

**RULES
OF THE
OIL AND GAS PROGRAM
DIVISION OF WATER RESOURCES**

**CHAPTER 0400-52-09
WELL PLUGGING AND ABANDONMENT**

TABLE OF CONTENTS

0400-52-09-.01	Plugging Wells	0400-52-09-.04	Time Limit for Plugging Wells
0400-52-09-.02	Inspection	0400-52-09-.05	Surface Reclamation
0400-52-09-.03	Deliverability Test	0400-52-09-.06	Temporary Abandonment

0400-52-09-.01 PLUGGING WELLS.

- (1) All wells which are to be plugged and abandoned may be filled with a mud fluid of sufficient weight to offset the hydrostatic pressure of any formation penetrated. Sufficient cement plugs shall be efficiently placed in number and properly located as to prevent the commingling of oil, gas, salt water, and fresh water from one zone to another, and to isolate potentially minable coal beds and seams and other potentially extractable minerals. All downhole plugs may be "felt for" to insure that they have been properly placed.
- (2) The specific method and procedure for plugging a well shall be as follows:
 - (a) A mechanical plug, or a brush-and-stone plug, and a neet cement plug of not less than 25 feet in length shall be placed between each geologic group or formation.
 - (b) A mechanical plug, or a brush-and-stone plug, and a neet cement plug of not less than 50 feet in length shall be placed below the base of the surface casing. The plug shall be placed so that at least 25 feet of cement is below the base of the surface casing and extends up into the casing 25 feet.
 - (c) A mechanical plug, or a brush-and-stone plug, and a neet cement plug of not less than 25 feet shall be placed at the surface of the well. The surface casing shall be cut off below plow depth at the request of the landowner or when determined appropriate by the Supervisor or his representative.
 - (d) In a well with casing that does not seal off the ground water, a mechanical plug, or a brush-and-stone plug, and a neet cement plug shall be set 100 feet below the deepest known ground water strata. The cement plug shall be adequate in length to reach at least 10 feet into the casing.
 - (e) In an uncased well, a mechanical plug, or a brush-and-stone plug, and a neet cement plug shall be set at least 50 feet below the deepest ground water strata and extend up to the surface or just below plow depth if appropriate.
 - (f) The mechanical plug or the brush-and-stone plug method may be replaced by filling the well from total depth to the surface with cement, provided, however, that such method shall be either prescribed or approved by the Supervisor.
 - (g) If there is fluid in the well, a dump bailer or tubing may be used to place the cement in the well.
 - (h) If drill water or mud is present it may be used as filler between the plugs.

(Rule 0400-52-09-.01, continued)

- (i) If any casing has been installed in the well and has not been cemented to the surface the casing shall be pulled prior to the plugging of the well. If the casing cannot be readily removed the casing shall be shot and then pulled.
- (3) Any other methods not defined above, but approved by the Supervisor, may be used.

Authority: T.C.A §§ 60-1-201 et seq., and 4-5-201 et seq. **Administrative History:** Original rule filed March 20, 2013; effective June 18, 2013.

0400-52-09-.02 INSPECTION.

The Supervisor or his representative shall be given notice of intent to plug a well at least 12 hours prior to conducting such operation. The Supervisor or his representative may inspect the work of plugging and abandonment as it progresses, check the location and quality of plugs, check the amount of casing pulled, and check the demonstration of movement, if any, of oil, gas, or water. The operator shall submit a Plug and Abandon Report (Form CN-0217) covering the work performed to the Supervisor within 30 days after plugging and abandoning the well. This work may be observed by the Supervisor or his representative and that observance verified by his signature on the Plug and Abandon Report (Form CN-0217).

Authority: T.C.A §§ 60-1-201 et seq., and 4-5-201 et seq. **Administrative History:** Original rule filed March 20, 2013; effective June 18, 2013.

0400-52-09-.03 DELIVERABILITY TEST.

Before any well shall be classified as a shut-in gas well, the operator shall furnish the results of a deliverability test. Such deliverability test shall be performed after the well has achieved a stabilized flow rate. If stabilization cannot be achieved, the maximum test period required is 24 hours. The results of the deliverability test shall be submitted on Gas Well Deliverability Tests (Form R-DT-1), and in the initial Production section of the Well History, Work Summary, and Completion or Recompletion Report (Form CN-0221), and shall be complete as to stabilized flow rate, hours tested, choke size, and pressure in order to demonstrate that a stabilized flow rate was achieved. A copy of the chart on which the deliverability is based shall also be submitted. All deliverability tests shall be conducted once every 3 years. The well shall remain shut-in in accordance with the requirements of Rule 0400-52-09-.06. In addition, a gas well may be considered shut-in if the well has been cemented with 4½ inch casing and submitted with a report signed by a petroleum engineer or geologist.

Authority: T.C.A §§ 60-1-201 et seq., and 4-5-201 et seq. **Administrative History:** Original rule filed March 20, 2013; effective June 18, 2013.

0400-52-09-.04 TIME LIMIT FOR PLUGGING WELLS.

Except as provided in Rule 0400-52-09-.06, all wells drilled for oil and gas and found to be dry holes shall be plugged within 1 year from cessation of drilling. All wells that are non-producing or abandoned shall be plugged within 1 year from the date they cease producing 12 barrels of oil per year or 25 mcf of gas per month or are abandoned. Upon written request to the Supervisor showing good cause, an extension of up to 90 days additional may be granted. No operator or owner shall permit any well drilled for oil, gas, salt water disposal or any other purpose in connection with the production of oil and gas, to remain unplugged after such well is no longer used for the purpose for which it was drilled or converted. Nothing herein shall prevent utilizing a well for the purpose of introducing air, gas, fresh water or other liquid pressure into or upon the producing strata for the purpose of recovering oil and gas. All wells which are neither producing nor plugged shall comply with shut-in standards of oil and gas wells and shall be cased and capped in such a manner so as to protect all potential oil and/or gas zones, and fresh water in accordance with the requirements of Rule 0400-52-09-.06.

(Rule 0400-52-09-.04, continued)

Authority: T.C.A §§ 60-1-201 et seq., and 4-5-201 et seq. **Administrative History:** Original rule filed March 20, 2013; effective June 18, 2013.

0400-52-09-.05 SURFACE RECLAMATION.

- (1) Reclamation of well sites, oil or gas pipeline right-of-way, storage facility sites, and access roads.
 - (a) Except for active work areas, the operator shall drain and fill all surface pits that are not needed for production purposes, and shall grade and stabilize the well location and location road within 30 days of the initial disturbance, in order to minimize surface run-off and prevent excessive erosion and sedimentation. All drilling supplies and equipment, synthetic liners, trash, discarded materials and other refuse not contained and covered in the reclaimed pits shall be removed from the site. Temporary vegetative cover shall then be established on all graded areas.
 - (b) Within 90 days of the plugging and abandonment of any well, the operator shall remove all production and storage structure, supplies and equipment, any oil, salt water and debris, fill any remaining excavations, and grade any remaining disturbed areas, including access roads. Permanent vegetative cover shall then be established on all disturbed areas, excluding approved permanent, non-erosive facilities, and access roads which are to be turned over to the landowner. Any access roads necessary for the operator to gain access to the well site in order to determine the adequacy of the vegetative cover or to perform additional re-vegetation may continue to be used by the operator until all of the Board's reclamation requirements have been met.
 - (c) Upon written request to the Supervisor showing good cause, an extension of up to 90 days additional may be granted to an operator to complete grading and/or vegetation of a well site or access roads.
- (2) Re-vegetation - General Requirements.
 - (a) The operator shall establish, in accordance with paragraph (1) of this rule, on all surface disturbed areas except water areas and surface areas of access roads approved by the Supervisor as permanent roads, a vegetative cover that is in accordance with the approved permit and reclamation plan and that is as follows:
 1. Diverse, effective, and permanent;
 2. Comprised of species approved by the Supervisor that shall not impede natural vegetative cover; and
 3. Capable of long term stabilization of the soil surface from erosion.
 - (b) The reclamation plant species shall have the following:
 1. The same seasonal characteristics of growth as the original vegetation;
 2. Be capable of self-regeneration;
 3. Be compatible with existing plant and animal species existing in the areas; and
 4. Meet the requirements of applicable State and Federal seed, poisonous and noxious plant, and introduced species laws and/or regulations.

(Rule 0400-52-09-.05, continued)

- (c) Establishment of permanent vegetative cover shall conform with the standards set forth in the most recent version of the Tennessee Erosion and Sediment Control Handbook.
 - (d) The Supervisor may grant exceptions to the requirements of parts (b)1 and 2 of this paragraph when the species are necessary to establish a quick-growing, temporary, stabilizing cover, and measures to establish permanent vegetation are included in the approved reclamation plan.
- (3) Re-vegetation - Topsoiling, Mulching and Soil Amendments.
- (a) Prior to the establishment of a permanent vegetative cover on disturbed areas where excavation activities have occurred, the operator shall replace the excavated topsoil or provide an approved topsoil substitute material suitable for supporting the long range re-vegetation goals.
 - (b) Suitable mulch and/or other soil stabilizing practice shall be used on all areas that have been regraded and covered by topsoil or topsoil substitutes unless the Supervisor waives this requirement based on a determination that seasonal, soil, or slope factors result in a condition whereby mulch or other stabilizing practices are not necessary to control erosion and to promptly establish an effective vegetation cover.
 - (c) Nutrients and soil amendments shall be applied to the redistributed growth medium prior to re-vegetation when necessary to establish and maintain the vegetative cover.
- (4) Diverse Vegetation Cover - Standards for Success.
- (a) All previously disturbed and reclaimed areas shall be inspected by the Supervisor or his representative prior to final reclamation bond release in order to determine the level of success of permanent re-vegetation.
 - (b) Re-vegetation success shall not be determined until after at least two successfully completed spring or summer growing seasons have occurred.
 - (c) Standards for success shall be based on a ground cover of at least 90% consisting of herbaceous and/or woody species with a minimum of 80% being of perennial varieties.

Authority: T.C.A §§ 60-1-201 et seq., and 4-5-201 et seq. **Administrative History:** Original rule filed March 20, 2013; effective June 18, 2013.

0400-52-09-.06 TEMPORARY ABANDONMENT.

- (1) An operator has the opportunity to place any non-producing well into Temporary Abandonment for 5 years if all of the following requirements are fulfilled:
- (a) The operator shall submit a Temporary Well Abandonment Information form (CN-1368) for each well to be placed in Temporary Abandonment. This form can be obtained from Water Resources/Oil and Gas Program.
 - (b) The operator shall submit a \$100 fee for each well per year to be placed in Temporary Abandonment.
 - (c) Each well shall be capped in such a manner as to have no open casing exposed to the environment (i.e., swedge with locked ball-valve or any other viable protection). The operator shall conduct a well integrity test prior to placing a well into Temporary Abandonment, if no such test has been conducted within the prior 15 years and there has been no oil or gas production from the well in that same time period. Integrity

(Rule 0400-52-09-.06, continued)

testing shall at a minimum consist of either a Mechanical Integrity Test (MIT) on the casing, or a pressure test on the casing using tubing and a packer to a minimum of 500 psi. Alternative well integrity confirmation methods, including annual pressure monitoring at the well head, may be accepted at the discretion of the Supervisor.

- (d) Any well shown on the Annual Well Report (Form CN-1272) that indicates no production shall be placed in Temporary Abandonment status or plugged.
 - (e) All fees received for Temporary Abandonment shall be placed in an account that shall be set aside to be used only for funding the plugging of abandoned oil and gas wells.
- (2) At the end of the five year Temporary Abandonment period, each well submitted by the operator shall be reviewed by the Department. A determination shall be made on the validity of keeping the well(s) open. This determination for validity shall be based on whether the operator has a deliverability test for each gas well or if the well is producing oil. If the staff finds there is no valid reason to keep the wells open, the operator shall then have two years to plug the non-producing well(s).

Authority: T.C.A §§ 60-1-201 et seq., and 4-5-201 et seq. **Administrative History:** Original rule filed March 20, 2013; effective June 18, 2013.