TITLE 19 NATURAL RESOURCES AND WILDLIFE
CHAPTER 27 UNDERGROUND WATER
PART 4 WELL DRILLER LICENSING; CONSTRUCTION, REPAIR AND PLUGGING OF WELLS

19.27.4.1 ISSUING AGENCY: Office of the State Engineer.
[19.27.4.1 NMAC - N, 8-31-2005]

19.27.4.2 SCOPE: The rules for well driller licensing, drill rig supervisor registration, and well drilling within the state of New Mexico. These rules also apply to mine drill holes that encounter water. These rules do not apply to oil wells, gas wells, or cathodic protection wells.
[19.27.4.2 NMAC - N, 8-31-2005]

19.27.4.3 STATUTORY AUTHORITY: Section 72-12-1 NMSA provides that the water of underground streams, channels, artesian basins, reservoirs, or lakes having reasonably ascertainable boundaries are declared to be public waters which belong to the public and are subject to appropriation for beneficial use. Section 72-2-8 NMSA gives the state engineer authority to adopt regulations and codes to implement and enforce any provision of any law administered by him. Section 72-12-12 NMSA states that it shall be unlawful for any person, firm, or corporation to drill or to begin the drilling of a well for water from an underground source without a valid, existing license for the drilling of such wells issued by the state engineer of New Mexico. Section 72-12-13 NMSA states any person desiring to engage in the drilling of one or more wells for underground water within the boundaries of any underground source shall file an application with the state engineer for a driller license. Sections 72-12-14 through 72-12-17 NMSA further detail requirements for well drillers in New Mexico. Sections 72-13-1 through 72-13-12 NMSA detail the requirements for the drilling of artesian wells.
[19.27.4.3 NMAC - N, 8-31-2005]

19.27.4.4 DURATION: Permanent.
[19.27.4.4 NMAC - N, 8-31-2005]

19.27.4.5 EFFECTIVE DATE: August 31, 2005, unless a later date is cited at the end of a section.
[19.27.4.5 NMAC - N, 8-31-2005]

19.27.4.6 OBJECTIVE: To update written rules for well driller licensing, drill rig supervisor registration, and well drilling within the state of New Mexico.
[19.27.4.6 NMAC - N, 8-31-2005]

19.27.4.7 DEFINITIONS: Unless defined below or in a specific section of these rules, all other words used herein shall be given their customary and accepted meaning. The use of a masculine pronoun to refer to individuals is for grammatical convenience and is intended to be gender neutral.

A. Artesian well: A well that penetrates a saturated hydrogeologic unit and allows underground water to rise or move appreciably into another geologic unit, or allows underground water to rise to freely flow at the land surface. For regulatory purposes, the determination of whether a well or bore hole is artesian shall be made by the state engineer, taking into consideration the potential for loss of water at the land surface or into another geologic unit.

B. Drill rig supervisor: A person registered by the office of the state engineer who may provide onsite supervision of well drilling activities. A drill rig supervisor shall only provide onsite supervision when he is operating under the direction of a licensed well driller.

C. Drilling: see definition for well drilling.

D. Mine drill hole: A deep narrow hole drilled to explore for or delineate deposits or accumulations of ore, mineral, or rock resources.

E. Well: A bore hole, cased or screened bore hole, or other hydraulic structure that is drilled, driven, or dug with the intent of penetrating a saturated geologic unit. The intended use may be for developing a source of water supply, for monitoring water levels, for monitoring water quality, for exploratory purposes, for water remediation, for injection of water, for geothermal purposes, or for other purposes.

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F. Well drilling, well drilling activities: The activities associated with the drilling of a well, including, but not limited to, the construction, drilling, completion, repair, deepening, cleaning, plugging, and abandonment of a well.
[19.27.4.7 NMAC - N, 8-31-2005]

19.27.4.8 LICENSE REQUIRED: Any person who engages in the business of well drilling within the state of New Mexico shall obtain a well driller license issued by the state engineer (except, under New Mexico state law, a well driller license is not required for driven wells that do not require the use of a drill rig and which have an outside casing diameter of two and three-eighths (2⅜) inches or less). A person found engaged in the business of well drilling within the state of New Mexico without a license can be prosecuted in accordance with New Mexico Statutes. A well driller license is not required for work on pumping equipment.
[19.27.4.8 NMAC - Rp, SE 66-1, Article 4-1, 8-31-2005]

19.27.4.9 EXISTING WELL DRILLER LICENSE RECOGNIZED: A person holding a valid and current well driller license in the state of New Mexico on August 31, 2005 shall have his license recognized. Any amendment or change to a license shall be made pursuant to the requirements of 19.27.4.16 NMAC and 19.27.4.17 NMAC. A licensed well driller may request that his license be renewed by filing an application with the state engineer prior to the expiration of the current license (see 19.27.4.20 NMAC). A well driller that allows his license to expire and does not reinstate the license within the grace period provided for under 19.27.5.19 NMAC shall apply for a new license in accordance with the requirements of 19.27.4.12 NMAC.
[19.27.4.9 NMAC - N, 8-31-2005]

19.27.4.10 - 19.27.4.11 RESERVED

19.27.4.12 APPLICATION FOR A NEW LICENSE: An applicant for a well driller license shall meet the following requirements to be considered for licensure.

A. Qualified applicant: A qualified applicant for a well driller license shall:

(1) have passed the national ground water association general exam; and

(2) have passed the appropriate national ground water association methodology exam(s) for each type of drilling method for which the applicant has requested to be licensed (the state engineer shall make the final determination of the test(s) necessary should a question arise regarding applicability of available test(s) to applied method(s) of well construction); and

(3) have at least two (2) years of relevant, on-site experience working under the supervision of a licensed well driller; and

(4) effective July 1, 2006, have passed the New Mexico general drilling exam.

B. Application - form and content: An application for a well driller license shall be completed on a form prescribed by the state engineer. The application shall include the name, address, and the phone number of the applicant, the state of residency of the applicant, three letters of reference (one of which shall be from a well driller licensed in New Mexico, or a state's licensing authority, attesting to the applicant's well drilling ability), documentation of prior well drilling experience, proof of required bonds, proof of required insurances, documentation that applicant has passed the required exams listed in Paragraphs (1), (2) and (4) of Subsection A of 19.27.4.12 NMAC, the name of each registered drill rig supervisor that the applicant plans to supervise, if known, the type of well drilling methods the applicant is applying to be licensed for, and other information deemed necessary by the state engineer. The application must also contain a description of each active drill rig owned or controlled by the applicant. The description of the drill rig shall be on a form prescribed by the state engineer and shall include a side-view photograph of the rig.

C. Filing fee: A fee of fifty dollars ($50) is required to accompany an application for a new license.

D. Bond requirements: Each applicant for a well driller license shall file a bond in the penal sum of five thousand dollars ($5,000) on a form acceptable to the state engineer. The surety backing the bond shall be acceptable to the state engineer. A well driller license shall be valid only so long as the bond remains in effect. The bond shall:

(1) be conditioned upon proper compliance with state law and the rules and regulations of the state engineer; and

(2) be effective for the period of time for which the license is issued; and

(3) stipulate the obligee as the "office of the state engineer"; and

(4) not be represented to the public as a performance bond.

E. Insurance requirements: Each applicant for a well driller license shall file with the state engineer proof of general liability insurance in the minimum amount of three hundred thousand dollars ($300,000) and proof of appropriate insurance under the Workers' Compensation Act.
[19.27.4.12 NMAC Rp SE 66-1, Article 4-2, 8-31-2005]

19.27.4.13 NATIONAL GROUND WATER ASSOCIATION EXAMS: The national ground water association exams shall consist of the general drilling exam and the appropriate drilling methodology exam(s) developed and administered by the national ground water association. If an applicant has passed the national ground water association general exam and appropriate methodology exams in another state, the applicant shall provide written proof to the state engineer. The fee to take the national ground water association exams will be established by the national ground water association.
[19.27.4.13 NMAC - N, 8-31-2005]

19.27.4.14 NEW MEXICO GENERAL DRILLING EXAM: This section has an effective date of July 1, 2006. The New Mexico general drilling exam will be offered at least four (4) times a year by the state engineer or his authorized representative.

A. Exam fee: The fee to take the New Mexico general drilling exam will be based on the approximate cost of administering the test.

B. Test - content: The New Mexico general drilling exam may include questions on the following subjects:

(1) New Mexico water law as it pertains to well driller licensing, well drilling and construction, and the administration of underground water;

(2) the state engineer's rules and regulations pertaining well driller licensing, well drilling and construction, and the administration of underground water;

(3) New Mexico environment department's rules, regulations, and guidelines pertaining to set back requirements, well disinfection, sampling of underground water, and water analysis;

(4) the proper methods and techniques for well drilling;

(5) geologic formations and proper terminology used in describing underground material types;

(6) basic groundwater geology and the occurrence and movement of underground water;

(7) legal description of well location, latitude and longitude, and the New Mexico coordinate system;

(8) global positioning system terminology and receiver operation;

(9) other topics and subjects related to well driller licensing, well construction, and well drilling within the state of New Mexico.

C. Passing the exam: The applicant shall obtain a minimum score of seventy percent (70%) to pass the New Mexico general drilling exam.

D. Re-examination: An applicant who fails to obtain the minimum passing score on the exam may retake the exam.

(1) The fee to retake the New Mexico general drilling exam will be based on the approximate cost of administering the test.

(2) Any applicant found cheating on the exam, as determined by the tester or testing agency, will not be permitted to reapply to take the exam for a period of one (1) year from the date of the transgression.
[19.27.4.14 NMAC - N, 7-1-2006]

19.27.4.15 APPLICATION REVIEW AND LICENSING REQUIREMENTS: If the state engineer finds that an applicant has fulfilled the requirements for licensure as set forth in 19.27.4.12 NMAC, the state engineer shall issue a well driller license to the applicant. The license shall set forth the conditions under which the well driller shall operate his well drilling activities within the state of New Mexico. The license shall also state which drilling methods the well driller may engage in.

A. License duration: A license issued by the state engineer will be valid for a period of two (2) years.

B. Driller identification card: The state engineer will issue a well driller identification card to each licensed well driller. When drilling within the state of New Mexico, a well driller shall have his identification card available for inspection upon request.

C. Drill rig marking: The name and license number of the well driller shall be clearly displayed on each drill rig under his control.

D. Oversight of registered drill rig supervisor: A licensed well driller may allow a registered drill rig supervisor to provide onsite supervision of well drilling activities. The licensed well driller is responsible for the actions of each drill rig supervisor that he directs to provide such onsite supervision of well drilling activities.
[19.27.4.15 NMAC - Rp, SE 66-1, Articles 4-4 and 4-5, 8-31-2005]

19.27.4.16 CHANGES TO LICENSE: A licensed well driller shall notify the state engineer in writing within 10 days of any change to his current license, including:

A. change in address or any other contact information; or
B. change in drill rig supervisor; or
C. severing ownership or control of an active drill rig; or
D. acquiring ownership or control of an active drill rig (the description of the drill rig shall be on a form prescribed by the state engineer and shall include a side-view photograph of the rig).

[19.27.4.16 NMAC - Rp, SE 66-1, Article 4-9, 8-31-2005]

19.27.4.17 REQUEST TO BE LICENSED IN ADDITIONAL DRILLING METHODOLOGY: A licensed well driller shall apply in accordance with the requirements of 19.27.4.12 NMAC to be licensed in an additional drilling methodology.
[19.27.4.17 NMAC - N, 8-31-2005]

19.27.4.18 RESERVED

19.27.4.19 LICENSE EXPIRATION: A well driller license shall expire on the date set out on the license. An application to renew a license shall be filed in accordance with 19.27.4.20 NMAC at least ten (10) days prior to the expiration date. If an application to renew a license is not filed with the state engineer prior to the expiration of the current license, the license shall automatically expire. The state engineer will allow a forty-five (45) day grace period after the expiration of a well driller license during which time a well driller may file an application to renew his well driller license and request to have the expired license reinstated. If an application to renew a well driller license is not filed within this time period, the license shall be considered expired without option for reinstatement. A well driller that allows his license to expire and does not reinstate the license within the forty-five (45) day grace period must apply for a new license in accordance with the requirements of 19.27.4.12 NMAC.
[19.27.4.19 NMAC - N, 8-31-2005]

19.27.4.20 LICENSE RENEWAL: A licensed driller may request that his license be renewed by filing an application with the state engineer prior to the expiration of his current license. The application for renewal of a well driller license shall be completed on a form prescribed by the state engineer.

A. Form - content: The application for renewal of a well driller license shall include the name, address, phone number, and license number of the well driller, the state of residency of the well driller, proof of required bonds, proof of required insurances, a list of registered drill rig supervisors that the well driller supervises, evidence of meeting the continuing education requirements, and other information deemed necessary by the state engineer.

B. Filing fee: A fee of fifty dollars ($50) shall accompany the application.

C. Continuing education requirements: During each two (2) year licensing period, a licensed well driller shall complete a minimum of eight (8) continuing education hours approved by the state engineer. The continuing education hours shall relate to well drilling. At least two (2) hours of the continuing education shall be specific to regulatory requirements regarding well drilling in the state of New Mexico.
[19.27.4.20 NMAC - Rp, SE 66-1, Article 4-6, 8-31-2005]

19.27.4.21 REPRIMANDS, SUSPENSION OR REVOCATION OF WELL DRILLER LICENSE: The state engineer may issue a written reprimand, a compliance order issued pursuant to Section 72-2-18 NMSA, or, after notice and hearing held pursuant to 19.25.2 NMAC and 19.25.4 NMAC, suspend or revoke a well driller license if it is found that a well driller:

A. made a material misstatement of facts in his application for license; or
B. failed to submit or submitted an incomplete well record or well log; or
C. made a material misstatement of facts in a well record or well log; or
D. drilled a well in any declared underground water basin without a state engineer permit; or
E. violated the conditions of the state engineer permit under which the well was being drilled; or

F. violated the conditions of his well driller license; or

G. the licensed well driller or his registered drill rig supervisor was not present at the drilling site during well drilling activities; or

H. violated the rules and regulations of the state engineer; or

I. failed to assure the protection of the public safety, health, welfare, and property in the well construction process.

[19.27.4.21 NMAC - Rp, SE 66-1, Article 4-10, 8-31-2005]

19.27.4.22 - 19.27.4.24 RESERVED

19.27.4.25 APPLICATION FOR REGISTRATION AS A DRILL RIG SUPERVISOR: A person registered by the office of the state engineer as a drill rig supervisor may provide onsite supervision of well drilling activities. A drill rig supervisor shall work under the direction of a licensed well driller. The licensed well driller is responsible for the actions of each drill rig supervisor that he directs to provide onsite supervision of well drilling activities. An applicant for registration as a drill rig supervisor shall meet the following requirements.

A. Qualified applicant: A qualified applicant for a registration as a drill rig supervisor shall:

(1) have at least two (2) years of relevant, on-site experience working under the supervision of a licensed well driller; and

(2) be at least eighteen (18) years of age; and

(3) effective July 1, 2006, have passed the New Mexico general drilling exam.

B. Application - form and content: An application for registration as a drill rig supervisor shall be completed on a form prescribed by the state engineer. The application shall include the name, address, and phone number of the applicant, a letter of reference from a well driller licensed in New Mexico, or a state's licensing authority, attesting to applicant's well drilling ability, the license number and contact information of the well driller the applicant plans to work for, if known, documentation of prior well drilling experience, documentation that the applicant has passed the New Mexico general drilling exam, and other information deemed necessary by the state engineer.

C. Filing fee: There is no filing fee for the application.

[19.27.4.25 NMAC - N, 8-31-2005]

19.27.4.26 APPLICATION REVIEW AND REGISTRATION REQUIREMENTS FOR DRILL RIG SUPERVISOR: If the state engineer finds that the applicant has fulfilled the requirements for registration as set forth in 19.27.4.25 NMAC, the state engineer shall register the applicant as a drill rig supervisor. The registration shall set forth the conditions under which the drill rig supervisor may provide onsite supervision of well drilling activities within the state of New Mexico.

A. Registration duration: A registration issued by the state engineer will be valid for a period of two (2) years.

B. Identification card: The state engineer will issue a drill rig supervisor identification card with the registration. Each drill rig supervisor, when providing onsite supervision of well drilling activities within the state of New Mexico shall have his identification card available for inspection upon request.

[19.27.4.26 NMAC - N, 8-31-2005]

19.27.4.27 RENEWAL OF DRILL RIG SUPERVISOR REGISTRATION: A registered drill rig supervisor may request that his registration be renewed by filing an application with the state engineer prior to the expiration of his current registration.

A. Form - content: The application shall be on a form prescribed by the state engineer and shall include the name, address, phone number, and registration number of the drill rig supervisor, the license number and contact information of the well driller the drill rig supervisor is currently working under, evidence of meeting the continuing education requirements, and other information deemed necessary by the state engineer.

B. Filing fee: There is no filing fee for the application.

C. Continuing education requirements: During each two (2) year registration period, a registered drill rig supervisor shall complete a minimum of eight (8) continuing education hours approved by the state engineer. The continuing education hours shall relate to well drilling. At least two (2) hours of the continuing education shall be specific to regulatory requirements regarding well drilling in the state of New Mexico.

D. New Mexico general drilling exam: Persons registered as drill rig supervisor in the state of New Mexico on or before July 1, 2006 shall be required to pass the New Mexico general drilling exam on or before August 31, 2010.
[19.27.4.27 NMAC - N, 8-31-2005]

19.27.4.28 RESERVED

19.27.4.29 WELL DRILLING - GENERAL REQUIREMENTS: All wells shall be constructed to prevent contamination, to prevent inter-aquifer exchange of water, to prevent flood waters from contaminating the aquifer, and to prevent infiltration of surface water. A licensed well driller shall ensure that an appropriate well permit or emergency authorization has been granted by the state engineer prior to the well drilling. A licensed well driller shall ensure that the well drilling activities are made in accordance with 19.27.4.30 NMAC, 19.27.4.31 NMAC, and the following requirements:

A. On-site supervision of well drilling: A licensed well driller or registered drill rig supervisor shall be present at the drilling site during well drilling.

B. Materials: Materials used in well drilling shall conform to industry standards acceptable to the state engineer. Acceptable standards include, but are not limited to, standards developed by the American water works association (AWWA), the American standard for testing materials (ASTM), the American petroleum institute (API), and the national sanitation foundation (NSF). The state engineer shall make the final determination of applicability of standards if any of the acceptable standards are different from one another. Materials used in well construction shall be in new or good condition. No materials shall be used that may cause water contamination. Only potable water shall be placed in a well during well drilling.

C. Cleaning of drilling equipment: All down-hole equipment shall be maintained in a clean and sanitary condition to prevent contamination and to protect the public health. To reduce the potential of contaminating a well, equipment shall be disinfected prior to well drilling with a chlorine solution of household chlorine bleach diluted at one part bleach to nine parts water. Adequate contact time shall be allowed for the disinfectant to sanitize the equipment before rinsing (laboratory testing will not be required).

D. Well setbacks: All wells shall be set back a minimum of fifty (50) feet from an existing well of other ownership, unless a variance has been granted by the state engineer. All wells shall be set back from potential sources of contamination in accordance with New Mexico environment department regulations and other applicable ordinances or regulations.

E. Casing height: The top of all well casings shall extend a minimum of eighteen (18) inches above land surface. All vents installed in the well casing shall be protected against the entrance of foreign material by installation of down-turned and screened "U" bends. All other openings in casings shall be sealed to prevent entrance of foreign material and flood waters.

F. Subsurface vault: The completion of a well within a subsurface vault is not recommended due to difficulty in performing well repairs and cleaning. If a well is completed within a subsurface vault, the casing shall extend a minimum of eighteen (18) inches above the floor of the vault.

G. Surface pad: A concrete pad is recommended on all wells. It is recommended that:

(1) the surface area of the concrete pad be a minimum of four (4) square feet; and

(2) the concrete pad be centered around the well; and

(3) the pad be at least four (4) inches in thickness and slope away from the well; and

(4) when surface casing is used, the surface pad should seal the top of the annular space between the production casing and the surface casing.

H. Access for water level monitoring: Every well shall be constructed with a wellhead opening of at least one half (½) inch diameter to allow the water level to be measured. A water-tight removable cap or plug shall be securely placed in the opening. An artesian well that flows at land surface upon completion of the well shall be equipped with a valve to which a pressure gauge may be attached.

I. Requirement to cover or cap wells: During well drilling, a well shall be securely covered or capped unless a licensed well driller or registered drill rig supervisor is on-site attending to the well. A permanent well cap or cover shall be securely affixed to the well casing upon completion. All permanent caps shall have a well access opening in accordance with Subsection H of 19.27.4.29 NMAC.

J. Well identification tag: The state engineer may require that a well be tagged with a well identification tag. If a well tag is required, the well driller shall affix the tag in plain view. The state engineer will provide a well tag when a permit is issued. Replacement well tags will be issued upon request. The permit holder is

responsible for maintaining the well identification tag. A missing, damaged, or illegible well identification tag shall be replaced with a duplicate tag.

K. Well record: The well driller shall keep a record of each well drilling activity as the work progresses.

(1) Time for filing: The well driller shall file a complete well record with the state engineer and the permit holder no later than twenty (20) days after completion of the well drilling.

(2) Form - content: The well record shall be on a form prescribed by the state engineer and shall include the name and address of the permittee, the well driller's name and license number, the state engineer file number, the name of each registered drill rig supervisor that supervised well drilling activities, the location of the well (reported in latitude and longitude using a global positioning system (gps) receiver capable of five (5) meters accuracy), the date when drilling or other work began, the date when drilling or other work concluded, the depth of the well, the depth to water first encountered, the depth to water upon completion of the well (measured by a method approved by the state engineer), the estimated well yield, the method used to estimate well yield, the size and type of casing, the location of perforations, the location of the sanitary seal, and other information deemed necessary by the state engineer. The well record shall include a completed well log. The well log shall include detailed information on the depth and thickness of all strata penetrated, including whether each stratum was water bearing.

L. Geologic formation samples: When requested by the state engineer, the well driller shall furnish lithologic samples ("drill cuttings") of the geologic units penetrated during drilling operations. The method of sampling, interval of sampling, and the quantities required will be specified by the state engineer. Lithologic samples shall be placed in sample bags supplied by the state engineer.

[19.27.4.29 NMAC - Rp, SE 66-1, Articles 4-11, 4-12, and 4-13, 8-31-2005]

19.27.4.30 WELL DRILLING - NON-ARTESIAN WELL REQUIREMENTS: A licensed well driller shall ensure that the well drilling activities associated with the drilling of non-artesian wells are made in accordance with 19.27.4.29 NMAC and the following requirements:

A. Annular seal: All wells shall be constructed to prevent contaminants from entering the hole from the land surface by sealing the annular space around the outermost casing. When necessary, annular seals will be required to prevent inter-aquifer exchange of water, to prevent the loss of hydraulic head between geologic zones, and to prevent the flow of contaminated or low quality water. Sealing operations shall be made with cement grout or bentonite-based sealing material acceptable to the state engineer. Casings shall be centered in the bore hole so grout or sealing materials may be placed evenly around the casing.

(1) Annular space: The diameter of the hole in which the annular seal is to be placed shall be at least four (4) inches greater than the outside diameter of the outermost casing. The diameter of the hole in which the annular seal is to be placed may be reduced to three (3) inches greater than the outside diameter of the outermost casing if pressure grouting from the bottom up is used for grout placement and the well casing is centralized in the bore hole. If surface casing is used, the inside diameter of the surface casing shall be at least three (3) inches greater than the outside diameter of the production casing.

(2) Annular seal completed to land surface: Annular seals shall extend from land surface to at least twenty (20) feet below land surface. If a well is completed less than twenty (20) feet below land surface, the seal shall be placed from land surface to the bottom of the blank casing used. The annular seal shall extend to land surface unless a pitless adapter is installed. For wells completed with a pitless adapter, the top of the seal shall extend to one (1) foot below the pitless adapter connection. All sealing materials placed deeper than twenty (20) feet below land surface shall be placed by tremie pipe or by pressure-grouting through the well casing and up the annulus.

(3) Annular seals to prevent inter-aquifer exchange of water or loss of hydraulic head between geologic zones: Sufficient annular seal shall be placed to prevent inter-aquifer exchange of water and to prevent loss of hydraulic head between geologic zones. Sufficient annular seal shall be placed to prevent loss of hydraulic head through the well annulus, through perforated or screened casing, or through an open bore interval.

(4) Annular seals to prevent the contamination of potable water: Wells which encounter non-potable, contaminated, or polluted water at any depth shall have the well annulus sealed and the well properly screened to prevent the commingling of the undesirable water with any potable or uncontaminated water. The use of salt-tolerant sealing materials may be required by the state engineer in wells that encounter highly mineralized water.

(5) Annular seal requirements for community water supply wells: Community water supply wells shall also be completed with annular seals in accordance with New Mexico environment department regulations and other applicable ordinances or regulations.

B. Well casing: The well casing shall have sufficient wall thickness to withstand formation and hydrostatic pressures placed on the casing during installation, well development, and use.

C. Well plugging: A non-artesian well that is abandoned or not properly constructed shall be immediately plugged. A plan for plugging the well shall be filed with - and approved by - the state engineer prior to plugging. The state engineer may require that the plugging process be witnessed by an authorized representative.

(1) Methods and materials: To plug a well, the entire well shall be filled from the bottom upwards to land surface using a tremie pipe. The well shall be plugged with neat cement slurry, bentonite based plugging material, or other sealing material approved by the state engineer for use in the plugging of non-artesian wells. Wells that do not encounter a water bearing stratum shall be immediately plugged by filling the well with drill cuttings or clean native fill to within ten (10) feet of land surface and by plugging the remaining ten (10) feet of the well to land surface with a plug of neat cement slurry, bentonite based plugging material, or other sealing material approved by the state engineer.

(2) Contamination indicated: Wells encountering contaminated water or soil may require coordination between the office of the state engineer and the New Mexico environment department (or other authorized agency or department) prior to the plugging of the well. Specialty plugging materials and plugging methods may be required.

(3) Plugging record: A licensed well driller shall keep a record of each well plugged as the work progresses. The well driller shall file a complete plugging record with the state engineer and the permit holder no later than twenty (20) days after completion of the plugging. The plugging record shall be on a form prescribed by the state engineer and shall include the name and address of the well owner, the well driller's name and license number, the name of each drill rig supervisor that supervised the well plugging, the state engineer file number for the well, the location of the well (reported in latitude and longitude using a global positioning system (gps) receiver capable of five (5) meters accuracy), the date when plugging began, the date when plugging concluded, the plugging material(s) used, the depth of the well, the size and type of casing, the location of perforations, the location of the sanitary seal, and other information deemed necessary by the state engineer. The plugging record shall include a completed well log. The well log shall include detailed information on the depth and thickness of all strata plugged, including whether each stratum was water bearing.

D. Repair requirements: A well driller license is not required to install or repair pumping equipment.

[19.27.4.30 NMAC - Rp, SE 66-1, Article 4-14, 8-31-2005]

19.27.4.31 WELL DRILLING - ARTESIAN WELL REQUIREMENTS: No artesian well shall be constructed that allows ground water to flow uncontrolled to the land surface or move appreciably between geologic units. For regulatory purposes, the determination of whether a well is artesian shall be made by the state engineer. A licensed well driller shall ensure that well drilling activities associated with the drilling of artesian wells are made in accordance with 19.27.4.29 NMAC and the following requirements:

A. Plan of operations: The permittee or owner of the land upon which the well drilling is planned shall provide a description of the proposed work on a form prescribed by the state engineer. The plan of operations shall list the materials to be used and include the cementing and testing procedures. The plan of operations shall be completed by a licensed well driller. A plan of operations must be approved by the state engineer before the drilling of any artesian well. Drilling of an artesian well shall be made in accordance with a plan of operations approved by the state engineer.

B. Construction inspection: The casing, cementing, plugging, and testing of an artesian well shall be witnessed by an authorized representative of the state engineer.

C. Artesian wells - no prior knowledge of artesian stratum: In the course of drilling a well, if a previously unidentified artesian stratum is encountered, such that underground water is flowing uncontrolled to the land surface or between geologic units, the flow shall be controlled immediately. The state engineer shall be immediately notified that an artesian stratum was encountered, and a plan of operations shall be submitted in accordance with Subsection A of 19.27.4.31 NMAC.

D. Casing and coupling material requirements: Couplings and threaded steel casing used in the construction of an artesian well shall meet minimum American petroleum institute (API) specifications (the API casing specifications are listed in the table below). If the well casing or joint connection proposed in the plan of operations is not listed in the table below, the specifications for the casing and connections shall be approved by the state engineer prior to well drilling. If casing length exceeds one thousand (1,000) feet and the diameter of the casing is thirteen and three-eighths (13⅜) inch diameter or larger, H-grade or better shall be used. The casing for artesian wells shall be inspected by an authorized representative of the state engineer prior to well construction.

Outside Diameter (inches)	Weight with Couplings (lbs/ft)	Wall Thickness (inches)	Coupling O.D. (inches)	Coupling Length (inches)	Threads per Inch	Minimum Grade of Casing
4½	9.50	.205	5.000	5	8	F-25
5½	13.00	.225	6.050	6¾	8	F-25
6	15.00	.233	6.625	7	8	F-25
6⅝	17.00	.245	7.390	7¼	8	F-25
7	17.00	.231	7.656	7¼	8	F-25
7⅝	20.00	.250	8.500	7½	8	F-25
8⅝	24.00	.264	9.625	7¾	8	F-25
9⅝	29.30	.281	10.625	7¾	8	F-25
10¾	32.75	.279	11.750	8	8	F-25
11¾	38.00	.300	12.750	8	8	F-25
13⅜	48.00	.330	14.375	8	8	F-25
16	55.00	.312	17.000	9	8	F-25
20	94.00	.438	21.000	9	8	F-25

E. Casing installation requirements: The casing shall be centered within the bore hole so grout may be evenly placed around the casing. A commercially made float shoe shall be installed on the lowermost joint of casing to be landed unless an alternate method for cementing has been approved by the state engineer. The casing shall be un-perforated and the well shall be designed in a manner to prevent the commingling of water from the artesian stratum with water in an overlying or underlying geologic unit.

F. Annular space: The diameter of the hole in which the cement seal shall be placed shall be at least four (4) inches greater than the outside diameter of the casing set through the confining formation overlying the artesian aquifer. The diameter of the hole in which the cement seal shall be placed may be reduced to three (3) inches greater than the outside diameter of the casing set through the confining formation overlying the artesian aquifer if pressure grouting from the bottom up is used for grout placement and the well casing is centralized in the bore hole. If surface casing is used, the inside diameter of the surface casing shall be at least three (3) inches greater than the outside diameter of the production casing.

G. Annular space cementing requirements: The annular seal shall consist of a neat cement slurry acceptable to the state engineer. The cement seal shall originate within the artesian stratum and shall be continuously placed to land surface. The cementing process shall be witnessed by an authorized representative of the state engineer. When necessary, sufficient annular seal shall be placed to prevent inter-aquifer exchange of water and to prevent loss of hydraulic head between geologic zones.

H. Annular space - cement placement: The cement slurry shall be placed in the annular space by one of the following methods:

(1) Tremie method: The neat cement slurry shall be pumped using a tremie pipe to fill the annular space of the well from the origin of the seal within the artesian stratum to land surface. Flow of undiluted cement out of the top of the annular space shall be established with the tremie pipe suspended in the annulus. The lower end of the tremie shall remain immersed in the cement slurry for the duration of pumping. The tremie pipe may be gradually removed as cement level in the annulus rises.

(2) Pressure grout method: The neat cement slurry shall be pumped down the inside of the casing, through the float shoe, and up the annular space until undiluted cement slurry circulates out of the annulus at land surface. Excess cement may be displaced out of the casing from behind with drilling fluid, but the drilling fluid shall not be pumped entirely to the level of the float shoe except to lodge a drillable plug at the bottom of the casing. Should undiluted cement slurry not be displaced out the top of the annulus in a continuous pressure grouting operation, the cementing job may be completed by the use of the tremie method. If the tremie method is employed, a tremie pipe shall be suspended in the annulus to the approximate level of the competent cement grout. The neat cement slurry shall be pumped to fill the annular space of the well from the top of the competent cement grout to land surface.

I. Sealing off formations: The compressive strength of neat cement shall be five hundred (500) psi or more before well drilling is resumed. Cement must be allowed to set a minimum of forty-eight (48) hours before well drilling is resumed. Shorter set times may be requested if approved accelerants are used. Sealing off of the formations shall be checked by a method acceptable to the state engineer. In the case of remediation of

unanticipated artesian bore holes, the compressive strength of neat cement shall be one thousand (1,000) psi or more before artesian head is shut-in at the wellhead.

J. Repair requirements: When an artesian well is in need of repair, the permittee or owner of the land upon which the well is located shall provide a plan of operations to the state engineer. The plan of operations shall be prepared in accordance with Subsection A of 19.27.4.31 NMAC. Before repairs are made to an artesian well, the well shall first be inspected by an authorized representative of the state engineer to determine if the condition of the well is such that it may be repaired. When a leak in the casing is found and the casing and well are otherwise in good condition, the state engineer may allow the well to be repaired. A packer or bridge plug may be required to complete necessary well repairs. The use of a lead packer is prohibited. An inspection shall be made at the completion of the work to determine if the repair is satisfactory. During an inspection, the well shall be open to allow for the entrance of equipment for testing and inspection.

K. Plugging requirements: An artesian well that is abandoned or not properly constructed shall be immediately plugged. Plugging of an artesian well shall require submittal of a plan of operations in accordance with Subsection A of 19.27.4.31 NMAC. The well shall be plugged from the bottom upwards with a neat cement slurry. The well plugging shall be witnessed by an authorized representative of the state engineer.

(1) Well plugging, contamination indicated: Wells encountering contaminated water or soil may require coordination between the office of the state engineer and the New Mexico environment department (or other authorized agency or department) prior to the plugging of the well. Specialty plugging materials and plugging methods may be required.

(2) Plugging record: A licensed well driller shall keep a record of each well plugged as the work progresses. A plugging record shall be filed in accordance with Paragraph 3 of Subsection C of 19.27.4.30 NMAC.
[19.27.4.31 NMAC - Rp, SE 66-1, Articles 4-15, 4-16, 4-17, 4-18, and 4-19, 8-31-2005]

19.27.4.32 - 19.27.4.35 RESERVED

19.27.4.36 REQUIREMENTS FOR MINE DRILL HOLES THAT ENCOUNTER WATER: Any person drilling a mine drill hole that encounters a water bearing stratum shall plug that hole in accordance with Subsection C of 19.27.4.30 NMAC or Subsection K of 19.27.4.31 NMAC within 30 days of encountering the water bearing stratum.

A. Well record required: Within thirty (30) days after the date of the discovery of water, a well record shall be filed in accordance with Subsection K of 19.27.4.29 NMAC.

B. Artesian water encountered: If artesian water is encountered in the process of drilling a mine drill hole, the drill hole shall be constructed or plugged in accordance with 19.27.4.31 NMAC.
[19.27.4.36 NMAC - Rp, SE 66-1, Article 4-21, 8-31-2005]

19.27.4.37 REQUEST FOR VARIANCE: The rules in 19.27.4.29 NMAC, 19.27.4.30 NMAC, and 19.27.4.31 NMAC are not intended to cover every situation encountered during well drilling. Geologic conditions vary across the state, and may warrant the need to deviate from the rules contained in 19.27.4.29 NMAC, 19.27.4.30 NMAC, or 19.27.4.31 NMAC. A request for a variance to a rule in 19.27.4 NMAC shall be submitted in writing by an qualified applicant, permit holder, or licensed well driller. It is recommended that a request for variance be prepared by a licensed well driller. The request shall include a detailed justification for the variance and shall demonstrate that such a variance is necessary to preclude unreasonable hardship or that application of a rule in 19.27.4 NMAC would not be practicable. The state engineer may grant the variance if he finds the request to be reasonable and just. The state engineer shall respond in writing to the request for variance and, if the variance if granted, the state engineer may impose terms and conditions.
[19.27.4.37 NMAC - Rp, SE 66-1, Article 4-22, 8/31/2005]

19.27.4.38 LIBERAL CONSTRUCTION: This part shall be liberally construed to carry out its purpose.
[19.27.4.38 NMAC - N, 8/31/2005]

19.27.4.39 SEVERABILITY: If any portion of this part is found to be invalid, the remaining portion of this part shall remain in force and not be affected.
[19.27.4.39 NMAC - N, 8-31-2005]

HISTORY OF 19.27.4 NMAC:

Pre NMAC History: The material in this part was derived from that previously filed with the State Records Center and Archives.
SE-66-1, Rules and Regulations Governing Drilling of Wells and Appropriation and Use of Ground Water in New Mexico, Article 4, Well Drillers Licensing, Construction, Repair and Plugging Of Wells, originally filed with the Supreme Court Law Library 11/1/66. Filed with the State Records Center 6/27/91.

History of Repealed Material:
SE-66-1, Rules and Regulations Governing Drilling of Wells and Appropriation and Use of Ground Water in New Mexico, Article 4, Well Drillers Licensing, Construction, Repair and Plugging of Wells - Repealed 8/31/2005.