shall apply only within the boundaries of groundwater management districts #2 and #5.

- (a) Only a driller or water well contractor licensed with the Kansas department of health and environment under K.S.A. 82a-1201 et seq., and amendments thereto, shall drill and construct each cathodic protection borehole.

- (b) The total depths of the borehole and the bottom of the cathodic surface casing shall not exceed the authorized depths in the approved permit to drill and construct a cathodic protection borehole.
- (c) The cathodic protection borehole shall be logged according to the following requirements:
 - (1) The drill cuttings shall be sampled and recorded at intervals not greater than five feet or more frequently, if needed, to produce an accurate lithologic or driller's log of the complete cathodic protection borehole.
 - (2) The electrical readings or log and any other geophysical readings or logs of the complete cathodic protection borehole shall be recorded and made a permanent record.
- (d) No uncased cathodic protection borehole shall be drilled or completed below shale or impermeable bedrock surface.
- (e) The minimum diameter of each cathodic protection borehole shall be one of the following:
 - (1) Eight inches for uncased boreholes; or
 - (2) six inches greater than the outside diameter (OD) of the surface casing for cased boreholes.
- (f) Except for uncased cathodic protection boreholes, each borehole shall be constructed according to the following requirements:
 - (1) Nonmetallic casing equipped with centralizers shall be installed in the borehole when the drilling penetrates 20 feet into either shale or impermeable bedrock.
 - (2) The casing shall be new, clean, serviceable, and free of defects.
 - (3) The casing shall have a standard dimension ratio (SDR) of 21 or less and shall be calculated by dividing the casing's outside diameter (OD) by its minimum wall thickness (MWT).
 - (4) Centralizers shall be installed along the entire length of the casing at intervals not greater than 40 feet, starting at the bottom end of the casing.
 - (5) The annular space shall be grouted, and the grout shall be installed using a grout tremie pipe or as recommended by the grout manufacturer's instructions and allowed to set undisturbed as recommended by the grout manufacturer's specifications.
 - (6) No opening shall be made through the casing, except for the installation of a pitless casing adapter.
- (g) Measurements shall be made as necessary to determine the depth, dimensions, or spacing of the borehole, casing, anode, anode conductor, grout, and other borehole materials.
- (h) Drilling products and borehole materials containing organic polymers shall not be used to either drill or construct the borehole.
- (i)
 - (1) If the manager of the appropriate GMD determines that the use of a drilling pit threatens to contaminate groundwater, the operator, owner, or person responsible shall ensure that the pit meets one of the following requirements:
 - (A) Be constructed so that the bottom and sides have a hydraulic conductivity no greater than 1×10^{-7} cm/sec during use;
 - (B) be constructed aboveground; or

- (C) consist of a portable aboveground tank.
- (2) All fluids that threaten to contaminate the groundwater shall be removed from the drilling pit and disposed of upon closure of the pit, in accordance with K.A.R. 82-3-602.
- (j) If drilling and construction operations are temporarily suspended or interrupted by an unforeseen circumstance, the following requirements shall apply:
 - (1) All drilling and grouting equipment shall be removed from the borehole.
 - (2) The borehole shall be secured to prevent the following:
 - (A) The entry of contaminating or polluting materials into the borehole; and
 - (B) unauthorized access.
 - (3) The borehole shall be maintained in a stable condition to prevent collapse.
- (k) Two copies of the following information shall be submitted to the appropriate GMD office within 30 days after the cathodic protection borehole is completed:
 - (1) The well completion form provided by the commission and completed by the operator;
 - (2) any electrical or geophysical readings or logs; and
 - (3) an as-built plan.

The manager of the appropriate GMD shall provide one copy of this information to the conservation division within 30 days of receipt by the GMD office.

- (l) (1) Each failure to construct a cathodic protection borehole in accordance with these regulations shall be punishable by a penalty of up to \$2,500.
- (2) Each failure to submit the report required under subsection (k) to the appropriate GMD office shall be punishable by a penalty of \$100.

(Authorized by K.S.A. 55-152 and K.S.A. 2003 Supp. 82a-1028; implementing K.S.A. 55-152, K.S.A. 2003 Supp. 55-164, and K.S.A. 2003 Supp. 82a-1028; effective, T-82-1-21-04, Jan. 21, 2004; amended May 14, 2004.)

82-3-707. GROUNDWATER MANAGEMENT DISTRICTS #2 AND #5: ANODE, ANODE CONDUCTOR, AND ANODE CONDUCTOR GROUT REQUIREMENTS FOR CASED AND UNCASED BOREHOLES.

This regulation shall apply only within the boundaries of groundwater management districts #2 and #5.

- (a) Each operator, owner, or person responsible shall install anodes and anode conductor in each cased cathodic protection borehole starting five feet below the bottom of the cathodic surface casing.
- (b) Each operator, owner, or person responsible shall install anodes and anode conductor grout in uncased boreholes according to the following requirements:
 - (1) Each anode for use in a public water supply system shall meet or exceed the requirements specified in section 4.2.3, "anode materials," in the American water works association's standard D104-01, as approved in 2001. Section 4.2.3 of this document is hereby adopted by reference.
 - (2) Each anode shall be installed from a minimum of three feet above the shale or impermeable bedrock surface to a maximum of 20 feet below land surface.

- (3) The anode conductor grout shall be placed from the total depth to five feet above the anode nearest the land surface, using a grout tremie pipe or as recommended by the grout manufacturer.
 - (4) The anode conductor grout shall be certified by the national sanitation foundation to meet the criteria specified in section 8 of "drinking water treatment chemicals--health effects," NSF/ANSI 60-2003e, as revised in October 2003. Section 8 of this document, titled "miscellaneous water supply products" and consisting of pages 27 through 34, is hereby adopted by reference.
 - (5) Anode conductor grout containing bentonite clay or any other similar material shall not be used if the salinity equals or exceeds 2,000 mg/L chloride in any portion of an aquifer.
- (c) Each failure to install anodes or grouting material in accordance with this regulation shall be punishable by a penalty of up to \$2,500.

(Authorized by K.S.A. 55-152 and K.S.A. 2003 Supp. 82a-1028; implementing K.S.A. 55-152, K.S.A. 2003 Supp. 55-164, and K.S.A. 2003 Supp. 82a-1028; effective, T-82-1-21-04, Jan. 21, 2004; amended May 14, 2004.)

82-3-708. GROUNDWATER MANAGEMENT DISTRICTS #2 AND #5: SURFACE CONSTRUCTION REQUIREMENTS FOR CASED CATHODIC PROTECTION BOREHOLES.

This regulation shall apply only within the boundaries of groundwater management districts #2 and #5.

- (a) Each operator, owner, or person responsible shall ensure that the top of the cathodic protection borehole casing of each cased borehole meets one of the following requirements:
 - (1) Terminates a minimum of three feet above land surface or one foot above the highest known flood elevation greater than three feet above land surface;
 - (2) is equipped with a water-resistant and structurally sound vault; or
 - (3) terminates a minimum of three feet below land surface.
- (b) The minimum construction requirements for each cased cathodic protection borehole shall be the following:
 - (1) The top of the cathodic protection borehole casing shall meet the following requirements:
 - (A) Be constructed to prevent damage to the cathodic protection borehole casing, prevent entry of contaminants, and deter unauthorized access to the installation;
 - (B) be constructed so that surface drainage is directed away from the installation;
 - (C) be equipped with a watertight seal, cover, or an equivalent device approved by the appropriate GMD office; and
 - (D) be equipped with an easily visible sign identifying the cathodic borehole permit number and the borehole owner.
 - (2) The borehole shall be vented of any gases according to the following requirements:
 - (A) The vent pipe shall terminate a minimum of either three feet above land surface or one foot above the highest known flood elevation greater than three feet above land surface.

- (B) The aboveground terminus end of the vent pipe shall be turned 180 degrees and equipped at the terminus end with a 16-mesh or greater brass, bronze, or copper screen, or other material with similar properties if that material is approved by the manager of the appropriate GMD office.
 - (C) Gases shall not be vented or released if the release is a hazard to public health and safety or the environment.
- (3) The cathodic protection borehole casing vault shall meet the following requirements:
 - (A) Be strong enough to support vehicular traffic where this traffic could occur; and
 - (B) contact the cathodic protection borehole casing to form a water-resistant and structurally sound seal and connection.
 - (4) The cathodic protection borehole casing installation terminated below land surface shall meet the following minimum requirements:
 - (A) Grout shall be placed in the borehole from a minimum of five feet below the bottom of the nonmetallic cathodic protection borehole casing to the top of the nonmetallic cathodic protection borehole casing by using a tremie pipe or by following the recommendation of the grout manufacturer.
 - (B) The borehole shall be backfilled with clean and compacted topsoil from the top of the nonmetallic cathodic protection borehole casing to the land surface.
 - (c) Each operator, owner, or person responsible shall ensure that any concrete pad constructed around an aboveground cathodic protection borehole casing or vault meets the following requirements:
 - (1) Is a minimum of four inches thick;
 - (2) is sloped so that surface drainage is directed away from the installation;
 - (3) is free of cracks, voids, and other defects that detract from its watertightness; and
 - (4) has a joint between the base and the nonmetallic cathodic protection borehole casing that is structurally resistant to sound and water.
 - (d) Each failure to complete surface construction requirements for cathodic protection boreholes in accordance with this regulation shall be punishable by a penalty of up to \$500.

(Authorized by K.S.A. 55-152 and K.S.A. 2003 Supp. 82a-1028; implementing K.S.A. 55-152, K.S.A. 2003 Supp. 55-164, and K.S.A. 2003 Supp. 82a-1028; effective, T-82-1-21-04, Jan. 21, 2004; amended May 14, 2004.)

82-3-709. GROUNDWATER MANAGEMENT DISTRICTS #2 AND #5: CONSTRUCTION SPECIFICATIONS FOR UNCASSED CATHODIC BOREHOLES.

This regulation shall apply only within the boundaries of groundwater management districts #2 and #5. Each operator, owner, or person responsible shall ensure that the requirements of this regulation are met.

- (a) The construction features of each uncased cathodic protection borehole shall prevent physical damage to the installation and prevent the entry of pollutants and contaminants into fresh and usable groundwater.
- (b) Each uncased borehole shall be grouted from the top of the anode conductor grout to three feet below land surface with either of the following:

- (1) Grout; or
 - (2) anode conductor grout.
- (c) From three feet below land surface to the land surface, each uncased borehole shall be backfilled with clean, compacted topsoil and sloped so that surface drainage or runoff is directed away from the installation.
- (d) A vent pipe or other gas-venting device shall not be installed in any uncased borehole.
- (e) In any area having a saline concentration of 500 ppm or higher, or as determined by the manager of the appropriate GMD office after consideration of ambient water quality data taken from the area within a ½-mile radius of the proposed uncased borehole, a log of a test well located within 20 feet of the proposed uncased borehole shall accompany each uncased cathodic borehole application submitted pursuant to K.A.R. 82-3-705 and shall include the following information:
- (1) A 10-acre tract legal description of the test well location;
 - (2) the depth to bedrock;
 - (3) the depth to the water table;
 - (4) a description of drill cuttings sampled and recorded at intervals not greater than five feet and more frequently, if necessary, to produce an accurate lithologic log; and
 - (5) the analyses of groundwater samples collected in a manner approved by the manager of the appropriate GMD office from the upper, middle, and lower portions of an aquifer. These analyses shall meet the following requirements:
 - (A) Consist of chloride, specific conductance, and any other parameter analysis specified by the manager of the appropriate GMD office; and
 - (B) be performed by a laboratory certified by the Kansas department of health and environment.
- (f) Each failure to construct any uncased cathodic protection borehole in accordance with this regulation shall be punishable by a penalty of up to \$2,500.

(Authorized by K.S.A. 55-152 and K.S.A. 2003 Supp. 82a-1028; implementing K.S.A. 55-152, K.S.A. 2003 Supp. 55-164, and K.S.A. 2003 Supp. 82a-1028; effective, T-82-1-21-04, Jan. 21, 2004; amended May 14, 2004.)

82-3-710. GROUNDWATER MANAGEMENT DISTRICTS #2 AND #5: ABANDONMENT, PLUGGING METHODS, AND PROCEDURES FOR CATHODIC PROTECTION BOREHOLES, REPORTS, AND RESTORATION.

This regulation shall apply only within the boundaries of groundwater management districts #2 and #5.

- (a) A cathodic protection borehole shall be deemed abandoned when any of the following conditions exists:
- (1) The cathodic protection borehole is not completed due to unforeseen circumstances.
 - (2) The cathodic protection borehole either threatens to contaminate or contaminates a freshwater aquifer.
 - (3) Uncontrollable fluid or gas flow is present in the cathodic protection borehole.
 - (4) The cathodic protection borehole is not operational or is in a state of disrepair.

- (b) The operator, owner, or person responsible shall plug each abandoned cathodic protection borehole.
- (c) The minimum plugging requirements for an abandoned cathodic protection borehole shall be the following:
 - (1) At least 72 hours before plugging operations are scheduled to begin, the operator, owner, or person responsible shall submit a plugging plan to the appropriate GMD office. The operator, owner, or person responsible shall not begin plugging operations until the plugging plan is approved.
 - (2) As part of initial plugging operations, any cables and anodes, the vent pipe and anode conductor, and any other cathodic equipment or materials installed in the borehole shall be removed as necessary to ensure that the borehole is properly plugged and to facilitate proper plugging.
 - (3) All surface casing shall be cut off a minimum of three feet below the land surface and removed.
 - (4) Each cased cathodic protection borehole shall be plugged with grout from a minimum of five feet below the bottom of the surface casing to the top of the surface casing.
 - (5) Each uncased cathodic protection borehole shall be plugged with grout from the bottom of the borehole to three feet below the land surface.
 - (6) All grout shall be placed with a tremie pipe or in a manner recommended by the grout manufacturer.
 - (7) Each borehole shall be backfilled with clean topsoil and compacted from three feet below land surface to the land surface.
 - (8) Each vent pipe not removed from a cased cathodic protection borehole shall be completely filled with grout.
 - (9) Wherever subsurface fluid or gas pressure flow is encountered, a pressure sufficient for placement of the grout shall be maintained long enough for the grout to set.
 - (10) The operator shall submit a final plugging report to the manager of the appropriate GMD office within 60 days after plugging operations are completed, on forms prescribed by the manager of the appropriate GMD office.
- (d) Each former cathodic protection borehole site shall be restored, as close as practical to predrilling conditions, by removing from the site any cables and anodes, the vent pipe and anode conductor, any surface casing sections, and any other material installed at the surface or in the borehole.
- (e)
 - (1) Each failure to provide notice under paragraph (c)(1) shall be punishable by a penalty of up to \$1,000.
 - (2) Each failure to properly plug any cathodic protection borehole in accordance with this regulation shall be punishable by a penalty of up to \$2,500.

(Authorized by K.S.A. 55-152 and K.S.A. 2003 Supp. 82a-1028; implementing K.S.A. 55-152, K.S.A. 2003 Supp. 55-164, and K.S.A. 2003 Supp. 82a-1028; effective, T-82-1-21-04, Jan. 21, 2004; amended May 14, 2004.)

GAS GATHERING

82-3-800. LICENSING.

Each person operating any gas-gathering system within the state of Kansas shall be licensed by the commission. Any person claiming an exemption from reporting under L. 1997, Ch. 132, § 23 shall be licensed.

(Authorized by and implementing K.S.A. 1997 Supp. 55-155; effective April 3, 1998.)

82-3-801. REPORT FURNISHED BY PERSONS OFFERING GAS-GATHERING SERVICES; PENALTY.

- (a) Each person offering gas-gathering services shall file with the commission the following data on forms prescribed by the commission:
 - (1) data on rates paid for natural gas purchased at the wellhead on each gas-gathering system or part thereof if purchased by the gatherer;
 - (2) data on contract rates charged for gas-gathering services on each gas-gathering system or part thereof;
 - (3) any special contract terms relating to the volume and characteristics of the gas that will be purchased or transported by the person offering gas-gathering services;
 - (4) the number of wells connected to the gas-gathering system or part thereof;
 - (5) a legible map showing the location of the gas-gathering system drawn to a scale of .5 inch equals one mile and clearly indicating section, township, and range; and
 - (6) other related data that may be required by the commission.
- (b) The reports shall contain information current as of the first day of January, April, July, and October and shall be filed within sixty days of these dates. Maps shall be filed annually at the time of license renewal. If any due date falls on a legal holiday or weekend, the report shall be due on the next business day. If no change has been made to reported data from the prior filing, the operator may note this on the reporting form.
- (c) Any person claiming an exemption pursuant to L. 1997, Ch. 132, § 22 shall provide a verified, detailed written explanation in support of the exemption.
- (d) The report filed with the commission shall be subject to the Kansas open records act.
- (e) The report filed with the commission shall not be used by the commission to order a change in any rate except in a proceeding pursuant to K.A.R. 82-3-802.
- (f) Any person claiming an exemption pursuant to L. 1997, Ch. 132, § 22 who no longer qualifies for the exemption shall file the necessary gas-gathering report pursuant to K.A.R. 82-3-801 within 10 days from the date on which the exemption expires.
- (g) Failure to materially complete the form shall constitute noncompliance with this regulation, and the operator may be subject to the penalty provisions set forth in subsection (h).
- (h) Upon notice and opportunity to be heard, a penalty may be imposed by the commission on any person, not to exceed \$10,000.00 per day up to an aggregate maximum amount of \$250,000.00, for failure to file the report required by subsection (a).
- (i) Notice of any substantive change to the reporting form occurring after July 1, 1998, shall be published in the Kansas register at least 30 days before adoption. Additional notice may be

provided by the Kansas corporation commission to interested parties and the public generally. An opportunity to comment and a hearing shall be conducted as to the proposed form.

(Authorized by and implementing L. 1997, Ch. 132, § 23; effective April 3, 1998.)

82-3-802. GAS-GATHERING SERVICES AND ACCESS, COMPLAINT, HEARING.

- (a) Each person offering any gas-gathering services or facilities essential to providing these services shall do so in a manner that is just, reasonable, not unjustly discriminatory, and not unduly preferential to persons seeking services or access to facilities.
- (b) Each person performing gas-gathering services shall engage in practices and charge fees for such services that are just, reasonable, not unjustly discriminatory, and not unduly preferential.
- (c) Any consumer of gas-gathering services, any person seeking direct purchase of natural gas at the wellhead, any royalty owner, or any natural gas producer may request that the commission investigate and initiate proceedings to review a fee, term, or practice being used by a person offering gas-gathering services.
- (d) As a condition to commission action, the person under subsection (c) requesting the action shall file a complaint that includes the following:
 - (1) A statement that the complainant has presented the complaint, in writing, to the person offering gas-gathering services and has requested a meeting to discuss the complaint. A copy of this document shall accompany the complaint;
 - (2) a statement that the requested meeting took place and no resolution was reached or that the person offering gas-gathering services refused to meet;
 - (3) a detailed factual statement alleging how the fee, term or practice violates subsections (a) or (b);
 - (4) a statement of the precise remedy being requested that will make the fee, term, or practice consistent with the standards established in this section;
 - (5) if the complainant is a producer of natural gas, a copy of the analysis of the complainant's gas, including the nitrogen, carbon dioxide, hydrogen sulfide, water and other contaminant content; the volume; the Btu; and the pressure at the wellhead;
 - (6) if available, a map showing the location of the affected wells and all known gas-gathering systems in the area; and
 - (7) proof of service of the complaint on the gas gatherer.
- (e) Upon the filing of a complaint, the parties to the complaint shall be contacted by the commission staff, and resolution of the matter shall be attempted by the commission staff through the use of informal procedures, including one or more of the following:
 - (1) A meeting with the complainant, the person offering gas-gathering services, and commission staff.
 - (2) A mediation conference conducted under the following procedures:
 - (A) Upon the request of any party and acceptance of the other party, the commission shall schedule a mediation conference. The purpose of the mediation shall be to assist the parties in reaching agreement on any disputed issues by the intervention of a third party who has no decision-making authority, is impartial to the issues being discussed, assists the parties in defining the issues in dispute, facilitates communication between the parties, and assists the parties in reaching resolution.

- (B) Mediation conferences shall be conducted by mediators appointed by the commission who are qualified as mediators pursuant to the dispute resolution act, K.S.A. 5-501 et seq., and amendments thereto, and any relevant rules of the Kansas supreme court as authorized pursuant to K.S.A. 5-510, and amendments thereto.
 - (C) Persons with final settlement authority for each party shall be present, in person, at the mediation conference.
 - (D) All mediation conferences shall be conducted by a mediator in accordance with the dispute resolution act.
 - (E) The confidentiality and privilege provisions of K.S.A. 60-452(a) shall apply to all mediation conferences to assure that all verbal or written information transmitted between any party to a dispute and the mediator shall be treated as confidential information and that no admission, representation, or statement made in the mediation conference shall be admissible as evidence or subject to discovery.
 - (F) The costs of mediation shall be shared equally among all parties.
 - (G) The commission shall disseminate information about the mediation conference procedure.
- (3) Other informal mediation procedures as may be agreed to by all parties.
- (f) The commission may at any time review a fee, term, or practice. Upon notice and opportunity for hearing in accordance with the Kansas administrative procedures act, the authority to order the remediation of any violation of L. 1997, Ch. 132, § 24 shall rest with the commission.
 - (g) A formal hearing shall be scheduled by the commission if the complaint is not resolved by informal procedures within 60 days of its filing or upon notice that no party wishes to utilize any informal procedure. A scheduling order providing notice to the affected parties of the date of hearing and setting forth any additional conditions as the commission deems appropriate shall be issued by the commission.
 - (h) The hearing shall be conducted in accordance with the Kansas administrative procedure act, K.S.A. 77-501 et seq., and with the commission's rules of practice and procedure, K.A.R. 82-3-201 et seq.
 - (i) The costs of a proceeding may be assessed to a party or parties based on the findings of the commission.
 - (j) In determining whether or not to grant access to a system, factors including the following may be considered by the commission:
 - (1) whether or not the natural gas can be reasonably carried by a gatherer;
 - (2) whether or not construction of a new system would be feasible;
 - (3) whether or not a material extension or expansion of facilities would be required;
 - (4) whether or not there is another gatherer of natural gas who is willing to gather or can more conveniently gather gas;
 - (5) whether or not the gathering of gas can reasonably be expected to have a materially adverse effect on safety or on service to existing customers or on the operation of or recovery of any processing facility;
 - (6) whether or not the gas satisfies minimum standards for quality, energy or recoverable hydrocarbon content consistently applied by the gatherer of that system;

- (7) whether or not the gas gatherer is gathering gas from an affiliated marketer or producer;
 - (8) the fiscal impact to all parties; or
 - (9) any other matters that the commission determines to be relevant.
- (k) In evaluating or establishing a fee, term, or practice for a gathering service, whether or not the fee, term, or practice is a just, reasonable, not unjustly discriminatory, and not unduly preferential fee that would result from good faith negotiations in a competitive market shall be determined by the commission. In evaluating or establishing a fee, term, or practice, all economically relevant factors including the following may be considered by the commission:
- (1) the fees or terms that the gatherer receives from other shippers;
 - (2) the fees or terms charged by other gatherers within a relevant area determined by the commission;
 - (3) the financial risks of installing a gathering system;
 - (4) the financial risks of operating a gathering system;
 - (5) the capital, operating and maintenance costs of a gathering system;
 - (6) the existing gas contract or contracts;
 - (7) the fiscal impact to all parties;
 - (8) the fees, terms, or practices that the gas gatherer offers to an affiliated producer or marketer; or
 - (9) other factors that the commission determines to be relevant, provided that a fee shall not be required to be computed on a utility rate-of-return basis.

(Authorized by and implementing L. 1997, Ch. 132, § 24 and L. 1997, Ch. 132, § 25; effective April 3, 1998.)

82-3-803. ABUSE OF COMPLAINT PROCEDURE.

No person shall abuse the complaint process in any manner, including causing a delay in the proceedings that may damage a party's ability to pursue or defend the complaint. Any action deemed necessary to protect the rights of a party against abuse of the complaint process may be taken by the commission.

(Authorized by and implementing L. 1997, Ch. 132, § 25; effective April 3, 1998.)

82-3-804. NOTICE OF TERMINATION.

A public utility providing service from a gas-gathering system shall provide written notice to the executive director of the commission at its Topeka office and to the person receiving service, not later than November 1 preceding the calendar year of service, that it cannot serve the needs of the person receiving service. The utility shall explain in detail any reasons it is unable to perform the service. Investigation of the proposed termination and reporting to the commission shall be made by the utilities division with the assistance of the conservation division of the commission. Any further action taken by the commission shall be conducted under chapter 66.

(Authorized by and implementing L. 1997, Ch. 132, § 30; effective April 3, 1998.)

ENHANCED RECOVERY SEVERANCE TAX EXEMPTION

82-3-900. ENHANCED RECOVERY SEVERANCE TAX EXEMPTION, APPLICATION, HEARING, PENALTY.

- (a) Any operator seeking exemption from the severance tax provisions pursuant to K.S.A. 79-4217, and amendments thereto, shall submit an application to the director of the conservation division. The commission staff shall assign a certifying number to each application upon receipt. The determination as to whether or not the production enhancement project qualifies for exemption shall be made and certified by the director of the conservation division or the director's designee. In the event of an adverse decision at the director's level, an appeal may be made by requesting a hearing before the full commission pursuant to the Kansas administrative procedures act.
- (b) Upon the certification by the director of the conservation division or by the commission after hearing, the certification shall be forwarded by the conservation division to the operator for submission to the department of revenue.
- (c) All records submitted in connection with an application for exemption from the severance tax under this provision shall be retained by the corporation commission. These records shall be subject to the confidentiality provision of K.A.R. 82-3-107(e). The records shall be retained for no fewer than four years and shall be open at all times to the department of revenue.
- (d) Either the first purchaser and the operator or an operator who has duly elected to report the severance tax shall be notified by the department of revenue of its acceptance of the certification from the state corporation commission.
- (e) The willful filing of false documents, fraudulent documents, or both, in order to obtain an exemption from the severance tax with the conservation division shall constitute a simultaneous false filing with the department of revenue under K.S.A. 79-4225, and amendments thereto, and its provisions shall apply with respect to civil penalties, criminal prosecution, or both.

(Authorized by and implementing K.S.A. 79-4217, as amended by L. 1998, ch. 130, sec. 28; effective March 19, 1999.)

82-3-901. DETERMINATION OF BASE PRODUCTION.

"Base production," as defined in K.S.A. 79-4217(b)(6)(A)(2), and amendments thereto, shall be determined with respect to production decline by the operator certifying under penalty of perjury as to the 12-month history of any well or wells that are part of the production enhancement project. The production decline curve shall be prepared and certified to by either a petroleum geologist or petroleum engineer under penalty of perjury.

(Authorized by and implementing K.S.A. 79-4217, as amended by L. 1998, ch. 130, sec. 28; effective March 19, 1999.)

82-3-902. RELIEF FROM SEVERANCE TAX; WHEN AVAILABLE.

Relief from the severance tax under K.S.A. 79-4217, and amendments thereto, shall be available only to a well that has been in existence for no fewer than 12 months in order that an accurate production decline curve can be calculated and substantiated, except if the increase in production is a result of projects utilizing secondary recovery projects or new discoveries from the use of new technology, as defined in K.S.A. 79-4217(b)(6)(A)(4)(iii) or (vii), and amendments thereto. If the increase in production is the result of new technology, the base production shall be zero. Base production for secondary recovery projects shall be as determined under K.A.R. 82-3-906.

(Authorized by and implementing K.S.A. 79-4217, as amended by L. 1998, ch. 130, sec. 28; effective March 19, 1999.)

82-3-903. CERTIFICATION OF WELL HISTORY; RIGHT TO REVIEW.

As part of the certification process, the operator shall certify that the history file of each well or wells substantiates that the efforts taken with respect to a work-over as defined in K.S.A. 79-4217, and amendments thereto, are more than routine maintenance, routine repair, and like-for-like replacement of downhole equipment. The right to review any of this documentation shall be reserved by the commission.

(Authorized by and implementing K.S.A. 79-4217, as amended by L. 1998, ch. 130, sec. 28; effective March 19, 1999.)

82-3-904. WELLS QUALIFYING FOR BOTH NEW POOL AND PRODUCTION ENHANCEMENT SEVERANCE TAX EXEMPTIONS.

When a new well or the opening of a new zone in an existing well would qualify for a severance tax exemption both as a new pool under K.S.A. 79-4217(b) (4), and amendments thereto, and as a production enhancement project under K.S.A. 79-4217(b)(6)(A)(4)(ii), and amendments thereto, the operator shall elect which exemption is being claimed. The seven-year exemption for any other production enhancement project for a well already qualifying for a new pool exemption shall begin on the date of the first sale after the enhancement project is completed.

(Authorized by and implementing K.S.A. 79-4217, as amended by L. 1998, ch. 130, sec. 28; effective March 19, 1999.)

82-3-905. NEW TECHNOLOGY; QUALIFICATION FOR SEVERANCE TAX EXEMPTION.

“New technology,” as used in K.S.A. 79-4217 and amendments thereto, shall include three-dimensional seismic studies and other technology that may be certified by the KCC technical staff. The applicant shall furnish to the Kansas corporation commission proof that the production is the result of new technology, as may be required by the commission staff. All wells drilled as a result of the utilization of new technology shall qualify for the severance tax exemption.

(Authorized by and implementing K.S.A. 79-4217, as amended by L. 1998, ch. 130, sec. 28; effective March 19, 1999.)

82-3-906. PRODUCTION ENHANCEMENT PROJECTS; SECONDARY RECOVERY PROJECTS.

For secondary recovery projects, the base production and production decline calculations required under K.A.R. 82-3-901 shall be based on either of the following:

- (a) Aggregate production of all producing wells within the boundaries of the secondary recovery project if unitized; or
- (b) total production from the enhanced recovery project.

(Authorized by and implementing K.S.A. 79-4217, as amended by L. 1998, ch. 130, sec. 28; effective March 19, 1999.)

82-3-907. PRODUCTION ENHANCEMENT PROJECT; MULTIPLE WELL LEASE.

When a production enhancement project is performed on a multiple well lease producing into a common battery or meter, the operator shall make a separate filing for each well. A production test shall be performed on each individual well before the enhancement project and immediately following the enhancement project so that total lease production may be allocated to the individual wells for the purpose of establishing base production and production decline as referenced in K.A.R. 82-3-901.

(Authorized by and implementing K.S.A. 79-4217, as amended by L. 1998, ch. 130, sec. 28; effective March 19, 1999.)

82-3-908. DEFINITION, "START-UP DATE."

The term "start-up date" shall be defined as the date of the first sale following the production enhancement procedure.

(Authorized by and implementing K.S.A. 79-4217, as amended by L. 1998, ch. 130, sec. 28; effective March 19, 1999.)

UNDERGROUND POROSITY GAS STORAGE

82-3-1000. DEFINITIONS: UNDERGROUND POROSITY GAS STORAGE FACILITIES.

The following terms, as used in these regulations for underground porosity gas storage facilities, shall have the following meanings:

- (a) "Cushion gas" means the volume of gas required as permanent storage inventory to maintain adequate reservoir pressure for meeting minimum gas deliverability demands throughout the withdrawal season.
- (b) "FERC" means the federal energy regulatory commission.
- (c) "Fracture gradient" means the pressure gradient, measured in pounds per square inch per foot, that, if applied to a subsurface formation, will cause that formation to physically fracture.
- (d) "Fresh water" means water containing not more than 1,000 milligrams of total dissolved solids per liter.
- (e) "Gas storage injection or withdrawal well" means a well used to inject and withdraw natural gas stored in an underground porous and permeable reservoir.
- (f) "Gas storage observation well" means a well either completed or recompleted for the purpose of observing subsurface phenomena, including the presence of hydrocarbon gas, pressure fluctuations, fluid levels and flow, and temperature.
- (g) "Gas storage porosity reservoir" means a porous stratum of the earth that is separated from any other similar porous stratum by an impermeable stratum and is capable of being used for underground storage of natural gas.
- (h) "Gas storage well" means any gas storage injection or withdrawal well, gas storage withdrawal well, or gas storage observation well completed or recompleted as part of an underground porosity gas storage facility.
- (i) "Gas storage withdrawal well" means a well used only for the withdrawal of natural gas stored in an underground porous and permeable reservoir.
- (j) "Leak detector" means a device capable of detecting by chemical or physical means the presence of hydrocarbon vapor or the escape of vapor through a small opening.
- (k) "Licensed engineer" means an engineer that is licensed or authorized to practice engineering in Kansas by the Kansas state board of technical professions.
- (l) "Licensed geologist" means a geologist that is licensed or authorized to practice geology in Kansas by the Kansas state board of technical professions.
- (m) "Packer" means an expanding mechanical device used in a well to seal off certain sections of the well when cementing, testing, or isolating the well from the completed interval.
- (n) "Small, well-defined outside area" means an area, including a playground, recreation area, outdoor theater, and other place of public assembly, that is occupied by 20 or more persons on at least five days a week for 10 weeks in any 12-month period. The days and weeks shall not be required to be consecutive.
- (o) "Underground porosity gas storage" means the storage of hydrocarbon gas in underground porous and permeable geologic strata that have been converted to hydrocarbon gas storage.
- (p) "Underground porosity gas storage facility" and "storage facility" mean the leased acreage associated with the storage field. This term shall include the wellbore tubular goods, the

wellhead, and any related equipment, including the last positive shutoff valve attached to the flowline.

- (q) "Working gas" means the portion of the gas storage volume that can be removed from a gas storage porosity reservoir for deliveries and still maintain pressure sufficient to meet design deliverability.

(Authorized by and implementing K.S.A. 55-152, K.S.A. 2001 Supp. 55-1,115 and 74-623; effective, T-82-6-27-02, July 1, 2002; effective Oct. 29, 2002.)

82-3-1001. NOTICE OF FEDERAL ENERGY REGULATORY COMMISSION PROCEEDINGS.

Whenever the operator of an underground porosity gas storage facility files any application or report concerning the storage facility or operation of the facility with FERC, the operator shall at the same time deliver a copy of this application or report to the commission.

(Authorized by and implementing K.S.A. 2001 Supp. 55-1,115 and 74-623; effective, T-82-6-27-02, July 1, 2002; effective Oct. 29, 2002.)

82-3-1002. PROVISIONAL OPERATING PERMITS AND OPERATING REQUIREMENTS FOR EXISTING UNDERGROUND POROSITY STORAGE FACILITIES; PENALTIES.

- (a) Application deadline; permitting procedure. No underground porosity gas storage facility or gas storage well in existence on or before July 1, 2002 shall continue in operation unless the following conditions are met:
- (1) The operator has filed an application for a provisional underground porosity gas storage permit with the conservation division in accordance with subsection (b) on or before January 31, 2003.
 - (2) The conservation division has issued a written provisional permit or written temporary provisional permit granting the application. The application shall be acted upon by the commission within 90 days of receipt of the application.
- (b) Application form; content. The original and two copies of each application shall be signed and verified by the operator, shall be filed with the conservation division on a form furnished by the commission, and shall provide the following information:
- (1) The name of the underground porosity gas storage facility;
 - (2) the name, description, and average depth of the porosity reservoir or reservoirs being utilized for underground porosity storage;
 - (3) a site map showing the boundaries of the underground porosity gas storage facility, the location and well number of each gas storage well, including any observation wells, the location of cathodic protection boreholes or ground bed systems, and the location of all pertinent surface facilities located within the boundary of the storage facility. This site map shall be verified by the operator;
 - (4) a statement confirming that the applicant holds the necessary and sufficient property rights for construction and operation of the underground porosity gas storage facility;
 - (5) a tabular summary showing the location, well number, completion date, elevation, top and bottom depths of the completed interval, casing information, tubing and packer information, and cementing information for each gas storage well located within the boundary of the underground porosity gas storage facility. This tabular summary shall be verified by the operator;

- (6) the results of a water quality test of fluid recovered from the underground porosity storage reservoir or reservoirs reporting the amount of chlorides and total dissolved solids for the fluid in milligrams per liter (mg/l). This test shall be conducted by a laboratory that is certified by the state of Kansas. No gas storage shall be permitted in any underground porous stratum with chloride levels less than 5,000 milligrams per liter;
 - (7) the maximum wellhead injection rate and pressure currently utilized at the underground porosity gas storage facility and, if the facility is regulated by FERC, the maximum rate and pressure approved by FERC. In all cases, the applicant shall provide information showing that the maximum injection rate and pressure utilized at the facility will not exceed the fracture gradient and will not initiate fractures through the overlying strata that could enable stored gas or associated formation fluid to enter fresh and usable water strata or cause the injected gas to leak from the underground porosity gas storage reservoir. The fracture gradient of the formation may be required by the conservation division to be determined by a step rate test or by the calculation of a licensed engineer or a licensed geologist, using a method acceptable to the conservation division;
 - (8) a tabular summary of any gas storage wells located within the boundary of the underground porosity gas storage facility that have unrepaired casing leaks that are currently controlled with a tubing and packer completion;
 - (9) a schedule of completed and pending mechanical integrity testing for all gas storage wells utilized at the gas storage facility. All existing gas storage injection and withdrawal wells and gas storage withdrawal wells shall demonstrate mechanical integrity according to K.A.R. 82-3-1005 on or before July 1, 2004. All existing gas storage observation wells shall demonstrate mechanical integrity according to K.A.R. 82-3-1005 on or before July 1, 2007. Pressure testing or alternative tests or surveys conducted in accordance with K.A.R. 82-3-1005 and performed after July 1, 1999 shall be deemed to have demonstrated mechanical integrity on the date of the test or survey. All gas storage wells completed after July 1, 2002 shall demonstrate mechanical integrity according to K.A.R. 82-3-1005 before being placed into service as an active gas storage well;
 - (10) the current maximum storage volume, including values for cushion gas and working gas for the underground porosity gas storage facility;
 - (11) a detailed description of the storage facility's current safety plan;
 - (12) the applicant's license number;
 - (13) any other information that the conservation division requires; and
 - (14) payment of the application fee required by K.A.R. 82-3-1012.
- (c) Safety plan required. Each operator of an underground porosity gas storage facility shall develop and implement a storage facility safety plan on or before January 31, 2003. This plan shall include current emergency response procedures, provisions to provide security against unauthorized activity, and any current gas release detection and prevention measures utilized by the facility. The emergency response procedures for the storage facility shall include contingency plans for gas storage well leaks and loss of containment from gas storage wells or the gas storage reservoir. The emergency response procedures shall also identify specific contractors and equipment vendors capable of providing necessary services and equipment to respond to any gas storage well leaks or loss of containment from one or more of the gas storage wells or the gas storage reservoir. Copies of the plan shall be available at the storage facility and the nearest operational office of the operator of the facility.
- (d) Gas metering; required. The total volume of gas injected into and withdrawn from an underground porosity gas storage facility that is operating under a provisional permit or temporary provisional permit issued by the conservation division shall be metered according to K.A.R. 82-3-1006.

- (e) Gas volume; reporting. The operator of an underground porosity gas storage facility operating under a provisional permit or temporary provisional permit issued by the conservation division shall report monthly, to the conservation division, the volume of gas placed into storage and the volume of gas removed from storage at the facility during the preceding month. The report shall be filed according to K.A.R. 82-3-1006.
- (f) Gas leaks; reporting. The operator of an underground porosity gas storage facility operating under a provisional permit issued by the conservation division shall report any pressure changes or other monitoring data that indicate the presence of leaks in a gas storage well or the lack of confinement of the injected gases and any associated fluids to the underground porosity gas storage reservoir. This report shall be submitted according to K.A.R. 82-3-1006.
- (g) Maximum term for provisional permits; extensions. The maximum term for provisional underground porosity gas storage permits issued by the conservation division shall not exceed two years from the date of issue. Underground porosity gas storage facilities operating under a provisional permit shall file for a fully authorized operating permit in accordance with K.A.R. 82-3-1003 before the expiration of the provisional permit. The extension of a provisional permit may be granted administratively on a showing of good cause by the operator. If a request for an extension is administratively denied, the operator shall have a right to a hearing upon written request.
- (h) (1) Provisional permit amendment. The operator of an existing underground porosity gas storage facility operating under a provisional permit shall file an application with the conservation division on a form furnished by the conservation division for an amendment to that provisional permit under any of the following:
 - (A) At any time that a material change in conditions has occurred in the operation of the storage facility or in the ability of the facility to operate without causing pollution or the waste of hydrocarbons;
 - (B) before expanding the areal extent of the underground porosity gas storage facility;
 - (C) before increasing the underground porosity gas storage facility reservoir pressure above the maximum permitted pressure;
 - (D) before adding any additional gas storage well within the underground porosity gas storage facility, if the well will be located 1,320 feet or less from the boundary of the storage facility; or
 - (E) before adding any additional gas storage well within the underground porosity gas storage facility, if the well will be located more than 1,320 feet from the boundary of the storage facility.
- (2) (A) The applicant for any amendments under paragraphs (h)(1)(A) through (D) of this regulation shall publish notice of the application in at least two issues of the official county newspaper of each county in which the lands affected by the application are located. In addition, notice shall also be published in at least one issue of the Wichita Eagle newspaper. The applicant shall also deliver or publish any notice that the applicant deems necessary to ensure that those persons whose rights may be affected by the application have been sufficiently notified in accordance with applicable due process requirements.
- (B) The application shall be held in abeyance for 15 days from the date of last publication or delivery of notice, whichever is later. If during the 15-day period a valid protest is filed according to K.A.R. 82-3-135b or if the commission on its own motion deems that there should be a hearing on the application, a hearing shall be held. The applicant shall publish notice of the hearing in the same manner as that required by paragraph (h)(2)(A) above.

(C) If an application for an amendment is administratively denied, the operator shall have a right to a hearing upon written request.

(i) Penalties.

- (1) Operating an underground porosity gas storage facility in violation of this regulation shall be punishable by a penalty of \$1,000, and the underground porosity gas storage facility may be shut down until compliance is achieved.
- (2) Each day that the violation continues may be considered a separate violation. The penalties specified in this subsection may be increased by the commission if it finds that aggravating factors exist.

(Authorized by and implementing K.S.A. 55-152, K.S.A. 2001 Supp. 55-162, 55-164, 55-1,115, and 74-623; effective, T-82-6-27-02, July 1, 2002; effective Oct 29, 2002.)

82-3-1003. FULLY AUTHORIZED OPERATING PERMITS AND OPERATING REQUIREMENTS FOR EXISTING AND NEW UNDERGROUND POROSITY GAS STORAGE FACILITIES AND UNDERGROUND POROSITY GAS STORAGE WELLS; PENALTIES.

(a) Application and permit required. No underground porosity gas storage facility or gas storage well shall be put into operation and no underground porosity gas storage facility or gas storage well in existence before July 1, 2002 shall continue to operate after its provisional permit has expired, unless the following conditions are met:

- (1) The operator has filed an application for a fully authorized underground porosity gas storage facility operating permit with the conservation division in accordance with subsection (b), and the operator has constructed or is operating the storage facility in compliance with provisions of this regulation.
- (2) Each application for a fully authorized operating permit for an underground porosity gas storage facility to be constructed after July 1, 2002 also complies with K.A.R. 82-3-1004.
- (3) The operator has received from the conservation division a written permit granting the application for full authorization.

(b) Application form; content. The original and two copies of each application for full authorization shall be signed and verified by the operator, filed with the conservation division on a form furnished by the commission, and provide the following information:

- (1) The name of the underground porosity gas storage facility and, if applicable, the permit number of the provisional permit for which the operator is requesting full authorization;
- (2) the name, description, and average depth of the gas storage porosity reservoir or reservoirs being utilized for underground porosity gas storage;
- (3) a geologic and hydrogeologic evaluation of the gas storage porosity reservoir or reservoirs and the surrounding formations. The evaluation shall include any available geophysical data and assessments of any regional tectonic activity, regional or local fault zones, and structural or stratigraphic anomalies. The evaluation shall focus on the gas storage porosity reservoir or reservoirs and adjacent confining layers. The evaluation shall also identify any oil and gas horizons known to be productive in the area of the storage facility and any freshwater-bearing horizons known to be developed in the area of the storage facility. The evaluation shall include exhibits and plan view maps showing the following:
 - (A) All water, oil, and gas exploration and development wells, and other man-made surface structures and activities within one mile outside of the storage facility boundary;

- (B) any regional or local faulting;
- (C) an isopach map of the gas storage reservoir or reservoirs;
- (D) an isopach map of the adjacent confining layer;
- (E) a structure map of the top and base of the storage reservoir or reservoirs;
- (F) identification of all structural spill points or stratigraphic anomalies controlling the isolation of stored hydrocarbon gases or associated fluids; and
- (G) structural and stratigraphic cross-sections that describe the geologic conditions at the underground porosity gas storage facility.

The geologic and hydrogeologic evaluation required under this paragraph shall be certified by a licensed geologist or licensed engineer. The operator of an underground porosity gas storage facility may submit existing geologic and hydrogeologic studies or evaluations in fulfillment of the requirement of this paragraph if those studies have been updated to reflect current storage facility conditions at the time of the application and have been certified as such by a licensed geologist or licensed engineer;

- (4) an area of review evaluation, which shall include a review of the data of public record for wells that penetrate that part of the underground porosity reservoir designated as the gas storage porosity reservoir, and those wells that penetrate the underground porosity gas storage reservoir within one-fourth mile of the boundary of the underground porosity gas storage facility. This review shall determine if all abandoned wells have been plugged in a manner that prevents the movement of gas or associated fluids from the underground porosity gas storage reservoir. The area evaluation required under this paragraph shall be certified by a licensed geologist or licensed engineer. The applicant shall identify any wells that appear from the review of public records to be unplugged or improperly plugged, and any other unplugged or improperly plugged wells of which the applicant has actual knowledge;
- (5) the calculated maximum storage volume for the underground porosity gas storage reservoir or reservoirs using a method acceptable to and filed with the conservation division. Storage volume calculations shall include working gas and cushion gas volumes. Any refinement of actual underground porosity gas storage reservoir volumes determined after continued operation of the facility shall be filed with the conservation division. Storage volume calculations filed according to this paragraph shall be certified by a licensed engineer or licensed geologist;
- (6) a report of the maximum operating pressures to be utilized at the underground porosity gas storage facility. The maximum allowed storage reservoir pressure, measured in psig, shall be no greater than 75 percent of the fracture gradient of the formation as determined by a step rate test or as calculated by a licensed engineer or licensed geologist using a method acceptable to the conservation division. The underground porosity gas storage reservoir shall not be subjected to operating pressures in excess of the calculated fracture pressure even for short periods of time. Higher operating pressures may be allowed by the conservation division upon written application by the operator. The application, if approved by the conservation division, shall be subject to any conditions established by the conservation division;
- (7) the results of multiple water quality tests of fluid recovered from the gas storage porosity reservoir or reservoirs reporting the amount of chlorides and total dissolved solids for the fluid in milligrams per liter. This test shall be conducted by a laboratory that is certified by the state of Kansas. No porosity gas storage shall be permitted in porous strata with chloride levels less than 5,000 milligrams per liter;
- (8) a schedule of completed and pending mechanical integrity testing for all gas storage wells utilized at the storage facility. All existing gas storage injection and withdrawal

wells and gas storage withdrawal wells shall demonstrate mechanical integrity according to K.A.R. 82-3-1005 before July 1, 2004. All existing gas storage observation wells shall demonstrate mechanical integrity according to K.A.R. 82-3-1005 on or before July 1, 2007. Pressure testing or alternative tests or surveys conducted in accordance with K.A.R. 82-3-1005 and performed after July 1, 1999 shall be deemed to have demonstrated mechanical integrity on the date of the test or survey. All gas storage wells completed after July 1, 2002 shall demonstrate mechanical integrity according to K.A.R. 82-3-1005 before being placed into service as an active gas storage well;

- (9) a current site map showing the boundaries of the underground porosity gas storage facility, the location and well number of all gas storage wells, including any observation wells, the location of cathodic protection boreholes or ground bed systems, and the location of all pertinent surface facilities within the boundary of the storage facility. This site map shall be verified by the operator;
 - (10) a statement confirming that the applicant holds the necessary and sufficient property rights for construction and operation of the underground porosity gas storage facility;
 - (11) a detailed description of the storage facility's current safety plan;
 - (12) the applicant's license number;
 - (13) any other information that the conservation division requires; and
 - (14) payment of the application fee required by K.A.R. 82-3-1012.
- (c) Safety plan required. Each operator shall develop and implement a storage facility safety plan. This plan shall include emergency response procedures and provisions to provide security against unauthorized activity. The plan shall detail the safety procedures concerning the residential, commercial, and public land use in the proximity of the storage facility. The emergency response procedures shall include contingency plans for gas storage well leaks and loss of containment from gas storage wells or the gas storage reservoir. The emergency response procedures shall also identify specific contractors and equipment vendors capable of providing necessary services and equipment to respond to such gas storage well leaks or loss of containment from gas storage wells or the gas storage porosity reservoir. The plan shall be updated as changes in safety features at the facility occur, or as the conservation division requires. Copies of the plan shall be available at the storage facility and at the nearest operational office of the operator of the storage facility.
- (d) Safety systems required. Leak detectors shall be placed at all gas storage wells located within 330 feet of an inhabited residence, commercial establishment, church, school, small, well-defined outside area, or enclosed compressor site. Leak detectors, where applicable, shall be integrated with automated warning systems. Inspection and testing of these leak detectors shall comply with requirements of K.A.R. 82-3-1005. Identification signs shall be required at each gas storage well and shall comply with signage requirements specified in K.A.R. 82-3-1007.
- (e) Well casing and cementing requirements.
- (1) Gas storage wells in existence on July 1, 2002 shall comply with appropriate provisions of casing and cementing requirements as outlined in K.A.R. 82-3-104, K.A.R. 82-3-105, and K.A.R. 82-3-106. However, any intermediate or production casing strings or liners that are set in the wellbore shall be cemented with a sufficient volume of cement to fill the annular space to a point 500 feet above the top of the storage reservoir or to the surface, whichever is less.
 - (2) Gas storage wells completed after July 1, 2002 and completed with a tubing and packer configuration shall comply with appropriate provisions of casing and cementing requirements as outlined in K.A.R. 82-3-104, K.A.R. 82-3-105, and K.A.R. 82-3-106, except as outlined below:

- (A) Any intermediate or production casing strings or liners that are set in the wellbore shall be cemented with a sufficient volume of cement to fill the annular space to a point 500 feet above the top of the storage reservoir or to the surface, whichever is less.
- (B) All surface, intermediate, and production casings shall meet the standards specified in either of the following documents, both of which are hereby adopted by reference:
 - (i) "Bulletin on performance properties of casing, tubing, and drill pipe," API bulletin 5C2, as published by the American petroleum institute in October 1999; or
 - (ii) "specification for casing and tubing (U.S. customary units)," API specification 5CT, as published by the American petroleum institute in October 1998.

All surface, intermediate, and production casings shall be new casing or reconditioned casing of equivalent quality that has been pressure-tested in accordance with the requirements of paragraph (e)(2)(B). For new pipe, the pressure test conducted at the manufacturing mill or fabrication plant may be used to fulfill the requirements of paragraph (e)(2)(B).

- (C) Emplacement of cement in the setting of the intermediate casing string, production casing string, or any liners shall be verified by a cement bond log, cement evaluation log, or any other evaluation method approved by the conservation division.
- (D) (i) All tubing strings shall meet the standards contained in either of the documents adopted in paragraph (e)(2)(B) of this regulation. All tubing shall be new tubing or reconditioned tubing of equivalent quality that has been pressure-tested. For new tubing, the pressure test conducted at the manufacturing mill or fabrication plant may be used to fulfill this requirement.
 - (ii) For tubing completions, the packer shall be set at a depth at which the packer will be opposite a cemented interval of the long string casing and shall be set no more than 50 feet above the uppermost perforation or open hole for the gas storage reservoir.
- (3) Each gas storage well completed after July 1, 2002 and not completed with a tubing and packer configuration shall be permitted only upon a showing of good cause. Each well shall, at a minimum, comply with appropriate provisions of casing and cementing requirements as outlined in K.A.R. 82-3-104, K.A.R. 82-3-105, and K.A.R. 82-3-106, except as outlined below:

- (A) Any intermediate or production casing strings or liners that are set in the wellbore shall be cemented with a sufficient volume of cement to fill the annular space to the surface. The proposed cementing plan shall be approved by the conservation division in advance of drilling and cementing operations.
- (B) All surface, intermediate, and production casings shall meet the standards contained in either of the documents adopted in paragraph (e)(2)(B) of this regulation.

All surface, intermediate, and production casings shall be new casing or reconditioned casing of equivalent quality that has been pressure-tested. For new pipe, the pressure test conducted at the manufacturing mill or fabrication plant may be used to fulfill this

requirement. The proposed casing plan shall be approved by the conservation division in advance of drilling and completion operations.

- (C) Emplacement of cement in the setting of the intermediate casing string, production casing string, or any liners shall be verified by a cement bond log, cement evaluation log, or any other evaluation methods approved by the conservation division.
 - (D) Gas injection or withdrawal wells located within 330 feet of an inhabited residence, commercial establishment, church, school, or small, well-defined outside area shall be equipped with down-hole safety shutoff valves.
- (f) Wellhead valves, connections, and flow line requirements. All wellhead components, including the casinghead and tubing head, valves, and fittings, shall be made of steel having operating pressure ratings sufficient to exceed the maximum injection pressures computed at the wellhead. These ratings shall be clearly identified on valves and fittings. The wellhead master valve on each gas storage well shall be fully opening and shall be sized to the diameter of the casing or tubing string to which the valve is attached. Each flow line connected to the wellhead shall be equipped with a manually operated positive shutoff valve located on the wellhead.
- (g) Gas metering; required. The total volume of gas injected into and withdrawn from an underground porosity gas storage facility operating under a fully authorized gas storage permit issued by the conservation division shall be metered according to the requirements of K.A.R. 82-3-1006.
- (h) Gas volume; reporting. The operator of an underground porosity gas storage facility operating under a fully authorized gas storage permit issued by the conservation division shall report monthly to the conservation division the volume of gas placed into storage and the volume of gas removed from storage at the facility during the preceding month. The report shall be filed according to K.A.R. 82-3-1006.
- (i) Gas leaks; reporting. The operator of an underground porosity gas storage facility operating under a fully authorized gas storage permit issued by the conservation division shall report any pressure changes or other monitoring data that indicate the presence of leaks in a gas storage well or the lack of confinement of the injected gases and any associated fluids to the gas storage reservoir. The report shall be filed according to K.A.R. 82-3-1006.
- (j) Modification, suspension, or cancellation of permit. A fully authorized operating permit may be modified, suspended, or canceled after notice and opportunity for hearing if a material change in conditions has occurred in the operation of the gas storage facility or if there are material deviations from the information originally furnished to the conservation division that affect the safe operation of the facility or the ability of the facility to operate without causing the waste of hydrocarbons, pollution, or a threat to public safety. All underground porosity gas storage facility operations shall cease upon suspension or cancellation of a permit under this subsection.
- (k) (1) Application required to amend permit; fully authorized permit amendment. The operator of a storage facility operating under a fully authorized operating permit shall file an application with the conservation division on a form furnished by the conservation division for an amendment to that permit under any of the following:
- (A) At any time that a material change in conditions has occurred in the operation of the gas storage facility or in the ability of the facility to operate without causing pollution or the waste of hydrocarbons;
 - (B) before expanding the areal extent of the underground porosity gas storage facility;
 - (C) before increasing the underground porosity gas storage reservoir pressure above the maximum permitted pressure;

- (D) before adding any additional gas storage well within the underground porosity gas storage facility, if the well will be located 1,320 feet or less from the boundary of the storage facility; or
 - (E) before adding any additional gas storage well within the underground porosity gas storage facility, if the well will be located more than 1,320 feet from the boundary of the storage facility.
- (2) (A) The applicant for any amendments under paragraphs (k)(1)(A) through (D) of this regulation shall publish notice of the application in at least two issues of the official county newspaper of each county in which the lands affected by the application are located. In addition, notice of the application shall also be published in at least one issue of the Wichita Eagle newspaper. The applicant shall also deliver or publish any notice that the applicant deems necessary to insure that those persons whose rights may be affected by the application have been sufficiently notified in accordance with applicable due process requirements.
 - (B) The application shall be held in abeyance for 15 days from the date of the last publication or delivery of notice, whichever is later. If during that 15-day period a valid protest is filed according to K.A.R. 82-3-135b or if the commission on its own motion deems that there should be a hearing on the application, a hearing shall be held. The applicant shall publish notice of the hearing in the same manner as that required by paragraph (k)(2)(A) above.
 - (C) If an application for an amendment is administratively denied, the operator shall have a right to a hearing upon written request.
- (l) Penalties.
 - (1) Operating an underground porosity gas storage facility in violation of this regulation shall be punishable by a penalty of \$1,000, and the underground porosity gas storage facility may be shut down until compliance is achieved.
 - (2) Each day that the violation continues may be considered a separate violation. The penalties specified in this subsection may be increased by the commission if it finds that aggravating factors exist.

(Authorized by and implementing K.S.A. 55-152, K.S.A. 2001 Supp. 55-162, 55-164, 55-1,115, and 74-623; effective, T-82-6-27-02, July 1, 2002; effective Oct. 29, 2002.)

82-3-1004. NOTICE OF APPLICATION FOR A PERMIT TO OPERATE AN UNDERGROUND POROSITY GAS STORAGE FACILITY CONSTRUCTED AFTER JULY 1, 2002.

- (a) Notice to adjacent property owners. Each applicant for an underground porosity gas storage facility operating permit for a facility constructed after July 1, 2002 shall give notice on or before the date the application is filed with the conservation division by mailing or delivering a copy of the application to the following:
 - (1) Each operator or lessee of record within one-half mile of the boundary of the storage facility;
 - (2) each owner of record of the minerals in unleased acreage within one-half mile of the boundary of the storage facility; and
 - (3) the landowner on whose land the well or wells affected by the application is located.
- (b) Notice by publication. The applicant shall publish notice of the application in at least two issues of the official county newspaper of each county in which the lands affected by the application are located. In addition, notice of the application shall also be published in at least

one issue of the Wichita Eagle newspaper. The applicant shall also deliver or publish any notice that the applicant deems necessary to insure that those persons whose rights may be affected by the application have been sufficiently notified in accordance with applicable due process requirements.

(c) Protest; notice of hearing.

- (1) The application shall be held in abeyance for 15 days from the date of last publication or delivery of notice, whichever is later. If during that 15-day period a valid protest is filed according to K.A.R. 82-3-135b or if the commission on its own motion deems that there should be a hearing on the application, a hearing shall be held.
- (2) The applicant shall publish notice of the hearing in the same manner as that required by subsection (b).

(Authorized by and implementing K.S.A. 55-152, K.S.A. 2001 Supp. 55-1,115 and 74-623; effective, T-82-6-27-02, July 1, 2002; effective Oct. 29, 2002.)

82-3-1005. TESTING AND INSPECTION REQUIREMENTS FOR UNDERGROUND POROSITY GAS STORAGE FACILITIES AND UNDERGROUND POROSITY GAS STORAGE WELLS; PENALTY.

(a) Mechanical integrity testing requirements; existing wells. Each operator of a gas storage injection and withdrawal well or a gas storage withdrawal well completed before July 1, 2002 shall demonstrate the mechanical integrity of each such well according to this regulation before July 1, 2004. Each operator of an existing gas storage observation well shall demonstrate the mechanical integrity of each gas storage observation well according to this regulation on or before July 1, 2007. Each operator of a gas storage well shall subsequently retest each well at least once every five years following the initial mechanical integrity test performed on the well. The operator and a representative of the conservation division shall mutually agree to a date for the mechanical integrity test. Test results shall be verified by the operator's representative. An extension of time to complete or conduct mechanical integrity testing may be granted upon a showing of good cause or as part of an approved alternate testing program. Approved testing procedures for gas storage wells shall include the following:

(1) Pressure tests.

(A) Gas storage wells equipped with a tubing and packer completion shall be pressure tested at no less than 300 psig or 100 percent of the maximum authorized injection pressure for the underground porosity gas storage facility, whichever is less. The pressure shall be applied to the tubing casing annulus at the surface for a period of 30 minutes and shall have no decrease in pressure greater than 10 percent of the required minimum test pressure. For tubing completions, the packer shall be set at a depth at which the packer will be opposite a cemented interval of the long string casing and shall be set no more than 50 feet above the uppermost perforation or open hole for the gas storage reservoir.

(B) Gas storage wells not completed with a tubing and packer completion shall be pressure tested at 100 percent of the maximum authorized injection pressure for the underground porosity gas storage facility. The pressure shall be applied to the long string casing at the surface after running a retrievable plug, which shall be set no more than 50 feet above the uppermost perforation or open hole of the gas storage reservoir. The test pressure shall be applied for at least 30 minutes and shall have no decrease in pressure greater than 10 percent of the required minimum test pressure.

(2) Alternate tests. An alternative test method, including a tracer survey, temperature survey, gamma ray log, neutron log, noise log, casing inspection log, or a combination of two or more of these surveys and logs, may be used to demonstrate mechanical integrity if approved in advance by the conservation division.

- (b) Mechanical integrity testing requirements; newly constructed wells. Each operator of a gas storage well completed after July 1, 2002 shall demonstrate the mechanical integrity of each well according to the testing procedures established in subsection (a) of this regulation before placing the well into service as an active gas storage well. Each operator of a gas storage well shall subsequently retest each well at least once every five years following the initial mechanical integrity test performed on the well. The date for this mechanical integrity test shall be mutually agreed upon by the operator and a representative of the conservation division. Test results shall be verified by the operator's representative. An extension of time to complete or conduct mechanical integrity testing may be granted upon a showing of good cause or as part of an approved alternate testing program.
- (c) Supervision of mechanical integrity testing. Conservation division representatives shall be responsible for witnessing a minimum of 25 percent of all mechanical integrity tests conducted by each storage facility operator. However, the conservation division's inability to witness a minimum of 25 percent of all mechanical integrity tests shall not result in any penalty to the operator of the underground porosity gas storage facility if the operator has complied with subsections (a) and (b) of this regulation.
- (d) Requirements upon test failure. If a gas storage well fails to demonstrate mechanical integrity by an approved method, the operator of the well shall immediately isolate the leak or leaks in a manner that contains natural gas and associated fluids in the well or storage reservoir and demonstrates that the well does not pose a threat to fresh and usable water resources or to public safety. The operator shall, within 90 days, perform one of the following:
 - (1) Repair and retest the well to demonstrate mechanical integrity;
 - (2) plug the well; or
 - (3) file an application with the conservation division for temporary abandonment according to K.A.R. 82-3-1011.
- (e) Leak detector inspections and testing. Each leak detector required under K.A.R. 82-3-1003 shall be tested once each calendar year and, if defective, shall be repaired or replaced within 10 days. Each repaired or replaced detector shall be retested if required by the conservation division. An extension of time for repair or replacement of a leak detector may be granted upon a showing of good cause by the operator of the underground porosity gas storage facility. A record of each inspection, which shall include the inspection results, shall be maintained by the operator for at least five years and shall be made available to the conservation division upon request.
- (f) Penalties.
 - (1) The failure to perform a mechanical integrity test on a gas storage well as required under subsection (a) or (b) of this regulation shall be punishable by a \$1,000 penalty.
 - (2) The failure to comply with the requirements of subsection (d) of this regulation shall be punishable by a \$1,000 penalty.
 - (3) The failure to comply with the requirements of subsection (e) of this regulation shall be punishable by a \$500 penalty per occurrence.
 - (4) Each day that a violation of this regulation continues may be considered a separate violation. The penalties specified in this subsection may be increased by the commission if it finds that aggravating factors exist.

(Authorized by and implementing K.S.A. 55-152, K.S.A. 2003 Supp. 55-162, K.S.A. 2003 Supp. 55-164, and K.S.A. 2003 Supp. 55-1,115; effective, T-82-6-27-02, July 1, 2002; effective Oct. 29, 2002; amended Jan. 14, 2005.)

82-3-1006. STORAGE FACILITY MONITORING AND REPORTING.

- (a) Monthly wellhead pressure monitoring; record retention. At the time the application for a provisional or fully authorized permit is submitted, the operator shall begin monitoring and recording the wellhead pressure of each gas storage well, including each annulus of the well, on a monthly basis. However, if the operator has provided sufficient evidence to the conservation division that the annulus has been cemented to the surface, no monitoring and reporting shall be required for that annular space. These records shall be retained by the operator for five years.
- (b) Annual report of wellhead pressures. Each operator shall annually report information regarding wellhead pressures for each gas storage well to the commission. This report shall be submitted on a form furnished by the commission.
- (c) Report of potential leak. The operator of an underground porosity gas storage facility shall report any pressure changes or other monitoring data that indicate the presence of leaks in the well or the lack of confinement of the injected gases and any associated fluids to the gas storage reservoir. This report shall be made orally as soon as practicable to the appropriate conservation district field office following the occurrence of the leak and shall be confirmed in writing to the conservation division office within three working days.
- (d) Gas metering; record retention. The total volume of gas injected into and withdrawn from a storage facility shall be metered through a master meter. The gas volumes shall be metered with a meter that has sufficient capacity and is approved by the conservation division. The operator of the storage facility shall keep the original field record consisting of magnetic tapes, digital electronic data, meter charts, or records of gas injected or withdrawn for at least five years. This information shall be made available to the conservation division upon request.
- (e) Monthly volume report. The operator of an underground porosity gas storage facility shall, on or before the last day of each month, file with the conservation division a report showing the volume of gas placed into storage and the volume of gas removed from storage at the storage facility during the preceding month. The report shall also state the total volume of gas stored on the first and last days of the preceding month.
- (f) Penalties.
 - (1) The failure to file or timely file the annual pressure report required under subsection (b) shall be punishable by a \$100 penalty.
 - (2) The failure to file or timely file the monthly gas volume report required under subsection (e) shall be punishable by a \$100 penalty.
 - (3) The failure to comply with the reporting requirements of subsection (c) of this regulation shall be punishable by a penalty of up to \$5,000 per occurrence.
 - (4) Each day that a violation of this regulation continues may be considered a separate violation. The penalties specified in this subsection may be increased by the commission if it finds that aggravating factors exist.

(Authorized by and implementing K.S.A. 55-152, K.S.A. 2001 Supp. 55-162, 55-164, 55-1,115, and 74-623; effective, T-82-6-27-02, July 1, 2002; effective Oct. 29, 2002.)

82-3-1007. IDENTIFICATION SIGNS.

- (a) Identification signs required. Each operator shall identify each gas storage well and associated compressor site by posting a sign immediately adjacent to the wellhead or compressor site. The sign shall be durable and shall be large enough to be legible under normal daytime conditions at a distance of 50 feet. The sign shall include all of the following information:

- (1) The name and license number of the operator;
 - (2) the name of the storage facility and the gas storage well number or compressor site name or number;
 - (3) the location of the gas storage well or compressor site by quarter section, section, township, range, and county; and
 - (4) the emergency contact phone number or numbers for the operator of the storage facility.
- (b) Penalty. The failure to comply with the requirements of subsection (a) of this regulation shall be punishable by a \$100 penalty per occurrence. Each day that a violation of this regulation continues may be considered a separate violation. The penalties specified in this subsection may be increased by the commission if it finds that aggravating factors exist.

(Authorized by and implementing K.S.A. 55-152, K.S.A. 2001 Supp. 55-1,115 and 74-623; effective, T-82-6-27-02, July 1, 2002; effective Oct. 29, 2002.)

82-3-1008. SAFETY INSPECTIONS.

- (a) Annual safety inspections required. Each operator of an underground porosity gas storage facility shall conduct an annual safety inspection of the facility and shall file with the conservation division a written report consisting of the inspection procedure and results within 30 days following completion of the inspection. The operator shall notify the conservation division at least 10 days before each inspection so that a representative of the conservation division can be present to witness the inspection. An extension of time to conduct an inspection may be granted only upon a showing of good cause.
- (b) Inspection criteria. Each inspection shall include verification of all of the following:
- (1) All gas storage well manual valves are in normal operating condition.
 - (2) All surface automatic shut-in safety valves are in normal operating condition.
 - (3) Wellheads and all related equipment are in normal operating condition.
 - (4) All warning signs, safety fences or barriers, and security equipment meet the requirements of the operator's safety plan.
- (c) Penalty. The failure to comply with the requirements of this regulation shall be punishable by a \$500 penalty per occurrence. Each day that a violation of this regulation continues may be considered a separate violation. The penalties specified in this subsection may be increased by the commission if it finds that aggravating factors exist.

(Authorized by and implementing K.S.A. 55-152, K.S.A. 2001 Supp. 55-162, 55-164, 55-1,115, and 74-623; effective, T-82-6-27-02, July 1, 2002; effective Oct. 29, 2002.)

82-3-1009. TRANSFER OF A GAS STORAGE PERMIT; PENALTY.

- (a) Transfer authority required. Authority to operate an underground porosity gas storage facility under a permit from the conservation division shall not be transferred from one operator to another without the approval of the conservation division. The transferor operator shall notify the conservation division in writing of the intent to transfer authority to operate an underground porosity gas storage facility from one operator to another. The written notice shall contain the following information:
- (1) The name and address of the transferor operator and that operator's license number;
 - (2) a list of all active and inactive gas storage wells on the storage facility authorized under the permit being transferred;

- (3) the permit number;
 - (4) the gas storage reservoir or reservoirs covered by the permit;
 - (5) the proposed effective date of transfer;
 - (6) the signature of the transferor operator and the date signed;
 - (7) the name and address of the transferee operator and that operator's license number; and
 - (8) the signature of the transferee operator and the date signed.
- (b) License required. Transfers shall not be made to any individual, partnership, corporation, or municipality that is not licensed as a gas storage operator at the time of the proposed transfer or that does not meet the applicable financial responsibility requirements under K.A.R. 82-3-120.
 - (c) Approval requirements; notification. A copy of the approved transfer shall be mailed by the conservation division to the transferee operator and the transferor operator. As a condition of approval of the transfer, the transferor operator may be required by the commission to show that the storage facility meets the regulatory requirements for mechanical integrity tests and safety inspections. The transferor operator may be required to provide annual pressure-monitoring reports for that operator's period of operation of the facility.
 - (d) Identification signs. Within 90 days after any approved transfer, the transferee operator shall change the identification signs specified in K.A.R. 82-3-1007 to show the transferee operator information.
 - (e) Penalties. Each attempted transfer in violation of this regulation shall be void. Additionally, each violation of this regulation shall be punishable by a penalty of up to \$1,000 for the first violation, \$2,000 for the second violation, and \$3,000 plus a license review for the third violation. Each day that a violation of this regulation continues may be considered a separate violation. The penalties specified in this subsection may be increased by the commission if it finds that aggravating factors exist.

(Authorized by and implementing K.S.A. 2001 Supp. 55-162, 55-164, 55-1,115, and 74-623; effective, T-82-6-27-02, July 1, 2002; effective Oct. 29, 2002.)

82-3-1010. NOTICE OF PLUGGING, PLUGGING METHODS AND PROCEDURES, PLUGGING REPORT, AND PLUGGING FEE FOR GAS STORAGE WELLS; PENALTY.

- (a) Plugging requirements. The plugging of underground porosity gas storage wells shall be accomplished in accordance with K.A.R. 82-3-113, K.A.R. 82-3-114, K.A.R. 82-3-117, and K.A.R. 82-3-118, except as specifically provided below:
 - (1) To meet the requirement of K.A.R. 82-3-113(b)(2), the operator shall provide a written plugging plan to the conservation division and the appropriate district office no later than 30 days before the planned commencement of plugging operations.
 - (2) The operator of any gas storage well that shows a positive wellhead shut-in pressure or gas flow at the surface immediately before the commencement of plugging operations shall complete one of the following before commencing plugging operations:
 - (A) Have a mechanical bridge plug or other approved control device set immediately above the porosity storage reservoir or reservoirs before commencing cementing operations; or

- (B) implement additional cementing procedures as approved by the appropriate district field office to ensure placement of a cement plug across and above the gas storage reservoir.
- (3) The operator of each tubingless gas storage well shall plug the well by displacing cement inside the long string and any intermediate casing from the total depth or plug-back total depth of the well to the surface. The operator shall also ensure that there is adequate cement in the annular space between casing strings and the wellbore.
- (b) Penalty. The failure of an operator to comply with subsection (a) of this regulation shall be punishable by a \$500 penalty and a requirement that the operator of the underground porosity gas storage well properly plug the well according to this regulation. Each day that a violation of this regulation continues may be considered a separate violation. The penalties specified in this subsection may be increased by the commission if it finds that aggravating factors exist.

(Authorized by and implementing K.S.A. 2001 Supp. 55-162, 55-164, 55-1,115, and 74-623; effective, T-82-6-27-02, July 1, 2002; effective Oct. 29, 2002.)

82-3-1011. TEMPORARY ABANDONMENT OF STORAGE WELLS; WELL PLUGGING; TEMPORARY AND PERMANENT ABANDONMENT OF A STORAGE FACILITY; PENALTIES.

- (a) Requirements for cessation of well operations. Within 90 days after injection, withdrawal, or observation operations cease on any well completed for the purpose of underground porosity gas storage, the operator of that well shall perform one of the following:
 - (1) Plug the well; or
 - (2) file an application with the conservation division requesting temporary abandonment, on a form furnished by the conservation division.
- (b) Approval required for temporary abandonment. Each operator shall be required to obtain approval from the commission if the operator desires temporary abandonment status for any underground porosity gas storage well. If the operations on any temporarily abandoned gas storage well are not resumed within one year after the application has been approved, the well shall be deemed a permanently abandoned well, and the operator of the well shall comply with regulations of the commission relating to the plugging of gas storage wells. Upon submitting an application to the conservation division before the expiration of the one-year period and for good cause shown, temporary abandonment status may be extended by the conservation division for one year. Additional one-year extensions may be granted by the conservation division.
- (c) Right of denial. After an application for temporary abandonment of an underground porosity gas storage well has been filed, the gas storage well shall be subject to inspection and record review by the conservation division to determine the likelihood that the temporary abandonment of the well might cause pollution, the waste of hydrocarbons, or a threat to public safety. If necessary to prevent pollution, the waste of hydrocarbons, or a threat to public safety, temporary abandonment may be denied by the conservation division, and the well may be required to be plugged or repaired according to the specifications received from the conservation division and in accordance with its regulations.
- (d) Plugging of temporarily abandoned gas storage wells. At the expiration of the temporary abandonment period, the operator of each underground porosity gas storage well that is temporarily abandoned shall plug or repair the well or return the well to operation, in accordance with these regulations.
- (e) Temporary abandonment of a storage facility. The operator of an underground porosity gas storage facility may temporarily abandon the storage facility upon submitting written notice to the conservation division. This notice shall include the following:
 - (1) The date on which the storage facility is to be temporarily abandoned;

- (2) the projected temporary abandonment period;
 - (3) the monitoring procedures to be utilized at the facility during the temporary abandonment period;
 - (4) the temporary abandonment applications for each gas storage well within the facility filed according to subsection (b) of this regulation, except any gas storage wells for which temporary abandonment has already been approved; and
 - (5) any other information required by the conservation division.
- (f) Permanent abandonment and decommissioning of a storage facility. The operator of an underground porosity gas storage facility may permanently abandon and decommission the storage facility upon submitting written notice to the conservation division. This notice shall include the following:
- (1) The anticipated date on which the storage facility is to be permanently abandoned and decommissioned;
 - (2) the anticipated field pressure at abandonment;
 - (3) a detailed plan and schedule approved by the conservation division for the orderly and timely abandonment and decommissioning of the facility, which shall address the following:
 - (A) The identification of all surface and below-ground facilities to be abandoned;
 - (B) the name or names of the person or persons who will be responsible for any surface facilities abandoned in place;
 - (C) the surface restoration of all well sites and surface facilities to original grade, including the proper closure of all surface impoundments;
 - (D) the removal of any unused concrete bases, machinery, operating materials, and other debris;
 - (E) the disposal of all wastes in accordance with applicable Kansas statutes and regulations;
 - (F) the plugging of all gas storage wells in conformance with K.A.R. 82-3-1010; and
 - (G) any other information required by the conservation division; and
 - (4) a demonstration of compliance with the requirements of K.S.A. 55-1208, and amendments thereto, if applicable to the underground porosity gas storage facility.
- (g) Permit revocation upon permanent abandonment of storage facility. The underground porosity gas storage facility operating permit shall be revoked by the conservation division upon the completion of the requirements of the abandonment and decommissioning schedule and the delivery to the conservation division of final shut-in pressure data for each gas storage well plugged.
- (h) Penalties.
- (1) The failure to comply with subsection (a) or (b) of this regulation shall be punishable by a \$100 penalty per occurrence.

- (2) The failure to file a notice of temporary abandonment of an underground porosity gas storage facility in accordance with subsection (e) of this regulation shall be punishable by a \$500 penalty.
- (3) The failure to file a notice of permanent abandonment of an underground porosity gas storage facility in accordance with subsection (f) of this regulation shall be punishable by a \$1,000 penalty.
- (4) Each day that a violation of this regulation continues may be considered a separate violation. The penalties specified in this subsection may be increased by the commission if it finds that aggravating factors exist.

(Authorized by and implementing K.S.A. 55-152, K.S.A. 2001 Supp. 55-162, 55-164, 55-1,115, and 74-623; effective, T-82-6-27-02, July 1, 2002; effective Oct. 29, 2002.)

82-3-1012. ASSESSMENT OF COSTS FOR UNDERGROUND POROSITY GAS STORAGE FACILITIES AND GAS STORAGE WELLS.

- (a) Annual well fee. An annual fee of \$240 shall be assessed for each active or inactive unplugged gas storage well located within the boundary of any underground porosity gas storage facility. The total annual well fee assessment shall be based on the number of the operator's gas storage wells in existence on the first day of November each year. The operator of the storage facility shall remit the total fee based on this well count in a single check to the conservation division on or before the last day of January each year.
- (b) Application fees. The following fee or fees shall be submitted with each of the following applications:
 - (1) (A) For a provisional storage facility operating permit application filed according to K.A.R. 82-3-1002, each applicant shall submit a fee of \$2,000. In addition, for each gas storage well included in this permit application, the applicant shall submit a fee of \$50.
 - (B) For any application to amend a provisional storage facility operating permit issued according to K.A.R. 82-3-1002, each applicant shall submit a fee of \$250.
 - (2) (A) For a fully authorized storage facility operating permit application filed according to K.A.R. 82-3-1003, each applicant shall submit a fee of \$2,500. In addition, for each gas storage well included in this permit application, the applicant shall submit a fee of \$75.
 - (B) For any application to amend a fully authorized storage facility operating permit issued according to K.A.R. 82-3-1003, each applicant shall submit a fee of \$250.
- (c) Fees nonrefundable. Each fee shall be nonrefundable.

(Authorized by and implementing K.S.A. 2001 Supp. 55-1,115 and 74-623; effective, T-82-6-27-02, July 1, 2002; effective Oct. 29, 2002.)

CARBON DIOXIDE (CO₂) STORAGE FACILITIES

82-3-1100, 82-3-1101, 82-3-1102, 82-3-1103, 82-3-1104, 82-3-1105, 82-3-1106, 82-3-1107, 82-3-1108, 82-3-1109, and 82-3-1110. (Authorized by and implementing K.S.A. 2007 Supp. 55-1637; effective Feb. 26, 2010; revoked Aug. 14, 2015.)

82-3-1111. (Authorized by K.S.A. 2008 Supp. 55-1637 and 55-1640; implementing K.S.A. 2008 Supp. 55-1637; effective Feb. 26, 2010; revoked Aug. 14, 2015.)

82-3-1112, 82-3-1113, 82-3-1114, 82-3-1115, and 82-3-1116. (Authorized by and implementing K.S.A. 2007 Supp. 55-1637; effective Feb. 26, 2010; revoked Aug. 14, 2015.)

82-3-1117. (Authorized by and implementing K.S.A. 2008 Supp. 55-1637; effective Feb. 26, 2010; revoked Aug. 14, 2015.)

82-3-1118 and 82-3-1119. (Authorized by and implementing K.S.A. 2007 Supp. 55-1637; effective Feb. 26, 2010; revoked Aug. 14, 2015.)

82-3-1120. (Authorized by and implementing K.S.A. 2007 Supp. 55-1639; effective Feb. 26, 2010; revoked Aug. 14, 2015.)

82-3-1200. DEFINITIONS; COMPRESSED AIR ENERGY STORAGE.

The terms and definitions in K.A.R. 82-3-101, with some definitions modified as follows, shall apply to these regulations for compressed air energy storage, in addition to the new terms and definitions specified:

- (a) "Abandonment" means the process of plugging all compressed air energy storage wells and removing all surface equipment at a storage facility.
- (b) "Air" means the portion of the atmosphere, external to buildings, to which the general public has access.
 - (1) "Cushion air" means the volume of air maintained as permanent air storage inventory throughout compressed air energy storage operations.
 - (2) "Working air" means any air in a compressed air energy storage cavern or reservoir in addition to the cushion air.
- (c) "Certified laboratory" means a laboratory certified by the Kansas department of health and environment.
- (d) "Class I injection well" means any of the following:
 - (1) Any well used by a generator of hazardous waste, or an owner or operator of a hazardous waste management facility, to inject hazardous waste beneath the lowermost formation containing an underground source of drinking water within one-quarter mile of the wellbore;
 - (2) any industrial or municipal disposal well that injects fluids beneath the lowermost formation containing an underground source of drinking water within one-quarter mile of the wellbore; or
 - (3) any radioactive waste disposal well that injects fluids below the lowermost formation containing an underground source of drinking water within one-quarter mile of the wellbore.
- (e) "Compressed air energy storage" means the process of compressing and injecting air into an underground geologic stratum and withdrawing the air to generate electricity.
- (f) "Compressed air energy storage cavern" and "cavern" mean an underground cavity, created in a bedded salt formation by solution mining, where compressed air is stored.
- (g) "Compressed air energy storage reservoir" and "reservoir" mean a porous geologic stratum, vertically separated from overlying usable water formations by a laterally continuous vertical flow barrier, where compressed air is stored.
- (h) "Compressed air energy storage well" and "storage well" mean a well capable of injecting air from the surface into a cavern or reservoir, or withdrawing air from the cavern or reservoir to the surface, including any wellbore tubular good, wellhead, air flow line, brine line, and surface equipment used to maintain cavern or reservoir integrity, through the last positive shutoff valve.
 - (1) "Active well" means a storage well that is not in plugging-monitoring status and is not plugged.
 - (2) "Cavern storage well" means a storage well used to inject air into or withdraw air from a cavern.
 - (3) "Reservoir storage well" means a storage well used to inject air into or withdraw air from a reservoir.

- (A) "Injection well" means a reservoir storage well used to inject compressed air from the surface into a reservoir.
 - (B) "Withdrawal well" means a reservoir storage well used to withdraw compressed air from the reservoir to the surface.
- (i) (1) "Compressed air energy storage facility" and "storage facility" mean the cavern or reservoir, the leased acreage above a cavern or reservoir and within a storage facility boundary, and the following:
 - (A) Electrical generating facility;
 - (B) equipment used to maintain cavern or reservoir storage integrity;
 - (C) injection and withdrawal flow line, valve, and equipment connecting the electrical generating facility to a storage well; and
 - (D) storage well, observation well, and monitoring well.
 - (2) (A) "Cavern storage facility" means a storage facility that utilizes a cavern.
 (B) "Reservoir storage facility" means a storage facility that utilizes a reservoir.
- (j) "Corrosion control system" means any process used to prevent corrosion at a storage facility, including cathodic protection, metal coating, corrosive inhibiting fluid, and non-corrosive internal lining.
 - (k) "Decommission" means to declare in writing that air injection and withdrawal activities will cease at the operator's storage facility.
 - (l) "Electrical generating facility" means a building or area that contains the equipment used to generate electricity, including any air compressor train, recuperator, expander, and combustion turbine, but not including any brine line, air flow line located outside the electrical generating facility, or surface equipment used to maintain cavern or reservoir mechanical integrity.
 - (m) "Excavated mine cavity" means a rock formation with a portion of the rock material removed, not including any cavern created by solution mining.
 - (n) "First fill" means the process of filling the cavern storage well and cavern with air and displacing saturated brine to the surface.
 - (o) "Fracture gradient" means the ratio of pressure per unit of depth, measured in pounds per square inch per foot, that if applied to a subsurface formation would cause the formation to physically fracture.
 - (p) "Kansas board of technical professions" means the state board responsible for licensing persons to practice engineering, geology, and land surveying in Kansas.
 - (1) "Licensed professional engineer" means a professional engineer licensed to practice engineering in Kansas by the Kansas board of technical professions.
 - (2) "Licensed professional geologist" means a geologist licensed to practice geology in Kansas by the Kansas board of technical professions.
 - (3) "Licensed professional land surveyor" means a professional land surveyor licensed to practice land surveying in Kansas by the Kansas board of technical professions.

- (q) "Leak" means any loss of air or harmful substances at the surface, including a loss from the wellhead, tubing, casing, around the packer, or an air flow line located outside an electrical generating facility.
- (r) "Leak detector" means any device capable of detecting, by chemical or physical means, a leak of harmful substances or air.
- (s) "License" means the revocable, written permission issued by the director to an operator to conduct compressed air energy storage activities.
- (t) "Liner" means steel casing installed and cemented in the production casing.
- (u) "Liquefied petroleum gas" and "LPG" mean any byproduct or derivative of oil or gas, including propane, butane, isobutane, and ethane, maintained in a liquid state by pressure and temperature conditions.
- (v) "Loss of containment" means any migration of air beyond any boundary of a cavern storage well or reservoir storage facility.
- (w) "Maximum allowable operating pressure" means the maximum pressure authorized by the director and measured at the wellhead.
- (x) "Maximum operating pressure" means the maximum pressure measured at the wellhead over a 24-hour period.
- (y) "Monitoring well" means a well used to sample and monitor a usable water aquifer.
 - (1) "Deep monitoring well" means a monitoring well used to sample and monitor the deepest usable water aquifer at a storage facility.
 - (2) "Shallow monitoring well" means a monitoring well used to sample and monitor the shallowest usable water aquifer at a storage facility.
- (z) "Natural thermal gradient" means the ratio of degrees Fahrenheit per foot that exists in a subsurface formation before any well-drilling activity.
- (aa) "Normal operating condition" means that the wellhead master valve, each positive shutoff valve, and each manual valve at a storage facility can be fully opened and closed with reasonable ease and can hold pressure in the closed position.
- (bb) "Observation well" means a well used to detect or monitor a loss of containment associated with a cavern or reservoir.
- (cc) "Operator" means the person recognized by the director as responsible for the physical operation and control of a storage facility.
- (dd) "Packer" means an expandable mechanical device used to seal off any section of a well to cement, test, or isolate the well from a completed interval.
- (ee) "Permit" means the revocable, written permission issued by the director for a compressed air energy storage facility to be used by a licensee.
- (ff) "Pit" means any constructed, excavated, or naturally occurring depression upon the surface of the earth. This term shall include any surface pond.
 - (1) "Containment pit" means a temporary pit constructed to aid in the cleanup and to temporarily contain fluids resulting from oil and gas activities that were spilled as a result of immediate, unforeseen, and unavoidable circumstances.

- (2) "Drilling pit" means any pit, including reserve pits and working pits, used to temporarily confine fluid or waste generated during the drilling or completion of any storage well, monitoring well, or observation well.
 - (3) "Emergency pit" means a permanent pit that is used for the emergency storage of fluid discharged as a result of any equipment malfunction.
 - (4) "Haul-off pit" means a pit used to store spent drilling fluids and cuttings that have been transferred from an area where surface geological conditions preclude the use of an earthen pit.
 - (5) "Reserve pit" means a pit used to store spent drilling fluids and cuttings that have been transferred from a working pit.
 - (6) "Settling pit" means a pit used for the collection or treatment of fluids.
 - (7) "Working pit" means a pit used to temporarily confine fluids or waste resulting from the drilling or completion of any storage well, monitoring well, or observation well.
 - (8) "Workover pit" means a pit used to contain fluids during the performance of remedial operations on a previously completed well.
- (gg) "Plugged well" means a well that is filled with cement and abandoned.
 - (hh) "Plugging-monitoring status" means the status of a cavern storage well that is filled with saturated brine to monitor cavern pressure stabilization from the surface.
 - (ii) "Saturated brine" means saline water with a sodium chloride concentration greater than or equal to 90 percent.
 - (jj) "Solutioning" means the process of injecting fluid into a well to dissolve or remove any rocks or minerals, including salt.
 - (kk) "Supervisory control and data acquisition system" and "SCADA system" mean an automated surveillance system used to monitor and control storage activities from a remote location.
 - (ll) "Usable water" means water containing not more than 10,000 milligrams of total dissolved solids per liter.

(Authorized by and implementing K.S.A. 2011 Supp. 66-1274; effective Dec. 21, 2012.)

82-3-1201. LICENSING; FINANCIAL ASSURANCE.

- (a) License required.
 - (1) No operator shall perform either of the following without first obtaining or renewing a license:
 - (A) Test, construct, convert, operate, or abandon any storage facility; or
 - (B) drill, complete, service, operate, or plug any storage well.
 - (2) Each operator shall maintain a current license until the storage facility has been abandoned and each storage well has been plugged and abandoned, in accordance with commission regulations.
 - (3) Each operator shall submit a completed license renewal form to the conservation division annually on or before November 1.

- (b) License requirements. Each applicant for a new license or a license renewal shall be in compliance with all applicable laws as required in subsection (f) and shall submit the following items to the conservation division:
- (1) An application meeting the requirements of subsection (c);
 - (2) a license application fee of \$1,500;
 - (3) financial assurance pursuant to subsection (e); and
 - (4) a detailed written estimate, signed by a licensed professional engineer or licensed professional geologist, of the current cost to plug all storage wells and abandon the storage facility.
- (c) License application. Each applicant for a new license or a license renewal shall file with the conservation division an application providing the applicant's contact information, full legal name, and any other names under which the applicant transacts or intends to transact business under the license. If the applicant is a partnership, association, or similar entity, the application shall include the name and address of each partner or member. If the applicant is a corporation, limited liability company, or similar entity, the application shall contain the name and address of each principal officer and the resident agent.
- (d) Signature. Each applicant for a new license or a license renewal shall sign the license application. If the applicant is a partnership, association, or similar entity, at least one partner or member shall sign. If the applicant is a corporation, limited liability company, or similar entity, at least one principal officer shall sign.
- (e) Financial assurance. Each operator shall provide financial assurance in an amount determined by the director. The financial assurance shall be signed as specified in subsection (d). The operator shall continue to provide financial assurance until all storage wells are plugged and abandoned and the storage facility is abandoned, according to commission regulations.
- (f) Compliance with applicable laws.
- (1) If the applicant is registered with the federal securities and exchange commission, the applicant shall demonstrate to the commission that the applicant complies with all requirements of K.S.A. 55-101 et seq. and K.S.A. 66-1272 through 66-1279 and amendments thereto, all implementing regulations, and all commission orders and compliance agreements. The applicant shall file a list of any past or pending administrative proceedings and court proceedings filed in Kansas in which the applicant was a party. The list shall include a brief description of the outcome of each proceeding.
 - (2) (A) If the applicant is not registered with the federal securities and exchange commission, the applicant shall demonstrate to the commission that the following individuals comply with all requirements of K.S.A. 55-101 et seq. and K.S.A. 66-1272 through 66-1279 and amendments thereto, all implementing regulations, and all commission orders and compliance agreements:
 - (i) The applicant;
 - (ii) any officer, director, partner, or member of the applicant; and
 - (iii) any stockholder owning in the aggregate more than five percent of the stock of the applicant.
 - (B) The applicant shall file a list of any past or pending administrative proceedings and court proceedings filed in Kansas in which any person or entity listed in paragraphs (f)(2)(A)(i) through (iii) was a party. The list shall include a brief description of the outcome of each proceeding.

- (g) License issuance; term. If the application is approved by the conservation division, a license shall be issued to the applicant. Each license shall be effective for a maximum of one year, unless suspended or revoked by the commission, and shall expire on January 31 of each year.
- (h) Denial of application. An application for a license or a license renewal may be denied by the conservation division if the applicant has not satisfied the requirements of this regulation. Denial of a license application shall constitute a summary proceeding under K.S.A. 77-537 and amendments thereto. Denial pursuant to paragraph (f)(1) or (f)(2) shall be considered a license revocation.
- (i) License revocation. If a license is revoked, no new license shall be issued to the operator or contractor until one year has passed since the revocation date and the operator has satisfied the requirements of this regulation.
- (j) Notification of changes. Each operator shall notify the conservation division in writing within five business days of any change in information provided as part of the license application. If the change would result in the operator being required to provide additional financial assurances, the operator shall submit the additional financial assurances within 30 days of the change.

(Authorized by and implementing K.S.A. 2011 Supp. 66-1274; effective Dec. 21, 2012.)

82-3-1202. SIGNATORY; SIGNATURE FOR REPORTS.

- (a) Each operator shall designate one signatory to sign and verify any permit application, amendment application, and facility permit transfer, who shall be one of the following:
 - (1) If the applicant is a sole proprietor, the signatory shall be that person.
 - (2) If the applicant is a partnership, association, or similar entity, the signatory shall be a partner or member.
 - (3) If the applicant is a corporation, limited liability company, or similar entity, the signatory shall be a principal officer.
- (b) The signatory specified in subsection (a) shall submit a signature statement to the director on a form provided by the conservation division.
- (c) Each operator shall ensure that each submitted report that is not required to be signed by a licensed professional geologist, licensed professional engineer, or licensed professional land surveyor is signed by one of the following:
 - (1) A plant or operations manager;
 - (2) a superintendent;
 - (3) a cavern or reservoir storage specialist; or
 - (4) a person holding a position with responsibility at least equivalent to those positions specified in paragraphs (c)(1) through (3).

(Authorized by and implementing K.S.A. 2011 Supp. 66-1274; effective Dec. 21, 2012.)

82-3-1203. PERMIT REQUIRED; PERMIT APPLICATION.

- (a) No operator shall test, construct, convert, operate, or abandon a storage facility, or drill, complete, service, operate, or plug any storage well, without first obtaining a permit from the

conservation division. No operator shall be eligible for a permit without first obtaining a license.

- (b) Each operator applying for a permit shall submit a permit application on a form provided by the conservation division at least 180 days before the operator intends to perform any compressed air energy storage activities. The operator shall submit an original and two copies of the application.
- (c) Each operator shall submit the following with the permit application:
 - (1) The operator name and license number;
 - (2) the name of the proposed compressed air energy storage facility;
 - (3) the permit application fee and any applicable plan fees pursuant to K.A.R. 82-3-1223;
 - (4) a signed statement verifying that the operator possesses the necessary surface and mineral rights for operation of the storage facility;
 - (5) plan view maps pursuant to subsection (d);
 - (6) a site selection plan pursuant to K.A.R. 82-3-1208;
 - (7) a drilling and completion plan pursuant to K.A.R. 82-3-1209;
 - (8) a storage facility integrity plan pursuant to K.A.R. 82-3-1210;
 - (9) if the permit application is for cavern storage, a cavern storage well workover plan pursuant to K.A.R. 82-3-1211;
 - (10) a storage well integrity plan pursuant to K.A.R. 82-3-1212 or K.A.R. 82-3-1213;
 - (11) a long-term monitoring, measurement, and testing plan pursuant to K.A.R. 82-3-1214 or K.A.R. 82-3-1215;
 - (12) a safety and emergency response plan pursuant to K.A.R. 82-3-1216;
 - (13) a plugging-monitoring status plan pursuant to K.A.R. 82-3-1218;
 - (14) a plugging plan pursuant to K.A.R. 82-3-1219;
 - (15) a decommissioning plan pursuant to K.A.R. 82-3-1221; and
 - (16) any other information that the conservation division may require, if clarification of submitted information is needed for the director to consider the application.
- (d) Each operator shall submit the following maps with the permit application:
 - (1) A plan view map showing the locations of all plugged or unplugged wells of any type, including any well used for production of oil or gas, water supply or injection, solution mining, storage operations, monitoring, or corrosion control, within a one-quarter mile radius of the proposed storage facility boundary;
 - (2) the plan view map listed in paragraph (d)(1) overlaid with a surface topography map; and
 - (3) a plan view map, surface topography map, and aerial photo identifying any of the following within a two-mile radius of each proposed storage facility boundary:
 - (A) Manufactured surface structure, including any industrial or agricultural facility;

- (B) utility having a right-of-way, including any wind generator, electrical transmission line, or pipeline;
 - (C) incorporated city or township;
 - (D) active or abandoned excavated mine cavity, including the room and tunnel layout;
 - (E) active or abandoned solution mining facility, including any well;
 - (F) active or abandoned LPG, crude oil, or natural gas storage facility, including any well;
 - (G) active or abandoned underground porosity gas storage facility;
 - (H) navigable water; and
 - (I) floodplain or area prone to flooding.
- (e) After reviewing any permit application, one of the following shall be issued by the director:
- (1) A permit pursuant to the permit application;
 - (2) a permit that includes additional requirements agreed upon by the applicant and the director; or
 - (3) a permit denial, including an explanation of why the permit is denied.
- (f) Each operator shall submit the updated information in paragraphs (c)(5) through (c)(16) within 30 days of a request by the director, if updated information is necessary for full consideration of the permit application.

(Authorized by and implementing K.S.A. 2011 Supp. 66-1274; effective Dec. 21, 2012.)

82-3-1204. NOTICE OF APPLICATION; PUBLICATION; PROTEST.

- (a) Each operator applying for a permit shall provide a copy of the application to the following:
- (1) Each operator of record of a mineral lease within one-quarter mile of each boundary of the proposed storage facility;
 - (2) each owner of record of the minerals in unleased acreage within one-quarter mile of each boundary of the proposed storage facility; and
 - (3) each surface owner of land where the proposed storage facility will be located.
- (b) The operator shall publish notice of the application once each week for two consecutive weeks in the official county newspaper of each county where any lands affected by the application are located, once in the Kansas register, and once in a newspaper of general circulation in Sedgwick County.
- (c) The operator shall include the following information in the published notice:
- (1) The name and address of the operator;
 - (2) a brief description of the operations that will be performed at the proposed storage facility, including whether cavern storage or reservoir storage operations will be performed;

- (3) the name, address, and telephone number of a contact person for further information, including copies of the application;
 - (4) the name and address of the conservation division's central office; and
 - (5) a brief statement that any interested party may file a protest with the conservation division within 30 days and request a hearing.
- (d) Any interested party may file a protest within 30 days after publication of the notice of the application.
- (1) The protest shall be submitted in writing and shall include the following information:
 - (A) The name and address of the protester;
 - (B) a clear and concise statement of the direct and substantial interest of the protester in the proceeding;
 - (C) if the protester opposes only a portion of the proposed application, a description of the objectionable portion; and
 - (D) a statement of whether the protester requests a hearing on the application.
 - (2) The failure to file a timely protest shall preclude the person from appearing as a protester.
 - (3) The protester shall serve the protest upon the applicant in the manner described in K.A.R. 82-1-216(a) at the same time or before the protester files the protest with the conservation division.
- (e) The application shall be held in abeyance for 30 days from the date of last publication or delivery of notice in subsection (a), whichever is later. If a protest with a request for hearing is filed pursuant to subsection (d) within the 30-day waiting period or if the director deems that a hearing is necessary to protect public safety, usable water, or soil, a hearing on the application shall be held.
- (f) The operator shall publish notice of the hearing in the same manner as that required by subsection (b). The notice shall include the following information:
- (1) The information specified in paragraphs (c)(1) through (c)(4);
 - (2) a statement that any member of the public who is not intervening in the matter may attend the hearing without prior notice, except that each person requiring special accommodations under the Americans with disabilities act shall notify the conservation division at least 10 days before the hearing;
 - (3) a statement that the applicant and any intervening person shall prefile written direct testimony pursuant to K.A.R. 82-1-229; and
 - (4) the date, time, and location of the hearing.

(Authorized by and implementing K.S.A. 2011 Supp. 66-1274; effective Dec. 21, 2012.)

82-3-1205. PERMIT AMENDMENT.

- (a) Each operator shall file an application to amend that operator's permit if any of the following conditions is met:
 - (1) The proposed activity would result in a substantial change to the storage facility, including a change in the rate, pressure, or volume of injected air.

- (2) The proposed activity could result in a threat to public safety, usable water, or soil.
 - (3) The size of the storage facility would be expanded or contracted.
 - (4) A storage well would be drilled, or an existing well would be converted to a storage well.
 - (5) An amendment is necessary for the permit to meet the requirements of any statute, regulation, or commission order.
- (b) Each operator seeking a permit amendment shall file a signed application to amend the permit, on a form provided by the conservation division, at least 90 days before the proposed date of the activity described in the application. The operator shall submit an original and two copies of the application to the conservation division.
- (c) Notice of the amendment application and the protest period shall be as provided in K.A.R. 82-3-1204. Each protest shall address a change proposed by the application for a permit amendment.

(Authorized by and implementing K.S.A. 2011 Supp. 66-1274; effective Dec. 21, 2012.)

82-3-1206. PERMIT TRANSFER.

- (a) No operator shall transfer a permit to another operator without the prior approval of the director.
- (b) The transferring operator shall notify the conservation division, on a form provided by the conservation division, of the intent to transfer the permit at least 30 days before the proposed date of the transfer.
- (c) The notification shall contain the following information:
 - (1) The name, address, and license number of the transferring operator;
 - (2) the permit number and the name of the storage facility;
 - (3) a list of all storage wells listed on the permit;
 - (4) the proposed effective date of transfer;
 - (5) the signature of the transferring operator and the date signed;
 - (6) the name, address, and license number of the transferee operator;
 - (7) a signature statement form signed by the signatory for the transferee operator, pursuant to K.A.R. 82-3-1202; and
 - (8) any other information that the conservation division may require, if clarification of any of the submitted information is needed for the director to review the permit transfer.
- (d) The transferee operator shall provide financial assurance pursuant to K.A.R. 82-3-1201(e) before the transfer may be approved by the director.
- (e) The transferee operator shall reproduce and sign the most recent version of each plan that was previously submitted pursuant to K.A.R. 82-3-1203(c) by the transferring operator.
- (f) Within 90 days of approval of a permit transfer, the transferee operator shall update the identification signs at the storage facility to include the transferee operator information.

(Authorized by and implementing K.S.A. 2011 Supp. 66-1274; effective Dec. 21, 2012.)

82-3-1207. PERMIT MODIFICATION, SUSPENSION, AND CANCELLATION.

- (a) A permit may be modified, suspended, or canceled by the director after notice and opportunity for hearing if any of the following conditions is met:
 - (1) A substantial change in the operation of the storage facility, including a change in the rate, pressure, or volume of injected air, has occurred.
 - (2) Material deviations from the information originally provided to the conservation division occur or are discovered and could affect the ability of the storage facility or storage wells to be operated in a manner that protects public safety, usable water, and soil.
 - (3) The permit, for any reason, no longer meets the requirements of any statute, regulation, or commission order.
- (b) All operations at a storage facility shall cease upon suspension or cancellation of the permit for that storage facility.

(Authorized by and implementing K.S.A. 2011 Supp. 66-1274; effective Dec. 21, 2012.)

82-3-1208. SITE SELECTION.

- (a) No operator shall test, construct, convert, or operate a storage facility without a site selection plan approved by the director. The operator shall submit a proposed site selection plan to the conservation division that includes all information specified in, and demonstrates compliance with, subsections (b) through (k).
- (b) Each operator shall submit to the conservation division an area of review evaluation, signed by a licensed professional engineer or licensed professional geologist, identifying any plugged or unplugged well of any type, including any well used for production of oil or gas, water supply or injection, solution mining, storage operations, monitoring, or corrosion control, that penetrates the storage facility and is located within one-quarter mile of any proposed boundary. The area of review evaluation shall contain any information available from public records, publicly accessible data, or the operator's records.
 - (1) The operator shall indicate whether each well has been properly constructed or plugged to protect public safety, usable water, and soil.
 - (2) The operator shall include a schedule to correct or plug any well that is not properly constructed or plugged to protect public safety, usable water, and soil, including any well that does not have adequate cement to isolate any storage cavity or storage reservoir from any reservoir in the well, or adequate cement behind the casing.
- (c) Each operator shall submit the proposed boundaries of the storage facility.
 - (1) No reservoir storage facility boundary may be approved by the conservation division unless each reservoir storage well is located at least 150 feet from each boundary.
 - (2) No storage facility boundary may be approved by the conservation division unless the boundary is located at least two miles from each of the following:
 - (A) Active or abandoned excavated mine cavity;
 - (B) solution mining operation facility boundary;
 - (C) LPG, crude oil, or natural gas storage facility boundary;
 - (D) underground porosity gas storage facility boundary; and
 - (E) any incorporated city or organized township.
- (d) (1) Each operator of a cavern storage facility shall demonstrate that any potential surface subsidence event would remain within the storage facility boundary. No cavern storage

facility boundary may be approved by the director unless each of the following is located at least 100 feet from the cavern wall:

- (A) Land owned by a surface owner who has not submitted to the operator a signed consent form stating that there is no objection to storage;
 - (B) any building or structure not owned by the cavern storage facility's owner;
 - (C) any utility with a right-of-way, including any wind generator, electrical transmission line, or pipeline; and
 - (D) any railroad, road, or highway.
- (2) A distance greater than 100 feet may be required if the director determines that a greater distance is necessary to protect public safety, usable water, or soil.
- (e) No cavern having a maximum horizontal diameter of greater than 300 feet may be approved by the director.
- (f) Each cavern storage well shall be located so that each cavern wall is at least 100 feet from each cavern wall of any offset storage cavern. The operator shall consider the cavern spacing-to-diameter ratio, cavern pressure differentials, frequency of cavern injection and withdrawal cycles, and cavern shape, size, and depth.
- (g) Each operator of a cavern storage facility shall submit the proposed salt roof thickness, which shall be at least 100 feet measured from the top of the bedded salt formation to the cavern roof, unless otherwise approved by the director.
- (h) Each operator shall submit a regional geological evaluation and a local geological evaluation covering an area within one-quarter mile outside each storage facility boundary, for all formations between the surface and the top of the proposed cavern or reservoir, and all formations below the base of the proposed cavern or reservoir to a depth of 300 feet below the base.
- (1) If the proposed storage facility is a cavern storage facility, the applicant shall submit the following:
- (A) A structure map and stratigraphic cross section identifying any bedded salt formation proposed to be solution mined, usable water formation, regional or local fault zone, structural anomaly, salt thinning due to stratigraphic change, dissolution zone in the salt, and migration pathway that could cause a loss of containment; and
 - (B) an isopach map of the bedded salt formation identifying any regional or local faulting, dissolution zone in the salt, salt thinning due to any stratigraphic change, and migration pathway that could cause a loss of containment.
- (2) If the proposed storage facility is a reservoir storage facility, the applicant shall submit the following:
- (A) A structure map and stratigraphic cross section identifying the reservoir and any usable water formation, regional or local fault zone, structural anomaly, structural spill point controlling the containment of air, and migration pathway that could cause a loss of containment; and
 - (B) an isopach map of the storage reservoir formation identifying any regional or local faulting and any migration pathway that could cause a loss of containment.
- (3) Each operator shall submit an updated local geologic evaluation pursuant to subsection (h) within 30 days after any new storage well is drilled and completed, unless otherwise approved by the director.

- (i) (1) Each operator shall submit the proposed layout of the storage facility and the equipment design parameters, including the minimum and maximum pressure, temperature, and flow rate requirements for the following:
 - (A) Each electrical generating facility component, including any compressor train used to increase air pressure, compressor intercooler or aftercooler used to reduce air temperature before injection into any cavern storage well, recuperator, expander, exhaust air stack, and fuel-fired combustion turbine;
 - (B) any equipment, alarm, or safety device that prevents the injection of water and moisture into a cavern;
 - (C) each air injection and withdrawal flow line connecting any storage well to the electrical generating facility; and
 - (D) any flow line, equipment, and class I injection well that is used to dispose of fluids and solids produced during storage well operations.
- (2) The operator shall list any air sample location that will be used to monitor the quality of air injected into any storage well.
- (3) The layout of the proposed storage facility shall include the following:
 - (A) Each storage well;
 - (B) for any plugged or unplugged cavern storage well, the cavern configuration and dimensions associated with each historical sonar survey;
 - (C) the corrosion control system;
 - (D) any well in the area of review evaluation submitted pursuant to subsection (b);
 - (E) any navigable water, floodplain, or area prone to flooding;
 - (F) any utility having a right-of-way, including any wind generator, electrical transmission line, or pipeline; and
 - (G) any manufactured surface structure, including any industrial or agricultural facility.
- (4) Within 30 days after construction of the storage facility is completed, the operator shall submit an updated layout of the storage facility and the updated equipment design parameters to the conservation division.
- (j) No person shall test, construct, convert, or operate a storage facility or drill, complete, service, plug, or operate any storage well in either of the following types of geological strata:
 - (1) A porous geologic stratum containing usable water; or
 - (2) an excavated mine cavity.
- (k) No site selection plan may be approved by the director if underground communication between cavern storage wells exists.

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82-3-1209. DESIGN AND CONSTRUCTION OF STORAGE WELL.

- (a) Each operator shall drill and complete each storage well, including the conversion of an existing well of any type to a storage well or the conversion of a storage well to any other type of well, according to a drilling and completion plan signed by a licensed professional engineer

or licensed professional geologist and approved by the director. The operator shall submit the plan on a form provided by the conservation division at least 90 days before the proposed date of drilling or completion. The operator shall supplement the plan by submitting open hole logs within 30 days after completing the well. The operator submitting a proposed drilling and completion plan shall include the following:

- (1) (A) The operator shall submit, within 30 days of completing any well, the following open hole logs, one on a scale of five inches equals 100 feet, and one on a scale of two inches equals 100 feet, from the surface to the deeper of the base of the storage cavern or reservoir or the total depth of the storage well:
 - (i) Spectral gamma ray;
 - (ii) spontaneous potential;
 - (iii) density;
 - (iv) photoelectric;
 - (v) caliper;
 - (vi) for cavern storage wells, dipole sonic for evaluating mechanical rock properties, logged at least from the base of the cavern or the total depth of the storage well to 100 feet above the top of the confining layer of the bedded salt formation; and
 - (vii) neutron log, with the source registered in Kansas.
- (B) The operator may submit an open hole log that is substantially similar to an open hole log specified in paragraph (a)(1)(A) if the operator demonstrates that the substitute open hole log provides sufficient data for the director to determine whether the well is constructed in a manner that protects public safety, usable water, and soil.
- (2) (A) The operator shall submit, within 30 days of completing any well, the following cased hole logs, with one on a scale of five inches equals 100 feet and one on a scale of two inches equals 100 feet:
 - (i) Casing collar log and gamma ray;
 - (ii) temperature survey showing the natural thermal gradient of the cavern; and
 - (iii) cement evaluation log, performed after the neat cement has cured for at least 72 hours.
- (B) The operator may submit a cased hole log that is substantially similar to the cased hole logs specified in paragraph (a)(2)(A) if approved by the director.
- (3) The operator shall submit a water quality test performed by a certified laboratory demonstrating that there is no usable water in the proposed storage reservoir.
- (4) The operator shall provide at least one core for each cavern storage facility, including both the bedded salt formation interval and a portion of the overburden. The applicant shall use core drilling procedures, a coring interval, and a core analysis that are approved by the director. The operator may use an offset storage facility core if the offset storage facility core represents the local geology at the proposed storage facility. The operator shall make the core available for inspection if requested by the director. The operator shall submit a core analysis report to the conservation division within 30 days after the core analysis is completed.

- (5)
 - (A) The core analysis shall include petrographic, geochemical, and geomechanical rock properties for the overburden and bedded salt formation at intervals approved by the director. The core analysis and the petrographic, geochemical, and geomechanical rock properties shall include the following:
 - (i) Indirect tensile strength tests;
 - (ii) triaxial compression tests; and
 - (iii) triaxial creep tests defining the time-dependent creep deformation characteristics of the salt.
 - (B) The core analysis shall include a geomechanical and geochemistry evaluation used to predict reactions between air and shale and reactions between salt and shale, including any potential contaminant from fuel-fired combustion turbine exhaust at the electrical generating facility.
 - (C) The overburden pressure for the bedded salt formation shall be considered when determining geomechanical rock properties.
 - (D) Permeability and porosity shall be determined for any rock formations layered within the salt formation, except shale layers deposited within the salt formation or the upper confining layer of the layered salt formation.
 - (E) A gamma ray log of the core shall be correlated with the well's cased hole gamma ray and casing collar locator logs.
- (6) The operator shall provide documents demonstrating that each storage well will be drilled and completed pursuant to subsections (b) through (u).
 - (b) Each operator of a storage well shall equip, complete, and operate the storage well to protect public safety, usable water, and soil, and to confine air in the tubing, production casing, and the storage cavern or reservoir.
 - (c) Each operator shall use only equipment that can withstand exposure to injected and withdrawn air, including surface, intermediate, and production casing, production tubing, packers, and packer elements.
 - (d) Each operator shall equip each storage well with surface casing.
 - (1) The surface casing shall be set below all usable water formations in accordance with "table I: minimum surface casing requirements," dated February 2003 and incorporated into commission order in docket number 34,780-C (C-1825), which is hereby adopted by reference.
 - (2) The surface casing string shall be equipped with centralizers. The number of centralizers shall be determined as follows:
 - (A) If the surface casing string is less than 250 feet long, the operator shall at a minimum install one centralizer on the collar of the second joint of the surface casing and one centralizer on the collar of the last joint of the surface casing.
 - (B) If the surface casing string is 250 feet long or more, the operator shall install the two centralizers specified in paragraph (d)(2)(A) and shall ensure that at least one centralizer is installed every four joints of casing throughout the surface casing string.
 - (3) The annular space between the casing and the formation shall be filled with cement, and the cement shall be circulated to the surface.

- (e) Each operator shall ensure that the surface casing, production casing, and tubing strings meet the standards specified in either of the following, which are hereby adopted by reference:
 - (1) "Bulletin on performance properties of casing, tubing, and drill pipe," API bulletin 5C2, as published by the American petroleum institute in October 1999; or
 - (2) "specification for casing and tubing (U.S. customary units)," API specification 5CT, sixth edition, as published by the American petroleum institute in October 1998, including the appendices and including the errata published in May 1999, but not including the publications listed in section 2.1.
- (f) Each operator shall use a casing guide shoe or equivalent device to guide and protect the surface, intermediate, and production casing.
- (g) Each operator shall use surface, intermediate, and production casing and tubing strings that are either new or reconditioned and the equivalent of new and that have been pressure-tested at the greater of the storage well's maximum allowable operating pressure or the storage facility's air compressor train design. If the casing used is new, the pressure test performed at the manufacturing mill or fabrication plant shall fulfill this requirement.
- (h) The operator shall use surface, intermediate, and production casing, tubing, and liners that are rated for at least 125 percent of the maximum allowable operating pressure for the storage well or 125 percent of the storage facility's air compressor train design, whichever is greater.
- (i) Each operator shall equip all intermediate and production casing with centralizers and scratchers.
- (j) Each operator shall ensure that any cavern storage well is constructed as follows:
 - (1) The production casing shall be set in the upper part of the bedded salt formation. The production casing shall not extend less than 105 feet into the upper part of the bedded salt formation unless otherwise approved by the director if the operator demonstrates that the installation of the production casing will protect public safety, usable water, and soil.
 - (A) No permeable formation within the bedded salt formation shall be exposed to the cavern.
 - (B) Each operator shall demonstrate that any shale layer within the bedded salt formation will not lose integrity if exposed to storage operations.
 - (2) Liners shall extend from the surface to a depth near the bottom of the production casing, allowing room for any workover operation.
 - (3) Each operator shall obtain the director's approval before performing any remedial casing repair.
- (k) Each operator shall ensure that each storage well is cemented as follows:
 - (1) Production casing set in a cavern storage well and any intermediate casing string shall be cemented with sufficient cement to fill the annular space between the casing and wellbore to the surface, including the innermost casing or liner that extends the entire length of the production casing.
 - (2) All intermediate or production casing strings set in a reservoir storage well shall be cemented with sufficient cement to fill the annular space either to 500 feet above the top of the storage reservoir or to the surface.

- (3) The cement shall be compatible with the rock formation waters and drilling fluids. Salt-saturated cement shall be used in any bedded salt formation.
- (4) Liners set in the casing shall have cement circulated from the bottom of the liner to the top of the liner. If the cement does not circulate, the annulus between the liner and casing shall be equipped to allow the annulus to be monitored and tested for mechanical integrity.
- (5) Circulated cement shall have a compressive strength of at least 1,000 pounds per square inch.
- (6) Each operator shall perform remedial cementing if there is evidence of either of the following:
 - (A) Communication between the confining zone and other horizons; or
 - (B) annular voids that could allow fluid contact with the casing or channeling across or above the confining zone.
- (l) Each operator shall equip each reservoir storage well as follows:
 - (1) The well shall have a tubing and packer completion if any intermediate or production casing string does not have cement circulated to the surface or if the cement is not circulated from the bottom to the top of a liner set in the casing.
 - (2) The packer shall be set at a depth that is opposite a cemented interval of the production casing and no more than 50 feet above the uppermost perforation or open hole for the storage reservoir.
- (m) Each operator shall equip the wellhead of any storage well with manual isolation valves and shall equip each port on the wellhead with either a valve or blind flange, which shall be rated at the same pressure as that of the wellhead.
- (n) Each operator shall ensure that the wellhead master valve on each storage well is capable of opening fully and sized to the diameter of the casing or tubing string attached to the valve. The operator shall use a wellhead master valve rated at the same pressure as that of the wellhead.
- (o) Each operator shall install a leak detector at any storage well located within 330 feet of an inhabited residence, commercial establishment, church, school, park, or public building.
- (p) Each operator shall equip each storage well with a corrosion control system.
- (q) Each operator of a cavern storage well shall submit to the conservation division all monitoring, testing, and reporting documents, including any correspondence with the Kansas department of health and environment, relating to any solution mining operation.
- (r) Each operator shall ensure that a licensed professional engineer or licensed professional geologist supervises the installation of each storage well personally or through an agent.
- (s) Each operator shall post at each storage well a sign large enough to be legible under normal daytime conditions at a distance of 50 feet, which shall include the following:
 - (1) The operator's name and license number;
 - (2) the storage facility's name and the storage well number;
 - (3) the location of the storage well by quarter section, section, township, range, and county; and

- (4) the operator's emergency contact phone number.
- (t) Each operator shall submit to the conservation division all supporting documents, logs, and tests within 30 days of drilling or completing any storage well.
- (u) Each operator shall use only a pit that is permitted pursuant to K.A.R. 82-3-600. Each operator shall dispose of any waste or fluid pursuant to K.A.R. 82-3-602, 82-3-603, 82-3-604, 82-3-606, and 82-3-607.

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82-3-1210. STORAGE FACILITY CONSTRUCTION AND INTEGRITY.

- (a) Each operator shall equip the storage facility according to a storage facility integrity plan signed by a licensed professional engineer and a licensed professional geologist. The operator shall submit a storage facility integrity plan that includes the following:
 - (1) A description of how each storage facility will be constructed, equipped, operated, maintained, and abandoned to protect public safety, usable water, and soil; and
 - (2) information demonstrating that the storage facility and each storage well will meet the requirements of subsections (b) through (l).
- (b) Each operator shall equip each air injection flow line and withdrawal flow line connecting the electrical generating facility to any storage well with a manually operated positive shutoff valve at the following locations:
 - (1) Within 20 feet of the electrical generating facility;
 - (2) on the wellhead of each storage well; and
 - (3) within 15 feet of any class I injection well located within the storage facility boundary.
- (c) Each operator shall ensure that all components of the storage facility meet the following requirements:
 - (1) Are composed of material capable of withstanding the corrosive nature of the compressed air injected or withdrawn; and
 - (2) are rated at a minimum of 125 percent of either the maximum allowable operating pressure for each storage well or the air compressor train design, whichever is greater. Each operator shall ensure that the pressure ratings are clearly identified on each flow line, valve, and fitting connecting the storage facility to each storage well.
- (d) Each operator shall install equipment to sample and monitor injected air quality, with the air sampling location located at least 30 feet from the electrical generating facility and at each storage well.
- (e) (1) Each operator shall install the following at each cavern storage facility:
 - (A) Within 30 feet of the electrical generating facility or at each cavern storage well, equipment that prevents the injection of water and moisture, including any alarm and safety device; and
 - (B) a continuously operating SCADA system approved by the director that includes meters and gauges that measure pressure, temperature, water and moisture content, total volume, and flow rate and that automatically closes any air injection and withdrawal line, air compressor train, and brine or water line if an emergency occurs or if any pressure, temperature, total volume, or flow rate meter or gauge fails.

- (2) Warning systems for the SCADA system shall consist of pressure, temperature, water and moisture content, total volume, and flow rate sensors connected to an alarm and emergency shutdown instrumentation. The equipment shall be capable of automatically closing all of the following if an emergency occurs:
 - (A) Air injection and withdrawal flow lines at the storage facility;
 - (B) the air compressor train;
 - (C) the brine or water flow lines; and
 - (D) all wells of any type that are associated with the cavern storage facility and located within the storage facility boundary.
 - (3) The SCADA system circuitry shall be designed so that the failure of a pressure, temperature, water and moisture content, total volume, or flow rate meter or gauge will activate the warning system.
 - (4) The total volume, rate, temperature, and pressure of air injected into or withdrawn from each cavern storage well shall be measured, metered, or gauged with sufficient accuracy and precision to allow the director to determine whether the storage well is operating within the conditions in the permit. The original field record consisting of magnetic tapes, digital electronic data, meter charts, or records of air injected and withdrawn shall be retained for at least five years and made available to the conservation division upon request.
- (f) Each operator shall equip each reservoir storage facility as specified in this subsection.
- (1) Each operator shall install a continuously operating SCADA system that includes meters and gauges that measure pressure, total volume, and flow rate and that automatically closes any air injection or withdrawal line, air compressor train, and brine or water line if an emergency occurs or if a pressure, total volume, or flow rate meter or gauge fails.
 - (2) Warning systems for the SCADA system shall consist of pressure, total volume, and flow rate sensors connected to an alarm and emergency shutdown instrumentation. The equipment shall be capable of automatically closing all of the following if an emergency occurs:
 - (A) Air injection and withdrawal flow lines at the storage facility;
 - (B) the compressor train at the storage facility;
 - (C) brine, water, or oil flow lines; and
 - (D) all wells of any type that are associated with the reservoir storage facility and located within the storage facility boundary.
 - (3) The SCADA system circuitry shall be designed so that the failure of a pressure, total volume, or flow rate meter or gauge will activate the warning system.
 - (4) The total volume, rate, and pressure of air injected into or withdrawn from each reservoir storage well shall be measured, metered, or gauged with the accuracy and precision approved by the director. The original field record consisting of magnetic tapes, digital electronic data, meter charts, or records of air injected and withdrawn shall be retained for at least five years and shall be made available to the conservation division upon request.
- (g) Each operator shall ensure that each SCADA system is connected by a communication link to the local control room and each remote control center.

- (h) Each operator shall ensure that an audible manual warning system is available to storage facility personnel in the local control room and each remote control center.
- (i) Each operator shall install and maintain a corrosion control system.
 - (1) Each operator shall evaluate the corrosion control system in a manner and pursuant to a schedule recommended by the system manufacturer and shall submit the results to the conservation division annually on or before April 1.
 - (2) Each operator shall ensure that the corrosion control system for cavern storage wells protects the following:
 - (A) Any storage well casing or liner;
 - (B) any surface equipment and injection or withdrawal flow line connecting the electrical generating facility to any storage well;
 - (C) any brine disposal flow line, including the last positive shutoff valve connecting the storage facility with any well of any type at the storage facility; and
 - (D) any surface equipment, including any brine tank and piping network used for first fill operations or conversion of an active storage well and cavern to plugging-monitoring status.
 - (3) Each operator shall ensure that the corrosion control system for reservoir storage wells protects the following:
 - (A) Any storage well casing and liner;
 - (B) any brine, water, or oil disposal flow line, including the last positive shut off valve connecting the storage facility with any well of any type at the storage facility; and
 - (C) any surface equipment and injection or withdrawal flow line connecting the electrical generating facility to any storage well.
- (j) Each operator shall ensure that the storage facility is equipped with security measures to prevent access by individuals without authorization or a legal right to enter the storage facility, including the following:
 - (1) Each operator shall post a sign at each entrance to the storage facility large enough to be legible at 50 feet during normal daytime conditions that states the following: the storage facility name; the operator name and license number; the storage facility location by quarter section, section, township, range, and county; and the operator emergency contact phone number.
 - (2) Each operator shall ensure that the electrical generating facility is equipped with security lighting and surrounded by a fence located approximately 25 feet outside the electrical generating facility boundary.
 - (3) Each operator shall ensure that the electrical generating facility is protected from accidental damage by vehicular or shipping traffic.
- (k) Each operator shall drill and complete shallow monitoring wells and deep monitoring wells to determine the initial groundwater quality and the effects of any spill or loss of containment on groundwater.
- (l) Each operator shall install a leak detector at any storage well located within 330 feet of an inhabited residence, commercial establishment, church, school, park, or public building.

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82-3-1211. STORAGE WELL WORKOVER.

- (a) Each operator shall submit a workover plan to the conservation division at least 10 days before performing any downhole or wellhead work that involves dismantling or removing the wellhead, unless the work is only routine maintenance or the replacement of any gauge, sensor, or valve. If an emergency situation exists, the workover plan requirement may be temporarily waived by the director. Each operator shall submit a detailed summary of the work performed to the conservation division within 30 days of the completion of the workover activity.
- (b) Each operator shall determine how long any cavern storage well can safely operate below the minimum allowable pressure limit or cushion air requirement to perform storage facility maintenance or storage well workover activities. If storage facility maintenance or storage well workover activities are not performed within this time frame, the operator shall test or log the storage well according to the long-term monitoring, measurement, and testing plan.
- (c) Each operator shall use, during any workover, a blowout preventer with a pressure rating that is sufficient for the anticipated workover operations.
- (d) Each operator shall perform all logging procedures through a lubricator unit with a pressure rating that is sufficient for the anticipated workover operations.
- (e) Each operator shall provide all relevant well information to any contractor logging a storage well or performing a workover before commencing the log or workover.

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82-3-1212. OPERATION, MONITORING, AND MEASUREMENT REQUIREMENTS FOR CAVERN STORAGE WELLS.

- (a) Each operator shall monitor each cavern storage well according to the storage well integrity plan signed by a licensed professional engineer and a licensed professional geologist. The operator shall submit a storage well integrity plan that includes information required by, and demonstrates compliance with, subsections (b) through (n).
- (b) Each operator shall monitor the quality of the air to be injected into each storage well before the commencement of storage operations and at least once every 90 days after operations have commenced. The operator shall test for fuel-fired turbine exhaust contaminants, water, and moisture.
- (c) Each operator shall report the monitoring results for each cavern storage well to the conservation division, on a form provided by the conservation division, annually on or before April 1.
- (d) Each operator shall monitor cavern storage wells daily. If the cavern storage wells consistently operate in a manner that appears to be protective of public safety, usable water, and soil, monitoring according to a time frame based on the air injection and withdrawal cycles may be allowed by the director.
- (e) Each operator shall include in the storage well integrity plan descriptions of the equipment, processes, and criteria used to determine the pressure, temperature, water and moisture content, total volume, and air flow rate. Each operator shall report any change in the equipment, processes, and criteria by submitting updated descriptions to the conservation division within 30 days after the change.
- (f) Each operator shall install, within 30 feet of the electrical generating facility or at each cavern storage well, equipment including any alarm and safety device that prevents the injection of water and moisture.

- (g) Each operator shall equip each cavern storage well with sensors and safety devices to continuously monitor the well and prevent the well from operating outside of the allowable operating limits for pressure, temperature, water and moisture, total volume, and air flow rate. If the cavern storage well is constructed with tubing and a packer, the sensors and safety devices shall also monitor the pressure in the annulus between the casing and tubing for any unexpected increase or decrease in pressure.
 - (1) The sensors shall be capable of recording maximum and minimum values during a 24-hour period.
 - (2) Each operator shall submit any monitoring data, including historic continuous monitoring, to the conservation division within 48 hours of a request by the conservation division.
- (h) Each operator shall ensure that any cavern storage well conforms to the maximum allowable operating pressure according to the following requirements:
 - (1) The operator shall perform a site-specific geomechanical core analysis of the fracture gradient that is calibrated to the open hole log for each storage well and determines mechanical rock properties for the bedded salt formation.
 - (2) The operator shall not subject the cavern to pressures in excess of the maximum allowable operating pressure associated with abnormal operating conditions, including pressure pulsations from the electrical generating facility.
 - (3) No operator shall allow the maximum allowable operating pressure or test pressure to exceed the lower of either 80 percent of the fracture gradient for the cavern measured in PSIG or 0.8 pounds per square inch per foot of depth, measured at the higher elevation of either the casing seat or the highest interior elevation of the cavern roof.
- (i) If underground communication exists between cavern storage wells due to fracturing or coalescing, each operator shall immediately plug all cavern storage wells that are in communication according to a plugging plan submitted pursuant to K.A.R. 82-3-1219.
- (j) Each operator shall operate any cavern storage well according to the minimum allowable operating pressure according to site-specific geomechanical studies from core analysis or any representative offset operating history, including any site-specific geomechanical core analysis for LPG, natural gas, or crude oil storage facilities.
- (k) Each operator shall operate any cavern storage well within the injection and withdrawal rates and based on casing and tubing limitations, the placement of any production tubing and packer in relation to the salt roof, the stability of the cavern, and the flow rate requirements for the electrical generating facility.
- (l) Each operator shall operate each cavern storage well at or below the maximum wellhead temperature based on the natural thermal gradient of the cavern, air temperature variations due to injection and withdrawal operations, heat transfer across the storage cavern wall, and core analysis of the bedded salt formation.
- (m) The wellhead injection temperature and the normal thermal gradient of the salt formation shall be in a range that will not significantly increase the time-dependent salt creep of the bedded salt formation.
- (n) The operator shall develop an inventory balance plan, as part of the cavern storage well integrity plan, that demonstrates the maximum air injection or withdrawal volume from each storage well. The inventory balance plan shall include the cushion air and working air volumes. The operator shall reevaluate the inventory balance plan whenever monitoring, testing, or logging data indicate that a change in cavern volume has occurred.

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82-3-1213. OPERATION, MONITORING, AND MEASUREMENT REQUIREMENTS FOR RESERVOIR STORAGE WELLS.

- (a) Each operator shall monitor each reservoir storage well according to a storage well integrity plan signed by a licensed professional engineer and a licensed professional geologist. The operator shall submit a storage well integrity plan that includes information pursuant to, and demonstrates compliance with, subsections (b) through (i).
- (b) Each operator shall monitor the quality of air to be injected into each reservoir storage well before the commencement of storage operations and at least once each 12 months after storage operations commence. The analysis of the quality of air shall include consideration of fuel-fired turbine exhaust contaminants.
- (c) Each operator shall evaluate the formation water in the reservoir before commencing storage operations.
- (d) Each operator shall report the monitoring results for each reservoir storage well to the conservation division, on a form provided by the conservation division, annually on or before April 1.
- (e) Each operator shall monitor each reservoir storage well daily. If the reservoir storage well consistently operates in a manner that appears to be protective of public safety, usable water, and soil, monitoring on a time frame based on the air injection and withdrawal cycles may be allowed by the director.
- (f) Each operator shall include in the reservoir storage well integrity plan a description of the equipment, processes, and criteria used to determine pressure, total volume, and air flow rate wellhead conditions. Each operator shall monitor and report the pressure, total volume, and air flow rate. If the reservoir storage well is constructed with tubing and a packer, the operator shall also monitor and report the pressure in the annulus between the casing and tubing for any unexpected increase or decrease.
- (g)
 - (1) Each operator shall ensure that any reservoir storage well is operated at or below the maximum allowable operating pressure and based on either of the following criteria:
 - (A) Site-specific geomechanical core analysis of the fracture gradient calibrated to the open hole log for each storage well that determines mechanical rock properties; or
 - (B) sufficient testing of the reservoir.
 - (2) The operator shall not subject the reservoir to pressures in excess of the maximum allowable operating pressure associated with abnormal operating conditions, including pressure pulsations from the electrical generating facility.
 - (3) No operator shall allow the maximum allowable operating pressure to exceed the lower of either 80 percent of the fracture gradient for the storage reservoir or 0.8 pounds per square inch per foot of depth, measured at the top of the reservoir.
- (h) Each operator shall operate any reservoir storage well within the injection and withdrawal rates based on casing and tubing limitations, the formation compressibility of the reservoir, and the flow rate requirements for the electrical generating facility.
- (i) The operator shall develop an inventory balance plan as part of the reservoir storage well integrity plan that demonstrates the maximum air injection or withdrawal volume for each storage well. The storage volume calculations shall include the cushion air and working air volumes. The operator shall reevaluate the inventory balance plan whenever an additional storage well is drilled and completed.

(Authorized by and implementing K.S.A. 2011 Supp. 66-1274; effective Dec. 21, 2012.)

82-3-1214. LONG-TERM MONITORING, MEASUREMENT, AND TESTING FOR CAVERN STORAGE FACILITIES AND CAVERN STORAGE WELLS.

- (a) Each operator shall perform long-term monitoring, measurement, and testing on any cavern storage facility and cavern storage well pursuant to a long-term monitoring, measurement, and testing plan signed by a licensed professional engineer, a licensed professional geologist, and a licensed professional land surveyor. The operator shall submit a long-term monitoring, measurement, and testing plan that includes the information required by, and demonstrates compliance with, subsections (b) through (n) and includes the information specified in this subsection.
 - (1) Each operator shall determine the thickness of the salt roof for each cavern storage well with a gamma ray and density log.
 - (2) Each operator shall demonstrate that each cavern storage well has internal mechanical integrity by performing a nitrogen-brine interface test, liquid-brine interface test, hydraulic casing test, or storage well and cavern pressure test. If the well is constructed with tubing and a packer, the operator may demonstrate internal mechanical integrity by performing a pressure test of the production tubing and production casing annulus.
 - (3) Each operator shall demonstrate that all cavern storage wells and all caverns have external mechanical integrity by performing a nitrogen-brine interface test, liquid-brine interface test, or storage well and cavern pressure test.
 - (4) The operator shall evaluate the cement outside the production casing with a cement evaluation log verifying that the cement is adequately bonded, including any innermost casing or liner that extends the entire length of the production casing.
 - (5) Each operator shall meet the long-term monitoring, measurement, and testing requirements in paragraphs (a)(1), (a)(2), (a)(3), and (a)(4) according to the following:
 - (A) At least once each five years;
 - (B) before first fill operations commence;
 - (C) after first fill operations have been completed;
 - (D) after any workover involving production casing cemented in the bedded salt formation or the innermost casing or liner that extends the entire length of the production casing;
 - (E) after converting the storage well to plugging monitoring status;
 - (F) before commencing plugging operations, if the most recent tests or logs were not performed within the previous five years; and
 - (G) whenever required by the director, if the director determines that it is necessary to protect public safety, usable water, or soil.
 - (6) Each operator shall monitor the cavern's storage capacity and geometry with a sonar survey according to the following:
 - (A) Before first fill operations commence;
 - (B) after any storage well is converted to plugging-monitoring status;
 - (C) before plugging the storage well, if the sonar survey was not performed within the previous five years; and

- (D) whenever required by the director, if the director determines that it is necessary to protect public safety, usable water, or soil.
- (7) Each operator shall evaluate the production casing set and cemented in the bedded salt formation or the innermost casing or liner that extends the entire length of the production casing with a magnetic flux log if the conservation division determines that it is necessary to protect public safety, usable water, or soil.
- (8) Each operator shall demonstrate every two years that surface ground subsidence is not occurring at the storage facility by performing a land survey at each storage well until the storage facility is abandoned.
- (b) Each operator performing a nitrogen-brine mechanical integrity test to demonstrate internal or external mechanical integrity shall ensure that the test is witnessed by a licensed professional engineer and shall use a pressure for the nitrogen-brine test pressure that is equal to the maximum allowable operating pressure.
 - (1) The cavern storage well shall be considered to have internal mechanical integrity if the calculated nitrogen leak rate is less than 100 barrels of nitrogen per year.
 - (2) The cavern storage well and cavern shall be considered to have external mechanical integrity if the calculated nitrogen leak rate is less than 1,000 barrels of nitrogen per year.
- (c) (1) Each operator performing a liquid-brine mechanical integrity test to demonstrate internal or external mechanical integrity shall ensure that the test is witnessed by a licensed professional engineer and shall meet the following requirements:
 - (A) Use a type of liquid that allows verification of mechanical integrity without harming the cavern storage well or cavern storage facility; and
 - (B) use a pressure for the liquid test pressure that is equal to the maximum allowable operating pressure.
- (2) The cavern storage well shall be considered to have internal mechanical integrity if the calculated liquid leak rate is less than 10 barrels of liquid per year.
- (3) The cavern storage well shall be considered to have external mechanical integrity if the calculated liquid leak rate is less than 100 barrels of liquid per year.
- (d) Each operator performing a storage well and cavern pressure test shall test the well at the maximum allowable operating pressure. The operator shall first monitor the conditions at the wellhead until the pressure variations at the wellhead can reasonably be shown to correlate with ambient temperature changes. Then the operator shall monitor the surface shut-in pressure for at least 24 hours. The well shall be considered to have internal and external mechanical integrity if the pressure does not vary by more than three percent, with adjustments made to the pressure for changes in temperature.
- (e) Each operator performing a hydraulic casing test shall meet the following requirements:
 - (1) The operator shall set a retrievable bridge plug or packer in the storage well within 25 feet of the top of the cavern.
 - (2) The operator shall test the storage well at the maximum allowable operating pressure. The operator shall test the well for at least 30 minutes, and the well shall be considered to have internal mechanical integrity if the pressure does not decrease by more than 10 percent.
- (f) Any operator may perform a pressure test of the production tubing and production casing annulus if the well is constructed with tubing and a packer. The operator performing a

pressure test of the production tubing and production casing annulus shall use a minimum fluid pressure of 300 psig applied to the tubing casing annulus at the surface for a period of 30 minutes. Internal mechanical integrity shall be demonstrated if the applied pressure does not decrease by more than 10 percent.

- (g) Any operator may use an alternative method for the long-term monitoring, measurement, and testing activity if approved by the director. The alternative method shall be approved by the director if this method will allow the conservation division to verify mechanical integrity according to the following information submitted by the operator:
 - (1) A description of the alternate method and the theory for its operation;
 - (2) a description of the conditions at the cavern storage well that are necessary for the use of the alternate method;
 - (3) specifications of the logging tool, survey, or test, including the tool dimensions, maximum temperature and pressure rating, recommended logging speed, approximate image resolution, and casing or hole size range;
 - (4) the procedure for interpreting the results of the alternate method; and
 - (5) an interpretation of the results after the alternate method has been used.
- (h) No operator shall inject air into or withdraw air from a cavern storage well that fails to demonstrate mechanical integrity through the performance of any test or log in subsections (a) through (g) until the well has been repaired, if necessary, and successfully retested.
- (i) Each operator shall submit the long-term monitoring, measurement, and testing plan at least 60 days before commencing any long-term monitoring, measurement, and testing activity. Each operator shall ensure that an employee witnesses any activity. The operator shall schedule the activity to facilitate witnessing by a conservation division agent.
- (j) Each operator shall submit a summary, including all supporting documents, of the long-term monitoring, measurement, or testing activity to the conservation division within 30 days after completion.
- (k) On or before April 1 of each year, each operator shall submit a report and all supporting documents to the conservation division, on a form provided by the conservation division, listing any activity in subsection (a) performed during the previous calendar year at any storage well.
- (l) Each operator shall monitor, measure, sample, and report water quality at any shallow monitoring well and deep monitoring well in a manner that allows the director to determine whether groundwater has been affected by any spill or loss of containment.
- (m) Each operator shall monitor, measure, and sample at any leak detector in a manner that allows the director to determine that leaks are not occurring.
- (n) Each operator shall ensure that a professional land surveyor performs a land survey for each cavern storage well every two years, pursuant to the following requirements:
 - (1) The operator shall report to the conservation division the method used in performing the elevation survey.
 - (2) The operator shall report to the conservation division the criteria used to establish any monument, benchmark, and wellhead survey point.
 - (3) The operator shall monitor subsidence by performing level measurements with an accuracy of .01 foot. The operator shall report changes in excess of .1 foot to the conservation division within 24 hours of actual knowledge.

- (4) The operator shall not change any benchmark without approval by the director. If a benchmark is changed, the operator shall report the elevation change from the previous benchmark to the conservation division.
- (5) The operator shall report the elevation to the conservation division before and after any wellhead work that results in a change in the survey point at the wellhead.
- (6) The operator shall submit the survey reports, including certified and stamped field notes, to the conservation division within 90 days after completion of the survey.

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82-3-1215. LONG-TERM MONITORING, MEASUREMENT, AND TESTING FOR RESERVOIR STORAGE FACILITIES AND RESERVOIR STORAGE WELLS.

- (a) Each operator shall perform long-term monitoring, measurement, and testing for each reservoir storage facility and reservoir storage well pursuant to a long-term monitoring, measurement, and testing plan signed by a licensed professional engineer and a licensed professional geologist. Each operator shall submit a long-term monitoring, measurement, and testing plan that includes the information required by, and demonstrates compliance with, subsections (b) through (j) and includes the information specified in this subsection.
 - (1) Each operator shall demonstrate that each reservoir storage well has internal mechanical integrity by using a hydraulic casing test or, if the well is constructed with tubing and packer, a pressure test of the production tubing and production casing annulus.
 - (2) Each operator shall demonstrate that each reservoir storage well has external mechanical integrity by running gamma ray, neutron, noise, and temperature logs from 50 feet above the point of injection continuously to the surface. A depth lower than 50 feet may be required by the director if the director deems that this requirement is necessary to determine whether the reservoir storage well has external mechanical integrity.
 - (3) Each operator shall meet the long-term monitoring, measurement, and testing requirements in paragraphs (a)(1) and (a)(2) according to the following:
 - (A) At least once each five years;
 - (B) after any workover involving the production casing cemented in the storage reservoir or the innermost casing or liner inside the production casing;
 - (C) before commencing plugging operations if the most recent tests or logs were not performed within the previous five years; and
 - (D) whenever required by the director, if the director determines that it is necessary to protect public health, usable water, or soil.
 - (4) Each operator shall evaluate the production casing or innermost casing or liner that extends the entire length of the production casing with a magnetic flux log if the director determines that it is necessary to protect public safety, usable water, or soil.
- (b) Each operator performing a hydraulic casing test shall perform the following:
 - (1) The operator shall set a retrievable bridge plug or packer in the storage well opposite a cemented interval at a point immediately above the uppermost perforation or open-hole interval.
 - (2) The operator shall test the storage well at the maximum allowable operating pressure. The operator shall test the well for at least 30 minutes, and the well shall be considered

to have internal mechanical integrity if the pressure does not decrease by more than 10 percent.

- (c) Any operator may perform a pressure test of the production tubing and production casing annulus if the well is constructed with tubing and a packer. The operator performing a pressure test of the production tubing and production casing annulus shall apply a minimum fluid pressure of 300 psig to the tubing casing annulus at the surface for 30 minutes, and the well shall be considered to have mechanical integrity if the pressure does not decrease by more than 10 percent.
- (d) Any operator may use an alternative method for the long-term monitoring, measurement, and testing activity if approved by the director. The alternative method shall be approved by the director if this method will allow the conservation division to verify mechanical integrity according to the following information submitted by the operator:
 - (1) A description of the alternate method and the theory for its operation;
 - (2) a description of the reservoir storage well conditions necessary for the use of the alternate method;
 - (3) specifications for the logging tool, surveys, or tests including the tool dimensions, maximum temperature and pressure rating, recommended logging speed for the tool, approximate image resolution, and casing and hole size range;
 - (4) the procedure for interpreting the results of the alternate method; and
 - (5) an interpretation of the results after the alternate method has been used.
- (e) No operator shall inject air into or withdraw air from a reservoir storage well that fails to demonstrate mechanical integrity through the performance of any test or log in subsections (a) through (d), until the storage well is repaired, if necessary, and successfully retested.
- (f) Each operator shall submit the long-term monitoring, measurement, and testing plan at least 60 days before commencing any long-term monitoring, measurement, and testing activity. Each operator shall ensure that an employee witnesses any activity. The operator shall schedule the activity to facilitate witnessing by a conservation division agent.
- (g) Each operator shall submit a summary, including all supporting documents, of the long-term monitoring, measurement, or testing activity to the conservation division within 30 days after completion of the activity.
- (h) Each operator shall submit a report to the conservation division, annually on or before April 1 on a form provided by the conservation division, listing any activity in subsection (a) performed on any reservoir storage well during the previous calendar year.
- (i) Each operator shall monitor, measure, sample, and report water quality at any shallow monitoring well and deep monitoring well in a manner that allows the director to determine whether groundwater has been affected by any spill or loss of containment.
- (j) Each operator shall monitor, measure, and sample at any leak detector in a manner that allows the director to determine that leaks are not occurring.

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82-3-1216. SAFETY AND EMERGENCY RESPONSE PLAN.

- (a) Each operator shall construct, convert, operate, and abandon the storage facility in accordance with a safety and emergency response plan signed by a licensed professional engineer or licensed professional geologist. The operator shall submit a safety and emergency response plan that includes the following:

- (1) Brine spill and flood assessment, which shall meet the following requirements:
 - (A) The applicant shall identify on a map the location of any navigable water, floodplain or area prone to flooding, and potential drainage path of a brine spill to navigable water, within a two-mile radius of each storage facility boundary;
 - (B) the applicant shall submit the design criteria for any storage well and facility equipment located in an area prone to flooding; and
 - (C) the applicant shall submit procedures for responding to a brine spill and flood that address water containment and soil remediation and state the names of specific contractors and equipment vendors available to respond to an emergency;
 - (2) procedures to respond to the following:
 - (A) Surface subsidence event;
 - (B) unexpected air release;
 - (C) storage well drilling, completion, workover, conversion to plugging-monitoring status, and plugging; and
 - (D) storage well blowout;
 - (3) a description of the storage facility communication, warning, alarm, manual and automatic shutdown, and SCADA systems; and
 - (4) an identification of potential risks to the storage facility from activities performed at any facilities located within two miles of each storage facility boundary, including any utility having a right-of-way, road, highway, or railroad.
- (b) Each operator shall perform a review of the safety and emergency response plan with storage facility field staff at least once every 12 months and at any additional time required by the director if conditions indicate that additional reviews are necessary to ensure that public safety, usable water, and soil are protected. The operator may request, for good cause, an extension to perform the annual review, which may be granted by the director. The review shall address the following:
- (1) Emergency procedures in response to surface subsidence, cavern collapse, brine spill, air release, storage well blowout, and flooding if the storage facility is located on a floodplain or in an area prone to flooding;
 - (2) the company name, telephone number, and contact person for any utility having a right-of-way within one-quarter mile of the storage facility boundary, including any wind generator, electrical transmission line, and oil or gas pipeline;
 - (3) names of specific contractors and equipment vendors capable of providing necessary services and equipment in response to an emergency;
 - (4) the address and phone number for each person within one-quarter mile of the storage facility boundary;
 - (5) procedures to coordinate an emergency response with any local emergency planning entity;
 - (6) a report of the safety training drills that occurred during the previous year, including a list of attendees and the date each drill was performed;

- (7) a report of the safety meetings that occurred during the year, including a list of attendees and the date each safety meeting occurred; and
- (8) a review of the safety plan to ensure that the plan is current and correct.
- (c) Each operator shall notify the conservation division at least 30 days before the annual review. The operator shall schedule the review on a date that facilitates attendance by an agent of the conservation division. Each operator shall submit a written summary of the annual review to the conservation division within 30 days after the review.
- (d) Each operator shall maintain a copy of the safety and emergency response plan at the storage facility and at the company headquarters. Each operator shall provide the conservation division with a copy of the safety and emergency response plan within 48 hours of receipt of the request.
- (e) Each operator shall provide a copy of the applicable portions of the safety and emergency response plan to any public or private entity involved with the implementation of the safety and emergency response plan.
- (f) Each operator shall update the safety and emergency response plan at least once every 12 months, after any change in safety features at the storage facility, after the approval of an application to amend, transfer, or modify the permit, and upon the director's determination that an update is necessary to protect public safety, usable water, or soil.

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82-3-1217. SAFETY INSPECTION.

- (a) Each operator shall perform a safety inspection of the storage facility at least once every 12 months. One extension of one month for the performance of the safety inspection may be granted by the director, upon written request. Each operator shall ensure that all of the following conditions are met in the safety inspection:
 - (1) Each automatic shut-in safety valve at the surface is in normal operating condition and each alarm is operating.
 - (2) Each wellhead and any equipment attached to the wellhead is connected and functioning.
 - (3) Each valve, annulus, and blowdown opens and closes with reasonable ease, including the storage wellhead manual valve.
 - (4) Each communication link between any control room and remote control center is connected and functioning.
 - (5) The SCADA system is connected and functioning.
 - (6) The wellhead pressure monitoring associated with the plugging-monitoring status plan is in working order.
 - (7) Each corrosion control system is functioning.
 - (8) Each sign is properly posted, updated, and maintained.
 - (9) The safety fences or barriers, security equipment, and lighting are properly installed and maintained.
- (b) Each operator shall notify the conservation division of the inspection at least 30 days before the inspection. Each operator shall schedule the inspection to facilitate the presence of an agent of the conservation division.

- (c) Each operator shall submit to the conservation division a written report that includes the inspection procedures and results. The report shall be submitted within 30 days after the safety inspection.
- (d) Each operator shall maintain the following at the storage facility and at the operator's main office in Kansas, for inspection by the conservation division:
 - (1) The maps specified in K.A.R. 82-3-1203(d);
 - (2) the local geological evaluation specified in K.A.R. 82-3-1208(h); and
 - (3) the layout of the storage facility specified in K.A.R. 82-3-1208(i).

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82-3-1218. PLUGGING-MONITORING STATUS.

- (a) Any operator may place a cavern storage well in plugging-monitoring status according to a plugging-monitoring status plan signed by a licensed professional engineer or licensed professional geologist. The operator shall submit the plugging-monitoring status plan at least 60 days before placing the cavern storage well in plugging-monitoring status.
- (b) Each operator submitting a plugging-monitoring status plan shall include the following:
 - (1) The portion of the safety and emergency response plan specified in K.A.R. 82-3-1216 that is applicable to the plugging-monitoring status plan;
 - (2) the saturated brine information, including the source, volume, transportation logistics, and time necessary to fill each cavern storage well;
 - (3) the storage well filling, monitoring, and reporting procedures used to ensure that saturated brine will stabilize the cavern;
 - (4) a list of additional storage well requirements and storage facility equipment, including wellhead gauges, surface brine tanks, pumps, and piping network used in implementing the plugging-monitoring status plan;
 - (5) a wellbore schematic of the storage well;
 - (6) a record of each historical internal and external mechanical integrity test, salt roof thickness evaluation log, cement evaluation log, casing inspection log, and sonar survey for the cavern storage well;
 - (7) a schedule to perform sonar surveys and internal and external mechanical integrity tests after the storage well is filled with saturated brine;
 - (8) a schedule to perform surface pressure monitoring at the wellhead to determine whether the cavern storage well has been stabilized;
 - (9) a cost estimate of converting the cavern storage well to plugging-monitoring status;
 - (10) updated maps specified in K.A.R. 82-3-1203(d);
 - (11) the updated local geological evaluation specified in K.A.R. 82-3-1208(h); and
 - (12) the updated layout of the storage facility specified in K.A.R. 82-3-1208(i).
- (c) The operator shall perform additional testing or logging before placing the cavern storage well in plugging-monitoring status if required by the conservation division due to the absence of current logs or tests or due to a lack of cavern storage well mechanical integrity that could result in a threat to public safety, soil, or usable water.

- (d) Each operator converting an active cavern storage well to plugging-monitoring status shall fill the cavern storage well with saturated brine pursuant to the plugging-monitoring status plan. The operator shall submit all documents, logs, and tests regarding the conversion to the conservation division within 30 days after the storage well is converted.
- (e) Each operator of a cavern storage well in plugging-monitoring status shall monitor the surface wellhead pressure with a pressure transducer connected to a SCADA system. The operator shall, within 24 hours of actual knowledge, report to the director any unexpected increase or decrease in the surface wellhead pressure, including a description of whether the condition threatens public safety, usable water, or soil. The operator shall perform any additional testing, logging, or other measures required by the conservation division to determine whether the increase or decrease indicates potential harm to public safety, usable water, or soil.
- (f) Each operator shall submit a report to the conservation division each year on or before April 1, on a form provided by the conservation division, listing the monitored wellhead pressure of each well in plugging-monitoring status.
- (g) No operator shall convert a storage well in plugging-monitoring status to an active well without the director's prior written approval.

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82-3-1219. STORAGE WELL PLUGGING.

- (a) Any operator may plug any storage well pursuant to a well plugging plan signed by a licensed professional engineer or licensed professional geologist. Each plugging plan for a cavern storage well shall also be signed by a licensed professional land surveyor. The operator shall submit the plugging plan to the conservation division at least 60 days before the anticipated plugging date.
- (b) Each operator submitting a plugging plan for any cavern storage well shall include the following:
 - (1) The portion of the safety and emergency response plan specified in K.A.R. 82-3-1216 that is applicable to the well plugging plan;
 - (2) a wellbore schematic of the storage well to be plugged;
 - (3) the updated local geological evaluation specified in K.A.R. 82-3-1208(h) and the updated layout of the storage facility specified in K.A.R. 82-3-1208(i);
 - (4) a record of each historical internal and external mechanical integrity test, salt roof thickness evaluation log, cement evaluation log, casing inspection log, and sonar survey for the storage well;
 - (5) evidence regarding whether the wellhead pressure for the cavern storage well has stabilized according to the plugging-monitoring status plan;
 - (6) procedures to set a mechanical bridge plug or other control device in the long string casing;
 - (7) procedures to place a cement plug above the storage cavern by a method that will prevent migration of fluid into or out of the storage cavern;
 - (8) procedures to establish a monument at the surface for elevation survey purposes for monitoring ground subsidence;
 - (9) procedures to perform land surveys every two years until the storage facility is abandoned pursuant to commission regulations; and

- (10) a reasonable estimate of the cost to plug each cavern storage well currently in plugging-monitoring status.
- (c) The operator of a cavern storage well shall perform additional testing or logging before plugging the cavern storage well if required by the conservation division due to the absence of current logs or tests or due to a lack of mechanical integrity of the cavern storage well that could result in a threat to public safety, usable water, or soil.
- (d) Each operator shall plug any cavern storage well in plugging-monitoring status according to the plugging plan if both of the following conditions are met:
 - (1) The cavern storage well has been in plugging-monitoring status for at least five years.
 - (2) The director determines that the cavern storage well has been stabilized according to the plugging-monitoring status plan.
- (e) (1) Each operator submitting a well plugging plan for any reservoir storage well shall include the following:
 - (A) The portion of the safety and emergency response plan specified in K.A.R. 82-3-1216 that is applicable to the well plugging plan;
 - (B) a wellbore schematic of the storage well to be plugged;
 - (C) the updated local geological evaluation specified in K.A.R. 82-3-1208(h) and the updated layout of the storage facility specified in K.A.R. 82-3-1208(i);
 - (D) a record of each historical internal and external mechanical integrity test, cement evaluation log, and casing inspection log;
 - (E) procedures to set a mechanical bridge plug or other control device in the long string casing;
 - (F) procedures to place a cement plug above the storage reservoir by a method that will prevent migration of fluid into or out of the storage reservoir; and
 - (G) a reasonable estimate of the cost to plug each reservoir storage well.
- (2) The operator shall perform additional testing or logging before plugging the reservoir storage well if required by the conservation division due to the absence of current logs or tests or due to a lack of mechanical integrity of the reservoir storage well that could result in a threat to public safety, usable water, or soil.
- (f) Each operator shall plug any storage well within a time frame specified by the director if the director determines that the storage well presents a danger to public safety, usable water, or soil.
- (g) Each operator shall submit a well plugging report within 30 days after plugging any storage well. This report shall contain the following information:
 - (1) The date the storage well was drilled and completed;
 - (2) the location of the storage well;
 - (3) the method used to plug the storage well; and
 - (4) any other information that is necessary to allow the director to determine whether the well was plugged in a manner that will protect public safety, usable water, and soil.

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82-3-1220. TEMPORARY ABANDONMENT OF RESERVOIR STORAGE WELLS AND RESERVOIR STORAGE FACILITIES.

- (a) Each operator of a reservoir storage well shall, within 90 days after any reservoir storage well ceases operation, plug the storage well according to K.A.R. 82-3-1219 or file an application with the conservation division requesting temporary abandonment status, on a form provided by the conservation division.
 - (1) An application for temporary abandonment status may be approved by the director for one year if approval will not threaten public safety, usable water, or soil. Each operator shall file any subsequent one-year application before the expiration of the previous approved temporary abandonment period. No well that has been temporarily abandoned for 10 years or longer shall be approved for temporary abandonment status.
 - (2) If a temporary abandonment application is denied, the operator shall plug the well pursuant to K.A.R. 82-3-1219.
- (b) Any operator of a reservoir storage facility may request temporary abandonment status for the storage facility. The operator shall submit a written application to the conservation division for temporary abandonment at least 90 days before the temporary abandonment. The application shall include the following:
 - (1) The date the storage facility will be temporarily abandoned;
 - (2) the projected temporary abandonment period, which shall be less than 10 years;
 - (3) the monitoring procedures to be used during temporary abandonment;
 - (4) temporary abandonment applications for each reservoir storage well, pursuant to subsection (a), except for any reservoir storage well that is currently approved for temporary abandonment; and
 - (5) any additional information necessary to allow the director to determine whether the reservoir storage facility can be temporarily abandoned in a manner that protects public safety, usable water, and soil.
- (c) Any application for temporary abandonment status of a reservoir storage facility pursuant to subsection (b) may be approved by the director for less than 10 years if the approval will not threaten public safety, soil, and usable water. Each operator shall file any subsequent application before the expiration of the previous approved temporary abandonment period. No storage facility that has been temporarily abandoned for 10 years or longer shall be approved for temporary abandonment status.

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82-3-1221. DECOMMISSIONING AND ABANDONMENT OF A STORAGE FACILITY.

- (a) No operator shall permanently abandon a storage facility unless an application is approved by the director. Each operator decommissioning and abandoning a storage facility shall file an application at least 90 days before any decommissioning activities. The application shall contain a detailed decommissioning plan that includes the following:
 - (1) The anticipated date and a schedule for plugging each storage well;
 - (2) a schedule for abandoning the storage facility, including when and how any equipment and building will be abandoned;

- (3) the name and address of persons responsible for any equipment and buildings that will be abandoned or will remain in use;
 - (4) a reasonable estimate of the cost to perform the activities specified in subsection (b); and
 - (5) any additional information necessary for the director to determine whether the decommissioning plan will protect public safety, usable water, and soil.
- (b) Each operator decommissioning and abandoning a storage facility shall plug all storage wells according to K.A.R. 82-3-1219 and perform the following:
- (1) Dispose of any liquid or solid waste in an environmentally safe manner;
 - (2) clear the area of debris;
 - (3) drain or fill all excavations;
 - (4) remove any unused concrete base, machinery, and material;
 - (5) level and restore the site; and
 - (6) perform any additional activities that may be required by the director, if additional activities are necessary to protect public safety, usable water, and soil.
- (c) After all decommissioning and abandonment activities are complete, a determination of whether the decommissioning and abandonment of the storage facility are protective of public safety, soil, and usable water shall be made by the director. If the director determines that public safety, soil, and usable water will be protected and no further activities are required from the operator, the operator's financial assurance shall be released.
- (d) If the application to decommission and abandon the storage facility is denied, the operator shall proceed according to instructions by the director.

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82-3-1222. REPORTING REQUIRED; RECORD RETENTION.

- (a) Each operator shall meet the requirements in subsection (b) if any safety inspection reveals any regulatory or permit deficiencies at the storage facility, if any threat to public safety, usable water, or soil is discovered, or if the storage facility or any storage well fails any monitoring activity, test, survey, or log specified in the following plans:
- (1) The site selection plan in K.A.R. 82-3-1208;
 - (2) the drilling and completion plan in K.A.R. 82-3-1209;
 - (3) the storage facility integrity plan in K.A.R. 82-3-1210;
 - (4) the storage well workover plan in K.A.R. 82-3-1211;
 - (5) the storage well integrity plan in K.A.R. 82-3-1212 or K.A.R. 82-3-1213;
 - (6) the long-term monitoring, measurement, and testing plan in K.A.R. 82-3-1214 or K.A.R. 82-3-1215;
 - (7) the safety and emergency response plan in K.A.R. 82-3-1216;
 - (8) the plugging-monitoring status plan in K.A.R. 82-3-1218;

- (9) the well plugging plan in K.A.R. 82-3-1219; and
 - (10) the decommissioning plan in K.A.R. 82-3-1221.
- (b) Each operator shall, upon the occurrence of any condition in subsection (a), perform the following, which may include repairs, retesting, plugging, or abandonment activities as required by the director:
- (1) Notify the conservation division of the condition in subsection (a) within 24 hours of actual knowledge, including a description of whether the condition threatens public safety, usable water, or soil;
 - (2) submit a detailed written plan to correct the condition in subsection (a) within three days of actual knowledge;
 - (3) if the conservation division determines that the condition in subsection (a) threatens public safety, usable water, or soil, comply with instructions from the conservation division and correct the condition within 30 days; and
 - (4) if the conservation division determines the condition in subsection (a) does not threaten public safety, usable water, or soil, comply with instructions from the conservation division and correct the violation within 90 days.
- (c) Each operator shall keep and maintain for at least five years all data obtained from the SCADA system, including any magnetic tape, electronic data, and meter chart, and any reports submitted to the conservation division pursuant to K.A.R. 82-3-1201(b)(4), K.A.R. 82-3-1212, and K.A.R. 82-3-1213.
- (d) (1) Each operator shall keep and maintain for the life of the storage facility and any storage well, until the storage facility is abandoned pursuant to K.A.R. 82-3-1221, all logs, updated maps, tests, records, data, and correspondence with the conservation division or Kansas department of health and environment specified in the following plans and regarding the construction, drilling, completion, solutioning, mechanical integrity, and abandonment of the storage facility or any storage well:
- (A) The permit application specified in K.A.R. 82-3-1203;
 - (B) the site selection plan specified in K.A.R. 82-3-1208;
 - (C) the drilling and completion plan specified in K.A.R. 82-3-1209;
 - (D) the storage facility integrity plan specified in K.A.R. 82-3-1210;
 - (E) the storage well workover plan specified in K.A.R. 82-3-1211;
 - (F) the long-term monitoring, measurement, and testing plan specified in K.A.R. 82-3-1214 or K.A.R. 82-3-1215;
 - (G) the plugging-monitoring status plan specified in K.A.R. 82-3-1218;
 - (H) the well plugging plan specified in K.A.R. 82-3-1219; and
 - (I) the decommissioning plan specified in K.A.R. 82-3-1221.
- (2) The record retention requirement in this subsection shall also include any shallow or deep groundwater monitoring data and leak detector monitoring data.
- (e) Each transferring operator and each transferee operator of any permit transferred pursuant to K.A.R. 82-3-1206 shall ensure that all items specified in subsections (c) and (d) are transferred to the control of the transferee operator.

- (f) If an operator makes any change to any plan described in K.A.R. 82-3-1203(c), the operator shall provide an updated copy of the plan to the conservation division within 30 days of making the change.

(Authorized by and implementing K.S.A. 2011 Supp. 66-1274; effective Dec. 21, 2012.)

82-3-1223. FEES.

- (a) Each operator shall submit a fee of \$18,890 for each storage facility and \$305 for each storage well annually on or before January 31. The operator shall pay the fee for each cavern storage well, whether plugged or unplugged, and for each unplugged reservoir storage well.
- (b) Each permit applicant shall submit a fee of \$1,500, in addition to any applicable plan fees specified in paragraph (c)(2), to the conservation division with any permit application submitted according to K.A.R. 82-3-1203.
- (c) Each operator shall submit a fee in the amount of \$1,500 to the conservation division for each of the following at the time of submission of the application or plan:
 - (1) An application to amend a storage facility permit according to K.A.R. 82-3-1205;
 - (2) each drilling and completion plan filed according to K.A.R. 82-3-1209;
 - (3) each workover plan filed according to K.A.R. 82-3-1211;
 - (4) each plugging-monitoring status plan according to K.A.R. 82-3-1218;
 - (5) each well plugging plan according to K.A.R. 82-3-1219;
 - (6) each application for temporary abandonment status for the storage facility or any storage well according to K.A.R. 82-3-1220; and
 - (7) an application to decommission and abandon the storage facility according to K.A.R. 82-3-1221.
- (d) Each operator shall submit a fee in the amount of \$1,500 to the conservation division for each of the following, in a single payment on or before the last day of the month in which the activity occurs, with a description of the activity listed on a form provided by the conservation division:
 - (1) Performance of any long-term monitoring and testing activity according to K.A.R. 82-3-1214 or K.A.R. 82-3-1215;
 - (2) performance of the annual review of the safety and emergency response plan according to K.A.R. 82-3-1216; and
 - (3) performance of the annual storage facility inspection according to K.A.R. 82-3-1217.
- (e) All fees shall be nonrefundable and shall be made payable to the “Kansas corporation commission – compressed air energy storage fund,” pursuant to K.S.A. 66-1279 and amendments thereto.

(Authorized by and implementing K.S.A. 2011 Supp. 66-1274 and 66-1279; effective Dec. 21, 2012.)

HORIZONTAL WELLS

82-3-1300. DEFINITIONS; HORIZONTAL WELLS.

The terms and definitions in K.A.R. 82-3-101, with some of those definitions modified as follows, shall apply to these regulations for horizontal wells, in addition to the new terms and definitions specified:

- (a) "Bottom-hole location" means the terminus of each horizontal wellbore.
- (b) "Completion interval" means the following:
 - (1) For open-hole horizontal wellbores, the area between the point that the wellbore contacts the producing formation and the bottom hole, including any isolation packers; and
 - (2) for cased horizontal wellbores, the area between the perforation nearest the vertical portion of the horizontal well and the perforation nearest the bottom-hole location.
- (c) "Directional survey" means a report showing the location of the horizontal wellbore from the surface location to the bottom hole.
- (d) "Horizontal well" means a well that is drilled from a surface location and includes one or more horizontal wellbores.
- (e) "Horizontal wellbore" means any portion of a horizontal well that extends laterally within the productive or injection formation.
- (f) "Measured total depth" means the total length of the drilled wellbore.
- (g) "Surface location" means the point at which the vertical portion of a horizontal well penetrates the ground at the surface.
- (h) "True vertical depth" means the distance from the deepest point in the wellbore measured vertically to a point with the same elevation as that of the surface location.

(Authorized by and implementing K.S.A. 2012 Supp. 55-152; effective Aug. 16, 2013.)

82-3-1301. HORIZONTAL WELLS.

The regulations applicable to wells, as defined in K.A.R. 82-3-101, shall apply to horizontal wells, except as specifically provided in K.A.R. 82-3-1300 through K.A.R. 82-3-1307.

(Authorized by and implementing K.S.A. 2012 Supp. 55-152; effective Aug. 16, 2013.)

82-3-1302. NOTICE OF INTENTION TO DRILL; SETBACK.

- (a) Before commencing the drilling of any horizontal well, each operator shall submit to the conservation division and obtain approval of a written notice of the intention to drill according to K.A.R. 82-3-103 on a form supplied by the commission. The notice shall include information specific to the horizontal well, including the estimated true vertical depth, the estimated bottom-hole location, the estimated completion interval, a brief description of the leased acreage, and a statement regarding whether multiple leases are unitized. Each submitted form shall be accompanied by a detailed plat map that includes the surface location, estimated completion interval, estimated bottom-hole location, and lease or unit boundaries.
- (b) The setback requirements in K.A.R. 82-3-108, K.A.R. 82-3-207, and K.A.R. 82-3-312 shall be applicable to the entire completion interval of each horizontal wellbore.

(Authorized by and implementing K.S.A. 2012 Supp. 55-152; effective Aug. 16, 2013.)

82-3-1303. OIL AND GAS ALLOWABLES.

- (a) The oil allowables specified in K.A.R. 82-3-203 and the standard daily allowable for gas wells specified in K.A.R. 82-3-312 shall not apply to horizontal wells.
- (b) Each horizontal well classified as an "oil well" in K.A.R. 82-3-101 shall be assigned a production allowable of 200 barrels of oil per day for each 660 feet of the completion interval. Each remainder of less than 660 feet shall result in a correspondingly proportionate addition to the allowable.
- (c) Each horizontal well classified as a "gas well" in K.A.R. 82-3-101 shall be assigned a production allowable of 3,000,000 cubic feet per day.

(Authorized by and implementing K.S.A. 2012 Supp. 55-152; effective Aug. 16, 2013.)

82-3-1304. GAS WELL TEST EXEMPTION.

The gas well testing requirements in K.A.R. 82-3-303 and K.A.R. 82-3-304 shall not apply to any horizontal well.

(Authorized by and implementing K.S.A. 2012 Supp. 55-152; effective Aug. 16, 2013.)

82-3-1305. VENTING AND FLARING.

- (a) The venting and flaring requirements in K.A.R. 82-3-208 and K.A.R. 82-3-314 shall not apply to any horizontal well.
- (b) The following venting and flaring requirements shall apply to each horizontal well:
 - (1) No operator shall vent gas from any horizontal well.
 - (2) Each operator flaring gas from a horizontal well shall meet the following requirements:
 - (A) The operator shall ensure that the site is inspected and approved by the appropriate district office before the commencement of flaring.
 - (B) The operator shall file an affidavit on a form supplied by the commission within five days after commencement of flaring.
 - (C) The operator may flare gas for a maximum of 30 producing days following the initial horizontal completion or recompletion.
 - (i) A "producing day" shall mean any day in which fluid is produced at the well.
 - (ii) When counting the producing days for flaring purposes, the producing days may be consecutive or intermittent, or both.
 - (D) The operator may submit a written request to flare for an additional 30 producing days. The request shall be granted by the director if the operator demonstrates that additional flaring is necessary to prevent waste and will not violate correlative rights. Only one additional flaring period of 30 producing days may be authorized by the director.
 - (E) No operator shall flare gas for more than 60 producing days without commission approval of an application for an exception according to K.A.R. 82-3-100.
 - (F) The operator shall continuously meter, measure, or monitor the flared gas and shall retain the chart or record for at least two years. The operator shall provide the conservation division with a copy of the chart or record within five business days of receipt of any request.

(Authorized by and implementing K.S.A. 2012 Supp. 55-152; effective Aug. 16, 2013.)

82-3-1306. HIGH-VOLUME PUMPS.

The restrictions on and requirements for the use of high-volume pumps in K.A.R. 82-3-131 shall not apply to any horizontal well.

(Authorized by and implementing K.S.A. 2012 Supp. 55-152; effective Aug. 16, 2013.)

82-3-1307. WELL COMPLETION REPORT.

Each operator of a horizontal well shall comply with the affidavit requirements in K.A.R. 82-3-106 and K.A.R. 82-3-130 by submitting to the conservation division and obtaining approval of a well completion report on a form provided by the commission, which shall include the true vertical depth and information specific to the horizontal well. Each submitted form shall be accompanied by a copy of the directional survey and a detailed, as-drilled plat map that includes the lease or unit boundaries, surface location, completion interval, and bottom-hole location.

(Authorized by and implementing K.S.A. 2012 Supp. 55-152; effective Aug. 16, 2013.)

CHEMICAL DISCLOSURE OF HYDRAULIC FRACTURING TREATMENT

82-3-1400. HYDRAULIC FRACTURING TREATMENT; DEFINITIONS.

The terms and definitions in K.A.R. 82-3-101 shall apply to K.A.R. 82-3-1400 through 82-3-1402, in addition to the following terms and definitions:

- (a) "Base fluid" means the primary fluid, as measured by volume, used in a hydraulic fracturing treatment.
- (b) "Chemical" means any element, chemical compound, chemical substance, or combination thereof that has a specific identity.
- (c) "Chemical abstracts service registry number" and "CAS number" mean the unique identification number assigned to a chemical by the chemical abstracts service.
- (d) "Chemical constituent" means any chemical or chemical concentration intentionally added to a base fluid.
- (e) "Chemical disclosure registry" means the publicly available web site database managed by the ground water protection council and the interstate oil and gas compact commission and known as "fracfocus," or any other database authorized by order of the commission.
- (f) "Health professional" means a physician, physician assistant, nurse practitioner, registered nurse, emergency medical technician, or similar individual who is licensed in that individual's state of practice.
- (g) "Hydraulic fracturing fluid" means the base fluid, each proppant, and all chemical constituents used in a hydraulic fracturing treatment.
- (h) "Hydraulic fracturing treatment" means all stages in a well completion utilizing hydraulic fracturing fluid under pressure to create fractures in a targeted geological formation.
- (i) "Manufacturer" means an entity that produces finished goods from raw materials.
- (j) "Proppant" means each material used in a hydraulic fracturing treatment for the purpose of propping open fractures.
- (k) "Service company" means an entity that performs a hydraulic fracturing treatment.
- (l) "Supplier" means an entity that provides chemical constituents for hydraulic fracturing fluid.
- (m) "Trade secret" has the meaning specified in K.S.A. 60-3320, and amendments thereto.

(Authorized by and implementing K.S.A. 2012 Supp. 55-152; effective Dec. 2, 2013.)

82-3-1401 HYDRAULIC FRACTURING TREATMENT; CHEMICAL DISCLOSURE.

- (a) Applicability. This regulation shall apply to each hydraulic fracturing treatment that uses more than 350,000 gallons of base fluid.
- (b) Operator disclosures. Unless the operator submits all information to the chemical disclosure registry under subsection (f), the operator shall submit to the commission a list of each hydraulic fracturing treatment as part of the completion report required by K.A.R. 82-3-130. The list shall include the following information, as a percentage by mass of the total amount of hydraulic fracturing fluid:
 - (1) The base fluid used, including its total volume;

- (2) each proppant; and
 - (3) each chemical constituent at its maximum concentration in the hydraulic fracturing fluid and its CAS number.
- (c) Disclosures not required. No operator shall be required to disclose any chemical constituent that meets any of the following conditions:
- (1) Is the incidental result of a chemical reaction or chemical process;
 - (2) is a component of a naturally occurring material and becomes part of the hydraulic fracturing fluid during the hydraulic fracturing treatment; or
 - (3) is a trade secret.
- (d) Trade secrets. Each operator reporting that a chemical constituent is a trade secret shall indicate to the commission that disclosure of the chemical constituent is being withheld pursuant to a trade secret claimed by the operator, manufacturer, supplier, or service company. The operator shall provide the name of the chemical family or a similar descriptor and the name, authorized representative, mailing address, and phone number of the party claiming the trade secret.
- (e) Inaccurate or incomplete information. No operator shall be responsible for inaccurate or incomplete information provided by a manufacturer, supplier, or service company.
- (f) Alternate disclosure mechanism. In lieu of complying with subsection (b), the operator may submit the information required by subsection (b) to the chemical disclosure registry. The operator shall submit verification of prior submission to the chemical disclosure registry as part of the completion report required by K.A.R. 82-3-130. Each submission to the chemical disclosure registry shall also include the following information:
- (1) The operator's name;
 - (2) the date on which the hydraulic fracturing treatment began;
 - (3) the county in which the treated well is located;
 - (4) the American petroleum institute number for the well;
 - (5) the well name and number;
 - (6) the global positioning system (GPS) location of the wellhead; and
 - (7) the true vertical depth of the well.

(Authorized by and implementing K.S.A. 2012 Supp. 55-152; effective Dec. 2, 2013.)

82-3-1402 HYDRAULIC FRACTURING TREATMENT; DISCLOSURE OF TRADE SECRETS.

- (a) Director.
- (1) The manufacturer, supplier, service company, or operator shall provide the specific identity of a chemical constituent reported to be a trade secret to the director under the following circumstances:
 - (A) Within two business days after receipt of a letter from the director stating that the information is necessary to investigate a spill or contamination of fresh and usable water relating to a hydraulic fracturing treatment; or
 - (B) immediately following notice from the director that an emergency requiring disclosure exists.
 - (2) The director may authorize disclosure of a trade secret disclosed under paragraph (a)(1) to any of the following persons:
 - (A) Any commissioner or commission staff member;

- (B) the secretary or any staff member of the department of health and environment; or
- (C) any relevant public health officer or emergency manager.

(b) Health professionals.

- (1) A manufacturer, supplier, service company, or operator shall provide the specific identity of a chemical constituent reported to be a trade secret to any health professional who meets one of the following requirements:
 - (A) Provides a written statement of need and signs a confidentiality agreement on a form provided by the commission; or
 - (B) determines that the information is reasonably necessary for emergency treatment, verbally agrees to confidentiality, and provides a written statement of need and signed confidentiality agreement as soon as circumstances permit.
- (2) Each statement of need shall state that the health professional has reasonable basis to believe that the information will assist in diagnosis or treatment of a specific individual who could have been exposed to the chemical constituents.
- (3) Each confidentiality agreement shall state that the health professional will not disclose or use the information for any reason other than those reasons asserted in the statement of need.

- (c) Continued confidentiality. A trade secret disclosed pursuant to this regulation shall not be further disclosed except as authorized by this regulation, K.S.A. 66-1220a and amendments thereto, or K.A.R. 82-1-221a.

(Authorized by and implementing K.S.A. 2012 Supp. 55-152; effective Dec. 2, 2013.)

TABLE I

MINIMUM SURFACE CASING REQUIREMENTS

THE STATE CORPORATION COMMISSION
OF THE STATE OF KANSAS

Before Commissioners: Jim Robinson, Chairman
 Keith R. Henley
 Rachel C. Lipman

In the matter of the general rules) DOCKET NO. 34,780-C
and regulations for the conservation) (C-1825)
of crude oil and natural gas, K.A.R.)
82-3-106.) CONSERVATION DIVISION

ORDER

The above-entitled matter comes on before the State Corporation Commission of the State of Kansas, upon its own motion. Being fully advised in the premises and having examined the files and records, the Commission makes the following findings and conclusions, pursuant to K.A.R. 82-1-232.

1. This Commission has authority to issue regulations and orders pertaining to the conservation of crude oil and natural gas and the protection of the fresh and usable waters of this state pursuant to K.S.A. 55-152.

2. In February of 1967, this Commission initiated an informal investigation to determine whether certain rules and regulations for the conservation of crude oil and natural gas should be amended to incorporate within such rules certain changes relating to surface pipe requirements and minimum depth requirements for salt water disposal wells. After concluding its investigation, the Commission issued an order March 1, 1967, whereby revised Tables I and II were adopted and made part of the Commission Rules and Regulations.

3. In June, 1991, Commission staff made an investigation to determine if additional changes should be made to the surface pipe requirements as contained in Revised Table I. Such investigation is made pursuant to K.S.A. 55-152 which mandates that the Commission annually review current drilling methods, geologic formation standards, plugging techniques and casing and cementing standards and materials to ensure the protection of fresh and usable water from pollution.

4. Such investigation included consulting the 10 member Advisory Committee, as established by K.S.A. 55-153. The Advisory Committee is made-up of a representative from the Mid-Continent Oil and Gas Association, the Kansas Independent Oil and Gas Association, the Eastern Kansas Oil and Gas Association, the Association of Groundwater Management Districts, the Kansas Department of

Health and Environment, the Kansas Geological Survey, the Kansas Water Office, the Division of Water Resources of the State Department of Agriculture, the general public and the Commission.

5. As part of its review of the adequacy of surface pipe requirements, Commission staff recommended to the 10-member Advisory Committee that Table I be modified as to Atchison County in order to more adequately protect usable water from pollution. The 10-member Committee approved the staff's recommendation at its July 10, 1991, meeting. Such recommendation requires wells deeper than 1500 feet and using Alternate I completion must set surface casing twenty feet (20') into the Heebner Shale in Range 17 East, Range 18 East and Range 19 East, and must set a minimum of one hundred twenty-five feet (125') of surface casing in Range 20 East and Range 21 East.

6. The Commission finds that the recommendation of the Advisory Committee is in keeping with ensuring protection of the fresh and usable water of the state and that such recommendation should be adopted by the Commission. Table I, as referred to in K.A.R. 82-3-106, should be revised to include the above recommendation as specified.

7. Any person or corporation affected by this order and that deems it to be improper, unreasonable or contrary to law, may apply, by written petition, for a hearing thereto before the Commission, pursuant to K.A.R. 82-1-232. Such petition must be received by the Executive Director of this Commission no later than August 23, 1991.


IT IS, THEREFORE, BY THE COMMISSION ORDERED that the recommendation of the 10-member Advisory Committee to modify Table I, as referred to in K.A.R. 82-3-105, is hereby adopted.

IT IS FURTHER ORDERED that revised Table I, as attached hereto and made a part hereof, is in full force and effect as of August 23, 1991, until amended or modified by the Commission.

BY THE COMMISSION IT IS SO ORDERED.

Robinson, Chmn.; Henley, Com.; Lipman, Com.

Dated: AUG. 01 1991



Judith McConnell
Executive Director

I CERTIFY THE ORIGINAL
COPY IS ON FILE WITH
The State Corporation Commission

APR 1 1994


EXECUTIVE DIRECTOR



TABLE I

MINIMUM SURFACE CASING REQUIREMENTS FOR PROTECTING FRESH AND USABLE WATER AND TO MEET ALTERNATE #1 ON INTENT TO DRILL CARDS, FORM C-1

S=Section, T=Township, R=Range

<u>COUNTY</u>	<u>MINIMUM REQUIREMENTS</u>
ALLEN	Wells deeper than 1500 feet and using Alternate I completion set a minimum surface casing of 150 feet in R.17E and 18E; 175 feet in T.26S-R.20 and 21E; and 100 feet in all other areas. All other wells shall use Alternate II rules, Appendix B, Area 2, Eastern Surface Casing order. In all cases, set surface casing through all unconsolidated material plus 20 or more feet into the underlying formation.
ANDERSON	All wells deeper than 1500 feet and using Alternate I completion set a minimum surface casing of 100 feet in T.23S-R.20 and 21E and in T.21 and 22S-R.21E. In all other areas set a minimum of 125 feet. All other wells shall use Alternate II rules, Appendix B. R.17 and 18E use Area 3 rules and R.19, 20 and 21E use Area 2 rules, Eastern Surface Casing order. In all cases, set surface casing through all unconsolidated material plus 20 or more feet into the underlying formation.
ATCHISON	Wells deeper than 1500 feet and using Alternate I completion set a minimum of 125 feet surface casing. All other wells shall use Alternate II rules, Appendix B, Area 3, Eastern Surface Casing order. In all cases, set surface casing through all unconsolidated material plus 20 or more feet into the underlying formation.
BARBER	Set a minimum of 200 feet in all areas and in all cases set a minimum of 20 feet into the Permian. In all cases, set through all unconsolidated material plus 20 feet into the underlying formation.
BARTON	Set 20 feet into the Kiowa where present. Set 20 feet into the Permian where Kiowa is not present. In all cases, set through all unconsolidated material plus 20 feet into the underlying formation.
BOURBON	All wells shall be completed under Alternate II rules, Appendix B, Area 1, Eastern Surface Casing order. In all cases, set surface casing through all unconsolidated material plus 20 or more feet into the underlying formation.
BROWN	With the exception of the special area listed below, wells deeper than 1500 feet and using Alternate I completion set a minimum of 250 feet surface casing. All other wells shall use Alternate II rules, Appendix B, Area 3, Eastern Surface Casing order. In all cases, set surface casing through all unconsolidated material plus 20 or more feet into the underlying formation. Within Section 31, T.1S, R.15E and Sections 6, 7, 18 and 19 of T.2S, R.15E, extra pipe is required. An initial larger surface pipe of a minimum of 60 feet depth and a minimum of 20 feet into bedrock is required. Then intermediate pipe must satisfy the normal surface pipe requirements as listed above.
BUTLER	Set a minimum of 200 feet in all areas. In all cases, set through all unconsolidated material plus 20 feet into the underlying formation.
CHASE	R.5E, 6E and 7E set a minimum of 200 feet. R.8E and 9E set a minimum of 150 feet. In all cases, set through all unconsolidated material plus 20 feet into the underlying formation.
CHAUTAUQUA	Wells deeper than 1500 feet using Alternate I completion set a minimum surface casing of 500 feet in R.8E, 9E and 10E; 300 feet in R.11E; 225 feet in R.12E and 13E. Sec. 8-T.35S-R.10E set a minimum of 500 feet or to an elevation less than

600 feet mean sea level. All other wells shall use Alternate II rules, Appendix B, Area 3, Eastern Surface Casing order. In all cases, set surface casing through all unconsolidated material plus 20 or more feet into the underlying formation.

- CHEROKEE** All wells shall be completed under Alternate II rules, Appendix B, Area 1, Eastern Surface Casing order. In all cases, set surface casing through all unconsolidated material plus 20 or more feet into the underlying formation.
- CHEYENNE** Protect through all unconsolidated material plus 50 feet into the underlying formation.
- CLARK** Set a minimum of 200 feet in all areas and in all cases. Set a minimum of 20 feet into the Permian. In all cases, set through all unconsolidated material plus 20 feet into the underlying formation.
- CLAY** Set a minimum of 200 feet in all areas. Protect through the Dakota formation where penetrated plus 20 feet into the underlying formation. The following options are open: (a) set through the Dakota plus 20 feet into the underlying formation or (b) set through all unconsolidated material plus 20 feet into the underlying formation and cement the production string from a point 20 feet below the base of the Dakota to the surface. If (b) is used and the hole is dry, refer to (b), page 1. In all cases, set through all unconsolidated material plus 20 feet into the underlying formation.
- CLOUD** Protect through the Dakota formation plus 20 feet into the underlying formation. The following options are open: (a) set through the Dakota plus 20 feet into the underlying formation or (b) set through all unconsolidated material plus 20 feet into the underlying formation and cement the production string from a point 20 feet below the base of the Dakota to the surface. If (b) is used and the hole is dry, refer to K.A.R. 82-3-114. In all cases, set through all unconsolidated material plus 20 feet into the underlying formation.
- COFFEY** Wells deeper than 1500 feet and using Alternate I completion set a minimum surface casing of 150 feet in R.13E, R.14E and T.19 and 20S of R.15E; 200 feet in T.21S, 22S and 23S of R.15E and all R.16E and R.17E. All other wells shall use Alternate II rules, Appendix B, Area 3, Eastern Surface Casing order. In all cases, set surface casing through all unconsolidated material plus 20 or more feet into the underlying formation.
- COMANCHE** Set a minimum of 200 feet in all areas and in all cases set a minimum of 20 feet into the Permian. In all cases, set through all unconsolidated material plus 20 feet into the underlying formation.
- COWLEY** R.3E set a minimum of 300 feet. R.4E and 5E set a minimum of 200 feet. R.6E and 7E set a minimum of 300 feet. R.8E set a minimum of 450 feet. In all cases, set through all unconsolidated material plus 20 feet into the underlying formation.
- CRAWFORD** All wells shall be completed under Alternate II rules, Appendix B, Area 1, Eastern Surface Casing order. In all cases, set surface casing through all unconsolidated material plus 20 or more feet into the underlying formation.
- DECATUR** Set a minimum of 200 feet in all areas. R.26 and 27W and T.5S-R.28W: Protect through the Dakota formation plus 50 feet into the underlying formation. The following options are open: (a) set through the Dakota plus 50 feet into the underlying formation or (b) set a minimum of 200 feet and cement the production string from a point 50 feet below the base of the Dakota to the surface. If (b) is used and the hole is dry, refer to K.A.R. 82-3-114. In all other areas, set 200 feet or through all unconsolidated material plus 50 feet into the underlying formation if unconsolidated material is encountered at a depth exceeding 180 feet.

DICKINSON	R.1E and 2E set a minimum of 200 feet. R.3E and 4E set a minimum of 250 feet. T.16S set a minimum of 200 feet. In all cases, set through all unconsolidated material plus 20 feet into the underlying formation.
DONIPHAN	Wells deeper than 1500 feet and using Alternate I completion set a minimum surface casing of 250 feet in all cases. All other wells shall be completed using Alternate II, Appendix B, Area 3, Eastern Surface Casing order. In all cases, set surface casing through all unconsolidated material plus 20 or more feet into the underlying formation.
*DOUGLAS	<p>Wells deeper than 1500 feet and using Alternate I completion set a minimum surface casing of 20 feet into the Kansas City Group in T.12S-R.21E; T.13S-R.20 and 21E; T.14 and 15S-R.17, 18, 19, 20 and 21E; 20 feet into the Lansing Group in T.13S-R.18 and 19E; 250 feet in all other areas, excepting the following. Set to the following elevations if within one mile of the nearest valley wall of Wakarusa or Kansas River in:</p> <p>T.11S-R.17E, set to 750 feet mean sea level T.11 and 12S-R.18E, set to 735 feet m.s.l. T.11 and 12S-R.19E, set to 720 feet m.s.l. T.12 and 13S-R.20E, set to 710 feet m.s.l. T.12 and 13S-R.21E, set to 700 feet m.s.l.</p> <p>All other wells shall be completed using Alternate II, Appendix B, area 3, Eastern Surface Casing order. In all cases, set surface casing through all unconsolidated material plus 20 or more feet into the underlying formation.</p>
EDWARDS	Set 20 feet into the Kiowa shale. In all cases, set through all unconsolidated material plus 20 feet into the underlying formation.
ELK	Wells deeper than 1500 feet and using Alternate I completion set a minimum surface casing of 300 feet in R.11E; 225 feet in R.12E and 13E; 450 feet in R.8E, 9E and 10E. All other wells shall be completed using Alternate II, Appendix B, Area 3, Eastern Surface Casing order. In all cases, set surface casing through all unconsolidated material plus 20 or more feet into the underlying formation.
ELLIS	Protect through the Dakota plus 20 feet into the underlying formation except where known local area of usable water occur in the Cheyenne sandstone, in which case, protection must be extended 20 feet into the Permian. The following options are open: (a) set through the Dakota plus 20 feet into the underlying formation or 20 feet into the Permian if specifically designated or (b) set through all unconsolidated material plus 20 feet into the underlying formation and cement the production string from a point 20 feet below the base of the Dakota or 20 feet below the base of the Cheyenne, if specifically designated, to the surface. If (b) is used and the hole is dry, refer to K.A.R. 82-3-114. In all cases, set through all unconsolidated material plus 20 feet into the underlying formation.
ELLSWORTH	Protect through the Dakota formation plus 20 feet into the underlying formation. The following options are open: (a) set through the Dakota plus 20 feet into the underlying formation or (b) set through all unconsolidated material plus 20 feet into the underlying formation and cement the production string from a point 20 feet below the base of the Dakota to the surface. If (b) is used and hole is dry, refer to K.A.R. 82-3-114. In all cases, set through all unconsolidated material plus 20 feet into the underlying formation.
FINNEY	Protect through the Dakota formation plus 20 feet into the underlying formation except where known local areas of usable water occur in the Cheyenne sandstone, in which case, protection must be extended 20 feet into the Permian. The following options are open: (a) set through the Dakota plus 20 feet into the underlying formation or 20 feet into the Permian if specifically designated or (b) set through all unconsolidated material plus 20 feet into the underlying formation and cement the production string from a point 20 feet below the base of the Dakota or 20 feet

below the base of the Cheyenne, if specifically designated, to the surface. If (b) is used and the hole is dry, refer to K.A.R. 82-3-114. In all cases, set through all unconsolidated material plus 20 feet into the underlying formation.

FORD Protect through the Dakota formation plus 20 feet into the underlying formation except where known local areas of usable water occur in the Cheyenne sandstone, in which case, protection must be extended 20 feet into the Permian. The following options are open: (a) set through the Dakota plus 20 feet into the underlying formation or 20 feet into the Permian if specifically designated or (b) set through all unconsolidated material plus 20 feet into the underlying formation and cement the production string from a point 20 feet below the base of the Dakota or 20 feet below the base of the Cheyenne, if specifically designated, to the surface. If (b) is used and the hole is dry, refer to K.A.R. 82-3-114. In all cases, set through all unconsolidated material plus 20 feet into the underlying formation.

FRANKLIN Wells deeper than 1500 feet and using Alternate I completion, set a minimum of 500 feet surface casing in the northwest one quarter of the county; 250 feet in the southwest one quarter of the county; 200 feet in the eastern one half of the county. All other wells shall use Alternate II rules, Appendix B, Area 3 for R.17E, 18E and 19E, and Area 2 for R.20E and 21E, Eastern Surface Casing order. In all cases, set surface casing through all unconsolidated material plus 20 or more feet into the underlying formation.

***GEARY** Set a minimum of 300 feet except when within 2 miles of the nearest valley wall of the Republican, Smoky Hill or Kansas River, then set pipe to the following:
T.10S-R.4 and 5E set to 1040 feet mean sea level;
T.11S-R.5E set to 1000 feet m.s.l.
T.12S-R.5 and 6E set to 980 feet m.s.l.
T.11S-R.6E set to 960 feet m.s.l.
T.11S-R.7E set to 950 feet m.s.l.
In all cases, set through all unconsolidated material plus 20 feet into the underlying formation.

GOVE Protect through the Dakota formation plus 50 feet into the underlying formation. The following options are open: (a) set through the Dakota plus 50 feet into the underlying formation or (b) set through all unconsolidated material plus 50 feet into the underlying formation and cement the production string from a point 50 feet below the base of the Dakota to the surface. If (b) is used and the hole is dry, refer to K.A.R. 82-3-114. In all cases, set through the unconsolidated material plus 50 feet into the underlying formation.

GRAHAM In all except the special area identified below, cement surface pipe through the Dakota formation plus 50 feet into the underlying formation. The following options are open: (a) cement surface pipe through the Dakota plus 50 feet into the underlying formation or (b) cement surface pipe through all unconsolidated material plus 50 feet below the base of the Dakota to the surface. If (b) is used and the hole is dry, refer to K.A.R. 82-3-114.

Within those areas of Township 7 South and 8 South of Range 21 West below surface elevation 2000 feet, the following large surface pipe or 8 5/8 inch surface pipe systems may be used. If the large surface pipe is used, surface pipe of at least 13 3/8 inches in diameter shall be cemented through all unconsolidated material plus a minimum of 20 feet into the underlying formation with a minimum of 40 feet being used. Then the options are: (a) set intermediate pipe to the Stone Corral (Anhydrite) and cement from the Stone Corral to surface or (b) cement the production string from the Anhydrite to surface immediately after it has been set. If (b) is used and the hole is dry, plug per K.A.R. 82-3-114.

If the 8 5/8 inch surface pipe system is used, it will be set and cemented through all unconsolidated material plus a minimum of 20 feet into the underlying formation. A

blowout preventor will be installed on the surface pipe. If serious flow problems occur, the hole will be plugged per K.A.R. 82-3-114. If the hole is completed and production pipe installed, cement the production string from the Stone Corral to surface immediately after it has been set. If the hole is dry, plug immediately per K.A.R. 82-3-114.

If Alternate II is used in the above listed special area, follow the procedure outlined in K.A.R. 82-3-106. The option for 120 days to complete cementing is not available and the operator should cement production casing from the Stone Corral to surface immediately.

GRANT

In all areas protect 20 feet into the Permian. The following options are open: (a) set 20 feet into the Permian or (b) set through all unconsolidated material plus 20 feet into the underlying formation and cement the production string from a point 20 feet below the top of the uppermost Permian unit present to the surface. If (b) is used and the hole is dry, the hole shall be filled with cement from a point 20 feet below the top of the uppermost Permian unit present to the surface. In all cases, set through all unconsolidated material plus 20 feet into the underlying formation.

GRAY

Protect through the Dakota formation plus 20 feet into the underlying formation except where known local areas of usable water occur in the Cheyenne sandstone, in which case, protection must be extended 20 feet into the Permian. The following options are open: (a) set through the Dakota plus 20 feet into the underlying formation or 20 feet into the Permian if specifically designated or (b) set through all unconsolidated material plus 20 feet into the underlying formation and cement the production string from a point 20 feet below the base of the Dakota or 20 feet below the base of the Cheyenne, if specifically designated, to the surface. If (b) is used and the hole is dry, refer to K.A.R. 82-3-114. In all cases, set through all unconsolidated material plus 20 feet into the underlying formation.

GREELEY

Protect through the Dakota formation plus 20 feet into the underlying formation except where known local areas of usable water occur in the Cheyenne sandstone, in which case, protection must be extended 20 feet into the Permian. The following options are open: (a) set through all unconsolidated material plus 20 feet into the Permian if specifically designated or (b) set through all unconsolidated material plus 20 feet into the underlying formation and cement the production string from a point 20 feet below the base of the Dakota or 20 feet below the base of the Cheyenne, if specifically designated, to the surface. If (b) is used and the hole is dry, refer to K.A.R. 82-3-114. In all cases, set through all unconsolidated material plus 20 feet into the underlying formation.

GREENWOOD

Wells deeper than 1500 feet and using Alternate I completion shall set a minimum surface casing of:
200 feet in T.22S-R.10E; T.23S-R.8, 9, 10E; T.24S-R.8, 9 and 10E; T.25S-R.8 and 9E; T.27S-R.8 and 9E; T.28S-R.8 and 9E.
225 feet in T.24S-R.12 and 13E; T.25S-R.12 and 13E; T.26S-R.12 and 13E; T.27S-12 and 13E; T.28S-R.12 and 13E, plus protect through the Douglas Group in T.25S-R.13E, T.26S-R.13E, T.27S-R.13E, T.28S-R.12 and 13E.
100 feet in all other areas. All other wells shall follow Alternate II rules, Appendix B, Area 3, Eastern Surface Casing order. In all cases, set surface casing through all unconsolidated material plus 20 or more feet into the underlying formation.

HAMILTON

Set 20 feet into the Jurassic or Permian. The following options are open: (a) set 20 feet into the Triassic or Permian or (b) set through all unconsolidated material plus 20 feet into the underlying formation, and cement the production string from a point 20 feet below the top of the uppermost Triassic or Permian unit present to the surface, and in no case shall this be less than 350 feet below the surface. If (b) is used and the hole is dry, the hole shall be filled with cement from a point 20 feet below the top of the uppermost Jurassic or Permian unit to the surface. In all

cases, set through all unconsolidated material plus 20 feet into the underlying formation.

HARPER Set a minimum of 200 feet in all areas. In all cases, set through all unconsolidated material plus 20 feet into the underlying formation.

HARVEY Set a minimum of 200 feet in all areas. In all cases, set through all unconsolidated material plus 20 feet into the underlying formation. See Appendix A for special requirements.

HASKELL In all areas protect 20 feet into the Permian. The following options are open: (a) set 20 feet into the Permian or (b) set through all unconsolidated material plus 20 feet into the underlying formation and cement the production string from a point 20 feet below the top of the upper most Permian unit present to the surface. If (b) is used and the hole is dry, the hole shall be filled with cement from a point 20 feet below the top of the uppermost Permian unit present to the surface. In all cases, set through all unconsolidated material plus 20 feet into the underlying formation.

HODGEMAN Protect through the Dakota formation plus 20 feet into the underlying formation except where known local areas of usable water occur in the Cheyenne sandstone, in which case, protection must be extended 20 feet into the Permian. The following options are open: (a) set through the Dakota plus 20 feet into the underlying formation or 20 feet into the Permian if specifically designated or (b) set through all unconsolidated material plus 20 feet into the underlying formation and cement the production string from a point 20 feet below the base of the Dakota or 20 feet below the base of the Cheyenne, if specifically designated, to the surface. If (b) is used and the hole is dry, refer to K.A.R. 82-3-114. In all cases, set through all unconsolidated material plus 20 feet into the underlying formation.

JACKSON Wells deeper than 1500 feet deep and using Alternate I completion shall set a minimum surface casing of 300 feet in T.6, 7 and 8S-R.12 and 13E; and 200 feet in all other areas. All other wells shall be completed using Alternate II, Appendix B, Area 3, Eastern Surface Casing order.

***JEFFERSON** Wells deeper than 1500 feet and using Alternate I completion shall set a minimum surface casing of 275 feet plus within one mile of the nearest Kansas River Valley wall surface casing must reach below 760 feet mean sea level elevation in T.11S-R.16E, below 750 feet m.s.l. in T.11 and 12S-R.18E, below 720 m.s.l. in T.11 and 12S-R.19E, and below 710 feet m.s.l. in T.12S-R.20E. All other wells shall follow Alternate II rules, Appendix B, Area 3, Eastern Surface Casing order. In all cases, set surface casing through all unconsolidated material plus 20 or more feet into the underlying formation.

JEWELL Protect through the Dakota formation plus 20 feet into the underlying formation. The following options are open: (a) set through the Dakota plus 20 feet into the underlying formation or (b) set through all unconsolidated material plus 20 feet into the underlying formation and cement the production string from a point 20 feet below the base of the Dakota to the surface. If (b) is used and the hole is dry, refer to K.A.R. 82-3-114. In all cases, set through all unconsolidated material plus 20 feet into the underlying formation.

***JOHNSON** Wells deeper than 1500 feet and using Alternate I completion shall set a minimum surface casing of 300 feet or through the Kansas City Group plus within one mile of the nearest Kansas River Valley wall surface casing must reach below 700 feet elevation mean sea level in T.12 and 13S-R.21E; 690 feet m.s.l. in T.12S-R.22E; 670 feet m.s.l. in T.12S-R.23E; and 660 feet m.s.l. in T.12S-R.24E. All other wells shall follow Alternate II rules, Appendix B, Area 2, Eastern Surface Casing order. In all cases, set surface casing through all unconsolidated material plus 20 or more feet into the underlying formation.

KEARNY	Set a minimum of 200 feet. Protect through the Dakota formation plus 20 feet into the underlying formation except where known local areas of usable water occur in the Cheyenne sandstone, in which case, protection must be extended 20 feet into the Permian. The following options are open: (a) set through the Dakota plus 20 feet into the underlying formation or 20 feet into the Permian if specifically designated or (b) set through all unconsolidated material plus 20 feet into the underlying formation and cement the production string from a point 20 feet below the base of the Dakota or 20 feet below the base of the Cheyenne, if specifically designated, to the surface. If (b) is used and the hole is dry, refer to K.A.R. 82-3-114. In all cases, set through all unconsolidated material plus 20 feet into the underlying formation.
KINGMAN	Set a minimum of 200 feet in all areas. In all cases, set through all unconsolidated material plus 20 feet into the underlying formation.
KIOWA	Set a minimum of 200 feet in all areas and in all cases set 20 feet into the Kiowa shale. In all cases, set through all unconsolidated material plus 20 feet into the underlying formation.
LABETTE	All wells drilled shall be completed under Alternate II rules, Appendix B, Area 1, Eastern Surface Casing order. In all cases, set surface casing through all unconsolidated material plus 20 or more feet into the underlying formation.
LANE	Protect through the Dakota formation plus 20 feet into the underlying formation except where known local areas of usable water occur in the Cheyenne sandstone, in which case, protection must be extended 20 feet into the Permian. The following options are open: (a) set through the Dakota plus 20 feet into the underlying formation or 20 feet into the Permian if specifically designated or (b) set through all unconsolidated material plus 20 feet into the underlying formation and cement the production string from a point 20 feet below the base of the Dakota or 20 feet below the base of the Cheyenne, if specifically designated, to the surface. If (b) is used and the hole is dry, refer to K.A.R. 82-3-114. In all cases, set through all unconsolidated material plus 20 feet into the underlying formation.
*LEAVENWORTH	Wells deeper than 1500 feet and using Alternate I completion shall set a minimum of 275 feet surface casing plus shall set to the base of the Kansas City Group in T.7, 8, 9, 10, 11 and 12S-R.22E; T.9, 10, 11 and 12S-R.21E; T.11 and 12S-R.20E; and T.8, 9 and 10S-R.23E plus when within 1 mile of nearest Kansas River Valley wall set to elevation of 710 feet mean sea level in T.12S-R.20E, 700 feet m.s.l. in T.12S-R.21E, and 690 feet m.s.l. in T.12S-R.22E. All other wells shall use Alternate II rules, Appendix B, Area 3, Eastern Surface Casing order. In all cases, set surface casing through all unconsolidated material plus 20 or more feet into the underlying formation.
LINCOLN	Protect through the Dakota plus 20 feet into the underlying formation. The following options are open: (a) set through the Dakota plus 20 feet into the underlying formation or (b) set through all unconsolidated material plus 20 feet into the underlying formation and cement the production string from a point 20 feet below the base of the Dakota to the surface. If (b) is used and the hole is dry, refer to K.A.R. 82-3-114. In all cases, set through all unconsolidated material plus 20 feet into the underlying formation.
LINN	In 21 and 22E when total depth is 1500 or greater and Alternate I is used, set a minimum of 150 feet surface casing. In 21 and 22E, when total depth is less than 1500 feet, completion will be under Alternate 2 rules per Appendix B, Area 2, Eastern Surface Casing order. All wells drilled in 23, 24 and 25E shall be completed under Alternate II rules, Appendix B, Area 1, Eastern Surface Casing order. In all cases, set surface casing through all unconsolidated material plus 20 or more feet into the underlying formation.

LOGAN	Protect through the Dakota formation plus 50 feet into the underlying formation. The following options are open: (a) set through the Dakota plus 50 feet into the underlying formation or (b) set through all unconsolidated material plus 50 feet into the underlying formation <u>and</u> cement the production string from a point 50 feet below the base of the Dakota to the surface. If (b) is used and the hole is dry, refer to K.A.R. 82-3-114.
LYON	Wells deeper than 1500 feet and using Alternate I completion shall set a minimum of 200 feet surface casing in T.15S-R.10 and 11E, T.16S-R.10 and 11E, T.17S-R.10E; and 100 feet in all other areas. All other wells shall use Alternate II rules, Appendix B, Area 3, Eastern Surface Casing order. In all cases, set surface casing through all unconsolidated material plus 20 or more feet into the underlying formation.
MARION	Set a minimum of 200 feet in all areas. In all cases, set through all unconsolidated material plus 20 feet into the underlying formation.
MARSHALL	R.6E set a minimum of 250 feet. In all other areas, set a minimum of 200 feet. In all cases, set through all unconsolidated material plus 20 feet into the underlying formation.
MCPHERSON	Set a minimum of 200 feet in all areas. Protect through the Dakota formation where penetrated plus 20 feet into the underlying formation. The following options are open: (a) set through the Dakota plus 20 feet into the underlying formation or (b) set through all unconsolidated material plus 20 feet into the underlying formation and cement the production string from a point 20 feet below the base of the Dakota to the surface. If (b) is used and the hole is dry, refer to K.A.R. 82-3-114. In all cases, set through all unconsolidated material plus 20 feet into the underlying formation. See Appendix A for special requirements.
MEADE	Set a minimum of 200 feet in all areas. In no case set less than 20 feet into the Permian. In all cases, set through all unconsolidated material plus 20 feet into the underlying formation.
MIAMI	Wells deeper than 1500 feet and using Alternate I completion shall set a minimum of 300 feet surface casing in T.15, 16 and 17S-R.24 and 25E plus protecting through base of the Kansas City Group; 200 feet in all other areas. All other wells shall use Alternate II rules, Appendix B, Area 2, Eastern Surface Casing order. In all cases, set surface casing through all unconsolidated material plus 20 or more feet into the underlying formation.
MITCHELL	Protect through the Dakota formation plus 20 feet into the underlying formation. The following options are open: (a) set through the Dakota plus 20 feet into the underlying formation or (b) set through all unconsolidated material plus 20 feet into the underlying formation and cement the production string from a point 20 feet below the base of the Dakota to the surface. If (b) is used and the hole is dry, refer to K.A.R. 82-3-114. In all cases, set through all unconsolidated material plus 20 feet into the underlying formation.
MONTGOMERY	Wells deeper than 1500 feet and using Alternate I completion shall set a minimum of 175 feet surface casing in R.13, 14 and 15E; 150 feet in all other areas. All other wells shall use Alternate II rules, Appendix B, Area 2, Eastern Surface Casing order. In all cases, set surface casing through all unconsolidated material plus 20 or more feet into the underlying formation.
MORRIS	Protect through the Barneston formation plus 20 feet into the underlying formation in Range 5 East. Protect through the Wreford formation plus 20 feet into the underlying formation in Ranges 6, 7, 8 and 9 East. In all cases, set a minimum of 100 feet of surface casing.

MORTON	Set 20 feet into the Jurassic (where present) or Permian in all areas. In no case shall less than 300 feet of surface pipe be set. In all cases, set through all unconsolidated material plus 20 feet into the underlying formation.
NEMAHA	Set a minimum of 250 feet in all areas. In all cases, set through all unconsolidated material plus 20 feet into the underlying formation. In the special area of Section 36, T.1S, R.14E and Sections 1, 12, 13 and 24, T.2S, R.14E, an extra pipe is required. An initial larger surface pipe of a minimum of 60 feet length and a minimum of 20 feet into bedrock is required. Then intermediate pipe must satisfy the normal surface pipe requirement as stated above.
NEOSHO	In 17, 18 and 19E, when total depth is 1500 feet or greater and Alternate I is used, set a minimum of 150 feet surface casing. In 17, 18 and 19E, when total depth is less than 1500 feet, completion will be under Alternate II rules, Appendix B, Area 2, Eastern Surface Casing order. All wells drilled in 20 and 21E shall be completed under Alternate II rules, Appendix B, Area 1, Eastern Surface Casing order. In all cases, set surface casing through all unconsolidated material plus 20 or more feet into the underlying formation.
NESS	Protect through the Dakota formation plus 20 feet into the underlying formation except where known local areas of usable water occur in the Cheyenne Sandstone, in which case, protection must be extended 20 feet into the Permian. The following options are open: (a) set through the Dakota plus 20 feet into the underlying formation or 20 feet into the Permian if specifically designated or (b) set through all unconsolidated material plus 20 feet into the underlying formation and cement the production string from a point 20 feet below the base of the Dakota or 20 feet below the base of the Cheyenne, if specifically designated, to the surface. If (b) is used and the hole is dry, refer to K.A.R. 82-3-114. In all cases, set through all unconsolidated material plus 20 feet into the underlying formation.
NORTON	Protect through the Dakota formation plus 50 feet into the underlying formation. The following options are open: (a) set through the Dakota plus 50 feet into the underlying formation or (b) set through all unconsolidated material plus 50 feet into the underlying formation <u>and</u> cement the production string from a point 50 feet below the base of the Dakota to the surface. If (b) is used and the hole is dry, refer to K.A.R. 82-3-114.
OSAGE	Wells deeper than 1500 feet and using Alternate I completion shall set a minimum surface casing of 600 feet in T.15S-R.17E; 400 feet in T.14 and 15S-R.15E; 350 feet in T.16, 17 and 18S-R.17E and T.17 and 18S-R.16E; 150 feet in all other areas. All other wells shall use Alternate II rules, Appendix B, Area 3, Eastern Surface Casing order. In all cases, set surface casing through all unconsolidated material plus 20 or more feet into the underlying formation.
OSBORNE	Protect through the Dakota formation plus 20 feet into the underlying formation. The following options are open: (a) set through the Dakota formation plus 20 feet into the underlying formation or (b) set through all unconsolidated material plus 20 feet into the underlying formation and cement the production string from a point 20 feet below the base of the Dakota to the surface. If (b) is used and the hole is dry, refer to K.A.R. 82-3-114. In all cases, set through all unconsolidated material plus 20 feet into the underlying formation.
OTTAWA	Set a minimum of 200 feet in all areas. Protect through the Dakota formation where penetrated plus 20 feet into the underlying formation. The following options are open: (a) set through the Dakota formation plus 20 feet into the underlying formation or (b) set through all unconsolidated material plus 20 feet into the underlying formation and cement the production string from a point 20 feet below the base of the Dakota to the surface. If (b) is used and the hole is dry, refer to

K.A.R. 82-3-114. In all cases, set through all unconsolidated material plus 20 feet into the underlying formation.

PAWNEE Set 20 feet into the Kiowa shale in all areas. In all cases, set through all unconsolidated material plus 20 feet into the underlying formation.

PHILLIPS Protect through the Dakota formation plus 20 feet except where known local areas of usable water occur in the Cheyenne sandstone, in which case, protection must be extended 20 feet into the Permian. The following options are open: (a) set through the Dakota plus 20 feet into the underlying formation or 20 feet below the base of the Cheyenne if specifically designated or (b) set through all unconsolidated material plus 20 feet into the underlying formation and cement the production string from a point 20 feet below the base of the Dakota or 20 feet below the base of the Cheyenne, if specifically designated, to the surface. If (b) is used and the hole is dry, refer to K.A.R. 82-3-114. In all cases, set through all unconsolidated material plus 20 feet into the underlying formation.

***POTTAWATOMIE** Set a minimum of 300 feet in all areas except when within 1 mile of the nearest valley wall of Kansas or Blue River then set to the following:

T.9S, R.7E and 8E set to 910 feet mean sea level;
T.10S, R.8E set to 890 feet m.s.l.
T.10S, R.9E set to 880 feet m.s.l.
T.9S, 10S, R.10E set to 870 feet m.s.l.
T.9S, 10S, R.11E set to 850 feet m.s.l.
T.10S, R.12E set to 840 feet m.s.l.

In all cases, set through all unconsolidated material plus 20 feet into the underlying formation.

PRATT Set 20 feet into the Kiowa where present. Set 20 feet into the Permian if Kiowa is not present. In all cases, set through all unconsolidated material plus 20 feet into the underlying formation.

RAWLINS Protect through all unconsolidated materials plus 50 feet into the underlying formation.

RENO T.22S set a minimum of 125 feet. Set a minimum of 100 feet in all other areas. See Appendix A for conductor pipe requirements. In all cases, set through all unconsolidated material plus 20 feet into the underlying formation.

REPUBLIC Protect through the Dakota formation plus 20 feet into the underlying formation. The following options are open: (a) set through the Dakota plus 20 feet into the underlying formation or (b) set through all unconsolidated material plus 20 feet into the underlying formation and cement the production string from a point 20 feet below the base of the Dakota to the surface. If (b) is used and the hole is dry, refer to K.A.R. 82-3-114. In all cases, set through all unconsolidated material plus 20 feet into the underlying formation.

RICE R.21S set a minimum of 150 feet. Set a minimum of 200 feet in all other areas. In all areas, set through the Kiowa shale plus 20 feet into the underlying formation. In all cases, set through all unconsolidated material plus 20 feet into the underlying formation.

***RILEY** In all areas, set a minimum of 300 feet except when within two miles of the nearest valley wall of Kansas or Blue River then set to the following:

T.9S, R.7E set to 910 feet mean sea level;
T.11S, R.6E set to 960 feet m.s.l.
T.11S, R.7E set to 950 feet m.s.l.

T.10S, R.7E set to 920 feet m.s.l.

T.10S, R.8E set to 890 feet m.s.l.

T.10S, R.9E set to 880 feet m.s.l.

In all cases, set through all unconsolidated material plus 20 feet into the underlying formation.

ROOKS

In T.6S, T.9S and T.10S, cement surface pipe through the Dakota formation plus 20 feet into the underlying formation except where local areas of usable water occur in the Cheyenne sandstone, in which case, protection must be extended 20 feet into the Permian.

The following options are open: (a) cement surface pipe through the Dakota plus 20 feet into the underlying formation or (b) cement surface pipe through all fresh water and/or unconsolidated material plus 20 feet below the base of the Dakota to the surface. If (b) is used and the hole is dry, refer to K.A.R. 82-3-114. In all cases, a minimum of 50 feet of surface pipe is required.

In T.7S and T.8S, protection shall be as outlined above except in the following areas:

Township 7 South, R.17W, below surface elevation 1860 feet

Townships 7 and 8 South, R.18W, below surface elevation 1880 feet

Townships 7 and 8 South, R.19W, below surface elevation 1920 feet

Townships 7 and 8 South, R.20W, below surface elevation 1960 feet

Within these areas, large surface pipe or 8 5/8 inch surface pipe systems may be used. If the large surface pipe is used, surface pipe of at least 13 3/8 inches in diameter shall be cemented through all unconsolidated material plus a minimum of 20 feet into the underlying formation with a minimum of 40 feet being used. Then the following options are open: (a) set intermediate pipe to the Stone Corral (Anhydrite) and cement from the Stone Corral to surface or (b) cement the production string from the Anhydrite to surface immediately after it has been set. If (b) is used and the hole is dry, plug per K.A.R. 82-3-114.

If 8 5/8 inch surface pipe is used, it will be set and cemented through all unconsolidated material plus a minimum of 20 feet into the underlying formation. A blowout preventor will be installed and maintained on the surface pipe until pipe is set or the hole plugged. If serious flow problems occur, the hole will be plugged per K.A.R. 82-3-114.

If the hole is completed and production pipe installed, cement the production string from the Stone Corral Anhydrite to surface immediately after it has been set. If the hole is dry, plug the hole per K.A.R. 82-3-114.

If Alternate II is used in the above described special area, follow the procedure outlined in K.A.R. 82-3-106. The option for 120 days to complete cementing is not available and the operator shall cement production casing from Stone Corral (Anhydrite) to surface immediately.

RUSH

Protect through the Dakota formation plus 20 feet into the underlying formation except where known local areas of usable water occur in the Cheyenne sandstone, in which case, protection must be extended 20 feet into the Permian. The following options are open: (a) set through the Dakota plus 20 feet into the underlying formation or 20 feet into the Permian if specifically designated or (b) set through all unconsolidated material plus 20 feet into the underlying formation and cement the production string from a point 20 feet below the base of the Dakota or 20 feet below the base of the Cheyenne, if specifically designated, to the surface. If (b) is used and the hole is dry, refer to K.A.R. 82-3-114. In all cases, set through all unconsolidated material plus 20 feet into the underlying formation.

RUSSELL	Protect through the Dakota formation plus 20 feet into the underlying formation. The following options are open: (a) set through the Dakota plus 20 feet into the underlying formation or (b) set through all unconsolidated material plus 20 feet into the underlying formation and cement the production string from a point 20 feet below the base of the Dakota to the surface. If (b) is used and the hole is dry, refer to K.A.R. 82-3-114. In all cases, set through all unconsolidated material plus 20 feet into the underlying formation.
SALINE	Set a minimum of 200 feet in all areas. Protect through the Dakota formation where penetrated plus 20 feet into the underlying formation. The following options are open: (a) set through the Dakota plus 20 feet into the underlying formation or (b) set through all unconsolidated material plus 20 feet into the underlying formation and cement the production string from a point 20 feet below the base of the Dakota to the surface. If (b) is used and the hole is dry, refer to (b), page 1. In all cases, set through all unconsolidated material plus 20 feet into the underlying formation. See Appendix A for special requirements.
SCOTT	Protect through the Dakota formation plus 20 feet into the underlying formation except where known local areas of usable water occur in the Cheyenne sandstone, in which case, protection must be extended 20 feet into the Permian. The following options are open: (a) set through the Dakota plus 20 feet into the underlying formation or 20 feet into the Permian if specifically designated or (b) set through all unconsolidated material plus 20 feet into the underlying formation and cement the production string from a point 20 feet below the base of the Cheyenne, if specifically designated, to the surface. If (b) is used and the hole is dry, refer to K.A.R. 82-3-114. In all cases, set through all unconsolidated material plus 20 feet into the underlying formation.
SEDGWICK	Set a minimum of 200 feet in all areas. In all cases, set through all unconsolidated material plus 20 feet into the underlying formation. See Appendix A for special requirements.
SEWARD	Set 20 feet into the Permian in all areas. In all cases, set through all unconsolidated material plus 20 feet into the underlying formation.
*SHAWNEE	Wells deeper than 1500 feet and using Alternate I completion shall set a minimum of 250 feet surface casing in T.11, 12 and 13S-R.17E; 300 feet in all other areas; but when within 1 mile of nearest Kansas River Valley wall set to elevation 810 m.s.l. in T.11S-R.13E, 790 feet m.s.l. in T.11S-R.14E, 770 feet m.s.l. in T.11S-R.15E, 760 feet m.s.l. in T.11S-R.16E, 750 feet m.s.l. in T.11S-R.17E. All other wells shall use Alternate II completion, Appendix B, Area 3, Eastern Surface Casing order. In all cases, set surface casing through all unconsolidated material plus 20 or more feet into the underlying formation.
SHERIDAN	In T.6S-R.29W and T.6S-R.30W protect through all unconsolidated material plus 50 feet into the underlying formation. In all other areas, protect through the Dakota formation plus 50 feet into the underlying formation. The following options are open: (a) set through the Dakota plus 50 feet into the underlying formation or (b) set through all unconsolidated material plus 50 feet into the underlying formation and cement the production string from a point 50 feet below the base of the Dakota to the surface. If (b) is used and the hole is dry, refer to K.A.R. 82-3-114. In all cases, set through all unconsolidated material plus 50 feet into the underlying formation.
SHERMAN	Protect through all unconsolidated materials plus 50 feet into the underlying formation.

SMITH	Protect through the Dakota formation plus 20 feet into the underlying formation except where known local areas of usable water occur in the Cheyenne sandstone, in which case, protection must be extended 20 feet into the Permian. The following options are open: (a) set through the Dakota plus 20 feet into the underlying formation or 20 feet into the Permian if specifically designated or (b) set through all unconsolidated material plus 20 feet into the underlying formation and cement the production string from a point 20 feet below the base of the Dakota or 20 feet below the base of the Cheyenne, if specifically designated, to the surface. If (b) is used and the hole is dry, refer to K.A.R. 82-3-114. In all cases, set through all unconsolidated material plus 20 feet into the underlying formation.
STAFFORD	Set 20 feet into the Kiowa where present; in all other areas, set 20 feet into the Permian. In all cases, set through all unconsolidated material plus 20 feet into the underlying formation.
STANTON	Set 20 feet into the Jurassic (where present) or Permian in all areas. The following options are open: (a) set 20 feet into the Triassic or Permian or (b) set through all unconsolidated material plus 20 feet into the underlying formation and cement the production string from a point 20 feet below the base of the Dakota or 20 feet below the base of the Cheyenne, if specifically designated, to the surface. If (b) is used and the hole is dry, refer to K.A.R. 82-3-114. In all cases, set through all unconsolidated material plus 20 feet into the underlying formation.
STEVENS	Set 20 feet into the Permian in all areas. In all cases, set through all unconsolidated material plus 20 feet into the underlying formation.
SUMNER	Set a minimum of 250 feet in all areas. In all cases, set casing through all unconsolidated material plus 20 feet into the underlying formation. See Appendix A for special requirements.
THOMAS	In all areas, protect through all unconsolidated material plus 50 feet into the underlying formation. In T.7-R.31W and T.7-R.32W and in T.9 and 10S, protect through the Dakota formation plus 50 feet into the underlying formation. The following options are open: (a) set through the Dakota plus 50 feet into the underlying formation. The following options are open: (a) set through the Dakota plus 50 feet into the underlying formation or (b) set through all unconsolidated material plus 50 feet into the underlying formation <u>and</u> cement the production string from a point 50 feet below the base of the Dakota to the surface. If (b) is used and the hole is dry, refer to K.A.R. 82-3-114.
TREGO	Protect through the Dakota formation plus 50 feet into the underlying formation. The following options are open: (a) set through the Dakota plus 50 feet into the underlying formation or (b) set through all unconsolidated material plus 50 feet into the underlying formation <u>and</u> cement the production string from a point 50 feet below the base of the Dakota to the surface. If (b) is used and the hole is dry, refer to K.A.R. 82-3-114.
*WABAUNSEE	Set a minimum of 300 feet in all areas except when within 1 mile of the nearest valley wall of Kansas River then set to the following: T.10S, R.9E set to 880 feet mean sea level; T.10S, R.10E set to 870 feet m.s.l. T.10S, R.11E set to 850 feet m.s.l. T.10S, and 11S, R.12E set to 840 feet m.s.l. T.11S, R.13E set to 810 feet m.s.l. In all cases, set through all unconsolidated material plus 20 feet into the underlying formation.

- WALLACE** In T.11S-R.42W and T.12S-R.42W, set through all unconsolidated material plus 50 feet into the underlying formation. In all other areas, protect through the Dakota formation plus 50 feet into the underlying formation. The following options are open: (a) set through the Dakota plus 50 feet into the underlying formation or (b) set through all unconsolidated material plus 50 feet into the underlying formation and cement the production string from a point 50 feet below the base of the Dakota to the surface. If (b) is used and the hole is dry, refer to K.A.R. 82-3-114. In all cases, set through all unconsolidated material plus 50 feet into the underlying formation.
- WASHINGTON** Set a minimum of 200 feet in all areas. Protect through the Dakota formation where penetrated plus 20 feet into the underlying formation. The following options are open: (a) set through the Dakota plus 20 feet into the underlying formation or (b) set through all unconsolidated material plus 20 feet into the underlying formation and cement the production string from a point 20 feet below the base of the Dakota to the surface. If (b) is used and the hole is dry, refer to K.A.R. 82-3-114. In all cases, set through all unconsolidated material plus 20 feet into the underlying formation.
- WICHITA** Protect through the Dakota formation plus 20 feet into the underlying formation except where known local areas of usable water occur in the Cheyenne sandstone, in which case, protection must be extended 20 feet into the Permian. The following options are open: (a) set through the Dakota plus 20 feet into the underlying formation or 20 feet into the Permian if specifically designated or (b) set through all unconsolidated material plus 20 feet into the underlying formation and cement the production string from a point 20 feet below the base of the Dakota or 20 feet below the base of the Cheyenne, if specifically designated, to the surface. If (b) is used and the hole is dry, refer to K.A.R. 82-3-114. In all cases, set through all unconsolidated material plus 20 feet into the underlying formation.
- WILSON** Wells deeper than 1500 feet and using Alternate I completion shall set a minimum of 200 feet surface casing in R.13E, R.14E, T.27S-R.15E; 150 feet in all other areas. All other wells shall use Alternate II rules, Appendix B, Area 3 rules in R.13 and 14E and Area 2 rules in other areas, Eastern Surface Casing order. In all cases, set surface casing through all unconsolidated material plus 20 or more feet into the underlying formation.
- WOODSON** Wells deeper than 1500 feet and using Alternate I completion shall set a minimum surface casing of 250 feet in T.25S-R.16E, T.26S-R.16E; 200 feet in T.24, 25 and 26S-R.17E; 225 feet in T.26S-R.13, 14 and 15E; 150 feet in all other areas. All other wells shall use Alternate II rules, Appendix B, Area 2 in R.17E and Area 3 rules in other areas, Eastern Surface Casing order. In all cases, set surface casing through all unconsolidated material plus 20 or more feet into the underlying formation.
- *WYANDOTTE** Wells deeper than 1500 feet and using Alternate I completion shall set minimum surface casing of 300 feet plus in all cases through the Kansas City Group. Also, when within 1 mile of Kansas River set to elevation of 670 feet m.s.l. in T.11 and 12S-R.23E; to 660 feet m.s.l. in T.11S-R.24E; and to 630 feet m.s.l. in T.12S-R.24E. All other wells shall use Alternate II rules, Appendix B, Area 2 rules, Eastern Surface Casing order. In all cases, set surface casing through all unconsolidated material plus 20 or more feet into the underlying formation.

*For areas in which casing settings are given as sea level datums, topographic maps are available showing surface elevations. These maps may be obtained from the U.S. Geological Survey at Denver, Colorado; Rolla, Missouri and Washington, D.C.; and the State Geological Survey, Lawrence, Kansas.

APPENDIX "A" TO TABLE I

DEFINITION OF CONDUCTOR PIPE:

A large diameter steel casing, having a minimum diameter of 12 inches, installed in an oil-and-gas-related well to protect fresh and usable water and stabilize unconsolidated materials when drilling in an area where the possibility of lost circulation zones exist at deeper depths.

TABLE I ADDITION:

Within the sections listed below in this Appendix, the following rule shall be used for drilling any oil, gas, injection, disposal or service well: Conductor pipe shall be installed as soon as drilling penetrates twenty feet into the consolidated formation underlying the unconsolidated material. The annular space between the conductor pipe and the borehole shall be cemented from bottom to ground surface.

Conductor pipe, in addition to having a minimum diameter of 12 inches, shall be of sufficient size that if a lost circulation zone is encountered, the standard surface pipe can be installed through that zone. In areas where instability occurs within the unconsolidated materials, a pipe of sufficient diameter must be utilized to stabilize that portion of the borehole so that the minimum required amount of conductor pipe can be installed 20 feet into the underlying formation.

In those areas where the Appendix A list of sections includes sites that do not appear to have the unconsolidated material, a sufficient length of conductor pipe shall be on hand at the drilling site. In all cases, if unconsolidated material is encountered, conductor pipe shall be installed. If unconsolidated material is not encountered, the minimum required surface pipe shall be installed.

SECTIONS DESIGNATED AS HAVING WELLINGTON AQUIFER WITH HUTCHINSON SALT MEMBER PRESENT:

Twp. 13S R. 3W Sec. 4, 5, 8-10, 15-17, 20-23, 25-29, 32-36
Twp. 14S R. 3W Sec. 1-5, 8-17, 20-29, 32-36
Twp. 15S R. 3W Sec. ALL
Twp. 15S R. 2W Sec. 6, 7, 18, 19, 30, 31
Twp. 16S R. 4W Sec. 1, 12, 13, 24, 25, 36
Twp. 16S R. 3W Sec. 4-9, 18, 19, 30, 31
Twp. 17S R. 4W Sec. 1, 12-14, 23-27, 34-36
Twp. 17S R. 3W Sec. 4-10, 16-20, 29-32
Twp. 18S R. 4W Sec. 1-4, 8-17, 20-29, 32-36
Twp. 18S R. 3W Sec. 6, 7, 18, 19, 30, 31
Twp. 19S R. 4W Sec. 1-5, 8-17, 20-29, 32-36
Twp. 19S R. 3W Sec. 6, 7, 18, 19, 30, 31
Twp. 20S R. 4W Sec. 1-5, 9-16, 21-28, 33-36
Twp. 20S R. 3W Sec. 30, 31
Twp. 21S R. 4W Sec. 1-5, 8-17, 20-36
Twp. 21S R. 3W Sec. 6, 7, 18, 19, 30, 31
Twp. 22S R. 5W Sec. 1, 12, 13, 24, 25, 36
Twp. 22S R. 4W Sec. ALL
Twp. 22S R. 3W Sec. 6-8, 17-20, 28-33
Twp. 23S R. 5W Sec. 1, 11-14, 23-26-35, 36
Twp. 23S R. 4W Sec. ALL
Twp. 23S R. 3W Sec. 4-9, 16-21, 28-33
Twp. 24S R. 5W Sec. 1, 2, 12
Twp. 24S R. 4W Sec. 1-18, 20-27, 35, 36
Twp. 24S R. 3W Sec. ALL except 1, 2, 12
Twp. 24S R. 2W Sec. 19, 20, 27-35
Twp. 25S R. 4W Sec. 1
Twp. 25S R. 3W Sec. ALL except 18, 19, 29-33
Twp. 25S R. 2W Sec. ALL
Twp. 25S R. 1W Sec. 7, 17-21, 27-35

Twp. 26S R. 3W Sec. 1, 2, 12, 13
Twp. 26S R. 2W Sec. ALL except 1, 12, 11, 12
Twp. 26S R. 1W Sec. ALL
Twp. 26S R. 1E Sec. 18, 19, 29-32
Twp. 27S R. 2W Sec. 1-5, 8-17, 21-28, 33-36
Twp. 27S R. 1W Sec. ALL
Twp. 27S R. 1E Sec. 5-9, 16-21, 28-33
Twp. 28S R. 2W Sec. 1-3, 10-15, 22-27, 35, 36
Twp. 28S R. 1W Sec. ALL (36 No salt)
Twp. 28S R. 1E Sec. 4-10, 15-22, 26-35
Twp. 29S R. 2W Sec. 1, 2, 11-14, 23-26, 35, 36
Twp. 29S R. 1W Sec. ALL
Twp. 29S R. 1E Sec. ALL except 1
Twp. 30S R. 1W Sec. ALL except 18-20, 39-32
Twp. 30S R. 1E Sec. ALL
Twp. 30S R. 2E Sec. 6, 7, 17-21, 28-34
Twp. 31S R. 1W Sec. 1-3, 10-14, 23-26, 35, 36
Twp. 31S R. 1E Sec. ALL except 28, 29, 32, 33, 34
Twp. 31S R. 2E Sec. 3-11, 14-22, 28-31
Twp. 32S R. 1E Sec. 1
Twp. 32S R. 2E Sec. 5, 6
Twp. 33S R. 1E Sec. 31, 32
Twp. 34S R. 1E Sec. 1-3, 11-13
Twp. 34S R. 2E Sec. 6-8, 17-20

THE STATE CORPORATION COMMISSION
OF THE STATE OF KANSAS

Before Commissioners: Susan M. Seltsam, Chair
F.S. Jack Alexander
Rachel C. Lipman

In the Matter of the Application of)	DOCKET NO. 133,891-C
EASTERN KANSAS OIL AND GAS)	(C-20,079)
ASSOCIATION, INC., to exempt or)	
waive the minimum surface casing)	LICENSE NO. N/A
requirements of 50 feet from)	
producers in Chautauqua County,)	CONSERVATION DIVISION
Kansas.)	

ORDER

The above-entitled matter comes on before the State Corporation Commission of the State of Kansas, upon its own motion. Being fully advised in the premises and having examined the files and records, the Commission makes the following findings and conclusions, pursuant to K.A.R. 82-1-232.

1. This Commission has authority to issue regulations and orders pertaining to the conservation of crude oil and natural gas and the protection of the fresh and usable waters of this State pursuant to K.S.A. 55-152.

2. On January 27, 1983, the Commission entered its order in this docket adopting surface casing requirements as recommended by a sub-committee of the ten (10) member Advisory Committee, established by K.S.A. 55-153.

3. As part of its January 27, 1983 Order the Commission made these surface casing requirements part of its regulations and they are commonly referred to as Appendix "B" - Eastern Surface Casing.

4. During the first part of 1993, Commission staff made an investigation to determine if changes should be made to Appendix

"B" as adopted by the Commission's January 27, 1983, Order. Such investigation is made pursuant to K.S.A. 55-152, which mandates that the Commission annually review current drilling methods, geologic formations, plugging techniques and casing and cementing standards and intervals to ensure protection of fresh and usable water from pollution.

5. Such investigation included consulting the ten (10) member Advisory Committee, as established by K.S.A. 55-153.

6. As part of its review of the adequacy of surface pipe requirements, Commission staff recommended to the ten (10) member Advisory Committee that Appendix "B" - Eastern Surface Casing be amended. The ten (10) member Advisory Committee approved staff's recommendation at its September 29, 1993, meeting.

7. The Commission finds that the recommendation of the Advisory Committee is in keeping with ensuring protection of the fresh and usable water of the State and that such recommendation should be adopted by the Commission. Appendix "B" - Eastern Surface Casing should be amended as attached to this order.

8. Any person or corporation affected by this Order and that deems it to be improper, unreasonable or contrary to law, may apply, by written petition, for a hearing before the Commission pursuant to K.A.R. 82-1-232. Such petition must be received by the Executive Director of this Commission, 1500 S.W. Arrowhead Rd., Topeka, Kansas, 66604-4027, no later than fifteen (15) days from the date of this order.

IT IS, THEREFORE, BY THE COMMISSION ORDERED that the recommendation of the ten (10) member Advisory Committee to modify Appendix "B" - Eastern Surface Casing, is hereby adopted.

IT IS FURTHER ORDERED that revised Appendix "B" - Eastern Surface Casing, as attached hereto and made a part hereof, is in full force and effect fifteen (15) days following the date of this Order, until amended or modified by the Commission.

The Commission retains jurisdiction of the subject matter and the parties for the purpose of entering such further order or orders as from time to time it may deem proper.

BY THE COMMISSION IT IS SO ORDERED.

Seltsam, Chr.; Alexander, Com.; Lipman, Com.

Dated: JUN. 29 1994


Executive Director

Date Mailed: JUL 06 1994

CERTIFY THE ORIGINAL
COPY IS ON FILE WITH
State Corporation Commission

JUN 30 1994


EXECUTIVE DIRECTOR

**APPENDIX "B" - EASTERN SURFACE CASING
Order #133,891-C**

Area 1: (See exhibit.)

Oil, gas or injection wells drilled in Area 1 shall be completed under Alternate II rules only. A bond log may be required on the long string from the operator by the Kansas Corporation Commission.

The following rules shall apply:

1. Set a minimum of 20 feet of steel surface pipe or to the depth of the first solid formation capable of supporting the surface pipe, whichever is greater. Also, set through all unconsolidated alluvial sediments and a minimum of 5 feet into the top of the underlying formation capable of supporting the surface pipe.
2. No well shall be drilled closer than 660 feet of an existing domestic or municipal water well without written owner notification, a copy of which must be attached to the drilling intent form during filing. Special casing and cementing requirements may be imposed in those areas producing fresh and usable water.
3. If a well is completed, the production or long string casing nearest the formation wall shall be cemented from bottom to top.
4. The surface casing borehole shall be at least (2 1/4) inches greater than the surface casing outside diameter. The well bore below the surface casing shall be at least (2 1/4) inches greater than the outside diameter of production or long string casing. The inside diameter of surface casing shall be at least (2 1/4) inches greater than the outside diameter of the production or long string casing.
5. All wells shall be completed Alternate II or plugged within 30 days of the spud date. An extension may be granted by the District Supervisor of the Conservation Division upon written request by the operator. The responsibility for plugging or completing the well is referenced in K.S.A. 55-172.
6. If the well is dry and no long string or production pipe has been cemented in place, the well shall be plugged in the following manner:

Arbuckle: Plug all oil and gas producing zones or formations containing fresh or usable water and plug for 50 feet above the Arbuckle.

Mississippi: Plug all oil and gas producing zones and formations containing fresh or usable water and plug for 50 feet above the Mississippian.

Pennsylvanian: Plug for 50 feet above all oil, gas, and uppermost saltwater zones and plug from 50 feet below Table I to surface. Intervals between plugs shall be filled with drilling mud.

Area 2:

Oil, gas or injection Wells drilled in Area 2 shall be completed under Alternate II rules only. A bond log may be required on the long string from the operator by the Kansas Corporation Commission.

The following rules shall apply:

1. Set a minimum of 20 feet of steel surface pipe or to the depth of the first solid formation capable of supporting the surface pipe, whichever is greater. Also, set through all unconsolidated alluvial and glacial drift sediments and a minimum of 5 feet into the top of the underlying formation capable of supporting the surface pipe.
2. No well shall be drilled closer than 660 feet of an existing domestic or municipal water well without written owner notification, a copy of which must be attached to the drilling intent form during filing.

Special casing and cementing requirements may be imposed in those areas producing fresh and usable water.

3. If a well is completed, the production or long string casing nearest the formation wall shall be cemented from bottom to top.
4. The surface casing borehole shall be at least (2 1/4) inches greater than the surface casing outside diameter. The well bore below the surface casing shall be at least (2 1/4) inches greater than the outside diameter of production or long string casing. The inside diameter of surface casing shall be at least (2 1/4) inches greater than the outside diameter of the production or long string casing.
5. All wells shall be completed Alternate II or plugged within 30 days of the spud date. An extension may be granted by the District Supervisor of the Conservation Division upon written request by the operator. The responsibility for plugging or completing the well is referenced in K.S.A. 55-172.
6. If the well is dry and no long string or production pipe has been cemented in place, the well shall be plugged in the following manner:

Arbuckle: Plug all oil and gas producing zones or formations containing fresh or usable water and plug for 50 feet above the Arbuckle.

Mississippi: Plug all oil and gas producing zones and formations containing fresh or usable water and plug for 50 feet above the Mississippian.

Pennsylvanian: Plug for 50 feet above all oil, gas, and uppermost saltwater zones and plug from 50 feet below Table I to surface. Intervals between plugs shall be filled with drilling mud.

Area 3:

Wells drilled in Area 3 can be completed under Alternate I or Alternate II rules, the operator using Alternate I rules will set surface pipe for the protection of fresh and usable water as specified in Table I and will cement production or long string casing not less than 150 feet above the upper oil and gas zone to be tested or produced.

Alternate II rules for Area 3 are as follows:

1. Set minimum of 40 feet of steel surface pipe or to the depth of the first solid formation capable of supporting the surface pipe, whichever is greater. In designated areas, operators shall set through all surface or near surface sandstone aquifers and a minimum of 5 feet into the underlying formation. Also, set through all alluvial and glacial drift sediments and a minimum of 5 feet into the top of the underlying formation capable of supporting the surface pipe.
2. No well shall be drilled closer than 660 feet of an existing domestic or municipal water well without written owner notification, a copy of which must be attached to the drilling intent form during filing. Special casing and cementing requirements may be imposed in those areas.
3. If a well is completed, the production or long string casing nearest the formation wall shall be cemented from bottom to top.
4. The surface casing borehole shall be at least (2 1/4) inches greater than the surface casing outside diameter. The well bore below the surface casing shall be at least (2 1/4) inches greater than the outside diameter of production or long string casing. The inside diameter of surface casing shall be at least (2 1/4) inches greater than the outside diameter of the production or long string casing.
5. All wells shall be completed or plugged within thirty (30) days of the spud date. An extension may be granted by the District Supervisor of the Conservation Division upon written request by the operator. The responsibility for plugging or completing the well is referenced in K.S.A. 55-172.
6. If the well is dry and no long string or production casing has been cemented into place, the well shall be plugged in the following manner:

Arbuckle: Plug all oil and gas producing zones with cement and plug for 50 feet above the Arbuckle.

Simpson-Viola and Hunton: Plug any oil and gas producing zones with cement and at top of upper formation for 50 feet.

Mississippi: Plug with cement all oil and gas producing zones and for 50 feet above the top of the Mississippian.

Pennsylvanian: Plug for 50 feet above all oil, gas, and uppermost saltwater zones and plug from 50 feet below Table I to surface. Intervals between plugs shall be filled with drilling mud.

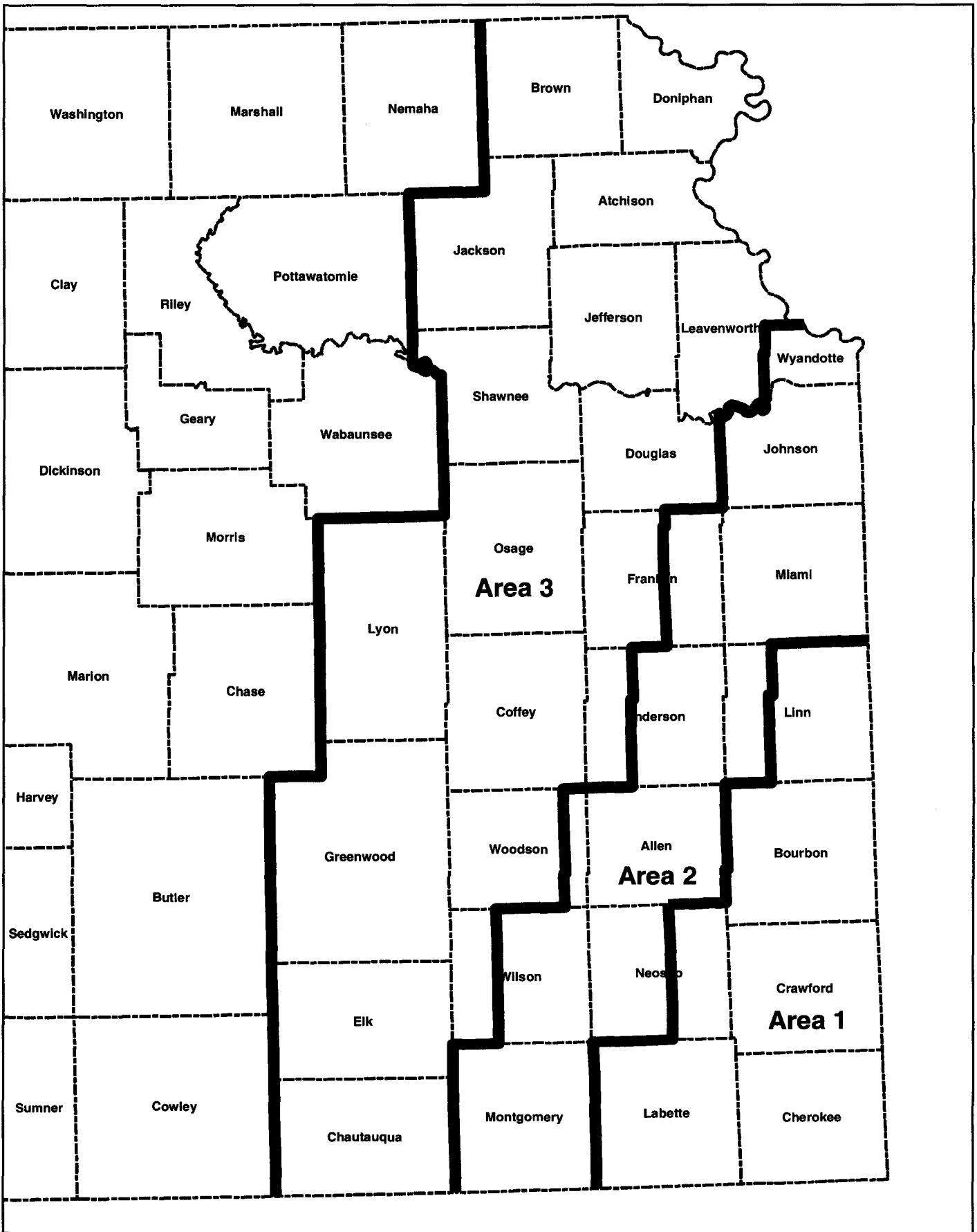


TABLE II

ESTABLISHED MINIMUM SURFACE
DEPTHS FOR DISPOSAL WELLS

THE STATE CORPORATION COMMISSION
OF THE STATE OF KANSAS

Before Commissioners: Keith R. Henley, Chairman
Rich Kowalewshi
Margalee Wright

In the matter of the general rules) DOCKET NO. 156,397-C
and regulations for the conservation) (C-22,607)
of crude oil and natural gas, K.A.R.)
82-3-400.)
)

CONSERVATION DIVISION

ORDER

Now, the above-captioned matter comes on before the State Corporation Commission of the State of Kansas on its own motion. Being fully advised in the premises and having examined the files and records, the Commission makes the following findings and conclusions, pursuant to K.A.R. 82-1-232 and 82-3-100.

1. K.S.A. 1986 Supp. 55-152 and 55-901 authorize the Commission to issue rules and regulations pertaining to the conservation of crude oil and natural gas and the protection of fresh and usable waters of this state.

2. In February of 1967, this Commission initiated an informal investigation to determine whether certain rules and regulations for the conservation of crude oil and natural gas should be amended to incorporate within such rules certain changes relating to surface pipe requirements and minimum depth requirements for salt water disposal wells. After concluding its investigation, the Commission issued an order March 1, 1967, whereby revised table I and II were adopted and made part of the Commission rules and regulations.

3. Early in 1986, this Commission initiated a subsequent investigation to determine if additional changes should be made to the minimum depth requirements for salt water disposal wells, as contained in revised Table II. Such investigation is made pursuant to K.S.A. 1986 Supp. 55-152, which mandates that the Commission annually review current drilling methods, geologic formation standards, plugging techniques and casing and cementing standards and materials to insure the protection of usable water from pollution.

The investigation particularly centered upon the advisability of continued use of the Cedar Hills formation for disposal in certain areas of Kansas.

4. Such investigation included consulting the 10-member Advisory Committee, as established by K.S.A. 55-153. The Advisory Committee is made up of a representative from the Mid-Continent Oil and Gas Association, the Kansas Independent Oil and Gas Association, the Eastern Kansas Oil and Gas Association, the groundwater management districts, the Department of Health and Environment, the Kansas Geological Survey, the Kansas Water Office, the Division of Water Resources, the general public and the Commission.

5. The Advisory Committee established a Cedar Hills Study subcommittee as part of its review of Table II revisions. This subcommittee recommended to the full committee that Table II be modified in order to more adequately protect usable water from pollution. The 10-member Advisory Committee approved the subcommittee's recommendation at its June 18, 1987, meeting. Such recommendation requires that disposal into the Cedar Hills Formation in the following areas be strictly prohibited:

All of Pratt, Stafford, Barber, Barton, Comanche and Kiowa Counties, Kansas.

The East Half (E/2) of Range 18, all of Ranges 17 and 16 in Rush, Pawnee and Edwards Counties, Kansas.

All of Townships 27, 28 and 29 in Ranges 21 and 22, Ford County, Kansas.

Such recommendation further requires that Table II be amended to reflect that injection depths be set at the base of or below the Stone Corral Anhydrite formation in Pratt, Stafford, Barber, Barton and the above-described portions of Rush, Pawnee and Edwards Counties, Kansas. Injection depths for Comanche and Kiowa Counties, Kansas, should be set at the base of the Cedar Hills formation.

6. The Cedar Hills Study subcommittee recommended and the Advisory Committee approved this recommendation that no new Cedar Hills disposal wells would be authorized in the areas described in Find (5) nor would amendments to increase the injection rate or pressure for existing Cedar Hills disposal wells be authorized. The Advisory committee further adopted the recommendation that upon the failure of existing Cedar Hills disposal wells that such well be plugged and abandoned with no replacement Cedar Hills disposal well to be authorized.

7. The Commission finds that the recommendations of the Advisory Committee are in keeping with insuring protection of the fresh and usable water of the state and that such recommendations should be adopted by the Commission. Table II, as referred to in K.A.R. 82-3-400, should be revised to include the above recommendations.

8. Any person or corporation affected by this order and that deems it to be improper, unreasonable or contrary to law, may apply, by written petition, for a hearing thereon before the Commission, pursuant to K.A.R. 82-1-232. Such petition must be received by the Executive Director of this Commission no later than August 1, 1987.

IT IS, THEREFORE, BY THE COMMISSION ORDERED that the recommendation of the 10-member Advisory Committee to modify Table II, as referred to in K.A.R. 82-3-400, be and the same is hereby adopted.

IT IS FURTHER ORDERED that revised Table II, as attached hereto and made a part hereof, is in full force and effect as of August 1, 1987, until amended or further modified by the Commission.

BY THE COMMISSION IT IS SO ORDERED.

Henley, Chmn.; Kowalewski, Com.; Wright, Com.

Dated: July 7, 1987



Judith McConnell
Executive Director



I CERTIFY THE ORIGINAL
COPY IS ON FILE WITH
The State Corporation Commission

APR 1 1994



EXECUTIVE DIRECTOR

TABLE II

(Revised August 1, 1987)

ESTABLISHED MINIMUM DEPTHS FOR DISPOSAL WELLS

The following depths are the absolute minimum depths which will be permitted. Depths greater than those given may be required for some areas.

<u>COUNTY</u>	<u>MINIMUM DEPTHS</u>	<u>COUNTY</u>	<u>MINIMUM DEPTHS</u>
Allen	350 feet.	Crawford	200 feet and above top of Mississippian.
Anderson	350 feet.	Decatur	Top of "Red Beds".
Atchison	500 feet.	Dickinson	500 feet.
Barber	Base of the Stone Corral Anhydrite.	Doniphan	500 feet.
Barton	Base of the Stone Corral Anhydrite.	Douglas	700 feet.
Bourbon	300 feet and above the top of Mississippian in Township 24 South, Range 24 and 25 E; Township 25 South, Range 23, 24, 25 East; Township 26 South, Range 22, 23, 24, 25 East; Township 27 South, Range 21, 22, 23, 24, 25 East.	Edwards	Top of "Red Beds" except in all of Ranges 16 and 17 and the E/2 of Range 18 - Base of Stone Corral Anhydrite.
Brown	500 feet.	Elk	Ranges 8, 9, 10 East - 500 feet. Ranges 11, 12, 13 East - 450 feet.
Butler	500 feet.	Ellis	Top of "Red Beds".
Chase	500 feet.	Ellsworth	500 feet.
Chautaugua	Ranges 8, 9 and 10 East - 500 feet. Ranges 11, 12, 13 East -450 feet.	Finney	Top of Cedar Hill (Glorieta) Sandstone.
Cherokee	Below the top of Precambrian.	Ford	Top of "Red Beds" but not less than 700 feet except in Townships 27, 28 and 29 in Ranges 21 and 22 - Base of the Stone Corral Anhydrite.
Cheyenne	Top of "Red Beds".	Franklin	500 feet east of Highway U.S. 59; 700 feet west of Highway 59.
Clark	500 feet.	Geary	500 feet.
Clay	400 feet.	Gove	Top of "Red Beds" but not less than 700 feet.
Cloud	400 feet.	Graham	Top of "Red Beds".
Coffee	500 feet.		
Comanche	The base of the Cedar Hills Sandstone.		
Cowley	700 feet.		

<u>COUNTY</u>	<u>MINIMUM DEPTHS</u>
Grant	Top of Cedar Hill Sandstone. In those areas of Township 27 South, Range 37 West and Township 27 South, Range 38 West, where the Cedar Hill Interval consists of salt - 50 feet below the salt.
Gray	Top of Cedar Hill Sandstone. Where the Cedar Hill Interval consists of salt - 50 feet below the salt section.
Greeley	Top of "Red Beds" but not less than 700 feet.
Greenwood	Townships 24, 25, 26, 27, 28 South, Ranges 12, 13 East - 400 feet. In all other areas - 500 feet.
Hamilton	Base of the Day Creek Dolomite but not less than 750 feet.
Harper	500 feet.
Harvey	Range 2 East - 500 feet; all other areas - 1000 feet.
Haskell	Top of Cedar Hill Sandstone.
Hodgeman	Top of "Red Beds" but not less than 700 feet.
Jackson	500 feet.
Jefferson	500 feet.
Jewell	Top of "Red Beds".
Johnson	500 feet.
Kearny	Top of Cedar Hill Sandstone. Where Cedar Hill consists of salt or shale (parts of western Kearny County) - base of the Day Creek Dolomite but not less than 750 feet except within four (4) miles of the Bear Creek Fault, then 50 feet below the Cedar Hill salt or shale section
Kingman	500 feet.
Kiowa	Base of the Cedar Hills Sandstone.

<u>COUNTY</u>	<u>MINIMUM DEPTHS</u>
Labette	Ranges 17, 18 and 19 East - 350 feet. Ranges 20, 21 East - 350 feet and above the top of the Mississippi except that the upper 100 feet of the Mississippi may be used for disposal of water containing no more than 4000 milligrams per liter of chlorides.
Lane	Top of "Red Beds" but not less than 700 feet.
Leavenworth	700 feet.
Lincoln	Top of "Red Beds".
Linn	300 feet in western half; 500 feet in eastern half.
Logan	Top of "Red Beds".
Lyon	500 feet.
Marion	500 feet.
Marshall	400 feet.
McPherson	1000 feet.
Meade	Range 30 West - Top of Cedar Hill Sandstone. Elsewhere in County - base of Stone Corral Formation (Anhydrite).
Miami	350 feet.
Mitchell	Top of "Red Beds".
Montgomery	400 feet.
Morris	500 feet.
Morton	Top of Cedar Hill (Glorieta) Sandstone.
Nemaha	500 feet.
Neosho	350 feet and above the top of the Mississippian in Township 27 South, Range 21 East; Township 28 South, Range 21 East; Township 29 South, Range 20, 21 East; Township 30 South, Range 20, 21 East.

<u>COUNTY</u>	<u>MINIMUM DEPTHS</u>	<u>COUNTY</u>	<u>MINIMUM DEPTHS</u>
Ness	Top of "Red Beds" but not less than 700 feet.	Seward	Top of Cedar Hill Sandstone.
Norton	Top of "Red Beds".	Shawnee	800 feet.
Osage	800 feet.	Sheridan	Top of "Red Beds".
Osborne	Top of "Red Beds".	Sherman	Top of "Red Beds."
Ottawa	450 feet.	Smith	Top of "Red Beds."
Pawnee	Top of "Red Beds" except in all of Ranges 16 and 17 and the E/2 of Range 18 - Base of the Stone Corral Anhydrite.	Stafford	500 feet.
Phillips	Top of "Red Beds".	Stanton	Top of Cedar Hill Sandstone. In Township 27 South, Range 39 West, Township 27 South, Range 40 West, and other areas where the Cedar Hill Interval consists of salt - 50 feet below the salt.
Pottawatomie	500 feet.	Stevens	Top of Cedar Hill Sandstone.
Pratt	Base of the Stone Corral Anhydrite.	Sumner	500 feet.
Rawlins	Top of "Red Beds".	Thomas	Top of "Red Beds".
Reno	Township 22 South, Range 4 West and 5 West; Township 23 South, Range 4 West and 5 West; Township 23 South, Range 5 West; Township 24 South, Range 4 West and 5 West; Township 24 South, Range 5 West and Township 25 South, Range 4 West - 1000 feet. All other areas - 500 feet.	Tergo	Top of "Red Beds".
Republic	450 feet.	Wabaunsee	500 feet.
Rice	500 feet.	Wallace	Top of "Red Beds".
Riley	500 feet.	Washington	600 feet.
Rooks	Top of "Red Beds".	Wichita	Top of "Red Beds".
Rush	Top of "Red Beds" except in all of Ranges 16 and 17 and the E/2 of Range 18 - Base of the Stone Corral Anhydrite.	Wilson	350 feet.
Russell	Top of "Red Beds".	Woodson	350 feet.
Saline	500 feet.	Wyandotte	500 feet.
Scott	Top of "Red Beds".		
Sedgwick	Range 2 East and 4 West - 500 feet. All other areas - 1000 feet.		

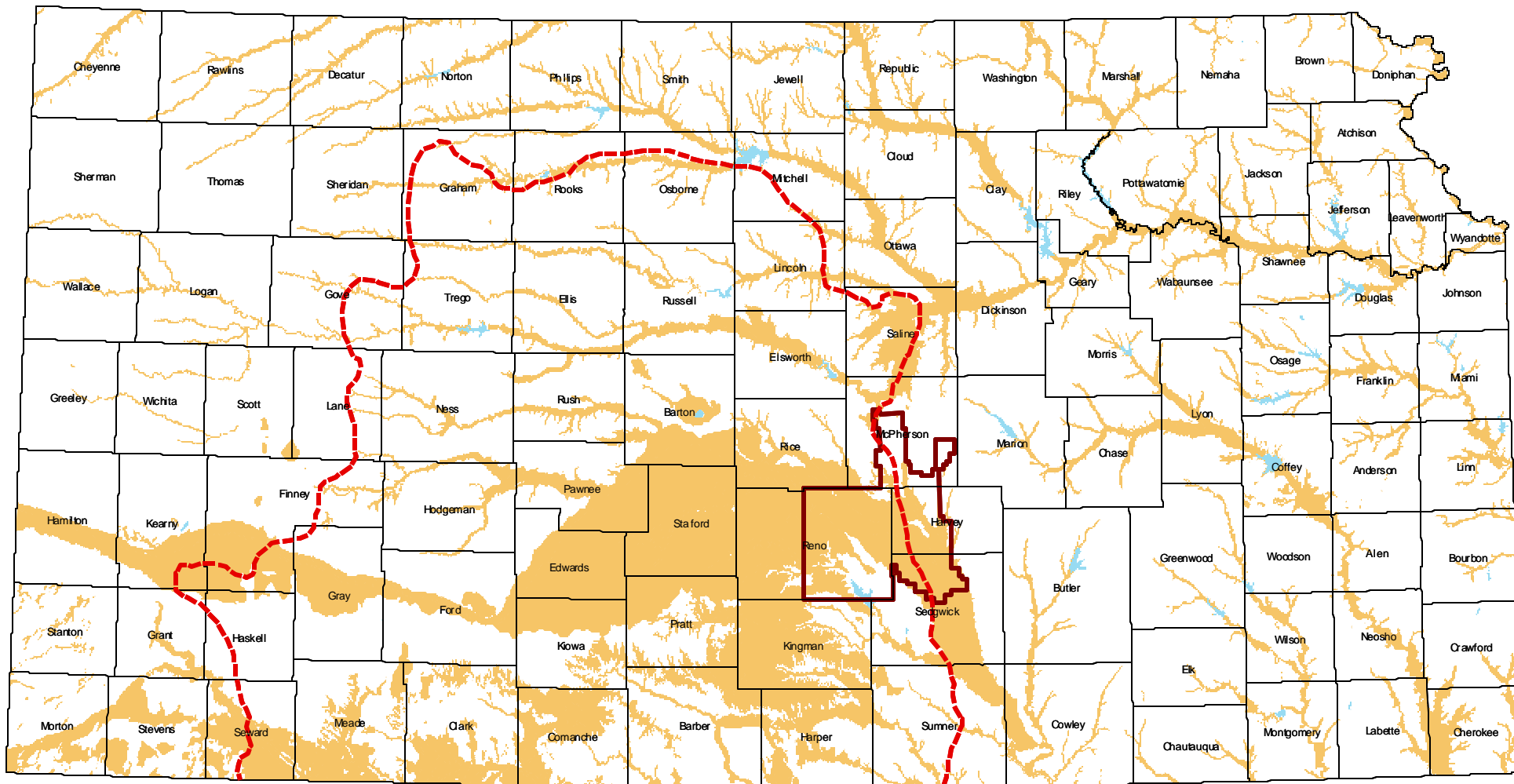
K.A.R. 82-3-600 *et. Seq.*




TABLE III

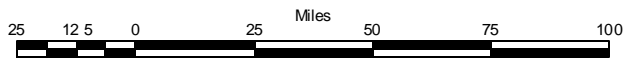
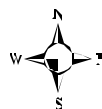
**ESTABLISHED SENSITIVE
GROUNDWATER AREAS
FOR SURFACE PONDS**

(March 2000)

Sensitive Groundwater Areas



-  Boundary GMD#2
-  Sensitive Groundwater Areas
-  Approximate limit of the Hutchinson Salt Member



ALLEN COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
23 South	17 East	Parts of: 23, 24, 26 All of: 25, 35, 36
23 South	18 East	Part of: 32
24 South	17 East	Parts of: 11 All of: 1, 2, 12
24 South	18 East	Parts of: 5, 6, 7, 8, 10, 15, 18, 20, 21, 27, 31, 33, 34, 35, 36 All of: 16, 17, 28
24 South	19 East	Part of: 30
25 South	18 East	Parts of: 1, 2, 4, 5, 6, 8, 10, 16, 17, 18, 19, 20, 28, 30, 31 All of: 3, 9, 29, 32
25 South	19 East	Parts of: 5, 6, 8, 9
26 South	17 East	Parts of: 1, 11, 12, 35
26 South	18 East	Parts of: 6, 7, 21, 28, 30, 32, 33 All of: 5, 8, 17, 20, 29

ANDERSON COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
19 South	18 East	Parts of: 34, 35, 36
19 South	19 East	Parts of: 19, 21, 28, 29, 31, 33, 34 All of: 20
19 South	20 East	Parts of: 23, 25, 27, 28, 32, 33, 35, 36 All of: 24, 26, 34
19 South	21 East	Parts of: 19, 30, 31
20 South	18 East	Parts of: 5, 6, 8, 9, 10, 11, 12, 13, 14, 15, 16, 23, 26, 27, 32, 33, 34
20 South	19 East	Parts of: 2, 3, 6, 8, 9, 11, 12, 14, 15, 22, 27 All of: 1, 4, 5, 7
20 South	20 East	Parts of: 1, 2, 4, 7, 22, 23, 28, 32, 34 All of: 5, 6, 11, 14, 27, 33
21 South	18 East	Parts of: 4, 5, 6, 7, 8
21 South	20 East	Parts of: 5, 6, 29, 31
22 South	17 East	Parts of: 23, 24, 25
22 South	19 East	Part of: 24
22 South	20 East	Part of: 6

ATCHISON COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
5 South	17 East	Parts of: 3, 4, 5, 9, 16, 19, 20, 21, 29, 30, 31, 32
5 South	20 East	Parts of: 1, 2, 3, 4, 13, 23, 24, 36
5 South	21 East	Parts of: 6, 7, 18, 22, 30, 31 All of: 16, 17, 20, 21, 28, 29
6 South	17 East	Parts of: 2, 3, 4, 5, 8, 10, 15, 17, 20, 22, 31, 33 All of: 9, 16, 21, 28, 29, 30, 32
6 South	20 East	Parts of: 1
6 South	21 East	Parts of: 6, 7, 21, 27 All of: 28, 34
7 South	17 East	Parts of: 6, 7, 8, 9, 13, 22, 24 All of: 5, 16, 21
7 South	18 East	Parts of: 19
7 South	19 East	Parts of: 13, 24
7 South	20 East	Parts of: 4, 5, 8, 9, 10, 11, 14, 18, 19, 23, 24
7 South	21 East	Parts of: 2, 3, 11, 12
7 South	22 East	Parts of: 18, 19

BARBER COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
30 South	11 West	All
30 South	12 West	Parts of: 6, 19, 20, 21, 25, 26, 27, 29, 32, 33, 36 All of: 1, 2, 3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 22, 23, 24, 30, 31
30 South	13 West	Parts of: 4, 5, 10, 11, 12, 13, 14, 15, 16, 23, 24, 32, 33, 35, 36 All of: 1, 2, 3, 6, 7, 8, 17, 18, 19, 20, 21, 22, 25, 26, 27, 28, 29, 30
30 South	14 West	Parts of: 1, 2, 3, 5, 6, 9, 10, 16, 17, 19, 20, 21, 22, 27, 29, 32, 33 All of: 7, 8, 11, 12, 13, 14, 18, 23, 24, 28
30 South	15 West	Parts of: 11, 12, 13, 14, 19, 20, 23, 24, 25, 26, 27, 28, 29, 30, 34 All of: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 35
31 South	10 West	Parts of: 35, 36 All of: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33
31 South	11 West	Parts of: 5, 6, 17, 26, 27, 34, 35, 36 All of: 1, 2, 3, 4, 9, 10, 11, 12, 13, 14, 15, 16, 21, 22, 23, 24, 25

31 South	12 West	Parts of: 3, 4, 5, 6, 8, 9, 10, 30, 31, 32
31 South	13 West	Parts of: 1, 2, 18, 19, 20, 25, 26, 27, 28, 33, 34, 35, 36 All of: 29
31 South	14 West	Parts of: 6, 8, 9, 10, 13, 15, 16 All of: 7, 14
31 South	15 West	Parts of: 3, 19, 20, 21, 28, 33 All of: 1, 2, 29, 30, 31, 32
32 South	10 West	Parts of: 1, 2, 3, 4, 5, 6, 7, 8, 25, 28, 29, 30 All of: 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24
32 South	11 West	Parts of: 1, 2, 3, 6, 7, 8, 9, 10, 12, 25, 26, 27, 28, 29, 32 All of: 11, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 30, 31
32 South	12 West	Parts of: 2, 3, 4, 5, 6, 9, 10, 11, 12, 13, 14, 24, 25, 36
32 South	14 West	Parts of: 17, 18, 19, 20, 26, 28, 29, 30, 31, 32, 33, 34, 35, 36
32 South	15 West	Parts of: 1, 3, 4, 11, 12, 16, 17, 20, 21, 23, 26, 27, 30, 35 All of: 5, 6, 7, 8, 9, 10, 13, 14, 15, 22, 24, 25, 36
33 South	11 West	Parts of: 5, 8, 18, 21, 29, 32, 34 All of: 6, 7, 17, 20, 28, 33
33 South	12 West	Parts of: 1, 12, 13
33 South	13 West	Parts of: 5, 6, 7, 8, 9, 19, 30, 31, 32
33 South	14 West	Parts of: 1, 2, 3, 6, 10, 11, 12, 13, 14, 23, 24, 25, 26
33 South	15 West	Parts of: 1, 2, 3, 7, 10, 16, 18, 19, 30, 31
34 South	10 West	Parts of: 31
34 South	11 West	Parts of: 4, 9, 10, 15, 16, 21, 26, 34, 36 All of: 3, 22, 27, 35
34 South	13 West	Parts of: 4, 5, 6, 19, 29, 30, 31, 33 All of: 32
34 South	14 West	Parts of: 17, 20, 25, 29, 31, 32, 36
34 South	15 West	Parts of: 5, 6, 7, 17, 18, 19, 20, 21, 22, 26, 27, 28, 34, 35, 36
35 South	10 West	Parts of: 3, 4, 5, 6, 10, 14, 15, 16 All of: 9
35 South	11 West	Parts of: 1, 3, 11 All of: 2
35 South	13 West	Parts of: 4, 6, 7, 9, 16, 17, 18 All of: 5, 8
35 South	14 West	Parts of: 4, 5, 6, 15, 16, 17, 18 All of: 7, 8, 9
35 South	15 West	Parts of: 1, 2, 12

BARTON COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
16 South	14 West	Parts of: 30, 31, 32
16 South	15 West	Parts of: 9, 10, 11, 13, 21, 24, 25, 28, 33, 34 All of: 14, 15, 16, 22, 23, 26, 27, 35, 36
17 South	12 West	Parts of: 30, 31, 32, 33, 34
17 South	13 West	Parts of: 10, 11, 14, 15, 23, 24, 25, 26, 34, 35, 36
17 South	14 West	Parts of: 5, 6, 18, 19, 20, 26, 27, 28, 34, 35, 36
17 South	15 West	Parts of: 1, 2, 13
18 South	11 West	Parts of: 6, 20, 29, 30, 36 All of: 7, 8, 17, 18, 19
18 South	12 West	Parts of: 1, 2 All of: 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36
18 South	13 West	Parts of: 4, 5, 6, 7, 8, 17, 18, 21, 28, 34 All of: 1, 2, 3, 9, 10, 11, 12, 13, 14, 15, 16, 22, 23, 24, 25, 26, 27, 35, 36
18 South	14 West	Parts of: 1, 2, 30, 31, 32, 33
18 South	15 West	Parts of: 19, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36
19 South	11 West	Parts of: 11, 12, 13, 15, 16, 17, 18 All of: 14, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36
19 South	12 West	Parts of: 3, 18, 20, 22, 23, 28, 29 All of: 4, 5, 6, 19, 24, 25, 26, 27, 30, 31, 32, 33, 34, 35, 36
19 South	13 West	Parts of: 1, 2, 4, 5, 6, 10, 13, 14 All of: 7, 8, 9, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36
19 South	14 West	Parts of: 2, 5, 6, 9, 10, 11, 12, 15, 19, 20, 21 All of: 3, 4, 13, 14, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36
19 South	15 West	Parts of: 10, 13, 14, 15, 16, 17, 18, 31, 32, 33, 34, 35, 36 All of: 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30
20 South	11 West	All
20 South	12 West	All
20 South	13 West	All
20 South	14 West	All

20 South 15 West Parts of: 2, 12, 13, 22, 23, 27, 32, 33, 34
 All of: 24, 25, 26, 35, 36

BOURBON COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
23 South	22 East	Parts of: 26, 27, 28, 34, 35, 36
23 South	23 East	Parts of: 33, 34, 35, 36
23 South	24 East	Parts of: 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35
23 South	25 East	Parts of: 21, 22, 23, 26, 27, 29, 30, 31, 32, 33, 34, 35, 36
24 South	22 East	Parts of: 1, 2, 12
24 South	23 East	Parts of: 3, 4, 5, 6, 7, 8
24 South	25 East	Part of: 1, 2
25 South	23 East	Parts of: 28, 29, 32, 33, 34, 35
25 South	24 East	Parts of: 23, 24, 25, 26, 34, 35, 36
25 South	25 East	Parts of: 19, 20, 21, 22, 23, 24, 30
26 South	23 East	Parts of: 1, 2, 3, 10, 11, 12, 13, 14, 15, 24, 25
26 South	24 East	Parts of: 3, 4, 5, 6, 7, 8, 18, 19

BROWN COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
1 South	15 East	Parts of: 12
1 South	16 East	Parts of: 1, 4, 5, 7, 8, 12, 13, 24, 25, 36
1 South	17 East	Parts of: 1, 6, 7, 18, 19, 30, 31
1 South	18 East	Parts of: 3, 4, 5, 6, 10, 15, 20, 21, 22, 28, 29
1 South	19 East	Parts of: 5, 6, 23, 25, 26, 36
1 South	20 East	Parts of: 30, 31, 32
2 South	16 East	Parts of: 1, 2, 3, 10, 11, 15, 16
2 South	17 East	Parts of: 6, 35, 36
3 South	17 East	Parts of: 1, 2, 11, 12
3 South	18 East	Parts of: 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
4 South	15 East	Parts of: 13, 14, 17, 18, 20, 21, 22, 23, 24, 25, 26, 27
4 South	16 East	Parts of: 7, 17, 18, 19, 30, 31, 32, 33

4 South 17 East Parts of: 30, 31, 32

BUTLER COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
23 South	6 East	Parts of: 35, 36
23 South	7 East	Parts of: 29, 30, 31
24 South	3 East	Parts of: 25, 36
24 South	4 East	Parts of: 16, 18, 19, 30, 31
24 South	6 East	Parts of: 2, 9, 11, 14, 15, 16, 20, 21, 22, 27, 28, 29, 32
25 South	3 East	Parts of: 1, 12, 13, 20, 28, 29, 32, 33, 34 All of: 24, 25, 36
25 South	4 East	Parts of: 6, 19, 30, 31
25 South	5 East	Parts of: 2, 3, 10, 11, 14, 15, 22, 23, 26, 27, 35, 36
25 South	6 East	Parts of: 5, 8, 17, 18, 19, 20, 28, 29, 30, 31
26 South	3 East	Parts of: 1, 2, 3
26 South	4 East	Parts of: 5, 6, 7, 8, 17, 18, 20, 28, 29, 32, 33
26 South	5 East	Parts of: 1, 2, 10, 11, 14, 15, 22, 27, 28, 32, 33
26 South	6 East	Parts of: 6
27 South	4 East	Parts of: 4, 5, 8, 9, 20, 22, 23, 24, 25, 26, 27, 29, 34 All of: 16, 21, 28, 33
27 South	5 East	Parts of: 4, 5, 7, 8, 9, 17, 18, 36
27 South	6 East	Parts of: 31
28 South	4 East	Parts of: 8, 17, 20, 22, 25, 26, 29, 32, 34, 35 All of: 4, 9, 16, 21, 28, 33
28 South	5 East	Parts of: 1, 2, 3, 4, 8, 9, 10, 12, 13, 14, 15, 16, 17, 19, 20, 30
28 South	6 East	Parts of: 7, 8
29 South	3 East	Parts of: 36
29 South	4 East	Parts of: 2, 3, 5, 8, 9, 18, 19, 20, 29, 30, 32, 33 All of: 4, 17, 31

CHASE COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
18 South	6 East	Parts of: 1, 12

18 South	7 East	Parts of: 7, 17, 18, 19, 20, 28, 29, 32, 33
18 South	9 East	Parts of: 27, 28, 33, 34
19 South	6 East	Parts of: 7, 8, 9, 13, 14, 15, 16, 24
19 South	7 East	Parts of: 3, 4, 9, 10, 11, 13, 15, 18, 19, 20, 21, 22, 23, 24, 27, 28, 32, 33, 34 All of: 14
19 South	8 East	Parts of: 13, 14, 15, 16, 17, 18, 19, 23, 28, 29, 33, 34, 35 All of: 20, 21, 22, 24, 25, 26, 27, 36
19 South	9 East	Parts of: 1, 2, 3, 8, 9, 10, 17, 18, 21, 22, 23, 28, 29, 30, 31 All of: 11, 12, 13, 14, 15, 16, 19, 20
20 South	5 East	All of: 36
20 South	6 East	Parts of: 11, 12, 13, 14, 22, 23, 24, 26, 27, 28, 29, 30, 31, 32, 33
20 South	7 East	Parts of: 4, 5, 6, 7, 8, 9, 17, 18
20 South	8 East	Parts of: 1, 2, 3, 10, 11, 12, 14, 15, 21, 22, 23, 26, 27, 28, 32, 33, 34
21 South	5 East	Parts of: 1, 12, 13, 24, 25, 36
21 South	6 East	Parts of: 5, 6, 7, 30, 31
21 South	8 East	Parts of: 3, 4, 5, 8, 9, 16, 17, 18, 19, 20, 21, 28, 29, 30, 31, 32, 33
22 South	5 East	Parts of: 1, 12
22 South	6 East	Parts of: 5, 6, 8, 9, 10, 16
22 South	8 East	Parts of: 4, 5

CHAUTAUQUA COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
32 South	8 East	Parts of: 25, 36
32 South	9 East	Parts of: 19, 30, 31
33 South	8 East	Parts of: 1, 2, 9, 10, 11, 12, 13, 14, 15, 22, 23, 24, 25, 26, 35, 36
33 South	11 East	Parts of: 34, 35
33 South	12 East	Parts of: 16, 17, 20, 21, 27, 28, 33, 34, 35
33 South	13 East	Parts of: 15, 22, 27, 34
34 South	8 East	Parts of: 1, 2, 3, 10, 11, 12, 13, 14
34 South	9 East	Parts of: 7, 17, 18, 19, 21, 27, 28, 29, 30, 33, 34, 35
34 South	11 East	Parts of: 1, 2, 3, 12

34 South	12 East	Parts of: 1, 2, 3, 7, 8, 9, 10, 11, 12, 13, 16, 17, 18
34 South	13 East	Parts of: 7, 8, 15, 16, 17, 18, 19, 20, 21, 22, 27, 28, 29, 34
35 South	9 East	Parts of: 1, 2, 3
35 South	10 East	Parts of: 5, 6, 7, 8, 9, 10, 14, 15, 16, 17

CHEROKEE COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
31 South	22 East	Parts of: 20, 23, 26, 30, 31, 34, 35 All of: 21, 22, 27, 28, 29, 32, 33
31 South	25 East	Parts of: 20, 29, 30, 31, 34 All of: 21, 28, 32, 33
32 South	21 East	Parts of: 13, 14, 23, 24, 26, 35 All of: 25, 36
32 South	22 East	Parts of: 4, 6, 9, 16, 21, 22, 24, 25, 27, 28, 29, 33, 34, 35 All of: 5, 7, 8, 17, 18, 19, 20, 30, 31, 32, 36
32 South	23 East	Parts of: 8, 9, 13, 14, 16, 18, 21, 22, 23, 27, 29, 32, 33, 34 All of: 17, 19, 20, 28, 30, 31
32 South	25 East	Parts of: 3, 5, 9, 14, 16, 21, 23, 27, 28, 35 All of: 4, 10, 15, 22, 34
33 South	21 East	Parts of: 2, 11, 14, 23, 26, 35 All of: 1, 12, 13, 24, 25, 36
33 South	22 East	Parts of: 3, 4, 23, 24, 25, 26, 27, 35 All of: 1, 2, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 28, 29, 30, 31, 32, 33, 34
33 South	23 East	Parts of: 3, 4, 6, 7, 8, 18, 19, 20, 31, 32, 33
33 South	24 East	Parts of: 1, 12
33 South	25 East	Parts of: 1, 7, 8, 9, 11, 14, 16, 17, 21, 27, 28, 29, 35, 36 All of: 2, 12, 13, 24, 25, 26, 32, 33, 34
34 South	21 East	All of: 1, 12, 13, 24, 25, 36
34 South	22 East	Parts of: 1, 2, 11, 12, 13, 14, 15, 22, 27, 34, 35 All of: 3, 4, 5, 6, 7, 8, 9, 10, 16, 17, 18, 19, 20, 21, 28, 29, 30, 31, 32, 33
34 South	23 East	Parts of: 3, 4, 5, 6, 7, 8, 9
34 South	24 East	Parts of: 14, 15, 23, 24, 25, 36
34 South	25 East	Parts of: 3, 4, 5, 6, 7, 9, 16, 17, 18, 19, 28, 29, 30, 31, 32, 33, 34, 35 All of: 8
35 South	21 East	All of: 1, 12

35 South	22 East	Parts of: 2, 3 All of: 4, 5, 6, 7, 8, 9, 10, 11
35 South	24 East	Parts of: 1, 12
35 South	25 East	Parts of: 6, 7, 8

CHEYENNE COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
1 South	37 West	Parts of: 5, 6, 7, 18, 19, 20
1 South	38 West	Parts of: 1, 2, 3, 4, 8, 9, 10, 11, 12, 15, 16, 17, 18, 19, 20, 21, 30, 31
1 South	39 West	Parts of: 24, 25, 26, 27, 34, 35, 36
1 South	42 West	Parts of: 2, 9, 10
2 South	38 West	Parts of: 6, 31
2 South	39 West	Parts of: 1, 2, 3, 4, 5, 6, 8, 10, 11, 14, 15, 16, 17, 18, 19, 21, 22, 28, 29, 31, 32, 33, 34, 35, 36 All of: 9, 20, 30
2 South	40 West	Parts of: 25, 35, 36
3 South	38 West	Part of: 6
3 South	39 West	Parts of: 1, 2, 4, 5, 6, 7, 8
3 South	40 West	Parts of: 1, 2, 10, 11, 12, 13, 14, 15, 16, 17, 20, 21, 22, 23, 24, 26, 28, 29, 30, 31, 32, 36
3 South	41 West	Parts of: 36
4 South	40 West	Parts of: 1, 2, 5, 6, 11
4 South	41 West	Parts of: 1, 2, 3, 10, 11, 12, 13, 15, 16, 17, 19, 20, 21, 22, 24, 29, 30
4 South	42 West	Parts of: 24, 25, 26, 27, 33, 34, 35
5 South	37 West	Parts of: 25, 26, 27, 34, 35
5 South	41 West	Parts of: 7, 8, 17
5 South	42 West	Parts of: 2, 3, 4, 10, 15, 16

CLARK COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
30 South	21 West	Parts of: 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36
30 South	22 West	Parts of: 7, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 32, 33, 34, 35, 36

30 South	23 West	All
30 South	24 West	Parts of: 1, 2, 4, 5, 8, 9, 10, 11, 12, 13, 14, 15, 16, 19, 20, 21, 22, 23, 24, 25, 26, 27, 29, 30, 31, 32, 35, 36
30 South	25 West	Parts of: 4, 9, 13, 14, 16, 17, 19, 20, 23, 24, 26, 29, 30, 31, 32, 35, 36 All of: 5, 6, 7, 8, 18, 25
31 South	21 West	Parts of: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 24, 31, 32, 36
31 South	22 West	Parts of: 4, 10, 11, 14, 20, 21, 22, 23, 25, 26, 27, 35, 36
31 South	23 West	Parts of: 5, 6, 7, 16, 18
31 South	24 West	Parts of: 1, 2, 3, 12, 13, 14, 18, 19, 22, 27
31 South	25 West	Parts of: 1, 2, 7, 10, 11, 12, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 27, 28, 29, 30 All of: 13, 14
32 South	21 West	Parts of: 2, 4, 5, 6, 9, 10, 11, 13, 35, 36 All of: 1, 12
32 South	22 West	Parts of: 19, 29, 30
32 South	23 West	Parts of: 13, 14, 15, 21, 22, 23, 24, 25, 26, 27, 34, 35, 36
32 South	24 West	Parts of: 25, 26, 35, 36
32 South	25 West	Parts of: 24, 25
33 South	21 West	Parts of: 1, 2, 7, 11, 12, 13, 14, 18, 19, 21, 22, 23, 24, 25, 27, 28, 30, 31, 32, 33, 36
33 South	22 West	Parts of: 6, 7, 11, 12, 13, 14, 18, 19, 20, 24, 25, 29, 31, 34, 36 All of: 30, 33
33 South	23 West	Parts of: 2, 18, 20, 23, 26, 29, 36 All of: 1, 12, 13, 19, 24, 25, 30, 31, 32
33 South	24 West	Parts of: 1, 2, 7, 8, 9, 10, 12, 16, 30, 31, 32 All of: 11, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 33, 34, 35, 36
33 South	25 West	Parts of: 4, 6, 7, 8, 9, 10, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 27, 28, 33, 34, 35 All of: 25, 26, 36
34 South	21 West	Parts of: 1, 5, 6, 7, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 32 All of: 31, 33, 34, 35, 36
34 South	22 West	Parts of: 2, 4, 6, 7, 9, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 34, 35, 36 All of: 28, 29, 30, 31, 32, 33
34 South	23 West	Parts of: 1, 4, 10, 12, 13, 14, 15 All of: 5, 6, 7, 8, 9, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36

34 South	24 West	All
34 South	25 West	Parts of: 3, 10, 15, 17, 18, 19, 31, 32, 33 All of: 1, 2, 11, 12, 13, 14, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 34, 35, 36
35 South	21 West	Parts of: 5, 6, 8 All of: 1, 2, 3, 4, 9, 10, 11, 12
35 South	22 West	Parts of: 2, 3, 4, 9 All of: 1, 5, 6, 7, 8, 11, 12
35 South	23 West	All
35 South	24 West	All
35 South	25 West	Parts of: 4, 9, 13, 14, 15, 16 All of: 1, 2, 3, 10, 11, 12

CLAY COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
6 South	1 East	Parts of: 7, 8, 9, 15, 22, 35, 36 All of: 1, 2, 3, 4, 5, 6, 10, 11, 12, 13, 14, 23, 24, 25, 26
6 South	2 East	Parts of: 4, 7, 8, 9, 16, 17, 18, 27, 33, 34 All of: 19, 20, 21, 28, 29, 30, 31, 32
6 South	4 East	Parts of: 21, 22, 27, 28, 34
7 South	1 East	Parts of: 2, 3
7 South	2 East	Parts of: 1, 2, 3, 11, 14, 18, 19, 24, 25, 29, 33 All of: 4, 5, 6, 7, 8, 9, 10, 15, 16, 17, 20, 21, 22, 23, 26, 27, 28, 34, 35, 36
7 South	3 East	Parts of: 29, 30, 31
8 South	1 East	Parts of: 13, 14, 22, 23, 24
8 South	2 East	Parts of: 3, 4, 5, 6, 8, 9, 10, 13, 14, 18, 19, 20, 21, 22, 23 All of: 1, 2, 11, 12, 15, 16, 17
8 South	3 East	Parts of: 5, 6, 8, 9, 16, 19, 21, 22, 23, 25, 26, 27, 28, 29, 33 All of: 7, 17, 18, 20, 34, 35, 36
8 South	4 East	Parts of: 16, 21, 28, 32, 33
9 South	1 East	Parts of: 17, 18, 19, 20, 21, 28, 29, 33, 34
9 South	3 East	Parts of: 1, 2, 3, 10, 12, 13, 24
9 South	4 East	Parts of: 4, 5, 6, 7, 8, 9, 16, 18, 19, 20, 21, 27, 29, 30, 31, 34
10 South	1 East	Parts of: 1, 2, 3, 4, 10, 11, 12, 13, 24
10 South	2 East	Parts of: 7, 17, 18, 19, 20, 21, 22, 27, 28, 29, 34, 35

10 South 4 East Parts of: 5, 8, 17, 20

CLOUD COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
05 South	01 West	Parts of: 3, 4, 9, 10, 14, 15, 19, 20, 21, 22, 23, 25 All of: 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36
05 South	02 West	Parts of: 6, 9, 12, 13, 14, 15, 16, 17 All of: 5, 8, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36
05 South	03 West	Parts of: 16, 17, 18, 22, 23, 24, 31, 32, 33, 34 All of: 19, 20, 21, 25, 26, 27, 28, 29, 30, 35, 36
05 South	04 West	Parts of: 2, 3, 4, 7, 11, 12, 17, 18, 19, 20, 25, 26, 27, 28, 29, 30, 31, 35 All of: 5, 8, 9, 10, 13, 14, 15, 16, 21, 22, 23, 24, 36
05 South	05 West	Parts of: 4, 5, 7, 8, 9, 10, 13, 16, 17, 18, 22, 23, 24, 25, 27, 28, 29, 32, 33, 34 All of: 14, 15
06 South	01 West	Parts of: 1, 2, 3, 4, 5, 6, 7, 10, 11, 12, 17, 18, 19, 20, 30, 31
06 South	02 West	Parts of: 1, 2, 5, 12, 24
06 South	03 West	Parts of: 1, 2
06 South	04 West	Parts of: 1, 2, 6, 7, 10, 11, 12, 14, 23, 26, 34, 35
06 South	05 West	Parts of: 5, 11, 12, 13, 14
07 South	04 West	Parts of: 30, 31
07 South	05 West	Parts of: 19, 22, 27, 29, 30, 33, 34, 35, 36 All of: 31, 32
08 South	01 West	Parts of: 27, 28, 33, 34, 35
08 South	03 West	Parts of: 27, 34
08 South	04 West	Parts of: 6, 7, 18, 19, 30, 31, 32, 33
08 South	05 West	Parts of: 2, 4, 10, 11, 12, 13, 14, 18, 20, 21, 24, 27, 28, 33, 34 All of: 3, 5, 6, 7, 8, 9, 15, 16, 17, 22, 23, 25, 26, 35, 36

COFFEY COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
19 South	13 East	Parts of: 25, 26, 35, 36
19 South	15 East	Parts of: 1, 3
20 South	13 East	Parts of: 2, 11, 12, 13, 14, 23, 24, 25, 26, 35, 36

20 South	14 East	Parts of: 3, 5, 7, 8, 9, 10, 11, 14, 15, 16, 17, 18, 21, 22, 23, 25, 26, 27, 31, 32 All of: 19, 20, 28, 29, 30, 33, 34, 35
20 South	15 East	Parts of: 16, 17, 18, 19, 20, 21, 29, 30, 31, 32, 33
21 South	14 East	Parts of: 2, 3, 11, 12, 13, 14, 22, 23, 24, 27, 28, 32, 33
21 South	15 East	Parts of: 3, 4, 9, 10, 13, 14, 17, 18, 19, 24, 25, 27, 28, 29, 30, 35 All of: 15, 16, 20, 21, 22, 23, 26, 36
21 South	16 East	Parts of: 15, 22, 23, 26, 27, 29, 30, 31, 32, 34
22 South	13 East	Parts of: 14, 23, 24, 25, 26, 35, 36
22 South	14 East	Parts of: 5, 19, 20, 29, 30, 31, 33, 34
22 South	15 East	Parts of: 2, 3, 8, 10, 11, 12, 13, 14, 16, 17, 22, 23, 24, 25, 26, 27, 28, 33, 34, 35, 36 All of: 1, 15
22 South	16 East	Parts of: 2, 3, 4, 8, 9, 11, 12, 18, 19, 24, 30 All of: 5, 6, 7, 10, 13, 14, 15, 16, 17, 20, 21, 22, 23, 25, 26, 27, 28, 29, 31, 32, 33, 34, 35, 36
22 South	17 East	Parts of: 7, 18, 19, 20, 21, 22, 27, 28, 29, 30, 32, 33 All of: 31
23 South	13 East	Parts of: 1, 2
23 South	14 East	Part of: 3
23 South	15 East	Parts of: 1, 3, 4, 5, 12, 13
23 South	16 East	Parts of: 5, 7, 8, 9, 10, 15 All of: 1, 2, 3, 4, 6, 11, 12, 13, 14
23 South	17 East	Parts of: 4, 9, 10, 15 All of: 5, 6, 7, 8, 16, 17, 18

COMANCHE COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
31 South	16 West	Parts of: 3, 4, 5, 6, 9, 10, 14, 15, 16, 17, 18, 19, 20, 22, 23, 25, 26, 27, 36 All of: 7, 8
31 South	17 West	Parts of: 4, 5, 6, 13, 14, 23, 24, 25, 26, 27, 36 All of: 1, 2, 3, 7, 8, 9, 10, 11, 12, 15, 16, 17, 18, 19, 20, 21, 22, 28, 29, 30, 31, 32, 33, 34, 35
31 South	18 West	Parts of: 1, 2, 3, 4, 9, 12 All of: 5, 6, 7, 8, 10, 11, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36
31 South	19 West	Parts of: 3, 4, 7, 8 All of: 1, 2, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36

31 South	20 West	Parts of: 1, 2, 19, 22, 27, 28, 29, 31, 34, 35 All of: 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 20, 21, 23, 24, 25, 26, 36
32 South	16 West	Parts of: 5, 7, 8, 9, 16, 17, 18, 19, 20, 21, 25, 36 All of: 6
32 South	17 West	Parts of: 14, 23, 24, 25, 26, 33, 36 All of: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15, 16, 17, 18, 19, 20, 21, 22, 27, 28, 29, 30, 31, 32, 34, 35
32 South	18 West	All
32 South	19 West	Parts of: 7, 8, 9, 10, 11, 14, 18, 19, 20, 21, 22, 23, 34 All of: 1, 2, 3, 4, 5, 6, 12, 13, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 35, 36
32 South	20 West	Parts of: 2, 3, 4, 5, 6, 11, 12, 14, 18, 19, 20, 24 All of: 1, 7, 8, 9, 10, 15, 16, 17, 21, 22, 23, 25, 26, 27, 28, 33, 34, 35, 36
33 South	16 West	Parts of: 1, 12, 13, 24, 34, 35
33 South	17 West	Parts of: 1, 2, 3, 4, 6, 7, 8, 18, 19, 20, 28, 29, 33 All of: 5
33 South	18 West	Parts of: 2, 3, 10, 11, 13, 15, 16, 18 All of: 1, 4, 5, 6, 7, 8, 9, 12
33 South	19 West	Parts of: 2, 3, 4, 5, 7, 9, 13, 14, 15, 16, 17, 18, 19, 20, 24, 29, 33, 34 All of: 1, 6, 10, 11, 12
33 South	20 West	Parts of: 7, 8, 13, 17, 18, 24, 25, 36 All of: 1, 2, 3, 4, 9, 10, 11, 12, 14, 15, 16, 19, 20, 21, 22, 23, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35
34 South	16 West	Parts of: 1, 2, 3, 4, 5, 6, 7, 11, 12, 13, 18, 23, 24
34 South	17 West	Parts of: 4, 9, 10, 11, 12, 13, 14, 15, 34, 35
34 South	19 West	Parts of: 3, 4, 6, 7, 10, 17, 20, 21, 27, 35 All of: 18, 19, 28, 29, 30, 31, 32, 33
34 South	20 West	Parts of: 7, 18, 19, 20 All of: 1, 2, 3, 4, 5, 6, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36
35 South	16 West	Parts of: 15, 16, 17
35 South	17 West	Parts of: 1, 3, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 17, 18 All of: 2
35 South	18 West	Parts of: 6, 7, 8, 9, 14, 15, 16, 17, 18
35 South	19 West	Parts of: 1, 2, 4, 9, 12, 13, 14, 15, 16, 17, 18 All of: 5, 6, 7, 8
35 South	20 West	All

COWLEY COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
30 South	03 East	Parts of: 1, 12, 13, 14
30 South	04 East	Parts of: 4, 5, 8, 10, 11, 15, 16, 19, 21, 29, 31, 32 All of: 6, 7, 17, 18, 20, 30
30 South	07 East	Parts of: 24, 25, 26, 34, 35
30 South	08 East	Parts of: 8, 18
31 South	03 East	Parts of: 1, 7, 12, 13, 17, 21, 22, 24, 25, 27, 34, 36 All of: 18, 19, 20, 28, 29, 30, 31, 32, 33
31 South	04 East	Parts of: 4, 8, 13, 17, 20, 24, 25, 26, 29, 30, 31, 32, 35, 36 All of: 5, 6, 7, 18, 19
31 South	05 East	Parts of: 7, 17, 18
31 South	07 East	Parts of: 3, 9, 10, 16, 20, 21, 27, 28, 29, 32, 33
32 South	03 East	Parts of: 2, 3, 10, 12, 15, 23, 26 All of: 1, 4, 5, 6, 7, 8, 9, 16, 17, 18, 19, 20, 21, 22, 27, 28, 29, 30, 31, 32, 33, 34, 35
32 South	04 East	Parts of: 1, 2, 3, 5, 6, 8, 10, 11, 15, 16, 18, 20, 21, 22, 27, 28, 29, 33 All of: 7, 17, 34
32 South	06 East	Parts of: 36
32 South	07 East	Parts of: 5, 8, 17, 18, 19, 20, 29, 30, 31, 32, 33, 34
32 South	08 East	Parts of: 33
33 South	03 East	Parts of: 1, 7, 17, 19, 20, 30, 33, 34, 35, 36 All of: 2, 3, 4, 5, 6, 8, 9, 10, 11, 12, 13, 14, 15, 16, 21, 22, 23, 24, 25, 26, 27, 28, 29, 31, 32
33 South	04 East	Parts of: 3, 7, 10, 11, 13, 14, 17, 21, 22, 23, 24, 26, 27, 28, 29, 31, 32, 33, 34 All of: 18, 19, 20, 25, 30, 35, 36
33 South	05 East	Parts of: 1, 11, 12, 14, 22, 23, 27, 30, 31, 34
33 South	06 East	Parts of: 1, 12, 13, 14, 22, 23, 24, 26, 27, 28, 31, 32, 33, 34, 35, 36
33 South	07 East	Parts of: 3, 4, 5, 6, 7, 18, 31
33 South	08 East	Parts of: 3, 4, 5, 6, 8, 10, 14, 15, 17
34 South	03 East	Parts of: 5, 6, 24, 25, 35 All of: 1, 2, 3, 4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 22, 23, 26, 36
34 South	04 East	Parts of: 11, 12, 16, 17, 20, 26, 27, 28, 29, 32, 35 All of: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 18, 19, 30, 31, 33, 34
34 South	05 East	Parts of: 3, 6, 10, 12, 13, 14, 15, 22, 23, 26, 27, 28, 32, 33

34 South	06 East	Parts of: 1, 5, 6, 7, 28, 29, 31, 32, 33
34 South	07 East	Parts of: 6, 32
35 South	03 East	Parts of: 1
35 South	04 East	Parts of: 1, 3, 4, 5, 6, 13 All of: 2, 12
35 South	05 East	Parts of: 4, 5, 6, 7, 8, 18
35 South	06 East	Parts of: 5, 6, 7, 8, 17, 18
35 South	07 East	Parts of: 5, 8, 17

CRAWFORD COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
28 South	21 East	Parts of: 35
29 South	24 East	Parts of: 32
30 South	21 East	Parts of: 13, 14, 23, 26, 35
30 South	22 East	Parts of: 25, 36
30 South	23 East	Parts of: 19, 30, 31
30 South	24 East	Parts of: 3, 4, 5, 8, 9, 10, 15, 16, 22, 23, 24, 25, 27, 35 All of: 26, 36
30 South	25 East	Parts of: 2, 3, 10, 11, 12, 14, 15, 19, 22, 23, 26, 27, 31, 33, 34, 35
31 South	21 East	Parts of: 1, 2, 11
31 South	22 East	Parts of: 1, 2, 3, 10, 11, 12, 13, 14, 15, 16, 17
31 South	24 East	Parts of: 1
31 South	25 East	Parts of: 2, 3, 4, 5, 7, 9, 16, 17 All of: 6, 8

DECATUR

<u>Township</u>	<u>Range</u>	<u>Sections</u>
01 South	26 West	Parts of: 8, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 26
01 South	27 West	Parts of: 13, 14, 21, 22, 23, 24, 25, 26, 27, 28, 31, 32, 33, 34
01 South	28 West	Parts of: 6
01 South	29 West	Parts of: 1, 2, 3, 9, 10, 11, 16, 17, 18, 19, 20, 30
01 South	30 West	Parts of: 22, 23, 24, 25, 26, 27, 31, 36 All of: 32, 33, 34, 35

02 South	27 West	Parts of: 4, 5, 6, 7, 8, 18
02 South	28 West	Parts of: 11, 12, 13, 15, 16, 20, 21, 22, 23, 28, 29, 30, 31, 32, 33 All of: 14
02 South	29 West	Parts of: 22, 23, 25, 26, 36
02 South	30 West	Parts of: 2, 3, 4, 5, 6, 7
03 South	26 East	Parts of: 25, 31, 36
03 South	27 West	Parts of: 26, 34, 35, 36
03 South	28 West	Parts of: 5, 6, 7, 8
03 South	29 West	Parts of: 1, 2, 10, 11, 12, 14, 15, 16, 17, 18, 19, 20, 21, 22, 28, 29, 31, 32
03 South	30 West	Parts of: 13, 14, 15, 19, 20, 22, 23, 24, 26, 27, 28, 29, 30, 31, 32, 33, 34
04 South	26 West	Parts of: 1, 2, 5, 6, 8, 9, 10, 11, 12, 15, 16, 17, 18, 19, 20
04 South	27 West	Parts of: 1, 3, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34
04 South	28 West	Parts of: 25, 34, 35, 36
04 South	29 West	Parts of: 5, 6
04 South	30 West	Parts of: 1, 2, 3, 5, 6, 7, 10, 11, 15, 16, 17, 19, 20, 29, 30, 31
05 South	26 West	Parts of: 25, 26, 31, 32, 33, 34, 35, 36
05 South	27 West	Parts of: 3, 4, 9, 35, 36
05 South	28 West	Parts of: 2, 3, 4, 5, 6, 7, 8, 9, 10
05 South	29 West	Parts of: 1, 2, 3, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 28, 31, 32
05 South	30 West	Parts of: 23, 24, 26

DICKINSON COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
11 South	02 East	Parts of: 1, 2, 12
11 South	03 East	Parts of: 7, 15, 17, 18, 20, 21, 22, 26, 27, 28, 35, 36
12 South	01 East	Parts of: 30, 31
12 South	02 East	Parts of: 30, 31, 32
12 South	03 East	Parts of: 1, 12, 13, 24, 35, 36
12 South	04 East	Parts of: 19, 27, 28, 29, 30, 31, 32, 33, 34, 35
13 South	01 East	Parts of: 2, 3, 4, 7, 8, 11, 12, 19, 20, 21, 22, 23, 24 All of: 9, 10, 13, 14, 15, 16, 17, 18, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36

3 South	02 East	Parts of: 5, 6, 7, 8, 10, 11, 12, 15, 18, 25, 26, 31, 32, 33, 34 All of: 13, 14, 19, 20, 21, 22, 23, 27, 28, 29, 30
13 South	03 East	Parts of: 1, 2, 3, 4, 7, 8, 12, 14, 15, 20, 21, 22, 30 All of: 9, 10, 11, 16, 17, 18, 19
13 South	04 East	Parts of: 3, 4, 5, 6, 7
14 South	01 East	Parts of: 1, 2, 3, 4, 5, 6, 7, 11, 12, 13, 14, 23, 24, 25, 26, 35
14 South	02 East	Parts of: 3, 10, 11, 12, 14, 22, 23, 26, 27, 35
14 South	04 East	Parts of: 1
14 South	05 East	Parts of: 5, 6

DONIPHAN COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
01 South	19 East	Parts of: 5, 6, 22, 23, 25, 26
01 South	20 East	All of: 29, 30, 31, 32
02 South	20 East	Parts of: 6, 7, 8, 10, 11, 14, 16, 17, 21, 24, 28, 34
02 South	21 East	Parts of: 12, 13, 24, 27, 28, 29, 30, 32
02 South	22 East	Parts of: 19, 20, 21, 28, 35, 36 All of: 15, 16, 17, 18
03 South	19 East	Parts of: 16, 17, 18, 19, 20, 21, 22, 23, 24, 26, 27
03 South	20 East	Parts of: 4, 6, 7, 8, 18, 19
03 South	21 East	Parts of: 14, 15, 16, 21, 22, 23, 24
03 South	22 East	Parts of: 3, 10, 15, 19, 20, 21, 22, 25, 26, 27, 28, 29, 33 All of: 1, 2, 11, 12, 13, 14, 34, 35, 36
03 South	23 East	All of: 6, 7, 29, 30, 31, 32
04 South	20 East	Parts of: 33
04 South	21 East	Parts of: 1, 2, 26, 35
04 South	22 East	Parts of: 5, 6, 8, 17, 20, 29 All of: 1, 2, 3
04 South	23 East	All of: 5, 6
05 South	21 East	Parts of: 3, 6, 7, 8, 9, 10

DOUGLAS COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
11 South	17 East	Parts of: 25, 35, 36
11 South	18 East	Parts of: 27, 28, 29, 30, 33, 34, 35
12 South	18 East	Parts of: 1, 3, 4, 12, 31
12 South	19 East	Parts of: 1, 2, 7, 8, 9, 16, 21, 22, 24, 25 All of: 3, 4, 5, 6, 10, 11, 12, 13, 14, 15
12 South	20 East	Parts of: 6, 8, 16, 26, 31, 32 All of: 7, 17, 18, 19, 20, 21, 28, 29, 30, 33, 34, 35, 36
12 South	21 East	Parts of: 28, 32, 33 All of: 27, 31, 34
13 South	17 East	Parts of: 24, 25, 26, 35, 36
13 South	18 East	Parts of: 3, 4, 5, 8, 9, 10, 11, 12, 15, 17, 19, 20, 21, 22, 23, 25, 26, 27, 28, 33, 34, 36 All of: 13, 14, 16, 24
13 South	19 East	Parts of: 3, 7, 8, 9, 10, 11, 12, 19, 20, 21, 22, 23, 24, 25, 28, 29, 30, 31, 32, 33 All of: 13, 14, 15, 16, 17, 18
13 South	20 East	Parts of: 4, 9, 10, 13, 14, 19, 20, 21, 22, 23, 28, 33 All of: 1, 2, 3, 11, 12, 15, 16, 17, 18
13 South	21 East	Parts of: 3, 4, 5, 7, 18, 19, 20 All of: 6
14 South	18 East	Parts of: 1, 2, 4, 5, 11, 12
14 South	19 East	Parts of: 4, 5, 6, 7, 8, 17
14 South	20 East	Parts of: 3, 4, 10

EDWARDS COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
23 South	19 West	Parts of: 36
24 South	16 West	All
24 South	17 West	All
24 South	18 West	All
24 South	19 West	Parts of: 2, 3, 9, 16, 17, 20, 30 All of: 1, 10, 11, 12, 13, 14, 15, 21, 22, 23, 24, 25, 26, 27, 28, 29, 31, 32, 33, 34, 35, 36
24 South	20 West	Parts of: 36

25 South	16 West	All
25 South	17 West	All
25 South	18 West	All
25 South	19 West	All
25 South	20 West	Parts of: 2, 11, 14, 22, 27, 32 All of: 1, 12, 13, 23, 24, 25, 26, 33, 34, 35, 36
26 South	16 West	All
26 South	17 West	All
26 South	18 West	All
26 South	19 West	All
26 South	20 West	Parts of: 6 All of: 1, 2, 3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36

ELK COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
28 South	12 East	Parts of: 36
28 South	13 East	Parts of: 21, 22, 27, 29, 30, 31, 34 All of: 28
29 South	12 East	Parts of: 1
29 South	13 East	Parts of: 6
30 South	10 East	Parts of: 1, 12
30 South	11 East	Parts of: 6, 7, 8, 16, 17, 19, 20, 21, 27, 28, 29, 33, 34
30 South	12 East	Parts of: 31, 32, 33, 34, 35, 36
31 South	08 East	Parts of: 12, 13
31 South	09 East	Parts of: 18, 19, 30
31 South	10 East	Parts of: 12, 13
31 South	11 East	Parts of: 2, 3, 7, 8, 9, 10, 11, 12, 13, 14
31 South	12 East	Parts of: 1, 2, 4, 7, 8, 9, 10, 12 All of: 3
31 South	13 East	Parts of: 5, 6, 7, 8, 17, 18, 20, 21, 22, 27, 28, 33, 34

ELLIS COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
11 South	16 West	Parts of: 7, 8, 9, 16, 17, 18, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 35, 36
11 South	17 West	Parts of: 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22
11 South	18 West	Parts of: 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21 All of: 18
11 South	19 West	Parts of: 11, 12, 13, 16, 17, 18, 22, 23, 24 All of: 14, 15, 19, 20, 21
11 South	20 West	Parts of: 5, 6, 8, 9, 10, 11, 13, 14, 15, 16, 17, 23, 24, 25
12 South	16 West	Parts of: 1
13 South	18 West	Parts of: 19, 30, 31, 32
13 South	19 West	Parts of: 7, 13, 14, 15, 16, 17, 18, 19, 20, 21, 25, 26, 27 All of: 22, 23, 24
13 South	20 West	Parts of: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 24 All of: 12
14 South	16 West	Parts of: 16, 17, 20, 21, 22, 25, 26, 27, 28, 34, 35, 36
14 South	17 West	Parts of: 19, 29, 30, 31, 32, 33
14 South	18 West	Parts of: 3, 4, 5, 9, 10, 11, 13, 14, 15, 23, 24, 25
14 South	20 West	Parts of: 16, 17, 18, 20, 21, 25, 26, 28, 33, 34, 35, 36 All of: 31, 32
15 South	16 West	Parts of: 3, 4, 6, 7, 8, 22, 23, 24, 35, 36 All of: 5, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34
15 South	17 West	Parts of: 1, 3, 4, 5, 10, 11, 12, 25, 26, 27, 28, 29, 30 All of: 31, 32, 33, 34, 35, 36
15 South	18 West	Parts of: 19, 20, 25, 26, 31, 32 All of: 27, 28, 29, 30, 33, 34, 35, 36
15 South	19 West	Parts of: 6, 8, 15, 16, 18, 20, 21, 22, 23, 24, 36 All of: 7, 17, 25, 26, 27
15 South	20 West	Parts of: 1, 2, 3, 4, 7, 8, 9, 13, 14, 15, 16, 21, 22, 24, 25, 26, 34, 35 All of: 5, 6, 10, 11, 12

ELLSWORTH

<u>Township</u>	<u>Range</u>	<u>Sections</u>
14 South	07 West	Parts of: 4, 9, 16
14 South	09 West	Parts of: 3, 5, 8, 10, 15, 16, 17, 23, 25, 26, 35 All of: 6, 7, 18, 19, 20, 21, 22, 27, 28, 29, 30, 31, 32, 33, 34

14 South	10 West	Parts of: 7, 8, 10, 15, 16, 17, 22, 23 All of: 1, 2, 3, 11, 12, 13, 14, 18, 19, 20, 21, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36
15 South	06 West	Parts of: 13
15 South	07 West	Parts of: 18, 20, 27, 29, 34, 35 All of: 19, 30, 31, 32, 33
15 South	08 West	Parts of: 4, 5, 7, 10, 11, 12, 29, 30, 32, 33 All of: 8, 9, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 34, 35, 36
15 South	09 West	Parts of: 1, 20, 21, 22, 25, 26, 27, 34, 35, 36 All of: 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 23, 24
15 South	10 West	Parts of: 5, 8, 9, 10, 14, 23, 24, 25, 26 All of: 1, 2, 3, 4, 11, 12, 13
16 South	06 West	Parts of: 4, 5, 6, 7, 8, 15, 16, 17, 18, 19, 20, 22, 25, 26, 27, 28, 29, 30, 32, 34, 35, 36 All of: 21
16 South	07 West	Parts of: 2, 17, 18, 21, 22, 23, 24 All of: 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16
16 South	08 West	Parts of: 10, 13, 14, 15, 22, 23 All of: 1, 2, 3, 11, 12
16 South	09 West	Parts of: 3, 10, 15
17 South	06 West	Parts of: 5, 6, 9, 10, 11, 12, 13 All of: 1, 2, 3, 4

FINNEY COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
21 South	27 West	Parts of: 23, 24, 25, 26
21 South	30 West	Parts of: 16
21 South	31 West	Parts of: 1, 2, 3, 4
22 South	27 West	Parts of: 6, 8, 9, 10, 11, 12, 13, 14, 15, 16, 24, 25, 26, 33, 34, 35 All of: 7
22 South	28 West	Parts of: 7, 8, 9, 13, 14, 15, 16, 19, 20, 21, 23, 26, 27, 34, 35 All of: 10, 11, 12, 17, 18
22 South	29 West	Parts of: 3, 8, 9, 10, 12, 14, 15, 16, 17, 23, 24 All of: 11, 13
22 South	30 West	Parts of: 11, 12
22 South	32 West	Parts of: 28, 31, 32, 33
23 South	27 West	Parts of: 2, 3, 4, 5, 8, 9, 10, 11

23 South	29 West	Parts of: 15, 16, 18, 21, 22, 23, 26, 27, 28, 29, 32, 33, 34
23 South	32 West	Parts of: 4, 5, 7, 8, 9
23 South	33 West	Parts of: 31, 32, 33, 34, 35, 36
23 South	34 West	Parts of: 33, 34, 35, 36
24 South	31 West	Parts of: 19, 32 All of: 30, 31
24 South	32 West	Parts of: 3, 4, 6, 8, 9, 10, 14, 23, 24 All of: 7, 15, 16, 17, 18, 19, 20, 21, 22, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36
24 South	33 West	All
24 South	34 West	Parts of: 5, 6 All of: 1, 2, 3, 4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36
25 South	31 West	Parts of: 3, 4, 11, 12 All of: 5, 6, 7, 8, 9, 10, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36
25 South	32 West	Parts of: 31 All of: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 32, 33, 34, 35, 36
25 South	33 West	All
25 South	34 West	All
26 South	31 West	Parts of: 7, 11, 12, 14, 23, 26, 30, 31, 35 All of: 1, 2, 3, 4, 5, 6, 8, 9, 10, 15, 16, 17, 18, 19, 20, 21, 22, 27, 28, 29, 32, 33, 34
26 South	32 West	Parts of: 1, 2, 3, 6, 7, 9, 10, 11, 12, 18, 19, 25, 26, 30, 31, 34 All of: 4, 5, 8, 13, 14, 15, 16, 17, 20, 21, 22, 23, 24, 27, 28, 29, 32, 33
26 South	33 West	Parts of: 1, 10, 12, 14, 15, 22, 34, 35 All of: 2, 3, 4, 5, 6, 7, 8, 9, 11, 16, 17, 18, 19, 20, 21, 28, 29, 30, 31, 32, 33
26 South	34 West	All

FORD COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
25 South	23 West	Parts of: 3, 4, 5, 7, 8, 9 All of: 6
25 South	24 West	Parts of: 1, 2, 3, 4, 5, 6, 10, 11, 12
25 South	25 West	Parts of: 1, 2

26 South	21 West	Parts of: 1, 12, 14, 23, 34 All of: 13, 24, 25, 26, 35, 36
26 South	22 West	Parts of: 29, 30, 32, 33 All of: 31
26 South	23 West	Parts of: 34, 35, 36
26 South	24 West	Parts of: 31, 32, 33
26 South	25 West	Parts of: 28, 29, 30 All of: 31, 32, 33, 34, 35, 36
26 South	26 West	Parts of: 7, 15, 16, 23, 25 All of: 17, 18, 19, 20, 21, 22, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36
27 South	21 West	Parts of: 3, 9, 16, 18, 19, 20, 21, 29, 30 All of: 1, 2, 10, 11, 12, 13, 14, 15, 22, 23, 24, 25, 26, 27, 28, 31, 32, 33, 34, 35, 36
27 South	22 West	Parts of: 3, 10, 13, 14 All of: 4, 5, 6, 7, 8, 9, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36
27 South	23 West	Parts of: 3, 6, 7, 8, 10, 13, 14, 15, 16, 34 All of: 1, 2, 11, 12, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 35, 36
27 South	24 West	Parts of: 1, 2, 3, 21, 22, 23, 24, 25, 29 All of: 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 30
27 South	25 West	Parts of: 7, 9, 15, 17, 18, 23, 25, 26 All of: 1, 2, 3, 4, 5, 6, 8, 10, 11, 12, 13, 14, 24
27 South	26 West	Parts of: 2, 3, 6, 8, 9, 11, 12 All of: 1, 4, 5
28 South	21 West	Parts of: 7, 17, 20, 21, 22, 23, 26, 35, 36 All of: 1, 2, 3, 4, 5, 6, 8, 9, 10, 11, 12, 13, 14, 15, 16, 24, 25
28 South	22 West	Parts of: 5, 6, 7, 8, 9, 10, 11, 12 All of: 1, 2, 3, 4
28 South	23 West	Parts of: 1, 2
29 South	21 West	Parts of: 31, 32
29 South	23 West	Parts of: 25, 26, 27, 28, 29, 31, 32, 33, 34, 35, 36
29 South	25 West	Parts of: 6, 7, 20, 29, 32 All of: 18, 19, 30, 31
29 South	26 West	Parts of: 1, 12, 13, 24, 26, 35 All of: 25, 36

FRANKLIN COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
15 South	18 East	Parts of: 24, 25, 32
15 South	19 East	Parts of: 19, 30, 31
16 South	17 East	Parts of: 35, 36
16 South	18 East	Parts of: 4, 5, 9, 10, 14, 15, 23, 24, 33, 34, 36
16 South	19 East	Parts of: 4, 5, 6, 8, 9, 15, 16, 17, 19, 20, 21, 22, 26, 27, 28, 29, 30, 31, 36 All of: 32, 33, 34, 35
16 South	20 East	Parts of: 7, 8, 17, 20, 21, 27, 28, 33, 34
17 South	17 East	Parts of: 11, 12 All of: 1, 2
17 South	18 East	Parts of: 5, 6, 7, 8, 9, 10, 11, 12, 15 All of: 1, 2, 3, 4
17 South	19 East	Parts of: 1, 2, 7, 9, 10, 11, 15, 16, 18, 19, 20, 21 All of: 3, 4, 5, 6, 8, 17
17 South	20 East	Parts of: 2, 4, 5, 6, 9, 10, 12, 14, 23, 24, 26, 27, 28, 29, 32, 33, 34 All of: 3, 11, 13
17 South	21 East	Parts of: 3, 4, 7, 8, 9, 15, 19, 20, 28, 29, 33 All of: 16, 17, 18, 21, 22, 27, 34
18 South	19 East	Parts of: 12
18 South	20 East	Parts of: 5, 6, 7, 8
18 South	21 East	Parts of: 3, 27, 28, 31, 32, 33, 34
19 South	18 East	Parts of: 12, 13, 14
19 South	19 East	Parts of: 7, 17, 18
19 South	21 East	Parts of: 5, 6, 7, 8, 9, 17, 18

GEARY COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
10 South	04 East	Parts of: 1, 2, 23, 26
10 South	05 East	Parts of: 3, 4, 10, 15, 22
11 South	05 East	Parts of: 20, 21, 25, 26, 27, 28, 29, 34 All of: 35, 36
11 South	06 East	Parts of: 21, 23, 24, 25, 26, 27, 29, 30, 34, 36 All of: 22, 28, 31, 32, 33, 35
11 South	07 East	Parts of: 27, 28, 33, 34, 35

12 South	04 East	Parts of: 23, 24, 25, 26
12 South	05 East	Parts of: 2, 11, 14, 19, 21, 22, 24, 25, 27, 28, 29, 34, 36 All of: 1, 12, 13, 23, 26, 30, 31, 32, 33, 35
12 South	06 East	Parts of: 1, 2, 3, 4, 5, 6, 7, 10, 11, 12, 14, 15, 18, 19, 22, 23, 25, 26, 27, 34, 36
12 South	07 East	Parts of: 1, 2, 3, 6, 7, 8, 11, 12, 13, 17, 18, 20, 21, 24, 25, 28, 31
12 South	08 East	Parts of: 6, 7, 8, 16, 17, 19, 30
13 South	05 East	Parts of: 2, 3, 9, 10, 15, 16, 17, 19, 20, 29, 30, 31, 32
13 South	06 East	Parts of: 2, 3, 4, 9, 10, 11, 15, 16, 20, 21, 28, 29, 32, 33

GOVE COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
11 South	26 West	Parts of: 1, 2, 3
12 South	28 West	Parts of: 22, 23, 24, 25, 26, 27, 36
12 South	29 West	Parts of: 19, 29, 30, 32, 34, 35 All of: 31
12 South	30 West	Parts of: 24, 25, 26, 27, 28, 29, 30, 32, 33, 34, 35, 36
12 South	31 West	Parts of: 20, 21, 22, 23, 24, 25, 26, 27, 28
13 South	26 West	Parts of: 19, 20, 23, 26, 27, 28, 29, 30, 32, 33, 34, 35, 36
13 South	27 West	Parts of: 4, 7, 9, 15, 16, 17, 18, 20, 21, 22, 23, 24, 25, 26, 27
13 South	28 West	Parts of: 1, 5, 6, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 23, 24
13 South	29 West	Parts of: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 17, 18
13 South	30 West	Parts of: 11, 12, 13
14 South	26 West	Parts of: 1, 2, 34, 35
14 South	27 West	Parts of: 34, 35, 36
14 South	29 West	Parts of: 29, 30, 31, 32, 33
14 South	31 West	Parts of: 31, 32, 33
15 South	26 West	Parts of: 1, 2, 3, 4, 6, 7, 8, 9, 12
15 South	27 West	Parts of: 2, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22 All of: 1
15 South	28 West	Parts of: 7, 13, 15, 16, 17, 18, 19, 20, 22, 23, 24
15 South	29 West	Parts of: 2, 3, 4, 5, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23

15 South 30 West Parts of: 8, 9, 13, 14, 15, 16, 17, 18, 22, 23, 24

15 South 31 West Parts of: 3, 4, 5, 6, 10, 11, 13, 14

GRAHAM COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
06 South	21 West	Parts of: 1, 2, 3, 7, 8, 9, 10, 11, 12
06 South	22 West	Parts of: 1, 2, 4, 5, 6, 8, 9, 10, 11, 12, 18
06 South	23 West	Parts of: 12, 13, 14, 16, 19, 20, 21, 22, 23, 24, 30
06 South	24 West	Parts of: 23, 24, 25, 26, 27, 28, 33, 34
07 South	21 West	Parts of: 18, 19, 20, 26, 27, 28, 29, 30, 32, 33, 34, 35
07 South	22 West	Parts of: 2, 3, 10, 11, 12, 13, 14, 15, 23, 24, 25, 26, 36
08 South	21 West	Parts of: 1, 2, 3, 4, 5, 7, 10, 11, 13, 14, 15, 16, 17, 18, 19, 22, 23, 24, 26, 27 All of: 8, 9, 12
08 South	22 West	Parts of: 3, 4, 5, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 28
08 South	23 West	Parts of: 8, 9, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 35
08 South	24 West	Parts of: 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24
08 South	25 West	Parts of: 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24
10 South	21 West	Parts of: 6, 7
10 South	22 West	Parts of: 1, 12
10 South	25 West	Parts of: 32, 33

GRANT COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
27 South	35 West	Parts of: 3, 4, 5, 6, 11, 13, 14 All of: 1, 2, 12
27 South	36 West	Parts of: 1, 2, 3, 4, 5, 6, 30, 31
27 South	37 West	Parts of: 1, 23, 24, 25, 36
28 South	36 West	Parts of: 6, 7
28 South	37 West	Parts of: 1, 11, 12, 13, 14, 23, 24, 25, 26, 34, 35, 36
29 South	35 West	Parts of: 29, 30, 33, 34 All of: 31, 32
29 South	36 West	Parts of: 7, 8, 16, 19, 20, 22, 25, 26, 28, 29, 33, 34 All of: 17, 18, 21, 27, 35, 36

29 South	37 West	Parts of: 1, 3, 10, 13, 14, 15, 22, 24, 27 All of: 2, 11, 12
30 South	35 West	Parts of: 3, 5, 6, 7, 10, 13, 14, 15, 18, 19, 20, 31, 35, 36 All of: 4, 8, 9, 16, 17, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 32, 33, 34
30 South	36 West	Parts of: 1, 2, 3, 8, 9, 14, 15, 16, 18, 20, 21, 24, 27, 28, 30, 34, 35, 36 All of: 17, 19, 22, 23, 25, 26
30 South	37 West	Parts of: 13, 23, 24, 25, 26, 27, 28, 31, 32, 33, 34, 35

GRAY COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
24 South	29 West	Parts of: 3, 4
25 South	28 West	Parts of: 31
25 South	29 West	Parts of: 18, 20, 21, 26, 35, 36 All of: 19, 27, 28, 29, 30, 31, 32, 33, 34
25 South	30 West	Parts of: 7, 8, 9, 13, 14, 15 All of: 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36
26 South	27 West	Parts of: 5, 6, 9, 10, 11, 12 All of: 7, 8, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36
26 South	28 West	Parts of: 1, 2, 4, 5, 6, 10, 11 All of: 7, 8, 9, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36
26 South	29 West	All
26 South	30 West	Parts of: 7, 18, 19, 30, 31 All of: 1, 2, 3, 4, 5, 6, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 32, 33, 34, 35, 36
27 South	27 West	Parts of: 1, 2, 3, 4, 5, 7, 8, 18, 19 All of: 6
27 South	28 West	Parts of: 13, 24, 25, 26, 31, 32, 33, 34 All of: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 27, 28, 29, 30
27 South	29 West	Parts of: 31, 32, 34 All of: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 33, 35, 36
27 South	30 West	Parts of: 4, 5, 10, 14, 23, 26 All of: 1, 2, 3, 11, 12, 13, 24, 25
28 South	29 West	Parts of: 1, 2, 3, 4

GREELEY COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
17 South	40 West	Parts of: 6, 7
17 South	41 West	Parts of: 1, 12
18 South	39 West	Parts of: 13, 17, 18, 19, 20, 21, 22, 23, 24, 29, 30
18 South	40 West	Parts of: 7, 16, 17, 18, 20, 21, 22, 23, 24, 25, 26, 27
18 South	41 West	Parts of: 12

GREENWOOD COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
22 South	11 East	Parts of: 2, 3, 4, 5, 6, 10, 11, 12, 13
22 South	12 East	Parts of: 7, 8, 15, 16, 17, 18, 20, 21, 22, 23, 26, 27, 35, 36
23 South	12 East	Parts of: 1, 2, 11, 12, 13, 14, 24, 25, 36
23 South	13 East	Parts of: 19, 30, 31
24 South	12 East	Parts of: 34, 35
24 South	13 East	Parts of: 5, 6, 8, 17, 18, 19, 20, 29, 32, 33 All of: 7
25 South	09 East	Parts of: 13, 14, 15, 22, 23, 24, 25, 26
25 South	10 East	Parts of: 19, 29, 30, 31, 32, 33
25 South	12 East	Parts of: 1, 2, 12, 20, 28, 29, 32, 33, 34
25 South	13 East	Parts of: 3, 4, 5, 6, 7, 8, 10, 15, 17, 20, 21, 22, 27, 28, 33, 34 All of: 16
26 South	10 East	Parts of: 3, 4, 9, 10, 11, 12, 13, 14
26 South	11 East	Parts of: 7, 17, 18, 19, 20, 21, 27, 28, 29, 34, 35
26 South	12 East	Parts of: 1, 2, 3, 5, 12
26 South	13 East	Parts of: 3, 6, 7, 8, 9, 10, 15, 16, 17, 20
27 South	10 East	Parts of: 12, 13, 14, 19, 20, 21, 22, 23, 28, 32
27 South	11 East	Parts of: 1, 2, 3, 4, 7, 8, 9, 10, 11, 12, 13, 16, 17, 18
27 South	12 East	Parts of: 7, 14, 17, 18, 19, 20, 21, 23, 26, 27, 29, 32, 33, 34, 35, 36 All of: 28
28 South	12 East	Parts of: 1, 2, 3, 11, 12, 13, 14
28 South	13 East	Parts of: 7, 15, 16, 17, 18

HAMILTON COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
23 South	41 West	Parts of: 29, 30, 33, 34 All of: 31, 32
23 South	42 West	Parts of: 19, 20, 21, 22, 25, 26 All of: 27, 28, 29, 30, 31, 32, 33, 34, 35, 36
23 South	43 West	Parts of: 14, 15, 16 All of: 21, 22, 23, 24, 25, 26, 27, 28, 33, 34, 35, 36
24 South	39 West	Parts of: 18, 20, 21, 22, 23, 24, 25, All of: 19, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36
24 South	40 West	Parts of: 7, 8, 9, 13, 14, 15 All of: 16, 17, 18, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36
24 South	41 West	Parts of: 1, 2, 3, 30, 31, 32, 33, 34 All of: 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 35, 36
24 South	42 West	Parts of: 19, 20, 25, 26, 27, 28, 36 All of: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 21, 22, 23, 24
24 South	43 West	Parts of: 13, 22, 23, 24 All of: 1, 2, 3, 4, 9, 10, 11, 12, 14, 15, 16, 21
25 South	39 West	Parts of: 7, 17, 18, 20, 21, 22, 25, 26, 27, 36 All of: 1, 2, 3, 4, 5, 6, 8, 9, 10, 11, 12, 13, 14, 15, 16, 23, 24
25 South	40 West	Parts of: 5, 6, 7, 8, 9, 10, 13, 14 All of: 1, 2, 3, 4, 11, 12
25 South	41 West	Parts of: 1, 2, 3, 12
26 South	41 West	Parts of: 33

HARPER COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
31 South	05 West	Parts of: 17, 18, 19, 21, 28, 29 All of: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 22, 23, 24, 25, 26, 27, 30, 31, 32, 33, 34, 35, 36
31 South	06 West	Parts of: 1, 2, 3, 4, 8, 9, 10, 11, 13, 14, 15, 16, 17, 19, 20, 21, 22, 24, 26, 27, 28, 29, 30, 31, 32 All of: 5, 6, 7, 12, 18, 25, 33, 34, 35, 36
31 South	07 West	Parts of: 29, 30 All of: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 31, 32, 33, 34, 35, 36

31 South	08 West	Parts of: 22, 23, 25, 26, 27, 28, 33, 35, 36 All of: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 24, 29, 30, 31, 32, 34
31 South	09 West	Parts of: 28, 29, 30, 31, 32, 33, 34, 36 All of: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 35
32 South	05 West	Parts of: 18, 20, 21, 23, 24, 26, 27, 28, 34 All of: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 22
32 South	06 West	Parts of: 8, 9, 13, 14, 15, 17, 18 All of: 1, 2, 3, 4, 5, 6, 7, 10, 11, 12
32 South	07 West	Parts of: 13, 14, 15, 21, 22, 28, 29, 32, 33 All of: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 16, 17, 18, 19, 20, 30, 31
32 South	08 West	Parts of: 2, 3, 4, 6, 7, 8, 10, 11, 15, 16, 17, 18, 21, 22, 27, 28, 31, 32, 33, 34, 35 All of: 1, 5, 9, 12, 13, 14, 19, 20, 23, 24, 25, 26, 29, 30, 36
32 South	09 West	Parts of: 1, 2, 5, 6, 7, 8, 9, 11, 12, 13, 14, 15, 16, 21, 22, 26, 27, 28, 30, 31, 33, 34, 35 All of: 17, 18, 19, 20, 23, 24, 25, 29, 32
33 South	06 West	Parts of: 19, 20, 26, 29, 30, 32, 33, 34, 35, 36 All of: 31
33 South	07 West	Parts of: 3, 7, 10, 15, 17, 18, 19, 20, 22, 23, 24, 25, 26, 29, 30 All of: 4, 5, 6, 8, 9, 16, 21, 27, 28, 31, 32, 33, 34, 35, 36
33 South	08 West	Parts of: 1, 4, 5, 8, 10, 11, 12, 15, 22, 27, 29, 30, 31, 34 All of: 13, 14, 23, 24, 25, 26, 35, 36
33 South	09 West	Parts of: 2, 3, 4, 5, 6, 8, 10, 12, 13, 14, 15, 16, 21, 22, 23, 24, 27, 33, 34 All of: 9, 11, 25, 26, 35, 36
34 South	05 West	Parts of: 4, 7, 8, 9, 10, 14, 15, 16, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27 All of: 17
34 South	06 West	Parts of: 1, 4, 7, 9, 10, 13, 14 All of: 2, 3, 5, 6, 8, 11, 12
34 South	07 West	Parts of: 3, 7, 8, 9, 10, 11, 12 All of: 1, 2, 4, 5, 6
34 South	08 West	Parts of: 2, 5, 6, 7, 8, 10, 12, 13, 14, 15, 18, 20, 21, 23, 28, 33, 34 All of: 1, 11, 19, 29, 30, 31, 32
34 South	09 West	Parts of: 1, 4, 5, 6, 7, 8, 9, 12, 18, 20, 21, 28, 29, 30, 31, 32, 33 All of: 2, 3, 10, 11, 13, 14, 15, 19, 22, 23, 24, 25, 26, 27, 34, 35, 36
35 South	08 West	Parts of: 3, 4, 9, 10, 11, 15, 16 All of: 5, 6, 7, 8, 17, 18
35 South	09 West	Parts of: 5, 6, 8, 9, 16 All of: 1, 2, 3, 4, 10, 11, 12, 13, 14, 15

HARVEY COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
22 South	01 West	Parts of: 2, 5, 10, 11, 14, 15, 22, 27, 33, 34 All of: 6, 7, 18, 19, 31
22 South	02 West	All
22 South	03 West	All
23 South	01 East	Parts of: 30, 31
23 South	01 West	Parts of: 3, 4, 9, 10, 15, 16, 36 All of: 6, 7, 17, 18, 19, 20, 21, 22, 27, 28, 29, 30, 31, 32, 33, 34
23 South	02 West	All
23 South	03 West	All
24 South	01 East	Parts of: 6
24 South	01 West	Parts of: 1, 11, 12, 13, 14, 24, 26 All of: 3, 4, 5, 6, 7, 8, 9, 10, 15, 16, 17, 18, 19, 20, 21, 22, 23, 27, 28, 29, 30, 31, 32, 33, 34
24 South	02 West	All
24 South	03 West	All

HASKELL COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
27 South	31 West	Parts of: 2, 3, 5, 9, 10 All of: 4
27 South	32 West	Parts of: 1, 2, 3, 4, 6, 7, 8, 9, 16, 17, 18 All of: 5
27 South	33 West	Parts of: 2, 11, 14, 16, 17, 19, 20, 21 All of: 3, 4, 5, 6, 7, 8, 9, 10, 15, 18
27 South	34 West	Parts of: 14, 15, 16, 17, 18 All of: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
30 South	34 West	Parts of: 18, 19, 20, 28, 31, 33, 34, 35, 36 All of: 29, 30, 32

HODGEMAN COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
21 South	21 West	Parts of: 2, 3, 4, 5, 11, 12, 19, 29, 31, 32 All of: 6, 7, 8, 9, 10, 13, 14, 15, 16, 17, 18, 20, 21, 22, 23, 24, 25, 26, 27, 28, 33, 34, 35, 36

21 South	22 West	Parts of: 3, 4, 13, 24, 31, 32, 33 All of: 1, 2, 11, 12
21 South	23 West	Parts of: 5, 6, 36
21 South	24 West	Parts of: 1, 2, 3, 4, 5, 6, 7, 8, 9, 17, 18
21 South	25 West	Parts of: 1, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 30
21 South	26 West	Parts of: 3, 4, 9, 10, 11, 12, 13, 14, 19, 24, 25, 26, 29, 30, 31, 32, 33, 34, 35, 36
22 South	21 West	Parts of: 10, 11, 12, 16, 17, 18, 19 All of: 1, 2, 3, 4, 5, 6, 7, 8, 9
22 South 35	22 West	Parts of: 1, 2, 3, 4, 5, 9, 10, 15, 16, 21, 22, 24, 25, 26, 27, 28, 31, 32, 33, 35 All of: 11, 12, 13, 14, 23, 34
22 South	23 West	Parts of: 1, 33, 34, 35, 36
22 South	26 West	Parts of: 1, 2, 3, 4, 7, 8, 9, 10, 11, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 27, 28, 29, 30, 33, 34
23 South	22 West	Parts of: 2, 3, 4, 5, 6, 8, 10, 11, 14, 15, 22, 23, 26, 27, 32, 33, 34, 35
23 South	23 West	Parts of: 1, 2, 3, 4, 5, 6, 7, 8, 9
23 South	24 West	Parts of: 1, 2, 3, 4, 5, 8, 9, 10, 11, 12, 15
24 South	22 West	Parts of: 3, 4, 5, 6, 7, 8
24 South	23 West	Parts of: 12, 13, 23, 24, 26, 27, 33, 34, 35

JACKSON COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
05 South	15 East	Parts of: 7, 8, 9, 10, 11, 12, 13, 14, 15, 29, 33, 34
05 South	16 East	Parts of: 3, 4, 7, 8, 9, 10, 11, 14, 15, 18, 23, 24
06 South	13 East	Parts of: 9, 10, 15, 16, 21, 27, 28, 33, 34
06 South	14 East	Parts of: 17, 20, 21, 25, 26, 27, 28, 29, 34, 35, 36
06 South	15 East	Parts of: 1, 2, 3, 10, 11, 12, 13, 24, 31, 32, 33, 36
06 South	16 East	Parts of: 5, 6, 7, 8, 9, 14, 15, 16, 17, 18, 22, 23, 24, 25, 26
07 South	13 East	Parts of: 2, 3, 10, 14, 15, 22, 23, 25, 26, 35, 36
07 South	15 East	Parts of: 1, 2, 3, 4, 5, 6, 9, 10, 11
07 South	16 East	Parts of: 1, 2, 3, 4, 5, 6, 7, 8, 9, 17, 18, 19
08 South	12 East	Parts of: 25, 36
08 South	13 East	Parts of: 1, 2, 4, 5, 8, 12, 13, 17, 18, 19, 20, 24, 25, 30, 36

08 South	14 East	Parts of: 19, 30, 31
08 South	15 East	Parts of: 29, 30, 31, 32
08 South	16 East	Parts of: 26
09 South	12 East	Parts of: 1, 12, 13, 24
09 South	13 East	Parts of: 1, 5, 6, 7, 8, 12, 17, 18, 19, 20, 21, 27, 28, 29, 33, 34
09 South	14 East	Parts of: 6, 7, 8, 9, 16, 17, 18, 19, 20, 29, 30, 31, 32
09 South	15 East	Parts of: 5, 8, 9, 16, 17, 20, 21, 28, 29, 32, 33
09 South	16 East	Parts of: 32, 33, 34

JEFFERSON COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
07 South	17 East	Parts of: 25, 27, 28, 33, 34, 35, 36
07 South	18 East	Parts of: 30
07 South	19 East	Parts of: 25, 35, 36
08 South	16 East	Parts of: 13, 24, 25
08 South	17 East	Parts of: 1, 2, 3, 10, 11, 12, 13, 14, 15, 16, 18, 19, 20, 21, 22, 23, 24, 25
08 South	18 East	Parts of: 6, 7, 18, 19, 20, 28, 29, 30, 31, 32, 33
08 South	19 East	Parts of: 1, 2, 3, 10, 11
09 South	16 East	Parts of: 25, 36
09 South	17 East	Parts of: 1, 11, 12, 13, 14, 15, 22, 23, 24, 25, 26, 36
09 South	18 East	Parts of: 4, 5, 6, 7, 8, 9, 17, 18, 19, 20, 27, 28, 30, 31, 32, 33
09 South	20 East	Parts of: 4, 5, 7, 8, 9, 16
10 South	16 East	Parts of: 1, 24, 25, 36
10 South	17 East	Parts of: 1, 2, 5, 6, 7, 8, 11, 12, 13, 16, 17, 21, 22, 23, 24, 25, 26, 27, 28, 35, 36
10 South	18 East	Parts of: 2, 5, 6, 7, 8, 10, 11, 15, 16, 17, 18, 19, 20, 21, 22, 27, 28, 29, 30, 31, 32, 33, 34
11 South	16 East	Parts of: 1, 13 All of: 24, 25
11 South	17 East	Parts of: 6, 7, 12, 13, 16, 17, 18 All of: 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30
11 South	18 East	Parts of: 4, 5, 6, 7, 8, 9, 14, 15, 18, 23, 24 All of: 16, 17, 19, 20, 21, 22, 25, 26, 27, 28, 29, 30, 34, 35, 36

11 South	19 East	Parts of: 12, 13, 22, 24, 25, 26, 27, 28, 29, 30, 35, 36 All of: 31, 32, 33, 34
11 South	20 East	Parts of: 19, 30, 31

JEWELL COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
01 South	06 West	Parts of: 4, 5, 6, 7, 8, 9, 10, 11, 12, 15, 16, 17, 21, 22, 23, 24, 25, 26, 31 All of: 1, 2, 3
01 South	07 West	Parts of: 1, 2, 3, 4, 5, 9, 10, 11, 12, 27, 28, 29, 32, 33, 34, 35, 36
01 South	08 West	Parts of: 32, 33
01 South	09 West	Parts of: 32, 33
02 South	06 West	Parts of: 1, 6, 7, 8, 9, 11, 12, 13, 14, 15, 16, 17, 18, 21, 22, 23
02 South	07 West	Parts of: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 16, 18
02 South	08 West	Parts of: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 23, 24, 25, 26, 27, 34, 35
02 South	09 West	Parts of: 1, 2, 3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 22, 23, 24, 25, 26, 28, 29, 30, 31, 32
02 South	10 West	Parts of: 4, 6, 7, 8, 9, 10, 11, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25, 26, 28, 29 All of: 16, 17
03 South	06 West	Parts of: 26, 34, 35, 36
03 South	07 West	Parts of: 19, 30, 31, 32
03 South	08 West	Parts of: 24
03 South	09 West	Parts of: 33, 34
04 South	06 West	Parts of: 1, 2, 3, 11, 12, 13, 14, 15, 22, 23, 24, 25, 36
04 South	07 West	Parts of: 5, 6, 7, 8, 9, 16, 17, 18, 19, 20, 21, 22, 27, 28, 29, 30, 31, 32, 33, 34, 35
04 South	08 West	Parts of: 1, 2, 10, 11, 12, 13, 14, 15, 22, 23, 24, 25, 26, 28, 29, 32, 33, 36
04 South	09 West	Parts of: 2, 3, 4, 6, 7, 8, 9, 10, 11, 15, 16, 18, 19, 20, 21, 22, 28, 29, 30, 31, 32, 33, 34, 35
04 South	10 West	Parts of: 2, 11, 13, 14, 23, 24, 25, 36
05 South	06 West	Parts of: 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 20, 21, 29
05 South	07 West	Parts of: 1, 2, 3, 5, 6, 8, 9, 10, 11, 12
05 South	08 West	Parts of: 1, 4, 5, 8, 9, 16, 17, 18, 20, 27, 28, 29, 32, 33, 34

05 South 09 West Parts of: 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 15, 16, 17, 18, 19, 20, 21, 28, 29, 32, 33, 34, 35

05 South 10 West Parts of: 1, 17, 20, 21, 28, 29, 31, 32

JOHNSON COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
11 South	23 East	Parts of: 32, 33, 34, 35
12 South	21 East	All of 24 south of Kansas River Parts of: 25, 26
12 South	22 East	Parts of: 25, 26, 27, 28, 29, 30, 36 All parts of 19, 20, 21, 22, 23, 24 south of Kansas River
12 South	23 East	All parts of 1, 4, 5, 8, 17, 18, 19 south of Kansas River
13 South	25 East	Parts of: 9, 10, 15
14 South	25 East	Parts of: 10, 15

KEARNY COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
23 South	36 West	Parts of: 33, 34, 35
24 South	35 West	Parts of: 8, 11, 12, 15, 16, 17, 18 All of: 13, 14, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36
24 South	36 West	Parts of: 2, 3, 4, 10, 11, 12, 13, 21, 22, 23, 24, 29, 31 All of: 25, 26, 27, 28, 32, 33, 34, 35, 36
24 South	37 West	Parts of: 19, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35
24 South	38 West	Parts of: 7, 8, 9, 14, 16, 17, 18, 19, 20, 21, 23, 24, 25, 26, 27, 28, 29, 30, 32, 33, 34, 35, 36 All of: 31
25 South	35 West	All
25 South	36 West	All
25 South	37 West	Parts of: 1, 2, 3, 4, 5, 7, 8, 9, 10, 11 All of: 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36
25 South	38 West	Parts of: 1, 2, 3, 4, 12, 31, 32 All of: 5, 6, 7, 8, 9, 10, 11, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 33, 34, 35, 36
26 South	35 West	All
26 South	36 West	All

26 South 37 West Parts of: 7, 16, 17, 18, 21, 22, 26, 27, 35, 36
All of: 1, 2, 3, 4, 5, 6, 8, 9, 10, 11, 12, 13, 14, 15, 23, 24, 25

26 South 38 West Parts of: 2, 3, 4, 5, 12
All of: 1

KINGMAN COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
27 South	05 West	Parts of: 1, 2, 3, 7, 11, 12, 17, 18, 20, 21, 22, 23, 25, 26, 27, 28, 29, 31, 32, 33, 34 All of: 4, 5, 6, 8, 9, 10, 13, 14, 15, 16, 24
27 South	06 West	Parts of: 1, 2, 7, 8, 12, 15, 16, 17, 18, 22, 23, 25, 26, 36
27 South	07 West	Parts of: 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 20, 21, 28, 31, 32, 33, 34 All of: 19, 29, 30
27 South	08 West	All
27 South	09 West	All
27 South	10 West	Parts of: 6, 7 All of: 1, 2, 3, 4, 5, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36
28 South	05 West	Parts of: 3, 5, 6, 8, 9, 16, 17, 20, 21, 22, 24, 25, 26, 27, 28, 31, 34, 35, 36
28 South	06 West	Parts of: 7, 8, 9, 14, 15, 16, 17, 18, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 36 All of: 19
28 South	07 West	Parts of: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 23, 36 All of: 17, 18, 19, 20, 21, 22, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35
28 South	08 West	Parts of: 1, 2, 3, 10, 11, 12, 15, 16 All of: 4, 5, 6, 7, 8, 9, 13, 14, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36
28 South	09 West	All
28 South	10 West	Parts of: 7, 18 All of: 1, 2, 3, 4, 5, 6, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36
29 South	05 West	Parts of: 2, 3, 4, 5, 6, 7, 9, 10, 11, 14, 15, 16, 18, 23, 25, 36 All of: 17, 19, 20, 21, 22, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35
29 South	06 West	Parts of: 1, 2, 5, 10, 13, 14, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35 All of: 3, 4, 6, 7, 8, 9, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 36
29 South	07 West	Parts of: 7, 17, 18, 19, 20, 21, 22, 25, 26, 27, 30, 31, 36 All of: 1, 2, 3, 4, 5, 6, 8, 9, 10, 11, 12, 13, 14, 15, 16, 23, 24

29 South	08 West	Parts of: 13, 21, 22, 24, 25, 26, 27, 31, 32, 34, 35, 36 All of: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 17, 18, 19, 20, 23, 28, 29, 30, 33
29 South	09 West	Parts of: 35, 36 All of: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34
29 South	10 West	All
30 South	05 West	Parts of: 4, 5, 6, 7, 8, 9, 15, 16, 17, 21, 22, 23, 24, 25, 26, 27, 28, 36 All of: 1, 2, 3, 10, 11, 12, 13, 14, 18, 19, 20, 29, 30, 31, 32, 33, 34, 35
30 South	06 West	Parts of: 1, 2, 3, 4, 5, 6, 10, 11, 12, 15, 17, 18, 20, 21, 22, 26, 27, 29, 30, 31, 33, 34, 35, 36 All of: 7, 8, 9, 13, 14, 16, 23, 24, 25, 32
30 South	07 West	Parts of: 1, 2, 3, 4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 25, 26, 27, 34, 35, 36 All of: 28, 29, 30, 31, 32, 33
30 South	08 West	Parts of: 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 22, 23, 24, 25, 27, 30 All of: 18, 26, 28, 29, 31, 32, 33, 34, 35, 36
30 South	09 West	Parts of: 1, 2 All of: 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36
30 South	10 West	All

KIOWA COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
27 South	16 West	All
27 South	17 West	All
27 South	18 West	All
27 South	19 West	All
27 South	20 West	All
28 South	16 West	Parts of: 1, 2, 3, 4, 8, 10, 11, 17, 19, 30, 31, 34, 35, 36 All of: 5, 6, 7, 18
28 South	17 West	Parts of: 15, 16, 17, 18, 23, 24, 25, 26, 27, 33, 34, 35 All of: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 36
28 South	18 West	Parts of: 13, 14, 15, 21 All of: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 16, 17, 18, 19, 20
28 South	19 West	Parts of: 15, 16, 17, 18, 22, 23, 24 All of: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14
28 South	20 West	Parts of: 13, 14, 15, 16, 17, 19, 20, 30 All of: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 18

29 South	16 West	Parts of: 1, 2, 3, 4, 5, 6, 8, 9, 10, 11, 12, 13, 14, 15, 16, 22, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36 All of: 7, 17, 18, 19, 20, 21, 23, 24
29 South	17 West	Parts of: 4, 8, 9, 14, 15, 16, 17, 19, 20, 21, 22, 23, 25, 26, 30, 31, 32, 36 All of: 1, 2, 3, 10, 11, 12, 13, 24, 27, 28, 29, 33, 34, 35
29 South	18 West	Parts of: 22, 23, 24, 25, 26, 28, 29, 32, 33, 34, 35, 36
30 South	16 West	Parts of: 1, 2, 3, 4, 6, 7, 8, 9, 10, 13, 14, 15, 18, 19, 24, 29, 30, 31
30 South	17 West	Parts of: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 36 All of: 34, 35
30 South	18 West	Parts of: 1, 2, 3, 4, 9, 10, 11, 13, 14, 15, 23, 24, 31, 32, 33, 36
30 South	19 West	Parts of: 36
30 South	20 West	Parts of: 18, 19, 20, 27, 28, 29, 33, 34, 36 All of: 30, 31, 32

LABETTE COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
31 South	19 East	Parts of: 1, 2, 12
31 South	20 East	Parts of: 6, 7, 17, 18, 19, 20, 30, 31, 32, 33 All of: 29
31 South	21 East	Parts of: 5, 7, 8, 17, 18, 19, 21, 23, 26, 28, 29, 33, 35 All of: 2, 3, 4, 9, 10, 11, 14, 15, 16, 20, 22, 27, 34
32 South	17 East	Parts of: 26
32 South	20 East	Parts of: 3, 4, 5, 8, 9, 15, 16, 22, 23, 27, 28, 33, 34
32 South	21 East	Parts of: 2, 4, 5, 8, 11, 16, 17, 20, 21, 28, 33 All of: 3, 9, 10, 14, 15, 22, 23, 26, 27, 34, 35
33 South	20 East	Parts of: 2, 3, 4, 9, 10, 11, 13, 14, 15, 23, 24, 25, 36
33 South	21 East	Parts of: 4, 9, 15, 16, 19, 22, 27, 29, 30, 32, 34, 35 All of: 2, 3, 10, 11, 14, 23, 26, 31
34 South	20 East	Parts of: 1, 2, 3, 9, 10, 11, 12
34 South	21 East	Parts of: 3, 4, 5, 7, 9, 10, 17, 18, 20, 27, 28, 35 All of: 2, 6, 8, 11, 14, 15, 16, 21, 22, 23, 26
35 South	21 East	Parts of: 2

LANE COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
17 South	27 West	Parts of: 5, 8, 9, 10, 11, 13, 14, 15, 23, 24, 25, 26
17 South	28 South	Parts of: 34, 35, 36
18 South	27 West	Parts of: 1, 2, 3, 4, 5, 6, 9, 10, 11, 12, 27, 28, 29, 30, 32, 33, 34, 35, 36
18 South	28 West	Parts of: 1, 2, 3, 23, 25, 26
20 South	27 West	Parts of: 19, 20, 25, 26, 27, 28, 29, 32
20 South	28 West	Parts of: 24
20 South	30 West	Parts of: 7, 17, 18, 20, 32 All of: 19, 29, 30, 31

LEAVENWORTH COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
07 South	20 East	Parts of: 25, 36
07 South	21 East	Parts of: 30, 31, 32
07 South	22 East	Parts of: 27, 28, 29, 33, 34
08 South	20 East	Parts of: 1, 11, 12, 13, 14, 23, 24
08 South	21 East	Parts of: 6, 7, 8, 17, 18, 19, 29, 30, 31, 32
08 South	22 East	Parts of: 2, 3, 10, 11, 12, 15, 16 All of: 1
08 South	23 East	All of: 6, 7
09 South	20 East	Parts of: 1, 3, 10, 11, 12, 14, 15
09 South	21 East	Parts of: 5, 6, 7, 8, 14, 16, 17, 18, 20, 22, 23, 26, 27, 29, 32, 33, 34 All of: 21, 28
09 South	23 East	Parts of: 7, 8, 15, 20, 27, 28 All of: 16, 17, 21, 22
10 South	21 East	Parts of: 2, 3, 10, 12, 13, 15, 24, 25, 26, 36 All of: 11, 14, 23
10 South	22 East	Parts of: 30, 31
10 South	23 East	Parts of: 1, 2, 3
11 South	20 East	Parts of: 1, 2, 10, 11, 14, 23, 24, 25, 26, 35, 36
11 South	21 East	Parts of: 1, 10, 12, 13, 14, 15, 24, 25, 26, 31, 35, 36
11 South	22 East	Parts of: 6, 7, 18, 19, 30

12 South	20 East	Parts of: 1, 13, 14, 15, 22, 23, 24, 25, 26, 34 All of: 27
12 South	21 East	Parts of: 1, 2, 4, 5, 6, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 22, 23, 24, 25, 26, 28, 29, 32, 33
12 South	22 East	Parts of: 1, 2, 7, 13, 17, 18, 20, 21, 22, 23, 24

LINCOLN COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
10 South	06 West	Parts of: 5, 6, 7, 8, 13, 15, 18, 19, 20, 23, 26, 27, 28, 29, 31, 32, 35 All of: 16, 17, 21, 22, 24, 25, 36
10 South	07 West	Parts of: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 20, 21, 22, 24, 25, 26, 27, 28, 29, 30
10 South	08 West	Parts of: 1, 12
10 South	09 West	Parts of: 19, 20, 29, 30, 32
10 South	10 West	Parts of: 14, 15, 22, 23, 25, 26, 27, 34, 35, 36
11 South	06 West	Parts of: 11, 12 All of: 1
11 South	07 West	Parts of: 31
11 South	08 West	Parts of: 19, 23, 26, 28, 29, 30, 33, 34, 35 All of: 31, 32
11 South	09 West	Parts of: 5, 6, 7, 8, 9, 11, 13, 14, 15, 16, 17, 22, 24, 25, 26, 35, 36 All of: 23
11 South	10 West	Parts of: 1, 2, 12
12 South	06 West	Parts of: 1, 5, 6, 7, 8, 11, 12, 14, 15, 16, 17, 19, 21, 25, 26, 27, 29, 30, 31, 32, 35, 36 All of: 13, 18, 20, 22, 23, 24
12 South	07 West	Parts of: 1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 30, 33, 35, 36 All of: 13, 14, 15, 16, 17, 18
12 South	08 West	Parts of: 1, 7, 8, 9, 10, 11, 12, 13, 14, 20, 21, 22, 23, 24, 27, 28, 29, 30, 31, 32, 33 All of: 2, 3, 4, 5, 6
12 South	09 West	Parts of: 2, 3, 4, 7, 8, 12, 14, 15, 16, 17, 19, 20, 21, 22, 30, 36 All of: 1, 9, 10, 11, 18
12 South	10 West	Parts of: 7, 8, 9, 10, 13, 14, 16, 17, 18, 19, 20, 25, 26, 27, 28, 29, 30, 32, 33, 34, 35 All of: 15, 21, 22, 23, 24
13 South	06 West	Parts of: 1, 2, 5, 6, 7, 8, 12, 13, 14, 17, 20, 23
13 South	07 West	Parts of: 1, 2, 3, 4, 7, 8, 9, 10, 11, 14, 15, 16, 17, 18, 21, 23, 28, 33

13 South	08 West	Parts of: 4, 9, 13, 16
13 South	09 West	Parts of: 1, 2, 11, 12, 31, 32
13 South	10 West	Parts of: 2, 3, 27, 28, 33, 34 All of: 35, 36

LINN COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
19 South	23 East	Parts of: 23, 24, 26, 27, 34, 35 All of: 25, 36
19 South	24 East	Parts of: 19, 21, 22, 23, 26, 27, 29, 30, 32, 33, 34, 35 All of: 20, 31
19 South	25 East	Parts of: 20, 21, 27, 28, 29, 32, 33, 34
20 South	23 East	Parts of: 2, 12, 25, 26, 27, 34, 35, 36 All of: 1
20 South	24 East	Parts of: 2, 7, 13, 16, 17, 18, 21, 26, 27, 31, 34, 35 All of: 3, 4, 5, 6, 8, 9, 10, 11, 14, 15, 22, 23, 24, 25, 36
20 South	25 East	Parts of: 3, 4, 5, 8, 9, 16, 17, 18, 19, 20, 28, 30, 31, 33
21 South	23 East	Parts of: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 14, 15, 21, 22 All of: 11
21 South	24 East	Parts of: 2, 3, 7, 8, 10, 11, 12, 13, 16, 17, 20, 28, 29, 31, 32, 33 All of: 1, 4, 5, 6, 9
21 South	25 East	Parts of: 3, 4, 5, 10, 11, 13, 15, 16, 18, 19, 21, 22, 23, 24, 25, 26, 27, 33, 34 All of: 6, 7, 8, 9, 14, 17, 20, 28, 29
22 South	23 East	Parts of: 8, 9, 10, 11, 12, 13, 14, 16, 17
22 South	24 East	Parts of: 5, 6, 7, 10, 11, 12, 13, 14, 15
22 South	25 East	Parts of: 3, 4, 5, 7, 8, 9, 18
23 South	24 East	Parts of: 12, 13
23 South	25 East	Parts of: 4, 5, 8, 9, 10, 11, 14, 15, 16, 18

LOGAN COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
11 South	37 West	Parts of: 6, 7, 8, 9, 15, 16, 17, 21, 22, 25, 26, 27, 35, 36
12 South	36 West	Parts of: 7, 8, 17, 18, 19, 20, 21, 27, 28, 29, 33, 34
12 South	37 West	Parts of: 1, 2, 12, 13, 29, 30, 31, 32

13 South	33 West	Parts of: 32
13 South	34 West	Parts of: 26, 28, 29, 30, 31, 32, 33, 34, 35, 36
13 South	35 West	Parts of: 19, 20, 21, 22, 23, 25, 26, 27, 28, 29
13 South	36 West	Parts of: 3, 4, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32 All of: 20
13 South	37 West	Parts of: 4, 5, 8, 9, 10, 14, 15, 16, 20, 21, 22, 23, 24, 28, 29, 30 All of: 19
14 South	32 West	Parts of: 19, 20, 26, 27, 28, 29, 30, 33, 34, 35
14 South	33 West	Parts of: 5, 6, 8, 9, 10, 14, 15, 16, 21, 22, 23, 24, 25, 26, 32, 33
14 South	34 West	Parts of: 1, 2
14 South	35 West	Parts of: 29, 31, 32, 33, 34, 35
14 South	36 West	Parts of: 31, 32, 33, 36
14 South	37 West	Parts of: 35, 36
15 South	32 West	Parts of: 1, 2, 4, 5, 6, 7, 8, 9, 18, 19, 30, 31
15 South	33 West	Parts of: 1, 2, 3, 4, 5, 6, 7, 8, 11, 12, 13, 14, 18, 20, 21, 22, 23, 25, 28, 29, 30, 31, 32, 36
15 South	34 West	Parts of: 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 25, 26, 27, 28, 31, 32, 33, 34, 35, 36
15 South	35 West	Parts of: 1, 2, 3, 6, 26, 27, 29, 32, 33, 34, 35, 36
15 South	36 West	Parts of: 1, 2, 3, 4, 5, 6
15 South	37 West	Parts of: 1, 2

LYON COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
15 South	10 East	Parts of: 19, 30, 31
15 South	12 East	Parts of: 33, 34
16 South	10 East	Parts of: 6, 7, 19, 30
16 South	12 East	Parts of: 1, 2, 3, 4, 12, 13, 26, 35
16 South	13 East	Parts of: 6, 7, 17, 18, 19, 20, 21, 28, 29, 32, 33
17 South	10 East	Parts of: 17, 18, 20, 27, 28, 29, 31, 34, 35 All of: 19, 30, 32, 33
17 South	11 East	Parts of: 32, 36
17 South	12 East	Parts of: 1, 2, 11, 12

17 South	13 East	Parts of: 3, 4, 7, 8, 9, 10, 15, 16, 17, 18, 21, 22, 27, 28, 29, 33, 34
18 South	10 East	Parts of: 1, 2, 5, 6, 9, 10, 12, 14, 15, 23, 24, 25 All of: 3, 4, 11, 13
18 South	11 East	Parts of: 1, 2, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 21, 22, 23, 26, 30, 31, 32, 36 All of: 18, 19, 20, 27, 28, 29, 33, 34, 35
18 South	12 East	Parts of: 32
18 South	13 East	Parts of: 3
19 South	10 East	Parts of: 1, 2, 3, 4, 5, 6, 19, 25, 26, 27, 28, 29, 30, 35 All of: 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 20, 21, 22, 23, 24
19 South	11 East	Parts of: 1, 4, 5, 7, 8, 9, 10, 31, 32, 33, 34, 35, 36 All of: 2, 3, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30
19 South	12 East	Parts of: 2, 4, 5, 6, 8, 9, 10, 11, 13, 14, 15, 31, 33, 34 All of: 7, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 35, 36
19 South	13 East	Parts of: 19, 20, 22, 27, 28, 29, 33, 34 All of: 30, 31, 32
20 South	12 East	Parts of: 2, 11, 12, 13, 25, 26, 27, 34, 35 All of: 1, 36
20 South	13 East	Parts of: 17, 18, 19, 20, 22, 27, 28, 29, 30 All of: 3, 4, 5, 6, 7, 8, 9, 10, 15, 16, 31, 32, 33, 34
21 South	10 East	Parts of: 25, 36
21 South	11 East	Parts of: 29, 30, 31, 32, 35
21 South	12 East	Parts of: 1, 2
21 South	13 East	Parts of: 4, 5, 6

MARION COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
18 South	01 East	Parts of: 2, 3, 4, 5, 10, 11, 12, 13
18 South	02 East	Parts of: 7, 8, 17, 18, 20, 21, 25, 26, 27, 28, 35, 36
18 South	03 East	Parts of: 31
18 South	05 East	Parts of: 34, 35
19 South	02 East	Parts of: 1, 12, 23, 24
19 South	03 East	Parts of: 1, 2, 6, 7, 8, 11, 12, 13, 15, 16, 18, 19, 20, 21, 22, 24, 26, 27, 28, 29, 34, 35, 36 All of: 17

19 South	04 East	Parts of: 2, 3, 9, 10, 15, 16, 19, 20, 21, 22, 28, 29, 30, 31, 32
19 South	05 East	Parts of: 1, 2, 11, 12
20 South	01 East	Parts of: 13, 14
20 South	02 East	Parts of: 11, 12, 13, 14, 15, 16, 17, 18, 21, 22, 23, 24
20 South	03 East	Parts of: 1, 3, 4, 7, 8, 9, 10, 11, 12
20 South	04 East	Parts of: 5, 8, 16, 17, 18, 19, 20, 21, 27, 28, 29, 32, 33, 34, 35, 36 All of: 6, 7
20 South	05 East	Parts of: 26, 27, 34, 35
21 South	04 East	Parts of: 1, 2, 3, 4, 12, 13, 14, 22, 23, 24, 25
21 South	05 East	Parts of: 2, 3, 6, 7, 11, 15, 16, 17, 18 All of: 8, 9, 10
22 South	05 East	Parts of: 2, 3, 9, 10, 11, 14

MARSHALL COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
01 South	06 East	Parts of: 17, 18, 19, 20, 21, 22, 26, 27, 28, 29, 33, 34, 35, 36
01 South	07 East	Parts of: 1, 2, 11, 12, 13, 14, 22, 23, 26, 27, 34, 35
01 South	08 East	Parts of: 6, 7
02 South	06 East	Parts of: 1, 2, 3, 4, 9, 12
02 South	07 East	Parts of: 3, 4, 5, 6, 7, 8, 9, 10, 16, 17, 20, 21, 28, 29, 32, 33, 34
03 South	06 East	Parts of: 36
03 South	07 East	Parts of: 2, 3, 4, 5, 7, 9, 17, 18, 19, 20, 30, 31 All of: 8
03 South	08 East	Parts of: 12, 13, 23, 24, 25, 26
03 South	09 East	Parts of: 6, 7, 16, 18, 19, 20, 21, 29, 31, 32, 36 All of: 30
03 South	10 East	Parts of: 24, 25, 26, 27, 33, 34, 35
04 South	06 East	Parts of: 1, 6, 7, 8, 9, 12, 14, 15, 16, 18, 20, 24, 25, 26, 27, 28, 29, 30, 31, 32, 35 All of: 17, 21, 22, 23
04 South	07 East	Parts of: 6, 7, 15, 16, 17, 18, 21, 22, 26, 27, 30, 33, 34, 35, 36 All of: 19, 20, 28, 29
04 South	08 East	Parts of: 23, 24, 25, 26, 32, 33, 35, 36

04 South	09 East	Parts of: 1, 5, 6, 7, 8, 11, 12, 15, 16, 18, 20, 21, 22, 23, 26, 29, 30, 31 All of: 13, 14, 17, 19
04 South	10 East	Parts of: 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18
05 South	07 East	Parts of: 1, 3, 10, 14, 15, 16, 21, 22, 23, 24, 36 All of: 2, 11, 12, 13
05 South	08 East	Parts of: 1, 2, 3, 4, 5, 6, 7, 8, 10, 11, 12, 15, 16, 17, 18, 20, 21, 29, 32 All of: 9, 19, 30, 31
05 South	09 East	Parts of: 7, 8, 17, 18, 20, 21, 27, 28, 33, 34

MCPHERSON COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
17 South	01 West	Parts of: 4, 8, 9, 16, 17, 20, 21, 22, 28, 29, 32, 33
17 South	02 West	Parts of: 6
17 South	03 West	Parts of: 1, 6, 12, 13, 24, 25, 26, 27, 32, 33, 34, 35, 36 All of: 2, 3, 4, 5, 7, 8, 9, 10, 11, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 28, 29, 30, 31
17 South	04 West	Parts of: 1, 12, 13, 19, 21, 22, 23, 28, 29, 30 All of: 24, 25, 26, 27, 31, 32, 33, 34, 35, 36
17 South	05 West	Parts of: 3, 4, 5, 6, 11, 14, 15, 16, 17, 18, 21, 22, 23, 24, 27, 28, 34, 35 All of: 7, 8, 9, 10, 25, 26, 36
18 South	03 West	Parts of: 1, 2, 6, 11, 13, 14, 20, 23 All of: 28, 29, 30, 31, 32, 33
18 South	04 West	Parts of: 1, 2, 3, 5, 7, 8, 10, 12, 14, 15, 17, 19, 22 All of: 4, 6, 9, 16, 20, 21, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36
18 South	05 West	Parts of: 1, 12, 24, 25, 26, 27, 34, 35 All of: 36
19 South	01 West	All of: 31, 32, 33, 34, 35
19 South	03 West	All of: 4, 5, 6, 7, 8, 9, 15, 16, 17, 18, 19, 20, 21, 22, 27, 28, 29, 30, 31, 32, 33, 34
19 South	04 West	Parts of: 5, 6, 7, 18 All of: 1, 2, 3, 4, 9, 10, 11, 12, 13, 14, 15, 22, 23, 24, 25, 26, 27, 34, 35, 36
19 South	05 West	Parts of: 1, 12, 13
20 South	01 West	All of: 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17, 18, 19, 20, 21, 22, 27, 28, 29, 30, 31, 32, 33
20 South	03 West	Parts of: 26 All of: 3, 4, 5, 6, 7, 8, 9, 10, 15, 16, 17, 18, 19, 20, 21, 22, 27, 28, 29, 30, 31, 32, 33, 34, 35

20 South	04 West	Parts of: 30, 31, 32 All of: 1, 2, 3, 10, 11, 12, 13, 14, 15, 16, 21, 22, 23, 24, 25, 26, 27, 28, 33, 34, 35, 36
20 South	05 West	Parts of: 19, 30, 31
21 South	01 West	Parts of: 3, 4, 9, 16, 17, 20, 21, 29, 32 All of: 5, 6, 7, 18, 19, 30, 31
21 South	02 West	All of: 12, 13, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36
21 South	03 West	All of: 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36
21 South	04 West	Parts of: 4, 5, 6, 7, 8, 9, 16, 17, 18, 19, 20, 21, 28, 29, 30, 31, 32, 33 All of: 1, 2, 3, 10, 11, 12, 13, 14, 15, 22, 23, 24, 25, 26, 27, 34, 35, 36
21 South	05 West	Parts of: 5, 8, 9, 16, 22, 25, 27, 34, 35, 36 All of: 6, 7, 17, 18, 19, 20, 21, 28, 29, 30, 31, 32, 33

MEADE COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
30 South	26 West	Parts of: 2, 11, 15, 22, 29, 31, 32, 33 All of: 1, 12, 13, 14, 23, 24, 25, 26, 27, 34, 35, 36
30 South	28 West	Parts of: 22, 23, 24, 25, 27, 33, 34, 35, 36 All of: 26
31 South	26 West	Parts of: 5, 8, 13, 14, 17, 20, 21, 22, 23, 26, 27, 33, 34, 35, 36 All of: 1, 2, 3, 4, 9, 10, 11, 12, 15, 16
31 South	27 West	Parts of: 1, 2, 5, 6, 8, 9, 10, 12, 13, 14, 15, 16, 17, 18, 20, 22, 30, 31 All of: 11, 19
31 South	28 West	Parts of: 2, 3, 4, 5, 9, 10, 12, 14, 15, 16, 20, 21, 22, 23, 24, 25, 26, 27, 28, 32, 33, 35 All of: 11, 34, 36
31 South	29 West	Parts of: 20, 21, 27, 28, 33, 35 All of: 34
32 South	26 West	Parts of: 1, 2, 3, 4, 9, 10, 11, 12, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 25, 26, 27, 28, 29, 32, 33, 34, 35, 36
32 South	27 South	Parts of: 31, 32, 33, 34
32 South	28 West	Parts of: 1, 5, 6, 7, 8, 12, 13, 17, 18, 19, 20, 24, 25, 35 All of: 2, 3, 4, 9, 10, 11, 14, 15, 16, 21, 22, 23, 26, 27, 28, 29, 30, 31, 32, 33, 34
32 South	29 West	Parts of: 1, 2, 3, 4, 5, 9, 10, 11, 12, 13, 14, 15, 21, 22, 23, 24, 26, 27, 28, 29, 32, 33, 34, 35, 36 All of: 25
33 South	26 West	Parts of: 1, 3, 4, 7, 11, 13, 14, 15, 16, 17, 18, 21, 24

33 South	27 West	Parts of: 1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 20, 30, 32, 33, 34 All of: 4, 29, 31
33 South	28 West	Parts of: 2, 4, 7, 9, 10, 15, 16, 17, 18, 20, 22, 25, 26, 27, 29, 32, 33 All of: 3, 5, 6, 8, 19, 21, 28, 30, 31, 34, 35, 36
33 South	29 West	Parts of: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 27, 29, 30, 31 All of: 25, 26, 28, 32, 33, 34, 35, 36
33 South	30 West	Parts of: 7, 17, 18, 20, 21, 22, 25, 26, 30, 31, 36 All of: 19, 27, 28, 29, 32, 33, 34, 35
34 South	26 West	Parts of: 10, 11, 13, 14, 15, 23, 24, 26, 31, 34, 35
34 South	27 West	Parts of: 3, 9, 10, 15, 16, 21, 22, 26, 27, 28, 33, 34, 35, 36 All of: 4, 5, 6, 7, 8, 17, 18, 19, 20, 29, 30, 31, 32
34 South	28 West	Parts of: 3, 4, 10, 14, 15 All of: 1, 2, 5, 6, 7, 8, 9, 11, 12, 13, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36
34 South	29 West	All
34 South	30 West	Parts of: 19, 30, 31, 32 All of: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 33, 34, 35, 36
35 South	26 West	Parts of: 1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 16, 17, 18
35 South	27 West	Parts of: 1, 2, 3, 11, 12 All of: 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16, 17, 18
35 South	28 West	All
35 South	29 West	All
35 South	30 West	Parts of: 3, 4, 5, 6, 7, 8, 17 All of: 1, 2, 9, 10, 11, 12, 13, 14, 15, 16, 18

MIAMI COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
15 South	22 East	Parts of: 21, 22, 27, 28, 31, 32, 33, 34, 35
15 South	23 East	Parts of: 28, 29, 31, 32
16 South	22 East	Parts of: 1, 2, 3, 11, 12, 13, 14, 24
16 South	23 East	Parts of: 4, 5, 6, 7, 8, 15, 17, 18, 19, 20, 21, 22, 28, 29, 32, 33
16 South	24 East	Parts of: 29, 31, 32
17 South	21 East	Parts of: 25, 26 All of: 35, 36
17 South	22 East	Parts of: 30, 32 All of: 31

17 South	23 East	Parts of: 4, 5, 7, 8, 9, 11, 12, 13, 14, 15, 16, 17, 20, 21, 22, 23, 27, 28, 33, 34
17 South	24 East	Parts of: 4, 5, 6, 7, 8
18 South	21 East	Parts of: 1, 2, 13, 23, 24, 25, 26
18 South	22 East	Parts of: 2, 3, 4, 6, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20 All of: 5
18 South	23 East	Parts of: 2, 3, 4, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 23, 25, 27, 35, 36 All of: 24, 26
18 South	24 East	Parts of: 30, 31, 32
19 South	23 East	Parts of: 1, 12, 13, 14
19 South	24 East	Parts of: 5, 14, 15, 17 All of: 6, 7, 18
19 South	25 East	Parts of: 4, 9, 16, 17

MITCHELL COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
06 South	07 West	Parts of: 23, 25, 26, 30, 31, 32, 35, 36
06 South	08 West	Parts of: 3, 4, 5, 8, 9, 16, 17, 20, 21, 25, 26, 28, 29, 31, 32, 33, 35, 36
06 South	09 West	Parts of: 3, 4, 5, 9, 10, 15, 16, 18, 19, 22, 23, 25, 26, 27, 28, 29, 31 All of: 30, 32, 33, 34, 35, 36
06 South	10 West	Parts of: 2, 3, 6, 7, 8, 11, 12, 13, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 27, 28, 29, 30, 31, 32, 36 All of: 25, 26, 33, 34, 35
07 South	06 West	Parts of: 16, 17, 18, 20, 21, 22, 25, 26, 27 All of: 19, 28, 29, 30, 31, 32, 33, 34, 35, 36
07 South	07 West	Parts of: 1, 3, 4, 5, 6, 10, 11, 12, 18, 20, 21, 25, 26, 27, 36 All of: 7, 8, 9, 13, 14, 15, 16, 17, 22, 23, 24
07 South	08 West	Parts of: 1, 7, 8, 9, 10, 11, 12, 13, 15, 16 All of: 2, 3, 4, 5, 6
07 South	09 West	Parts of: 1, 2, 3, 4, 5, 8, 9, 12, 17, 20, 29
07 South	10 West	Parts of: 1, 2, 3, 4, 5, 7, 8, 9, 10, 11, 14, 15, 16, 19, 20, 21, 22, 27, 28, 29, 32, 33 All of: 17, 18
08 South	06 West	Parts of: 4, 5, 9, 10, 11, 12, 13, 16 All of: 1, 2, 3
08 South	10 West	Parts of: 5

09 South 07 West Parts of: 15, 19, 20, 21, 22, 26, 27, 28, 29, 30, 33, 34, 35, 36

09 South 08 West Parts of: 10, 13, 14, 15, 16, 21, 22, 23, 24

MONTGOMERY COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
31 South	13 East	Parts of: 23, 25, 26, 36 All of: 35
31 South	14 East	Parts of: 31
31 South	16 East	Parts of: 5, 8, 9, 16, 18, 19, 21, 27, 28, 30, 31, 32, 34 All of: 4, 17, 20, 29, 33
32 South	13 East	Parts of: 2, 11, 12, 13 All of: 1
32 South	14 East	Parts of: 5, 6, 7, 8, 9, 13, 14, 15, 16, 17, 18, 21, 22, 23, 24, 25, 27, 28, 29, 32, 33, 36
32 South	15 East	Parts of: 1, 2, 3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 16, 17, 18, 19, 20, 21, 29, 30
32 South	16 East	Parts of: 4, 5, 7, 9, 16, 17, 18, 19, 20, 25, 29, 30, 31, 32, 33, 36 All of: 8
32 South	17 East	Parts of: 19, 27, 30, 31, 33, 34
33 South	13 East	Parts of: 25, 35, 36
33 South	14 East	Parts of: 4
33 South	16 East	Parts of: 1, 2, 3, 4, 5, 6, 9, 10, 11, 12, 14, 15, 16, 21, 22, 25, 26, 27, 28, 34 All of: 35, 36
33 South	17 East	Parts of: 4, 5, 7, 8, 9, 17, 18, 19, 20, 30, 31, 32
34 South	13 East	Parts of: 1, 2, 11, 12, 13, 14, 24, 26, 35, 36 All of: 23
34 South	14 East	Parts of: 7, 18
34 South	16 East	Parts of: 3, 11, 32, 35, 36 All of: 1, 2, 12, 13, 14, 23, 24, 25, 26
34 South	17 East	Parts of: 5, 6, 7, 18, 19, 30, 31, 32
35 South	13 East	Parts of: 1, 2, 11, 12, 13, 14
35 South	14 East	Parts of: 6
35 South	16 East	Parts of: 1, 2, 3, 4, 5, 9, 10, 11, 12, 13, 14
35 South	17 East	Parts of: 6, 7, 18

MORRIS COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
14 South	05 East	Parts of: 12, 13, 23, 24, 25, 26, 35
14 South	06 East	Parts of: 5, 6, 7, 8, 19
14 South	07 East	Parts of: 35
15 South	07 East	Parts of: 1, 2, 7, 8, 9, 12, 13, 14, 15, 16, 22, 23, 24, 25
15 South	08 East	Parts of: 1, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 22, 23, 26, 27, 29, 30, 31, 32, 33, 34, 35
15 South	09 East	Parts of: 5, 6, 7, 36
16 South	08 East	Parts of: 2, 3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 22, 23, 24, 25, 35, 36
16 South	09 East	Parts of: 1, 12, 13, 14, 19, 23, 25, 26, 29, 33, 35, 36 All of: 24, 30, 31, 32
17 South	06 East	Parts of: 15, 16, 17, 20, 21, 22, 23, 25, 26, 27, 35, 36
17 South	08 East	Parts of: 1, 2, 3, 4, 9, 10, 11
17 South	09 East	Parts of: 1, 2, 3, 5, 6, 9, 12, 13, 15, 23, 25, 26, 27, 34, 35, 36 All of: 4, 10, 11, 14, 24

MORTON COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
31 South	39 West	Parts of: 17
31 South	40 West	Parts of: 2, 3, 4, 7, 8, 9, 10, 11, 16, 17, 18, 20, 21, 29, 30
31 South	41 West	Parts of: 33
31 South	42 West	Parts of: 19, 30
31 South	43 West	Parts of: 5, 6, 7, 16, 17, 18, 19, 20, 22, 23, 24, 25, 26
32 South	39 West	Parts of: 16, 19, 20, 21, 30 All of: 28, 29, 31, 32, 33
32 South	40 West	Parts of: 25, 26, 34, 35 All of: 36
32 South	41 West	Parts of: 4, 5, 6, 7, 8, 9, 16, 17, 19, 20, 35
32 South	42 West	Parts of: 1, 2, 3, 10, 11, 12, 14, 15
32 South	43 West	Parts of: 1, 2, 11, 12
33 South	39 West	Parts of: 4, 6, 7, 8, 9, 17, 18, 19, 28, 29, 31, 32 All of: 5, 33

33 South	40 West	Parts of: 3, 4, 7, 8, 9, 12, 13, 18, 23, 26, 27, 28, 31, 32, 33 All of: 1, 2, 10, 11, 14, 15, 16, 17, 18, 19, 20, 21, 22, 29, 30
33 South	41 West	Parts of: 2, 3, 9, 10, 13, 14, 16, 21, 22, 29, 30 All of: 23, 24, 25, 26, 27, 28, 31, 32, 33, 34, 35, 36
33 South	42 West	Parts of: 25, 26, 33, 34, 35 All of: 36
33 South	43 West	Parts of: 15, 21, 22
34 South	39 West	Parts of: 6, 7, 16, 17, 20, 21, 28, 29, 30, 31, 32, 33 All of: 4, 5, 8, 9, 18, 19
34 South	40 West	Parts of: 5, 6, 8, 9, 10, 11, 12, 13, 14, 15, 16, 23, 24, 25, 26, 31, 32, 33, 34, 35 All of: 7, 17, 18, 19, 20, 21, 22, 27, 28, 29, 30
34 South	41 West	Parts of: 1, 4, 9, 10, 12, 16, 17, 18, 21, 22, 28, 29, 31, 32, 33, 34, 35, 36 All of: 2, 3, 5, 6, 7, 8, 11, 13, 14, 15, 23, 24, 25, 26, 27
34 South	42 West	Parts of: 3, 5, 7, 13, 14, 15, 16, 20, 21, 22, 23, 28, 29, 30, 31, 33 All of: 1, 2, 4, 8, 9, 10, 11, 12, 17, 18, 19
34 South	43 West	Parts of: 9, 10, 11, 12, 14, 16, 17, 18, 22, 23, 26, 27, 36 All of: 13, 15, 19, 20, 21, 24, 25, 28, 29, 30, 31, 32, 33, 34, 35
35 South	39 West	Parts of: 4, 6, 7
35 South	40 West	Parts of: 12, 13, 14
35 South	41 West	Parts of: 1, 2, 3, 4, 7, 8, 9, 10, 11, 12, 14, 17, 18
35 South	42 West	Parts of: 3, 4, 5, 6, 7, 9, 10, 13, 16
35 South	43 West	Parts of: 1, 10, 11, 12, 14, 15, 16 All of: 2, 3, 4, 5, 6, 7, 8, 9, 17, 18

NEMAHA COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
01 South	11 East	Parts of: 1, 2, 10, 11, 12, 13, 14, 23, 24
01 South	12 East	Parts of: 1, 2, 11, 12, 13, 14, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 35, 36
01 South	13 East	Parts of: 4, 5, 8, 9, 10, 16, 17, 29, 31, 32
02 South	12 East	Parts of: 1, 2, 11, 12, 14, 15, 22, 23, 26, 27, 34, 35
02 South	13 East	Parts of: 1, 3, 4, 5, 7, 9, 10, 36
02 South	14 East	Parts of: 2, 3, 10, 11, 31
03 South	11 East	Parts of: 18, 19
03 South	12 East	Parts of: 2, 3, 10, 14, 15, 22, 23, 24, 25, 26

03 South	13 East	Parts of: 1
04 South	11 East	Parts of: 7, 8, 9, 16, 17, 18

NEOSHO COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
27 South	18 East	Parts of: 2, 3, 5, 7, 11, 12, 13, 14, 16, 17, 18, 21, 23, 26, 28, 32, 33, 34, 36 All of: 4, 8, 9, 10, 15, 22, 27, 35
27 South	19 East	Parts of: 27, 28, 31, 32, 33
28 South	18 East	Parts of: 3, 10, 11, 12, 21 All of: 1, 2
28 South	19 East	Parts of: 4, 5, 7, 8, 10, 12, 13, 14, 15, 16, 18, 19, 20, 22, 23, 24, 28, 29, 30, 33, 34 All of: 6, 9, 21, 25, 26, 27, 35, 36
28 South	20 East	Parts of: 7, 18, 27, 29, 30, 32, 33, 34 All of: 31
28 South	21 East	Parts of: 32, 33, 34
29 South	19 East	Parts of: 1, 2, 3, 12, 13, 24
29 South	20 East	Parts of: 2, 11, 14, 17, 19, 21, 24, 25, 26, 27, 28, 36 All of: 3, 4, 5, 6, 7, 8, 9, 10, 15, 16, 18, 22, 23
29 South	21 East	Parts of: 5, 7, 8, 17, 21, 28, 33 All of: 18, 19, 20, 29, 30, 31, 32
30 South	19 East	Parts of: 17, 20, 21, 26, 27, 28, 29, 33, 34, 35, 36
30 South	20 East	Parts of: 1, 12, 13, 23, 24, 25
30 South	21 East	Parts of: 4, 9, 10, 15, 22, 31, 32 All of: 5, 6, 7, 8, 16, 17, 18, 19, 20, 21, 27, 28, 29, 30, 33, 34

NESS COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
16 South	21 West	Parts of: 33, 34, 35, 36
17 South	21 West	Parts of: 2, 3, 12 All of: 1
17 South	24 West	Parts of: 33
17 South	25 West	Parts of: 30, 32, 33 All of: 31
17 South	26 West	Parts of: 18, 19, 20, 21, 24, 25, 26, 27, 28, 29, 30, 33, 34, 35, 36

18 South	21 West	Parts of: 13, 21, 22, 23, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 36 All of: 24
18 South	22 East	Parts of: 25, 35, 36
18 South	23 West	Parts of: 29, 30, 32, 33 All of: 31
18 South	24 West	Parts of: 3, 4, 5, 8, 9, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 26, 27, 35, 36 All of: 25
18 South	25 West	Parts of: 1, 2, 3, 4, 5, 6, 9, 10, 11, 12, 13, 24, 31, 32, 33, 34
18 South	26 West	Parts of: 3, 4, 5, 6, 7, 8, 31, 33, 34, 35, 36
19 South	21 West	Parts of: 6, 7
19 South	22 West	Parts of: 1, 2, 3, 4, 5, 7, 9, 10, 12, 17, 18 All of: 8
19 South	23 West	Parts of: 4, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 22, 23 All of: 5, 6, 7, 8
19 South	24 West	Parts of: 1, 10, 11, 12, 13, 14, 17, 18, 19, 20, 22, 23, 24, 25, 26, 27, 28, 29, 30
19 South	25 West	Parts of: 2, 3, 11, 12, 13, 14
19 South	26 West	Parts of: 1, 4, 5, 6
20 South	21 West	Parts of: 30, 31, 32
20 South	22 West	Parts of: 19, 20, 21, 22, 25, 26, 27, 29, 30, 32, 33 All of: 28, 34, 35, 36
20 South	23 West	Parts of: 23, 24, 25, 28, 29, 30, 33, 34, 35, 36 All of: 26, 27, 31, 32
20 South	24 West	Parts of: 34, 35, 36
20 South	26 West	Parts of: 19, 27, 28, 29, 30, 33, 34, 35

NORTON COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
01 South	21 West	Parts of: 33, 34, 35, 36
01 South	22 West	Parts of: 4, 5, 8, 9
01 South	23 West	Parts of: 2, 3, 5, 8, 10, 11, 14
01 South	24 West	Parts of: 1, 2, 5, 6, 7, 8, 9, 10, 11, 16, 17 All of: 3, 4
01 South	25 West	Parts of: 1, 2, 7, 8, 9, 10, 11, 12, 14, 15, 16, 17, 18, 19, 20, 21, 28
02 South	21 West	Parts of: 3, 4, 5, 6, 7, 8, 9, 11, 12, 14, 15, 16, 17, 18, 19, 20, 22, 23, 30 All of: 1, 2, 10

02 South	22 West	Parts of: 1, 12, 13, 18, 19, 20, 21, 22, 23, 24, 27, 28, 32, 33, 34, 35 All of: 25, 26, 29, 30, 31
02 South	23 West	Parts of: 13, 23, 24, 25, 26, 27, 34, 35 All of: 36
02 South	24 West	Parts of: 28, 31, 33
02 South	25 West	Parts of: 36
03 South	22 West	Parts of: 6
03 South	23 West	Parts of: 1, 2, 4, 7, 8, 9, 10, 16, 17, 18 All of: 3
03 South	24 West	Parts of: 3, 4, 5, 6, 7, 8, 9, 13, 14, 15, 16, 17, 18, 19, 20, 23, 26, 27, 28, 29, 30, 32, 33, 34, 35 All of: 21, 22
03 South	25 West	Parts of: 1, 14, 16, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 31, 32, 33, 34, 35, 36
04 South	21 West	Parts of: 11, 12, 13, 14, 16, 21, 22, 24, 27, 28, 31, 34, 35, 36
04 South	22 West	Parts of: 25, 26, 27, 29, 30, 31, 32, 34, 35, 36
04 South	23 West	Parts of: 27, 28, 31, 32, 33, 34
04 South	24 West	Parts of: 4, 5, 31, 32, 33
04 South	25 West	Parts of: 6, 36
05 South	21 West	Parts of: 3, 4, 5, 6, 8, 9, 10, 11, 12, 17, 18 All of: 1, 2, 7
05 South	22 West	Parts of: 1, 2, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 19, 20, 21 All of: 16, 17, 18
05 South	23 West	Parts of: 2, 3, 5, 6, 8, 9, 10, 11, 12, 13, 15, 17, 18, 19, 20, 21, 22, 23, 24, 27, 28 All of: 14, 16
05 South	24 West	Parts of: 3, 4, 5, 6, 8, 9, 10, 11, 13, 14, 15, 16, 17, 19, 23, 24, 26, 27, 28, 29, 30, 31 All of: 20, 21, 22
05 South	25 West	Parts of: 1, 2, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34

OSAGE COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
14 South	13 East	Parts of: 35
14 South	14 East	Parts of: 5, 10, 11, 13, 14
14 South	15 East	Parts of: 21, 22, 26, 27, 34, 35

15 South	13 East	Parts of: 1, 2, 12
15 South	14 East	Parts of: 3, 6, 7, 8, 10, 11, 13, 14, 16, 18, 19, 20, 22, 23, 24, 25, 26, 27, 28, 29, 33, 34, 35, 36 All of: 17, 21
15 South	15 East	Parts of: 1, 2, 12, 27, 28, 30, 31, 32, 33, 34, 35
15 South	16 East	Parts of: 6, 7, 17, 18, 19, 20, 27, 28, 29, 33, 34
16 South	13 East	Parts of: 24
16 South	14 East	Parts of: 19, 20, 21, 22, 26, 27, 28, 29, 30, 34, 35, 36
16 South	15 East	Parts of: 1, 2, 3, 4, 5, 6, 11, 12
16 South	16 East	Parts of: 1, 2, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 33, 34, 35, 36
16 South	17 East	Parts of: 6, 7, 17, 18, 19, 20, 21, 27, 28, 29, 31, 33, 34
17 South	13 East	Parts of: 26, 36 All of: 35
17 South	14 East	Parts of: 1, 2, 4, 6, 16, 17, 20, 21, 22, 27
17 South	15 East	Parts of: 1, 2, 3, 4, 5, 6, 8, 9, 10, 31, 33, 34, 35, 36
17 South	16 East	Parts of: 1, 2, 3, 4, 5, 6, 32, 34, 35, 36
17 South	17 East	Parts of: 3, 4, 5, 6, 8, 9, 16, 21, 22, 27, 28, 29, 30, 31, 32, 33 All of: 10, 15
18 South	13 East	Parts of: 2, 12 All of: 1
18 South	14 East	Parts of: 1, 2, 4, 5, 6, 7, 9, 13, 14, 15, 16, 17, 18 All of: 8, 10, 11, 12
18 South	15 East	Parts of: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 17, 18, 24, 25, 26, 34, 35, 36
18 South	16 East	Parts of: 1, 2, 4, 5, 6, 9, 10, 12, 16, 17, 18, 19, 20, 30, 31 All of: 3
18 South	17 East	Parts of: 6

OSBORNE COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
06 South	11 West	Parts of: 1, 2, 7, 8, 10, 11, 12, 14, 15, 17, 18, 20, 22, 23, 25, 28, 31, 32, 33, 34, 35, 36 All of: 19, 26, 27, 29, 30
06 South	12 West	Parts of: 1, 5, 9, 10, 12, 13, 14, 17, 18, 21, 25, 26, 36 All of: 6, 7, 8, 15, 16, 22, 23, 24
06 South	13 West	Parts of: 3, 4, 5, 10, 11, 12, 13 All of: 1, 2

06 South	14 West	Parts of: 32, 33, 34
06 South	15 West	Parts of: 36
07 South	11 West	Parts of: 13, 14, 18, 20, 21, 22, 23, 24, 25, 26, 27, 28, 31, 32, 33 All of: 19, 29, 30
07 South	12 West	Parts of: 7, 13, 14, 15, 16, 17, 25, 26, 27, 28, 29, 30, 35, 36 All of: 18, 19, 20, 21, 22, 23, 24
07 South	13 West	Parts of: 8, 9, 10, 19, 20, 21, 22, 23, 24, 25, 28, 29, 31, 32, 36 All of: 7, 13, 14, 15, 16, 17, 18
07 South	14 West	Parts of: 1, 2, 3, 5, 6, 7, 8, 13, 14, 15, 22, 23, 24, 26, 27, 28, 36 All of: 4, 9, 10, 11, 12
07 South	15 West	Parts of: 1, 2, 3, 4, 7, 8, 9, 11, 15, 16, 17, 18 All of: 10, 12
08 South	12 West	Parts of: 1, 2, 11, 12, 13, 14, 22, 23, 26, 27, 33, 34, 35
08 South	13 West	Parts of: 1, 2, 5, 6, 11, 12, 13, 23, 24, 25, 26, 27, 28, 33, 34
08 South	14 West	Parts of: 1, 2, 3, 9, 10, 11, 12, 15, 16, 17
09 South	12 West	Parts of: 3, 4, 10, 11
09 South	13 West	Parts of: 4, 5, 7, 8, 9, 17, 18
10 South	15 West	Parts of: 7, 16, 17, 18, 20, 21, 22, 26, 27, 34, 35, 36

OTTAWA COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
09 South	01 West	Parts of: 12, 13
09 South	02 West	Parts of: 5, 6, 7, 8, 16, 17, 18, 19, 20, 21, 30
09 South	03 West	Parts of: 3, 10, 11, 14, 15, 22, 25, 27, 34, 35, 36
09 South	04 West	Parts of: 4, 9, 10, 11, 14, 15, 19, 22, 23, 25, 26, 30, 32, 36 All of: 5, 6, 7, 8, 16, 17, 18, 20, 21, 27, 28, 29, 33, 34, 35
09 South	05 West	Parts of: 1, 2, 3, 12, 13
10 South	02 West	Parts of: 7, 18
10 South	03 West	Parts of: 2, 3, 4, 5, 8, 9, 10, 12, 13, 16, 17, 18, 19, 20, 23, 24, 25, 26, 27, 28, 30, 31, 32, 33, 34
10 South	04 West	Parts of: 1, 5, 7, 12, 14, 18, 19, 20, 23, 24, 25, 29, 30, 36 All of: 2, 3, 4, 8, 9, 10, 11, 15, 16, 17, 21, 22, 26, 27, 28, 31, 32, 33, 34, 35
10 South	05 West	Parts of: 7, 8, 17, 18, 19, 20, 23, 25, 26, 27, 28, 29, 31, 32, 33, 34 All of: 30, 35, 36
11 South	02 West	Parts of: 7, 8, 17, 18, 19, 20, 30, 31

11 South	03 West	Parts of: 4, 5, 6, 7, 8, 9, 11, 12, 13, 14, 16, 17, 21, 22, 23, 24, 26, 30, 32, 36 All of: 18, 19, 20, 27, 28, 29, 33, 34, 35
11 South	04 West	Parts of: 6, 7, 8, 9, 14, 15, 23, 24 All of: 1, 2, 3, 4, 5, 10, 11, 12, 13
11 South	05 West	Parts of: 1, 2, 3, 6, 11
12 South	01 West	Parts of: 16, 19, 20, 21, 22, 24, 25, 26, 27, 28, 29, 30 All of: 31, 32, 33, 34, 35, 36
12 South	02 West	Parts of: 3, 5, 6, 9, 10, 12, 13, 14, 19, 28, 29 All of: 7, 8, 15, 16, 17, 18, 20, 21, 22, 23, 24, 25, 26, 27, 34, 35, 36
12 South	03 West	Parts of: 3, 4, 10, 11, 13, 14, 31 All of: 1, 2, 12
12 South	04 West	Parts of: 18, 19, 20, 25, 26, 27, 28 All of: 29, 30, 31, 32, 33, 34, 35, 36
12 South	05 West	Parts of: 4, 6, 7, 8, 9, 10, 13, 14, 15, 19, 24, 27, 28, 29, 34, 35, 36 All of: 16, 17, 18, 20, 21, 22, 23, 25, 26

PAWNEE COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
20 South	16 West	Parts of: 1, 2, 3, 4, 5, 6, 11, 34, 35
21 South	15 West	All
21 South	16 West	Parts of: 1, 2, 3, 8, 9, 10, 11, 12, 15, 16, 17, 22, 28, 31, 32, 33 All of: 13, 14, 23, 24, 25, 26, 27, 34, 35, 36
21 South	17 West	Parts of: 27, 28, 29, 30, 35, 36 All of: 31, 32, 33, 34
21 South	18 West	Parts of: 2, 11, 14, 15, 17, 18, 19, 20, 24, 25, 27, 28 All of: 23, 26, 29, 30, 31, 32, 33, 34, 35, 36
21 South	19 West	Parts of: 6, 7, 13, 14, 15, 16, 17, 18, 31, 32, 33, 34 All of: 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 35, 36
21 South	20 West	Parts of: 4, 5, 7, 8, 9, 10, 11, 12, 31, 32, 33, 34, 35 All of: 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 36
22 South	15 West	All
22 South	16 West	All
22 South	17 West	Parts of: 16, 17, 18, 20, 21, 29, 31, 32 All of: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 22, 23, 24, 25, 26, 27, 28, 33, 34, 35, 36
22 South	18 West	Parts of: 15, 16, 17, 20, 21, 22, 23, 24, 36 All of: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14

22 South	19 West	Parts of: 2, 3, 4, 5, 12 All of: 1
22 South	20 West	Parts of: 1, 2, 5, 6, 11, 12, 13, 14, 15, 22, 23, 26, 27
23 South	15 West	All
23 South	16 West	All
23 South	17 West	All
23 South	18 West	Parts of: 1, 2, 10, 11, 16, 17, 20, 30 All of: 12, 13, 14, 15, 21, 22, 23, 24, 25, 26, 27, 28, 29, 31, 32, 33, 34, 35, 36

PHILLIPS COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
01 South	18 West	Parts of: 3, 4, 5, 6, 7, 8, 9, 10, 17, 18, 19
01 South	19 West	Parts of: 3, 4, 5, 6, 7, 9, 11, 12, 14, 16, 17, 19, 20, 23, 30 All of: 1, 2, 8, 18
01 South	20 West	Parts of: 1, 13, 14, 15, 20, 22, 25, 26, 28, 29, 34, 35 All of: 23, 24, 27, 31, 32, 33
02 South	16 West	Parts of: 1, 12, 13, 16, 20, 21, 28, 33, 34
02 South	17 West	Parts of: 32, 33, 35
02 South	19 West	Parts of: 33
02 South	20 West	Parts of: 3, 4, 7, 8, 9, 33, 34 All of: 5, 6
03 South	16 West	Parts of: 2, 3, 10, 11, 14, 19, 23, 24, 25, 26, 30, 31, 32, 36
03 South	17 West	Parts of: 1, 2, 4, 5, 9, 10, 11, 12, 13, 14, 15, 16, 19, 22, 24, 25, 27, 30, 31, 34, 35
03 South	18 West	Parts of: 13, 19, 20, 21, 22, 24, 27, 28, 29, 30, 31, 32, 33, 34, 35
03 South	19 West	Parts of: 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16, 17, 22, 23, 25, 26 All of: 24
03 South	20 West	Parts of: 1, 2, 3, 4, 11, 12
04 South	16 West	Parts of: 5, 6, 7, 8, 16, 17, 18, 19, 20, 21, 22, 25, 26, 27, 28, 30, 31 All of: 32, 33, 34, 35, 36
04 South	17 West	Parts of: 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 26, 27, 31, 32, 33, 34, 35, 36 All of: 28, 29, 30
04 South	18 West	Parts of: 1, 2, 3, 4, 10, 11, 12, 13, 24, 25, 26, 27, 28, 29, 30, 32, 33, 34, 35, 36 All of: 31

04 South	19 West	Parts of: 22, 23, 24, 25, 26, 27, 28, 29, 33, 34 All of: 31, 32, 35, 36
04 South	20 West	Parts of: 18, 19, 21, 22, 27, 28, 29, 30, 31, 32, 33, 35, 36 All of: 34
05 South	16 West	Parts of: 1, 2, 3, 4, 8, 9, 17, 18, 19, 30
05 South	17 West	Parts of: 1, 2, 3, 12, 13, 23, 24, 25, 26, 27, 28, 31, 32, 33, 34, 35
05 South	18 West	Parts of: 2, 3, 5, 6
05 South	19 West	Parts of: 1, 2, 3, 5, 6, 33, 34, 35
05 South	20 West	Parts of: 1, 2, 3, 4, 6, 7, 8, 34, 35, 36 All of: 5

POTTAWATOMIE COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
06 South	07 East	Parts of: 12, 13, 14, 15, 22, 23, 27, 28, 33
06 South	08 East	Parts of: 5, 6, 7, 8, 9, 16, 17, 21
06 South	09 East	Parts of: 2, 3, 11, 12
06 South	11 East	Parts of: 9, 10, 14, 15, 16, 17, 22, 23, 24, 25, 26, 27, 34, 35
06 South	12 East	Parts of: 5, 6, 8, 10, 11, 15, 16, 17, 18, 19, 20, 29, 30
07 South	06 East	Parts of: 12, 13, 14, 23, 24, 25, 35, 36
07 South	07 East	Parts of: 4, 5, 6, 7, 8
07 South	09 East	Parts of: 12, 14, 15, 22, 23, 27, 34
07 South	10 East	Parts of: 7
07 South	11 East	Parts of: 2, 3, 10, 11, 13, 14, 15, 19, 20, 23, 24, 26, 27, 28, 29, 32, 33, 34, 35, 36
08 South	07 East	Parts of: 6, 7, 8, 17, 18, 19, 20, 21, 22, 23, 25, 27, 28, 29, 33, 34, 36
08 South	08 East	Parts of: 30, 31, 36
08 South	09 East	Parts of: 3, 4, 8, 9, 16, 17, 20, 28, 29, 31, 32, 33
08 South	11 East	Parts of: 3, 4, 8, 9, 17, 19, 20, 21, 29, 30, 31, 32
08 South	12 East	Parts of: 3, 4, 10, 14, 15, 17, 20, 21, 22, 23, 27, 28, 33, 34, 35
09 South	07 East	Parts of: 1, 2, 11, 12, 13, 24
09 South	08 East	Parts of: 6, 7, 18, 19, 29, 32, 33 All of: 30

09 South	09 East	Parts of: 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 16, 17, 23, 24
09 South	10 East	Parts of: 1, 2, 3, 10, 11, 12, 13, 14, 17, 18, 19, 20, 21, 22, 23, 24, 27, 28, 29, 34 All of: 25, 26, 35, 36
09 South	11 East	Parts of: 5, 6, 7, 10, 11, 14, 15, 16, 19, 20, 21, 22, 23, 27, 28, 35, 36 All of: 29, 30, 31, 32, 33, 34
09 South	12 East	Parts of: 2, 3, 11, 14, 31
10 South	08 East	Parts of: 3, 4, 5, 8, 9, 10, 11, 12, 16, 17, 22, 23, 24 All of: 13, 14, 15
10 South	09 East	Parts of: 7, 8, 9, 13, 14, 15, 23, 24, 25
10 South	10 East	Parts of: 4, 5, 8, 9, 10, 12, 14, 15, 17, 18, 19, 30 All of: 1, 2, 3, 11
10 South	11 East	All of: 1, 2, 3, 4, 5, 6, 10, 11, 12
10 South	12 East	Parts of: 4, 5, 6, 9, 10, 14 All of: 7, 8, 15, 22, 23, 26, 27, 28, 35

PRATT COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
26 South	11 West	All
26 South	12 West	Parts of: 27, 29, 31, 32, 33, 34, 35 All of: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 28, 30, 36
26 South	13 West	Parts of: 16, 21, 22, 23, 24, 25, 26, 27, 28, 29, 31, 32, 36 All of: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 30
26 South	14 West	All
26 South	15 West	All
27 South	11 West	Parts of: 2, 3, 4, 5, 9, 10, 11, 12 All of: 6, 7, 8, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36
27 South	12 West	Parts of: 1, 2, 4, 5, 6, 7, 8, 9, 10, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 23, 29, 30, 31, 32, 33 All of: 22, 24, 25, 26, 27, 28, 34, 35, 36
27 South	13 West	Parts of: 1, 2, 6, 10, 11, 12, 13, 20, 22, 23, 24, 26, 27, 29, 30, 31, 32, 33, 34, 35, 36
27 South	14 West	Parts of: 12, 13, 14, 15, 22, 24, 25, 26, 27, 28, 33, 34, 35, 36 All of: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 16, 17, 18, 19, 20, 21, 29, 30, 31, 32
27 South	15 West	Parts of: 34, 35, 36 All of: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33

28 South	11 West	Parts of: 1, 2, 3, 4, 5, 6, 11, 12, 13, 14, 15, 19, 21, 22, 28, 29, 30, 31, 32, 33 All of: 23, 24, 25, 26, 27, 34, 35, 36
28 South	12 West	Parts of: 1, 2, 3, 4, 7, 8, 9, 11, 12, 13, 14, 17, 18, 20, 23, 25, 26, 27, 29, 34, 35, 36 All of: 5, 6
28 South	13 West	Parts of: 3, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 17, 18 All of: 1, 2, 5
28 South	14 West	Parts of: 1, 2, 5, 6, 12, 13, 16, 17, 20, 21, 22, 23, 24, 25, 26, 27, 28, 35
28 South	15 West	Parts of: 1, 3, 4, 5, 6, 7, 8, 9, 18, 32
29 South	11 West	Parts of: 4, 5, 6, 7, 8 All of: 1, 2, 3, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36
29 South	12 West	Parts of: 1, 2, 3, 10, 12, 15, 22, 27, 28, 29, 30, 31, 32, 33, 34 All of: 11, 13, 14, 23, 24, 25, 26, 35, 36
29 South	13 West	Parts of: 4, 9, 10, 14, 15, 16, 19, 22, 23, 24, 25, 27, 28, 30, 31, 33, 36 All of: 26, 34, 35
29 South	14 West	Parts of: 13, 14, 21, 23, 24, 25, 27, 28, 29, 31, 32, 34, 36
29 South	15 West	Parts of: 3, 4, 5, 8, 9, 10, 11, 14, 15, 16, 19, 21, 23, 24, 25, 26, 28, 29, 30, 31, 32, 33, 34 All of: 22, 27, 35, 36

RAWLINS COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
01 South	31 West	Parts of: 34, 36
02 South	31 West	Parts of: 1, 2, 3, 4, 5, 6, 7, 9, 10, 11, 12, 18 All of: 8
02 South	32 West	Parts of: 12, 13, 14, 15, 16, 19, 20, 21, 22, 23, 24, 27, 28, 29, 30, 31
02 South	33 West	Parts of: 25, 26, 31, 32, 34, 35, 36
02 South	34 West	Parts of: 28, 29, 30, 32, 33, 34, 35, 36
03 South	33 West	Parts of: 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 17, 18, 19
03 South	34 West	Parts of: 1, 2, 4, 5, 7, 8, 9, 10, 11, 13, 18, 22, 23, 24, 25, 26, 27, 28, 29, 32, 33, 34 All of: 3
03 South	35 West	Parts of: 12, 13, 14, 22, 23, 24, 26, 27, 28, 29, 31, 32, 33
03 South	36 West	Parts of: 36
04 South	31 West	Parts of: 1, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 30, 35, 36

04 South	32 West	Parts of: 13, 14, 15, 16, 17, 18, 21, 22, 23, 24, 25, 26, 33, 34, 35, 36
04 South	34 West	Parts of: 4, 5, 7, 8, 17, 18
04 South	35 West	Parts of: 6, 13, 23, 24, 26, 27, 31, 32, 33, 34
04 South	36 West	Parts of: 1, 2, 3, 10, 11
05 South	31 West	Parts of: 1, 2, 9, 10, 11, 14, 15, 16, 17, 19, 20, 21, 30
05 South	32 West	Parts of: 2, 3, 4, 5, 6, 7, 8, 25, 35, 36
05 South	33 West	Parts of: 1, 2, 11, 12, 13, 14, 15, 21, 22, 23, 27, 28, 29, 30, 31
05 South	35 West	Parts of: 5, 6
05 South	36 West	Parts of: 1, 11, 12, 14, 15, 16, 19, 20, 21, 22, 23, 29, 30

RENO COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
22 South	04 West	All
22 South	05 West	All
22 South	06 West	All
22 South	07 West	All
22 South	08 West	All
22 South	09 West	All
22 South	10 West	All
23 South	04 West	All
23 South	05 West	All
23 South	06 West	All
23 South	07 West	All
23 South	08 West	All
23 South	09 West	All
23 South	10 West	All
24 South	04 West	All
24 South	05 West	All
24 South	06 West	All
24 South	07 West	All

24 South	08 West	All
24 South	09 West	All
24 South	10 West	All
25 South	04 West	All
25 South	05 West	All
25 South	06 West	All
25 South	07 West	All
25 South	08 West	Parts of: 10, 11, 14, 15, 16, 18, 19, 20, 21, 22, 23, 25, 26, 27, 28, 29, 30, 32, 33, 34, 35, 36 All of: 1, 2, 3, 4, 5, 6, 7, 8, 9, 12, 13, 17, 24, 31
25 South	09 West	Parts of: 22, 23, 25, 26, 27, 28, 33, 34 All of: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 24, 29, 30, 31, 32, 35, 36
25 South	10 West	All
26 South	04 West	All
26 South	05 West	All
26 South	06 West	All
26 South	07 West	All
26 South	08 West	Parts of: 2, 3, 4, 5, 7, 8, 9, 10, 11, 13, 14, 15, 16, 17, 18, 19, 25, 36 All of: 6, 20, 21, 22, 23, 24, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35
26 South	09 West	All
26 South	10 West	All

REPUBLIC COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
01 South	02 West	Parts of: 2, 3, 4, 9, 10, 11, 15, 16, 21
01 South	04 West	Parts of: 4, 5, 6, 7, 8, 9, 10, 15, 16, 17, 18, 19, 20, 21, 22, 27, 28, 29, 30, 31, 33, 34
01 South	05 West	Parts of: 1, 2, 3, 4, 7, 11, 12, 13, 14, 17, 18, 19, 20, 23, 24, 25, 28, 29, 30, 32 All of: 5, 6, 8, 9, 10, 15, 16, 21, 22, 26, 27, 33, 34, 35, 36
02 South	01 West	Parts of: 8, 15, 16, 17, 21, 22, 23, 25, 26, 27, 33, 34, 35, 36
02 South	02 West	Parts of: 10, 14, 15, 22, 23, 24
02 South	03 West	Parts of: 21, 22, 27, 28, 30, 31, 34

02 South	04 West	Parts of: 6, 7, 8, 9, 16, 17, 20, 28, 29, 32, 33 All of: 18, 19, 30, 31
02 South	05 West	Parts of: 2, 3, 4, 5, 6, 7, 8, 11, 14, 18, 23, 26, 35, 36 All of: 1, 12, 13, 24, 25
03 South	01 West	Parts of: 1, 2, 3, 4
03 South	02 West	Parts of: 18, 19, 30, 31
03 South	03 West	Parts of: 3, 4, 8, 9, 10, 11, 14, 15, 17, 18, 19, 20, 22, 23, 25, 26, 29, 32, 33, 35, 36
03 South	04 West	Parts of: 2, 3, 4, 5, 7, 8, 9, 10, 11, 15, 16, 18, 19, 21, 22, 28, 30, 31, 33 All of: 6, 17, 20, 29, 32
03 South	05 West	Parts of: 1, 2, 12, 22, 26, 27, 34, 35
04 South	01 West	Parts of: 21, 22, 27, 28, 34
04 South	02 West	Parts of: 3, 6, 7, 10, 15, 16, 17, 18, 19, 20, 21, 28 All of: 29, 30, 31, 32
04 South	03 West	Parts of: 1, 2, 4, 5, 9, 10, 12, 13, 15, 16, 17, 21, 22, 23, 24, 25, 26, 27, 35, 36
04 South	04 West	Parts of: 3, 5, 7, 10, 15, 18, 19, 22, 23, 27, 30, 35 All of: 4, 8, 9, 16, 17, 20, 21, 28, 29, 31, 32, 33, 34
04 South	05 West	Parts of: 1, 2, 6, 7, 12, 18, 19, 20, 25, 29, 30, 31, 32, 33, 36

RICE COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
18 South	06 West	Parts of: 30, 31
18 South	07 West	Parts of: 16, 17, 20, 21, 22, 25, 26, 27, 28, 34, 35, 36
18 South	09 West	Parts of: 18, 19, 21, 28, 30, 31, 32, 33
18 South	10 West	Parts of: 16, 17, 20, 21, 25, 28, 29, 30, 31, 32, 33, 34, 35
19 South	06 West	Parts of: 6, 7, 8, 16, 17, 18, 20, 21, 28, 33, 34
19 South	07 West	Parts of: 1, 2, 12, 13
19 South	08 West	Parts of: 19, 29, 30, 31, 32
19 South	09 West	Parts of: 4, 5, 6, 7, 8, 9, 15, 16, 17, 18, 19, 21, 22, 27, 28, 29, 31, 32, 33, 35 All of: 30, 34
19 South	10 West	Parts of: 1, 2, 3, 4, 7, 8, 9, 10, 11, 17, 18, 31 All of: 12, 13, 14, 15, 16, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 32, 33, 34, 35, 36
20 South	06 West	Parts of: 2, 3, 4, 10, 11, 13, 14, 24, 25, 26, 27, 28, 29, 30, 34, 35, 36 All of: 31, 32, 33

20 South	07 West	Parts of: 17, 18, 20, 21, 22, 25, 26, 27, 28, 31 All of: 19, 29, 30, 32, 33, 34, 35, 36
20 South	08 West	Parts of: 3, 4, 5, 6, 7, 10, 11, 12 All of: 8, 9, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36
20 South	09 West	Parts of: 2, 3, 6, 7, 10, 12, 15, 16, 17, 21 All of: 11, 13, 14, 18, 19, 20, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36
20 South	10 West	Parts of: 6, 7, 8, 17, 18, 20, 21, 22, 26, 27, 28, All of: 1, 2, 3, 4, 5, 9, 10, 11, 12, 13, 14, 15, 16, 19, 23, 24, 25, 29, 30, 31, 32, 33, 34, 35, 36
21 South	06 West	All
21 South	07 West	All
21 South	08 West	All
21 South	09 West	All
21 South	10 West	All
22 South	08 West	All of: 1, 2, 3, 4

RILEY COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
06 South	04 East	Parts of: 25, 26, 35, 36
06 South	05 East	Parts of: 20, 29, 31, 32, 33, 34
06 South	07 East	Parts of: 1, 10, 11, 12, 13, 15, 16, 20, 21, 28, 29, 31, 32
07 South	05 East	Parts of: 1, 2, 3, 4, 9, 10, 11, 14
07 South	06 East	Parts of: 3, 4, 5, 6, 7, 8, 9, 10, 11, 14, 17, 20, 23, 26, 35
08 South	04 East	Parts of: 25, 26, 35, 36
09 South	04 East	Parts of: 1, 2, 11, 14, 23
09 South	05 East	Parts of: 5, 8, 12, 13, 17, 20, 21, 29, 30, 31
09 South	06 East	Parts of: 7, 17, 18, 20, 21, 28, 29, 32, 33, 34, 35, 36
09 South	07 East	Parts of: 24, 25, 36
10 South	06 East	Parts of: 1, 2
10 South	07 East	Parts of: 5, 6, 7, 8, 9, 10, 13, 14, 15, 16, 21, 22, 24, 25, 26, 27, 28, 29, 32 All of: 33, 34, 35, 36
10 South	08 East	Parts of: 6, 7, 8, 15, 18, 20, 21, 22, 23, 24, 25, 26, 27, 29, 32 All of: 4, 5, 9, 16, 17, 19, 30, 31

10 South	09 East	Parts of: 15, 16, 17, 18, 27, 28, 29, 30, 32 All of: 19, 20, 21, 22
11 South	06 East	Parts of: 1, 11, 12, 13, 14, 23
11 South	07 East	Parts of: 3, 4, 5, 6, 8, 9, 10, 11, 12, 15, 16, 17, 18, 21, 22 All of: 1, 2, 7
11 South	08 East	Parts of: 1, 2, 6, 11, 12, 14, 15, 22, 23
11 South	09 East	Parts of: 5, 6, 7

ROOKS COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
06 South	17 West	Parts of: 5, 6
06 South	18 West	Parts of: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11
06 South	19 West	Parts of: 1, 2, 3, 4, 5, 6, 9
06 South	20 West	Parts of: 1, 2, 3, 4, 5, 6, 7
07 South	16 West	Parts of: 8, 9, 10, 11, 12, 13, 14, 15, 18, 20, 21, 22, 23, 29, 30, 32 All of: 16, 17, 19
07 South	17 West	Parts of: 9, 10, 13, 14, 15, 16, 17, 18, 25, 26, 27, 28, 29, 30, 31, 32 All of: 19, 20, 21, 22, 23, 24
07 South	18 West	Parts of: 13, 14, 15, 19, 20, 25, 26, 27, 31, 32, 33, 34, 36 All of: 21, 22, 23, 24, 28, 29, 30
07 South	19 West	Parts of: 15, 16, 22, 23, 24, 25, 26, 27, 28, 29, 31, 32, 34, 35 All of: 33, 36
07 South	20 West	Parts of: 31, 32, 33, 34, 35, 36
08 South	16 West	Parts of: 5, 8, 17
08 South	17 West	Parts of: 5, 6
08 South	18 West	Parts of: 3, 4
08 South	19 West	Parts of: 1, 2, 3, 7, 8, 9, 11, 12, 14, 15, 17, 18, 19, 20, 22, 23, 25, 26, 27, 34, 35 All of: 4, 5, 6
08 South	20 West	Parts of: 1, 2, 3, 4, 5, 6, 8, 10, 12, 15, 16, 18, 19, 22, 27, 30, 31 All of: 7, 9
10 South	16 West	Parts of: 2, 3, 4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18
10 South	17 West	Parts of: 11, 12, 13, 14
10 South	20 West	Parts of: 30, 31, 32

RUSH COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
16 South	16 West	Parts of: 2, 3, 4, 5, 6, 11
16 South	17 West	Parts of: 1, 2, 3, 4, 5, 6, 7
16 South	18 West	Parts of: 1, 2, 4, 10, 15, 17, 19, 20, 21, 22, 28, 29, 32 All of: 3, 9, 16, 30
16 South	19 West	Parts of: 28, 29, 31, 32, 33, 34, 35 All of: 25, 26, 27
16 South	20 West	Parts of: 36
17 South	17 West	Parts of: 31, 32, 33
17 South	18 West	Parts of: 34, 35, 36
17 South	19 West	Parts of: 5, 6, 7
17 South	20 West	Parts of: 1, 2, 3, 4, 5, 6, 11, 12, 14, 15, 16, 17, 18 All of: 7, 8, 9, 10
18 South	16 West	Parts of: 6, 7, 8, 9, 10, 11, 12, 13, 19, 20, 21, 22, 25, 26, 27, 34, 35 All of: 14, 15, 16, 17, 18, 23, 24
18 South	17 West	Parts of: 3, 9, 10, 11, 12, 15, 16, 17, 18, 23, 24, 26, 27, 28, 31, 32, 34, 35 All of: 4, 5, 6, 13, 14, 19, 20, 21, 22, 29, 30
18 South	18 West	Parts of: 1, 2, 3, 13, 14, 19, 20, 21, 22, 25, 26, 32, 33, 34, 35, 36 All of: 23, 24, 27, 28, 29, 30, 31
18 South	19 West	Parts of: 13, 14, 15, 16, 17, 18, 24, 26, 27, 28, 29, 30, 32, 33, 34, 35, 36 All of: 19, 20, 21, 22, 23, 25
18 South	20 West	Parts of: 9, 10, 13, 14, 16, 17, 18, 25, 26, 29, 30 All of: 15, 19, 20, 21, 22, 23, 24
19 South	16 West	Parts of: 3, 13, 14, 15, 21, 22, 27, 28, 29, 30 All of: 23, 24, 25, 26, 31, 32, 33, 34, 35, 36
19 South	17 West	Parts of: 6, 18, 19, 25, 26, 35, 36
19 South	18 West	Parts of: 1, 2, 3, 4, 6, 7, 9, 12, 13, 15, 16, 19, 20, 21, 22, 24, 29 All of: 10
19 South	19 West	Parts of: 1, 3, 4, 9, 12

RUSSELL COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
11 South	11 West	Parts of: 22, 27, 28, 29, 30, 31, 32, 33, 34, 35
11 South	12 West	Parts of: 7, 8, 9, 15, 16, 22, 23, 24, 25, 26, 36
11 South	13 West	Parts of: 11, 12, 13, 14

11 South	14 West	Parts of: 7, 17, 18, 20, 21, 22, 23, 26, 27, 35
11 South	15 West	Parts of: 1, 2, 12, 30, 31, 32, 33
12 South	11 West	Parts of: 1, 2, 12, 36
12 South	12 West	Parts of: 19, 30, 31, 32
12 South	13 West	Parts of: 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32
12 South	14 West	Parts of: 1, 2, 6, 7, 8, 9, 10, 12, 13, 14, 15, 18, 19, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 33, 35 All of: 16, 17, 20, 34, 36
12 South	15 West	Parts of: 1, 2, 4, 5, 6, 10, 11, 12, 13, 14, 15 All of: 3
13 South	12 West	Parts of: 4, 5, 6, 9, 10, 14, 16
13 South	13 West	Parts of: 6, 12
13 South	14 West	Parts of: 1, 2, 3, 4
14 South	11 West	Parts of: 7, 8, 9, 10, 11, 12, 31, 32, 33, 34 All of: 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 35, 36
14 South	12 West	Parts of: 11, 12, 19, 20, 21, 22, 23, 31, 33, 34 All of: 13, 24, 25, 26, 27, 28, 29, 30, 32, 35, 36
14 South	13 West	Parts of: 18, 19, 20, 21, 22, 23, 24, 32, 33, 34, 35, 36 All of: 25, 26, 27, 28, 29, 30, 31
14 South	14 West	Parts of: 19, 24, 26, 27, 28, 29, 30 All of: 25, 31, 32, 33, 34, 35, 36
14 South	15 West	Parts of: 16, 20, 21, 22, 23, 24, 26, 27, 28, 29, 30, 35 All of: 25, 36
15 South	12 West	Parts of: 1, 5
15 South	13 West	Parts of: 4, 5, 6
15 South	14 West	Parts of: 1, 2, 4, 5, 7, 10, 11 All of: 3, 6
15 South	15 West	Parts of: 2, 3, 4, 9, 11, 12, 13, 15, 18, 20, 21, 30, 31 All of: 1, 10, 16, 17, 19

SALINE COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
13 South	01 West	Parts of: 1, 18, 19 All of: 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36

13 South	02 West	Parts of: 1, 2, 12, 13, 19, 22, 23, 24, 27, 29, 30 All of: 25, 26, 28, 31, 32, 33, 34, 35, 36
13 South	03 West	Parts of: 3, 4, 11, 12, 13, 14 All of: 5, 6, 7, 8, 9, 10, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36
13 South	04 West	Parts of: 2, 3, 4, 5, 6, 7, 11, 12, 13, 14, 24, 25, 29, 30, 32, 33, 34, 36 All of: 1, 31
13 South	05 West	Parts of: 22, 23, 24, 25, 26, 27, 28, 35, 36
14 South	01 West	Parts of: 1, 2, 7, 8, 14, 16, 18, 19, 21, 22, 23, 27, 28, 29, 30, 32, 34 All of: 3, 4, 5, 6, 9, 10, 15, 33
14 South	02 West	Parts of: 8, 9, 11, 12, 13, 15, 16, 18, 20, 21, 23, 24, 25, 27, 28, 29, 30, 31, 32, 33, 34 All of: 1, 2, 3, 4, 5, 6, 7, 10, 14, 19, 22
14 South	03 West	Parts of: 30, 31, 32 All of: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 33, 34, 35, 36
14 South	04 West	Parts of: 1, 2, 3, 5, 6, 7, 8, 9, 10, 16, 17, 19, 20, 25, 26, 35 All of: 4, 11, 12, 13, 14, 15, 21, 22, 23, 24, 27, 28, 29, 30, 31, 32, 33, 34
14 South	05 West	Parts of: 1, 2, 10, 11, 14, 15, 25, 34, 35, 36
15 South	01 West	Parts of: 2, 3, 4, 5, 6, 7, 9, 10, 15, 16, 21, 22, 23, 24, 25, 26, 27, 28, 32, 33, 34
15 South	02 West	Parts of: 3, 4, 5, 8, 9, 11, 12, 14, 15, 16, 17, 21, 22, 28, 29, 32, 33 All of: 6, 7, 18, 19, 20, 30, 31
15 South	03 West	Parts of: 5, 7 All of: 1, 2, 3, 4, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36
15 South	04 West	Parts of: 3, 4, 5, 8, 11, 12, 15, 18, 21, 22, 27, 28, 32, 33 All of: 6, 7, 13, 14, 23, 24, 25, 26, 34, 35, 36
15 South	05 West	Parts of: 1, 2, 3, 4, 7, 8, 9, 10, 11, 12, 13, 18, 22, 23, 24, 26, 27, 33, 34
16 South	01 West	Parts of: 2, 3, 4, 9, 10, 11, 12, 13, 14, 15, 16, 21, 22, 23, 24, 25, 27, 28, 29, 32, 33
16 South	02 West	Parts of: 4, 8, 9, 17, 20, 29, 30, 31 All of: 5, 6, 7, 18, 19
16 South	03 West	Parts of: 7, 8, 17, 19, 20, 30, 31 All of: 1, 2, 3, 4, 5, 6, 9, 10, 11, 12, 13, 14, 15, 16, 21, 22, 23, 24, 25, 26, 27, 28, 29, 32, 33, 34, 35, 36
16 South	04 West	Parts of: 3, 8, 9, 17, 18, 19, 30, 31 All of: 1, 2, 10, 11, 12, 13, 14, 15, 16, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 32, 33, 34, 35, 36
16 South	05 West	Parts of: 3, 4, 8, 9, 10, 31

SCOTT COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
16 South	32 West	Parts of: 19, 30
16 South	33 West	Parts of: 1, 12, 13, 24, 25, 26, 36
17 South	33 West	Parts of: 1, 2, 11, 14, 15, 16, 17, 18, 19, 20, 21, 22
17 South	34 West	Parts of: 13, 14, 17, 18, 20, 21, 22, 23
19 South	32 West	Parts of: 10, 11, 14, 15, 22, 23, 24, 25, 26, 27
19 South	33 West	Parts of: 21, 28, 29 31, 32, 33
19 South	34 West	Parts of: 31, 35, 36
20 South	31 West	Parts of: 12, 14, 22, 23, 27, 34 All of: 13, 24, 25, 26, 35, 36
20 South	32 West	Parts of: 1, 2, 14, 15, 22, 24, 26, 27 All of: 23
20 South	33 West	Parts of: 6
20 South	34 West	Parts of: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 18

SEDGWICK COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
25 South	01 East	Parts of: 7, 19, 30, 31, 32
25 South	01 West	Parts of: 3, 11, 12, 13 All of: 4, 5, 6, 7, 8, 9, 10, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36
25 South	02 West	All
25 South	03 West	Parts of: 31 All of: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 32, 33, 34, 35, 36
26 South	01 East	Parts of: 5, 9, 16, 21, 27, 28, 34 All of: 6, 7, 8, 17, 18, 19, 20, 29, 30, 31, 32, 33
26 South	01 West	All
26 South	02 West	Parts of: 30, 31, 32 All of: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 33, 34, 35, 36
26 South	03 West	Parts of: 5, 8, 9, 15, 23, 24 All of: 1, 2, 3, 4, 10, 11, 12, 13, 14
27 South	01 East	Parts of: 3, 10, 15, 22, 27, 34 All of: 4, 5, 6, 7, 8, 9, 16, 17, 18, 19, 20, 21, 28, 29, 30, 31, 32, 33

27 South	01 West	All
27 South	02 West	Parts of: 5, 9, 15, 16, 23, 26, 35 All of: 1, 2, 3, 4, 10, 11, 12, 13, 14, 24, 25, 36
27 South	04 West	Parts of: 6, 7, 8, 16, 17, 18, 19, 20, 21, 28, 29, 30, 33
28 South	01 East	Parts of: 2, 14, 23, 26, 36 All of: 3, 4, 5, 6, 7, 8, 9, 10, 15, 16, 17, 18, 19, 20, 21, 22, 27, 28, 29, 30, 31, 32, 33, 34, 35
28 South	01 West	All
28 South	02 West	Parts of: 2, 23, 26, 35 All of: 1, 12, 13, 24, 25, 36
28 South	03 West	Parts of: 27, 31, 32, 33, 34, 35
28 South	04 West	Parts of: 3, 4, 10, 11, 13, 14, 15, 17, 18, 19, 20, 21, 23, 24, 25, 28, 30, 34, 35, 36 All of: 22, 26, 27
29 South	01 East	Parts of: 1, 12, 13, 24 All of: 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36
29 South	01 West	Parts of: 7, 8, 17, 18, 19 All of: 1, 2, 3, 4, 5, 6, 9, 10, 11, 12, 13, 14, 15, 16, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36
29 South	02 East	Parts of: 30, 31
29 South	02 West	Parts of: 1, 14, 15, 16, 19, 20, 24, 29, 30, 33, 34 All of: 21, 22, 23, 25, 26, 27, 28, 35, 36
29 South	03 West	Parts of: 2, 4, 5, 7, 11, 12, 13, 16, 17, 25, 26 All of: 3, 6, 8, 9, 10, 14, 15, 23, 24
29 South	04 West	Parts of: 1, 12, 32, 33

SEWARD COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
31 South	33 West	Parts of: 30, 31
31 South	34 West	Parts of: 2, 5, 7, 10, 15, 16, 17, 20, 22, 23, 25, 29, 32, 33 All of: 3, 4, 8, 9, 21, 22, 26, 27, 28, 34, 35, 36
32 South	32 West	Parts of: 30, 31, 32, 33, 34, 35
32 South	33 West	Parts of: 4, 5, 10, 15, 19, 23, 25, 29, 30, 32, 33 All of: 6, 7, 8, 9, 16, 17, 18, 20, 21, 22, 26, 27, 28, 31, 34, 35, 36
32 South	34 West	Parts of: 1, 2, 3, 4, 12, 13, 19, 20, 21, 22, 23, 24, 28, 29, 30, 31, 33 All of: 25, 26, 27, 34, 35, 36

33 South	31 West	Parts of: 3, 4, 5, 6, 10, 11, 12, 13, 14, 23, 24, 25, 26, 35, 36 All of: 7, 8, 9, 15, 16, 17, 18, 19, 20, 21, 22, 27, 28, 29, 30, 31, 32, 33, 34
33 South	32 West	Parts of: 1, 2, 4, 5, 8, 9 All of: 3, 6, 7, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36
33 South	33 West	All
33 South	34 West	Parts of: 4, 5, 6, 20, 21, 27, 28, 29, 30, 32, 34, 35 All of: 1, 2, 3, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 22, 23, 24, 25, 26, 36
34 South	31 West	Parts of: 9, 10, 11, 13, 14, 15, 16, 17, 21, 22, 23, 24, 25, 26, 27, 36 All of: 1, 2, 3, 4, 5, 6, 7, 8, 12, 18, 19, 20, 28, 29, 30, 31, 32, 33, 34, 35
34 South	32 West	All
34 South	33 West	Parts of: 3, 6, 7, 8, 9, 11, 14, 16, 17, 18, 19, 22, 27, 28, 30, 34, 35 All of: 1, 2, 4, 5, 12, 13, 23, 24, 25, 26, 36
34 South	34 West	Parts of: 1, 2, 5, 6, 8, 9, 10, 11, 12, 13, 14, 23, 24, 25, 26, 31, 32, 33, 35 All of: 7, 15, 16, 17, 18, 19, 20, 21, 22, 27, 28, 29, 30, 34
35 South	31 West	Parts of: 1 All of: 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18
35 South	32 West	All
35 South	33 West	Parts of: 3, 4, 6, 7, 8, 9, 10, 11, 14, 17, 18 All of: 1, 2, 12, 13
35 South	34 West	Parts of: 1, 2, 3, 4, 6, 7, 8, 10, 12, 13, 15, 17 All of: 11, 14, 18

SHAWNEE COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
10 South	12 East	Parts of: 12, 13, 24 All of: 25, 36
10 South	13 East	Parts of: 2, 4, 11, 14, 15, 16, 19, 20, 21, 22, 26, 27, 35, 36 All of: 3, 10, 28, 29, 30, 31, 32, 33, 34
10 South	14 East	Parts of: 5, 6, 8, 12, 13, 15, 16, 17, 20, 21, 22, 23, 24, 25, 26, 27, 35, 36
10 South	15 East	Parts of: 4, 5, 7, 8, 17, 18, 19, 30, 31, 32
10 South	16 East	Parts of: 3, 10, 11, 14, 23, 26
11 South	12 East	Parts of: 1
11 South	13 East	Parts of: 5, 6, 8, 9, 10, 13, 14 All of: 1, 2, 3, 4, 11, 12
11 South	14 East	Parts of: 1, 5, 6, 10, 11, 12, 19, 20, 21, 25, 26, 27, 28, 32, 33 All of: 7, 8, 9, 13, 14, 15, 16, 17, 18, 22, 23, 24

11 South	15 East	Parts of: 5, 6, 7, 8, 9, 10, 11, 12, 25, 26, 27, 28, 29, 30, 32 All of: 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24
11 South	16 East	Parts of: 8, 14, 15, 16, 17, 18, 30, 31, 32, 33, 34, 35 All of: 19, 20, 21, 22, 23, 26, 27, 28, 29
11 South	17 East	Parts of: 27, 28, 29, 32, 33, 34
12 South	13 East	Parts of: 23, 24, 25, 26, 35
12 South	14 East	Parts of: 4, 5, 8, 9, 16, 17, 18, 19
12 South	15 East	Parts of: 4, 5
12 South	16 East	Parts of: 4, 5, 6, 7, 9, 10, 15
12 South	17 East	Parts of: 5, 8
13 South	13 East	Parts of: 2
13 South	14 East	Parts of: 21, 22, 23, 24, 25, 26, 27, 28
13 South	15 East	Parts of: 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36
13 South	16 East	Parts of: 23, 24, 25, 26, 27, 28, 29, 30
13 South	17 East	Parts of: 19, 20, 21, 22, 27, 28, 29, 30, 33

SHERIDAN COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
06 South	26 West	Parts of: 4, 5, 6
06 South	27 West	Parts of: 1, 2, 3, 4, 5, 8, 9, 10, 16, 17, 18, 19, 20
06 South	28 West	Parts of: 23, 24, 25, 26, 27, 28, 29, 30, 33
06 South	29 West	Parts of: 25, 26, 34, 35
06 South	30 West	Parts of: 1, 2, 3, 9, 10, 16, 17, 18, 19
07 South	29 West	Parts of: 2, 3, 4, 9
08 South	26 West	Parts of: 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 29
08 South	27 West	Parts of: 11, 12, 15, 16, 17, 18, 20, 21, 22, 23, 27, 28, 31, 32, 33 All of: 13, 14
08 South	28 West	Parts of: 31, 33, 34, 35, 36
09 South	27 West	Parts of: 5, 6
09 South	28 West	Parts of: 1, 3, 4, 5, 6, 7, 8, 9
09 South	29 West	Parts of: 1, 12
10 South	26 West	Parts of: 16, 21, 22, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36

10 South	27 West	Parts of: 16, 17, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 36
10 South	28 West	Parts of: 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32
10 South	29 West	Parts of: 19, 20, 25, 26, 27, 28, 29, 30, 33, 34, 35, 36
10 South	30 West	Parts of: 15, 16, 20, 21, 22, 23, 24, 25, 26

SHERMAN COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
10 South	38 West	Parts of: 29, 30, 32, 33
10 South	39 West	Parts of: 7, 8, 9, 14, 15, 16, 17, 18, 21, 22, 23, 24, 25, 26, 27
10 South	40 West	Parts of: 7, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22
10 South	41 West	Parts of: 12, 13, 14, 15, 16, 19, 20, 21, 22, 29, 30
10 South	42 West	Parts of: 22, 23, 24, 25, 26, 27, 28, 31, 32, 33

SMITH COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
01 South	11 West	Parts of: 18, 19, 23, 24, 25, 26, 29, 30, 31, 32, 33, 36
01 South	12 West	Parts of: 4, 5, 6, 7, 8, 9, 13, 18, 24
01 South	13 West	Parts of: 12, 13
01 South	14 West	Parts of: 20, 33, 34
02 South	11 West	Parts of: 1, 2, 3, 4, 5, 7, 8, 9, 10, 12, 13, 14, 15, 23, 24, 25
02 South	12 West	Parts of: 1, 10, 11, 12
02 South	13 West	Parts of: 14, 20, 23, 27, 33, 34
02 South	14 West	Parts of: 3, 4, 10, 11, 12, 13, 14, 15, 18, 19, 22, 23, 24, 26, 29, 30, 32, 35, 36
02 South	15 West	Parts of: 6, 7, 18, 19, 22, 26, 27, 30, 31, 34, 35, 36
03 South	11 West	Parts of: 19, 30, 31, 34
03 South	12 West	Parts of: 34
03 South	13 West	Parts of: 4, 5, 8, 14, 17, 18, 19, 23, 24, 25, 26, 30, 31, 34, 35, 36
03 South	14 West	Parts of: 1, 2, 4, 5, 9, 10, 12, 13, 15, 22, 24, 25, 26, 27, 35, 36
03 South	15 West	Parts of: 1, 2, 6, 7, 11, 12, 13, 14, 18, 19, 20, 23, 24, 25, 26, 29, 30, 31, 32, 33, 36

04 South	11 West	Parts of: 3, 5, 6, 7, 8, 10, 11, 15, 16, 17, 20, 21, 22, 23, 26, 27, 33, 34, 35, 36
04 South	12 West	Parts of: 2, 3, 11, 12
04 South	13 West	Parts of: 2, 3, 6, 7, 10, 15, 16, 20, 21, 26, 27, 28, 29, 32, 33, 34
04 South	14 West	Parts of: 1, 12, 13, 19, 20, 23, 24, 25, 26, 28, 29, 30, 31, 32, 36 All of: 33, 34, 35
04 South	15 West	Parts of: 1, 3, 4, 6, 7, 8, 9, 10, 12, 13, 15, 16, 17, 22, 23, 24, 25, 26, 31, 32, 33, 34, 35, 36
05 South	11 West	Parts of: 1, 2, 3, 10, 11, 12, 13, 14, 23, 24, 25, 30, 31, 36
05 South	12 West	Parts of: 24, 25, 30, 31, 32, 33, 36
05 South	13 West	Parts of: 3, 4, 5, 6, 8, 9, 16, 22, 23, 25, 26, 29, 30 All of: 7, 17, 18, 19, 20, 21, 27, 28, 33, 34, 35, 36
05 South	14 West	Parts of: 7, 8, 9, 10, 11, 12, 13 All of: 1, 2, 3, 4, 5, 6
05 South	15 West	Parts of: 4, 5, 6, 8, 9, 10, 11, 12 All of: 1, 2, 3

STAFFORD COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
21 South	11 West	All
21 South	12 West	All
21 South	13 West	All
21 South	14 West	All
22 South	11 West	All
22 South	12 West	All
22 South	13 West	All
22 South	14 West	All
23 South	11 West	All
23 South	12 West	All
23 South	13 West	All
23 South	14 West	All
24 South	11 West	All
24 South	12 West	All
24 South	13 West	All

24 South	14 West	All
24 South	15 West	All
25 South	11 West	All
25 South	12 West	All
25 South	13 West	All
25 South	14 West	All
25 South	15 West	All

STANTON COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
27 South	40 West	Parts of: 17, 19, 20, 21, 22, 23, 24, 26, 27, 28, 29, 31, 32, 33, 34
27 South	41 West	Parts of: 4, 5, 6, 7, 8, 17, 18, 36
27 South	42 West	Parts of: 1, 2, 10, 11, 12, 15, 19, 21, 22, 28, 29, 30, 32, 33, 34
27 South	43 West	Parts of: 3, 10, 13, 14, 15, 16, 22, 24, 26, 27, 34, 35
28 South	40 West	Parts of: 6, 7, 18, 19, 21, 23, 26, 27, 35
28 South	41 West	Parts of: 1, 11, 12, 13, 14, 20, 22, 23, 24, 26, 27, 28, 29, 31, 32
28 South	42 West	Parts of: 3, 4, 34, 36
28 South	43 West	Parts of: 2, 3, 9, 10, 16
29 South	39 West	Parts of: 30
29 South	40 West	Parts of: 3, 8, 9, 16, 17, 19, 20, 21, 22, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 36
29 South	41 West	Parts of: 5, 6, 7, 24, 25, 26, 27, 28, 29, 31, 33, 34
29 South	42 West	Parts of: 1, 2, 3, 4, 8, 9, 10, 12, 15, 16, 18, 19, 21, 36
29 South	43 West	Parts of: 13, 23, 24, 25, 36
30 South	39 West	Parts of: 31
30 South	40 West	Parts of: 1, 2, 4, 27, 35, 36
30 South	42 West	Parts of: 1, 2, 9, 10, 11, 16, 17, 18
30 South	43 West	Parts of: 13, 23, 26, 32, 33

STEVENS COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
31 South	35 West	Parts of: 3, 4, 5, 6, 8
31 South	37 West	Parts of: 6, 7, 19, 29, 32 All of: 30, 31
31 South	38 West	Parts of: 1, 2, 10, 13, 15, 16, 20, 29, 30, 31 All of: 11, 12, 14, 21, 22, 23, 24, 25, 26, 27, 28, 32, 33, 34, 35, 36
32 South	35 West	Parts of: 19, 21, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36
32 South	36 West	Parts of: 11, 14, 15, 18, 19, 21, 22, 23, 24, 25, 29, 30, 36 All of: 26, 27, 28, 31, 32, 33, 34, 35
32 South	37 West	Parts of: 1, 5, 8, 12, 13, 17, 21, 22, 23, 27 All of: 6, 7, 18, 19, 20, 24, 25, 26, 28, 29, 30, 31, 32, 33, 34, 35, 36
32 South	38 West	Parts of: 31, 32, 33, 34 All of: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 35, 36
32 South	39 West	Parts of: 1, 11, 12, 15, 34, 35, 36 All of: 13, 14, 22, 23, 24, 25, 26, 27
33 South	35 West	Parts of: 3, 5, 8, 9, 10, 14, 15, 16, 17, 21, 22, 23, 25, 26, 27, 29, 32, 33, 34, 35 All of: 1, 2, 11, 12, 13, 24, 28
33 South	36 West	Parts of: 2, 3, 4, 5, 6, 9, 10, 31, 32, 34
33 South	37 West	Parts of: 1, 2, 3, 4, 5, 6, 31, 32, 36
33 South	38 West	Parts of: 1, 2, 3, 30, 31, 32, 33
33 South	39 West	Parts of: 3, 25, 34, 35, 36
34 South	35 West	Parts of: 2, 5, 7, 9, 10, 11, 12, 13, 14, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 32, 33, 36
34 South	36 West	Parts of: 3, 4, 5, 6, 7, 8, 9, 10, 13, 17, 18, 24
34 South	37 West	Parts of: 1, 2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 29, 30, 31, 32
34 South	38 West	Parts of: 4, 9, 13, 16, 21, 24, 25, 28, 32, 33, 34, 36 All of: 5, 6, 7, 8, 17, 18, 19, 20, 29, 30, 31
34 South	39 West	All of: 1, 2, 3, 10, 11, 12, 13, 14, 15, 22, 23, 24, 25, 26, 27, 34, 35, 36
35 South	35 West	Parts of: 1, 4, 5, 6, 7, 8, 9, 11, 12, 13, 14, 17
35 South	36 West	Parts of: 15, 16
35 South	37 West	Parts of: 2, 5, 6, 10, 11, 13, 14, 15
35 South	38 West	Parts of: 1, 3, 5, 8, 9, 10, 15, 16, 17, 18 All of: 6, 7

35 South 39 West Parts of: 3, 10, 11, 12, 13
 All of: 1, 2

SUMNER COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
30 South	01 East	Parts of: 29, 30, 32 All of: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 33, 34, 35, 36
30 South	01 West	Parts of: 4, 5, 6, 9, 10, 15, 23, 24, 26, 27 All of: 1, 2, 3, 11, 12, 13, 14
30 South	02 East	Parts of: 5, 6, 8, 16, 21, 22, 27, 34, 35 All of: 7, 17, 18, 19, 20, 28, 29, 30, 31, 32, 33
30 South	02 West	Parts of: 1, 2
30 South	03 West	Parts of: 22, 26, 27, 34, 35
30 South	04 West	Parts of: 3, 5, 6, 10, 14, 23, 26, 32, 33, 34, 35, 36 All of: 4, 7, 8, 9, 15, 16, 17, 18, 19, 20, 21, 22, 27, 28, 29, 30
31 South	01 East	Parts of: 4, 5, 10, 14, 24 All of: 1, 2, 3, 11, 12, 13
31 South	01 West	Parts of: 31, 32
31 South	02 East	Parts of: 1, 3, 10, 13, 24, 29, 30, 33, 34, 35, 36 All of: 2, 4, 5, 6, 7, 8, 9, 11, 12, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 25, 26, 27, 28
31 South	02 West	Parts of: 7, 16, 17, 18, 20, 21, 22, 26, 27, 35, 36
31 South	03 West	Parts of: 1, 2, 3, 4, 7, 8, 12 All of: 5, 6
31 South	04 West	Parts of: 13, 18, 19, 28, 30, 31, 33 All of: 1, 2, 11, 12
32 South	01 East	Parts of: 26, 30, 32, 33, 34, 35, 36 All of: 31
32 South	01 West	Parts of: 5, 6, 8, 9, 15, 16, 21, 22, 23, 25, 26, 36
32 South	02 East	Parts of: 1, 12, 34, 36 All of: 13, 24, 25
32 South	02 West	Parts of: 1
32 South	03 West	Parts of: 18, 19, 27, 28, 29, 30, 32, 33, 34
32 South	04 West	Parts of: 4, 5, 6, 7, 8, 9, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 35, 36
33 South	01 East	Parts of: 1, 2, 3, 4, 5, 6, 9, 11, 12

33 South	02 East	Parts of: 1, 3, 4, 7, 8, 9, 10, 15, 16, 17, 21, 22, 23, 24, 25, 26, 27, 36
33 South	02 West	Parts of: 8, 17, 18, 19, 20, 29, 30, 31
33 South	03 West	Parts of: 2, 3, 10, 11, 13, 15, 23, 24, 25, 26, 35 All of: 14, 36
34 South	01 East	Parts of: 19, 26, 29, 30, 31, 35
34 South	01 West	Parts of: 17, 18, 19, 20, 21, 25, 28, 29, 30, 33, 34, 35, 36
34 South	02 East	Parts of: 1, 2
34 South	02 West	Parts of: 6, 7, 8, 14, 15, 16, 17, 18, 20, 21, 23, 25, 26, 27, 28, 34, 35, 36 All of: 22
34 South	03 West	Parts of: 1, 18, 19, 20, 28, 29, 32, 33, 36
34 South	04 West	Parts of: 13, 19, 29, 30, 31, 32, 33
35 South	01 East	Parts of: 2, 6, 11, 12, 13
35 South	01 West	Parts of: 1, 2, 3, 7, 11, 12, 13, 14, 18
35 South	02 West	Parts of: 1, 2, 7, 8, 11, 12, 13, 14, 15, 17, 18
35 South	03 West	Parts of: 1, 2, 3, 4, 7, 8, 9, 13, 14, 15, 16, 17, 18 All of: 10, 11, 12
35 South	04 West	Parts of: 2, 3, 4, 10, 11, 12, 13, 14

THOMAS COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
06 South	31 West	Parts of: 23, 24, 25, 26
06 South	32 West	Parts of: 3, 4, 7, 8, 9, 17, 18, 19
06 South	33 West	Parts of: 13, 23, 24, 26, 27, 28, 31, 32, 33
06 South	34 West	Parts of: 36
07 South	33 West	Parts of: 6
07 South	34 West	Parts of: 1, 2, 3, 9, 10, 11, 16, 17, 18, 19, 20
07 South	35 West	Parts of: 23, 24, 25, 26, 27, 28, 32, 33, 34, 35
08 South	35 West	Parts of: 4, 5

TREGO COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
11 South	21 West	Parts of: 1, 2, 3, 4, 7, 8, 9, 10
11 South	22 West	Parts of: 1, 7, 9, 10, 11, 12, 14, 15, 16, 17, 18

11 South	23 West	Parts of: 2, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16
11 South	24 West	Parts of: 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
11 South	25 West	Parts of: 1, 2, 3, 4, 5, 6, 9, 10, 11, 12
12 South	22 West	Parts of: 31
12 South	23 West	Parts of: 19, 20, 21, 26, 27, 28, 29, 30, 33, 34, 35, 36
12 South	24 West	Parts of: 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30
12 South	25 West	Parts of: 24, 25, 26, 27
13 South	21 West	Parts of: 2, 7, 8, 10, 11, 12, 15, 16, 17, 18, 19, 20, 21
13 South	22 West	Parts of: 5, 6, 7, 8, 9, 13, 15, 16, 22, 23, 24, 26
13 South	23 West	Parts of: 1
13 South	25 West	Parts of: 31, 32
14 South	21 West	Parts of: 26, 27, 28, 29, 30 All of: 31, 32, 33, 34, 35, 36
14 South	22 West	Parts of: 18, 19, 22, 23, 26, 27, 30, 31, 36 All of: 25
14 South	23 West	Parts of: 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36
14 South	24 West	Parts of: 23, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36
14 South	25 West	Parts of: 4, 5, 6, 8, 9, 10, 11, 12, 13, 14, 15, 16, 23, 24, 25, 26, 27, 28, 31, 32, 33, 34, 35, 36
15 South	21 West	Parts of: 1, 2, 3
15 South	23 West	Parts of: 1, 2, 3, 4, 5, 6, 7, 10, 11, 12
15 South	24 West	Parts of: 1, 2, 3, 12, 13, 24
15 South	25 West	Parts of: 3, 4, 5, 6, 9, 10, 15, 16, 21, 22, 27, 28

WABAUNSEE COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
10 South	09 East	Parts of: 23, 24, 25, 26
10 South	10 East	Parts of: 1, 9, 10, 12, 14, 15, 16, 17, 20, 22, 27, 32, 33 All of: 21, 28, 29, 30
10 South	11 East	Parts of: 4, 7, 8, 9, 10, 11, 12, 16, 17, 20, 22, 23, 24, 25 All of: 13, 14, 15
10 South	12 East	Parts of: 7, 8, 9, 15, 21, 22, 28, 29, 32, 33, 35 All of: 16, 17, 18, 19, 20, 34

11 South	10 East	Parts of: 5, 8, 17, 26, 32, 35, 36
11 South	11 East	Parts of: 15, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 35, 36
11 South	12 East	Parts of: 1, 2, 3, 4, 5, 6, 11, 12, 13, 14, 15, 16, 17, 20, 25, 26, 27, 28, 29, 30, 36 All of: 21, 22, 23, 24
11 South	13 East	Parts of: 5, 6, 7, 8, 9, 15, 16, 17, 18, 19, 30, 31
12 South	10 East	Parts of: 1, 2, 3, 4, 5, 10, 11, 14, 15, 16, 20, 21, 22, 23, 26, 27, 29, 30, 31, 35, 36
12 South	12 East	Parts of: 1
12 South	13 East	Parts of: 6, 7, 18, 31, 34
13 South	09 East	Parts of: 2, 3
13 South	10 East	Parts of: 1, 2, 6, 11, 12, 14, 23, 26
13 South	11 East	Parts of: 7, 18
13 South	12 East	Parts of: 1, 2
13 South	13 East	Parts of: 3, 4, 5, 6
14 South	13 East	Parts of: 27, 28, 29, 33, 34
15 South	13 East	Parts of: 3

WALLACE COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
11 South	38 West	Parts of: 1, 2, 3, 4, 5, 6, 9, 11, 12
11 South	42 West	Parts of: 6
12 South	38 West	Parts of: 24, 25
13 South	38 West	Parts of: 13, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32
13 South	39 West	Parts of: 19, 23, 25, 26, 27, 28, 29, 30, 33, 34, 36
13 South	40 West	Parts of: 3, 4, 7, 8, 9, 10, 11, 13, 14, 17, 18, 24, 25
13 South	41 West	Parts of: 9, 10, 11, 12, 13, 14, 15, 16, 17, 19, 20
13 South	42 West	Parts of: 7, 15, 16, 17, 18, 22, 23, 24
13 South	43 West	Parts of: 12, 13

WASHINGTON COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
01 South	03 East	Parts of: 1, 12

01 South	04 East	Parts of: 3, 4, 5, 6, 7, 8, 9, 10, 15, 16, 17, 20, 21, 22, 23, 25, 26, 27, 28, 29, 32 All of: 33, 34, 35, 36
01 South	05 East	Parts of: 24, 31, 32
02 South	01 East	Parts of: 19, 22, 23, 24, 26, 27, 28, 29, 30, 31, 32
02 South	02 East	Parts of: 18, 19, 20, 21, 22, 25, 26, 27, 28, 36
02 South	03 East	Parts of: 30, 31, 32, 33, 34
02 South	04 East	Parts of: 1, 2, 3, 4, 5, 8, 9, 16, 17, 20, 21, 28, 29, 31, 32
02 South	05 East	Parts of: 5, 8, 16, 18, 19, 21, 28, 30, 31 All of: 6, 7, 17, 20, 29, 32
03 South	03 East	Parts of: 1, 2, 3, 4, 10, 11, 12
03 South	04 East	Parts of: 5, 6, 7, 8
03 South	05 East	Parts of: 6, 7, 9, 15, 18, 19, 20, 23, 25, 26, 27, 28, 35, 36 All of: 5, 8, 16, 17, 21, 22
04 South	05 East	Parts of: 12, 25, 36 All of: 1
05 South	01 East	Parts of: 24, 25, 30, 31, 32, 33, 34, 35, 36
05 South	02 East	Parts of: 19, 26, 27, 30, 33, 34
05 South	05 East	Parts of: 1, 2, 11, 12

WICHITA COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
16 South	35 West	Parts of: 2
16 South	38 West	Parts of: 35
17 South	35 West	Parts of: 6, 7, 8, 9, 10, 13, 14, 15, 17
17 South	36 West	Parts of: 10, 11, 12, 15, 16, 17, 18, 19, 20, 21
17 South	37 West	Parts of: 7, 8, 10, 11, 12, 13, 14, 15, 16, 17, 18, 21, 22
17 South	38 West	Parts of: 2, 11, 12, 13
18 South	37 West	Parts of: 19, 20, 29, 30, 32, 33
18 South	38 West	Parts of: 7, 8, 9, 10, 14, 15, 16, 17, 18, 23, 24, 25
19 South	35 West	Parts of: 19, 20, 21, 25, 26, 27, 28, 29, 30, 34, 35, 36
19 South	36 West	Parts of: 7, 8, 9, 14, 15, 16, 17, 22, 23, 24
19 South	37 West	Parts of: 2, 3, 4, 11, 12

20 South 35 West Parts of: 13, 14, 15, 16, 17, 18

20 South 36 West Parts of: 11, 12, 13

WILSON COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
27 South	13 East	Parts of: 1, 12
27 South	14 East	Parts of: 2, 3, 5, 6, 7, 9, 10, 11, 13, 14, 15, 17, 20, 22, 23, 24, 28, 33, 34, 35 All of: 8, 16, 21, 25, 26, 27, 36
27 South	15 East	Parts of: 3, 10, 12, 13, 14, 15, 19, 23, 24, 26, 27, 29, 34, 35 All of: 30, 31, 32, 33
27 South	16 East	Parts of: 6, 7
27 South	17 East	Parts of: 3, 10
28 South	13 East	Parts of: 23, 26, 35, 36
28 South	14 East	Parts of: 1, 13
28 South	15 East	Parts of: 3, 7, 8, 10, 13, 14, 15, 16, 18, 19, 20, 25 All of: 4, 5, 6, 9, 23, 24
28 South	16 East	Parts of: 30, 31, 32
29 South	13 East	Parts of: 2, 12 All of: 1
29 South	14 East	Parts of: 4, 5, 6, 10, 14, 18, 19, 20, 21, 22, 23, 24, 25, 36 All of: 7, 8, 9, 15, 16, 17
29 South	15 East	Parts of: 24, 25, 30, 31, 32, 36
29 South	16 East	Parts of: 5, 6, 7, 8, 15, 16, 17, 18, 19, 20, 21, 29, 32, 34, 35 All of: 30, 31
30 South	14 East	Parts of: 1
30 South	15 East	Parts of: 1, 2, 3, 4, 5, 6, 10, 11, 12, 13, 14, 20, 24, 29, 31
30 South	16 East	Parts of: 2, 3, 5, 6, 7, 8, 9, 10, 16, 17, 19, 20, 21, 22, 23, 27, 28, 29, 30, 31, 32, 33, 34

WOODSON COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
23 South	16 East	Parts of: 22, 23, 25 All of: 24
23 South	17 East	Parts of: 22, 27, 30, 32, 33 All of: 19, 20, 21, 28, 29, 34

24 South	17 East	Parts of: 3, 4, 10
25 South	13 East	Parts of: 2, 23
26 South	13 East	Parts of: 2, 11, 14, 36
26 South	14 East	Parts of: 31
26 South	15 East	Parts of: 25, 26, 27, 28, 33, 34, 35

WYANDOTTE COUNTY

<u>Township</u>	<u>Range</u>	<u>Sections</u>
10 South	23 East	Parts of: 11, 12, 13
10 South	24 East	Parts of: 7, 13, 17, 18, 20, 21, 22, 23, 24
10 South	25 East	Parts of: 18, 19, 26, 27, 28, 29, 30, 33, 34, 35
11 South	23 East	Parts of: 25, 26, 27, 31, 32, 35, 36
11 South	24 East	Parts of: 11, 12, 13, 14, 15, 21, 22, 23, 24, 27, 28, 29, 30, 31, 32, 33
11 South	25 East	Parts of: 2, 3, 4, 5, 8, 9, 10, 11, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23
12 South	23 East	Parts of: 5, 6, 7, 8, 18

**KANSAS CORPORATION COMMISSION
CONSERVATION DIVISION**

Administrative Penalties

<u>K.A.R.¹</u>	<u>Violations</u>	<u>Penalty</u>
82-3-103	Failure to notify the district office before spudding.	\$250/\$1,000
82-3-103 and 106	Inadequate installation of or failure to install surface casing	\$5,000
82-3-103 and 106	Falsification of documentation or failure to complete Alternate II cementing pursuant to K.A.R. 82-3-106.	\$5,000/shut-in
82-3-103	Drilling without an approved notice of intent or notice of intent not posted on drilling rig.	\$1,000
82-3-106	Failure to notify the district office before Alternate II cementing.	\$250/\$1,000
82-3-107	Failure to deliver information pursuant to K.A.R. 82-3-107(d) (1).	\$500 and license review
82-3-107	Failure to submit or timely submit the list of logging services performed on holes serviced.	\$250
82-3-111	Failure to file notice of temporary abandonment of well (form CP-111).	\$100
82-3-113	Failure to file notice of intent to plug and abandon wells (form CP-1).	\$100
82-3-115a	Drilling seismic shot holes without an approved notice of intent or emergency notice.	\$1,000
82-3-115b	Failure to properly plug seismic shot holes.	
	- first violation	\$250
	- second violation	\$1,000/license review
	- third violation	\$2,000/30 day license suspension and license review
82-3-117	Failure to file plugging report (form CP-4).	\$100
82-3-120	Failure to obtain or renew an operator or contractor license before operating.	\$500
82-3-120	Falsification of the well inventory.	\$5,000/license suspension
82-3-126	Failure to post an identification sign.	\$100
82-3-128	Failure to verify requested information.	\$100
82-3-130	Failure to file affidavit of well completion (form ACO-1).	\$500

<u>K.A.R.</u> ¹	<u>Violations</u>	<u>Penalty</u>
82-3-136	Failure to report transfer of operator responsibility within 30 days.	
	- first violation	\$1,000
	- second violation	\$2,000
	- third violation	\$3,000 and license review
82-3-304	Failure to submit an annual gas well test.	\$500
82-3-305	Failure to meter gas with an approved meter; improper calibration, testing or record keeping; improper taking of gas.	\$1,000
82-3-400	Failure to obtain written permit before beginning injection operations (form U-1).	
	- first violation	\$1,000/shut-in
	- second violation	\$5,000/shut-in
	- third violation	\$10,000/shut-in and license review
82-3-404	Failure to notify the Commission of commencement or permanent discontinuance of injection operations (form U-5).	\$100
82-3-407	Failure to test a well to show its mechanical integrity.	\$1,000/shut-in
82-3-408	Failure to obtain approval of any modification to an existing injection well or notify the Conservation Division pursuant to K.A.R. 82-3-408(d) (form U-8).	\$1,000
82-3-409	Failure to file or timely file an annual injection report (form U3-C).	\$100
82-3-410	Failure to notify the Conservation Division of a transfer in accordance with K.A.R. 82-3-410 (form T-1).	
	- first violation	\$1,000
	- second violation	\$2,000
	- third violation	\$3,000 and license review
82-3-600	Use of a pit without a pit permit.	\$500
82-3-602 (a)	Failure to close any pit or file an extension within the prescribed time limits.	\$250
82-3-602 (c)	Failure to file or timely file the pit closure form.	\$100
82-3-603 (d)	Failure to notify district office of a spill or escape within 24 hours.	
	- first violation	\$250
	- second violation	\$500
	- third violation	\$1,000 and license review

<u>K.A.R.</u> ¹	<u>Violations</u>	<u>Penalty</u>
82-3-603 (f)	Failure to clean up a spill or escape in a timely manner.	
	- first violation	\$1,000
	- second violation	\$2,500
	- third violation	\$5,000 and license review
82-3-603a	Failure to notify landowner or landowner's representative of any spill or escape.	
	- first violation	\$250
	- second violation	\$500
	- third violation	\$1,000
82-3-604	Failure to timely notify district office or to timely remove fluids from an emergency pit or diked area.	
	- first violation	\$250
	- second violation	\$500
	- third violation	\$1,000 and license review
82-3-606	Dumping or release of chemical substance or nonexempt waste.	
	- first violation	\$1,000
	- second violation	\$5,000
	- third violation	\$10,000
82-3-607	Failure to properly dispose contents of a dike or pit.	
	- first violation	\$1,000
	- second violation	\$2,500
	- third violation	\$5,000 and license review
82-3-608	Failure to file or timely file a waste transfer form (CDP-5).	
	- first violation	\$250
	- second violation	\$500
	- third violation	\$1,000 and license review
82-3-701	Drilling cathodic protection borehole without an approved notice of intent or without being granted an exception.	\$1,000
82-3-702	Failure to properly construct cathodic protection borehole.	\$2,500
82-3-702	Failure to submit final completion report for cathodic protection boreholes.	\$100
82-3-703	Failure to properly construct cathodic surface installation.	\$500

<u>K.A.R.</u> ¹	<u>Violations</u>	<u>Penalty</u>
82-3-705	Drilling a cased or uncased cathodic protection borehole without an approved permit or without providing notice to the GMD.	\$1,000
82-3-706	Failure to construct a cathodic protection borehole in accordance with regulation.	\$2,500
82-3-706	Failure to submit well completion form, any electrical or geophysical readings or logs and an as-built plan.	\$100
82-3-707	Failure to install anodes or grouting material.	\$2,500
82-3-708	Failure to complete surface constructions requirements for cathodic protection boreholes.	\$500
82-3-709	Failure to construct any uncased cathodic protection borehole.	\$2,500
82-3-710	Failure to submit a plugging plan to the appropriate GMD office within 72 hours before plugging operations.	\$1,000
82-3-710	Failure to properly plug any cathodic protection borehole.	\$2,500
82-3-801	Failure to file required gas gathering reports.	Up to \$10,000/day Maximum of \$250,000
82-3-1002	Operating an existing underground porosity gas storage facility without a provisional operating permit.	\$1,000
82-3-1003	Operating any underground porosity gas storage facility without a fully authorized operating permit.	\$1,000
82-3-1005 (a) or (b)	Failure to perform a MIT on gas storage facilities and wells.	\$1,000
82-3-1005 (d)	Failure to isolate the leak(s) in a manner that contains natural gas and associated fluids after failure of MIT.	\$1,000
82-3-1005 (e)	Failure to annually test leak detector.	\$500
82-3-1006 (b)	Failure to file annual wellhead pressure report.	\$100
82-3-1006 (c)	Failure to notify district office of potential leak.	\$5,000
82-3-1006 (e)	Failure to file monthly gas volume report.	\$100
82-3-1007	Failure to post identification sign on gas storage well and associated compressor.	\$100

<u>K.A.R.</u> ¹	<u>Violations</u>	<u>Penalty</u>
82-3-1008	Failure to conduct annual safety inspection and file written report.	\$500
82-3-1009	Transferral of underground gas storage permit without approval of the conservation division.	
	- first violation	\$1,000
	- second violation	\$2,000
	- third violation	\$3,000 and license review
82-3-1010	Failure to follow prescribed procedures to plug underground porosity gas storage wells.	\$500
82-3-1011 (a)	Failure to plug or file an application requesting temporary abandonment on a well within 90 days of cessation.	\$100
82-3-1011 (b)	Failure to obtain commission approval for temporary abandonment status of any underground porosity gas storage well.	\$100
82-3-1011 (e)	Failure to file written notice of temporary abandonment of an underground porosity gas storage facility.	\$500
82-3-1011 (f)	Failure to file written notice of permanent abandonment of an underground porosity gas storage facility.	\$1000

¹ Kansas Administrative Regulation

THE STATE CORPORATION COMMISSION
OF THE STATE OF KANSAS

Before Commissioners: Keith R. Henley, Chairman
Rich Kowalewski
Margalee Wright

In the matter of certain) DOCKET NO.148,207-C
administrative penalties for the) (C-21,335)
Conservation Division of the State)
Corporation Commission.) CONSERVATION DIVISION

ORDER

Now, the above-captioned matter comes on before the State Corporation Commission of the State of Kansas on its own motion. The Commission, being duly advised in the premises and after giving due consideration to the Statutes of Kansas and the regulations of this Commission, makes the following findings and conclusions:

1. K.S.A. 1989 Supp. 55-164 authorizes the Commission to impose penalties upon operators or contractors who have been found to have violated the provisions of the oil and gas act found in Chapter 55 of the Kansas Statutes Annotated. Such a penalty is not to exceed \$10,000; each day of a continuing violation is a separate violation. A penalty serves as an actual and substantial economic deterrent to the violation assessed. Such a penalty is to be imposed only upon the issuance of a written order of the Kansas Corporation Commission to the person who committed the violation.
2. Pursuant to this statutory authority, the Commission issued orders in this docket dated October 7, 1985, June 10, 1986, and April 27, 1987, which established specific administrative penalties for violations of certain Commission rules and regulations. The administrative penalties established in paragraphs 2, 3, 4, 5, 7, and 8 of its order dated October 7, 1985, paragraphs 3, 4, and 5 of its order dated June 10, 1986, paragraphs 3 and 4 of its order dated April 27, 1987, paragraphs 3 and 4 of its order dated August 12, 1987, and paragraphs 3, 4, and 5 of its order dated December 4, 1987, have been incorporated into the provisions of the respective Kansas administrative regulations. The Commission has determined that these orders should be further modified to reflect this fact and to include three new administrative penalties as described in paragraphs 3, 4, and 5 of this order.
3. K.A.R. 82-3-103 sets forth the requirements for obtaining Commission approval prior to drilling a well. Subsection (b) of the regulation states in part, "[P]rior to spudding the well, the operator shall notify the appropriate district office."

4. K.A.R. 82-3-106(c)(2)(B)(ii), which sets forth cementing requirements for all wells, requires in part that, "[T]he operator shall notify the appropriate district office prior to the cementing of the additional [alternate I] casing."

5. K.A.R. 82-3-113, which sets forth the requirements for obtaining Commission approval prior to plugging a well, contains similar language. Subsection (b) of that regulation states in part, "[T]he operator shall notify the appropriate district office no later than five days proper to plugging."

6. Notice to the district office is usually provided by a phone call to the district office which is then noted in the daily log book. Recently, all four of the district supervisors have expressed concern of increasing non-compliance with these three requirements. Notification prior to drilling, cementing, or plugging a well is a critical step in monitoring an operator's activity. Without notification, the district office will not be available to witness and supervise such activities. The absence of a Commission representative often results in improper and illegal cementing or plugging techniques being applied. Notification of spudding a well is also necessary to start the clock running on the 120 day well completion deadline. Because an approved drilling intent is valid for up to six months, it is crucial to know exactly when the actual drilling starts. Field checks are also becoming more important as the need to verify proper surface pond construction increases. Such verification can only be done at the commencement of drilling operations if the district office receives proper notice.

7. In view of the foregoing, the Commission finds that the failure to notify the appropriate district office as required by K.A.R. 82-3-103(b), K.A.R. 82-3-106(c)(2)(B)(ii), and K.A.R. 82-3-113(b) shall be punishable by a minimum administrative penalty of \$250 and a maximum administrative penalty of \$1000.

IT IS, THEREFORE, BY THE COMMISSION ORDERED that administrative penalties for violations of K.A.R. 82-3-103(b), 82-3-106(c)(2)(B)(ii), 82-3-113(b), be, and the same are hereby imposed according to the provisions of this order.

The Commission retains jurisdiction of the subject matter and the parties for the purpose of entering such further order or orders as from time to time it may deem proper.

BY THE COMMISSION IT IS SO ORDERED.

Henley, Chmn.; Kowalewski, Com.; Wright, Com.

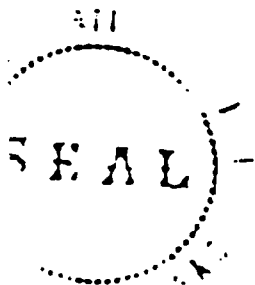
Dated: March 21, 1990

I CERTIFY THE ORIGINAL
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The State Corporation Commission



Executive Director

APR 1 1994


EXECUTIVE DIRECTOR

THE STATE CORPORATION COMMISSION
OF THE STATE OF KANSAS

Before Commissioners: Michael Lennen, Chairman
Margalee Wright
Keith R. Henley

In the matter of the general rules)
and regulations for the conservation)
of crude oil and natural gas, K.A.R.)
82-3-106.)

DOCKET NO. 34,780-C
(C-1825)

CONSERVATION DIVISION

ORDER

The above-captioned matter comes on for consideration and determination by the State Corporation Commission of the State of Kansas. Being duly advised in the premises and having examined its files and records, the Commission finds and concludes as set out below:

1. This Commission has authority to issue regulations and orders pertaining to the conservation of crude oil and natural gas and the protection of the fresh and usable waters in this state. Kan. Stat. Ann. 55-152; 55-604; 55-605; 55-704; and 55-705 (1984). K.A.R. 82-3-106 provides that, when a well is drilled which becomes a producer of oil or gas and surface pipe is not sufficient to protect usable waters, additional pipe or the production string may be cemented in with cement to effectively prevent migration of oil, gas or water from or into strata that would be damaged by this migration. Kan. Admin. Reg. 82-3-106(b)(2)(A) (T-85-51, 1984). This regulation provides that adequate protection, under Alternate II completion methods, may be accomplished during the producing life of a well by placing an alternative cementing material that is acceptable to the Commission behind the pipe or production string in a manner prescribed by the Commission or its authorized representatives. *Id.* The Commission finds that it has jurisdiction to determine the type of cementing materials which may be placed behind the production string or additional pipe, pursuant to K.A.R. 82-3-106, and the manner in which it may be accomplished.

2. The 10 member Advisory Commission, which is established by K.S.A. 55-153, has authority to revise and make recommendations on certain oil and gas activities. Kan. Stat. Ann. 55-153 (1984). The Alternative Cementing Materials Subcommittee of the 10 member Advisory Committee has been designated to study and make recommendations concerning: The types of alternative cementing materials

which may be placed behind the production string or additional pipe: the manner and circumstances in which these materials may be used; and, the procedure by which these determinations could be made. The subcommittee met in 1983 and on three occasions during 1984; the subcommittee received information from the Commission staff, members of the industry and other water agencies, and service companies which deal in alternative cementing materials including gels and muds. On August 10, 1984, the subcommittee made four recommendations to the Advisory Committee:

- a. The general category of pozzolin-lime mixture cementitious materials is an acceptable category of alternative cementing materials when having adequate quality control. Specific brands and blends shall be considered separately.
- b. The general category of catalytic activated sodium silicate blends and metasilicate blends are acceptable alternative cementing materials. Specific mixtures having adequate quality control shall be considered separately.
- c. Oil based gels will be studied in the future if requests for their use are made.
- d. Rotary mud or heavy laden bentonite gel mud may be considered as a viable alternate cementing material to protect usable water under Alternate II when formation pressures do not exist which will cause fluids from a lower formation to rise to a sufficient height to mix with usable waters.

3. Each of the 10 members of the Advisory Committee studied the recommendations of the Alternative Cementing Materials Subcommittee. On December 20, 1984, the Advisory Committee recommended that the Commission adopt the subcommittee's recommendations. The Commission finds that the recommendations of the Advisory Committee and the Alternative Cementing Materials Subcommittee were properly made, pursuant to the pertinent statutes and regulations. The Commission further finds that the recommendations are consistent with insuring the protection of fresh and usable water in Kansas. The Commission finds that the four recommendations of the Alternative Cementing Materials Subcommittee should be and are hereby adopted. The Alternative Cementing Materials Subcommittee should be and are hereby adopted. The alternative cementing materials recommended by the Advisory Committee shall be used in the manner and pursuant to the procedures prescribed below.

4. Pozzolin-lime mixture cementitious materials and catalytic activated sodium silicate blends and metasilicate blends. Upon proper application and evidence, the Commission may approve specific blends, brands or mixtures of pozzolin-lime mixture

cementitious materials, catalytic activated sodium silicate blend materials or metasilicate blend materials. Any operator who wishes to use specific blends, brands or mixtures of the materials, shall apply to the Commission for a determination that the requested materials will adequately protect usable waters. The application shall specify the following: all specific blends, brands or mixtures of the materials sought to be used, all areas where the materials are requested to be used, and all procedures by which the materials will be placed behind the pipe.

Commission staff shall evaluate the application to ascertain whether or not each requested material will protect usable water from pollution and downward drainage and will protect all hydrocarbon-bearing zones. In addition, Commission staff shall provide notice of each application to all Advisory Committee members and shall make available the application and accompanying documents, upon request. The Commission staff shall duly consider the comments of Advisory Committee members and any member of the Alternative Cementing Materials Subcommittee on any application. These comments shall not be considered binding, however, upon the Commission staff or upon the Commission.

If the staff is satisfied that the application should be granted, the applicant shall be notified that the staff intends to recommend that the Commission administratively grant the application. The applicant shall publish notice of the matter in The Wichita Eagle-Beacon newspaper and in the official county newspaper in each county where the alternative cementing material is requested to be used. The notice shall state that the matter is intended to be granted administratively, unless a written protest is filed and received by the Commission within fifteen (15) days after the publication notice. If a protest is filed, the application shall be set for hearing. The protestant shall publish notice of the hearing in The Wichita Eagle-Beacon newspaper and in the official county newspaper of each county where use of the alternative cementing material is protested. Notice must be published at least fifteen (15) days prior to the hearing date.

If the Commission staff, after review, believes that the application should not be administratively granted, staff shall notify the operator. The operator shall have the right to have the matter heard by filing a petition for hearing within fifteen (15) days from the date the notification was mailed. The operator shall publish notice of the hearing in The Wichita Eagle-Beacon newspaper and in the official county newspaper of each published at least fifteen (15) days prior to the hearing date. Commission staff shall provide notice of the hearing to all Advisory Committee members.

After any such cementing material, together with the method of applying or installing it, has been approved by the Commission, then any operator may use such approved cementing matter in the manner specified in the order approving the same, except as provided below. The operator shall advise the Commission of his intent to

use any of these alternative cementing materials. Information furnished the Commission shall include the approved material to be used, a statement that the procedure for using the material shall be in accordance with the Commission order approving the method, the location of the well and the approximate time the cementing material will be placed behind the pipe. The Commission staff may cause any intended use of these cementing materials to come for hearing, if staff has cause to believe that the requested material will not protect usable water or hydrocarbon-bearing zones in the subject area.

5. Oil based Gels. Oil based gels shall not be used as an alternative cementing material, at this time. If an operator desires to use these materials, the operator shall notify the Commission. upon such notification, the Alternative Cementing Materials Subcommittee shall study the use of oil based gels and make recommendations to the 10-member Advisory Committee.

6. Muds and heavy laden bentonite muds. Muds and heavy laden bentonite muds shall not be used as alternative cementing materials where formation pressures are known to exist which may cause fluids from a lower formation to rise to a sufficient height to mix with usable waters. (For clarification, see the attached map). In areas where such formation pressures are not known to exist, any operator may apply to the Commission for a determination that the alternative cementing materials may be used in the location and in the manner specified in the application. Commission staff shall evaluate each application on a case-by-case basis to ascertain whether or not the required material will protect usable water from loss by downward drainage and pollution and will protect all hydrocarbon-bearing zones.

If the Commission staff is satisfied that the requested materials will protect fresh and usable water and hydrocarbon-bearing zones, the Commission may administratively grant the application. Prior to any application being granted administratively, the operator shall provide notice to the landowner, all offset operators and unleased mineral owners within one-half mile of the subject well. In addition, the operator shall publish notice of the application in the official county newspaper of the county in which the subject well is located. Each notice shall state that the matter is intended to be granted administratively, unless a written protest is filed and received within fifteen (15) days after the publication notice. If a protest is timely filed with the Commission, the application shall be set for hearing. The protestant shall provide notice of the hearing to the following: The landowner upon whose land the subject well is located; all offset operators within one-half mile of the subject well; and all owners of unleased acreage within one-half mile of the subject well. In addition, the operator shall publish notice of the hearing in The Wichita Eagle-Beacon and in the official county newspaper of the county in which the subject well is located. Each notice shall be provided at least fifteen (15) days prior to the hearing date.

If the Commission staff, after review, believes that such materials should not be used, staff shall notify the operator. The operator shall have the right to have the matter heard by filing an application for hearing within fifteen (15) days from the mailing of the notification. The operator shall provide notice of the hearing to the following: the landowner upon whose land the subject well is located; all offset operators within one-half mile of the subject well; and all owners of unleased acreage within one-half mile of the subject well. In addition, the operator shall publish notice of the hearing in The Wichita Eagle-Beacon newspaper and the official county newspaper of the county in which the subject well is located. Each notice shall be provided at least fifteen (15) days prior to the hearing date.

7. It should be noted that, in all cases, the burden is upon the applicant to prove the adequacy of the alternative cementing materials requested to be used. In addition, this order shall not affect the method of completion for wells drilled and completed under any special order, which provides for specific types of completions in specific geographical areas.

8. Any person who, or corporation which, is affected by this order and deems it to be improper, unreasonable or contrary to law, may apply, by written petition, for a hearing before the Commission, pursuant to K.A.R. 82-1-232. Such petition must be received by the Executive Secretary of this Commission no later than May 15, 1985.

IT IS, THEREFORE, BY THE COMMISSION ORDERED that the recommendations of the Alternative Cementing Materials Subcommittee, which have been approved by the 10-member Advisory Committee, are hereby adopted.

The Commission retains jurisdiction of the subject matter and the parties for the purpose of entering such further order or orders as from time to time it may deem proper.

BY THE COMMISSION IT IS SO ORDERED.

Lennen, Chmn.; Wright, Com.; Henley, Com.

Dated: March 29, 1985

I CERTIFY THE ORIGINAL
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The State Corporation Commission



APR 1 1984

Judith McConnell
Executive Secretary


EXECUTIVE DIRECTOR

ENTERED

JUL 26 2002

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Kansas Corporation Commission
/S/ Patrice Petersen-Klein

**THE STATE CORPORATION COMMISSION
OF THE STATE OF KANSAS**

In the Matter of the Petition of Conservation)
Staff for a Declaratory Order Concerning) Docket No. 02-CONS-294-CREG
Commission Orders Authorizing Injection)
Wells.)

DECLARATORY ORDER

Now, the above-captioned matter comes on for consideration and determination by the State Corporation Commission of the State of Kansas.

A Petition was filed on June 20, 2002, by the Corporation Commission Staff, for a Declaratory Order concerning prior Commission orders authorizing injection wells.

The Commission, after giving consideration to the record and files, makes the following findings and conclusions:

1. The motion was filed pursuant to the rules and regulations of the State Corporation Commission and the Kansas Statutes, as amended, thus fulfilling both the regulatory and statutory requirements.

2. Notice was proper in every respect as described by the Commission's rules and regulations. The Petition was provided to the current members of the Kansas Oil & Gas Advisory Committee, designated pursuant to K.S.A. 55-153 and notice of this proceeding was published in the Wichita Eagle and Kansas Register newspapers. There were no protests.

3. By amendments to the Commission's injection well regulations, K.A.R. 82-3-400 *et. seq.*, which became effective April 5, 2002, the Conservation Division was authorized to issue permits for injection wells, to issue amendments to permits and to cancel permits for good cause.

4. Prior to these regulation amendments, injection wells were authorized, amendments approved and authorization cancelled by Commission Order.

5. The amended regulations do not specifically address the Conservation Division's authority to amend or cancel previous Commission orders authorizing injection.

6. The amendments to the injection well regulations were intended to allow the Conservation Division to take all actions with regard to injection wells without a Commission order, except for contested matters.

7. To clarify this issue, the Commission finds that orders authorizing injection issued prior to April 5, 2002 will be considered permits under amended regulations 82-3-400 *et. seq.* and can be amended and cancelled for good cause by the Conservation Division as provided by the amended regulations.

8. This construction and interpretation is consistent with the intended purpose of the amended regulations and will not undermine the Commission's authority under K.S.A. 55-152, 55-901, 55-904 and 55-1003.

9. Staff is directed to propose an amendment to the Commission's regulations consistent with this Order when practical.

10. The motion should be granted in accordance with the above findings.

IT IS, THEREFORE BY THE COMMISSION ORDERED: That the Motion for Declaratory Order concerning Commission Orders authorizing injection wells be, and the same is hereby granted, in accordance with this Order.

Any party affected by this Order may apply, by written petition, for a hearing thereon before the Commission, pursuant to K.S.A. 77-537. Such petition must be filed with the Director of the Conservation Division, Finney State Office Building, 130 South Market, Room 2078,

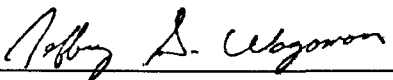
Wichita, Kansas, within three (3) days following service of this Order. If a hearing is not requested, this Order shall become effective upon the expiration of the three (3) day time period for requesting a hearing.

The Commission retains jurisdiction of the subject matter and the parties for the purpose of entering such further Order or Orders as from time-to-time it may deem proper.

BY THE COMMISSION IT IS SO ORDERED.

Wine, Chr.; Claus, Com.; Moline, Com.

Date: JUL 23 2002


Executive Director

Date Mailed: _____

I CERTIFY THE ORIGINAL
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The State Corporation Commission

JUL 23 2002


EXECUTIVE DIRECTOR

ENTERED

JUN 23 2004

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Kansas Corporation Commission
/S/ Patrice Petersen-Klein

THE STATE CORPORATION COMMISSION
OF THE STATE OF KANSAS

Before Commissioners: Brian J. Moline, Chair
John Wine
Robert E. Krehbiel

In the Matter of an Exception to K.A.R.) Docket No. 04-CONS-339-CREG
82-3-115b(k) for Certain Seismic Shot)
Holes.)

ORDER GRANTING PETITION

The above captioned matter comes on for consideration and determination by the State Corporation Commission of the State of Kansas ("Commission") on the Petition of Commission Staff ("Staff") for a Partial Exception to K.A.R. 82-3-115b(k). After giving due consideration to its records and files, the Commission makes the following findings and conclusions:

1. On May 6, 2004, Staff filed a Petition seeking a partial exception to K.A.R. 82-3-115b(k). Particularly Staff sought to replace the \$5.00 minimum fee for plugging a seismic hole with a graduated fee based on the depth of the seismic hole.

2. Notice was published in the Kansas Register newspaper and in the Wichita Eagle newspaper. Notice was also mailed to each of the members of the Oil and Gas Advisory Committee. Notice contained the substance of the Petition and gave the time and place of the hearing.

3. The hearing was held as noticed on June 17, 2004 at the Commission's office, 1500 SW Arrowhead Road, Topeka, Kansas. John McCannon, Assistant General Counsel appeared on behalf of the Commission Staff and the public generally. There were no other appearances.

4. The Commission found that notice was proper and that it had jurisdiction of the subject matter in these proceedings.

5. At the hearing, testimony was presented by M. L. Korphage, Director of the Conservation Division; Diana Edmiston on behalf of Murfin Drilling Company and by John Berry on behalf of Paragon Geophysical Services, Inc. All of the witnesses expressed support of Staff's Petition and urged the Commission to grant it.

6. K.A.R. 82-3-115b(k) states that "a minimum fee of \$5 shall be assessed for plugging seismic holes. The minimum fee for any hole which penetrates a regionally confined salt water aquifer shall be assessed pursuant to K.A.R. 82-3-118."

7. K.A.R. 82-3-100 allows the Commission to grant an exception to any regulation after notice and hearing.

8. K.A.R. 82-3-115b(k) was adopted by the Commission in March 1995. At that time seismic operations were conducted by drilling a limited number of shot holes to bedrock on each project. Generally, these shot holes were over 100 feet deep.

9. Because of advances in technology, today's seismic operations which utilize shot holes are conducted by drilling numerous shallow shot holes. These shot holes are generally less than 50 feet deep and in many instances, are 20 feet or less deep.

10. A minimum plugging fee of \$5 was reasonable in 1995 when there were only a few deep seismic shot holes being used on each seismic project; however this plugging fee is outdated given current seismic industry practice of using numerous shallow shot holes.

11. Staff has set up a committee to study all of the seismic regulations, including K.A.R. 82-3-115b(k), and to make recommendations for amendments or new regulations to the Oil & Gas Advisory Committee.

12. This process will be relatively lengthy and interim relief from the minimum plugging fee set by K.A.R. 82-3-115b(k) should be provided now and last until permanent amendments or new seismic regulations can be adopted.

13. The Commission finds that the following fee schedule is fair and reasonable and should be adopted in lieu of the minimum plugging fee provided for in K.A.R. 82-3-115b(k) for all seismic shot holes less than 100 feet deep which do not penetrate a regionally confined salt water aquifer:

Shot Holes 20 or less feet deep	\$1.00 per shot hole
Shot Holes 21-50 feet deep	\$2.00 per shot hole
Shot Holes 51-75 feet deep	\$3.00 per shot hole
Shot Holes 76-100 feet deep	\$4.00 per shot hole

14. This schedule of plugging fees should be effective until new or amended seismic regulations are adopted by the Commission.

IT IS, THEREFORE, BY THE COMMISSION ORDERED: That Staff's Petition in this docket be, and is hereby granted as set out in the above findings which are adopted as the Order of the Commission herein.

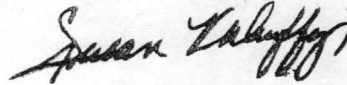
Any party affected by this Order may file with the Commission a petition for reconsideration pursuant to K.S.A. 77-529(a). Such petition shall be filed within fifteen (15) days after service of this Order and must state the specific grounds upon which relief is requested. This petition for reconsideration shall be filed with the Executive Director of the Conservation Division, Finney State Office Building, 130 S. Market, Room 2078, Wichita, Kansas 67202-3802.

The Commission retains jurisdiction of the subject matter and the parties for the purpose of entering such further Order or Orders as from time-to-time it may deem proper.

BY THE COMMISSION IT IS SO ORDERED.

Moline, Chr.; Wine, Com.; Krehbiel, Com.

Date: JUN 22 2004



Susan K. Duffy
Executive Director

Date Mailed: 6/23/04

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JUN 22 2004



Executive
Director

**THE STATE CORPORATION COMMISSION
OF THE STATE OF KANSAS**

Before Commissioners: **Mark Sievers, Chairman**
 Ward Loyd
 Thomas E. Wright

In the Matter of Establishing Special) Docket No. 12-CONS-117-CEXC
Field Rules Governing Operators of)
Horizontal Wells Drilled in the) CONSERVATION DIVISION
Mississippi Formation in the State of)
Kansas.)

ORDER GRANTING APPLICATION

This matter comes before the State Corporation Commission of the State of Kansas (“Commission”) on the application of its Staff to establish rules governing operators of horizontal wells drilled in the Mississippi Formation in Kansas. The Commission, giving due consideration to the record herein, the Kansas Statutes, and its regulations, makes the following findings of fact and conclusions of law:

1. The application was filed on October 14, 2011.
2. The application was heard as noticed on November 17, 2011. Stanford J. Smith, Jr., appeared for Chesapeake Exploration and Production, LLC (“Chesapeake”); David E. Bengtson appeared for SandRidge Exploration and Production, LLC (“SandRidge”); Timothy E. McKee appeared for Reeder Operating, LLC (“Reeder”); and John McCannon, Litigation Counsel, appeared for Commission Staff and the public generally.
3. Staff reported on notice. Hearing no objection to notice, the Commission found that notice was proper and that it had jurisdiction of the parties and the subject matter of this docket.
4. Hearing no objection to the motions of Chesapeake and SandRidge to intervene in this docket, the Commission granted those motions.

I. TESTIMONY

5. Staff presented the testimony of Douglas C. Louis, Conservation Division Director and licensed geologist. Mr. Louis' testimony supported the application and the establishment of field rules to govern operators drilling horizontal wells in the Mississippi Formation in Kansas. Mr. Louis explained the process leading up to the filing of the application by Staff and explained why the special field rules are necessary. He then went through each of the proposed rules and explained why each rule is appropriate to govern operators of horizontal wells in the Mississippi Formation. Mr. Louis testified that adoption of the special field rules will allow the well permitting process to be accelerated, but will still allow Staff to collect pertinent well information, and will not adversely affect correlative rights, cause waste, or jeopardize public safety.

6. Chesapeake presented the testimony of David W. Evans, a petroleum engineer and Senior Asset Manager of Chesapeake's Northern Mid Continent District. Mr. Evans supported the application and testified about several specific provisions. He testified that no longer requiring the filing of an application and notice for each Mississippi horizontal well would speed up the approval process. Horizontal wells should be treated the same as vertical wells, and as long as the well meets statewide setback requirements, the well should be evaluated through the intent to drill process instead of an application. In addition, he testified that both the proposed oil allowable and gas allowable for Mississippi horizontal wells are appropriate. The oil allowable equates to the same allowable for a series of vertical wells spaced 660 feet apart, and the gas allowable would allow production at a rate that would maximize associated oil recovery. The proposed requirement to provide an "as drilled" plat with the well completion report is

appropriate because it will allow Staff and other operators to verify that the well, as drilled, meets all setback requirements.

7. SandRidge presented the testimony of Dustin Elmore, an operations engineer for SandRidge. Mr. Elmore testified that SandRidge supports all of the proposed rules in Staff's application, and he testified in detail about several specific provisions. First, Mr. Elmore testified that it is not possible to test most horizontal Mississippi wells using the current required gas well testing procedure. Those wells generally have a high volume of water and require artificial lift to produce. As a result, those wells will not flow into a pipeline as required by the current gas well testing regulations. In addition, the well test is not needed on horizontal Mississippi wells because it will not be used to assign a gas production allowable to those wells. Second, Mr. Elmore testified that in most, if not all, cases, Mississippi horizontal wells will need to be flared for periods longer than currently allowed for the gas to "clean up" to meet pipeline specifications. The longer flaring period allowed by the proposed rule eliminates the need under the current rules for operators to file an application for an exception for almost every Mississippi horizontal well. Third, Mr. Elmore testified that most, if not all Mississippi horizontal wells are expected to require the movement of more than 2,500 barrels of fluid per day, and that allowing the use of high volume pumps in those wells will prevent the operators from having to file an application to use a high volume pump in connection with nearly every horizontal Mississippi well in the State.

8. At the close of the testimony, Mr. McKee stated that Reeder fully supported the application.

II. FINDINGS AND CONCLUSIONS

9. The Commission finds that it has jurisdiction to issue special field rules covering a particular formation in the State. However, the Commission finds that since the Order adopts special field rules it should be and is directed to the specific group of operators that are affected by the Order in accordance with K.S.A. 77-415(d)(2)(B) and, as a result, the docket caption should be amended accordingly.

10. The Commission finds that granting the Staff's application and establishing special field rules for operators of Mississippi horizontal wells will allow for these wells to be permitted and operated expeditiously, without the need for multiple applications for exceptions to regulations that were adopted for the purpose of regulating vertical wells.

11. The Commission finds that granting Staff's application will not conflict with and is consistent with the Commission's statutory duties to prevent waste, protect correlative rights, and protect water resources.

12. The Commission finds that Staff's application in this docket should be granted.

13. The following should be adopted as the special rules governing operators of horizontal Mississippi wells in Kansas:

Notice of Intent to Drill

14. Provided that a horizontal well drilled in the Mississippi Formation meets all statewide or special field rule setback requirements, the Notice of Intent to Drill for such wells may be approved by Staff without the operator filing an application pursuant to K.A.R. 82-3-103a.

15. The Notice of Intent to Drill for a horizontal well in the Mississippi Formation shall be submitted on a form prescribed by the Commission, and each operator filing the form shall comply with all accompanying instructions.

16. Operators are not prohibited from filing an application for a well location exception, when necessary, pursuant to K.A.R. 82-3-108.

Oil & Gas Allowables

17. Mississippi Formation horizontal wells classified as oil wells, pursuant to K.A.R. 82-3-101(a)(81)(I), shall be assigned a production allowable of 200 barrels of oil per day for each 660 feet of that well's horizontal completion interval. The remaining length of the completion interval, if any, that is less than 660 feet will result in a corresponding proportionate addition to the calculated allowable.

18. Mississippi Formation horizontal wells classified as gas wells, pursuant to K.A.R. 82-3-101(a)(81)(E), shall be assigned a production allowable of three (3) million cubic feet per day. Such gas allowable shall be subject to the provisions of K.A.R. 82-3-133a.

19. Operators are not prohibited from filing an application for a special allowable for Mississippi formation horizontal wells classified as gas wells or oil wells, when appropriate, pursuant to K.A.R. 82-3-203 or K.A.R. 82-3-312.

Testing Gas Wells

20. Mississippi Formation horizontal gas wells shall be exempt from the gas well testing requirements contained in K.A.R. 82-3-303 and K.A.R. 82-3-304.

Gas Flaring

21. Flaring of gas from a horizontal well drilled into the Mississippi Formation is authorized under the following conditions:

- a. An affidavit on a form prescribed by the Commission shall be filed within five (5) days after commencement of flaring.
- b. Prior to flaring, the operator shall ensure that the site is inspected and approved by the appropriate district office.
- c. Gas may be flared for a period not to exceed 30 producing days following the initial horizontal completion or recompletion.
- d. Flaring may be authorized by Staff upon written request of the operator for an additional 30 producing day period.
- e. If flaring is necessary beyond 60 producing days, the operator shall request authorization for any additional flaring pursuant to K.A.R. 82-3-208 or K.A.R. 82-3-314.
- f. All flared gas shall be continuously metered, measured, or monitored, and the chart or record thereof shall be retained by the operator for two years and furnished to Commission staff within five business days of any request from Commission Staff for such records.

High Volume Pumps

22. The use of high volume pumps on horizontal wells drilled in the Mississippi Formation is authorized and is exempt from the application filing requirements of K.A.R. 82-3-131.

Well Completion Report

23. A well completion report, including compliance with all instructions, must be filed within the time frame specified in K.A.R. 82-3-106(e) for each horizontal well drilled in the Mississippi formation on a form prescribed by the Commission.

IT IS, THEREFORE, BY THE COMMISSION ORDERED THAT:

A. The application in this docket be and the same is hereby granted.

B. The rules set out in Paragraphs 13 through 23 are adopted as the special rules governing operators of horizontal wells in the Mississippi Formation in Kansas.

C. The docket caption is amended to show that this Order is directed to and governs operators of horizontal wells in the Mississippi Formation.

D. The Commission designates this Order as precedent under 2011 House Bill No. 2027, (b)(2)(A), amending K.S.A. 2010 Supp. 77-415, that may be relied upon in any subsequent adjudication.

E. Any party affected by this Order may file with the Commission a petition for reconsideration pursuant to K.S.A. 77-529(a). Such petition shall be filed within fifteen (15) days after service of this Order and must state the specific grounds upon which relief is requested. This petition for reconsideration shall be filed with the Executive Director of the Conservation Division, Finney State Office Building, 130 S. Market, Room 2078, Wichita, Kansas 67202-3802.

F. The Commission retains jurisdiction of the subject matter and the parties for the purpose of entering such further Order or Orders as from time-to-time it may deem proper.

BY THE COMMISSION IT IS SO ORDERED.

Sievers, Chmn.; Loyd, Com.; Wright, Com.

Date: DEC 16 2011



Patrice Petersen-Klein
Executive Director

Date Mailed: 12-16-2011

JM

I CERTIFY THE ORIGINAL
COPY IS ON FILE WITH
The State Corporation Commission

DEC 16 2011



**THE STATE CORPORATION COMMISSION
OF THE STATE OF KANSAS**

Before Commissioners: Dwight D. Keen, Chair
 Shari Feist Albrecht
 Susan K. Duffy

In the Matter of an Order Reducing Saltwater) Docket No. 15-CONS-770-CMSC
Injection Rates into the Arbuckle Formation,)
Applicable to Wells in Defined Areas of) CONSERVATION DIVISION
Increased Seismic Activity in Harper and)
Sumner Counties.)

ORDER DESIGNATING ORDERS AS PRECEDENTIAL AND CLOSING DOCKET

This matter comes before the State Corporation Commission of the State of Kansas (Commission). Having examined its files and records, and being fully advised in the premises, the Commission finds the following:

Background

1. On March 19, 2015, the Commission issued an *Order Reducing Saltwater Injection Rates*, identifying areas of heightened seismic activities and requiring a reduced injection rate and pressure.¹ The Order found that the restrictions described therein “shall govern the wells subject to this Order.”²

2. On August 9, 2016, the Commission issued its *Second Order Reducing Saltwater Injection Rates*, finding “that the continued increase in seismic activity in the areas outside of the 2015 Specified Areas is a matter concerning immediate danger to the public health, safety and welfare.”³ The Order found that “[p]reviously-issued Class II injection permits of all affected wells

¹ See *Order Reducing Saltwater Injection Rates*, ¶¶ 9-17 and Ordering Clause A (Mar. 19, 2015).

² *Id.* at Ordering Clause A.

³ See *Second Order Reducing Saltwater Injection Rates*, ¶¶ 18-37 (Aug. 9, 2016).

within the 2016 Specified Area are hereby amended to comply with the requirements of this Order.”⁴

3. On June 27, 2019, the Commission issued an *Order Directing Staff to File a Revised Report and Recommendation*, requiring Conservation Staff to submit a revised Report and Recommendation in light of the approximately two year period of inactivity in this docket.⁵

4. On August 29, 2019, Conservation Staff filed its Revised Report and Recommendation (Revised R&R), attached hereto and incorporated herein, stating that “the emergency conditions that led to the opening of this docket no longer exist,” and therefore, recommending the Commission designate the prior orders in this docket as precedential and close the docket.⁶ Staff specifically noted that “the volume injected into large volume Arbuckle injection wells in the Commission [Emergency] Order areas has decreased by . . . 37% . . . from 2016 to 2018.”⁷ Staff also noted “a 57% decrease in earthquakes of all magnitude” from 2016 to 2018 in the Commission Emergency Order areas.⁸ Staff further stated: “The average number of earthquakes of any magnitude per month has dropped from 44.42 per month in 2016 to 9.67 per month in 2019 in the Commission [Emergency] Order areas.”⁹ Finally, Staff noted that “[i]ndustry activity is also decreasing in these areas, with the lack of new Mississippi horizontal wells being drilled and the rise in the plugging of Mississippi horizontal production wells and Arbuckle saltwater disposal wells.”¹⁰

5. Based on the evidence that the emergency conditions no longer exist, Staff recommended the Commission designate its Orders in this docket as precedential, making those

⁴ *Id.* at Ordering Clause A.

⁵ *Order Directing Staff to File a Revised Report and Recommendation*, ¶ 6 (June 27, 2019).

⁶ Revised R&R, p. 1.

⁷ Revised R&R, pp. 2-3.

⁸ Revised R&R, p. 3.

⁹ Revised R&R, p. 3.

¹⁰ Revised R&R, p. 4.

volume restrictions and reporting requirements permanent.¹¹ Staff recommended that Staff itself should take appropriate steps to memorialize these conditions as part of the Commission's regulations, and if a change in conditions occurs, the Commission should address such changed conditions in a separate docket.¹²

Findings and Conclusions

6. In light of Staff's recommendations, the Commission finds that its March 19, 2015 *Order Reducing Saltwater Injection Rates* and August 9, 2016 *Second Order Reducing Saltwater Injection Rates* shall have precedential effect in accordance with K.S.A. 77-415(b)(2)(A). Thus, the two Orders shall promptly be published in full on the Commission's website.

7. Moreover, no further Commission activity is anticipated in this docket, and thus, the docket should be closed.

THEREFORE, THE COMMISSION ORDERS:

A. The Commission's March 19, 2015 *Order Reducing Saltwater Injection Rates* and August 9, 2016 *Second Order Reducing Saltwater Injection Rates* are designated as precedential in accordance with K.S.A. 77-415(b)(2)(A).

B. This docket is closed.

C. Any party may file and serve a petition for reconsideration pursuant to the requirements and time limits established by K.S.A. 77-529(a)(1).¹³

D. The Commission retains jurisdiction over the subject matter and parties for the purpose of entering such further orders as it may deem necessary.

¹¹ Revised R&R, p. 4.

¹² Revised R&R, p. 4.

¹³ K.S.A. 55-162; K.S.A. 55-606; K.S.A. 55-707; K.S.A. 77-503(c); K.S.A. 77-531(b).

BY THE COMMISSION IT IS SO ORDERED.

Keen, Chair; Albrecht, Commissioner; Duffy, Commissioner

Dated: 09/19/2019 _____



Lynn M. Retz
Executive Director

Mailed Date: _____

MJD

**THE STATE CORPORATION COMMISSION
OF THE STATE OF KANSAS**

Before Commissioners: Shari Feist Albrecht, Chair
 Jay Scott Emler
 Pat Apple

In the Matter of an Order Reducing Saltwater) Docket No. 15-CONS-770-CMSC
Injection Rates into the Arbuckle Formation,)
Applicable to Wells in Defined Areas of) CONSERVATION DIVISION
Increased Seismic Activity in Harper and)
Sumner Counties.)

ORDER REDUCING SALTWATER INJECTION RATES

The above-captioned matter comes before the State Corporation Commission of the State of Kansas (“Commission”) for consideration and determination. Having examined its files and records, and being duly advised in the premises, the Commission makes the following findings:

1. Due to increasing seismic activity in Harper and Sumner Counties, correlating with increasing volumes of saltwater injected in those counties, the Commission finds and concludes its powers under K.S.A. 2014 Supp. 77-536(a) must be exercised to protect the public from immediate danger to health, safety, and welfare. Because individual earthquakes cannot be linked to individual injection wells, this Order reduces injection volumes in areas experiencing increased seismic activity. The Commission retains jurisdiction to amend this Order as new information becomes available.

I. JURISDICTION

2. The Commission has the exclusive jurisdiction and authority to regulate oil and gas activities in Kansas,¹ and to regulate the injection of saltwater into wells.² The federal Environmental Protection Agency (“EPA”) has delegated primacy of its Class II injection program to the Commission.

¹ K.S.A. 74-623.

3. K.S.A. 2014 Supp. 77-536(a) provides an agency with authority to act if there is “an immediate danger to the public health, safety or welfare requiring immediate state agency action” or “as otherwise provided by law.” Additional required proceedings shall be concluded “as quickly as feasible” after the Order is issued.³ K.S.A. 55-162(b) provides the Commission with specific authorization “[i]f it appears to the commission that damage may result if immediate remedial action is not taken.”

II. FINDINGS OF FACT

4. The United States Geological Survey (“USGS”) has reported the number of earthquakes in Kansas has risen over the past several years.⁴ USGS data shows from 1981 through 2010, Kansas experienced 30 recorded earthquakes.⁵ In 2013, there were four recorded earthquakes in Kansas. The number of recorded earthquakes reported in Kansas during 2014 increased to 127. From January 1, 2015, to March 16, 2015, Kansas has experienced 51 recorded earthquakes. The majority of the earthquakes have occurred in Harper and Sumner Counties.

5. In response to the increased seismic activity, the Governor formed a Task Force to investigate the issue.⁶ The Task Force met several times and put forth a Seismic Action Plan on September 26, 2014, to respond to potentially-induced seismic events. The Task Force revised the plan on January 21, 2015. The plan contains a formula which attaches a Seismic Action Score (“SAS”). When an event registers an SAS of 17 or larger, the Commission is notified by the Kansas Geological Survey (“KGS”) and determines whether regulatory action is necessary.

² K.S.A. 2014 Supp. 55-901.

³ K.S.A. 2014 Supp. 77-536(e).

⁴ The USGS website can be queried at: <http://earthquake.usgs.gov/earthquakes/search/>

⁵ Recorded earthquakes are generally those measuring Magnitude 2.0 or higher.

⁶ Information on the Task Force can be accessed at: http://www.kcc.state.ks.us/induced_seismicity/index.htm.

6. The increased number of recorded earthquakes in Kansas coincides with an increase in the number of injection wells and the amounts of injected saltwater in Harper and Sumner Counties. In Harper County, the number of injection wells increased from 44 in 2010 to 71 in 2013, with 18 new permit applications received in 2014. The number of barrels of saltwater injected in Harper County increased from 9,671,655 in 2010 to 51,827,349 in 2013. The number of injection wells in Sumner County increased from 53 in 2010 to 79 in 2013, with 17 new permit applications received in 2014. The number of barrels injected in Sumner County increased from 9,763,265 in 2010 to 10,722,360 in 2013.⁷

7. From January 1, 2014, through March 16, 2015, there were 113 earthquakes in Kansas that had an SAS of 17 or larger. It has not been possible to trace a specific earthquake to a specific injection well based on available data. Commission Staff, in consultation with the KGS, recommended, and the Commission finds, there are areas in Harper and Sumner Counties which are more seismically active and potentially prone to induced seismic events. These areas require immediate action with regard to the operation of Class II injection wells.

8. The Commission finds increased seismic activity constitutes an immediate danger to the public health, safety, and welfare, and the requirements in this Order are narrowly tailored to address the potential harm as required by K.S.A. 2014 Supp. 77-536(a). The Commission finds damage may result if immediate action is not taken, as required by K.S.A. 55-162(b).

III. CONCLUSIONS OF LAW

9. The following restrictions shall govern new and existing Arbuckle injection wells in the affected areas. This Order identifies areas of heightened seismic activities and requires a reduced injection rate and pressure.

⁷ 2014 annual injection data is not required to be reported to the KCC until March 1, 2015, and data entry requires additional time; therefore, 2014 data is not available for inclusion in this Order.

10. The KGS has identified five areas of heightened seismic concern in Exhibit A, which is incorporated by reference into this Order. The centers of these areas are as follows:

- a. A line from 1024 FSL 1269 FEL, Sec. 17-32S-6W, to 2728 FSL 4558 FEL, Sec. 15-33S-5W.
- b. A line from 1056 FSL 3071 FEL, Sec. 23-32S-7W, to 2880 FSL 898 FEL, Sec. 7-34S-6W.
- c. A line from 2401 FSL 1229 FEL, Sec. 2-32S-3W, to 1185 FSL 3692 FEL, Sec. 21-32S-3W.
- d. A line from 4799 FSL 4640 FEL, Sec. 10-34S-3W, to 4162 FSL 630 FEL, Sec. 30-34S-3W.
- e. A line from 1679 FSL 4541 FEL, Sec. 33-33S-4W, to 441 FSL 2890 FEL, Sec. 2-35S-6W.

11. For purposes of this Order, "large volume injection well" shall mean any well that is permitted to inject more than 5,000 barrels of saltwater per day into the Arbuckle formation.

Exhibit B is a listing of large volume injection wells in Harper and Sumner Counties.

12. For each Arbuckle injection well that is located within three miles of any point on the lines described in Paragraph 10 of this Order, the following restrictions shall apply:

- a. Beginning 10 days after issuance of this Order, no operator shall inject more than 16,000 barrels of saltwater per day into any well.
- b. Beginning 55 days after issuance of this Order, no operator shall inject more than 12,000 barrels of saltwater per day into any well.
- c. Beginning 100 days after issuance of this Order, no operator shall inject more than 8,000 barrels of saltwater per day into any well.

- d. The daily injection allowable shall be calculated as a weekly average to accommodate unintentional overages. Any overage of 800 barrels or more in a single day shall be prohibited.
- e. Each well shall be limited to an average daily injection pressure of 250 pounds to overcome any friction in the formation. Short-term errors resulting in a pressure spike of up to 500 pounds shall be allowed to accommodate pump initiation and similar conditions.

13. Beginning 10 days after issuance of this Order, each operator shall measure daily volumes and daily pressures for each large volume injection well for the calendar month and shall report them to the Conservation Division by the end of business on the eighth day of the following calendar month.

14. The period between 101 and 180 days following issuance of this Order, and for so long thereafter as may be needed, shall constitute a monitoring period during which the KGS and Commission Staff will review the available data and make recommendations regarding any further action by the Commission. The Commission shall not be restricted from making any changes to this order at any time for any reason, regardless of whether the full monitoring period has elapsed.

15. In Sumner and Harper Counties, no Arbuckle injection well shall be permitted to inject saltwater in excess of 25,000 barrels per day. All existing Arbuckle injection permits that the Commission has issued in Sumner and Harper Counties to allow the injection of saltwater in excess of 25,000 barrels per day are reduced to allow the maximum of 25,000 barrels per day. After issuance of this Order, the Commission will no longer issue a permit for a large volume

Arbuckle injection well that is located within one-quarter mile of another large volume injection well within Sumner and Harper Counties.

16. Within 30 days of issuance of this Order, all operators of large volume injection wells located within the areas of seismic concern shall measure and report the true vertical depth of each well. Measurements shall be witnessed by Commission Staff and shall indicate the bottom of the Arbuckle. All operators shall, within 30 days of issuance of this Order, submit to the Commission all currently-available mud logs, driller's logs, and any additional geologist logs or reports, for each of the large volume injection wells located within the areas of seismic concern.

17. The results of the tests in Paragraph 16 will be used to identify any wells that have penetrated formations that lie beneath the base of the Arbuckle formation. Within 180 days of issuance of this Order, each operator of any such well shall plug back the well, in the manner and to the depth approved by Commission Staff, to confine injected fluids to the Arbuckle formation.

THEREFORE, THE COMMISSION ORDERS:

A. The restrictions described in this Order shall govern the wells subject to this Order. Previously-issued Class II injection permits of all affected wells are hereby amended to comply with the requirements of this Order.

B. Each failure to abide by the restrictions or reporting requirements in this Order may result in a Penalty Order of up to \$10,000 per day of a continuing violation, pursuant to K.S.A. 2014 Supp. 55-164. The Commission Staff is directed to shut-in and seal any well found to be operating in violation of this Order.

C. Any party affected by this Order may file with the Commission a request for hearing. The request for hearing shall be filed within 30 days after service of this Order. If

service of this Order is by mail, three days are added to the deadline. The request for hearing shall be addressed to the Commission and sent to 266 N. Main, Ste. 220, Wichita, Kansas 67202. This matter will be heard and determined as quickly as practicable pursuant to K.S.A. 2014 Supp. 77-536.


D. Any request for a hearing shall not result in a stay of this Order's requirements.

E. The Commission retains jurisdiction of the subject matter and the parties and may enter additional orders as it deems appropriate.

BY THE COMMISSION IT IS SO ORDERED.

Albrecht, Chair; Emler, Commissioner; Apple, Commissioner

Date: MAR 19 2015



Neysa Thomas
Acting Secretary

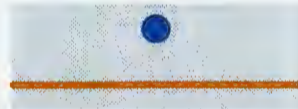
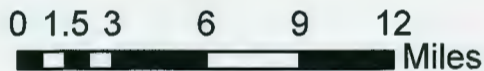
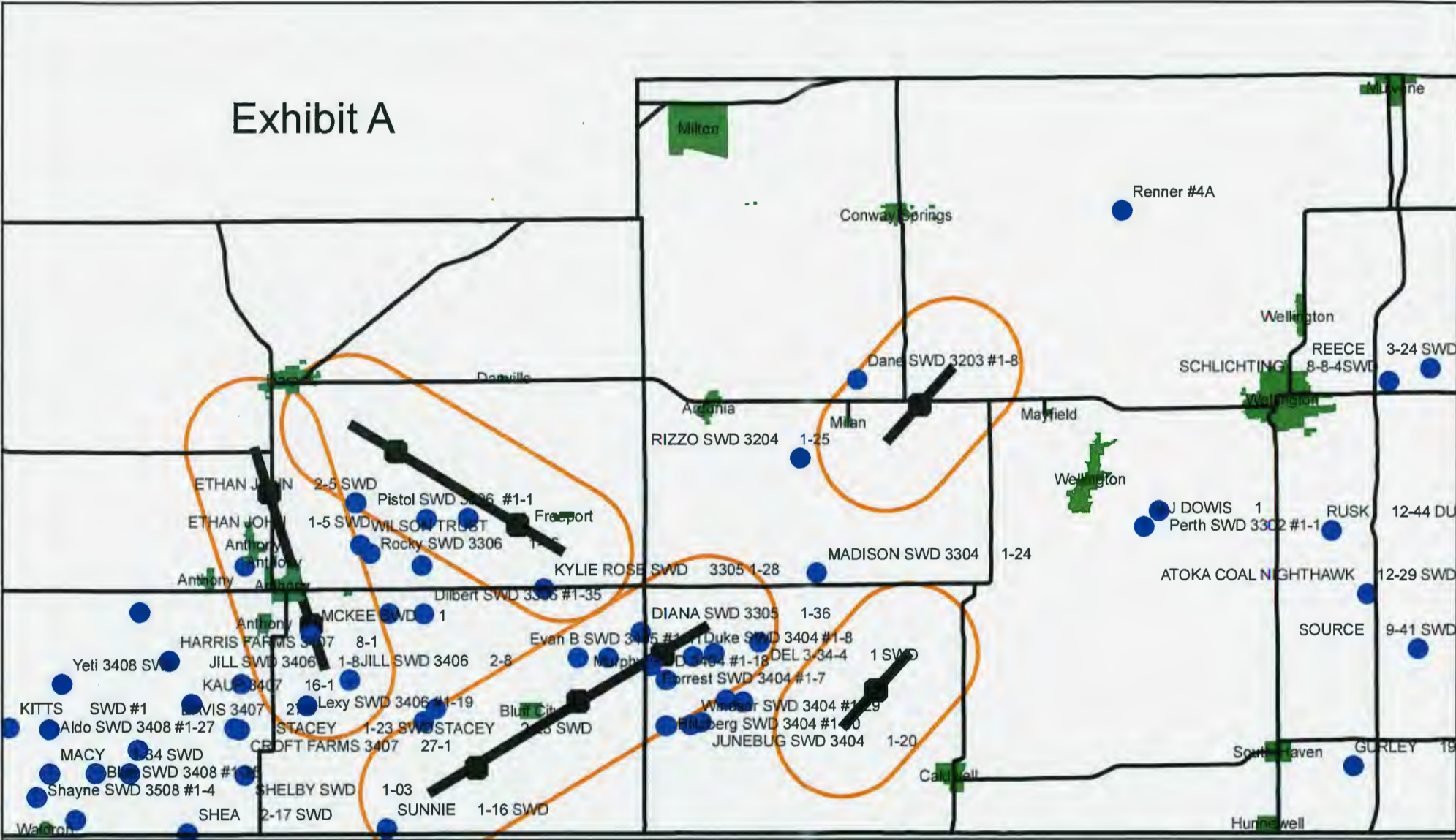
Date Mailed: March 19, 2015

LRP

Large Volume Arbuckle Injection Wells



Exhibit A



Large Volume Arbuckle Injection Wells
Area of Seismic Concern Boundary

API WELL	Well Name	Sec	Twp	Rng	W E	Operator N	WH LAT	WH LONG	Permit Dat	Max Rate
15-191-21904-00-01	TALLMAN 3-17	17	32	2	E	Irons, Don	37.272861	-97.225594	10/27/1986	7000
15-191-22754-00-00	Renner #4A	35	30	2	W	Jolen Operating Company	37.391147	-97.500271	8/4/2014	7500
15-077-21183-00-01	JOEL SWD	6	33	8	W	AGV Corp.	37.209275	-98.224358	3/19/2010	10000
15-191-22646-00-00	RUSK 12-44 DU	12	33	1	W	Source Energy MidCon LLC	37.189258	-97.367677	8/22/2012	10000
15-191-22601-00-00	SCHLICHTING 8-8-4SWD	8	32	1	E	Source Energy MidCon LLC	37.283486	-97.331121	2/7/2012	10000
15-191-10372-00-01	WENRICH 13A	23	32	2	E	Lario Oil & Gas Company	37.255371	-97.180817	2/10/1955	10000
15-077-00146-00-01	WILSON TRUST 1	16	33	6	W	SandRidge Exploration and Production LLC	37.180595	-97.982793	7/2/2001	12000
15-191-22292-00-01	GURLEY 19	6	35	1	E	M M Energy, Inc.	37.040924	-97.353397	5/4/2005	15000
15-077-21719-00-00	HIBBARD 1 SWD	23	34	9	W	Tapstone Energy, LLC	37.07902	-98.256875	1/28/2011	15000
15-077-01045-00-02	MCKEE SWD 1	31	33	6	W	SandRidge Exploration and Production LLC	37.12431	-98.014473	1/23/2014	18000
15-191-22686-00-00	MADISON SWD 3304 1-24	24	33	4	W	SandRidge Exploration and Production LLC	37.162625	-97.693947	8/23/2013	19900
15-191-01384-00-02	A J DOWIS 1	12	33	2	W	Stratex Oil & Gas Inc.	37.191551	-97.486214	7/30/2013	20000
15-077-21768-00-00	ALBRIGHT CROFT 3407 15-1	15	34	7	W	Tapstone Energy, LLC	37.093263	-98.058396	5/30/2012	20000
15-077-22037-00-00	Aldo SWD 3408 #1-27	27	34	8	W	SandRidge Exploration and Production LLC	37.064451	-98.179812	5/16/2014	20000
15-191-22541-00-01	ATOKA COAL NIGHTHAWK 12-29 SWD	29	33	1	E	Source Energy MidCon LLC	37.149415	-97.344934	9/25/2013	20000
15-191-22721-00-00	Blitzberg SWD 3404 #1-30	30	34	4	W	SandRidge Exploration and Production LLC	37.066302	-97.789255	4/4/2014	20000
15-077-22001-00-00	Blue SWD 3408 #1-35	35	34	8	W	SandRidge Exploration and Production LLC	37.036946	-98.150482	4/23/2014	20000
15-077-21871-00-00	CHAIN LAND 3509 1-1	1	35	9	W	Tapstone Energy, LLC	37.022277	-98.252072	1/30/2013	20000
15-077-21808-00-00	CHAIN LAND 3509 11-1	11	35	9	W	Tapstone Energy, LLC	37.020329	-98.271801	9/26/2012	20000
15-077-21842-00-00	CROFT FARMS 3407 27-1	27	34	7	W	Tapstone Energy, LLC	37.064398	-98.059578	2/19/2013	20000
15-077-21807-00-00	CROFT FARMS 3407 30-1	30	34	7	W	Tapstone Energy, LLC	37.051656	-98.123998	11/16/2012	20000
15-191-22726-00-00	Dane SWD 3203 #1-8	8	32	3	W	SandRidge Exploration and Production LLC	37.284492	-97.668505	5/16/2014	20000
15-077-21792-00-00	DAVIS 3407 27-1	27	34	7	W	Tapstone Energy, LLC	37.065326	-98.063156	8/7/2012	20000
15-077-21988-00-00	DIANA SWD 3305 1-36	36	33	5	W	SandRidge Exploration and Production LLC	37.125517	-97.804947	2/28/2014	20000
15-191-22729-00-00	Duke SWD 3404 #1-8	8	34	4	W	SandRidge Exploration and Production LLC	37.110016	-97.772821	7/2/2014	20000
15-077-22016-00-00	Evan B SWD 3405 #1-11	11	34	5	W	SandRidge Exploration and Production LLC	37.109354	-97.825752	5/16/2014	20000
15-191-22730-00-00	Forrest SWD 3404 #1-7	7	34	4	W	SandRidge Exploration and Production LLC	37.104353	-97.798377	6/9/2014	20000
15-191-22717-00-00	Gaylord SWD 3404 #1-4	4	34	4	W	SandRidge Exploration and Production LLC	37.112078	-97.759527	4/25/2014	20000
15-077-21845-00-00	HARRIS FARMS 3407 8-1	8	34	7	W	Tapstone Energy, LLC	37.107726	-98.104165	11/28/2012	20000
15-191-22639-00-00	HOMER 7-11 SWD	7	33	2	E	Source Energy MidCon LLC	37.015677	-97.240898	5/17/2012	20000
15-077-21884-00-00	KAUP 3407 16-1	16	34	7	W	Tapstone Energy, LLC	37.080626	-98.090015	4/4/2013	20000
15-191-22736-00-00	Kingston SWD 3404 #1-16	16	34	4	W	SandRidge Exploration and Production LLC	37.08257	-97.751798	6/16/2014	20000
15-077-21827-00-01	KITTS SWD #1	20	34	8	W	SandRidge Exploration and Production LLC	37.065781	-98.205166	3/11/2014	20000
15-077-21854-00-00	KOBLITZ 3409 28-1	28	34	9	W	Tapstone Energy, LLC	37.064312	-98.297878	1/25/2013	20000
15-077-22034-00-00	Lexy SWD 3406 #1-19	19	34	6	W	SandRidge Exploration and Production LLC	37.079329	-98.016778	6/9/2014	20000
15-077-21762-00-00	LOCKWOOD FARMS 3307 14-1	14	33	7	W	Tapstone Energy, LLC	37.167428	-98.056283	4/2/2012	20000
15-191-22733-00-00	Murphy SWD 3404 #1-18	18	34	4	W	SandRidge Exploration and Production LLC	37.095295	-97.78918	6/13/2014	20000
15-191-22677-00-00	NEISES TRUST 4-11 DU	4	32	2	E	Source Energy MidCon LLC	37.303072	-97.220769	10/17/2013	20000
15-191-22699-00-01	Perth SWD 3302 #1-1	1	33	2	W	SandRidge Exploration and Production LLC	37.201549	-97.476653	7/16/2014	20000
15-077-22044-00-00	Pistol SWD 3306 #1-1	1	33	6	W	SandRidge Exploration and Production LLC	37.197404	-97.914481	6/16/2014	20000
15-191-22712-00-00	REECE 3-24 SWD	3	32	1	E	Source Energy MidCon LLC	37.29165	-97.304913	1/21/2014	20000
15-191-22722-00-00	Ritter SWD 3404 #1-22	22	34	4	W	SandRidge Exploration and Production LLC	37.08149	-97.741174	5/8/2014	20000
15-191-22682-00-00	RIZZO SWD 3204 1-25	25	32	4	W	SandRidge Exploration and Production LLC	37.235079	-97.704972	8/20/2013	20000
15-077-22014-00-00	Saratoga SWD 3405 #1-10	10	34	5	W	SandRidge Exploration and Production LLC	37.109362	-97.844896	4/4/2014	20000
15-077-21748-00-00	SENF 3308 19-1	19	33	8	W	Tapstone Energy, LLC	37.153626	-98.227977	1/5/2012	20000
15-077-22015-00-00	Shayne SWD 3508 #1-4	4	35	8	W	SandRidge Exploration and Production LLC	37.022114	-98.187777	6/5/2014	20000
15-077-21755-00-00	STARKS & MASNER 3307 30-1	30	33	7	W	Tapstone Energy, LLC	37.138272	-98.12271	6/22/2012	20000
15-191-22739-00-00	Windsor SWD 3404 #1-29	29	34	4	W	SandRidge Exploration and Production LLC	37.06684	-97.774286	6/19/2014	20000

API_WELL	Well_Name	Sec	Twp	Rng	W_E	Operator_N	WH_LAT	WH_LONG	Permit_Dat	Max_Rate
15-077-22115-00-00	Ralph 36-34-9	36	34	9	W	Tapstone Energy, LLC	37.049912	-98.244346	2/26/2015	20000
15-077-21980-00-00	CRAIG SWD 3306 1-2	2	33	6	W	SandRidge Exploration and Production LLC	37.196817	-97.940819	1/10/2014	30000
15-077-22002-00-00	Dilbert SWD 3306 #1-35	35	33	6	W	SandRidge Exploration and Production LLC	37.137365	-97.942733	4/9/2014	30000
15-077-22121-00-00	Yeti 3408 SWD	15	34	8	W	SandRidge Exploration and Production LLC	37.093324	-98.171632	2/26/2015	30000
15-077-22086-00-01	Rocky SWD 3306 1-16	16	33	6	W	SandRidge Exploration and Production LLC	37.175416	-97.976736	10/20/2014	32000
15-077-21870-00-00	KYLIE ROSE SWD 3305 1-28	28	33	5	W	SandRidge Exploration and Production LLC	37.152997	-97.866601	9/20/2012	40000
15-077-21781-00-00	SHEA 1-17 SWD	17	35	7	W	SandRidge Exploration and Production LLC	36.998828	-98.092543	3/22/2012	40000
15-077-21782-00-00	SHEA 2-17 SWD	17	35	7	W	SandRidge Exploration and Production LLC	36.999172	-98.092547	3/20/2012	40000
15-191-22665-00-00	SOURCE 9-41 SWD	9	34	1	E	Source Energy MidCon LLC	37.114839	-97.312276	2/20/2013	40000
15-077-21767-00-00	STACEY 1-23 SWD	23	34	6	W	SandRidge Exploration and Production LLC	37.077425	-97.934962	2/24/2012	40000
15-077-21777-00-00	STACEY 2-23 SWD	23	34	6	W	SandRidge Exploration and Production LLC	37.069282	-97.942587	7/2/2012	40000
15-077-21779-00-00	SUNNIE 1-16 SWD	16	35	6	W	SandRidge Exploration and Production LLC	37.002071	-97.966124	3/1/2012	40000
15-077-21972-00-00	ASTORIA SWD 3306 1-34	34	33	6	W	SandRidge Exploration and Production LLC	37.137604	-97.964494	12/11/2013	60000
15-191-22625-00-00	DEL 3-34-4 1 SWD	3	34	4	W	Chesapeake Operating, Inc.	37.118951	-97.730976	11/18/2011	60000
15-077-21798-00-00	ETHAN JOHN 1-5 SWD	5	33	6	W	SandRidge Exploration and Production LLC	37.207183	-97.985532	3/14/2012	60000
15-077-21799-00-00	ETHAN JOHN 2-5 SWD	5	33	6	W	SandRidge Exploration and Production LLC	37.207185	-97.986047	3/26/2013	60000
15-077-21973-00-00	IRON HORSE SWD 3306 1-14	14	33	6	W	SandRidge Exploration and Production LLC	37.167721	-97.943829	1/8/2014	60000
15-077-21910-00-00	JILL SWD 3406 1-8	8	34	6	W	SandRidge Exploration and Production LLC	37.095334	-97.989562	4/11/2013	60000
15-077-21926-00-00	JILL SWD 3406 2-8	8	34	6	W	SandRidge Exploration and Production LLC	37.095746	-97.989558	6/28/2013	60000
15-191-22681-00-01	JUNEBUG SWD 3404 1-20	20	34	4	W	SandRidge Exploration and Production LLC	37.068815	-97.767473	12/3/2013	60000
15-077-21770-00-00	MACY 1-34 SWD	34	34	8	W	SandRidge Exploration and Production LLC	37.036822	-98.179389	4/10/2012	60000
15-077-21848-00-00	ROBIN 36-34-8 SWD 1	36	34	8	W	SandRidge Exploration and Production LLC	37.036965	-98.129163	8/14/2012	60000
15-077-21849-00-00	WRIGLEY 1-11 SWD	11	35	8	W	SandRidge Exploration and Production LLC	37.007494	-98.163243	8/6/2012	60000
15-077-21839-01-00	SHELBY SWD 1-03	3	35	7	W	SandRidge Exploration and Production LLC	37.035736	-98.056466	8/9/2012	80000

**THE STATE CORPORATION COMMISSION
OF THE STATE OF KANSAS**

Before Commissioners: Jay Scott Emler, Chairman
Shari Feist Albrecht
Pat Apple

In the Matter of an Order Reducing Saltwater)
Injection Rates into the Arbuckle Formation,) Docket No.: 15-CONS-770-CMSC
Applicable to Wells in Defined Areas of Increased) CONSERVATION DIVISION
Seismic Activity in Harper and Sumner Counties.)

SECOND ORDER REDUCING SALTWATER INJECTION RATES

The above-captioned matter comes before the State Corporation Commission of the State of Kansas (Commission). Having examined the files and records, and being duly advised in the premises, the Commission finds and concludes as follows:

JURISDICTION

1. The Commission has exclusive jurisdiction and authority to regulate oil and gas activities in Kansas and specifically saltwater injection.¹ The federal Environmental Protection Agency has delegated primacy of its Class II injection program to the Commission.²

2. K.S.A. 77-536(a) provides an agency with authority to act if there is “an immediate danger to the public health, safety or welfare requiring immediate state agency action” or “as otherwise provided by law.” K.S.A. 55-162(b) provides the Commission with specific authorization “[i]f it appears to the commission that damage may result if immediate remedial action is not taken.”

FINDINGS OF FACT

3. On March 19, 2015, the Commission issued its Order Reducing Saltwater Injection Rates (March 2015 Order). The Commission concluded that an immediate danger to

¹ K.S.A. 74-623; K.S.A. 2014 Supp. 55-901.

² 40 C.F.R. 147.851 (2015).

the public health, safety and welfare existed due to increased seismic activity in Harper and Sumner Counties, Kansas related to saltwater injection.³ The Commission reduced saltwater injection to a maximum rate of 8,000 barrels per well per day for Large Volume Injection Wells within five specified areas in Harper and Sumner Counties.⁴ The five specified areas of seismic concern detailed in the March 2015 Order shall hereinafter be referred to as the 2015 Specified Areas. In addition to the 2015 Specified Areas, the Commission reduced saltwater injection into the Arbuckle Formation for Large Volume Injection Wells within all of Harper and Sumner Counties to a maximum rate of 25,000 barrels per well per day.⁵ The Commission defined Large Volume Injection Wells as wells permitted to inject more than 5,000 barrels of saltwater per well per day into the Arbuckle Formation.⁶ The Commission also required monthly reporting of daily injection volumes and set a monitoring period in which Commission Staff, in conjunction with the Kansas Geological Survey (KGS), would review the data and make recommendations for further Commission action as necessary.⁷

4. On April 17, 2015, SandRidge Exploration and Production, LLC (SandRidge) petitioned to intervene and requested a hearing on the March 2015 Order. SandRidge qualified its request for hearing by stating, “SandRidge is not certain that it will further pursue a hearing in this docket”⁸ Rather, SandRidge only desired to preserve the right to a hearing should it be deemed necessary.⁹ On April 23, 2015, the Commission granted SandRidge’s intervention.

³ Order Reducing Saltwater Injection Rates at 1, 3 (March 19, 2015).

⁴ *Id.* at 4.

⁵ *Id.* at 5.

⁶ *Id.*

⁷ *Id.*

⁸ Motion to Intervene and Request for Hearing at 2 (Apr. 17, 2015).

⁹ *Id.*

5. On October 29, 2015, the Commission, upon motion by Staff and with no objection filed, granted extension of the monitoring period until March 13, 2016, and directed Staff to submit a report and recommendation (R&R) on or before that date.¹⁰

6. On February 19, 2016, Staff filed its R&R. Based on publically available information on the United States' Geological Survey National Earthquake Information Center (NEIC) website, Staff reported the number of felt earthquakes in Harper and Sumner Counties has decreased with each successive timeframe since the Commission's March 2015 Order.¹¹ In the 180 days prior to the Order, the NEIC indicated 107 Magnitude (M) 2.5 or greater earthquakes with forty-four (44) being M 3.0 or greater and four greater than M 4.0.¹² In the 180 days after the Commission Order, there were sixty-five (65) M 2.5 or greater earthquakes with twenty-three (23) registering M 3.0 or greater and one M 4.1.¹³ From September 15, 2015 until February 15, 2016, there have been fifty-two (52) M 2.5 or greater earthquakes with fourteen (14) measuring M 3.0 or greater and zero M 4.0 or larger.¹⁴

7. During 2015, Kansas also benefitted from having an enhanced seismic monitoring network (KCC/KGS network) in place in south central Kansas.¹⁵ While the number of felt earthquakes recorded by the NEIC has modestly decreased and become weaker over the timeframe the restrictions have been in place in this docket, the number of earthquakes recorded by the KCC/KGS network increased over the second half of 2015.¹⁶ The KCC/KGS network

¹⁰ Order Extending Monitoring Period at 4 (Oct. 29, 2015).

¹¹ Report and Recommendation of Commission Staff at 2, fn. 1 (Feb. 19, 2016) [*hereinafter* R&R].

¹² *Id.* at 2

¹³ *Id.*

¹⁴ *Id.*

¹⁵ *Id.*

¹⁶ *Id.*

recorded 4,785 earthquakes statewide ranging from M 0.0 to M 3.7.¹⁷ Eighty-five percent of the earthquakes occurred in Harper and Sumner Counties.¹⁸

8. The KCC/KGS network recorded 1,690 earthquakes in Kansas from January 2015 through June 2015, with 1,206 located within the 2015 Specified Areas.¹⁹ Seventy-nine (79) of the 1,206 earthquakes were M 2.5 or larger.²⁰ Stated another way, over the first half of 2015, 71% of the earthquakes occurred within the 2015 Specified Areas and 7% of those earthquakes recorded at the level to potentially be felt.²¹

9. From July 2015 through December 2015 the KCC/KGS network recorded 3,085 earthquakes in Kansas, with 1,174 occurring within the 2015 Specified Areas.²² Twenty-three of the 1,174 earthquakes were M 2.5 or larger, meaning 38% of the earthquakes recorded by this network in the second half of 2015 occurred within the 2015 Specified Areas and 2% of these earthquakes were at a level to potentially be felt.²³

10. Based on the data gathered following the March 2015 Order, Staff preliminarily concluded that the injection volume reductions ordered in the March 2015 Order are impacting the counties subject to the Order.²⁴ Because the data show increasing seismicity and continued clustering of earthquakes outside the 2015 Specified Areas, however, Staff recommended that in addition to the requirements of the March 2015 Order the geographic scope of the March 2015 Order be expanded to include approximately 1,500 sections in Barber, Harper, Kingman,

¹⁷ R&R at 2.

¹⁸ *Id.* at 2-3, fn. 2, Exhibit A.

¹⁹ *Id.* at 2-3.

²⁰ *Id.* at 3

²¹ *Id.*

²² *Id.*

²³ R&R at 3.

²⁴ *Id.*

Sedgwick and Sumner Counties, Kansas.²⁵ The approximate 1,500 sections proposed by Staff will hereinafter be referred to as Staff's 2016 Proposed Area of Reduction (Staff's 2016 PAR).

11. Within Staff's 2016 PAR, Staff recommended that operators of all Arbuckle injection wells permitted for greater than 5,000 barrels per day (Large Volume Injection Wells) be required to keep daily injection records and provide them monthly to Staff.²⁶ As to Arbuckle wells within Staff's 2016 PAR but outside the 2015 Specified Areas, Staff recommended phasing in reduced injection volumes, initially from 16,000 barrels per well per day, then to 12,000 barrels per well per day to ultimately 8,000 barrels of saltwater injection per well per day within 100 days of issuance of any Commission order.²⁷ Staff's R&R further recommended that Staff along with the KGS and the Kansas Department of Health and Environment continue to monitor seismic activity through 2016; that the reductions should remain in place without further Order or extension; and that Staff should make further recommendation within 365 days from the date of the Commission Order.²⁸

12. In February 24, 2016, Tapstone Energy, LLC (Tapstone) filed a petition for intervention and request for hearing. On February 26, 2016, Tapstone clarified its request for hearing stating, "Tapstone is not requesting an immediate hearing at this time."²⁹ Rather, Tapstone reserved the right to request a hearing if concerns could not be addressed through informal means.³⁰ On March 10, 2016, the Commission granted Tapstone's intervention.

13. On March 11, 2016, Staff filed an amendment to the February 19, 2016 R&R. Based on meetings with intervenors SandRidge and Tapstone, Staff recommended deletion of its

²⁵ *Id.* at fn. 9, Exhibits D and E.

²⁶ *Id.* at 3.

²⁷ *Id.* at 3-4.

²⁸ *Id.* at 4.

²⁹ Motion to Clarify Request for Hearing at 1 (Feb. 26, 2016).

³⁰ *Id.*

earlier recommendation [5) c)] to reduce the injection volume of Large Volume Injection Wells within the Staff's 2016 PAR but outside the 2015 Specified Areas to 8,000 barrels per well per day within 100 days.³¹ The effect of this deletion would result in reducing the maximum daily saltwater injection rate to 12,000 barrels per well per day for Large Volume Injection Wells within Staff's 2016 PAR. Staff's R&R also states, "The intervenors will work with staff to provide data to help researchers study seismicity. This data was otherwise unavailable to staff and researchers and will further the understanding and study of the Arbuckle reservoir and the ongoing seismicity."³²

14. Staff indicated the 2015 Specified Areas should continue to be limited to the maximum saltwater injection rate of 8,000 barrels of saltwater injection per well per day and the remaining portions of Harper and Sumner Counties, Kansas should remain capped at 25,000 barrels per well per day as required in the March 2015 Order.³³ Staff's Amended Exhibit D to the Amended R&R is attached hereto as Exhibit A in order to illustrate Staff's 2016 PAR in relation to the 2015 Specified Areas.

15. On April 26, 2016, the Commission directed the parties to submit additional information regarding volume reduction impact inside Staff's 2016 PAR, the impact on areas outside of Staff's 2016 PAR, well spacing, and data sharing.³⁴

16. On May 16, 2016, all parties responded to the Commission's directive. Staff reiterated the fact that while earthquakes M 3.0 and greater declined in number, earthquakes M 0 - 2.99 increased.³⁵ Staff stated that injection volumes in areas outside of the 2015 Specified

³¹ Amended Staff Report and Recommendation at 1 (March 10, 2016) [*hereinafter* Amended R&R].

³² *Id.*

³³ *Id.* at 2.

³⁴ Order Directing Parties to Supplement Record at 1-2 (Apr. 26, 2016).

³⁵ Commission Staff's Supplementary Information Submission at 1-2 (May 16, 2016).

Areas were increasing as well.³⁶ Staff further opined that reduction to 16,000 barrels of saltwater injection per well per day within Staff’s 2016 PAR “may not be sufficient to prevent increases in the magnitude of the current seismicity occurring outside the [2015 Specified Areas].”³⁷ Staff went on to state that an 8,000 barrel per well per day saltwater injection limit would potentially adversely impact exploration and production.³⁸ Staff concluded that a reduction to a maximum rate of 12,000 barrels of saltwater injection per well per day strikes a balance between protecting the public from seismic activity and promoting exploration and production.³⁹

17. On the issue of expanding beyond Staff’s 2016 PAR to include all of Harper and Sumner Counties, Kansas and those portions of Kingman and Sedgwick Counties, Kansas south of U.S. Highway 54, Staff indicated that only two wells would be impacted and any reduction on those wells would have minimal effect.⁴⁰ Staff stated that well spacing is an issue that can be addressed through the permitting process and therefore Commission action is unwarranted at this time.⁴¹ Tapstone indicated that it supports Staff’s recommendations and specifically asks the Commission to not expand the area of reduction beyond Staff’s 2016 PAR although such would not have an impact on Tapstone. Tapstone further characterized Staff’s Amended R&R as striking “a good balance between the Commission’s obligation to prevent waste and the concerns about induced seismicity.”⁴² SandRidge supports Staff’s Amended R&R.⁴³

CONCLUSIONS OF LAW

18. The Commission finds that the continued increase in seismic activity in the areas outside of the 2015 Specified Areas is a matter concerning immediate danger to the public

³⁶ *Id.* at 2.

³⁷ *Id.* at 3.

³⁸ *Id.* at 3.

³⁹ *Id.*

⁴⁰ *Id.* at 4.

⁴¹ *Id.* at 5.

⁴² Statement of Position by Intervenor Tapstone Energy, LLC at 3-4, 5 (May 16, 2016).

⁴³ Intervenor SandRidge Exploration & Production, LLC’s Statement of Position at 3-4 (May 16, 2016).

health, safety and welfare. Pursuant to K.S.A. 55-162(b), 2014 Supp. 55-901, 77-536, and 74-623, the Commission concludes that the use of emergency proceedings continues to be appropriate in this docket.

19. Therefore, the Commission finds that Staff's Amended R&R should be adopted with two modifications. First, for administrative efficiency and clarity, the Commission modifies Staff's 2016 PAR by defining the expanded area by intersections of township and range instead of by section. The area will hereinafter be referred to as the 2016 Specified Area. This change will minimally expand the area of reduction beyond Staff's 2016 PAR. However, having clear and efficient regulation outweighs the small increase in the affected area.

20. Second, within the 2016 Specified Area, the Commission declines to reduce injection rates to 12,000 barrels of saltwater injection per well per day at the outset. The Commission instead adopts a maximum saltwater injection rate of 16,000 barrels per well per day. In keeping with the requirements for emergency orders, the March 2015 Order established a tailored approach to understanding and mitigating seismic activity by isolating geographic areas within Harper and Sumner Counties for specific regulatory action and further investigation through data gathering from the KCC/KGS network. The Intervenors have additional data specific to their wells and their operations that they have offered to share to assist Staff and KGS with the ongoing investigation of the seismic activity. The Intervenors have expressed no objection to Staff's Amended R&R and support Staff's recommendations, as amended.

21. The Commission appreciates Staff and the Intervenors' support of the 12,000 barrel per well per day maximum saltwater injection rate reduction. However, Staff's belief that a reduction to a maximum saltwater injection rate of 16,000 barrels per well per day would have no effect is untested.

22. The following restrictions shall govern new and existing Arbuckle injection wells in the affected areas. This Order expands the geographic scope of the March 2015 Order and requires a reduced injection rate and additional monitoring for Large Volume Injection Wells located within the 2016 Specified Area.

23. For purposes of this Order, "Large Volume Injection Well" shall mean any well that is permitted to inject more than 5,000 barrels of saltwater per well per day into the Arbuckle formation. Exhibit D is a listing of the Large Volume Injection Wells within the 2016 Specified Area that are subject to this Order.

24. For each Large Volume Injection Well that is located within the 2016 Specified Area but outside the 2015 Specified Areas, beginning 10 days after the effective date of this Order, no operator shall inject more than 16,000 barrels of saltwater per day into any well.

25. Beginning 10 days after issuance of this Order, each operator within the 2016 Specified Area but outside the 2015 Specified Areas shall measure daily volumes for each Large Volume Injection Well for the calendar month and shall report them to the Conservation Division by the end of business on the eighth day of the following calendar month. The monthly reporting required in the March 2015 Order shall remain in effect for the Large Volume Injection Wells subject to that Order.

26. The period between 11 and 180 days after the effective date of this Order, and for so long thereafter as may be needed, shall constitute a monitoring period during which Staff and the KGS will review the available data and make recommendations regarding any further action by the Commission. The Commission shall not be restricted from making any changes to this Order at any time for any reason, regardless of whether the full monitoring period has elapsed.

27. In Harper and Sumner Counties, no Large Volume Injection Well shall be permitted to inject saltwater in excess of 25,000 barrels per well per day.

28. Each Large Volume Injection Well located within the 2015 Specified Areas shall remain restricted to saltwater injection of no more than 8,000 barrels per well per day.

29. The Commission therefore directs Staff, in conjunction with the Intervenors and the KGS, to monitor seismicity in the 2016 Specified Area in accordance with the terms of this Order. The Commission commends the parties' willingness to exchange data to continue to inform the Commission's study of the seismic activity in the areas encompassed by this Order and the Commission's March 2015 Order. Therefore, the Commission orders the data sharing to continue and directs the parties to work through the Prehearing Officer to develop the parameters of data sharing.

30. The Commission also directs Staff to address the matter of well spacing within both the 2016 Specified Areas and the 2015 Specified Areas. The Commission understands that it addressed well spacing in the March 2015 Order, prohibiting from permitting any Large Volume Injection Wells from being closer than one-quarter mile of another. The Commission wants Staff to address the existence of any Large Volume Injections Well currently located within one-quarter mile of another Large Volume Injection Well and to specifically answer the questions as to whether such wells should be treated as one well for purposes of the injection rates.

31. Upon the filing of any data in support, the Commission may, at that time, elect to order further reduction. Should seismic circumstances emerge that necessitate immediate Commission action to remedy the situation, nothing shall prevent the Commission from taking further action.

32. Exhibit A, attached to this Order, is a map depicting Staff's 2016 PAR in relation to the 2015 Specified Areas.

33. Exhibit B, attached to this Order, is a map depicting the 2016 Specified Area of reduction in relation to and overlaid with Staff's 2016 PAR.

34. Exhibit C, attached to this Order, is a map showing the 2016 Specified Area in relation to and overlaid with the 2015 Specified Areas.

35. Exhibit D, attached to this Order, is a list of current Large Volume Injection Wells in the 2016 Specified Area.

36. The Intervenors in this matter have requested a hearing but held such request in abeyance at their own request. K.S.A. 77-536(e) requires the Commission to move as quickly as feasible to hold any proceedings that would be necessary if the matter did not constitute an emergency proceeding. The Commission therefore orders Staff and the current Intervenors, SandRidge and Tapstone, to confer with each other and submit a proposed procedural schedule for the remainder of the proceedings.

37. In the alternative, noting that the Intervenors are supportive of Staff's Amended R&R, the Intervenors may waive the right to a hearing on the matter so long as such waiver is duly filed in the record. If the Intervenors so choose to waive the right to a hearing and the Commission orders any further expansion, modification, rescission or otherwise, the Intervenors are assured that the right to request further proceedings would be reinstated by said act.

38. The Commission designates Dustin L. Kirk, Deputy General Counsel, 1500 SW Arrowhead Road, Topeka, KS 66604-4027, telephone number (785) 271-3198, d.kirk@kcc.ks.gov, to serve as Prehearing Officer in this proceeding.⁴⁴ The Prehearing Officer may conduct any prehearing conferences necessary to address any matters appropriately

⁴⁴ K.S.A. 77-514; K.S.A. 77-516; K.S.A. 77-551(c).

considered in a prehearing conference, including all items listed in K.S.A. 77-517(b) of the Kansas Administrative Procedure Act (KAPA), K.S.A. 77-501 *et seq.* The Commission may designate other staff members to serve in this capacity.

THEREFORE, THE COMMISSION ORDERS:

A. The restrictions described in this Order shall govern the wells subject to this Order. Previously-issued Class II injection permits of all affected wells within the 2016 Specified Area are hereby amended to comply with the requirements of this Order.

B. Each failure to abide by the restrictions or reporting requirements in this Order may result in a Penalty Order of up to \$10,000 per day of a continuing violation, pursuant to K.S.A. 2015 Supp. 55-164. The Commission Staff is directed to shut-in and seal any well found to be operating in violation of this Order.

C. Staff and Intervenors shall propose a procedural schedule to govern the remainder of the proceedings. In the alternative, the Intervenors may waive the right to request hearing and so file such position in the Docket.

D. Staff shall continue to monitor the seismic activity in the 2016 Specified Area and to the extent capable and necessary beyond the 2016 Specified Area and document the findings in a report and recommendation due on or before April 1, 2017.

E. Dustin L. Kirk, Deputy General Counsel, is designated as Prehearing Officer.

F. All other provisions of the Commission's March 2015 Order not modified herein shall remain in full force and effect.

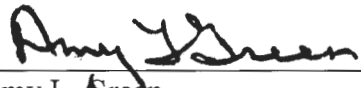
G. Any party affected by this Order may file with the Commission a petition for reconsideration pursuant to K.S.A. 77-529(a). The petition shall be filed within 15 days after service of this Order. If service of this Order is by mail, three days are added to the deadline. The petition shall be addressed to the Commission and sent to 266 N. Main, Ste. 220, Wichita, Kansas 67202. Pursuant to K.S.A. 55-606 and K.S.A. 77-529(a), reconsideration is prerequisite for judicial review of this Order. Any party taking an action permitted by this summary proceeding before the deadline for a petition for reconsideration does so at their own risk.

H. The Commission retains jurisdiction over the subject matter and parties for the purpose of entering such further orders as it may deem necessary.

BY THE COMMISSION IT IS SO ORDERED.

Emler, Chairman; Albrecht, Commissioner (Dissenting); Apple, Commissioner

Dated: AUG 09 2016



Amy L. Green
Secretary to the Commission

Mailed Date: August 9, 2016

DLK/sc

The record reflects that the last reduction in injection volumes in Harper and Sumner Counties occurred in June 2015.¹ The total volume reduction within the 2015 Specified Areas was 7, 137,145 barrels for the first six months of 2015, which coincided with a reduction in the number of M 2.5 or larger earthquakes within the 2015 Specified Areas.² (Underlining added). However, the number of M 0-2.99 earthquakes increased in the last six months of 2015.³ At the time of filing its position in response to the Commission Order to Supplement the Record, Staff noted the correlation between the increasing disposal volumes within the 2016 PAR and the increasing low-level seismicity measured by the KCC/KGS network.⁴

Staff has identified 48 Large Volume Injection Wells outside the 2015 Specified Areas, eight of which had daily averages exceeding 16,000 barrels of saltwater per day for at least one month since January 2015. Two of the eight wells had daily averages exceeding 16,000 barrels per day from January 2015 through March 2016. (Underlining added). As Staff noted, a volume reduction to 16,000 barrels per well per day for the two wells within Staff's 2016 PAR would result in a total volume reduction of 2,729,105 barrels over the course of one year.⁵ (Underlining added).

With respect to a volume reduction to 12,000 barrels of saltwater per well per day, all of the eight wells have disposed 12,000 barrels per day for at least one month since January 2015 and seven of the wells have maintained this daily average from January 2015 through March 2016. (Underlining added). A volume reduction to 12,000 barrels per well per day for the seven wells within the Staff's 2016 PAR would result in a total volume reduction of 10, 137,145 barrels over one year.⁶

With a further volume reduction to 8,000 barrels of water per well per day, thirteen wells would be affected, having exceeded 8,000 barrels per day for at least one month since January 2015. Ten of these wells have averaged 8,000 barrels per day for each month from January 2015 through March 2016. (Underlining added). A volume reduction to 10,000 barrels per well per day for these ten wells within the Staff's 2016 PAR would result in a total volume reduction of 21,595,225 barrels over one year.⁷ (Underlining added).

From the data gathered following January 2015 until March 2016, it would appear as Staff has observed that the volume reductions required by the March 2015 have had a positive impact on reducing the earthquake magnitude within the 2015 Specified Areas. Given the apparent trend of the increasing number of smaller magnitude earthquakes and their similar cluster pattern within the Staff's 2016 PAR, the majority's decision to cap the volume reductions in the 2016 Specified Area at 16,000 barrels of water per well per day would do little to change the status quo and provide minimal data from which to draw any conclusion as to the smaller magnitude earthquake trend.

The Intervenor do not support a volume reduction to 8,000 barrels per well per day due to the impact such a reduction would have on potential exploration and production and Staff concurs that a reduction to 8,000 barrels per well per day may create waste.⁸ Reducing the injection volume to 8,000 barrels per well per day would provide a significant reduction in total injection volume, especially when the total reduction is compared to the initial reduction volume resulting from the March 2015 Order. Moreover, a reduction to 8,000 barrels per well per day for wells within the Staff's 2016 PAR would make these wells equivalent to the final volume reductions for wells within the 2015 Specified Area where larger magnitude earthquakes were occurring. Such a marked reduction for the smaller magnitude earthquake trend observed within the Staff's 2016 PAR does not appear to be warranted without further evidence.

¹ Staff's Position on Commission Order to Supplement Record at 3 (May 16, 2016).

² *Id.*

³ *Id.* at 1. See graph at 2.

⁴ *Id.* at 2.

⁵ *Id.*

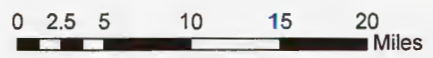
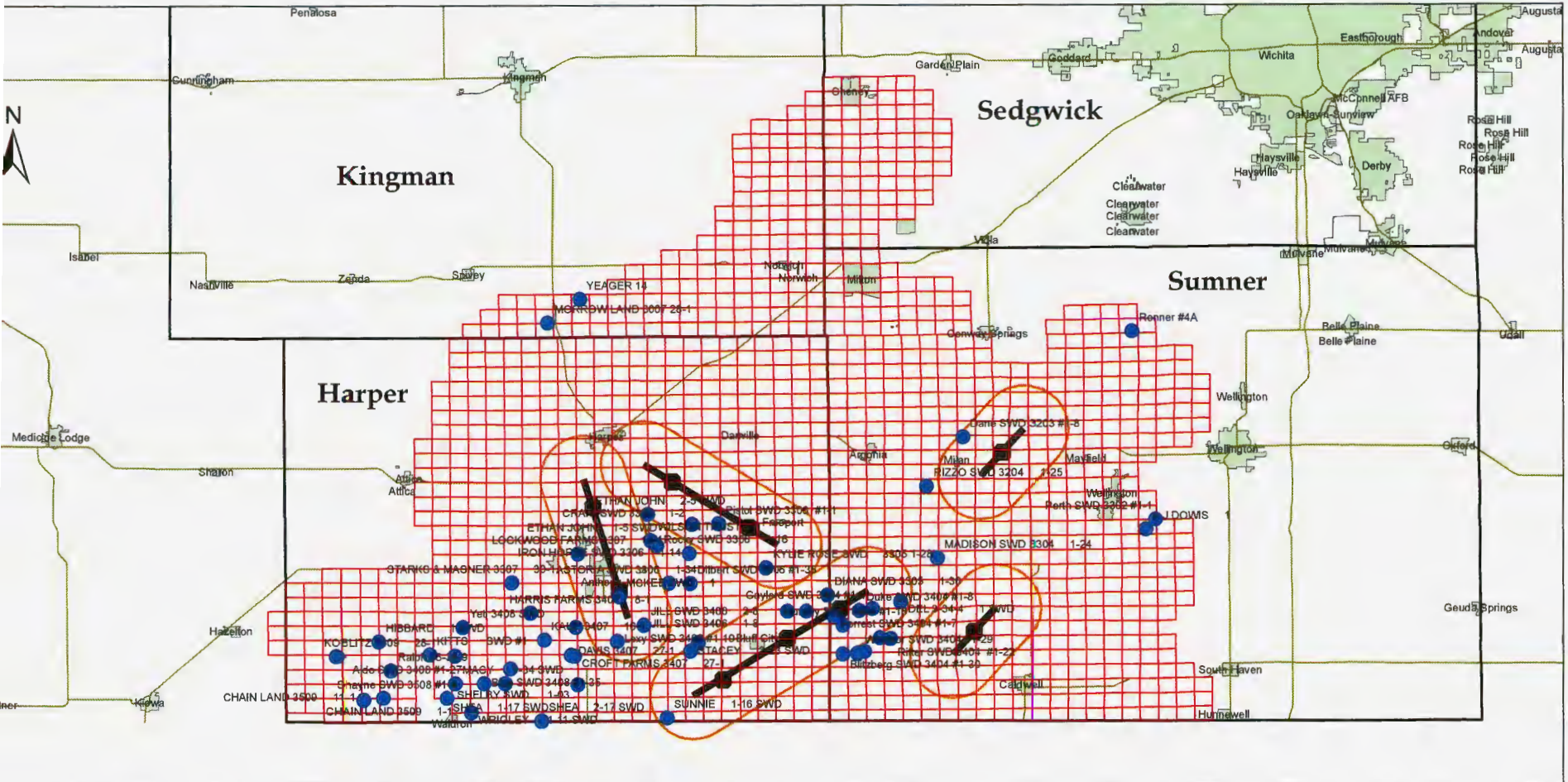
⁶ *Id.* at 3.

⁷ *Id.*

⁸ Intervenor SandRidge Exploration & Production, LLC's Statement of Position at 3 (May 16, 2016); Statement of Position Tapstone Energy, LLC at 3 (May 16, 2016); Staff's Position on Commission Order to Supplement Record at 3 (May 16, 2016).

In keeping with the requirements for emergency orders, the March 2015 Order established a tailored approach to understanding and mitigating seismic activity by isolating geographic areas within Harper and Sumner Counties for specific regulatory action and further investigation through data gathering from the KCC/KGS network. The Intervenor has additional data specific to their wells and their operations that they have offered to share to assist Staff and KGS with the ongoing investigation of the seismic activity. As noted by Staff and supported by the Intervenor, a 12,000 barrel per day per well reduction represents a reasonable balance between too little information from a reduction to 16,000 barrels per well per day and insufficient evidence to support a larger reduction to 8,000 barrels per well per day at this time. The record in this matter supports reducing the injection volume for Large Volume Injection Wells within the Staff's 2016 PAR to 16,000 barrels of water per well per day within 10 days of the effective date of this Order for a period of 55 days thereafter and further reducing the injection volume to 12,000 barrels of water per well per day. Establishing a 180-day study period for these volume reductions is reasonable for tailoring the response to induced seismicity in Harper and Sumner Counties. For the reasons stated here, I respectfully dissent.

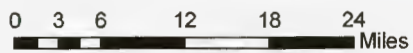
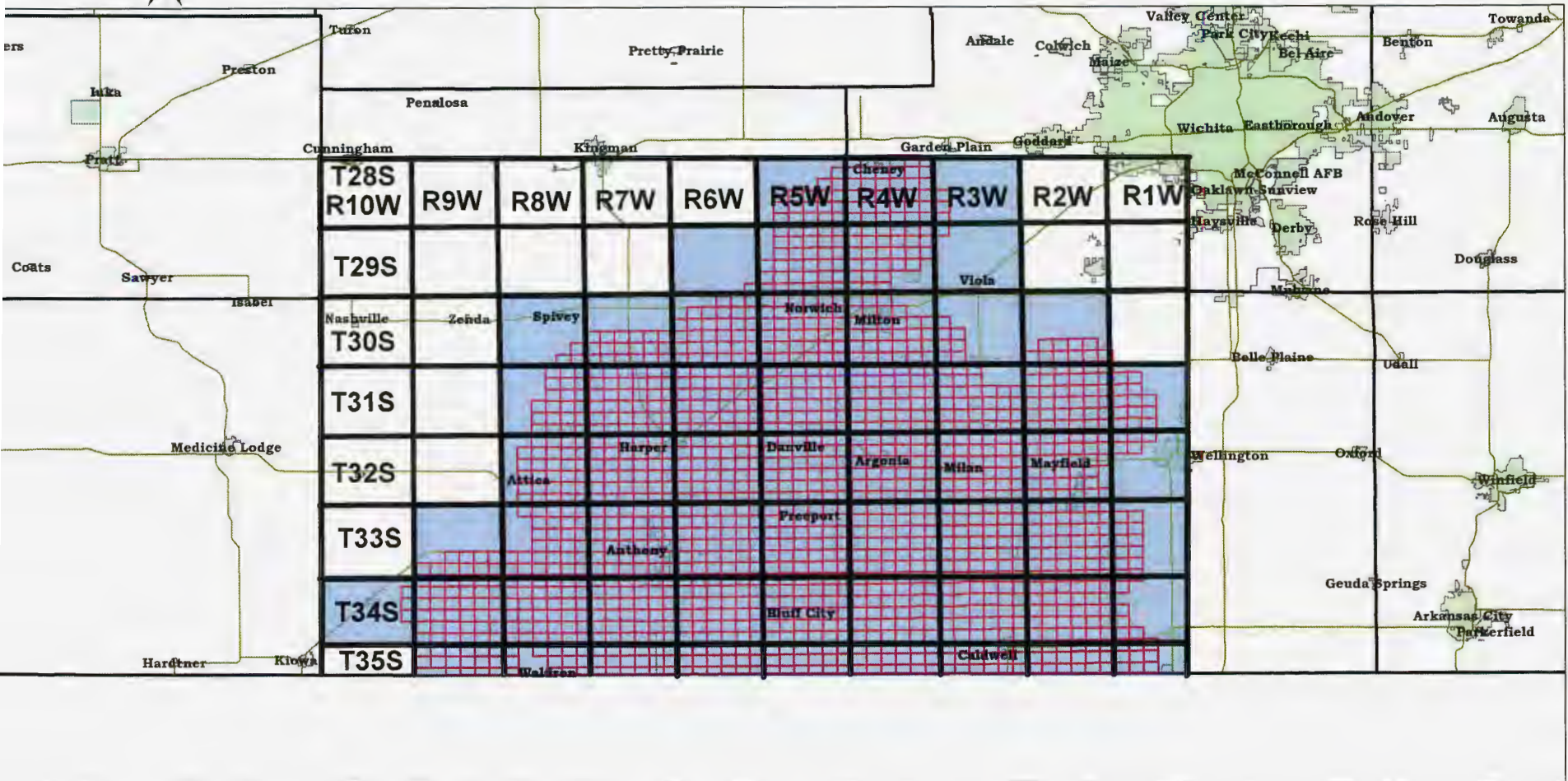
Large Volume Arbuckle Injection Wells



- Arbuckle Disposal Wells**
- Arbuckle Wells over 5000 Barrels
 - Proposed Area of Reduction
 - ▭ Area of Seismic Concern Boundary

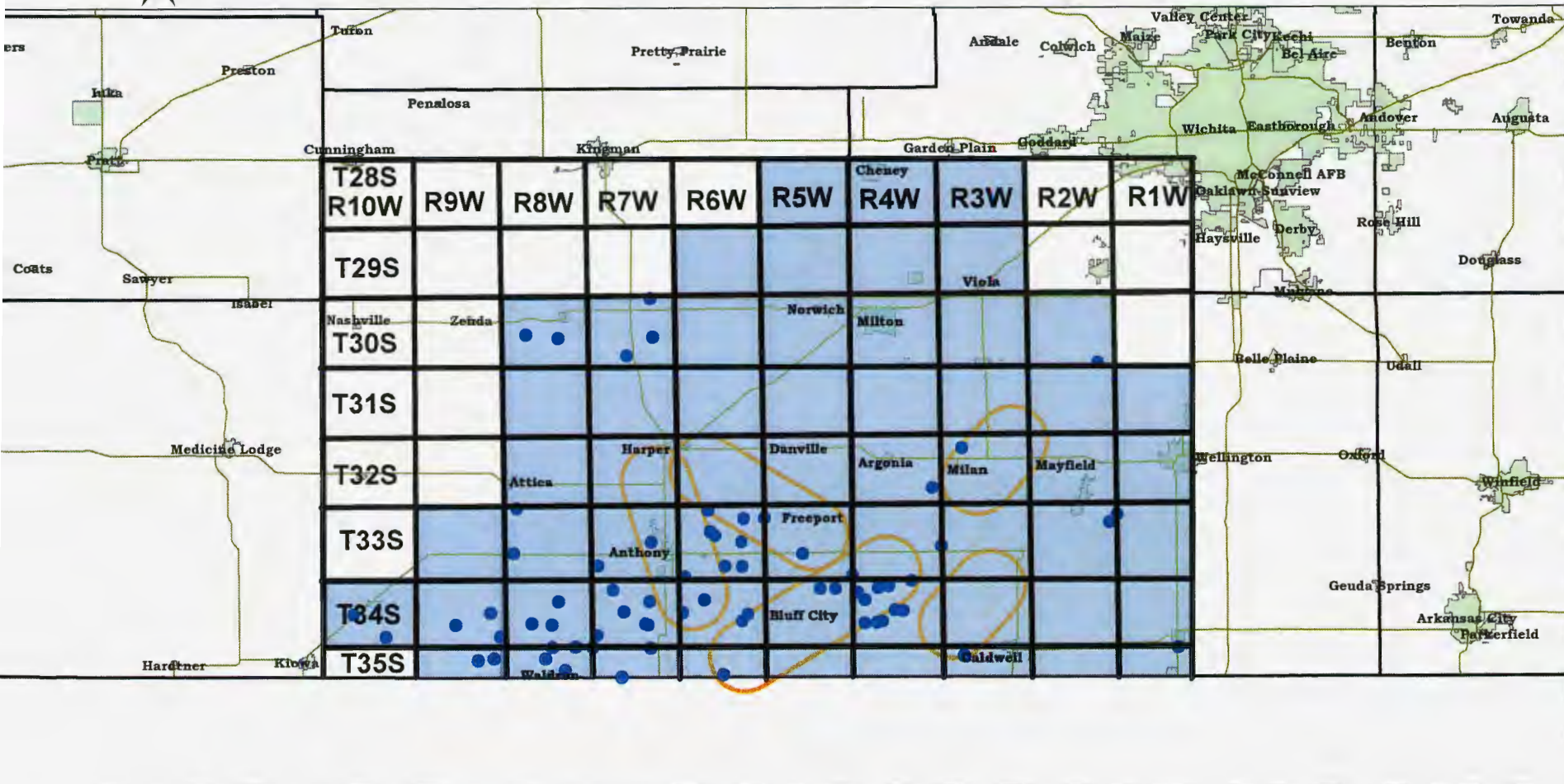
Staff's PAR & Commission's 2016 Specified Area

EXHIBIT B



2016 Specified Area
 Staff's PAR

2015 Specified Areas, Commission's 2016 Specified Area & LVD Wells



- Large Volume Disposal Wells (5001+ bpd)
- 2016 Specified Area
- ▭ 2015 Specified Area

API	Permit	Well	Sec	T	R	Operator	Lat	Long	PermitDate	MaxRate	MaxPSI
15-191-22754-00-00	D31902.0	Renner #4A	35	30	2	Jclen Operating Company	37.391147	-97.500271	8/4/2014	7500	0
15-095-22237-00-00	D31064.0	MORROW LAND 3007 28-1	28	30	7	Tapstone Energy, LLC	37.40019	-98.086833	11/30/2011	20000	800
15-095-21405-00-00	D22418.0	YEAGER 14	23	30	7	Oil Producers, Inc. of Kansas	37.423771	-98.054466	12/13/1983	10000	500
15-095-01345-00-00	D07122.0	JANIE CATLIN 1	2	30	7	T & C Mfg. & Operating, Inc.	37.471649	-98.05777	4/16/1959	9600	50
15-095-01567-00-00	D04772.0	FRANK D RALL 1	22	30	8	Linn Operating, Inc.	37.422119	-98.172333	12/9/1955	21500	500
15-095-21052-00-01	D27434.0	NICHOLAS 1	20	30	8	Messenger Petroleum, Inc.	37.42694	-98.21198	9/4/1997	6000	250
15-191-22726-00-00	D31889.0	Dane SWD 3203 #1-8	8	32	3	SandRidge Exploration and Production LLC	37.284492	-97.668505	5/16/2014	20000	500
15-191-22682-00-00	D31584.0	RIZZO SWD 3204 1-25	25	32	4	SandRidge Exploration and Production LLC	37.235079	-97.704972	8/20/2013	20000	500
15-191-22699-00-01	D31859.0	Perth SWD 3302 #1-1	1	33	2	SandRidge Exploration and Production LLC	37.201549	-97.476653	7/16/2014	20000	500
15-191-01384-00-02	D31324.0	A J DOWIS 1	12	33	2	Bear Petroleum, LLC	37.191551	-97.486214	7/30/2013	20000	0
15-191-22686-00-00	D31586.0	MADISON SWD 3304 1-24	24	33	4	SandRidge Exploration and Production LLC	37.162625	-97.693947	8/23/2013	19900	1300
15-077-21870-00-00	D31341.0	KYLIE ROSE SWD 3305 1-28	28	33	5	SandRidge Exploration and Production LLC	37.152997	-97.866601	9/20/2012	40000	1200
15-077-21988-00-00	D31800.0	DIANA SWD 3305 1-36	36	33	5	SandRidge Exploration and Production LLC	37.125517	-97.804947	2/8/2014	20000	500
15-077-21972-00-00	D31716.0	ASTORIA SWD 3306 1-34	34	33	6	SandRidge Exploration and Production LLC	37.137604	-97.964494	12/11/2013	60000	1500
15-077-21798-00-00	D31069.0	ETHAN JOHN 1-5 SWD	5	33	6	SandRidge Exploration and Production LLC	37.207183	-97.985532	3/4/2012	60000	1500
15-077-21799-00-00	D31070.0	ETHAN JOHN 2-5 SWD	5	33	6	SandRidge Exploration and Production LLC	37.207185	-97.986047	3/6/2013	60000	1500
15-077-21973-00-00	D31711.0	IRON HORSE SWD 3306 1-14	14	33	6	SandRidge Exploration and Production LLC	37.167721	-97.943829	1/8/2014	60000	1450
15-077-22086-00-00	D32007	Rocky SWD 3306 1-16	16	33	6	SandRidge Exploration and Production LLC	37.175416	-97.976736	9/6/2014	32000	500
15-077-21980-00-00	D31794.0	CRAIG SWD 3306 1-2	2	33	6	SandRidge Exploration and Production LLC	37.196817	-97.940819	1/0/2014	30000	1525
15-077-22002-00-00	D31808.0	Dilbert SWD 3306 #1-35	35	33	6	SandRidge Exploration and Production LLC	37.137365	-97.942733	4/9/2014	30000	500
15-077-22044-00-00	D31944.0	Pistol SWD 3306 #1-1	1	33	6	SandRidge Exploration and Production LLC	37.197404	-97.914481	6/6/2014	20000	500
15-077-01045-00-02	D28225.0	MCKEE SWD 1	31	33	6	SandRidge Exploration and Production LLC	37.12431	-98.014473	1/3/2014	18000	1400
15-077-00146-00-01	D27884.0	WILSON TRUST 1	16	33	6	SandRidge Exploration and Production LLC	37.180595	-97.982793	7/2/2011	12000	2500
15-077-21755-00-00	D30994.0	STARKS & MASNER 3307 30-1	30	33	7	Tapstone Energy, LLC	37.138272	-98.12271	6/12/2012	20000	0
15-077-21762-00-00	D30995.0	LOCKWOOD FARMS 3307 14-1	14	33	7	Tapstone Energy, LLC	37.167428	-98.056283	4/2/2012	20000	0
15-077-21748-00-00	D30967.1	SENF 3308 19-1	19	33	8	Tapstone Energy, LLC	37.153626	-98.227977	1/5/2012	20000	0
15-077-21183-00-01	D30504.0	JOEL SWD	6	33	8	AGV Corp.	37.209275	-98.224358	3/9/2010	10000	0
15-191-22681-00-01	D31585.0	JUNEBUG SWD 3404 1-20	20	34	4	SandRidge Exploration and Production LLC	37.068815	-97.767473	12/3/2013	60000	1500
15-191-22625-00-00	D30899.0	DEL 3-34-4 1 SWD	3	34	4	Chesapeake Operating, Inc.	37.118951	-97.730976	11/8/2011	60000	500
15-191-22721-00-00	D31842.0	Blitzberg SWD 3404 #1-30	30	34	4	SandRidge Exploration and Production LLC	37.066302	-97.789255	4/4/2014	20000	500
15-191-22739-00-00	D31943.0	Windsor SWD 3404 #1-29	29	34	4	SandRidge Exploration and Production LLC	37.06684	-97.774286	6/9/2014	20000	500
15-191-22722-00-00	D31894.0	Ritter SWD 3404 #1-22	22	34	4	SandRidge Exploration and Production LLC	37.08149	-97.741174	5/8/2014	20000	500
15-191-22736-00-00	D31924.0	Kingston SWD 3404 #1-16	16	34	4	SandRidge Exploration and Production LLC	37.08257	-97.751798	6/6/2014	20000	500
15-191-22733-00-00	D31921.0	Murphy SWD 3404 #1-18	18	34	4	SandRidge Exploration and Production LLC	37.095295	-97.78918	6/13/2014	20000	500
15-191-22730-00-00	D31919.0	Forrest SWD 3404 #1-7	7	34	4	SandRidge Exploration and Production LLC	37.104353	-97.798377	6/9/2014	20000	500
15-191-22729-00-00	D31920.0	Duke SWD 3404 #1-8	8	34	4	SandRidge Exploration and Production LLC	37.110016	-97.772821	7/2/2014	20000	500
15-191-22717-00-00	D31817.0	Gaylord SWD 3404 #1-4	4	34	4	SandRidge Exploration and Production LLC	37.112078	-97.759527	4/15/2014	20000	500
15-077-22016-00-00	D31850.0	Evan B SWD 3405 #1-11	11	34	5	SandRidge Exploration and Production LLC	37.109354	-97.825752	5/16/2014	20000	500
15-077-22014-00-00	D31824.0	Saratoga SWD 3405 #1-10	10	34	5	SandRidge Exploration and Production LLC	37.109362	-97.844896	4/4/2014	20000	500
15-077-21910-00-00	D31477.0	JILL SWD 3406 1-8	8	34	6	SandRidge Exploration and Production LLC	37.095334	-97.989562	4/11/2013	60000	1600
15-077-21926-00-00	D31580.0	JILL SWD 3406 2-8	8	34	6	SandRidge Exploration and Production LLC	37.095746	-97.989558	6/18/2013	60000	1400
15-077-21767-00-00	D31006.0	STACEY 1-23 SWD	23	34	6	SandRidge Exploration and Production LLC	37.077425	-97.934962	2/4/2012	40000	1600

15-077-21777-00-00	D31007.0	STACEY 2-23 SWD	23	34	6 SandRidge Exploration and Production LLC	37.069282	-97.942587	7/2/2012	40000	1300
15-077-22034-00-00	D31890.0	Lexy SWD 3406 #1-19	19	34	6 SandRidge Exploration and Production LLC	37.079329	-98.016778	6/9/2014	20000	500
15-077-21842-00-00	D31392.0	CROFT FARMS 3407 27-1	27	34	7 Tapstone Energy, LLC	37.064398	-98.059578	2/19/2013	20000	800
15-077-21884-00-00	D31502.0	KAUP 3407 16-1	16	34	7 Tapstone Energy, LLC	37.080626	-98.090015	4/4/2013	20000	800
15-077-21845-00-00	D31290.0	HARRIS FARMS 3407 8-1	8	34	7 Tapstone Energy, LLC	37.107726	-98.104165	11/28/2012	20000	800
15-077-21807-00-00	D31197.0	CROFT FARMS 3407 30-1	30	34	7 Tapstone Energy, LLC	37.051656	-98.123998	11/16/2012	20000	0
15-077-21792-00-00	D31095.0	DAVIS 3407 27-1	27	34	7 Tapstone Energy, LLC	37.065326	-98.063156	8/7/2012	20000	0
15-077-21768-00-00	D31025.0	ALBRIGHT CROFT 3407 15-1	15	34	7 Tapstone Energy, LLC	37.093263	-98.058396	5/30/2012	20000	0
15-077-21770-00-00	D31047.0	MACY 1-34 SWD	34	34	8 SandRidge Exploration and Production LLC	37.036822	-98.179389	4/10/2012	60000	1650
15-077-21848-00-00	D31223.0	ROBIN 36-34-8 SWD 1	36	34	8 SandRidge Exploration and Production LLC	37.036965	-98.129163	8/14/2012	60000	1000
15-077-22121-00-00	D27137.2	Yeti 3408 SWD	15	34	8 SandRidge Exploration and Production LLC	37.093324	-98.171632	2/26/2015	30000	1000
15-077-22001-00-00	D31809.0	Blue SWD 3408 #1-35	35	34	8 SandRidge Exploration and Production LLC	37.036946	-98.150482	4/23/2014	20000	500
15-077-22037-00-00	D31895.0	Aldo SWD 3408 #1-27	27	34	8 SandRidge Exploration and Production LLC	37.064451	-98.179812	5/16/2014	20000	500
15-077-21827-00-01	D31775.0	KITTS SWD #1	20	34	8 SandRidge Exploration and Production LLC	37.065781	-98.205166	3/11/2014	20000	500
15-077-22115-00-00	D27137.1	Ralph 36-34-9	36	34	9 Tapstone Energy, LLC	37.049912	-98.244346	2/26/2015	20000	1000
15-077-21854-00-00	D31414.0	KOBLITZ 3409 28-1	28	34	9 Tapstone Energy, LLC	37.064312	-98.297878	1/25/2013	20000	800
15-077-21719-00-00	D30773.0	HIBBARD 1 SWD	23	34	9 Woolsey Operating Company, LLC	37.07902	-98.256875	1/28/2011	15000	0
15-007-23925-00-00	D31501.0	KNORP FARMS 3410 34-1	34	34	10 Tapstone Energy, LLC	37.04958	-98.38754	7/31/2012	20000	800
15-007-22366-00-01	D30383.0	GUTHRIE V1-20 OW	20	34	10 Val Energy, Inc.	37.077441	-98.427903	11/7/2008	8000	0
15-191-21531-00-01	D31483.0	YEAROUT 1	2	35	1 Hewitt Energy Group, Inc.	37.036423	-97.399903	2/18/2013	12000	300
15-191-22602-00-00	D30871.0	WILLEY 1-5 SWD	5	35	3 Devon Energy Production Company, L.P.	37.025417	-97.665193	10/11/2011	20000	500
15-077-21779-00-00	D31010.0	SUNNIE 1-16 SWD	16	35	6 SandRidge Exploration and Production LLC	37.002071	-97.966124	3/1/2012	40000	1600
15-077-21839-01-00	D31188.0	SHELBY SWD 1-03	3	35	7 SandRidge Exploration and Production LLC	37.035736	-98.056466	8/9/2012	80000	1300
15-077-21782-00-00	D31001.0	SHEA 2-17 SWD	17	35	7 SandRidge Exploration and Production LLC	36.999172	-98.092547	3/20/2012	40000	1600
15-077-21781-00-00	D31002.0	SHEA 1-17 SWD	17	35	7 SandRidge Exploration and Production LLC	36.998828	-98.092543	3/22/2012	40000	1500
15-077-21849-00-00	D31059.0	WRIGLEY 1-11 SWD	11	35	8 SandRidge Exploration and Production LLC	37.007494	-98.163243	8/6/2012	60000	1500
15-077-22015-00-00	D31834.0	Shayne SWD 3508 #1-4	4	35	8 SandRidge Exploration and Production LLC	37.022114	-98.187777	6/5/2014	20000	500
15-077-21808-00-00	D31160.0	CHAIN LAND 3509 11-1	11	35	9 Tapstone Energy, LLC	37.020329	-98.271801	9/26/2012	20000	800
15-077-21871-00-00	D31375.0	CHAIN LAND 3509 1-1	1	35	9 Tapstone Energy, LLC	37.022277	-98.252072	1/30/2013	20000	800

KANSAS STATUTES ANNOTATED

**(PORTIONS OF CHAPTER 55-OIL AND GAS
CHAPTER 66-NGPA, AND
CHAPTER 74-STATE CORPORATION
COMMISSION)**

55-102. Control and management of oil and gas wells; unlawful acts, penalty; flaring, venting or use of gas permitted, when. (a) Except as provided in subsection (b), it shall be unlawful for any person, firm or corporation having possession or control of any natural gas well, oil well, or coalbed natural gas well, whether as a contractor, owner, lessee, agent or manager, to use or permit the use of gas by direct well pressure for pumping of oil or for blowing oil out of wells, or for operating any machinery by direct well pressure of gas, or to allow or permit the flow of gas or oil from any such well to escape into the open air without being confined within such well or proper pipes or other safe receptacle for a longer period than two days after gas or oil shall have been struck in such well, except that a reasonable time, not exceeding five days, shall be allowed such contractor, owner, lessee, agent or manager, in addition to such two days, in which to place in the well the casing, tubing, packers and other appliances necessary to properly operate the same and obtain the products therefrom or, in case such contractor, owner, lessee, agent or manager shall not desire to operate such well, to securely enclose the same, so as to prevent the escape of oil or gas therefrom, and thereafter all such gas or oil shall be safely and securely confined in such well, pipes, or other proper receptacle. The provisions of this section shall not be construed to apply to the escape of gas or oil during continuous drilling. Any person violating any of the provisions of this section shall be deemed guilty of a misdemeanor, and shall be fined in the sum not less than \$50 nor more than \$200, or by imprisonment in the county jail for not less than 30 days nor more than six months, and each day that the violation continues shall constitute a separate offense.

(b) Natural gas produced in connection with the production of oil, or coalbed natural gas produced from natural gas wells or from coal seams or associated shale, may be flared, vented or used in any manner if such use, flaring or venting is authorized by an order, rule or regulation of the state corporation commission.

55-112. Transportation of gas; standards for. (a) Any person or persons, firm, company or corporation engaged in drilling for, piping, transporting, using or selling natural gas shall transport or conduct the same through materials listed under appendix B of 49 CFR part 192 and pressure test the pipe according to the criteria provided in subpart J of 49 CFR part 192, as in effect on the effective date of this act.

(b) The provisions of subsection (a) shall not apply to any gathering lines which are exempted from 49 CFR part 192.

55-114. Penalty for violation of 55-112. Any person or persons, firm, company or corporation violating any of the provisions of this act shall be deemed guilty of a misdemeanor, and upon conviction shall be fined in any sum not less than one hundred dollars (\$100) or more than ten thousand dollars, and may be enjoined from conveying and transporting natural gas through pipes otherwise than in this act provided.

55-143. Conservation fee fund; authorized expenditures; accounting procedures; reduction of fees and assessments, when. (a) There is hereby created in the state treasury the conservation fee fund. All deposits credited to the conservation fee fund shall be for the use of the state corporation commission in administering the provisions of K.S.A. 55-172 through 55-184, 55-601 through 55-613, 55-701 through 55-713, 55-901 and 55-1201 through 55-1205, and amendments thereto. All expenditures from the conservation fee fund shall be made in accordance with appropriation acts upon warrants of the director of accounts and reports issued pursuant to vouchers approved by the chairperson of the state corporation commission or by a person or persons designated by the chairperson. The corporation commission, with the approval of the director of accounts and reports, shall formulate a system of accounting procedures to account for the money credited to the conservation fee fund pursuant to this section.

(b) Whenever the state corporation commission determines that the unencumbered balance of moneys credited to the conservation fee fund at the end of a fiscal year is more than necessary, when considered in relation to the amount of revenues and expenditures estimated for the ensuing fiscal year and an appropriate unencumbered balance in the fund at the end of the ensuing fiscal year, the commission shall proportionally reduce all fees and assessments which are charged, taxed or assessed by the commission as authorized or required by law, other than fees or assessments in amounts prescribed by statute or any penalties authorized by statute, and which are collected and deposited to the credit of the conservation fee fund, in order to reduce such unencumbered ending balance in the fund to an appropriate amount.

55-150. Definitions. As used in this act unless the context requires a different meaning:

(a) "Commission" means the state corporation commission.

(b) "Contractor" means any person who acts as agent for an operator as a drilling, plugging, service rig or seismograph contractor in such operator's oil and gas, cathodic protection, gas gathering or underground natural gas storage operations.

(c) "Fresh water" means water containing not more than 1,000 milligrams per liter, total dissolved solids.

(d) "Gas gathering system" means a natural gas pipeline system used primarily for transporting natural gas from a wellhead, or a metering point for natural gas produced by one or more wells, to a point of entry into a main transmission line, but shall not mean or include: (1) Lead lines from the wellhead to the connection with the gathering system which are owned by the producing person; or (2) gathering systems under the jurisdiction of the federal energy regulatory commission.

(e) "Operator" means a person who is responsible for the physical operation and control of a well, gas gathering system or underground porosity storage of natural gas.

(f) "Person" means any natural person, partnership, governmental or political subdivision, firm, association, corporation or other legal entity.

(g) "Rig" means any crane machine used for drilling or plugging wells.

(h) "Underground porosity storage" has the meaning provided by K.S.A. 2001 Supp. 55-1,115 and amendments thereto.

(i) "Usable water" means water containing not more than 10,000 milligrams per liter, total dissolved solids.

(j) "Well" means a hole or penetration of the surface of the earth, drilled or recompleted for the purpose of:

- (1) Producing oil or gas;
- (2) injecting fluid, air or gas in the ground in connection with the exploration for or production of oil or gas;
- (3) obtaining geological information in connection with the exploration for or production of oil or gas by taking cores or through seismic operations;
- (4) disposing of fluids produced in connection with the exploration for or production of oil or gas;
- (5) providing cathodic protection to prevent corrosion to lines, tanks or structures; or
- (6) injecting or withdrawing natural gas.

55-151. Application of intent to drill wells; required information; notification of surface owner; fee and contents; information to department of health and environment and county clerk; approval of application, when; conditions; compliance with rules and regulations. (a) Prior to the drilling of any well, every operator shall file an application of intent to drill with the commission. Such application shall include such information as required by the commission, including the name and address of the surface owner, and shall be on a form prescribed by the commission. Such application shall also include non-binding preliminary estimates of the location of roads of ingress or egress, any tank battery and any pipeline or electrical line. The commission shall, upon receipt of such application, send a copy of such application to the named surface owner, as well as the contact information, including name, address, phone number, fax or email address, for a designated representative of the applicant. The commission need not send such information if the operator verifies that the application filed with the commission has been delivered to the surface owner.

(b) No change in the use of a well shall be made without express approval of the commission. The state corporation commission shall have the authority to adopt rules and regulations to fix, charge and collect a fee for an application of intent to drill a well, except that such fee for an application of intent to drill a well shall not exceed \$300. No drilling shall be commenced until the authorized agents of the commission have approved the application. The agent, in giving approval, shall determine that the proposed construction of the well will protect all usable waters. Such approval shall include the amount of pipe necessary to protect all usable water, plugging requirements upon abandonment and such other requirements deemed appropriate by the commission. The commission may refuse to process any application submitted pursuant to this section unless the applicant has been in compliance with all rules and regulations adopted pursuant to this act.

(c) The commission shall make available to the secretary of the department of health and environment information related to all notifications of intents to drill. The commission shall make available to the clerk of any county in which a well will be drilled information related to the intent to drill for such well.

55-152. Rules and regulations; recommendations of advisory committee; annual review of drilling methods. (a) The commission shall adopt such rules and regulations necessary for the implementation of this act including provisions for the construction, operation and abandonment of any

well and the protection of the usable water of this state from any actual or potential pollution from any well. The commission may also promulgate rules and regulations necessary for the supervision and disclosure of any well on which a hydraulic fracturing treatment is performed. Any such rules and regulations relating to wells providing cathodic protection to prevent corrosion to lines shall not preempt existing standards and policies adopted by the board of directors of a groundwater management district if such standards and policies provide protection of fresh water to a degree equal to or greater than that provided by such rules and regulations. No rules and regulations promulgated pursuant to this section shall be adopted by the commission until recommendations have been received from the advisory committee established by K.S.A. 55-153, and amendments thereto.

(b) The commission annually shall review current drilling methods, geologic formation standards, plugging techniques and casing and cementing standards and materials. Based on such review, the commission, if necessary, shall amend its rules and regulations to reflect any changes to be made in such methods, standards, techniques and materials from the previous year.

55-153. Advisory committee on regulation of oil and gas activities. There is hereby established the advisory committee on regulation of oil and gas activities to be composed of 12 members. One member shall be appointed by each of the following associations: Kansas petroleum council, Kansas independent oil and gas association and eastern Kansas oil and gas association. One member shall be appointed by the governor from the general public. One member shall be appointed jointly by the Kansas farm bureau and Kansas livestock association and such person shall be an owner of a surface interest. One member shall be appointed jointly by the southwest Kansas royalty owners association and the eastern Kansas royalty owners association and such person shall be an owner of a mineral interest. One member shall be appointed by the governor from the general public. One member shall represent groundwater management districts and shall be appointed jointly by the presidents of each groundwater management district. All such appointees shall serve at the pleasure of the appointing authority. The following state agencies shall designate a person as a member of such committee: The commission, the department of health and environment, the Kansas geological survey, the Kansas water office and the division of water resources of the Kansas department of agriculture. The designated person of the commission shall be the chairperson of the advisory committee. The committee shall meet at least once each quarter calendar year and upon the call of the chairperson. The committee shall review and make recommendations on oil and gas activities, including but not limited to current drilling methods, geologic formation standards, plugging techniques, casing and cementing standards and materials and all matters pertaining to the protection of waters of the state from pollution relating to oil and gas activities.

55-154. Certification of compliance with statutes and rules and regulations. The operator or the operator's designated agent shall certify in writing to the commission that all requirements of K.S.A. 55-151 and the rules and regulations adopted pursuant to K.S.A. 55-152 have been complied with. The commission shall adopt rules and regulations to prescribe the procedure for the designation by an operator of an agent.

55-155. Licensure of operators and contractors; requirements; fees; transfers of operator responsibility; notification of surface owner. (a) Operators and contractors shall be licensed by the commission pursuant to this section.

(b) Every operator and contractor shall file an application or a renewal application with the commission. Application and renewal application forms shall be prescribed, prepared and furnished by the commission.

(c) No application or renewal application shall be approved until the applicant has:

- (1) Provided sufficient information, as required by the commission, for purposes of identification;
- (2) submitted evidence that all current and prior years' taxes for property associated with the drilling or servicing of wells have been paid;
- (3) demonstrated to the commission's satisfaction that the applicant complies with all requirements of chapter 55 of the Kansas Statutes Annotated, and amendments thereto, all rules and regulations adopted thereunder and all commission orders and enforcement agreements, if the applicant is registered with the federal securities and exchange commission;

(4) demonstrated to the commission's satisfaction that the following comply with all requirements of chapter 55 of the Kansas Statutes Annotated, and amendments thereto, all rules and regulations adopted thereunder and all commission orders and enforcement agreements, if the applicant is not registered with the federal securities and exchange commission: (A) The applicant; (B) any officer, director, partner or member of the applicant; (C) any stockholder owning in the aggregate more than 5%

of the stock of the applicant; and (D) any spouse, parent, brother, sister, child, parent-in-law, brother-in-law or sister-in-law of the foregoing;

(5) paid an annual license fee of \$100, except that an applicant for a license who is operating one or more gas wells used strictly for personal use on the property where such gas wells are located shall pay an annual license fee of \$25;

(6) complied with subsection (d); and

(7) paid an annual license fee of \$25 for each rig operated by the applicant. The commission shall issue an identification tag for each such rig which shall be displayed on such rig at all times.

(d) In order to assure financial responsibility, each operator shall annually demonstrate compliance with one of the following provisions:

(1) The operator has obtained an individual performance bond or letter of credit, in an amount equal to \$.75 times the total aggregate depth of all wells, including active, inactive, injection or disposal, of the operator.

(2) The operator has obtained a blanket performance bond or letter of credit in an amount equal to the following, according to the number of wells, including active, inactive, injection or disposal, of the operator:

(A) Wells less than 2,000 feet in depth: 1 through 5 wells, \$7,500; 6 through 25 wells, \$15,000; and over 25 wells, \$30,000.

(B) Wells 2,000 or more feet in depth: 1 through 5 wells, \$15,000; 6 through 25 wells, \$30,000; and over 25 wells, \$45,000.

(3) The operator: (A) Has an acceptable record of compliance, as demonstrated during the preceding 36 months, with commission rules and regulations regarding safety and pollution or with commission orders issued pursuant to such rules and regulations; (B) has no outstanding undisputed orders issued by the commission or unpaid fines, penalties or costs assessed by the commission and has no officer or director that has been or is associated substantially with another operator that has any such outstanding orders or unpaid fines, penalties or costs; and (C) pays a nonrefundable fee of \$100 per year.

(4) The operator pays a nonrefundable fee equal to 6% of the amount of the bond or letter of credit that would be required by subsection (d)(2).

(5) The state has a first lien on tangible personal property associated with oil and gas production of the operator that has a salvage value equal to not less than the amount of the bond or letter of credit that would be required by subsection (d)(1) or (d)(2).

(6) The operator has provided other financial assurance approved by the commission.

(e) Upon the approval of the application or renewal application, the commission shall issue to such applicant a license which shall be in full force and effect until one year from the date of issuance or until surrendered, suspended or revoked as provided in K.S.A. 55-162, and amendments thereto. No new license shall be issued to any applicant who has had a license revoked until the expiration of one year from the date of such revocation.

(f) If an operator transfers responsibility for the operation of a well or gas gathering system or for underground porosity storage of natural gas to another person, such operator shall file a notice of transfer of operator with the commission in accordance with rules and regulations of the commission. The commission shall, upon receipt of such notice, send a copy of such notice to the surface owner, as well as the contact information, including name, address, phone number, fax or email address, for a designated representative of the operator. The commission need not send such information if the operator verifies that the notice filed with the commission has been delivered to the surface owner. The commission need not send a copy of notice to the surface owner for transfers of responsibility for the operation of a gas gathering system or for underground porosity storage of natural gas to another person.

(g) The commission shall remit all moneys received from fees assessed pursuant to subsection (c)(7) to the state treasurer in accordance with the provisions of K.S.A. 75-4215, and amendments thereto. Upon receipt of each such remittance, the state treasurer shall deposit the entire amount in the state treasury and credit 10% of each such deposit to the state general fund with the balance credited to the conservation fee fund created by K.S.A. 55-143, and amendments thereto.

(h) The commission shall remit all moneys received pursuant to subsections (d)(3) and (d)(4) to the state treasurer in accordance with the provisions of K.S.A. 75-4215, and amendments thereto. Upon receipt of each such remittance, the state treasurer shall deposit the entire amount in the state treasury to the credit of the abandoned oil and gas well fund established pursuant to K.S.A. 55-192, and amendments thereto.

55-156. Protection of water prior to abandoning of well; penalty for noncompliance. Prior to the abandonment of any well which has been drilled, is being drilled or may hereafter be drilled, the operator shall protect usable groundwater or surface water from pollution and from loss through

downward drainage by plugging the well, in accordance with the rules and regulations adopted by the commission. Failure to comply with such rules and regulations shall be a severity level 10, nonperson felony.

55-157. Cementing in surface casing and additional pipe prior to testing, completion or abandonment of well; penalty for noncompliance. Prior to the testing, completion or abandonment of any well, an operator shall cement in the surface casing below the fresh water strata and shall cement in additional pipe as is necessary to protect from pollution and from loss through downward drainage any usable water in accordance with rules and regulations adopted by the commission. Failure to comply with such rules and regulations shall be a severity level 10, nonperson felony.

55-158. Submission of bond logs and surveys; penalties. Operators, upon request of the commission, shall submit cement bond logs or other surveys for surface casing. Failure to submit such logs or surveys within a reasonable period of time as prescribed by the rules and regulations of the commission shall be a class C misdemeanor.

55-159. Notification of commission prior to setting surface casing or plugging; inspections; penalty. Operators shall notify the commission prior to setting surface casing on or plugging of any well, in conformance with the rules and regulations adopted pursuant to this act. An agent of the commission may conduct on-site inspection of such drilling or plugging operations. Failure to notify shall be a class C misdemeanor.

55-160. Notification of commission prior to reentering plugged well; inspections. Every operator shall notify the commission at least 48 hours prior to the commencement of reentering or washing down any abandoned or plugged well. An agent of the commission may conduct on-site inspection of such drilling operations.

55-161. Investigation of abandoned wells, integrity tests; costs. The commission shall investigate abandoned wells, and, based on actual or potential pollution problems, may select abandoned wells to be drilled out by the commission in order to test the integrity of the plugs. The cost of such testing shall be paid from the abandoned oil and gas well fund established pursuant to K.S.A. 55-192, and amendments thereto.

55-162. Finding reasonable cause to believe that person has violated act or rules and regulations; hearing; procedure; order; immediate remedial action; reconsideration and judicial review; investigations; sealing of well; removal of seal, penalty. (a) Whenever the commission, from investigation or upon written complaint filed with the commission, finds reasonable cause to believe that a person has violated any provision of this act or any rules and regulations adopted pursuant to this act, the commission shall cause such person to come before it at a hearing held in accordance with the provisions of the Kansas administrative procedure act. After such hearing, if the commission finds that such person violated any provisions of this act or the rules and regulations adopted pursuant to this act, the commission shall take any appropriate action necessary to prevent pollution and protect water quality. Such action may include, but not be limited to:

- (1) Order the person to take such action necessary to remedy the violation;
- (2) order the well or the lease to be shut down until the violation is corrected;
- (3) order the person to pay any costs and reasonable attorney fees incurred by the commission in any action pursuant to this section and in any action to enforce an order entered by the commission pursuant to this section and to pay interest on any portion of such costs and attorney fees which remains unpaid more than 30 days after imposition, at the rate provided by K.S.A. 16-204 and amendments thereto and for interest on judgments;
- (4) order any combination of such orders enumerated in paragraphs (1), (2) and (3); or
- (5) if the commission finds that a person has not complied with an order issued under paragraph (1), (2), (3) or (4), the commission may order the suspension or revocation of any license issued pursuant to this act to such person.

(b) If it appears to the commission that damage may result if immediate remedial action is not taken, the commission, on the basis of emergency adjudicative proceedings, shall make such orders as provided in subsection (a), or may authorize its agents to enter upon the land where the well is located and take such remedial action necessary pending the giving of notice and hearing in accordance with the provisions of the Kansas administrative procedure act.

(c) Proceedings for reconsideration and judicial review of any order shall be conducted in the manner provided for the conduct of reconsideration and review proceedings under K.S.A. 55-606, and amendments thereto.

(d) Agents of the commission shall investigate any written or oral complaint within 72 hours of receipt thereof, not including Sundays and legal holidays, except that if such investigation is impracticable within such time frame, the agent shall communicate the same to the person making the complaint and make alternative arrangements for such investigation.

(e) Whenever a person is in violation of subsection (a) or subsection (b) agents of the commission may enter upon the lease or any other leases under the control of such operator and seal any well operated by the offending party. Removal of the seal without commission approval will constitute a severity level 9, nonperson felony.

55-163. Repealed.

55-164. Administrative penalties; procedure; costs and attorney fees; disposition of moneys. (a) In addition to any other penalty provided by law, the commission, upon finding that an operator or contractor has violated the provisions of this act or any rule and regulation or order of the commission, may impose a penalty not to exceed \$10,000, which shall constitute an actual and substantial economic deterrent to the violation for which the penalty is assessed. In the case of a continuing violation, every day such violation continues shall be deemed a separate violation.

(b) No penalty shall be imposed pursuant to this section except upon the written order of the commission to the person who committed the violation. The order shall state the violation, the penalty imposed and the right to appeal to the order issuing agency. Any such person, within 30 days after service of such order, may make written request to the commission for a hearing thereon. The commission shall conduct a hearing in accordance with the provisions of the Kansas administrative procedure act within 30 days after receipt of such request.

(c) Any person aggrieved by any order issued pursuant to this section may appeal therefrom in accordance with the provisions of the Kansas judicial review act.

(d) The commission may order an operator or contractor to pay any costs and reasonable attorney fees incurred by the commission in imposing and collecting any penalty pursuant to this section and may collect interest on any portion of such penalty, costs and attorney fees which remains unpaid more than 30 days after imposition, at the rate provided by K.S.A. 16-204, and amendments thereto, for interest on judgments.

(e) All moneys received from penalties imposed and costs and attorney fees assessed pursuant to this section shall be remitted to the state treasurer in accordance with the provisions of K.S.A. 75-4215, and amendments thereto. Upon receipt of each such remittance, the state treasurer shall deposit the entire amount in the state treasury to the credit of the conservation fee fund.

55-165. Maintenance of information on wells. The state corporation commission shall create and maintain a data base of all oil or gas wells in existence in this state. The data base shall include the location of each well and name, address and other information relevant to the identity of the operator of the well.

55-166. Repealed.

55-167. Repealed.

55-168. Insufficient moneys in abandoned oil and gas well fund; liabilities imposed on the conservation fee fund. Whenever there are insufficient moneys in the abandoned oil and gas well fund established pursuant to K.S.A. 55-192, and amendments thereto, to pay the liabilities of such fund, such liabilities shall be and are hereby imposed on the conservation fee fund, established pursuant to K.S.A. 55-143, and amendments thereto, provided such liabilities were incurred in accordance with the prioritization schedule established pursuant to K.S.A. 55-192, and amendments thereto.

55-169. Kansas surface owner notice act; citation. K.S.A. 2016 Supp. 55-169 through 55-169b, and amendments thereto, may be cited as the Kansas surface owner notice act.

55-169a. Same; definitions. As used in this act and in K.S.A. 55-155, 55-173 and K.S.A. 2016 Supp. 55-151, and amendments thereto:

(a) "Surface" or "surface estate" means a specific tract of land and improvements thereon created by and held in fee or other legal title under a deed or other instrument of conveyance, or equitable title under a recorded contract for deed, by a person other than the United States, a state, an Indian tribal organization or any agency, instrumentality or subdivision of any of the foregoing, regardless of whether such person also owns or otherwise holds interest in the mineral estate underlying the surface estate; and

(b) "surface owner" means a person or a designee of such person who holds or owns legal title to the surface estate or an interest therein, as shown on the records of the register of deeds for the county where the surface estate is located, and who is assessed real estate property taxes in accordance with the records of the county treasurer, except that surface owner shall not include a tenant or persons whose only rights to use that surface estate are based upon an easement, right-of-way, license, mortgage lien, severed mineral interest or any non-possessory interest in the surface.

55-169b. Same; authorization for rules and regulations. The state corporation commission, with input from the advisory committee on the regulation of oil and gas activities authorized under K.S.A. 55-153, and amendments thereto, shall adopt or amend such forms and rules and regulations deemed necessary to carry out the provisions of this act. Such rules and regulations shall be promulgated on or before July 1, 2010.

55-171. Permit required for the storage or disposal of salt water, oil or refuse in surface ponds. The storage or disposal of salt water, oil or refuse in surface ponds resulting from oil and gas activities shall be prohibited unless a permit for such storage or disposal shall first be obtained from the commission. Such permit shall be considered as granted unless denied within 10 days. The commission is authorized to deny or revoke a permit for such storage or disposal in any case where the commission finds such storage is causing or likely to cause pollution.

55-172. Salt water, oil or refuse from wells; prevention of escape. It shall be unlawful for any person having possession or control of any well drilled or being drilled for oil or gas, either as contractor, owner, lessee, agent or manager, or in any other capacity, to permit salt water, oil or refuse from any such well to escape by overflow, seepage or otherwise from the vicinity of such well, and it shall be the duty of any such person to keep such salt water, oil or refuse safely confined in tanks, pipelines or ponds, so as to prevent the escape thereof.

55-173. Notice prior to abandonment and plugging of wells; notification of surface owner. Before any work or procedure is commenced to abandon and plug any producing oil or gas well in this state, an oil and gas operator shall file a notice of intention to plug and abandon a well with the commission, in accordance with the rules and regulations adopted pursuant to K.S.A. 55-152, and amendments thereto. The commission shall, upon receipt of such notice, send a copy of such notice to the surface owner, as well as the contact information, including name, address, phone number, fax or email address, for a designated representative of the operator. The commission need not send such information if the operator verifies that the notice filed with the commission has been delivered to the surface owner. The surface owner upon whose land such well is located may file with the commission a desire to be notified when any such well is abandoned.

55-174. Penalty for failure to notify of intent to drill. (a) Any person, firm, association or corporation who fails to comply with the requirement to give notice to the state corporation commission of intent to drill a seismic, core or exploratory hole for the purpose of exploration, discovery or production of oil or natural gas in accordance with the provisions of K.S.A. 55-151, and amendments thereto, and who has been convicted twice of violating such requirement, shall be prohibited from drilling a seismic, core or exploratory hole in this state for the purpose of exploration, discovery or production of oil or natural gas within the six-month period of time following the date of the second conviction of violating such requirement. Any such person, firm, association or corporation who has been convicted more than twice of violating such requirement shall be prohibited from drilling a seismic, core or exploratory hole in this state for the purpose of exploration, discovery or production of oil or natural gas within the one-year period of time following the date of the third or later conviction of violating such requirement.

(b) Any person, firm, association or corporation who shall violate the provisions of this section shall be deemed guilty of a class B misdemeanor.

55-175. Appointment of agents by the commission. The commission shall appoint such agent or agents as may be necessary to represent them and to enforce the provisions of this act, and the

rules and regulations adopted pursuant thereto. The commission shall designate an agent for each district field office established to enforce this act and the rules and regulations adopted pursuant thereto to administer and supervise the operation of such office.

55-176. Commission's costs assessed against operators and agents; disposition of moneys. (a) Subject to the provisions of K.S.A. 55-143, and amendments thereto, the commission shall assess operators or their designated agents for all or part of the actual costs and expenses incurred in: (1) The supervision, administration, inspection, investigation; (2) the enforcement of this act and the rules and regulations adopted pursuant to this act; and (3) monitoring and inspecting oil and gas lease salt water and oil storage, disposal and emergency facilities.

(b) The commission shall remit all moneys received by or for it for costs or expenses under this section to the state treasurer in accordance with the provisions of K.S.A. 75-4215, and amendments thereto. Upon receipt of each such remittance, the state treasurer shall deposit the entire amount in the state treasury. Ten percent of each such deposit shall be credited to the state general fund and the balance shall be credited to the conservation fee fund created by K.S.A. 55-143, and amendments thereto.

55-177. Removal of structures and abutments from lands after abandoning wells; exception. (a) Leaving the surface of lands with a part of the operating structure or other equipment intact after abandoning oil or gas wells is against public policy, and constitutes a public nuisance, and shall be hereafter prohibited. Whenever any lease operator abandons any oil or gas well, the lease operator, within six months thereafter, shall remove any rig, derrick or other operating structure, and all abutments and other obstacles of every kind or size used in the operation of such oil or gas lease, from the land upon which the well was theretofore operated, and shall grade the surface of the soil in such manner as to leave the land, as nearly as practicable, in the same condition after the removal of such structures, equipment and obstacles as it was before such structures and abutments were placed thereon, unless the owner of the land and the abandoning party have entered into a contract providing otherwise.

(b) Any person, firm, association, partnership or corporation violating the provisions of this section shall be deemed guilty of a misdemeanor, and upon conviction shall be punished by a fine of not less than \$100 nor more than \$500.

55-178. Abandoned wells; complaint concerning pollution or water loss; commission investigation. (a) Any person who has reason to believe that any abandoned well is causing or is likely to cause the loss of any usable water or pollution of any usable water strata or the imminent loss or pollution of any usable water, because the well has not been plugged, was improperly plugged or the plugging is no longer effective, may file a complaint in writing, so alleging, with the commission secretary. Such complaint shall state the location of the well and why the complainant believes that such well is causing or is likely to cause the loss of any usable water or pollution of any usable water strata or the imminent loss or pollution of any usable water.

(b) Upon receipt of any complaint filed pursuant to this section, the commission shall conduct an investigation for the purpose of determining whether the well is an abandoned well causing or likely to cause loss of any usable water or pollution of any usable water strata or the imminent loss or pollution of any usable water. As a result of the investigation, the commission may take any action or issue any order pursuant to the provisions of the Kansas administrative procedure act as may be appropriate. Proceedings for reconsideration and judicial review of any order shall be conducted in the manner provided pursuant to K.S.A. 55-606, and amendments thereto.

(c) As used in this section, "abandoned well" means a well that is not claimed on an operator's license that is active with the commission and is unplugged, improperly plugged or no longer effectively plugged.

55-179. Same; responsibility for remedial action; hearings; orders; plugging. (a) If the commission determines that a well is an abandoned well and has reason to believe that any person is legally responsible for the proper care and control of such well, the commission shall cause any such person to come before the commission in accordance with the provisions of the Kansas administrative procedure act. If the commission finds that any person is, in fact, legally responsible for the proper care and control of such well, the commission may issue any orders obligating any such person to plug the well or to otherwise cause such well to be brought into compliance with all rules and regulations of the commission and may order any other remedies as may be just and reasonable. Proceedings for

reconsideration and judicial review of any order shall be conducted in the manner provided pursuant to K.S.A. 55-606, and amendments thereto.

(b) A person that is legally responsible for the proper care and control of an abandoned well shall be limited to one or more of the following:

(1) Any person causing pollution or loss of usable water through the well, including any operator of an injection well, disposal well or pressure maintenance program;

(2) the most recent operator to produce from or inject or dispose into the well, but if no production or injection has occurred, the person that caused the well to be drilled. A person shall not be legally responsible for a well pursuant to this paragraph if: (A) Such person can demonstrate that the well was physically operating or was in compliance with temporary abandonment regulations immediately before such person transferred or assigned the well to an operator with an active operator's license; and (B) a completed report of transfer was filed pursuant to commission regulations if transferred or assigned after August 28, 1997;

(3) the person that most recently accepted responsibility for the well by accepting an assignment or by signing an agreement or other written document, between private parties, in which the person accepted responsibility. Accepting an assignment of a lease, obtaining a new lease or signing an agreement or any other written document between private parties shall not in and of itself create responsibility for a well located upon the land covered thereby unless such instrument adequately identifies the well and expressly transfers responsibility for such well;

(4) the operator that most recently filed a completed report of transfer with the commission in which such operator accepted responsibility for the well or, if no completed report of transfer has been filed, the operator that most recently filed a well inventory with the commission in which such operator accepted responsibility for the well. Any modification made by commission staff of any such documents shall not alter legal responsibility unless the operator was informed of such modification and approved of the modification in writing;

(5) the operator that most recently plugged the well, if no commission funds were used; and

(6) any person that does any of the following to an abandoned well without authorization from the commission: (A) Tamper with or removes surface or downhole equipment that was physically attached to the well or inside the well bore; (B) intentionally destroys, buries or damages the well; (C) intentionally alters the physical status of the well in a manner that will result in more than a de minimis increase in plugging costs; or (D) conducts any physical operations upon the well.

(c) If the commission determines that no person is legally responsible for the proper care and control of an abandoned well, or that each legally responsible person is dead, no longer in existence, insolvent or can no longer be found, then the commission shall cause such well to be plugged as funds become available. The cost of such plugging shall be paid by the commission from the abandoned oil and gas well fund created pursuant to K.S.A. 55-192, and amendments thereto.

(d) The validity of any order issued by the commission prior to July 1, 2021, shall not be affected by the provisions of this section but shall apply to any determination of responsibility regarding any abandoned well.

(e) As used in this section, "abandoned well" means a well that is not claimed on an operator's license that is active with the commission and is unplugged, improperly plugged or no longer effectively plugged.

55-180. Investigation of pollution by the commission; abandoned well plugging; costs; reimbursement authorized.

(a) The fact that any person has initiated or supported a proceeding before the commission, or has remedied or attempted to remedy the condition of any well under the authority of this act, shall not be construed as an admission of liability or received in evidence against such person in any action or proceeding wherein responsibility for or damages from surface or subsurface pollution, or injury to any usable water or oil-bearing or gas-bearing formation, is or may become an issue; nor shall such fact be construed as releasing or discharging any action, cause of action or claim against such person existing in favor of any third person for damages to property resulting from surface or subsurface pollution, or injury to any usable water or oil-bearing or gas-bearing formation.

(b) The commission, on its own motion, may initiate an investigation into any pollution problem related to oil and gas activity. In taking such action the commission may require or perform the testing, sampling, monitoring or disposal of any source of groundwater pollution related to oil and gas activities.

(c) Any abandoned well may be plugged by any person if such: (1) Person has written consent from a surface owner of the land upon which the well is located or has other legal access to such land; and (2) plugging is done by a person licensed by the commission and in accordance with all rules and regulations of the commission.

(d) The commission or any other person authorized by the commission who has no obligation to plug, replug or repair any abandoned well, but who does so in accordance with the provisions of this act, shall have a cause of action for the reasonable cost and expense incurred in plugging, replugging or repairing the well against any person who is legally responsible for the proper care and control of such well pursuant to the provisions of K.S.A. 55-179, and amendments thereto, and the commission or other person shall have a lien upon the interest of such obligated person in and to the oil and gas rights in the land and equipment located thereon.

(e) Any moneys recovered by the commission in an action pursuant to subsection (d) shall be remitted to the state treasurer in accordance with the provisions of K.S.A. 75-4215, and amendments thereto. Upon receipt of each such remittance, the state treasurer shall deposit the entire amount in the state treasury to the credit of the conservation fee fund established pursuant to K.S.A. 55-143, and amendments thereto, or the abandoned oil and gas well fund established pursuant to K.S.A. 55-192, and amendments thereto, as appropriate based on the fund from which the costs incurred by the commission were paid.

(f) (1) For any well that has been abandoned for five years or more, any person who has no obligation to plug, replug or repair the well, that causes such well to be plugged may seek reimbursement from the abandoned oil and gas well fund created pursuant to K.S.A. 55-192, and amendments thereto. The commission shall adopt rules and regulations for determining whether, how and to what extent a request for reimbursement shall be granted.

(2) The provisions of this subsection shall not entitle any person to receive reimbursement for the plugging of any abandoned well that has been abandoned for five years or more unless such reimbursement is approved pursuant to the rules and regulations established by the commission for such purpose.

(g) No person shall become legally responsible for the care and control of any well solely on the basis of having appropriately plugged a well pursuant to this section.

(h) As used in this section, "abandoned well" means a well that is not claimed on an operator's license that is active with the commission and is unplugged, improperly plugged or no longer effectively plugged.

55-181. Administration and enforcement of rules, regulations and orders. In the administration and enforcement of the provisions of this act or any rule, regulation or order promulgated pursuant thereto, the corporation commission, attorney general, any county attorney and courts of general jurisdiction are hereby granted the same power and authority respectively granted under K.S.A. 55-608, and amendments thereto.

55-182. Agents of commission; right of ingress and egress; restoration of premises. (a) Agents of the commission shall have the right of ingress and egress upon any lands where any well or underground porosity storage of natural gas is located and the lands adjacent thereto and to occupy such lands as are necessary in the permitting, monitoring, inspecting, investigating, supervising, plugging, replugging or repairing of any such well or underground porosity storage. Any agent when entering upon any land to permit, monitor, inspect, investigate, supervise, plug, replug or repair a well or underground porosity storage of natural gas, shall not be liable for any damages necessarily resulting therefrom, except damages to growing crops, livestock or improvements on the land. Upon completion of activities on such land, such agent shall restore the premises to the original contour and condition as nearly as practicable.

(b) Agents of the commission shall have the right of ingress and egress upon any lands to clean up pollution resulting from oil and gas activities. Such agents shall have the power to occupy such land if necessary to investigate and clean up such pollution. Any agent entering upon any land to conduct cleanup activities shall not be liable for any damages necessarily resulting therefrom except damages to growing crops, livestock or improvements on the land.

55-183. Rules and regulations; publication; fees, taxes and other charges required to be fixed by rules and regulations. (a) Whenever the corporation commission is authorized or directed by this act, or by any of the acts contained in chapter 55 of the Kansas Statutes Annotated, to adopt rules and regulations, any rules and regulations so adopted shall be published by the commission and made available to the public without charge. The commission shall maintain the publication in a current condition either by a published supplement thereto or, whenever supplementation is impractical due to the cost or usefulness thereof, by republishing all of such rules and regulations in effect. In addition, the commission is hereby directed to comply with the provisions of K.S.A. 77-415 *et seq.*, and amendments thereto, with respect to any such rule and regulation.

(b) Whenever the commission is authorized or directed by this act, or by any of the acts contained in chapter 55 of the Kansas Statutes Annotated, to levy, assess, tax or otherwise fix or determine any fee, tax, charge or other payment of money to the commission or to the state of Kansas, such authority or directive shall be exercised or complied with by the adoption of a rule and regulation.

55-184. Act supplemental. This act shall not be construed as impairing, affecting or repealing any existing law but shall be construed as supplementary to existing laws.

55-186. Spill notification requirements. The state corporation commission shall adopt rules and regulations requiring operators to timely notify landowners or the representatives of such landowners of a spill which is also required to be reported to the commission.

POLLUTION REMEDIATION

55-191. Definitions. As used in this act:

(a) "Abandoned well" means any well that the commission has authority to plug, replug or repair under K.S.A. 55-179 and amendments thereto.

(b) "Commission" means the state corporation commission.

(c) "Contamination site" means any of: (1) The 17 sites of pollution from oil and gas activities, identified as of March 1, 1996, over which jurisdiction was transferred from the department of health and environment to the commission by chapter 204 of the 1995 Session Laws of Kansas; or (2) the 92 sites of pollution from oil and gas activities identified by the commission as of March 1, 1996.

(d) "Abandoned well site" means the location of an abandoned well and any pollution from such well.

55-192. Abandoned oil and gas well fund established; well plugging assurance fund abolished. (a) There is hereby established in the state treasury the abandoned oil and gas well fund.

(b) Moneys in the abandoned oil and gas well fund shall be used only for the purpose of paying the costs of: (1) Investigation and remediation of contamination sites; (2) investigation of abandoned wells, and their well sites; (3) plugging, replugging or repairing abandoned wells, and remediation of the well sites in accordance with a prioritization schedule adopted by the commission and based on the degree of threat to public health or the environment; and (4) any reimbursement authorized by the commission pursuant to K.S.A. 55-180, and amendments thereto. No moneys credited to the fund shall be used to pay administrative expenses of the commission or to pay compensation or other expenses of employing personnel to carry out the duties of the commission.

(c) On or before the 10th day of each month, the director of accounts and reports shall transfer from the state general fund to the abandoned oil and gas well fund interest earnings based on: (1) The average daily balance of moneys in the abandoned oil and gas well fund for the preceding month; and (2) the net earnings rate for the pooled money investment portfolio for the preceding month.

(d) All expenditures from the abandoned oil and gas well fund shall be made in accordance with appropriations acts upon warrants of the director of accounts and reports issued pursuant to vouchers approved by the chairperson of the state corporation commission or a person designated by the chairperson.

(e) On July 1, 2021: (1) The director of accounts and reports shall transfer all moneys in the well plugging assurance fund established pursuant to K.S.A. 55-166, prior to its repeal, to the abandoned oil and gas well fund; (2) all liabilities of the well plugging assurance fund are hereby transferred to and imposed on the abandoned oil and gas well fund; and (3) the well plugging assurance fund is hereby abolished.

55-193. Abandoned oil and gas well fund; certain transfers thereto. On July 15, 1996, and on the 15th day of each calendar quarter thereafter before July 1, 2023, the director of accounts and reports shall transfer \$100,000 from the state general fund and \$200,000 from the conservation fee fund established by K.S.A. 55-143, and amendments thereto, to the abandoned oil and gas well fund established by K.S.A. 55-192, and amendments thereto, except that no transfer shall be made pursuant to this section from the state general fund to the abandoned oil and gas well fund during state fiscal year 2021, state fiscal year 2022 or state fiscal year 2023.

55-194. Annual report. (a) The commission shall prepare an annual report containing the following information regarding each contamination site:

- (1) A description and evaluation of the site, including surface and subsurface contamination;
 - (2) the immediacy of the threat to public health or the environment from pollution from the site, including any contamination of drinking water or groundwater;
 - (3) the level of surface and subsurface remediation recommended;
 - (4) any unusual problems associated with investigation or remediation of pollution from the site;
 - (5) an estimate of the cost to achieve the recommended level of remediation or, if no estimate is possible, an estimate of the cost to conduct an investigation sufficient to determine the cost of remediation;
 - (6) any funds available to pay the costs of remediation;
 - (7) with regard to remediation of pollution from the site performed during the preceding fiscal year: (A) The nature of such remediation; (B) the total amount expended for such remediation; and (C) the amount expended for administrative expenses of the commission and compensation and other expenses of employing personnel to carry out the duties of the commission; and
 - (8) total expenditures in preceding fiscal years for remediation at the site.
- (b) The commission shall prepare an annual report containing the following information regarding abandoned wells and their well sites:
- (1) Documentation of the number of unplugged abandoned wells in the state; and
 - (2) a multiyear plan for dealing with unplugged abandoned wells that categorizes wells according to the risk posed to public health and the environment, sets forth a schedule for plugging wells posing the most serious risks and addresses funding of the plan.
- (c) The commission shall submit the reports provided for by this section to the governor and the chairperson and ranking minority member of the committees on energy and natural resources of the senate and the house of representatives, on or before the first day of the regular legislative session each year.

55-1,101. Definitions. (a) As used in K.S.A. 55-1,101 through 55-1,109, and amendments thereto:

(1) "Gas gathering services" means the gathering or preparation of natural gas for transportation, including transportation to a main transmission line or to any exit tap on a gas gathering system, whether such services are performed for hire or in connection with the purchase of natural gas by the person gathering or preparing the gas or a marketer affiliated with the person gathering or preparing the gas. "Gas gathering services" does not include the gathering of natural gas by an owner or operator of gathering facilities who: (A) Does not hold such facilities out for hire on or after the effective date of this act; and (B) does not purchase the gas for resale. Existing, new or additional exit taps added to a gas gathering system shall not cause a gas gathering system to be regulated as a public utility as that term is used in K.S.A. 66-104, and amendments thereto, or as a common carrier as that term is used in K.S.A. 66-105, and amendments thereto.

(2) "Exit tap on a gas gathering system" means the point on a gas gathering system at which natural gas is delivered to a consumer, homeowner, business, agricultural user, person, gas marketer or public utility.

(3) Other terms have the meanings provided by K.S.A. 55-150, and amendments thereto.

(b) The provisions of K.S.A. 55-1,101 through 55-1,109, and amendments thereto, shall be part of and supplemental to chapter 55 of the Kansas Statutes Annotated.

(c) This section shall take effect and be in force on and after July 1, 1997.

55-1,102. Filing of rates and other information required; use of information; disclosure.

(a) Each person offering gas gathering services in this state shall file with the commission copies of: (1) Rates paid for natural gas purchased at the wellhead by the person offering gas gathering services; (2) all rates charged for gas gathering services offered by such person; and (3) such data related to the characteristics of the gas purchased or gathered by the person offering gas gathering services and such information regarding the terms and duration of the contract as the commission determines necessary. The commission shall adopt rules and regulations prescribing the form and times of filing of such rates, data and information. The commission shall not be required to analyze, publish or disseminate such rates, data and information except to the extent otherwise required by law.

(b) Upon notice and an opportunity to be heard in accordance with the provisions of the Kansas administrative procedure act, the commission may impose an administrative fine on any person for failure to file any rate, data, or information as required by this section and rules and regulations of the commission. Such fine shall not exceed \$10,000 for each day the rate, data or information remains unfiled as required or an aggregate amount of \$250,000, whichever is less.

(c) Rates, data and information filed pursuant to this section shall not be used by the commission to order a change in any rate except in a proceeding pursuant to K.S.A. 55-1,104.

(d) Rates, data and information filed pursuant to this section shall not be subject to K.S.A. 66-1220a, and amendments thereto.

(e) This section shall take effect and be in force on and after July 1, 1997.

55-1,103. Limitations on manner of offering services and facilities (a) Persons offering gas gathering services in this state, or facilities essential to provision of such services, shall provide, in a manner that is just, reasonable, not unjustly discriminatory and not unduly preferential, access to any person seeking such services or facilities.

(b) Persons performing gas gathering services shall engage in practices in connection with such services, that are just, reasonable, not unjustly discriminatory and not unduly preferential.

(c) This section shall take effect and be in force on and after July 1, 1997.

55-1,104. Commission review of fees, terms, practices; complaint; procedure. (a) The commission, in its discretion, may at any time review a fee, term or practice being used by a person offering gas gathering services to ascertain whether a violation of K.S.A. 55-1,103 has occurred. Upon such review, the commission may initiate a proceeding to determine whether a violation of K.S.A. 55-1,103 has occurred. Upon notice and an opportunity for hearing in accordance with the Kansas administrative procedure act, the commission shall have authority to order the remediation of any violation of K.S.A. 55-1,103 that the commission finds has occurred.

(b) Any consumer of gas gathering services, any person seeking direct purchase of natural gas at the wellhead or any royalty owner, may request the commission to investigate and initiate proceedings to review a fee, term or practice being used by a person offering gas gathering services. As a condition to formal commission action, the person requesting commission action must first file a complaint that includes:

(1) A statement that the complainant has presented the complaint, in writing, to the person offering gas gathering services and included a request for a meeting with such person to discuss the matter;

(2) a copy of the document described in subsection (b)(1);

(3) a statement that the requested meeting took place or the person offering gas gathering services refused to meet with the complainant;

(4) detailed factual statement indicating how the fee, term or practice violates K.S.A. 55-1,103;

(5) a statement of the precise remedy being requested that will make the fee, term or practice consistent with the provisions of K.S.A. 55-1,103;

(6) if the complainant is a producer of natural gas, a copy of the analysis of the complainant's natural gas, including the nitrogen, carbon dioxide, hydrogen sulfide, water and other contaminant content; the amount of volume; and the amount of pressure at the wellhead; and

(7) if available, a map showing the location of the affected wells and all gas gathering systems in the area.

(c) The commission may resolve the complaint by use of an informal procedure established by the commission pursuant to rules and regulations adopted by the commission or the commission may conduct a formal hearing and take evidence as necessary to determine the merits of the complaint. If the commission uses an informal procedure and the complaint is not resolved within 60 days after the complaint is filed, the commission shall conduct a formal hearing on the complaint. The hearing shall be conducted and notice given in accordance with the Kansas administrative procedure act. Upon such hearing, the commission shall have authority to order remediation of any violations of K.S.A. 55-1,103, to the extent necessary for remediation as to the aggrieved person with respect to the particular violation.

(d) In evaluating a fee or term, or in establishing a reasonable fee or term, the commission is not required to engage in cost-of-service ratemaking or any other form of ratemaking. Instead, the commission can employ any form of analysis and remedy that is designed to accomplish the goals of this act while respecting the legitimate property interests of the person offering the gas gathering services.

(e) Any natural gas producer using the gas gathering facilities of a person engaged in activities described in subsection (a)(1)(A) or (B) of K.S.A. 55-1,101 may request the commission to investigate and initiate proceedings to review the fees, terms and practices of the person engaged in such activities. The commission shall conduct such investigation and proceeding in the same manner as provided by this section for complaints filed pursuant to subsection (b) and may order the remediation of any violation of subsection (b) of K.S.A. 55-1,103 that the commission finds would exist except for the exemption provided by subsection (a)(1)(A) or (B) of K.S.A. 55-1,101.

(f) The commission shall maintain a publicized telephone number to facilitate the filing of informal complaints pursuant to subsection (b) or (e).

(g) The commission shall adopt such rules and regulations as the commission determines reasonably necessary to prevent abuse of the complaint procedure provided for by this section. Such rules and regulations shall include provisions to prevent delay of the proceedings that may damage a party's ability to pursue or defend the complaint.

55-1,105. Rules and regulations. (a) The commission may adopt such rules and regulations as the commission determines necessary to improve access to gas gathering services or to improve market competition or protect the public interest in such services.

(b) This section shall take effect and be in force on and after July 1, 1997.

55-1,106. Exemptions from rate averaging or pricing systems. (a) The commission may exempt natural gas sold directly to a consumer from the wellhead before the gas enters a gathering system from rate averaging or pricing systems that apply to gas sold from a gas gathering system.

(b) This section shall take effect and be in force on and after July 1, 1997.

55-1,107. Issuance of more than one certificate of convenience and necessity; exit fees prohibited. (a) In any retail natural gas service area where the commission has granted a certificate of convenience and necessity to sell natural gas at a retail from a gas gathering system, the commission may issue other certificates of convenience and necessity to make such sales in such area. A person purchasing natural gas or gas gathering services from a person offering gas gathering services in a retail natural gas service area where the commission has issued more than one certificate of convenience and necessity shall not be assessed an exit fee for electing to purchase natural gas or gas gathering services from another person offering gas gathering services.

(b) This section shall take effect and be in force on and after July 1, 1997.

55-1,108. Contractual obligations, when amended. (a) Nothing in K.S.A. 55-1,101 through 55-1,107 shall be construed, or authorize the commission, to amend any contractual obligations between the person offering gas gathering services and the complainant unless the commission determines, after investigation, notice and hearing, that such contractual obligations are unjust, unreasonable, unjustly discriminatory or unduly preferential and adversely impact the public welfare.

(b) This section shall take effect and be in force on and after July 1, 1997.

55-1,109. Notice of lack of capacity to serve required. If a public utility providing service from a gas gathering system determines that such utility lacks sufficient services or facilities to serve the needs of any person wishing to utilize such utility's services within such utility's certificated service area during any calendar year, such utility, not later than November 1 preceding the beginning of such calendar year, shall give notice thereof to the commission and to each person that such utility determines it will be unable to serve.

55-1,110. Severability. If any provisions of this act or the application of this act to any person or circumstances is held invalid, the invalidity does not affect other provisions or applications of this act that can be given effect without the invalid provisions or application. To this end the provisions of this act are severable.

55-1,111. Commission review of exit tap on gathering system, access, service, abandonment; procedure. The commission may, upon complaint by a party who has or seeks an exit tap on a gathering system, review disputes over access, service or abandonment, regarding exit taps on a gas gathering system, only as follows:

(a) The commission may review such disputes for reasons other than health or safety of: (1) Exit taps provided pursuant to right-of-way agreements between landowners and gas gathering system owners or operators; and (2) exit taps being provided, on or before the effective date of this act, directly to an end user or to a public utility.

(b) The commission may review such disputes for reasons other than health or safety for exit taps requested to serve a non-profit utility organized pursuant to K.S.A. 66-104c, and amendments thereto, that provides natural gas service exclusively for agricultural activity, but not including any domestic use.

(c) Prior to filing a complaint with the commission, the existing or proposed exit tap customer shall meet the following requirements:

(1) Such customer must have acquired or be able to acquire a supply of natural gas with access to the gas gathering system;

(2) such customer must meet the same financial requirements and guarantees as all other shippers on the gathering system, including credit worthiness; and

(3) such customer shall be prepared to pay all costs and any associated expenses for the exit tap installation and service as imposed by the provider.

(d) After review, the commission may order that exit tap service be provided and may determine if rates and charges for such service are reasonable and nondiscriminatory, when compared to rates for a similar service on the subject gathering system. However, such service shall not be required unless the commission finds all of the following:

(1) That the service will not impair the ability of the gathering system to meet all existing and anticipated demand on the system;

(2) that the provision of such service will not require installation, relocation or modification of compression or other operations and equipment or features;

(3) that the charges for the service are adequate to cover the provider's administrative and operating expenses for the exit tap service, the costs of installing the exit tap and a reasonable profit margin considering the risks involved;

(4) that the service shall be provided on an interruptible basis and that the provider shall be indemnified by the exit tap customer from liability for and shall not be held liable for damages to human life, crops, livestock, equipment, environmental or any other damage arising from the use of the natural gas acquired through the service, or arising from interruption or curtailment of service;

(5) that the customer has agreed that such service may be terminated for failure to promptly pay billings or maintain credit worthiness;

(6) that the customer has agreed that such service may be terminated at any time if continued service threatens the operational stability and reliability of the provider's system or if service cannot be continued to be safely provided and that service may be interrupted for system maintenance, replacement or repairs;

(7) that such service will not impair or modify existing contracts held by the gas gathering system owner or operator;

(8) that such service will not unreasonably increase the total number of exit taps on the provider's system;

(9) that such service can be provided in a safe and environmentally sound manner; and

(10) that the provision of such service shall not adversely affect service or cost to any other gas gathering service customers on the system.

(e) In addressing any complaint, the commission shall not review the terms, including the price and volume of the natural gas commodity, of any purchase agreement for acquisition of natural gas by the exit tap customer and shall not order any producer, gatherer or other party to sell natural gas to such customer or proposed customer and shall not require the provision of a new exit tap on any gathering system which has not previously provided at least one exit tap prior to the effective date of this section.

(f) As used in this section:

(1) "Agricultural activity" means the growing or raising of horticultural and agricultural crops, hay, poultry, livestock and dairy products for commercial purposes including a feedlot and confined feeding facility.

(2) "Confined feeding facility" means any lots, pens, pools or ponds.

(3) "Feedlot" means lots, yards, corrals, confined feeding facilities or other area in which livestock are fed for slaughter and are confined and such additional acreage as is necessary for the operation of the feedlot.

55-1,115. Underground storage of hydrocarbons; corporation commission regulation of underground porosity storage of natural gas. (a) On or before July 1, 2002, the state corporation commission shall adopt rules and regulations governing underground porosity storage of natural gas. Such rules and regulations shall include the permitting, monitoring and inspecting of underground porosity storage of natural gas and the closure and abandonment of such underground porosity storage of natural gas. Such rules and regulations may establish fees for permitting, monitoring, inspecting and closing or abandoning underground porosity storage of natural gas.

(b) No hydrocarbon storage shall be allowed in any underground formation if water within the formation contains less than 5,000 milligrams per liter chlorides, except that the provisions of this subsection shall not prohibit the storage of hydrocarbons in an underground porosity storage facility if such storage facility was in use before July 1, 2001.

(c) The provisions of K.S.A. 55-162 and 55-164, and amendments thereto, shall apply to violations of the rules and regulations adopted pursuant to this section.

(d) As used in this section and K.S.A. 55-150, 55-155, 55-182 and 74-623, and amendments thereto, "underground porosity storage" means the storage of hydrocarbons in underground, porous and permeable geological strata which have been converted to hydrocarbon storage.

LEASES AND LIENS

55-201. Duty of lessee to have forfeited lease released; publication notice; affidavit to be recorded; notice to landowner; remedies. When any oil, gas or other mineral lease heretofore or hereafter given on land situated in any county of Kansas and recorded therein shall become forfeited it shall be the duty of the lessee, his or her successors or assigns, within sixty days from the date of the taking effect of this act, if the forfeiture occurred prior thereto, and within sixty days after the date of the forfeiture of any other lease, to have such lease surrendered in writing, such surrender to be signed by the party making the same, acknowledged and placed on record in the county where the leased land is situated without cost to the owner thereof: *Provided*, That, if the said lessee, his or her successors or assigns, shall fail or neglect to execute and record such surrender within the time provided for, then the owner of said land may serve upon said lessee, his or her successors or assigns, in person or by registered letter, at his or her last-known address, or by publication for three consecutive weeks in a newspaper of general circulation in the county where the land is situated, a notice in writing in substantially the following form:

"To _____: I, the undersigned, owner of the following described land situated in _____ county, Kansas, to wit: (description of land) upon which a lease, dated _____ day of _____, 19____, was given to _____, do hereby notify you that the terms of said lease have been broken by the owner thereof, that I hereby elect to declare and do declare the said lease forfeited and void and that, unless you do, within twenty days from this date, notify the register of deeds of said county as provided by law that said lease has not been forfeited, I will file with the said register of deeds affidavit of forfeiture as provided by law; and I hereby demand that you execute or have executed a proper surrender of said lease and that you put the same of record in the office of the register of deeds of said county within twenty days from this date.

"Dated this _____ day of _____, 19____.

_____."

And the owner of said land may after twenty days from the date of service, registration or first publication of said notice, file with the register of deeds of the county where said land is situated an affidavit setting forth, that the affiant is the owner of said land; that the lessee, or his or her successors or assigns has failed and neglected to comply with the terms of said lease, reciting the facts constituting such failure; that the same has been forfeited and is void; and setting out in said affidavit a copy of the notice served, as above provided and the manner and time of the service thereof. If the lessee, his or her successors or assigns, shall within thirty days after the filing of such affidavit, give notice in writing to the register of deeds of the county where said land is located that said lease has not been forfeited and that said lessee, his or her successors or assigns, still claim that said lease is in full force and effect, then the said affidavit shall not be recorded but the register of deeds shall notify the owner of the land of the action of the lessee, his or her successors or assigns, and the owner of the land shall be entitled to the remedies now provided by law for the cancellation of such disputed lease. If the lessee, his or her successor or assigns, shall not notify the register of deeds, as above provided, then the register of deeds shall record said affidavit, and thereafter the record of the said lease shall not be notice to the public of the existence of said lease or of any interest therein or rights thereunder, and said record shall not be received in evidence in any court of the state on behalf of the lessee, his or her successors or assigns, against the lessor, his or her successors or assigns.

55-202. Same; action to obtain release; damages, costs and attorney's fees; attachment. Should the owner of such lease neglect or refuse to execute a release as provided by this act, then the owner of the leased premises may sue in any court of competent jurisdiction to obtain such release, and the owner may also recover in such action of the lessee, his or her successors or assigns, the sum of one hundred dollars as damages, and all costs, together with a reasonable attorney's fee for preparing and prosecuting the suit, and he or she may also recover any additional damages that the evidence in the case will warrant. In all such actions, writs of attachment may issue as in other cases.

55-205. Record of lease as notice for definite term; extension upon contingency, affidavit.

When an oil, gas or mineral lease is hereafter given on land situated within the state of Kansas, the recording thereof in the office of the register of deeds of the county in which the land is located shall impart notice to the public of the validity and continuance of said lease for the definite term therein expressed, but no longer: *Provided*, That, if such lease contains the statement of any contingency upon the happening of which the term of any such lease may be extended (such as "and as much longer as oil and gas or either are produced in paying quantities"), the owner of said lease may at any time before the expiration of the definite term of said lease file with the said register of deeds an affidavit setting forth the description of the lease, that the affiant is the owner thereof and the facts showing that the required contingency has happened. This affidavit shall be recorded in full by the register of deeds, and such record together with that of the lease shall be due notice to the public of the existence and continuing validity of said lease, until the same shall be forfeited, canceled, set aside or surrendered according to law.

55-206. Demand for release before bringing action; evidence. At least twenty days before bringing the action provided for in this act [*], the owner of the leased land, either by himself or herself or by his or her agent or attorney, shall demand of the holder of the lease (if such demand by ordinary diligence can be made in this state) that said lease be released of record. Such demand may be either written or oral. When written, a letter-press or carbon or written copy thereof, when shown to be such, may be used as evidence in any court with the same force and effect as the original.

55-211. Lease of school grounds for drilling for oil and gas. The school-district board of any school district in this state is hereby authorized and empowered to lease its grounds, or any part thereof, for drilling for oil and gas, upon such terms as may be agreed upon. Any moneys arising from such lease or the production of oil or gas shall become a part of the funds of such school district: *Provided*, That no oil or gas wells shall be drilled or located within one hundred (100) feet of any schoolhouse upon any such school ground.

55-211a. Lease of lands by municipal corporations, board of park commissioners, improvement districts or other public agency or quasi-municipal corporation; disposition of moneys. The governing body of any municipal corporation, board of park commissioners of any municipal corporation, trustees or directors of any cemetery association or improvement district, directors of any cemetery district, township board of any township, or any other public agency or quasi-municipal corporation, owning or having the management and control of any tract of land within the state of Kansas, is hereby authorized and empowered to lease such lands, or any part thereof, for drilling for oil or gas upon such terms as may be agreed upon except that any such lease shall contain provisions for spacing of producing wells in accordance with rules and regulations of the state corporation commission as provided by law and no oil or gas well shall be drilled or located within 100 feet of that portion of any such lands actually used for burial purposes.

Any moneys arising from such lease or the production of oil or gas may be credited to a special reserve or trust fund and invested in the manner prescribed by K.S.A. 12-1675 et seq. and amendments thereto. All interest received from the investment of moneys in special reserve or trust funds and any moneys received from such lease or the production of oil or gas which is not credited to a special reserve or trust fund shall become a part of the general fund of any such municipality, board of park commissioners, association, improvement district, cemetery district, township, public agency, or quasi-municipal corporation.

CRUDE OIL OR PETROLEUM: PRODUCTION AND SALE

55-601. Waste prohibited. The production of crude oil or petroleum in the state of Kansas in such manner and under such conditions as to constitute waste is hereby prohibited and shall be unlawful.

55-602. Waste defined; rules and regulations; person defined. The term "waste" as used herein, in addition to its ordinary meaning, shall include economic waste, underground waste, surface waste, waste of reservoir energy, and the production of crude oil or petroleum in excess of transportation or marketing facilities or reasonable market demands. The state corporation commission shall have authority to make rules and regulations for the prevention of such waste and for the protection of all fresh-water strata, and oil- and gas-bearing strata encountered in any well drilled for, or producing, oil. "Person" as herein used shall mean any natural person, corporation, association, partnership, receiver, trustee, guardian, executor, administrator and a fiduciary of any kind.

55-603. Production regulated; prevention of unreasonable discrimination. Whenever the full production from any common source of supply, herein called "pool", of crude oil in this state can be obtained only under conditions (a) constituting waste as defined by K.S.A. 55-602 and amendments thereto, or (b) independently of waste, under conditions injurious to the respective correlative rights of the producers in the pool, or (c) under conditions unreasonably discriminating against other pools in the state, any person having the right to drill into and produce oil from the pool may take currently no more than that proportion of all crude oil which may be produced from the pool currently without such waste, injury or discrimination, which the productivity of such person's well or wells, considered in connection with the acreage reasonably attributable to each such well, bears to the productivity of all the wells in the pool, considered in connection with the acreage reasonably attributable to each well in the pool. The state corporation commission is authorized, and it shall be its duty, to regulate the taking of crude oil from any pool within the state of Kansas as to prevent waste in the pool or, independently of waste, to prevent the inequitable or unfair taking of crude oil from the pool by any person and to prevent unreasonable discrimination therein. The commission is further authorized, and it shall be its duty, to prevent unreasonable discrimination in favor of any one pool as against any other pool or pools in this state in the allocation of allowable production among such pools.

55-604. Powers of commission; proration of production; approval of plan or distribution.

(a) The commission shall have and is hereby given jurisdiction and authority:

(1) Over all matters involving the application and enforcement of this act;

(2) to make and enforce rules, regulations and orders for the prevention of waste as defined by K.S.A. 55-602 and amendments thereto and for carrying out and enforcing each and all of the provisions of this act;

(3) to employ or appoint such agent or agents as necessary to enforce and administer the provisions of this act and rules, regulations and orders adopted or issued under this act. Such agent or agents, with the exception of clerical help, shall be experienced in and conversant with the oil business; and

(4) as otherwise provided, without limiting the generality of the foregoing authority provided in this section.

(b) In prorating the production allowed to each pool among the wells in the pool, the commission shall take into consideration, among such other factors as it finds proper, and give due and proper weight to:

(1) The productivity of each such well as determined by such reasonable method as the commission shall adopt for the pool;

(2) the acreage of each well owner which is reasonably attributable to each of the owner's wells; and

(3) the efficient utilization of the reservoir energy in the pool, except that the allowable production of any well in any prorated pool shall not be reduced below 25 barrels per day. The 25 barrels per day minimum per well allowable may be reduced proportionately when the acreage attributable to any well is less than the number of acres in a spacing unit established by the corporation commission for wells in a spaced pool. In the absence of such a spacing unit, when the acreage attributable to any well is less than 10 acres, the 25 barrels per day minimum per well allowable may be reduced in the proportion that the acreage attributable to the well bears to 10 acres, except that the reduction in the 25 barrels per day minimum per well allowable by virtue of acreage adjustment shall not apply to oil and gas wells drilled or commenced prior to the effective date of this act.

(c) When it appears to the commission that those having a right to drill into and produce oil from any pool, part of any pool or prospective pool, in this state, have unanimously agreed upon a plan for the development of such pool, part of any pool or prospective pool or for the distribution of allowed production in the pool, the commission, after notice and hearing in accordance with the provisions of the Kansas administrative procedure act, may approve such plan or distribution.

55-604a. Severability. If any clause, sentence, section, subsection, provision, or part of this act shall be adjudged to be invalid or unconstitutional by any court of competent jurisdiction, such judgment shall not invalidate, impair, or affect the remainder of this act, which shall remain in full force and effect.

55-605. Enforcement of act; jurisdiction of commission over proceedings and hearings; notice; emergency rule, regulation or order; punishment for contempt; conduct of investigations and hearings by certain officers or employees; findings and recommendations; application of Kansas administrative procedure act. (a) Any person, or the attorney general on behalf of the state, or

the state corporation commission on its own initiative, may institute proceedings before the commission upon any question relating to the enforcement of this act, or for the making, revocation, change, renewal or extension, or for the enforcement of, any rule, regulation or order thereunder, and jurisdiction is hereby conferred upon the commission to hear and determine the same. The commission shall set a reasonable time and place when such hearing shall be had, and, in the case of proceedings initiated by the attorney general or the commission, give reasonable notice thereof, in no case less than 10 days, to all persons interested therein by one publication of such notice, in some newspaper or newspapers having a general circulation in this state, as designated by the commission, and in some newspaper having a general circulation in the county or counties where such lands affected by such proceedings are located, and by the second-class mailing of a copy thereof to each such person who shall have filed with the commission such person's name and address for the purpose of receiving notice. In all other cases, reasonable notice shall be given by the person initiating the proceedings, in no case less than 10 days prior to the hearing, by publication of such notice in a newspaper having a general circulation in the state, as designated by the commission, and in some newspaper having a general circulation in the county or counties where such lands affected by such proceedings are located, and the commission shall mail by second-class mail, a copy of such notice to each person who shall have filed with the commission such person's name and address for the purpose of notice. Additional notice shall be given by the person initiating the proceedings when required in accordance with rules and regulations adopted by the commission. The commission may accept as proof of notice an affidavit sworn to by the person initiating such proceedings that such notice has been perfected. Any such affidavit shall be filed with the commission on or before the hearing date. Each such notice shall state the time and place of hearing and contain such other information as will briefly and adequately disclose the matter to be considered or the relief sought. In case an emergency is found by the commission to exist which in its judgment requires the making of a rule, regulation or order or taking an enforcement action, without first having a hearing, such emergency rule, regulation, order or action shall have the same validity as if a hearing with respect to the same had been held after due notice, but shall remain in force no longer than 30 days from its effective date. In the exercise and enforcement of such jurisdiction the commission is authorized to summon witnesses, administer oaths, make ancillary orders, and use such means and final process, including inspection of records and books analogous to proceedings under its control over public service corporations as now provided by law. In connection with the exercise and enforcement of its jurisdiction, the commission shall also have the right and authority to certify as for contempt to the district court of any county having jurisdiction, violations by any person of any of the provisions of this act or rules, regulations or orders of the commission, and if it is found by the district court that such person, firm or corporation has knowingly and willfully violated same, then such person shall be punished as for contempt in the same manner and to the same extent and with like effect as if such contempt had been of an order, judgment or decree of the district court to which the certification is made. Any person desiring notice of any such proceeding shall file with the commission such person's name and address accompanied by a fee established by rule and regulation of the commission. All such fees shall be remitted to the state treasurer who shall credit the same to the conservation fee fund.

(b) The state corporation commission is hereby authorized to designate or appoint its director of petroleum conservation or its assistant director of petroleum conservation or one of its attorneys as an examiner or referee to make investigations and conduct hearings that are required of the commission by this act. Such investigations and hearings shall be made and conducted in the same manner as by the commission. Such examiners and referees shall have the power to administer oaths and to subpoena witnesses. The commission may provide for a record to be made of any hearing or investigation. Such examiners and referees shall submit their findings and recommendations in writing to the commission.

(c) If the agency action contemplated by proceedings instituted before the commission under this section is an order as defined in subsection (d) of K.S.A. 77-502 and amendments thereto, proceedings on such order shall be conducted in accordance with the provisions of the Kansas administrative procedure act. To the extent that the procedures contained in subsections (a) and (b) of this section are not in conflict, such procedures shall be supplemental to the procedures contained in the administrative procedure act.

55-606. Rehearing; judicial review. (a) Any action of the commission pursuant to K.S.A. 55-601 through 55-609, and amendments thereto, is subject to review in accordance with the Kansas judicial review act. The action for review shall be brought in the district court having venue and first acquiring jurisdiction of the matter. Notwithstanding the provisions of K.S.A. 77-622, and amendments thereto, the authority of the court shall be limited to a judgment either affirming or setting aside in whole or in part the agency action.

(b) Before any action for judicial review may be brought by a person who was a party to the proceeding resulting in the agency action, a petition for reconsideration shall first be filed with the commission in accordance with the provisions of K.S.A. 77-529, and amendments thereto. An action for judicial review may be brought by any person aggrieved by the agency action, whether or not such person was the petitioner for reconsideration. If no petition for reconsideration is filed, any person aggrieved by the agency action who was not a party to the proceeding before the commission may bring an action for judicial review of such agency action.

(c) Any action for review pursuant to this section shall have precedence in any court and on motion shall be advanced over any civil cause of different nature pending in such court. In any such action, a county abstract may be filed by the commission or any other interested party.

55-607. Penalty for violations of 55-601 to 55-609. In addition to any penalty that may be imposed by the corporation commission, any person, firm or corporation, or any officer, agent or employee thereof, directly or indirectly, violating the provisions of this act shall be guilty of a misdemeanor, and upon conviction thereof in a court of competent jurisdiction shall be punished by a fine in any sum not to exceed five thousand dollars (\$5,000), or by imprisonment in the county jail not to exceed thirty (30) days, or by both fine and imprisonment.

55-608. Injunction and other remedies. The corporation commission, the attorney general, or any county attorney in this state, shall have the right to maintain an action in any court of competent jurisdiction in this state to enforce by injunction, mandatory injunction, and any other appropriate legal or equitable remedy, any valid rule, order or regulation made by the corporation commission or promulgated under the provisions of this act, and the courts of general jurisdiction of this state shall have authority to make and render such judgments, orders and decrees as may be proper to enforce any such rules, orders and regulations made and promulgated by the corporation commission.

55-609. Assessment of costs of administering 55-601 to 55-613; disposition of moneys. (a) Subject to the provisions of K.S.A. 55-143, and amendments thereto, the state corporation commission is hereby authorized and directed to tax and assess against the parties involved in any hearing or application all or any part of the costs incurred therein and also, all or any part of the costs to the state incurred in making necessary investigations and in enforcing its orders under K.S.A. 55-601 to 55-613, inclusive, and amendments thereto, and divide such costs among the parties in such proportion as is just and equitable.

(b) The state corporation commission shall remit all moneys received by or for it for costs taxed and assessed under this section to the state treasurer in accordance with the provisions of K.S.A. 75-4215, and amendments thereto. Upon receipt of each such remittance, the state treasurer shall deposit the entire amount in the state treasury. Ten percent of each such deposit shall be credited to the state general fund and the balance shall be credited to the conservation fee fund created by K.S.A. 55-143, and amendments thereto.

(c) Assessments imposed on the basis of a volume measure of production under the authority of this section shall be reported and remitted in the manner provided in K.S.A. 79-4230, and amendments thereto.

55-609a. Invalidity of 55-601 to 55-609. If any section, subsection, paragraph or provision of this act shall be held to be invalid by any court for any reason, it shall be presumed that this act would have been passed by the legislature without such invalid section, subsection, paragraph or provision, and such finding or conclusion shall not in any way affect the remainder of this act.

55-609b. Invalidity of 55-602 to 55-606. If any section, subsection, paragraph, sentence, provision, clause or phrase of this act shall be held to be unconstitutional or invalid for any reason, it shall be presumed that this act would have been passed by the legislature without such invalid section, subsection, paragraph, sentence, provision, clause or phrase, and such decision shall not in any way affect the remainder of this act.

55-610. Buying or selling of illegally produced crude oil or petroleum unlawful. It is hereby declared to be unlawful for any person, firm or corporation to buy from or sell to any person, firm or corporation crude oil or petroleum produced from any oil well or wells in this state in violation of any order, judgment or decree of courts of competent jurisdiction, or of any order, rule or regulation of any body or agency authorized by law to conserve and regulate the production of crude oil or petroleum, or to take or produce crude oil or petroleum from any oil well or wells owned or operated by himself or herself or others

in violation of any order, judgment or decree of courts of competent jurisdiction, or of any order, rule or regulation of any body or agency authorized by law to conserve and regulate the production of crude oil or petroleum.

55-611. Same; penalties. Any person, firm or the officials of any corporation violating the provisions of this act shall be guilty of a misdemeanor, and upon conviction in any court having jurisdiction of the offense, be punished by a fine not exceeding \$500 or by confinement in the county jail not exceeding six months, or both. Each day's violation shall be considered a separate offense.

PRODUCTION AND CONSERVATION OF NATURAL GAS

55-701. Waste of natural gas prohibited. The production of natural gas in the state of Kansas in such manner and under such conditions and for such purposes as to constitute waste is hereby prohibited.

55-702. Definitions. The term "waste", in addition to its ordinary meaning, shall include economic waste, underground waste and surface waste. Economic waste shall mean the use of natural gas in any manner or process except for efficient light, fuel, carbon black manufacturing and repressuring, or for chemical or other processes by which such gas is efficiently converted into a solid or a liquid substance. The term waste shall not include the use or flaring of natural gas if permitted pursuant to an order issued or rule and regulation adopted under the provisions of subsection (b) of K.S.A. 55-102, and amendments thereto. The term "common source of supply" shall include that portion lying within this state of any gas reservoir lying partly within and partly without this state. The term "commission" shall mean the state corporation commission of the state of Kansas, its successors, or such other commission or board as may hereafter be vested with jurisdiction over the subject matter of this act.

55-703. Regulation of production of natural gas by commission; considerations in determination of production from common sources of supply; exception for certain cities of second class. (a) Whenever the available production of natural gas from any common source of supply is in excess of the market demands for natural gas from the common source of supply, or whenever the market demands for natural gas from any common source of supply can be fulfilled only by the production of natural gas from the common source of supply under conditions constituting waste, or whenever the commission finds and determines that the orderly development of and production of natural gas from any common source of supply requires the exercise of its jurisdiction, then any person, firm or corporation having the right to produce natural gas from the common source of supply may produce only that portion of all the natural gas that may be currently produced without waste and to satisfy the market demands, as will permit each developed lease to ultimately produce approximately the amount of gas underlying the developed lease and currently produce proportionately with other developed leases in the common source of supply without uncompensated cognizable drainage between separately owned, developed leases or parts thereof.

Except as otherwise provided in subsection (b), the commission shall regulate the taking of natural gas from any and all common sources of supply within this state in order to prevent the inequitable or unfair taking of natural gas from a common source of supply by any person, firm or corporation and to prevent unreasonable discrimination in favor of any one common source of supply as against another and in favor of or against any producer in any common source of supply. In promulgating rules, regulations and formulas, to attain such results the commission shall give equitable consideration to acreage, pressure, open flow, porosity, permeability and thickness of pay, and such other factors, conditions and circumstances as may exist in the common source of supply under consideration at the time, as may be pertinent.

The commission in determining the market demand for gas from a common source of supply shall consider the reasonable current requirements for current consumption and use within and without the state, and such other factors, conditions, or circumstances that would aid in establishing the market demand.

(b) The provisions of this section shall not apply to that portion of a common source of supply which is within the corporate boundaries of a city of the second class and upon which is located a producing natural gas well which is solely owned by such city and the total production from which is consumed by and for the benefit of such city. Such well shall not be allowed to be produced in an amount which exceeds two times the amount authorized by any rule, regulation or formula promulgated by the commission pursuant to subsection (a)

The provisions of this subsection shall expire on July 1, 1988.

55-703a. Well spacing and orderly development. The drilling and completion of a gas well shall not of itself entitle said well to an allowable for production; and the commission may, in its discretion, provide for well spacing in any such common source of supply and provide for the orderly development thereof.

55-704. Rules and regulations authorized; notice and hearings. The commission shall promulgate such rules and regulations as may be necessary for the prevention of waste as defined by this act, the protection of all water, oil or gas-bearing strata encountered in any well drilled in such common source of supply, ascertaining the several factors entering into the determination of the productive capacity of each well, the total productive capacity of all wells in the common source of supply, the establishment of such other standard or standards as the commission may find proper to determine the productive capacity of each well and of all wells in such common source of supply, and as the commission may find necessary and proper to carry out the spirit and purpose of this act: Provided, however, That notice, as provided in K.S.A. 55-706, shall be served upon or given to the producers and purchasers of natural gas and all other persons, firms or corporations interested, of any hearing or hearings which may be called for the purpose of establishing any facts upon which any proposed rule or regulation may be based.

55-705b. Natural gas well allowable grants; procedure. An allowable may be granted by the commission for any gas well in such a manner and under such conditions as shall be prescribed by the commission in a basic proration order adopted for a common source of supply or otherwise by any rule and regulation, order or decision of the commission under the provisions of this act.

55-706. Proceedings before commission upon petition; designation of certain officers or employees to conduct investigations and hearings; powers; findings and recommendations. (a) Proceedings may be instituted before the commission upon petition of any interested party, or by the attorney general on behalf of the state, or on the motion of the commission, upon any question relating to the enforcement of this act or the promulgation, revocation, amendment, renewal, interpretation, extension, or the enforcement of any rule, regulation or order, or the determination of any right thereunder, in the manner provided in K.S.A. 55-605, and amendments thereto.

(b) The state corporation commission is hereby authorized to designate or appoint its director of petroleum conservation or its assistant director of petroleum conservation or one of its attorneys as an examiner or referee to make investigations and conduct hearings that are required of the commission by this act. Such investigations and hearings shall be made and conducted in the same manner as by the commission. Such examiners and referees shall have the power to administer oaths and to subpoena witnesses. The commission may provide for a record to be made of any hearing or investigation. Such examiners and referees shall submit their findings and recommendations in writing to the commission.

55-707. Judicial review of commission's actions. Actions for judicial review of any action of the commission under the provisions of this act may be brought and proceedings respecting them shall be governed by and appeals may be taken as provided in K.S.A. 55-606 and amendments thereto.

55-708. Penalties for violations. In addition to any penalty that may be imposed by the state corporation commission, any person, firm or corporation, or any officer, agent or employee thereof, violating the provisions of this act, or any valid order or rules and regulations of the commission, shall be guilty of a misdemeanor and, upon conviction thereof, shall be punished by a fine in any sum not exceeding \$5,000, or by imprisonment in the county jail not exceeding 30 days, or by both fine and imprisonment.

55-709. Injunction and other remedies. The state corporation commission shall have the right to maintain an action in any court of competent jurisdiction in this state to enforce by injunction, mandatory injunction and any other appropriate or legal or equitable remedy any valid rule, order, or regulation made by the state corporation commission or promulgated under the provisions of this act, and said court shall have the authority to make and render such judgments, orders and decrees as may be proper to enforce any such rules, orders, and regulations made and promulgated by the state corporation commission.

55-710. Receivership upon violation of act. In addition to any penalty imposed under the provisions of this act and to the remedy and relief heretofore set forth, any person, firm or corporation

violating the provisions of this act, valid order, rules or regulations of the commissions shall be subject to have his, her or its producing property placed in the hands of a receiver by a court of competent jurisdiction, at the suit of the state of Kansas through the attorney general, but such receivership shall only extend to the operating of producing wells and the marketing of natural gas under the provisions of this act.

55-711. Assessment of costs of administering 55-701 to 55-713; disposition of moneys.

(a) Subject to the provisions of K.S.A. 55-143, and amendments thereto, the state corporation commission is hereby directed to tax and assess against the parties involved in any hearing or application all or any part of the costs incurred therein, also all or any part of the costs to the commission incurred in making the necessary investigations and the enforcement of its orders under K.S.A. 55-701 to 55-713, inclusive, and amendments thereto, and divide such costs among the interested parties in such proportion as may be just and equitable.

(b) The state corporation commission shall remit all moneys received by or for it for costs under this section to the state treasurer in accordance with the provisions of K.S.A. 75-4215, and amendments thereto. Upon receipt of each such remittance, the state treasurer shall deposit the entire amount in the state treasury. Ten percent of each such deposit shall be credited to the state general fund and the balance shall be credited to the conservation fee fund created by K.S.A. 55-143, and amendments thereto.

(c) Assessments imposed on the basis of a volume measure of production under the authority of this section shall be reported and remitted in the manner provided in K.S.A. 79-4230, and amendments thereto.

55-712. Enforcement of act; agents. The commission is hereby authorized to employ or designate such agents as may in its judgment be necessary to enforce and administer the provisions of this act, and the rules and regulations and orders promulgated there under; such agents, with the exception of clerical help, to be experienced in and conversant with the business of the production of natural gas.

55-713. Invalidity of part. If any clause, sentence, section, provision, or part of this act shall be adjudged to be unconstitutional or invalid for any reason by any court of competent jurisdiction, such judgment shall not invalidate, impair, or affect the remainder of this act, which shall remain in full force and effect.

SALT WATER

55-901. Disposal of salt water; rules and regulations; assessment of costs; disposition of moneys. (a) The owner or operator of any oil or gas well which may be producing and which produces salt water or waters containing minerals in an appreciable degree shall have the right to return such waters to any horizon from which such salt waters may have been produced, or to any other horizon which contains or had previously produced salt water or waters containing minerals in an appreciable degree, if the owner or operator of such well makes a written application to the state corporation commission for authority to do so, and written approval has been granted to the owner or operator after investigation by the state corporation commission.

(b) The state corporation commission is hereby directed to adopt such rules and regulations as may be just and equitable to carry out the provisions of this section.

(c) Subject to the provisions of K.S.A. 55-143, and amendments thereto, the state corporation commission shall assess all or any part of the cost that may be incurred under the provisions of this section against the applicant.

(d) The commission shall remit all moneys received by or for it for costs assessed under this section to the state treasurer in accordance with the provisions of K.S.A. 75-4215, and amendments thereto. Upon receipt of each such remittance, the state treasurer shall deposit the entire amount in the state treasury. Ten percent of each such deposit shall be credited to the state general fund and the balance shall be credited to the conservation fee fund created by K.S.A. 55-143, and amendments thereto.

55-903. Reporting violations to the commission; prosecution. Any county or district attorney who finds that there is probable cause to believe that a violation of subsection (a) of K.S.A. 55-904, and amendments thereto, has occurred shall immediately notify the state corporation commission and shall also begin prosecution of the offender.

55-904. Disposal of salt water; penalties for violation. (a) It shall be unlawful for any person, firm, corporation, partnership or other association of persons:

(1) To knowingly and willfully dispose of or cause the disposal of salt water produced in conjunction with the production of oil or natural gas except in the manner and locations prescribed by K.S.A. 55-901 and 55-1003, and amendments thereto, and rules and regulations adopted pursuant to such sections, or as permitted by the commission;

(2) to dispose of any substance not exempt under 40 C.F.R. 261.4(b)(5), as revised July 1, 1997, in a class II disposal or injection well;

(3) to knowingly contract for the transportation of such salt water with a person, firm, corporation, partnership or other association of persons who is not licensed under the provisions of K.S.A. 66-1,114, and amendments thereto; or

(4) to own or operate any motor vehicle which, while being used for the transportation of such salt water, contains an operable "trip-lever" or similar device which is installed in such manner as to allow access to any person while riding in the passenger compartment of such vehicle.

(b) As used in this section "salt water" means water containing more than 5,000 milligrams per liter chlorides and produced in conjunction with the production of oil or natural gas.

(c) This section shall not be construed to prohibit the spreading of salt water on road beds under construction or maintenance if such spreading of salt water is performed in compliance with rules and regulations adopted by the secretary of the department of health and environment. The secretary shall be responsible for enforcing, by appropriate proceedings, such rules and regulations and shall immediately notify the appropriate county or district attorney of any actual or suspected violation of this section.

(d) Any person, firm, corporation, partnership or other association of persons who violates any provision of subsection (a) shall be guilty of:

(1) A severity level 9 nonperson felony; and

(2) a severity level 8, nonperson felony on a second or subsequent violation of subsection (a).

DISPOSAL OF BRINES AND MINERALIZED WATERS

55-1003. Disposal of oil-field or gas-field brines and mineralized waters; plans and specifications; approval; disposal wells; notice and hearing; judicial review; eminent domain. Each company or corporation engaged in the production of petroleum or natural gas in Kansas, or organized for the purpose of providing for disposal of oil-field or gas-field brines and mineralized waters, may own, lease, construct, operate, and maintain pipelines, reservoirs, treatment plants, disposal wells, and other facilities for the conveyance and disposal of such brines and mineralized waters.

Any person, company or corporation engaged in the production of petroleum or natural gas in Kansas, or in the disposal of oil-field or gas-field brines and mineralized waters, may provide for financing and acquiring the necessary land, easements and rights-of-way, and may own, lease, construct, operate and maintain the works necessary for such disposal. For the disposal of oil-field or gas-field brines and mineralized waters, the plans and specifications for such disposal works shall be submitted to and be approved by the state corporation commission. The commission, in giving approval, shall determine that the proposed method of disposal: (1) Will not result in the loss or waste of gas or petroleum resources; and (2) is a feasible method to be employed in protecting the water resources of the state from preventable pollution. If the commission finds upon investigation that the most feasible method for the prevention of pollution is by a disposal well, the commission shall give notice thereof to the owner of wells producing such brines and mineralized waters of the findings.

If the owner of the wells producing such brines and mineralized waters desires to contest the findings of the commission, such owner shall give notice to the commission within 10 days after receipt of notice thereof. Thereupon, the commission shall proceed to hear and determine the matter in accordance with the provisions of the Kansas administrative procedure act. If upon such hearing, the commission sustains the findings, or if such findings are not contested, the commission shall issue an order directing the owner of the wells producing such brines and mineralized waters to provide the necessary disposal system.

Actions for judicial review of any action of the commission under the provisions of this act may be brought as provided in K.S.A. 55-606, and amendments thereto. Upon final order sustaining the findings of the commission, the owner of such wells shall provide the required disposal system in accordance with K.S.A. 55-901, and amendments thereto, and is hereby authorized to exercise the right of eminent domain as provided in K.S.A. 26-501 to 26-516, inclusive, and amendments to such sections, for the

purpose of acquiring the necessary rights-of-way and sites for the disposal of such brines and mineralized waters.

55-1004. Unlawful to dispose of certain waste in oil-field disposal wells at excessive pressures; penalties. It shall be unlawful for any person having possession, control or the use of any oil-field waste disposal well wherein salt water, mineralized brine, oil or refuse produced from any oil well is disposed of below the surface of the earth to inject such salt water, mineralized brine, oil or refuse from any oil well therein at a pressure in excess of the maximum pressure established by the state corporation commission and contained in the permit issued thereby except when non-compliance with this section is due to one or more causes beyond the control of such person and, once such person knows or should have known of such noncompliance, such person takes immediate and reasonable steps to gain prompt and full compliance with the applicable statutes and rules and regulations. The state corporation commission shall maintain a permanent record of the maximum pressure established by it on each such oil-field waste disposal well.

Any person violating any of the provisions of this section shall be guilty of a severity level 9, nonperson felony. Each day any such violation continues shall be deemed a separate offense.

55-1005. Disposal wells for salt brines and other oil field wastes; minimum depth; penalty. It shall be unlawful to use wells for the disposal of salt brines or other oil field wastes which do not meet the requirements for minimum depth established by the rules and regulations of the corporation commission. The state corporation commission shall inspect such wells to ascertain whether they meet such requirements for minimum depth. Any person, firm, partnership, association or corporation knowingly and willfully violating the provisions of this section, shall be deemed guilty of a severity level 9, nonperson felony. Each day of violation shall be considered to constitute a separate offense.

55-1007. Same; injunctions, when. The attorney general or county attorney shall, at all times, have the power to enjoin any party from maintaining a disposal well if it shall appear that such party has violated the provisions of K.S.A. 55-1005.

UNDERGROUND STORAGE OF NATURAL GAS

55-1201. Definitions. As used in this act (a) "underground storage" shall mean storage in a subsurface stratum or formation of the earth;

(b) "natural gas" shall mean gas either while in its original state or after the same has been processed by removal therefrom of component parts not essential to its use for light and fuel;

(c) "native gas" shall mean gas which has not been previously withdrawn from the earth;

(d) "natural gas public utility" shall mean any person, firm or corporation authorized to do business in this state and engaged in the business of transporting or distributing natural gas by means of pipelines into, within or through this state for ultimate public use;

(e) "commission" shall mean the state corporation commission.

55-1202. Public interest and welfare. The underground storage of natural gas which promotes conservation thereof, which permits the building of reserves for orderly withdrawal in periods of peak demand, which makes more readily available our natural gas resources to the domestic, commercial and industrial consumers of this state, and which provides a better year-round market to the various gas fields, promotes the public interest and welfare of this state

Therefore in the manner hereinafter provided the commission may find and determine that the underground storage of natural gas as hereinbefore defined is in the public interest.

55-1203. Appropriation of certain property. Any natural gas public utility may appropriate for its use for the underground storage of natural gas any subsurface stratum or formation in any land which the commission shall have found to be suitable and in the public interest for the underground storage of natural gas, and in connection therewith may appropriate such other interests in property as may be required adequately to examine, prepare, maintain and operate such underground natural gas storage facilities. The right of appropriation hereby granted shall be without prejudice to the rights of the owner of said lands or of other rights or interests therein to drill or bore through the underground stratum or formation so appropriated in such manner as shall comply with orders, rules and regulations of the commission issued for the purpose of protecting underground storage strata or formations against pollution and against the escape of natural gas therefrom and shall be without prejudice to the rights of the owner of said lands or other rights or interests therein as to all other uses thereof.

55-1204. Underground storage of natural gas; certificate of commission; notice and hearing; assessment of costs; disposition of moneys. (a) Any natural gas public utility desiring to exercise the right of eminent domain as to any property for use for underground storage of natural gas shall, as a condition precedent to the filing of its petition in the district court, obtain from the commission a certificate setting out findings of the commission:

(1) That the underground stratum or formation sought to be acquired is suitable for the underground storage of natural gas and that its use for such purposes is in the public interest; and

(2) the amount of recoverable oil and native gas, if any, remaining therein.

(b) The commission shall issue no such certificate until after public hearing is had on application and upon reasonable notice to interested parties in accordance with the provisions of the Kansas administrative procedure act. Subject to the provisions of K.S.A. 55-143 and amendments thereto, the applicant shall be assessed an amount equal to all or any part of the costs of such proceedings and the applicant shall pay the amount so assessed.

(c) All provisions of K.S.A. 66-106, 66-118a, 66-118b, 66-118c, 66-118d, 66-118e, 66-118j and 66-118k, or any amendments thereto, shall be applicable to all proceedings of the commission under K.S.A. 55-1201 to 55-1206, inclusive, and amendments thereto.

(d) The state corporation commission shall remit all moneys received by or for it for costs assessed under this section to the state treasurer in accordance with the provisions of K.S.A. 75-4215, and amendments thereto. Upon receipt of each such remittance, the state treasurer shall deposit the entire amount in the state treasury to the credit of the conservation fee fund created by K.S.A. 55-143, and amendments thereto.

55-1205. Eminent domain procedure. Any natural gas public utility, having first obtained a certificate from the commission as hereinbefore provided, desiring to exercise the right of eminent domain for the purpose of acquiring property for the underground storage of natural gas shall do so in the manner provided in K.S.A. 26-501 to 26-516, inclusive. The petitioner shall file the certificate of the commission as a part of its petition and no order by the court granting said petition shall be entered without such certificate being filed therewith. The appraisers in awarding damages hereunder shall also take into consideration the amounts of recoverable oil and native gas remaining in the property sought to be appropriated and for such purposes shall receive as prima facie evidence of such amounts the findings of the commission with reference thereto.

55-1207. Leasing of state-owned lands for underground storage of natural gas; conditions. The director of the state department of administration, with the approval of the state finance council, may lease to a person, firm or corporation lands owned by the state of Kansas for the underground storage of natural gas by such person, firm or corporation. All such leases shall be on such terms and conditions as the director of the state department of administration, with the approval of the state finance council, shall prescribe: *Provided*, That every such lease shall be for a period of twenty (20) years and as long thereafter as said lands are actually used by the lessee or its assignees for the underground storage of natural gas. Every such lease shall describe the subsurface stratum or formation in said lands which is to be utilized for such storage. Any lease granted pursuant to the provisions of this section shall be without prejudice to the rights of the state as the owner of said lands, or any lessee of the oil and gas rights thereof, to develop other subsurface strata or formations so leased in such manner as will comply with existing or hereafter promulgated rules and regulations of the state corporation commission issued for the purpose of protecting underground gas storage stratum or formation as provided by K.S.A. 55-1203, or acts amendatory thereof or supplemental thereto.

All proceeds of such leases shall be paid into the state treasury and the state treasurer shall credit the same to the general fund of the state. *Provided*, That the proceeds of any such leases which shall be derived from the lease of lands which are held by the state of Kansas for the use and benefit of a state institution shall be kept by the state treasurer in a separate fund for the use and benefit of said state institution under rules and regulations adopted by the state agency having control and management of such state institution.

55-1208. Abandonment of underground natural gas storage facility; notification; hearings by corporation commission. (a) When the owner of an underground natural gas storage facility has permanently abandoned the storage facility and that facility was certificated by the state corporation commission pursuant to K.S.A. 55-1201 *et seq.*, the owner shall file with the commission a notice of abandonment. If any such storage facility was certificated pursuant to federal authority, the owner shall file a copy of any federal abandonment authority with the commission. Unless such notice of

abandonment authority has been filed with the commission, there shall be a presumption that the storage facility and all rights associated with it remain as certificated. In either case the owner shall file an instrument with the register of deeds office in the appropriate county or counties, stating that such storage has ceased and, except in cases in which the owner of the storage facility has purchased the fee, that the ownership of all property acquired by the owner, both mineral and surface, has reverted to those who owned the property at the time of the acquisition or their heirs, successors or assigns.

(b) The state corporation commission may conduct an administrative hearing pursuant to the Kansas administrative procedures act upon application for abandonment of an underground natural gas storage facility if such facility was certificated by the commission.

55-1209. Plat map of location of underground natural gas facility required. The owner of an underground natural gas storage facility shall provide to the state corporation commission a plat map identifying the location of such facility and a description of the geological formation or formations to be used for storage.

55-1210. Property rights to injected natural gas established. (a) All natural gas which has previously been reduced to possession, and which is subsequently injected into underground storage fields, sands, reservoirs and facilities, whether such storage rights were acquired by eminent domain or otherwise, shall at all times be the property of the injector, such injector's heirs, successors or assigns, whether owned by the injector or stored under contract.

(b) In no event shall such gas be subject to the right of the owner of the surface of such lands or of any mineral interest therein, under which such gas storage fields, sands, reservoirs and facilities lie, or of any person, other than the injector, such injector's heirs, successors and assigns, to produce, take, reduce to possession, either by means of the law of capture or otherwise, waste, or otherwise interfere with or exercise any control over such gas. Nothing in this subsection shall be deemed to affect the right of the owner of the surface of such lands or of any mineral interest therein to drill or bore through the underground storage fields, sands, reservoirs and facilities in such a manner as will protect such fields, sand, reservoirs and facilities against pollution and the escape of the natural gas being stored.

(c) With regard to natural gas that has migrated to adjoining property or to a stratum, or portion thereof, which has not been condemned as allowed by law or otherwise purchased:

(1) The injector, such injector's heirs, successors and assigns shall not lose title to or possession of such gas if such injector, such injector's heirs, successors or assigns can prove by a preponderance of the evidence that such gas was originally injected into the underground storage.

(2) The injector, such injector's heirs, successors and assigns, shall have the right to conduct such tests on any existing wells on adjoining property, at such injector's sole risk and expense including, but not limited to, the value of any lost production of other than the injector's gas, as may be reasonable to determine ownership of such gas.

(3) The owner of the stratum and the owner of the surface shall be entitled to such compensation, including compensation for use of or damage to the surface or substratum, as is provided by law, and shall be entitled to recovery of all costs and expenses, including reasonable attorney fees, if litigation is necessary to enforce any rights under this subsection (c) and the injector does not prevail.

(d) The injector, such injector's heirs, successors and assigns shall have the right to compel compliance with this section by injunction or other appropriate relief by application to a court of competent jurisdiction.

UNITIZATION

55-1301. Additional powers and duties of the state corporation commission. In addition to the jurisdiction, powers and duties conferred or imposed upon the state corporation commission, herein called "commission," by articles 6 and 7 of chapter 55 of the Kansas Statutes Annotated, with respect to the prevention of waste and the conservation of oil and gas and the protection of the correlative rights of persons entitled to share in the production thereof, the commission shall for said purposes have, and it shall be its duty to exercise, the further jurisdiction, powers and duties conferred or imposed upon it by this act.

55-1302. Definitions. As used in this act: (a) Except where the context otherwise requires, the terms used or defined in articles 6 and 7 of chapter 55 of the Kansas Statutes Annotated, and amendments thereto, shall have the same meaning when used in this act.

(b) "Pool" means an underground accumulation of oil and gas in one or more natural reservoirs in communication so as to constitute a single pressure system so that production from one part of the pool affects the pressure throughout its extent.

(c) "Oil and gas" means crude oil, natural gas, casinghead gas, condensate, or any combination thereof.

(d) "Waste," in addition to its meaning as used in articles 6 and 7 of chapter 55 of the Kansas Statutes Annotated, and amendments thereto, includes both economic and physical waste resulting from the development and operation separately of tracts that can best be operated as a unit.

(e) "Working interest owner" means the owner of tracts or interests who, in the absence of a unitization order, would have the right to drill and operate a well or wells on the separately owned tracts comprising a unit.

55-1303. Requisites of application; hearings. Any working interest owner may file an application with the commission requesting an order for the unit operation of a pool or part thereof. The application shall contain: (a) A description of the land and pool or part thereof to be so operated, termed the unit area;

(b) a statement of the type of operations contemplated for the unit area;

(c) a copy of a proposed plan of unitization which the applicant considers fair, reasonable and equitable;

(d) a copy of a proposed operating plan covering the manner in which the unit will be supervised and managed and costs allocated and paid;

(e) an allegation of the facts required to be found by the commission under K.S.A. 55-1304 and amendments thereto.

Upon filing of an application for an order providing for the unit operation of a pool or part thereof, the commission shall conduct a hearing in accordance with the provisions of the Kansas administrative procedure act.

55-1304. Matters to be found by the commission precedent to issuance of unitization order; hearings. The commission may make an order providing for the unitization and unit operation of such pool or part thereof sought to be unitized, if, upon application of any working interest owner and after notice and hearing in accordance with the provisions of the Kansas administrative procedure act, the commission finds all of the following conditions exist:

(a) (1) The primary production from a pool or a part thereof sought to be unitized has reached a low economic level and, without introduction of artificial energy, abandonment of oil or gas wells is imminent; or (2) the unitized management, operation and further development of the pool or the part thereof sought to be unitized is economically feasible and reasonably necessary to prevent waste within the reservoir and thereby increase substantially the ultimate recovery of oil or gas;

(b) that the value of the estimated additional recovery of oil or gas substantially exceeds the estimated additional cost incident to conducting such operations; and

(c) the proposed operation is fair and equitable to all interest owners.

55-1305. Commission orders. The order providing for the unitization and unit operation of a pool or a part thereof shall be upon terms and conditions that are just and reasonable and shall prescribe a plan for unit operations that shall include:

(a) A legal description in terms of surface area of the pool or a part thereof to be so operated, termed "the unit area";

(b) a statement of the nature of the operations contemplated;

(c) an allocation to the separately owned tracts in the unit area of all the oil and gas that is produced from the unit area and is saved, being the production that is not used in the conduct of operations on the unit area or not unavoidably lost. The allocation shall be in accord with the agreement, if any, of all interest owners. If there is no such agreement as to the allocation, the commission shall determine the relative value of the separately owned tracts in the unit area, exclusive of physical equipment, for development of oil and gas by unit operations, and the production allocated to each tract shall be the proportion that the value of each tract so determined bears to the total value of all tracts in the unit area;

(d) a provision for the credits and charges to be made in the adjustment among the working interest owners in the unit area for their respective investments in wells, tanks, pumps, machinery, materials and equipment contributed to the unit operations;

(e) a provision providing how the costs of unit operations, including capital investments, shall be determined and charged to the separately owned tracts and how said costs shall be paid, including a

provision providing when, how and by whom the unit production allocated to working interest owner who does not pay the share of the cost of unit operations charged to such owner, or to the interest of such owner, may be sold and the proceeds applied to the payment of such costs;

(f) a provision whereby a nonoperating working interest owner shall be furnished, but not more often than once a month, reasonably detailed information regarding the nature and amount of the various items of costs and expenses, including capital investments, chargeable against the interest of the nonoperating working interest owners;

(g) a provision for carrying any nonoperating working interest owner on a limited, carried or net-profits basis, payable out of production, upon terms and conditions determined by the commission to be just and reasonable, or otherwise financing any nonoperating working interest owner who elects to be carried or otherwise financed or who does not meet the owner's financial obligations with the unit and a provision for establishing a reasonable rate of interest and a penalty on all unpaid expenses, in amounts established by rules and regulations adopted by the commission, not to exceed:

(1) One hundred percent of the unpaid portion of the owner's share of the cost of aboveground surface equipment beyond the wellhead connection, including, but not limited to, stock tanks, separators, treaters, pumping equipment and piping, plus 100% of the unpaid portion of the owner's share of the cost of operation of the unit, all subject to the rate of interest established;

(2) three hundred percent of the unpaid portion of the owner's share of the costs and expenses of drilling wells in the unitized area, including staking, well site preparation, rigging up, or drilling, and reworking, deepening or plugging back, testing and completing wells; and

(3) three hundred percent of the unpaid portion of the owner's share of the costs and expenses of underground pipeline systems, expenses for injected substances and any other nonrecoupable expenses incurred. All interest and penalties prescribed under this subsection shall be paid from the nonpaying interest owner's share of production;

(h) a provision for the supervision and conduct of the unit operations, including the selection, removal or substitution of an operator from among the working interest owners to conduct the unit operations;

(i) a provision for a voting procedure for the decision of matters to be decided by the working interest owners in respect to which each working interest owner shall have a vote with a value corresponding to the percentage of the costs of unit operations chargeable against the interest of such owner;

(j) the time when the unit operations shall commence and the manner in which, and the circumstances under which, the unit operations shall terminate and for the settlement of accounts upon such termination;

(k) a provision specifying the particular records the unit operator shall keep and the detailed accounting procedure that the unit operator shall follow. A plan of unitization shall not be considered fair and reasonable if it contains a provision for operating charges which include any part of district or central office expense other than reasonable overhead charges; and

(l) such additional provisions that are found to be appropriate for carrying on the unit operations and for the protection of correlative rights.

No order of the commission providing for unit operations upon a finding pursuant to subsection (a)(1) of K.S.A. 55-1304, and amendments thereto, shall become effective unless and until the plan for unit operations prescribed by the commission has been approved in writing by those persons who, under the commission's order, will be required to pay at least 63% of the costs of the unit operation, and also by the owners of at least 63% of the production or proceeds thereof that will be credited to royalties, excluding overriding royalties or other like interests which are carved out of the leasehold estate, and the commission has made a finding, either in the order providing for unit operations or in a supplemental order, that the plan for unit operations has been so approved. No order of the commission providing for unit operations upon a finding pursuant to subsection (a)(2) of K.S.A. 55-1304, and amendments thereto, shall become effective unless and until the plan for unit operations prescribed by the commission has been approved in writing by those persons who, under the commission's order, will be required to pay at least 63% of the costs of the unit operation, and also by the owners of at least 75% of the production or proceeds thereof that will be credited to royalties, excluding overriding royalties or other like interests which are carved out of the leasehold estate, and the commission has made a finding, either in the order providing for unit operations or in a supplemental order, that the plan for unit operations has been so approved. If the plan for unit operations has not been so approved at the time the order providing for unit operations is made, the commission shall upon application and notice hold such supplemental hearings as may be required to determine if and when the plan for unit operations has been so approved. If the persons owning the required percentage of interest in the unit area do not approve the plan for unit operations within a period of six months from the date on which the order providing for unit operations is

made, such order shall cease to be of further force and effect and shall be revoked by the commission, except that the commission may extend the six-month period not to exceed 60 days for good cause shown.

An order providing for unit operations may be amended by the commission in the same manner and subject to the same conditions as are necessary or required for an original order providing for unit operations, except that: (a) If such an amendment affects only the rights and interest of the working interest owners, the approval of the amendment by the royalty owners shall not be required; and (b) no such order of amendment shall change the percentage for the allocation of oil and gas as established for any separately owned tract by the original order, except with the consent of all persons owning oil and gas rights in such tract; no such order shall change the percentage for the allocation of cost as established for any separately owned tract by the original order, except with the consent of all working interest owners in such tract.

The commission by an order may provide for the unit operation of a pool or a part thereof that embraces a unit area previously established either by voluntary agreement or order of the commission. Such order, in providing for the allocation of unit production, shall first treat the unit area previously established as a single tract, and the part of the unit production so allocated thereto shall then be allocated among the separately owned tracts included in such previously established unit area in the same proportions as those specified in the previous agreement or order.

An order may provide for the unit operation of less than the whole of a pool where the unit area is of such size and shape as may be reasonably required for that purpose, and the conduct thereof will have no material adverse effect upon other parts of the pool.

55-1306. Unit operations. All operations, including, but not limited to, the commencement, drilling, or operation of a well upon any part of the unit area shall be deemed for all purposes the conduct of such operations upon each separately owned tract in the unit area by the several owners thereof. The portion of the unit production allocated to a separately owned tract in a unit area shall, when produced, be deemed, for all purposes, to have been actually produced from such tract by a well drilled thereon. Operations conducted pursuant to an order of the commission providing for unit operations shall constitute a fulfillment of all the express or implied obligations of each lease or contract covering lands in the unit area to the extent that compliance with such obligations cannot be had because of the order of the commission.

The portion of the unit production allocated to any tract, and the proceeds from the sale thereof, shall be the property and income of the several persons to whom, or to whose credit, the same are allocated or payable under the order providing for unit operations.

No division order or other contract relating to the sale or purchase of production from a separately owned tract shall be terminated by the order providing for unit operations, but shall remain in force and apply to oil and gas allocated to such tract until terminated in accordance with the provisions of such division order or contract.

Except to the extent that the parties affected so agree no order providing for unit operations shall be construed to result in a transfer of all or any part of the title of any person to the oil and gas rights in any tract in the unit area. All property, whether real or personal, that may be acquired in the conduct of unit operations hereunder shall be acquired for the account of the working interest owners within the unit area, and shall be the property of such owners in the proportion that the expenses of unit operations are charged.

The obligation or liability of each working interest owner, both nonoperator and operator, in the several separately owned tracts in the unit for the payment of unit expense at all times shall be several and not joint or collective, and a working interest owner of the oil or gas rights in the separately owned tract shall not be chargeable with, obligated or liable, directly or indirectly, for more than the amount apportioned, assessed or otherwise charged to his or her interest in the separately owned tract pursuant to the order of unitization.

55-1307. Enlargement of area and creation of new units. The unit area of a unit may be enlarged to include adjoining portions of the same common source of supply, including the unit area of another unit, and a new unit created for the unitized management, operation and further development of such enlarged unit area, or the plan of unitization may be otherwise amended, all in the same manner, upon the same conditions and subject to the same limitations as herein provided with respect to the creation of a unit in the first instance, except, that where an amendment to a plan of unitization relates only to the rights and obligations as between working interest owners, the requirement that the same be approved by the owners of at least seventy-five percent (75%) of the production or proceeds thereof that

will be credited to interests which are free of costs, such as royalties, overriding royalties and production payments of the unit area shall have no application.

55-1308. Existing rights, rights in unleased land, and royalties and lease burdens. Property rights, leases, contracts, and other rights or obligations shall be regarded as amended and modified only to the extent necessary to conform to the provisions and requirements of this act and to any valid order of the commission providing for the unit operation of a pool or a part thereof, but otherwise shall remain in full force and effect. For the purpose of this act the owner, or owners, of oil and gas rights in and under an unleased tract of land shall be regarded as a working interest owner to the extent of a 7/8 interest in and to such rights and a royalty owner to the extent of the remaining 1/8 interest therein, except that, if the commission finds that, under the prevailing industry practice in the area where the unit is located, oil and gas leases contain a higher amount of royalty than 1/8 royalty interest, then the owner or owners shall be regarded as a royalty interest owner to the extent of the royalty interest determined by the commission to be in accordance with prevailing industry practice and a working interest owner as to the remainder of the owner's or owners' interest in such tract of land..

A 1/8 part of the production allocated to each tract under an order providing for the unit operation of a pool or a part thereof, shall in all events be and remain free and clear of any cost or expense of developing or operating the unit and of any lien therefor as an unencumbered source from which to pay the royalties or other cost free obligations due or payable with respect to the production from such tract. If a lease or other contract pertaining to a tract or interest stipulates a royalty, overriding royalty, production payment, or other obligation in excess of 1/8 of the production or proceeds therefrom, then the working interest owner subject to such excess payment or other obligation shall bear and pay the same.

55-1309. Employment of consultant to advise commission. Whenever in any contested proceeding before the commission for the unitization and unit operation of a pool or a part of a pool, the commission determines that the engineering, geological, or other technical issues are such that it is in need of additional engineering, geological or other technical evidence as an aid to a proper understanding and appraisal of the issues and evidence, it may employ a qualified disinterested technical consultant for that purpose. All opinions, conclusions, evidence and testimony of such consultant shall be presented in an open hearing subject to examination by any interested party as well as the commission. The cost and expense of the employment of such a consultant shall be payable out of the funds of the commission.

55-1310. Procedures on unit operation plans; application of laws; notices; hearings, place of; publication of notice of applications and hearings; cost. All of the provisions and requirements of K.S.A. 55-605, 55-606, 55-607, 55-608, 55-609 and 55-611, and amendments thereto, with reference to the institution of proceedings, notices, hearings, subpoenaing of witnesses, oaths, orders, contempt, enforcement, injunctions, penalties for violation of the act or orders of the commission, costs and other procedure and procedural requirements shall apply to and govern action by the commission and the interested persons under this act the same as such provisions and requirements of the sections apply to and govern the action by the commission and the interested persons under the provisions of articles 6 and 7 of chapter 55 of the Kansas Statutes Annotated. The place of hearing on the application shall be as designated by the commission.

In addition to the notice provided for by K.S.A. 55-605, and amendments thereto, or such additional notice as the commission may require, notice of the filing of applications and hearings held pursuant to this act shall be given as follows: Upon the filing of an application for the unit operation of a pool or a part of a pool, the applicant shall file with the commission a list showing the names and addresses of all oil and gas lessees and other oil and gas interest owners owning interests in the pool or the part of the pool underlying the lands described in the application and whose names and addresses applicant has been able to discover after diligent search and inquiry, which list shall also include lessors, mineral owners and mortgagees of oil and gas interests of record. Notice of the application and the time and place of the hearing shall be properly mailed by the applicant, postage prepaid, at least 10 days prior to the date set for the hearing, to all persons whose names and addresses are shown on the list. In addition notices of all applications filed pursuant to this act and the time and the place of the hearing shall be published in at least one issue of a newspaper authorized by law to publish legal notices in the county or counties in which the lands involved are located and in such other newspaper as the commission may designate at least 10 days prior to the date set for the hearing.

55-1311. Agreements not violative of laws governing monopolies or restraint of trade. No agreement between or among lessees or other owners of oil and gas rights in oil and gas properties entered into pursuant hereto or with a view or for the purpose of bringing about the unitized development

or operation of such properties, shall be held to violate any of the statutes of this state prohibiting monopolies or acts, arrangements, agreements, contracts, combinations, or conspiracies in restraint of trade or commerce.

55-1312. Rendition for taxation of property used by unit; assessment and taxation. It shall be the duty of the unit operator to make and file all necessary ad valorem tax renditions and returns with the proper taxing authorities covering all property of each working interest owner used or held by the operator in the unit operations. All such property of the several working interest owners shall be assessed and taxed together as a single unit. If such property is not reported for taxation by the unit operator, assessment and taxation of the working interest owners' property of the unit shall be made as a unit by the county assessor. All such ad valorem taxes shall be paid by the unit operator initially as a part of the costs of unit operations with each working interest owner's share thereof to be the same as other costs of unit operations. Each working interest owner shall pay or cause to be paid all production, severance and other taxes that may be imposed upon or in respect of the production of that owner's share of the unitized substances.

55-1313. Certificates to be recorded. Upon a unitization order becoming effective the commission shall file for recording in the office of the register of deeds in the county or counties in which the lands are located a certificate in such form as the commission may prescribe, which certificate must include the following information:

- (1) Date of order and date approved by required percentage of owners;
- (2) docket number;
- (3) name of unit;
- (4) producing formations unitized;
- (5) the time unit operations shall commence;
- (6) legal description of each tract of land in the unit;
- (7) the allocation of the production of the unit among the owners.

When unit operations have terminated, the commission shall likewise file for recording a similar certificate showing such termination.

55-1314. Act supplemental. The provisions of this act shall be supplemental to and a part of articles 6 and 7 of chapter 55 of the Kansas Statutes Annotated.

55-1315. Invalidity of part. If any clause, sentence, section, provision, or part of this act shall be adjudged to be unconstitutional or invalid for any reason by any court of competent jurisdiction, such judgment shall not invalidate, impair, or affect the remainder of this act, which shall remain in full force and effect.

55-1316. Definition of "pool"; legislative intent. The amendment by this act of the definition of "pool" shall not be considered a statement of legislative intent for the purpose of interpretation of the definition of "pool" prior to its amendments by this act.

55-1317. Unitization without KCC order, when. (a) As used in this section, terms have the meanings provided by K.S.A. 55-1302, and amendments thereto.

(b) Subject to the provisions of subsection (c), if all mineral and royalty owners and not less than 90% of the working interest owners approve, in writing, a contract for the unit operation of a pool or part thereof, such unit operations shall become effective without application to or order by the state corporation commission.

(c) Before a contract for the unit operation of a pool or part thereof shall become effective pursuant to subsection (b), the person or persons wishing to provide for the unit operation shall file a copy of the contract with the state corporation commission and shall notify all working interest owners of the intention to conduct the unit operation. Such notice shall be in the manner provided by law for notice of an application requesting an order for the unit operation of a pool or part thereof. The notice shall inform the working interest owner of the right to institute proceedings within 30 days after receipt of the notice to have the matter determined by the state corporation commission. Any working interest owner, within 30 days after receipt of the notice, may institute proceedings before the state corporation commission to determine the matter in accordance with the provisions of K.S.A. 55-1301 et seq., and amendments thereto. If no such proceedings are instituted, the contract shall become effective upon expiration of the 30-day period.

(d) This section shall be part of and supplemental to the provisions of article 13 of chapter 55 of the Kansas Statutes Annotated, and amendments thereto.

CARBON DIOXIDE REDUCTION ACT

55-1636. Carbon dioxide reduction act. K.S.A. 2010 Supp. 55-1636 through 55-1640, 55-1641, 79-233 and 79-32,256, and amendments thereto, may be cited as the carbon dioxide reduction act.

55-1637. Same; definitions; commission powers; liability limitation. (a) As used in K.S.A. 2010 Supp. 55-1637 through 55-1640, and amendments thereto:

(1) "Carbon dioxide injection well" means any hole or penetration of the surface of the earth used to inject carbon dioxide for underground storage or for enhanced recovery of hydrocarbons and any associated machinery and equipment used for such injection of carbon dioxide. "Carbon dioxide injection well" does not include underground storage.

(2) "Commission" means the state corporation commission.

(3) "Underground storage" means any underground formation where carbon dioxide is injected for sequestration.

(b) Except as provided in subsection (h), for the purposes of protecting the health, safety and property of the people of the state, and preventing escape of carbon dioxide into the atmosphere and pollution of soil and surface and subsurface water detrimental to public health or to plant, animal and aquatic life, the commission, on or before July 1, 2008, shall adopt separate and specific rules and regulations establishing requirements, procedures and standards for the safe and secure injection of carbon dioxide and maintenance of underground storage of carbon dioxide. Such rules and regulations shall include, but not be limited to: (1) Site selection criteria; (2) design and development criteria; (3) operation criteria; (4) casing requirements; (5) monitoring and measurement requirements; (6) safety requirements, including public notification;

(7) closure and abandonment requirements, including the financial requirements of subsection (e); and (8) long-term monitoring.

(c) Except as provided in subsection (h), the commission may adopt rules and regulations establishing fees for permitting, monitoring and inspecting operators of carbon dioxide injection wells and underground storage. Fees collected by the commission under this subsection shall be remitted by the commission to the state treasurer in accordance with the provisions of K.S.A. 75-4215, and amendments thereto. Upon receipt of each such remittance, the state treasurer shall deposit the entire amount in the state treasury and credit it to the carbon dioxide injection well and underground storage fund.

(d) The commission or the commission's duly authorized representative may impose on any holder of a permit issued pursuant to this section such requirements relating to inspecting, monitoring, investigating, recording and reporting as the commission or representative deems necessary to administer the provisions of this section and rules and regulations adopted hereunder.

(e) Any company or operator receiving a permit under the provisions of this act shall demonstrate annually to the commission evidence, satisfactory to the commission, that the permit holder has financial ability to cover the cost of closure of the permitted facility as required by the commission.

(f) The commission may enter into contracts for services from consultants and other experts for the purposes of assisting in the drafting of rules and regulations pursuant to this section.

(g) Rules and regulations adopted under this act shall apply to any carbon dioxide injection well or underground storage, whether in existence on the effective date of this act or thereafter.

(h) No rule or regulation adopted under the provisions of this section shall create or impose upon the commission, any agent or employee thereof or the state of Kansas any liability for the underground storage of carbon dioxide or the maintenance of any carbon dioxide injection well or underground storage of carbon dioxide except as permitted by the Kansas tort claims act. From and after July 1, 2010, any requirement in any rule and regulation adopted by the commission which conflicts with the prohibition prescribed in this section shall be null and void.

(i) No rule or regulation adopted under the provisions of this section shall be construed to prohibit the commission from the plugging, replugging, repairing or remediation of any carbon dioxide injection well or underground storage in an emergency situation.

55-1638. Same; carbon dioxide injection well and underground storage fund. (a) (1) There is hereby established in the state treasury the carbon dioxide injection well and underground storage fund to administer the provisions of K.S.A. 2010 Supp. 55-1637 through 55-1640, and amendments thereto. Such fund shall be administered by the commission in accordance with the provisions of this section.

(2) The commission shall remit to the state treasurer in accordance with the provisions of K.S.A. 75-4215, and amendments thereto, all moneys received by the commission for the purposes of K.S.A. 2010 Supp. 55-1637 through 55-1640, and amendments thereto. Upon receipt of the remittance the state treasurer shall deposit the entire amount in the state treasury and credit it to the fund. The commission is authorized to receive from any private or governmental source any funds made available for the purposes of K.S.A. 2010 Supp. 55-1637 through 55-1640, and amendments thereto.

(3) All expenditures from the carbon dioxide injection well and underground storage fund shall be made in accordance with appropriation acts and upon warrants of the director of accounts and reports issued pursuant to vouchers approved by the chairperson of the commission or a person designated by the chairperson.

(b) The commission is authorized to use moneys from the carbon dioxide injection well and underground storage fund to pay the cost of:

(1) All activities related to permitting activities, including but not limited to, development and issuance of permits, compliance monitoring, inspections, well closures, underground storage closure, long-term monitoring and enforcement actions;

(2) review and witnessing of test procedures;

(3) review and witnessing of routine workover or repair procedures;

(4) investigation of violations, complaints, pollution and events affecting public health;

(5) design and review of remedial action plans;

(6) contracting for services needed to supplement the commission's staff expertise in facility investigations;

(7) consultation needed concerning remedial action at a permitted facility;

(8) mitigation of adverse environmental impacts;

(9) emergency or long-term remedial activities;

(10) legal costs, including expert witnesses, incurred in administration of the provisions of K.S.A. 2010 Supp. 55-1637 through 55-1640, and amendments thereto; and

(11) costs of program administration.

(c) On or before the 10th of each month, the director of accounts and reports shall transfer from the state general fund to the carbon dioxide injection well and underground storage fund interest earnings based on:

(1) The average daily balance of moneys in the carbon dioxide injection well and underground storage fund for the preceding month; and

(2) the net earnings rate of the pooled money investment portfolio for the preceding months.

55-1639. Same; violations, penalties; commission authority. (a) The commission, upon a finding that a person has violated any provision of K.S.A. 2010 Supp. 55-1637, and amendments thereto, or rules and regulations adopted thereunder, may impose a penalty not to exceed \$10,000 per violation which shall constitute an economic deterrent to the violation for which it is assessed and, in the case of a continuing violation, every day such violation continues shall be deemed a separate violation.

(b) No penalty shall be imposed pursuant to this section except after an opportunity for hearing upon the written order of the commission to the person who committed the violation. The order shall state the violation and the penalty to be imposed.

(c) Whenever the commission or the commission's duly authorized agents find that the escape of carbon dioxide into the atmosphere from injection of carbon dioxide is not being prevented or that the soil or waters of the state are not being protected from pollution resulting from injection of carbon dioxide, the commission or the commission's duly authorized agents shall issue an order prohibiting such injection. Any person aggrieved by such order may request in writing, within 15 days after service of the order, a hearing on the order. Upon receipt of a timely request, a hearing shall be conducted in accordance with the provisions of the Kansas administrative procedure act.

(d) Any action of the commission pursuant to this section is subject to review in accordance with the Kansas judicial review act.

55-1640. Same; commission ingress and egress for investigation and enforcement. (a) In performing investigations or administrative functions relating to prevention of escape of carbon dioxide into the atmosphere from injection of carbon dioxide or prevention of pollution of the soil or waters of the state, the commission or the commission's duly authorized representatives may enter any property or facility which is subject to the provisions of K.S.A. 2010 Supp. 55-1637, and amendments thereto, for the purpose of observing, monitoring, collecting samples, examining records and facilities to determine compliance or noncompliance with state laws and rules and regulations relating to air pollution, water pollution, soil pollution or public health or safety.

(b) The representatives of the commission shall have the right of ingress and egress upon any lands to halt escape of carbon dioxide into the atmosphere from injection of carbon dioxide and to clean up pollution from injection of carbon dioxide over which the commission has jurisdiction pursuant to K.S.A. 2010 Supp. 55-1637, and amendments thereto. Such representatives shall have the power to occupy such land if necessary to investigate and prevent such escape or clean up such pollution or to investigate and plug any such carbon dioxide injection well. Any representative entering upon any land to investigate and prevent such escape or clean up such pollution or to investigate and plug any such carbon dioxide injection well shall not be liable for any damages necessarily resulting therefrom, except damages to growing crops, livestock or improvements on the land. Upon completion of activities on such land, such representative shall restore the premises to the original contour and condition as nearly as practicable.

55-1641. Same; liability limitation. (a) Except as permitted by the Kansas tort claims act, no provision of this act shall establish or create or impose upon the commission, any agent or employee thereof, or the state of Kansas any liability or responsibility to pay any damages resulting from the leak or discharge of carbon dioxide from any carbon dioxide injection well or the underground storage of carbon dioxide.

(b) This section shall be supplemental to and a part of the carbon dioxide reduction act.

COMPRESSED AIR ENERGY STORAGE ACT

66-1272. Compressed air energy storage act. K.S.A. 2010 Supp. 66-1272 through 66-1279, and amendments thereto, shall be known and may be cited as the compressed air energy storage act.

66-1273. Same; definitions. As used in the compressed air energy storage act:

(a) "Commission" means the state corporation commission.

(b) "Department" means the department of health and environment.

66-1274. Same; injection of compressed air into storage wells; permits; requirements; rules and regulations. (a) Within 18 months after the effective date of this act, the commission shall establish rules and regulations establishing requirements, procedures and standards for the safe and secure injection of compressed air into storage wells, which shall include maintenance of underground storage of compressed air. Such rules and regulations shall include, but not be limited to:

(1) Site selection criteria;

(2) design and development criteria;

(3) operation criteria;

(4) casing requirements;

(5) monitoring and measurement requirements;

(6) safety requirements, including public notification;

(7) closure and abandonment requirements, including the financial requirements of subsection

(d); and

(8) long-term monitoring.

(b) The commission may adopt rules and regulations establishing fees for permitting, monitoring and inspecting operators of compressed air energy storage wells and underground storage. Fees collected by the commission under this section shall be remitted by the commission to the state treasurer in accordance with the provisions of K.S.A. 75-4215, and amendments thereto. Upon receipt of each such remittance, the state treasurer shall deposit the entire amount in the state treasury and credit it to the compressed air energy storage fund.

(c) The commission or the commission's duly authorized representative may impose on any holder of a permit issued pursuant to this section such requirements relating to inspecting, monitoring, investigating, recording and reporting as the commission or representative deems necessary to administer the provisions of this section and rules and regulations adopted hereunder.

(d) Any company or operator receiving a permit under the provisions of the compressed air energy storage act shall demonstrate annually to the commission evidence, satisfactory to the commission, that the permit holder has financial ability to cover the cost of closure of the permitted facility as required by the commission.

(e) The commission may enter into contracts for services from consultants and other experts for the purposes of assisting in the drafting of rules and regulations pursuant to this section.

(f) Rules and regulations adopted under the compressed air energy storage act shall apply to any compressed air energy storage well, whether in existence on the effective date of this act or thereafter.

66-1275. Same; rules and regulations for monitoring air emissions from compressed air energy storage wells and facilities. Within 18 months after the effective date of this act, the department shall establish rules and regulations establishing requirements, procedures and standards for the monitoring of air emissions coming from compressed air energy storage wells and storage facilities to ensure the wells and facilities comply with the Kansas air quality act.

66-1276. Same; memorandum of understanding between state corporation commission and department of health and environment concerning administration of act. The commission and the department may enter into a memorandum of understanding concerning implementation of the requirements and responsibilities under the compressed air energy storage act.

66-1277. Same; violations; penalties; hearing; judicial review. (a) The commission, upon a finding that a person has violated any provision of K.S.A. 2010 Supp. 66-1274, and amendments thereto, or rules and regulations adopted thereunder, may impose a penalty not to exceed \$10,000 per violation which shall constitute an economic deterrent to the violation for which it is assessed and, in the case of a continuing violation, every day such violation continues shall be deemed a separate violation.

(b) No penalty shall be imposed pursuant to this section except after an opportunity for hearing upon the written order of the commission to the person who committed the violation. The order shall state the violation and the penalty to be imposed.

(c) Whenever the commission or the commission's duly authorized representative find that the soil or waters of the state are not being protected from pollution resulting from the storage of compressed air, the commission or the commission's duly authorized representative shall issue an order prohibiting such storage. Any person aggrieved by such order may request in writing, within 15 days after service of the order, a hearing on the order. Upon receipt of a timely request, a hearing shall be conducted in accordance with the provisions of the Kansas administrative procedure act.

(d) Any action of the commission pursuant to this section is subject to review in accordance with the act for judicial review and civil enforcement of agency actions.

66-1278. Same; agents of commission; right of ingress and egress; restoration of premises. (a) In performing investigations or administrative functions relating to prevention of pollution of the soil or waters of the state, the commission or the commission's duly authorized representative may enter any property or facility which is subject to the provisions of K.S.A. 2010 Supp. 66-1274, and amendments thereto, for the purpose of observing, monitoring, collecting samples, examining records and facilities to determine compliance or noncompliance with state laws and rules and regulations relating to air pollution, water pollution, soil pollution or public health or safety.

(b) The representatives of the commission shall have the right of ingress and egress upon any lands to clean up pollution from the storage of compressed air over which the commission has jurisdiction pursuant to K.S.A. 2010 Supp. 66-1274, and amendments thereto. Such representatives shall have the power to occupy such land if necessary to investigate and clean up such pollution or to investigate and plug any such compressed air energy storage well. Any representative entering upon any land to investigate and clean up such pollution or to investigate and plug any such compressed air energy storage well shall not be liable for any damages necessarily resulting therefrom, except damages to growing crops, livestock or improvements on the land. Upon completion of activities on such land, such representative shall restore the premises to the original contour and condition as nearly as practicable.

66-1279. Same; compressed air energy storage fund. (a) (1) There is hereby established in the state treasury the compressed air energy storage fund. Such fund shall be administered by the commission in accordance with the provisions of this section for the purpose of administering the provisions of the compressed air energy storage act.

(2) The commission shall remit to the state treasurer in accordance with the provisions of K.S.A. 75-4215, and amendments thereto, all moneys received by the commission for the purposes of the compressed air energy storage act. Upon receipt of the remittance the state treasurer shall deposit the entire amount in the state treasury and credit it to the fund. The commission is authorized to receive from any private or governmental source any funds made available for the purposes of the compressed air energy storage act.

(3) All expenditures from the compressed air energy storage fund shall be made in accordance with appropriation acts and upon warrants of the director of accounts and reports issued pursuant to vouchers approved by the chairperson of the commission or a person designated by the chairperson.

(b) The commission is authorized to use moneys from the compressed air energy storage fund to pay the cost of:

(1) All activities related to permitting activities, including, but not limited to, development and issuance of permits, compliance monitoring, inspections, well closures, underground storage closure, long-term monitoring and enforcement actions;

(2) review and witnessing of test procedures;

(3) review and witnessing of routine workover or repair procedures;

(4) investigation of violations, complaints, pollution and events affecting public health;

(5) design and review of remedial action plans;

(6) contracting for services needed to supplement the commission's staff expertise in facility investigations;

(7) consultation needed concerning remedial action at a permitted facility;

(8) mitigation of adverse environmental impacts;

(9) emergency or long-term remedial activities;

(10) legal costs, including expert witnesses, incurred in administration of the provisions of the compressed air energy storage act; and

(11) costs of program administration.

(c) On or before the 10th of each month, the director of accounts and reports shall transfer from the state general fund to the compressed air energy storage fund interest earnings based on:

(1) The average daily balance of moneys in the compressed air energy storage fund for the preceding month; and

(2) the net earnings rate of the pooled money investment portfolio for the preceding months.

STATE CORPORATION COMMISSION

74-623. Jurisdiction to regulate oil and gas activities with corporation commission; transfer of powers to commission from department of health and environment; contracts, rules and regulations and orders remain in effect. (a) The state corporation commission shall have the exclusive jurisdiction and authority to regulate oil and gas activities. The state corporation commission's jurisdiction shall include: (1) All practices involved in the exploration for and gathering of oil and gas and the drilling, production, lease storage, treatment, abandonment and postabandonment of oil and gas wells; (2) underground porosity storage of natural gas, as defined in K.S.A. 2001 Supp. 55-1,115, and amendments thereto; and (3) prevention and cleanup of pollution of the soils and waters of the state from oil and gas activities described in (1) or (2).

The state corporation commission shall not have jurisdiction over the refining, treating or storing of oil or gas after transporting of such oil or gas, except for the storing of natural gas described in (2).

(b) All jurisdiction and authority of the Kansas department of health and environment relating to the cleanup of pollution of the soils and waters of the state from oil and gas activities described in subsection (a) is hereby transferred to the state corporation commission.

(c) The state corporation commission shall be the successor in every way to the powers, duties and functions of the Kansas department of health and environment relating to the cleanup of pollution of the soils and waters of the state from oil and gas activities described in subsection (a). Every act performed in the exercise of such powers, duties and functions by or under authority of the state corporation commission shall be deemed to have the same force and effect as if performed by the department of health and environment.

(d) Whenever the Kansas department of health and environment, or words of like effect, is referred to or designated by a statute, contract or other document relating to the cleanup of pollution of the soils and waters of the state from oil and gas activities described in subsection (a), such reference shall be deemed to apply to the state corporation commission.

(e) All rules and regulations of the secretary of health and environment which are in existence on July 1, 1995, and relate to the cleanup of pollution of the soils and waters of the state from oil and gas activities described in subsection (a) shall continue to be effective and shall be deemed to be the duly adopted rules and regulations of the state corporation commission until revised, amended, revoked or nullified pursuant to law.

(f) All orders and directives of the Kansas department of health and environment which are in existence on July 1, 1995, and relate to the cleanup of pollution of the soils and waters of the state from oil and gas activities described in subsection (a) shall continue to be effective and shall be deemed to be orders and directives of the state corporation commission until revised, amended, revoked or nullified pursuant to law.