

**Title 10—DEPARTMENT OF
NATURAL RESOURCES
Division 23—Well Installation
Chapter 1—Definitions, Variances, and Permitting Requirements**

ORDER OF RULEMAKING

By the authority vested in the Well Installation Board under section 256.606, RSMo 2016, the board amends a rule as follows:

10 CSR 23-1.010 is amended.

A notice of proposed rulemaking containing the text of the proposed amendment was published in the *Missouri Register* on August 1, 2018 (43 MoReg 2170-2176). Those sections with changes are reprinted here. This proposed amendment becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: A public hearing on this proposed rule was held September 7, 2018, and the public comment period ended on September 14, 2018. At the public hearing, Department of Natural Resources staff explained the proposed amendment and one (1) comment was made. One (1) additional comment was made on the proposed amendment.

COMMENT #1: Staff identified definitions in this rule that were no longer relevant and others that needed to be added based on changes made to 10 CSR 23-3.090 (11) from comments received.
RESPONSE AND EXPLANATION OF CHANGE: Staff concur that this change needs to be made to provide clarification and consistency. Section (9) will be changed to add the definition of Impact Area and Section (20) will be changed to remove definition of TCE Concern Area and TCE Impact Area.

COMMENT #2: Kaly Erwin representing the Missouri Petroleum Storage Tank Insurance Fund asked that staff review the definition for charitable or benevolent organization water system. In addition, she asked that staff change the definition of completion date of temporary monitoring wells to be the date the last well is plugged rather than the first day and have an additional sixty (60) days beyond that for submittal of the registration report. Ms. Erwin also commented that she would like to see types of public wells as subsections of Public Water System.

RESPONSE: Pursuant to Executive Order 17-03, staff identified the definition of Charitable or Benevolent Organization Water System in 10 CSR 23-1.010 as redundant language that is stated in section 640.116, RSMo. During rule review the definition of completion date was amended for clarity. Requiring plugging registration reports after the first temporary well is plugged clarifies existing language and ensures timely receipt of reports to address groundwater protection concerns. Certification and registration requirements located throughout the rule were consolidated into a single new rule in Chapter 2. The requirement that registration reports are due one hundred and eighty (180) days after a temporary well is plugged was moved from 10 CSR 23-4.020(4) to the proposed new rule 10 CSR 2.020(4)(A). Finally, definitions found throughout the rule were streamlined to remove terms that are not used and organize alphabetically. No changes have been made as a result of this comment.

10 CSR 23-1.010 Definitions.

(9) Terms beginning with the letter I.

(A) Impact Area means an area that contains contaminant(s) of one (1) or more of the following: lead, cadmium, chlorinated volatile organic compounds (VOCs) including trichloroethylene (TCE), TCE degradation products, or other contaminants pursuant to 10 CSR 60-4.

(B) Inactive well means a well not currently operational that is not in a state of disrepair and does not present a threat to groundwater.

(C) Incomplete well means a well that was abandoned during construction with or without casing and is susceptible to surface contamination.

(D) Injection well means a monitoring well into which fluid or other media is injected to clean, treat, or prevent contamination of groundwater.

(20) Terms beginning with the letter T.

(A) Temporary monitoring well means a monitoring well used for field screening purposes that is plugged within thirty (30) days of being installed.

(B) Test hole means a hole drilled for the exploration of minerals or for geologic data that is not associated with the remediation or associated environmental characterization of a site. This includes stratigraphic holes drilled to obtain geologic information for structural studies or seismic shot holes.

(C) Transient noncommunity water system means a public water system as defined in 10 CSR 60-2.

(D) Tremie pipe means a conductor pipe, hose, or tubing used in the down hole placement of grout.

(E) Tremie grouting method means the process in which a small diameter pipe is inserted in the annular space or borehole to the depth of the zone to be sealed and grout is emplaced through the tremie pipe by gravity.

(F) Tremie pressure grouting method means the process in which a small diameter pipe is inserted in the annular space or borehole to the depth of the zone to be sealed and grout is emplaced by pumping with a grout pump from the bottom to the top of the zone to be sealed.

**Title 10—DEPARTMENT OF
NATURAL RESOURCES
Division 23— Division of Geology
and Land Survey
Chapter 1—Definitions and
Organizational Structure**

ORDER OF RULEMAKING

By the authority vested in the Well Installation Board under section 256.606, RSMo 2016, the board rescinds a rule as follows:

10 CSR 23-1.030 Types of Wells is rescinded.

A notice of proposed rulemaking containing the text of the proposed rescission was published in the *Missouri Register* on August 1, 2018 (43 MoReg 2176). No changes have been made in the text of the proposed rescission, so it is not reprinted here. This proposed rescission becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: No comments were received.

**Title 10—DEPARTMENT OF
NATURAL RESOURCES
Division 23—Well Installation
Chapter 1—Definitions, Variances, and Permitting Requirements**

ORDER OF RULEMAKING

By the authority vested in the Well Installation Board under section 256.606, RSMo 2016, the board amends a rule as follows:

10 CSR 23-1.040 Variances is amended.

A notice of proposed rulemaking containing the text of the proposed amendment was published in the *Missouri Register* on August 1, 2018 (43 MoReg 2176-2177). No changes have been made in the text of the proposed amendment, so it is not reprinted here. This proposed amendment becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: No comments were received.

**Title 10—DEPARTMENT OF
NATURAL RESOURCES
Division 23—Well Installation
Chapter 1—Definitions, Variances, and Permitting Requirements**

ORDER OF RULEMAKING

By the authority vested in the Well Installation Board under section 256.606, RSMo 2016, the board amends a rule as follows:

10 CSR 23-1.050 is amended.

A notice of proposed rulemaking containing the text of the proposed amendment was published in the *Missouri Register* on August 1, 2018 (43 MoReg 2177-2181). Those sections with changes are reprinted here. This proposed amendment becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: A public hearing on this proposed amendment was held on September 7, 2018, and the public comment period ended on September 14, 2018. At the public hearing, Department of Natural Resources staff explained the proposed amendment and one (1) comment was made. The Department of Natural Resources received seven (7) additional comments on the proposed amendment.

COMMENT #1: Sara Ragan commented, 10 CSR 23-1.050(4) rule says all subsequent test attempts must be a minimum of 30 days from the initial test date. This should say, there is only one retake allowed per test date. The way the rule is written it implies that if you take your 1st test on August 1 and do not pass, you can retake the test on August 31 as many times as it takes to pass it. There should be a timeframe between each failed test.

RESPONSE AND EXPLANATION OF CHANGE: Staff concurs and has added language to clarify that there is a thirty (30) day waiting period after the last retest to section (4)(A).

COMMENT #2: Sara Ragan commented, 10 CSR 23-1.050(3)(L) you should accept experience from another state even if my permit is expired from that state and I can provide information on the experience. If my permit was in good standing with the other state you should accept the experience whether my permit is current (valid) or not.

RESPONSE: Exemptions to the apprenticeship program are intended to provide current out of state permit holders an option to become permitted in Missouri. This is a request to vary from the regulations and is not guaranteed. Out of state experience is only one consideration when reviewing these requests. No changes have been made to this rule as a result of this comment.

COMMENT #3: Sara Ragan commented, 10 CSR 23.1.050(3)(D) Rule says an apprentice can work under another non-restricted permittee besides the responsible permittee, does the apprentice have to be permitted with the same company as the other -restricted permit? If no, let the apprentice be permitted under their own company and have any non- restricted person sign as the responsible permittee.

RESPONSE: An apprentice may be permitted under their own company. The proposed amendments allow a non-restricted permit holder to sign as the responsible party provided they are on site and oversee the apprentice's work. A responsible party must be designated for the apprentice. No changes have been made to this rule as a result of this comment.

COMMENT #4: Sara Ragan commented, 10 CSR 23-1.050(3)(A)4 Probation should also be included here. Rule says includes but is not limited to but the rule should be clear on what is included. Penalty fees?

RESPONSE: A permittee may be placed on probation pursuant to section 256.630, RSMo. The terms of probation depend on the specific circumstances of the violation. No changes have been made to this rule as a result of this comment.

COMMENT #5: Sara Ragan commented, 10 CSR 23-1.050(1) A restricted permit should also be required to pre-notify work that is being subcontracted if required.

RESPONSE: Prenotification applies to non-restricted permittees who are installing wells. Prenotification provides staff advanced notice to witness well installation. Restricted permittees who are acting as primary contractors are not required to prenotify because they are overseeing the work. No changes have been made to this rule as a result of this comment.

COMMENT #6: Sara Ragan commented, 10 CSR 23-1.050(1) This rule should allow for a restricted permit to be reinstated.

RESPONSE: Permit renewals for both restricted and non-restricted permits is addressed in 10 CSR 23-1.105 Permit Renewal. No changes have been made to this rule as a result of this comment.

COMMENT #7: Kaly Erwin representing the Missouri Petroleum Storage Tank Insurance Fund recommended that restricted well driller permits be removed or included as an apprentice permit holder because it is the first stage in becoming an apprentice. Ms. Erwin went on to state that water well drillers should be allowed to become non-restricted permit holders for monitoring wells without undergoing the apprentice program for monitoring wells because if someone can install a drinking water well they can also install a monitoring well.

RESPONSE: A permit is required to act as a primary contractor in the installation of wells pursuant to section 256.607.3, RSMo. The permitting requirements and level of responsibility for an apprentice driller are different than those of a restricted permit holder acting as a primary contractor. In addition, water-well drillers may add a permit type to drill monitoring wells. Water-well construction requirements (10 CSR 23-3) differ from monitoring well construction requirements (10 CSR 23-4). Monitoring wells typically are installed in areas where contaminants exist, thereby requiring understanding and knowledge of drilling in these types of conditions. No changes have been made to this rule as a result of this comment.

COMMENT #8: Since proposal of the rule amendment, Department staff determined that the proposed amendment may be interpreted to suggest that a previously mandatory Department obligation had become discretionary. The proposed amendment would modify the language of that requirement. Removal of restrictive terms may have different legal effect and the change may be misinterpreted.

RESPONSE AND SUMMARY OF CHANGE: The Department is revising the language to retain the word “shall” in Sections (1), (2), and (3) to clarify the Department’s obligation.

10 CSR 23-1.050 Permittee Qualifications, Testing Procedures, and Permit Application

(1) Restricted Permit.

(A) To apply for a restricted permit as a water well, heat pump, monitoring well, or pump installation contractor an applicant shall—

1. Submit a complete permit testing application and corresponding fee;
2. Pass the applicable restricted permit test(s) (open book) with a minimum score of seventy percent (70%); and
3. Submit a complete permit application and the corresponding fee.

(B) After approval of the permit application, the department will issue the restricted permit. A permit may be denied if the applicant has unresolved violations.

(2) Non-Restricted Permit. See 10 CSR 23-1.050(7) for adding a permit type to an existing permit and 10 CSR 23-1.105 for rein- statement of an expired permit.

(A) To apply for a non-restricted permit as a water well, heat pump, monitoring well, or pump installation contractor an applicant shall—

1. Complete the apprenticeship program pursuant to 10 CSR 23-1.050(3);
2. Submit a complete permit testing application and corresponding fee;

3. Pass the applicable non-restricted permit test(s) (closed book) with a minimum score of seventy percent (70%);

4. Submit a complete permit application and the corresponding fee; and

5. If applicable pursuant to 10 CSR 23-1.050(3)(L) or 10 CSR 23-1.050(7) the apprenticeship program may be waived.

(B) After approval of the permit application, the department will issue the non-restricted permit. A permit application may be denied if the applicant has unresolved violations. After resolution of violations, the department may require prenotification pursuant to 10 CSR 23-1.050(6).

(3) Apprenticeship Program.

(A) To apply for a permit as an apprentice water well, heat pump, monitoring well, or pump installation contractor an applicant shall—

1. Submit a complete testing application and corresponding fee;

2. Pass the applicable apprentice permit test(s) (open book) with a minimum score of seventy percent (70%);

3. Submit a complete apprentice permit application, signed by a responsible party who will be responsible for the apprentice- ship;

4. The responsible party shall be a non-restricted permit holder holding the same type of permit for which the apprentice is applying. A non-restricted permittee may not serve as an apprentice's responsible party for a period of one (1) year from the date of resolution of any enforcement action taken by the department (includes, but is not limited to, settlement agreements, orders, consent judgments, suspension, or revocation); and

5. After approval of the permit application, the department will issue the apprentice permit.

(B) The apprenticeship period is two (2) years.

(C) The applicant shall complete work for the applicable permit type and sign the appropriate certification or registration form on a minimum of—

1. Water Well Permit - Twenty-five (25) different domestic or multifamily water well installations or ten (10) different high yield bedrock or public wells;

2. Pump Installation Permit - Twenty-five (25) different domestic or multifamily pump installations or ten (10) different high yield or public well pump installations;

3. Heat Pump Installation Permit - Ten (10) different heat pump system installations;

4. Monitoring Well Permit - Twenty (20) different monitoring wells or twenty (20) different temporary monitoring well sites.

A. Test Hole Only Endorsement – Twenty (20) different test holes; and

5. Plugging abandoned wells for the applicable type of permit may count for up to ten percent (10%) of the required installations.

(D) The responsible party for the apprentice or another non- restricted permit holder for the applicable permit type shall over- see the apprentice's work on site, sign the certification or registration form as the installation contractor, and submit the form and appropriate fee.

(E) Once the number of installations pursuant to 10 CSR 23- 1.050(3)(C) have been completed, the apprentice may work independently for the remainder of the two (2) year apprenticeship provided the responsible party continues to sign certification and registration forms as installation contractor along with the apprentice.

(F) The apprenticeship period may be reduced if the required number of installations pursuant to 10 CSR 23-1.050(3)(C) are met and proof of financial responsibility are provided for the remainder of the apprenticeship period pursuant to 10 CSR 23- 1.050(5).

(G) An apprentice may transfer the apprenticeship to another

company by submitting a new apprenticeship application to the department with a non-restricted permittee signing as the responsible party.

(H) An apprentice can be permitted under more than one (1) company if the apprentice submits the appropriate application and fee for each permit type and a non-restricted permittee from each company signs as the responsible party. Apprentices will be issued separate permit numbers for each permit type.

(I) At the end of the two (2) year period, the apprentice may apply to extend the apprenticeship on a year-by-year basis if the number of installations has not been met. If an application to extend the apprenticeship is not received, the apprentice permit will not be renewed.

(J) If an apprentice cancels the apprenticeship, they may reapply within five (5) years. If the application is approved, the apprentice will be reinstated at the same status as at the point of cancellation.

(K) Proof of work performed in other states by an apprentice will be evaluated on a case-by-case basis for meeting the requirements of 10 CSR 23-1.050(3)(C).

(L) Applicants who are permitted in another state may request an exemption to the apprenticeship program provided they—

1. Submit proof of a valid permit and supporting documentation that includes, at a minimum, a copy of current license or permit, examples of well records, and contact information for the regulatory agency that issued the permit (same type of permit(s) only); and

2. Submit proof of financial responsibility pursuant to 10 CSR 23-1.050(5) for a period of two (2) years; and

3. Complete one (1) year of prenotification pursuant to 10 CSR 23-1.050(6).

(4) Testing.

(A) Applicants may retake the test one (1) time on the last test date. All subsequent test attempts shall be a minimum of thirty (30) days from the initial test date.

(B) An applicant may withdraw a testing application by notifying the department a minimum of ten (10) days in advance. Testing application fees are non-refundable; however, tests may be rescheduled up to two (2) times without cancellation of the application and forfeiture the corresponding fee.

**Title 10—DEPARTMENT OF
NATURAL RESOURCES
Division 23— Division of Geology
and Land Survey
Chapter 1—Definitions and
Organizational Structure**

ORDER OF RULEMAKING

By the authority vested in the Well Installation Board under section 256.606, RSMo 2016, the board amends a rule as follows:

10 CSR 23-1.060 Application for a Permit is rescinded.

A notice of proposed rulemaking containing the text of the proposed amendment was published in the *Missouri Register* on August 1, 2018 (43 MoReg 2181). No changes have been made in the text of the proposed rescission, so it is not reprinted here. This proposed rescission becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: No comments were received.

**Title 10—DEPARTMENT OF
NATURAL RESOURCES
Division 23—Well Installation
Chapter 1—Definitions, Variances, and Permitting Requirements**

ORDER OF RULEMAKING

By the authority vested in the Well Installation Board under section 256.606, RSMo 2016, the board amends a rule as follows:

10 CSR 23-1.075 Disciplinary Action is amended.

A notice of proposed rulemaking containing the text of the proposed amendment was published in the *Missouri Register* on August 1, 2018 (43 MoReg 2181-2183). No changes have been made in the text of the proposed amendment, so it is not reprinted here. This proposed amendment becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: No comments were received.

**Title 10—DEPARTMENT OF
NATURAL RESOURCES
Division 23— Division of Geology
and Land Survey
Chapter 1—Definitions and
Organizational Structure**

ORDER OF RULEMAKING

By the authority vested in the Well Installation Board under section 256.606, RSMo 2016, the board rescinds a rule as follows:

10 CSR 23-1.080 Denial of Application is rescinded.

A notice of proposed rulemaking containing the text of the proposed amendment was published in the *Missouri Register* on August 1, 2018 (43 MoReg 2183). No changes have been made in the text of the proposed rescission, so it is not reprinted here. This proposed rescission becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: No comments were received.

**Title 10—DEPARTMENT OF
NATURAL RESOURCES
Division 23—Well Installation
Chapter 1—Definitions, Variances, and Permitting Requirements**

ORDER OF RULEMAKING

By the authority vested in the Well Installation Board under section 256.606, RSMo 2016, the board amends a rule as follows:

10 CSR 23-1.090 Permits is amended.

A notice of proposed rulemaking containing the text of the proposed amendment was published in the *Missouri Register* on August 1, 2018 (43 MoReg 2183-2184). No changes have been made in the text of the proposed amendment, so it is not reprinted here. This proposed amendment becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: A public hearing on this proposed amendment was held on September 7, 2018, and the public comment period ended on September 14, 2018. At the public hearing, Department of Natural Resources staff explained the proposed amendment and one (1) comment was made.

COMMENT #1: Kaly Erwin representing the Missouri Petroleum Storage Tank Insurance Fund suggested that monitoring wells be allowed to be plugged by any non-restricted permittee instead of only by a monitoring well non-restricted permittee. Ms. Erwin also recommends that the requirement that a restricted permit holder be a primary contractor be removed. Finally, Ms. Erwin suggested that there is some overlap between water well and monitoring well permits since a water well permit holder can be qualified to install a monitoring well.

RESPONSE: A water well driller may add a permit type to drill monitoring wells. Water well construction and plugging requirements (10 CSR 23-3) differ from monitoring well construction and plugging requirements (10 CSR 23-4). Monitoring wells typically are installed in areas where contaminants exist, thereby requiring understanding and knowledge of drilling in these types of conditions. A permit is required to act as a primary contractor in the installation of wells pursuant to section 256.607.3, RSMo. No changes have been made to the rule based on this comment.

**Title 10—DEPARTMENT OF
NATURAL RESOURCES
Division 23—Well Installation
Chapter 1—Definitions, Variances, and Permitting Requirements**

ORDER OF RULEMAKING

By the authority vested in the Well Installation Board under section 256.606, RSMo 2016, the board amends a rule as follows:

10 CSR 23-1.105 is amended.

A notice of proposed rulemaking containing the text of the proposed amendment was published in the *Missouri Register* on August 1, 2018 (43 MoReg 2184-2185). Those sections with changes are reprinted here. This proposed amendment becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: A public hearing on this proposed amendment was held on September 7, 2018, and the public comment period ended on September 14, 2018. At the public hearing, Department of Natural Resources staff explained the proposed amendment and two (2) comments were made. The Department of Natural Resources received one (1) additional comment on the proposed amendment.

COMMENT #1: Department of Natural Resources staff identified a discrepancy in this rule that relates to when late fees are assessed.

RESPONSE AND EXPLANATION OF CHANGE: Staff concur that this change needs to be made to provide consistent application of the rules. Section (2) is changed to remove more than thirty (30) days to be consistent with 10 CSR 23-2.010 and the current application of the regulation.

COMMENT #2: Kaly Erwin representing the Missouri Petroleum Storage Tank Insurance Fund identified the same discrepancy as described in comment #1. Ms. Erwin also requested that clarification be added to explain at what point the permit will be canceled due to nonrenewal and reapplication will be necessary.

RESPONSE: See response and explanation of change to comment #1. In addition, a permit that is not renewed will expire and a permittee may reapply to reinstate an expired permit pursuant to 10 CSR 23-1.105(3). No additional changes have been made to the rule based on this comment.

COMMENT #3: Since proposal of the rule amendment, Department staff reviewed the regulation for grammar and identified an incorrect use of a pronoun. Because the misuse of this term may have different legal effect, the change may be misinterpreted.

RESPONSE AND SUMMARY OF CHANGE: Section (5) has been revised to correct the pronoun error.

10 CSR 23-1.105 Permit Renewal

(2) Any permit renewal submitted after the expiration date will be assessed a late fee pursuant to 10 CSR 23-2.010(F).

(5) Any permittee who changes companies or wishes to cancel a permit shall notify the department.

**Title 10—DEPARTMENT OF
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Chapter 1—Definitions and
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ORDER OF RULEMAKING

By the authority vested in the Well Installation Board under section 256.606, RSMo 2016, the board amends a rule as follows:

10 CSR 23-1.130 Reinstatement is rescinded.

A notice of proposed rulemaking containing the text of the proposed amendment was published in the *Missouri Register* on August 1, 2018 (43 MoReg 2185). No changes have been made in the text of the proposed rescission, so it is not reprinted here. This proposed rescission becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: No comments were received.

**Title 10—DEPARTMENT OF
NATURAL RESOURCES
Division 23—Well Installation
Chapter 1—Definitions, Variances, and Permitting Requirements**

ORDER OF RULEMAKING

By the authority vested in the Well Installation Board under section 256.606, RSMo 2016, the board amends a rule as follows:

10 CSR 23-1.140 Vehicle and Machine Registration is amended.

A notice of proposed rulemaking containing the text of the proposed amendment was published in the *Missouri Register* on August 1, 2018 (43 MoReg 2184). No changes have been made in the text of the proposed amendment, so it is not reprinted here. This proposed amendment becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: A public hearing on this proposed amendment was held on September 7, 2018, and the public comment period ended on September 14, 2018. At the public hearing, Department of Natural Resources staff explained the proposed amendment and one (1) comment was made.

COMMENT #1: Kaly Erwin representing the Missouri Petroleum Storage Tank Insurance Fund recommended that the requirement for vehicles and machines to be registered be removed since there are no requirements for inspection or quality control.

RESPONSE: Registration of drill rigs is required pursuant to section 256.617, RSMo. Registration and marking of drill rigs ensures customers, members of the public, and regulators have a clear mechanism to identify permitted well installation contractors and ensure that they are licensed to do work in Missouri. No changes have been made to the rule as a result of this comment.

**Title 10—DEPARTMENT OF
NATURAL RESOURCES
Division 23— Division of Geology
and Land Survey
Chapter 1—Definitions and
Organizational Structure**

ORDER OF RULEMAKING

By the authority vested in the Well Installation Board under section 256.606, RSMo 2016, the board amends a rule as follows:

10 CSR 23-1.155 Well Drilling and Pump Installation Machine Registration **is rescinded.**

A notice of proposed rulemaking containing the text of the proposed amendment was published in the *Missouri Register* on August 1, 2018 (43 MoReg 2185-2186). No changes have been made in the text of the proposed rescission, so it is not reprinted here. This proposed rescission becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: No comments were received.

**Title 10—DEPARTMENT OF
NATURAL RESOURCES
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Chapter 1—Definitions, Variances, and Permitting Requirements**

ORDER OF RULEMAKING

By the authority vested in the Well Installation Board under section 256.606, RSMo 2016, the board amends a rule as follows:

10 CSR 23-1.160 Mail and Notification Procedures is amended.

A notice of proposed rulemaking containing the text of the proposed amendment was published in the *Missouri Register* on August 1, 2018 (43 MoReg 2184). No changes have been made in the text of the proposed amendment, so it is not reprinted here. This proposed amendment becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: A public hearing was held on this proposed amendment on September 7, 2018, and the public comment period ended on September 14, 2018. At the public hearing, Department of Natural Resources staff explained the proposed amendment and zero (0) comments were made. The Department of Natural Resources received one (1) additional comment on the proposed amendment.

COMMENT #1: Sara Ragan commented that electronic mail should not be a requirement. Rule says shall. Not all of us have internet or fast internet. Shouldn't have to provide email if I don't want state to have it.

RESPONSE: The proposed amendments to 10 CSR 23-1.160 require that permittees notify the Department of changes to their electronic mailing addresses within thirty (30) days of the change and does not require that an electronic mailing address be provided. No changes have been made to the rule as a result of this comment.

**Title 10—DEPARTMENT OF
NATURAL RESOURCES
Division 23—Well Installation
Chapter 2— Fee Structure, Certification and Registration**

ORDER OF RULEMAKING

By the authority vested in the Well Installation Board under section 256.606, RSMo 2016, the board amends a rule as follows:

10 CSR 23-2.010 Fee Structure is amended.

A notice of proposed rulemaking containing the text of the proposed amendment was published in the *Missouri Register* on August 1, 2018 (43 MoReg 2186-2188). No changes have been made in the text of the proposed amendment, so it is not reprinted here. This proposed amendment becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: A public hearing was held on this proposed rule was held on September 7, 2018, and the public comment period ended on September 14, 2018. At the public comment period Department of Natural Resources staff explained the proposed rule and one (1) comment was made.

COMMENT: Kaly Erwin representing the Missouri Petroleum Storage Tank Insurance Fund asked that the fee permit for machine and service vehicle permits be removed and that the well logging be clarified to include who determines the cost.

RESPONSE: The board establishes fees that are reasonable and necessary to administer sections 256.600-256.640, RSMo pursuant to section 256.623, RSMo which includes both rig permits and logging of wells. No changes have been made to the rule as a result of this comment.

**Title 10—DEPARTMENT OF
NATURAL RESOURCES
Division 23—Well Installation
Chapter 2—Fee Structure, Certification and Registration**

ORDER OF RULEMAKING

By the authority vested in the Well Installation Board under section 256.606, RSMo 2016, the board adopts a rule as follows:

10 CSR 23-2.020 Certification and Registration is adopted.

A notice of proposed rulemaking containing the text of the proposed rule was published in the *Missouri Register* on August 1, 2018 (43 MoReg 2188). No changes have been made in the text of the proposed rule, so it is not reprinted here. This proposed rule becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: A public hearing was held on this proposed rule was held on September 7, 2018, and the public comment period ended on September 14, 2018. At the public comment period Department of Natural Resources staff explained the proposed rule and one (1) comment was made.

COMMENT: Kaly Erwin representing Missouri Petroleum Storage Tank Insurance Fund asked that the registration report requirement for temporary monitoring wells be changed to state that they be submitted within one hundred and eighty (180) days of the date of the plugging of the last temporary monitoring well.

RESPONSE: Requiring plugging registration reports after the first temporary well is plugged clarifies existing language and ensures timely receipt of reports to address groundwater protection concerns. Certification and registration requirements located throughout the rule were consolidated into a single new rule in Chapter 2. The requirement that registration reports are due one hundred and eighty (180) days after a temporary well is plugged was moved from 10 CSR 23-4.020(4) to the proposed new rule 10 CSR 2.020(4)(A). No changes have been made to the rule as a result of this comment.

Title 10—DEPARTMENT OF NATURAL RESOURCES
Division 23—Well Installation
Chapter 3—Water Well Construction Code

ORDER OF RULEMAKING

By the authority vested in the Well Installation Board under section 256.606, RSMo 2016, the board adopts a rule as follows:

10 CSR 23-3.010 Location of Wells is amended.

A notice of proposed rulemaking containing the text of the proposed amendment was published in the *Missouri Register* on August 1, 2018 (43 MoReg 2188-2190). Those sections with changes are reprinted here. This proposed amendment becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: A public hearing on this proposed rule was held September 7, 2018, and the public comment period ended on September 14, 2018. At the public hearing, Department of Natural Resources staff explained the proposed amendment and zero (0) comments were made. The Department of Natural Resources received one (1) additional comment on the proposed amendment.

COMMENT #1: Leslie Holloway with Missouri Farm Bureau questioned whether the addition of Concentrated Animal Feeding Operation (CAFO) to Table 3.1 has the same meaning as the current rule.

RESPONSE AND EXPLANATION OF CHANGE: Table 3.1 is being amended to remove references to Concentrated Animal Feeding Operations (CAFO) and to clarify what is meant by a building area or yard used for livestock or poultry as an Animal Feeding Operation (AFO) as defined in 10 CSR 20-6.300.

10 CSR 23-3.010 Location of Wells

(1) High yield unconsolidated well location requirements are found in 10 CSR 23-3.010(F). All other well types shall be—

(A) Located on a site that has sufficient surface drainage to prevent the accumulation or ponding of surface water within ten feet (10') of the well and, if possible, at a higher elevation than possible sources of contamination. The top of the casing shall extend a minimum of twelve inches (12") above ground surface;

(B) Located a minimum setback distance from potential Pollution or Contamination Sources. See 10 CSR 23-3.010 Table 3.1 for specific distances to be followed; and

(C) High yield unconsolidated wells shall be a minimum of two hundred feet (200') from contamination sources unless greater distances are specified in 10 CSR 23-3.010(1) Table 3.1.

Table 3.1 Specific setback distances for wells from pollution or contamination sources.

Feature requiring setback	Minimum horizontal distance
Storage area for commercial fertilizers or chemicals	300'
Demolition landfill	300'
Wastewater treatment plant or lagoon that serves commercial facilities, subdivisions, or mobile home parks	300'
Above ground or underground storage tank ^{1, 2}	300'
Tank distribution lines for liquid petroleum, petroleum products, or chemicals ^{1, 2}	300'
Earthen, concrete, or other manure storage structures or lagoons	300'
Land application areas for domestic or animal waste	300'
Animal composting facilities	300'
Unplugged abandoned wells	100'
Subsurface wastewater disposal field, grave, residential lagoon, privy, lift station, or pressurized sewer line	100'
Animal Feeding Operation (AFO) ⁴	100'
An animal composting facility constructed with a concrete floor cell design covered with a roof	100'
Dry litter storage within a building	100'
Other areas with contaminants that may leach into the groundwater	100'
Septic tank or wastewater holding tank	50'
Pit or cistern	50'
Existing operating well	50'
Non-pressurized buried sewer line	25'
Solid waste disposal area, sanitary landfill, special waste landfill, utility waste landfill, waste stabilization pond (lagoon), or hazardous waste treatment, storage, or disposal facility ³	1000'

1. Any well that cannot meet setback distances for petroleum distribution site shall meet the well construction requirements for a High Yield Bedrock well pursuant to 10 CSR 23-3.030(3).
2. Petroleum or petroleum products that are not liquid at standard temperatures and pressures are exempt from these setback requirements.
3. A safe distance cannot be determined. Any well that intercepts leachates from a waste landfill or waste stabilization pond (lagoon) shall be plugged unless it is approved by the Department for use as a monitoring well.
4. Has the same meaning as defined in 10 CSR 20-6.300.

Title 10—DEPARTMENT OF NATURAL RESOURCES
Division 23—*[Division of Geology and Land Survey]* Well Installation
Chapter 3—Water Well Construction Code

ORDER OF RULEMAKING

By the authority vested in the Well Installation Board under section 256.606, RSMo 2016, the board amends a rule as follows:

10 CSR 23-3.020 General Protection of Groundwater Quality and Resources **is amended.**

A notice of proposed rulemaking containing the text of the proposed rule was published in the *Missouri Register* on August 1, 2018 (43 MoReg 2190-2192). No changes have been made in the text of the proposed amendment, so it is not reprinted here. This proposed amendment becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: No comments were received.

**Title 10--DEPARTMENT OF
NATURAL RESOURCES
Division 23—Well Installation
Chapter 3—Water Well Construction Code**

ORDER OF RULEMAKING

By the authority vested in the Well Installation Board under section 256.606, RSMo 2016, the board amends a rule as follows:

10 CSR 23-3.030 Standards for Construction of Water Wells **is amended.**

A notice of proposed rulemaking containing the text of the proposed amendment was published in the *Missouri Register* on August 1, 2018 (43 MoReg 2192-2203). No changes have been made in the text of the proposed amendment, so it is not reprinted here. This proposed amendment becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: No comments were received.

**Title 10—DEPARTMENT OF
NATURAL RESOURCES
Division 23—Division of Geology and Land Survey
Chapter 3—Well Construction Code**

ORDER OF RULEMAKING

By the authority vested in the Well Installation Board under section 256.606, RSMo 2016, the board rescinds a rule as follows:

10 CSR 23-3.040 Well Casing Seals and Connections is rescinded.

A notice of proposed rulemaking containing the text of the proposed rescission was published in the *Missouri Register* on August 1, 2018 (43 MoReg 2203). No changes have been made in the text of the proposed rescission, so it is not reprinted here. This proposed rescission becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: No comments were received.

Title 10--DEPARTMENT OF
NATURAL RESOURCES
Division 23—Well Installation
Chapter 3—Water Well Construction
Code

ORDER OF RULEMAKING

By the authority vested in the Well Installation Board under section 256.606, RSMo 2016, the board amends a rule as follows:

10 CSR 23-3.050 is amended.

A notice of proposed rulemaking containing the text of the proposed amendment was published in the *Missouri Register* on August 1, 2018 (43 MoReg 2203-2206). Those sections with changes are reprinted here. This proposed amendment becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: A public hearing on this proposed amendment was held September 7, 2018, and the public comment period ended on September 14, 2018. At the public hearing, Department of Natural Resources staff explained the proposed amendment and zero (0) comments were made. The Department of Natural Resources received two (2) additional comments on the proposed amendment.

COMMENT #1: Terry Whitehead asked if a pump installer is required to perform electrical wiring on domestic wells why are they not required to do so on high yield wells? High yield wells are producing large quantities of water and should be required to have a permitted pump installer perform the electrical wiring also.

RESPONSE: The electrical components of high yield wells are different than those of domestic wells and require the expertise of a trained electrician as opposed to a permitted pump installer. No changes have been made to the rule as a result of this comment.

COMMENT: Since proposal of the rule amendment, Department staff determined that the proposed amendment may be interpreted to suggest that a previously mandatory Department obligation had become discretionary. Because those terms may have different legal effect, the change may be misinterpreted.

RESPONSE AND SUMMARY OF CHANGE: The Department is revising the language to sections (1) and (6) to retain the word “shall” in order to clarify the Department’s obligation.

3.050 Pump Installation

(1) Pumps and Pumping Equipment.

(A) All wells shall have a pump installed that is either surface mounted or submersible.

(B) A pump shall be constructed so that no unprotected openings into the well casing exist. A hand pump, hand pump head, stand or similar device shall have a closed spout directed downward and a pump rod that operates through a stuffing box. A power driven

pump shall be attached to the casing or approved suction or discharge line by a watertight connection.

(C) Backflow Prevention.

1. A backflow prevention device shall be installed on all wells where agricultural chemical injection or other pressurized contaminant sources are used.
2. A double check-spring loaded backflow prevention device shall be installed between the point of chemical injection and the water well in accordance with the manufacturer's instructions and shall have the following:
 - A. A valve so that water can be drained from the system to prevent freezing;
 - B. A vacuum relief valve to prevent back-siphoning of chemicals into the well;
 - C. An automatic low pressure drain at least three-quarters inch (3/4") in diameter that drains the check valve body of water when operation of the pump is discontinued;
 - D. A watertight seal around the check valve;
 - E. An inspection port at least four inches (4") in diameter to allow inspections of the inside of the check valve; and
 - F. A check valve able to withstand a minimum

hydraulic pressure of one hundred fifty (150) pounds per square inch (psi) without leaking and resistant to corrosion.

3. The well pump and the chemical injection pump shall be electrically or mechanically connected so that when the well pump stops, the chemical pump will shut off automatically.

(D) Electrical.

1. A permitted pump installation contractor shall perform all electrical wiring that impacts the operation of the pump or pressure system to the point of entry. Any person may perform electrical wiring on high yield wells.

2. The electric wire shall not be installed through the pitless connection and shall be grounded.

(E) Plumbing. A permitted pump installation contractor, except as exempted in section 256.607.2, RSMo, shall perform all plumbing which impacts the distribution of water from its source, through the pressure system to the point of entry. This includes, but is not limited to, pressure tanks, water treatment equipment and any other materials needed to complete the initial installation of the water system, inside and outside of the structure.

(6) Wellhead Completion.

(A) Above-ground connections shall—

1. Be a minimum of twelve inches (12") above ground surface or well house floor;
2. Have watertight piping and electrical connections that are mechanical or welded and sealed;
3. Have a protective well cap that seals tightly against the casing and has a screened vent or a casing seal that has a new rubber gasket. Cutting the rubber well seal for installation is not allowed;
4. When used, have surface driven pumps extending at least one inch (1") into the base of the motor;
5. Be provided with a minimum of one-half inch (1/2") diameter screened vent pointed downward;
6. Not use hubcap type well caps for permanent use; and
7. Not use temporary caps until a permanent cap or well seal is installed.

(B) Below-ground connections shall—

1. Use a pitless adaptor or pitless unit of sufficient strength to withstand normal operating stress;

2. Construct the hole cut in the casing for the installation of the pitless adaptor/unit to ensure a watertight seal with the pitless adaptor/unit in place;
3. Use a protective well cap that seals tightly against the casing and has a screened vent; and
4. Have native or grout material packed tightly around the casing and discharge pipe after installation.

**Title 10--DEPARTMENT OF
NATURAL RESOURCES
Division 23—Division of Geology and
Land Survey
Chapter 3—Well Construction
Code**

ORDER OF RULEMAKING

By the authority vested in the Well Installation Board under section 256.606, RSMo 2016, the board rescinds a rule as follows:

10 CSR 23-3.060 Certification and Registration Reports is rescinded.

A notice of proposed rulemaking containing the text of the proposed rule was published in the *Missouri Register* on August 1, 2018 (43 MoReg 2213). No changes have been made in the text of the proposed rescission, so it is not reprinted here. This proposed rescission becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: No comments were received.

**Title 10--DEPARTMENT OF
NATURAL RESOURCES
Division 23—Division of Geology and
Land Survey
Chapter 3--Well Construction
Code**

ORDER OF RULEMAKING

By the authority vested in the Well Installation Board under section 256.606, RSMo 2016, the board rescinds a rule as follows:

10 CSR 23-3.070 Plastic Well Casing is rescinded.

A notice of proposed rulemaking containing the text of the proposed rescission was published in the *Missouri Register* on August 1, 2018 (43 MoReg 2213). No changes have been made in the text of the proposed rescission, so it is not reprinted here. This proposed rescission becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: No comments were received.

**Title 10--DEPARTMENT OF
NATURAL RESOURCES
Division 23—[Division of Geology and
Land Survey] Well Installation
Chapter 3—Water Well Construction
Code**

ORDER OF RULEMAKING

By the authority vested in the Well Installation Board under section 256.606, RSMo 2016, the board amends a rule as follows:

10 CSR 23-3.080 Liners is amended.

A notice of proposed rulemaking containing the text of the proposed amendment was published in the *Missouri Register* on August 1, 2018 (43 MoReg 2213-2218). No changes have been made in the text of the proposed amendment, so it is not reprinted here. This proposed amendment becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: No comments were received.

**Title 10--DEPARTMENT OF
NATURAL RESOURCES
Division 23—Well Installation
Chapter 3—Water Well Construction
Code**

ORDER OF RULEMAKING

By the authority vested in the Well Installation Board under section 256.606, RSMo 2016, the board amends a rule as follows:

10 CSR 23-3.090 is amended.

A notice of proposed rulemaking containing the text of the proposed amendment was published in the *Missouri Register* on August 1, 2018 (43 MoReg 2218-2245). Those sections with changes are reprinted here. This proposed amendment becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: A public hearing on this proposed rule was held September 7, 2018, and the public comment period ended on September 14, 2018. At the public hearing, Department of Natural Resources staff explained the proposed amendment and one (1) comment was made. The Department of Natural Resources received an additional thirteen (13) comments on the proposed amendment.

COMMENTS #1 and #2: The Missouri Department of Natural Resources' Hazardous Waste Program and Gene Gunn of the Environmental Protection Agency both commented on proposed amendments to section 11 stating that there are two National Priorities List (NPL) Superfund Sites in proposed Area 11 for which lead and cadmium are contaminants of concern in groundwater: Oronogo-Duenweg Mining Belt (Jasper County) and Newton County Mine Tailings (Newton County). Allowing new wells to be drilled into the upper aquifer in the mine affected areas could potentially cause a human health risk. The Record of Decision (ROD) for groundwater (operable unit 04) at the Oronogo-Duenweg Mining Belt site specifically cites existing provisions of the Missouri Well Drillers' Act as an institutional control to "protect future residents from drinking contaminated ground water." It is not certain what Institutional Controls other than the existing provisions of the Missouri Well Drillers' Act could prevent potential exposure by future drilling of shallow wells in the county. In addition, the deeper aquifer may also be contaminated with lead and cadmium in localized areas due to improper construction or inadequate abandonment procedures in older wells. Therefore, the requirement to test the water from new wells screened in the deeper aquifer is also important to prevent exposure of residents to mine-related waste.

RESPONSE AND EXPLANATION OF CHANGE: Staff agree that upon further review of the proposed amendments to section (11) Area 11 that the impact areas, sampling requirements for the upper aquifer, and impact area expansion based on sampling results as prescribed in the current rule language are necessary measures to protect future residents from drinking contaminated groundwater that were overlooked in the proposed amendment and will be addressed here. Changes will remove references to TCE concern areas and the proposed

definition, remove the term TCE from impact area, and expand the definition of impact area to include lead and cadmium. See 10 CSR 23-1.010 Definitions. Rule language will be changed to require sampling of new upper aquifer wells for lead, cadmium, and TCE and will subsequently expand impact areas based on results. References to sampling requirements for new wells drilled, cased, and grouted through the lower aquifer will be removed as proposed amendments include construction requirements that will prevent aquifer mixing addressing the Oronogo OU4 Record of Decisions concern that contamination of the deep aquifer throughout Drilling Area 11 be prevented.

COMMENTS #3, #4, and #5: John Harrington, Chairperson of the Environmental Task Force of Jasper and Newton Counties, Anthony Moehr of the Jasper County Health Department, and Jeff Wenzel of the Missouri Department of Health and Senior Services all commented that they are opposed to the proposed rule changes to section 11 because it will increase risk to public health of residents as well as potentially cause the need for additional costly remediation activities in the future as newly drilled wells into the shallow aquifer are found to be contaminated. Further, the ETF is concerned that well testing will not be required; residents may unknowingly be exposed to harmful levels of lead and cadmium.

RESPONSE: See response and explanation of change to comment #1. No additional changes have been made to the rule as a result of this comment.

COMMENT #6: Chris Schaefer from Sunbelt Environmental proposed that the current sensitive area C should be expanded to include all of Christian County because of data that supports the rapid urbanization of Christian county and the presence of fractured cavernous limestone and pollutants which are able to migrate quickly, both vertically and horizontally. The same reasons that Sensitive Area C was made to begin with. Currently if someone lives just outside of sensitive area C (for instance in Highlandville MO) they would only be required to install a domestic water well with 80 feet of casing (no less than 15 feet into bedrock). Highlandville has a fault system which runs through it, adding to the complexity of karst and secondary porosity in the form of fractures. One well in particular (with 80 feet of casing) was proven to be contaminated by a neighboring livestock operation. This could have been avoided if sensitive area C had extended to include all of Christian county. The presence of the Northview shale allows people living in these areas to have access to clean water from the Ozarks Aquifer rather than from the Springfield Aquifer which has been well documented to have issues with surface contamination.

RESPONSE: This proposed amendment was part of the Red Tape Reduction Initiative pursuant to Executive Order 17-03. The purpose of this initiative was to remove burdensome restrictions and streamline government regulations. This proposal to expand Drill Area 9 (Sensitive Area C) to include all of Christian County is outside of the scope of the Red Tape Reduction Initiative, however this comment will be considered for future rulemaking efforts. No changes have been made to the rule as a result of this comment.

COMMENT #7: Kevin Gilbreath, Realtor commented that hard copy maps should be provided and asked if the list of certified labs would be provided to permittees.

RESPONSE: Hard copies of these maps may be obtained by contacting the Missouri Department of Natural Resources, Missouri Geological Survey, 111 Fairgrounds Road, Rolla, MO 65401

pursuant to 10 CSR 23-3.090(11)(A)1. A list of laboratories certified for drinking water analyses is maintained on the Department's website (<https://dnr.mo.gov/env/wpp/labs/index.html>) a hard copy may be obtained by contacting the Missouri Department of Natural Resources, Water Protection Program, Public Drinking Water Branch, P.O. Box 176, Jefferson City, MO 65102 or 800-361-4827. No changes have been made to the rule as a result of this comment.

COMMENT #8: Gary Parone, Realtor asked about sampling requirements in Newton and Jasper Counties.

RESPONSE AND EXPLANATION OF CHANGE: Comments received during the public comment period brought forth information on the importance of sampling new wells drilled into the upper aquifer outside of impact areas in Area 11. These requirements are reinstated for new upper aquifer wells, however, references to sampling new wells drilled, cased, and grouted through the lower aquifer for new wells are removed because the proposed amendments include construction requirements that will prevent aquifer mixing.

COMMENT #9: Mrs. Robin Mitchell wrote to support the proposed changes to Drill Area 11 and commented that access to public drinking water is limited in the area and that these changes will allow her family to drill water wells without the financial burden from the regulations.

RESPONSE: Comments received during the public comment period brought forth information on the importance of maintaining the current impact areas and not allowing new upper aquifer wells in these areas to protect future residents from drinking contaminated groundwater. The response and explanation of change under comment #1 provides additional justification. As described in the response and explanation of change to comment #8, references to sampling new wells drilled, cased, and grouted through the lower aquifer for new wells will be removed as proposed amendments include construction requirements that will prevent aquifer mixing. No changes have been made to the rule as a result of this comment.

COMMENTS #10, #11, and #12: John G. Mitchell, Rachele Bramlett, and Lisa Schade commented to support the proposed rule changes to Drill Area 11. (10 CSR 23-3.090) These changes will allow land owners to drill wells on their property without the extra cost brought on by the restrictions. Allowing residents to drill without costly restrictions based on the fact that there are wells that were drilled before the area was zoned and are free of contaminants makes sense. These changes should, at least, be allowed for areas that do not have TCE contamination. The areas with these contaminants are minimal and the rule changes should be allowed outside of these areas. At the minimum, should the rules be left in place; an option for testing should be allowed for individual land/homeowners that would allow them to apply for a special circumstance.

RESPONSE: Comments received during the public comment period brought forth information on the importance of maintaining the current impact areas and not allowing new upper aquifer wells in these areas to protect future residents from drinking contaminated groundwater. The response and explanation to comment #1 provides additional justification for making this change. As described in the response and explanation of change to comment #8, references to sampling new wells drilled, cased, and grouted through the lower aquifer for new wells will be removed because the proposed amendments include construction requirements that will prevent aquifer mixing. No changes have been made to the rule as a result of this comment.

COMMENT #13: Jim Harris with the Missouri Department of Natural Resources commented that Table 3.15 of the proposed rule should say Department of Army instead of Army Corps of Engineers and that it does not include all of the groundwater contaminants of concern for the Former Weldon Spring Ordinance Works. Groundwater contaminants of concern are: 2,4-dinitrotoluene (2,4-DNT), 2,6-dinitrotoluene (2,6-DNT), 2,4,6-trinitrotoluene (TNT), 1,3-dinitrobenzene (1,3-DNB), nitrobenzene (NB), ortho-nitrotoluene (o-NT), meta-nitrotoluene (m-NT), and para-nitrotoluene (p-NT). In addition the references to the contaminants exceeding MCL or AL of contaminants listed in Table 3.15 should also reference remedial goals stated in the Record of Decisions, or the risk-based value(s) calculated in the most recent site five-year review.

RESPONSE AND EXPLANATION OF CHANGE: Staff agree that these changes will clarify the contaminants of concern and any new information reflected in the Record of Decisions or five (5) year site reviews and have made the suggested changes to section (13) and Table 3.15.

COMMENT #14: Kaly Erwin representing Missouri Petroleum Storage Tank Insurance Fund commented that there is an error in the purpose statement where it says this rule sets construction standards and that Drill Area 5, Section 5 is missing a reference to domestic wells to make it consistent with the other sections. Ms. Erwin went on to state that an additional look be taken at unconsolidated wells in Area 5 to ensure the alluvial aquifer is not put at risk. Finally Ms. Erwin recommended wells drilled in the upper aquifer in Drill Area 11, Section 11 not be allowed out of concern for water quality in the upper aquifer.

RESPONSE: In the purpose statement to the proposed amendment 10 CSR 23-3.090, the bold italicized text is new text and the text in brackets is being removed. Proposed amendments to section (5)(B) address ambiguity in the regulations by providing construction requirements for unconsolidated wells that have casing diameters between six and five-eighths inches (6 5/8") and four inches (4"), while exempting small diameter (less than four inches) unconsolidated wells (i.e., sand-point wells) in Area 5. Previously it was unclear how wells that have casing diameters between six and five-eighths inches (6 5/8") and two inches (2") were regulated. For comments to section 11, Drill Area 11, see comment #1 and response and explanation of change. No changes have been made to the rule as a result of this comment.

10 CSR 23-3.090 Drilling Areas

(11) Area 11 (formerly Special Area 2). This area encompasses Newton and Jasper County and is delineated separately due to the contamination of portions of the upper aquifer by one (1) or more of the following: lead, cadmium, chlorinated VOCs including TCE, TCE degradation products, or other contaminants pursuant to 10 CSR 60-4. The upper aquifer (Springfield Plateau Aquifer) and lower aquifer (Ozark Aquifer) are separated by low-permeability bedrock (Ozark Confining Unit). This low-permeability bedrock limits migration of groundwater and any associated contamination from the upper aquifer to the lower aquifer (see Figure 3.2).

(A) Bedrock Wells.

1. Consult the digital geospatial dataset "DRILL AREAS" developed by the Missouri Department of Natural Resources, Missouri Geological Survey. Hard copies may be obtained by contacting the Missouri Department of Natural Resources, Missouri Geological Survey, 111 Fairgrounds Road, Rolla, MO 65401. This dataset identifies the maximum well depth for wells

completed in the upper aquifer; the required casing depth for a lower aquifer well; and Impact Areas.

2. Wells outside of Impact Areas may be installed in the upper aquifer provided they do not penetrate the Ozark Confining Unit; or wells may be installed and cased/sealed through the Ozark Confining Unit and open to only the lower aquifer.

3. New upper aquifer wells outside of Impact Areas.

A. Total depth of the well shall not penetrate the Ozark Confining Unit and not exceed the upper depth indicated digital geospatial dataset "DRILL AREAS".

B. A minimum of eighty feet (80') of casing shall be installed and extend a minimum of thirty feet (30') into solid bedrock. Example: If sixty feet (60') of residual material or broken rock is encountered during drilling above solid bedrock, then ninety feet (90') of casing will be installed.

C. The borehole for domestic wells shall be a minimum of eight and five-eighths inches (8 $\frac{5}{8}$ ") in diameter to casing depth.

D. Install new casing pursuant to 10 CSR 23-3.030(1)(A).

E. Grouting Requirements.

(I) The lowermost thirty feet (30') of casing shall be grouted. Table 3.10 lists the minimum amount of grout required by type and size of annulus or open hole.

(II) Grouting materials and methods shall be followed pursuant to 10 CSR 23-3.030(1)(C).

(III) The annular space above the grouted interval shall be filled with clean fill.

F. New upper aquifer wells shall follow sampling requirements pursuant to 10 CSR 23-3.090(11)(A)6.

4. New lower aquifer wells outside of the Impact Areas.

A. The casing shall be installed a minimum of ten feet (10') below the Ozark Confining Unit or to the lower depth indicated on the digital geospatial dataset "DRILL AREAS".

B. A casing point request may be submitted to the department.

C. Install new casing pursuant to 10 CSR 23-3.030(1)(A).

D. If steel casing is used, the borehole shall be a minimum of eight and five-eighths inches (8 $\frac{5}{8}$ ") in diameter to casing depth.

E. When steel casing is used and the minimum casing depth cannot be achieved due to geologic reasons, casing shall be installed to a minimum of eighty feet (80') extending thirty feet (30') into bedrock and a liner used to achieve the remaining casing depth provided the following requirements are met:

(I) Have a minimum annular space of one-half inch ($\frac{1}{2}$ ");

(II) Have a minimum of two (2) three (3)-ribbed rubber packers (K-packers) secured at or below the bottom of the Ozark Confining Unit pursuant to 10 CSR 23-3.090(11)(A)4.A.;

(III) Have the top of the liner extend to within ten feet (10') of the top of casing;

(IV) Have packers placed a maximum of ten feet (10') apart; and

(V) Grout pursuant to 10 CSR 23-3.090(11)(A)4.G. from the top packer to extend ten feet (10') inside the casing using the gravity or tremie grouting method using cement slurry or coated bentonite pellets;

(VI) Liner specifications shall be followed pursuant to 10 CSR 23-3.080(1), (2), (4), and (5).

F. If plastic casing is used, the borehole shall be a minimum of ten inches (10") in diameter to the casing depth. When plastic casing is used liner shall not be used in lieu of casing.

G. Grouting Requirements.

(I) Full length grout is required.

(II) Grouting methods shall be Tremie Pressure, Pressure, or Positive Displacement pursuant to 10 CSR 23- 3.030(1)(C)1.C., 10 CSR 23-3.030(1)(C)1.D., and 10 CSR 23- 3.030(1)(C)1.F.

(III) Grouting materials shall be cement slurry or high-solids bentonite slurry.

(IV) Wells with eighty feet (80') of casing may use grouting materials and methods pursuant to 10 CSR 23- 3.030(1)(C).

H. All construction requirements pursuant to 10 CSR 23- 3.030 shall be met except as provided in 10 CSR 23- 3.090(11)(A)4.G.

5. Major reconstruction of wells in Area 11 that involve exceeding the upper depth indicated in the digital geospatial dataset "DRILL AREAS" or penetrating the Ozark Confining Unit requires advanced written approval from the department.

6. Sampling Requirements for new upper aquifer wells.

A. Water sampling and analysis shall be performed for lead, cadmium, TCE and its degradation products for new wells.

B. Permitted pump installers and owners who self-install pumps are responsible for ensuring sampling is completed according to laboratory sampling protocol and submitting sample results within sixty (60) days of pump installation.

C. The laboratory that analyzes the sample shall be certified by the EPA or the department for such analyses.

D. Prior to sampling, the well shall be purged continuously for a minimum of two (2) hours and water samples collected from the tap closest to the well.

E. All new upper aquifer wells shall be constructed with a sampling port or tap within twenty feet (20') of the wellhead.

F. If an upper aquifer well contains levels of lead, cadmium, TCE or its degradation products that are above MCL or AL, the well shall—

(I) Be plugged full length with approved grout material; or

(II) Be reconstructed and sealed through the Ozark Confining Unit pursuant to 10 CSR 23- 3.090(11)(A)5.

7. Well installation in Impact Areas.

A. The casing shall be installed a minimum of ten feet (10') below the Ozark Confining Unit or to the lower depth indicated in the digital geospatial dataset "DRILL AREAS".

B. A casing point request may be submitted to the department.

C. Install new casing pursuant to 10 CSR 23-3.030(1)(A).

D. The borehole shall be a minimum of ten inches (10") in diameter to casing depth.

E. Grouting Requirements.

(I) Full length grout is required.

(II) Grouting methods shall be Tremie Pressure, Pressure, or Positive Displacement pursuant to 10 CSR 23- 3.030(1)(C)1.C., 10 CSR 23-3.030(1)(C)1.D., and 10 CSR 23- 3.030(1)(C)1.F.

(III) Grouting materials shall be cement slurry or high- solids bentonite slurry.

(B) Unconsolidated Material Wells.

1. If unconsolidated material wells are drilled in Area 11 outside of Impact areas, Drill Area 1 requirements for unconsolidated wells apply.

2. Advanced written approval from the department is required if unconsolidated material wells are drilled in Impact Areas.

(13) Area 13 (formerly Special Area 4). This area encompasses portions of St. Charles

County west of the city of Weldon Spring and is delineated separately due to contamination of portions of the aquifer by one (1) or more of the following known contaminants listed by source in Table 3.15. In this area it is necessary to implement more stringent well construction standards for new wells that are drilled into the aquifer and to limit the deepening of existing upper aquifer wells (see Figure 3.10).

Table 3.15. Known contaminants of Drill Area 13 by source.

Source	Known Contaminants ¹
U.S. Army	2,4,6-TNT, 2,4-DNT, 2,6-DNT, dinitrobenzene (1,3-DNB), nitrobenzene (NB), ortho-nitrotoluene (o-NT), meta-nitrotoluene (m-NT), para-nitrotoluene (p-NT)
Department of Energy Main Site	2,4,6-TNT, 2,4-DNT, 2,6-DNT, dinitrobenzene (1,3-DNB), nitrobenzene (NB), nitrate, uranium, and trichloroethylene (TCE)
Department of Energy Quarry	uranium and 2,4-DNT

¹May also include other contaminants pursuant to 10 CSR 60-4.

(A) New Wells.

1. Prior written approval and construction specifications shall be obtained from the department for any wells constructed in Area 13.

2. Water sampling for contaminants will be required pursuant to 10 CSR 23-3.090(13)(C).

3. Drilling shall cease and the department is to be notified immediately if contaminants listed in Table 3.15 or other contaminants pursuant to 10 CSR 60-4 are encountered at levels above the maximum contaminant level (MCL), action level (AL), remedial goals stated in the Record of Decisions, and/or the risk-based value(s) calculated in the most recent site five-year review. The department will determine further action.

(B) Reconstruction of Existing Wells.

1. Prior written approval and construction specifications shall be obtained from the department for any reconstructed wells in Area 13.

2. Groundwater sampling for contaminants listed in Table 3.15 or other contaminants pursuant to 10 CSR 60-4 will be required in advance of any deepening. Wells that are contaminated at levels exceeding maximum contaminant level (MCL), action level (AL), remedial goals stated in the Record of Decisions, and/or the risk-based value(s) calculated in the most recent site five-year review shall not be deepened.

3. Any well approved to be deepened which encounters contaminants listed in Table 3.15 or other contaminants pursuant to 10 CSR 60-4 at levels above maximum contaminant level (MCL), action level (AL), remedial goals stated in the Record of Decisions, and/or the risk-based value(s) calculated in the most recent site five-year review, drilling shall cease and the department shall be notified immediately. The department will determine further action.

(C) Water Sampling.

1. Groundwater sampling for contaminants is required according to laboratory sampling protocol for any new well or reconstruction and methods will be established on a case-by-case basis by the department.

2. The well installation contractor is responsible for ensuring sampling is conducted throughout the drilling process and results submitted in accordance with pre-approved department sampling methods. Final sampling of the well shall be completed by the pump installation contractor within sixty (60) days of pump installation. Wells will not be certified or registered until all sampling has been completed.

3. Sampling and analysis shall be performed for contaminants listed in Table 3.15.

4. The laboratory that analyzes the sample shall be certified by the EPA or the department for such analyses.

5. All new and deepened wells shall be constructed with a sampling port or tap at or before the pressure tank within twenty feet (20') of the wellhead.

(D) Plugging.

6. Wells shall be plugged full length using bentonite slurry or cement grout via one (1) of the tremie methods.

7. All plugging requirements in 10 CSR 23-3.110 shall be met except as required in 10 CSR 23-3.090(13)(D).

(D) All drilling-derived fluids, displaced water, and solid materials shall be containerized and sampled before disposal in accordance with federal, state, and local regulations based on analytical results.

(E) Any completed (new or reconstructed) well in which contaminants listed in Table 3.15 or other contaminants pursuant to 10 CSR 60-4 are encountered at levels above the maximum contaminant level (MCL), action level (AL), remedial goals stated in the Record of Decisions, and/or the risk-based value(s) calculated in the most recent site five-year review shall be plugged full-length (10 CSR 23-3.090(13)(D)) or with approval from the department the well owner may be allowed to use the well provided groundwater quality will not be degraded further.

(F) Notwithstanding these provisions, the federal government does not waive its rights and authority under federal law, regulations, or executive order within the boundaries and applicable jurisdiction of federal property.

**Title 10--DEPARTMENT OF
NATURAL RESOURCES
Division 23—Division of Geology and
Land Survey
Chapter 3--Well Construction
Code**

ORDER OF RULEMAKING

By the authority vested in the Well Installation Board under section 256.606, RSMo 2016, the board rescinds a rule as follows:

10 CSR 23-3.100 Sensitive Areas is rescinded.

A notice of proposed rulemaking containing the text of the proposed rescission was published in the *Missouri Register* on August 1, 2018 (43 MoReg 2246). No changes have been made in the text of the proposed rescission, so it is not reprinted here. This proposed rescission becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: No comments were received.

Title 10—DEPARTMENT OF NATURAL RESOURCES
Division 23—Well Installation
Chapter 3—Water Well Construction Code

ORDER OF RULEMAKING

By the authority vested in the Well Installation Board under section 256.606, RSMo 2016, the board amends a rule as follows:

10 CSR 23-3.110 Plugging of Water Wells is amended.

A notice of proposed rulemaking containing the text of the proposed amendment was published in the *Missouri Register* on August 1, 2018 (43 MoReg 2246-2250). No changes have been made in the text of the proposed amendment, so it is not reprinted here. This proposed amendment becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: No comments were received.

**Title 10—DEPARTMENT OF
NATURAL RESOURCES
Division 23—Division of Geology
and Land Survey
Chapter 4—Monitoring Well
Construction Code**

ORDER OF RULEMAKING

By the authority vested in the Well Installation Board under section 256.606, RSMo 2016, the board rescinds a rule as follows:

10 CSR 23-4.010 Definitions is rescinded.

A notice of proposed rulemaking containing the text of the proposed rescission was published in the *Missouri Register* on August 1, 2018 (43 MoReg 2250). No changes have been made in the text of the proposed rescission, so it is not reprinted here. This proposed rescission becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: No comments were received.

**Title 10—DEPARTMENT OF
NATURAL RESOURCES
Division 23—Division of Geology and
Land Survey
Chapter 4—Monitoring Well
Construction Code**

ORDER OF RULEMAKING

By the authority vested in the Well Installation Board under section 256.606, RSMo 2016, the board rescinds a rule as follows:

10 CSR 23-4.020 Certification and Registration for Monitoring Wells **is rescinded.**

A notice of proposed rulemaking containing the text of the proposed rule was published in the *Missouri Register* on August 1, 2018 (43 MoReg 2250). No changes have been made in the text of the proposed rescission, so it is not reprinted here. This proposed rescission becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: No comments were received.

**Title 10—DEPARTMENT OF
NATURAL RESOURCES
Division 23—Well Installation
Chapter 4—Monitoring Well
Construction Code**

ORDER OF RULEMAKING

By the authority vested in the Well Installation Board under section 256.606, RSMo 2016, the board rescinds a rule as follows:

10 CSR 23-4.030 Location of Wells is rescinded.

A notice of proposed rulemaking containing the text of the proposed rescission was published in the *Missouri Register* on August 1, 2018 (43 MoReg 2250). No changes have been made in the text of the proposed rescission, so it is not reprinted here. This proposed rescission becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: No comments were received.

**Title 10—DEPARTMENT OF
NATURAL RESOURCES
Division 23—Well Installation
Chapter 4—Monitoring Well
Construction Code**

ORDER OF RULEMAKING

By the authority vested in the Well Installation Board under section 256.606, RSMo 2016, the board amends a rule as follows:

10 CSR 23-4.050 General Protection of Groundwater Quality and Resources **is amended.**

A notice of proposed rulemaking containing the text of the proposed amendment was published in the *Missouri Register* on August 1, 2018 (43 MoReg 2250-2251). No changes have been made in the text of the proposed amendment, so it is not reprinted here. This proposed amendment becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: No comments were received.

**Title 10—DEPARTMENT OF
NATURAL RESOURCES
Division 23—Well Installation
Chapter 4—Monitoring Well
Construction Code**

ORDER OF RULEMAKING

By the authority vested in the Well Installation Board under section 256.606, RSMo 2016, the board amends a rule as follows:

10 CSR 23-4.060 Construction Standards for Monitoring Wells is amended.

A notice of proposed rulemaking containing the text of the proposed amendment was published in the *Missouri Register* on August 1, 2018 (43 MoReg 2251-2255). No changes have been made in the text of the proposed amendment, so it is not reprinted here. This proposed amendment becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: A public hearing on this proposed amendment was held on September 7, 2018, and the public comment period ended on September 14, 2018. At the public hearing, Department of Natural Resources staff explained the proposed amendment and one (1) comment was made.

COMMENT #1: Kaly Erwin representing the Missouri Petroleum Storage Tank Insurance Fund stated that they support the proposed amendment that all monitoring wells be uniquely identified at the surface completion.

RESPONSE: This amendment was proposed to provide clarity for well numbering while allowing flexibility on how each well is uniquely identified. No changes have been made to the rule as a result of this comment.

**Title 10—DEPARTMENT OF
NATURAL RESOURCES
Division 23—Well Installation
Chapter 4—Monitoring Well
Construction Code**

ORDER OF RULEMAKING

By the authority vested in the Well Installation Board under section 256.606, RSMo 2016, the board amends a rule as follows:

10 CSR 23-4.080 Plugging of Monitoring Wells **is amended.**

A notice of proposed rulemaking containing the text of the proposed amendment was published in the *Missouri Register* on August 1, 2018 (43 MoReg 2255). No changes have been made in the text of the proposed amendment, so it is not reprinted here. This proposed amendment becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: No comments were received.

**Title 10—DEPARTMENT OF
NATURAL RESOURCES
Division 23—Division of Geology and Land Survey
Chapter 5—Heat Pump Construction Code**

ORDER OF RULEMAKING

By the authority vested in the Well Installation Board under section 256.606, RSMo 2016, the board rescinds a rule as follows:

10 CSR 23-5.010 Definitions is rescinded.

A notice of proposed rulemaking containing the text of the proposed rescission was published in the *Missouri Register* on August 1, 2018 (43 MoReg 2256). No changes have been made in the text of the proposed rescission, so it is not reprinted here. This proposed rescission becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: No comments were received.

**Title 10—DEPARTMENT OF
NATURAL RESOURCES
Division 23—Division of Geology and
Land Survey
Chapter 5—Heat Pump Construction Code**

ORDER OF RULEMAKING

By the authority vested in the Well Installation Board under section 256.606, RSMo 2016, the board rescinds a rule as follows:

10 CSR 23-5.020 Certification and Registration of Heat Pump Systems is rescinded.

A notice of proposed rulemaking containing the text of the proposed rule was published in the *Missouri Register* on August 1, 2018 (43 MoReg 2256). No changes have been made in the text of the proposed rescission, so it is not reprinted here. This proposed rescission becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: No comments were received.

**Title 10—DEPARTMENT OF
NATURAL RESOURCES
Division 23—Well Installation
Chapter 5—Heat Pump Construction Code**

ORDER OF RULEMAKING

By the authority vested in the Well Installation Board under section 256.606, RSMo 2016, the board amends a rule as follows:

10 CSR 23-5.030 General Protection of Groundwater Quality and Resources **is amended.**

A notice of proposed rulemaking containing the text of the proposed amendment was published in the *Missouri Register* on August 1, 2018 (43 MoReg 2256). No changes have been made in the text of the proposed amendment, so it is not reprinted here. This proposed amendment becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: No comments were received.

**Title 10—DEPARTMENT OF
NATURAL RESOURCES
Division 23—Well Installation
Chapter 5—Heat Pump Construction Code**

ORDER OF RULEMAKING

By the authority vested in the Well Installation Board under section 256.606, RSMo 2016, the board amends a rule as follows:

10 CSR 23-5.040 Location of Heat Pump Wells is amended.

A notice of proposed rulemaking containing the text of the proposed amendment was published in the *Missouri Register* on August 1, 2018 (43 MoReg 2256-2257). No changes have been made in the text of the proposed amendment, so it is not reprinted here. This proposed amendment becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: No comments were received.

**Title 10—DEPARTMENT OF
NATURAL RESOURCES
Division 23—Well Installation
Chapter 5—Heat Pump Construction Code**

ORDER OF RULEMAKING

By the authority vested in the Well Installation Board under section 256.606, RSMo 2016, the board amends a rule as follows:

10 CSR 23-5.050 Construction Standards for Closed-Loop Heat Pump Wells **is amended.**

A notice of proposed rulemaking containing the text of the proposed amendment was published in the *Missouri Register* on August 1, 2018 (43 MoReg 2257-2259). No changes have been made in the text of the proposed amendment, so it is not reprinted here. This proposed amendment becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: A public hearing on this proposed amendment was held on September 7, 2018, and the public comment period ended on September 14, 2018. At the public hearing, Department of Natural Resources staff explained the proposed amendment and zero (0) comments were made. The Department of Natural Resources received one (1) additional comment on the proposed amendment.

COMMENT #1: An anonymous person stated remove the requirement to prenotify heat pump systems that are not full length grouted. Have there been any issues with the plugs since this became a requirement? Not making the groundwater safe, just another requirement on the driller.
RESPONSE: Pursuant to 10 CSR 23-5.050(7)(B) prenotification is a requirement only for closed-loop heat pump wells less than two hundred feet (200') deep that are not grouted full length, but use a series of five foot (5') plugs. Prenotification provides staff advanced notice to witness these installations and ensure this plugging method is being completed in accordance with regulations. No changes have been made to this rule as a result of this comment.

**Title 10—DEPARTMENT OF
NATURAL RESOURCES
Division 23—Well Installation
Chapter 5—Heat Pump Construction Code**

ORDER OF RULEMAKING

By the authority vested in the Well Installation Board under section 256.606, RSMo 2016, the board amends a rule as follows:

10 CSR 23-5.060 Construction Standards for Open-Loop Heat Pump Systems **is amended.**

A notice of proposed rulemaking containing the text of the proposed amendment was published in the *Missouri Register* on August 1, 2018 (43 MoReg 2259). No changes have been made in the text of the proposed amendment, so it is not reprinted here. This proposed amendment becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: No comments were received.

**Title 10—DEPARTMENT OF
NATURAL RESOURCES
Division 23—Well Installation
Chapter 5—Heat Pump Construction Code**

ORDER OF RULEMAKING

By the authority vested in the Well Installation Board under section 256.606, RSMo 2016, the board amends a rule as follows:

10 CSR 23-5.080 Plugging of Heat Pump Wells is amended.

A notice of proposed rulemaking containing the text of the proposed amendment was published in the *Missouri Register* on August 1, 2018 (43 MoReg 2259-2260). No changes have been made in the text of the proposed amendment, so it is not reprinted here. This proposed amendment becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: No comments were received.

**Title 10—DEPARTMENT OF
NATURAL RESOURCES
Division 23—Division of Geology
and Land Survey
Chapter 6—Test Hole Construction and
Plugging Code**

ORDER OF RULEMAKING

By the authority vested in the Well Installation Board under section 256.606, RSMo 2016, the board rescinds a rule as follows:

10 CSR 23-6.010 Definitions is rescinded.

A notice of proposed rulemaking containing the text of the proposed rescission was published in the *Missouri Register* on August 1, 2018 (43 MoReg 2260). No changes have been made in the text of the proposed rescission, so it is not reprinted here. This proposed rescission becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: No comments were received.

**Title 10—DEPARTMENT OF
NATURAL RESOURCES
Division 23—Well Installation
Chapter 6—Test Hole Construction Code**

ORDER OF RULEMAKING

By the authority vested in the Well Installation Board under section 256.606, RSMo 2016, the board amends a rule as follows:

10 CSR 23-6.020 General Protection of Groundwater Quality and Resources **is amended.**

A notice of proposed rulemaking containing the text of the proposed amendment was published in the *Missouri Register* on August 1, 2018 (43 MoReg 2260-2261). No changes have been made in the text of the proposed amendment, so it is not reprinted here. This proposed amendment becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: No comments were received.

**Title 10—DEPARTMENT OF
NATURAL RESOURCES
Division 23—Well Installation
Chapter 6—Test Hole Construction Code**

ORDER OF RULEMAKING

By the authority vested in the Well Installation Board under section 256.606, RSMo 2016, the board amends a rule as follows:

10 CSR 23-6.030 Location of Test Holes is amended.

A notice of proposed rulemaking containing the text of the proposed amendment was published in the *Missouri Register* on August 1, 2018 (43 MoReg 2261). No changes have been made in the text of the proposed amendment, so it is not reprinted here. This proposed amendment becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: No comments were received.

**Title 10—DEPARTMENT OF
NATURAL RESOURCES
Division 23—Well Installation
Chapter 6—Test Hole Construction Code**

ORDER OF RULEMAKING

By the authority vested in the Well Installation Board under section 256.606, RSMo 2016, the board amends a rule as follows:

10 CSR 23-6.040 Construction Standards for Test Holes is amended.

A notice of proposed rulemaking containing the text of the proposed amendment was published in the *Missouri Register* on August 1, 2018 (43 MoReg 2261). No changes have been made in the text of the proposed amendment, so it is not reprinted here. This proposed amendment becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: No comments were received.

NATURAL RESOURCES
Division 23—Well Installation
Chapter 6—Test Hole Construction Code

ORDER OF RULEMAKING

By the authority vested in the Well Installation Board under section 256.606, RSMo 2016, the board amends a rule as follows:

10 CSR 23-6.050 is amended.

A notice of proposed rulemaking containing the text of the proposed amendment was published in the *Missouri Register* on August 1, 2018 (43 MoReg 2261-2263). Those sections with changes are reprinted here. This proposed amendment becomes effective thirty (30) days after publication in the *Code of State Regulations*.

COMMENT: Since proposal of the rule amendment, Department staff determined that the proposed amendment may be interpreted to suggest that a previously mandatory Department obligation had become discretionary.

RESPONSE AND SUMMARY OF CHANGE: The Department is revising the language to add the word “shall” to section (1) in order to clarify the Department’s obligation.

10 CSR 23-6.050 Plugging of Test Holes

(1) All test holes, except those that are converted to other types of wells shall be plugged in accordance with this chapter within sixty (60) days from the date that the well was drilled. Submit plugging registration records pursuant to section 256.614.1, RSMo. Test holes are exempt from submitting construction certification records.

(A) Plugging the Test Hole.

1. Test holes with no surface casing.

A. Fill the test hole from total depth to within two feet (2') of ground surface with grout.

B. If the Davis Formation is penetrated, a grout plug shall extend from the bottom of the formation to within two feet (2') of ground surface.

C. A mechanical packer may be installed at the bottom of the Davis Formation or emplace clean fill from total depth to the bottom of the Davis Formation to hold the grout plug in place.

D. Fill the top two feet (2') of hole with soil.

2. Test holes with removable surface casing pipe.

A. Remove the surface casing and any interior casing if used.

B. Fill the test hole from total depth to within two feet (2') of ground surface with grout.

C. If the borehole has collapse potential, add grout as casing is withdrawn.

D. If the Davis Formation is penetrated, a grout plug shall extend from the bottom of the formation to within two feet (2') of ground surface.

E. A mechanical packer may be installed at the bottom of the Davis Formation or emplace clean fill from total depth to the bottom of the Davis Formation to hold the grout plug in place.

F. Fill the top two feet (2') of hole with soil.

3. Test holes with grouted nonremovable surface casing.

A. Cut the casing off two feet (2') below ground surface or three feet in an agricultural area. If bedrock is encountered, cut the casing flush with the top of bedrock.

B. Fill the test hole from total depth to within two feet (2') of ground surface with grout.

C. If the Davis Formation is penetrated, a grout plug shall extend from the bottom of the formation to within two feet (2') of ground surface.

D. A mechanical packer may be installed at the bottom of the Davis Formation or emplace clean fill from total depth to the bottom of the Davis Formation to hold the grout plug in place.

E. Fill the top two feet (2') of hole with soil.

**Title 10—DEPARTMENT OF
NATURAL RESOURCES
Division 23—Division of Geology and
Land Survey
Chapter 6—Test Hole Construction Code**

ORDER OF RULEMAKING

By the authority vested in the Well Installation Board under section 256.606, RSMo 2016, the board rescinds a rule as follows:

10 CSR 23-6.060 Confidentiality of Registration Report Form is rescinded.

A notice of proposed rulemaking containing the text of the proposed rule was published in the *Missouri Register* on August 1, 2018 (43 MoReg 2263). No changes have been made in the text of the proposed rescission, so it is not reprinted here. This proposed rescission becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: No comments were received.