DWR Updates and Geology and Well Construction in Division 2 and the Cheyenne Basin

January 14, 2021
Kevin Donegan, Andy Flor, and Matt Sares
Hydrogeology Section
Outline

• DWR Update - Kevin
  • DWR Website and eForms
  • BOE & Well Inspection Program
  • Nontributary Rulemaking
  • Miscellaneous Updates
Outline

• Geology and Well Construction
  • Division 2 (Arkansas Basin) - Andy
  • Cheyenne Basin (Northern Colorado) - Matt
Latest News

NOVEMBER 18, 2020

Resources for Water Users and Property Owners Impacted by Wildland Fire

This Memo provides information and resources related to water supply, wells and water hauling, measurement, dam safety, erosion, sedimentation control, flooding, and potential funding sources for water users and property owners impacted by wildland fire.

NOVEMBER 2, 2020

Memo to Well Owners within Fire Areas

This Informational Memo provides guidance on preventing groundwater contamination through wells damaged by fire.

NOVEMBER 2, 2020

Rule Calendar 2021

The Division of Water Resources Rule Calendar is required under Section 24-4-103.3.

View All

Upcoming Events

Rulemaking Hearing - Statewide Nontributary Rules

Wednesday, March 3, 2021 - Wednesday, March 3, 2021

Read More
In response to the Governor’s COVID-19 Stay at Home Order effective March 26, 2020, DWR staff are working remotely. Customers should use electronic means to communicate with DWR staff as processing documents received via mail may be delayed. General questions may be submitted through AskDWR or via email to our staff contacts. Applications may be submitted through DWRpermitonline@state.co.us and payment processing online is expected to continue.
New DWR Website

https://dwr.colorado.gov
Boards and Commissions

Board of Examiners of Water Well Construction and Pump Installation Contractors (BOE)

The Board of Examiners (BOE) has general supervision and authority over the construction and abandonment of wells and the installation of pumping equipment with the ability to adopt and revise related rules. BOE has authority to examine for, deny, approve, revoke, suspend, and renew the licenses of applicants and disseminate information to pump installation contractors and well construction contractors in order to protect and preserve the groundwater resources of the state. See the Statutory Duties of the Board of Examiners for additional details.

- Guidance Documents - Formal Directives
- Licensing & Continuing Education
- Rules & Regulations

BOE Meeting Information

Well Construction & Inspection
Boards and Commissions

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Guidance Documents - Formal Directives

<table>
<thead>
<tr>
<th>Topic</th>
<th>Document Type</th>
<th>Subject</th>
<th>Document Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open Board of Examiners</td>
<td>Policy</td>
<td>POLICY 2020-1: DEFINING HIGH RISK WELLS AND KEY PHASES OF WELL CONSTRUCTION</td>
<td>2020-02-03</td>
</tr>
<tr>
<td>Open Board of Examiners</td>
<td>Policy</td>
<td>POLICY 2020-2: ADVANCE NOTICE OF WELL CONSTRUCTION, PUMP INSTALLATION, CISTERN INSTALLATION, AND WELL ABANDONMENT</td>
<td>2020-02-03</td>
</tr>
<tr>
<td>Open Board of Examiners</td>
<td>Policy</td>
<td>POLICY 2020-3: SHORT-TERM DISCHARGES TO GROUNDWATER FROM WATER WELL ACTIVITIES</td>
<td>2020-02-03</td>
</tr>
</tbody>
</table>
# Board of Examiners Meetings

## BOE Meeting Schedule

<table>
<thead>
<tr>
<th>DATE</th>
<th>TIME</th>
<th>LOCATION / JOINING INFORMATION</th>
<th>MEETING DOCUMENTS &amp; RECORDINGS</th>
</tr>
</thead>
<tbody>
<tr>
<td>February 1, 2021</td>
<td>10:00 AM - 2:00 PM</td>
<td>Virtual Meeting: <a href="#">Join Google Hangout Meeting</a> By Phone: (US) +1 307-264-0155 PIN: 495 771 394#</td>
<td>Check link below, 1 week prior to meeting 1st Quarter Meeting</td>
</tr>
<tr>
<td>May 3, 2021</td>
<td>10:00 AM - 2:00 PM</td>
<td>Virtual Meeting: <a href="#">Join Google Hangout Meeting</a> By Phone: (US) +1 317-929-1676 PIN: 421 559 491#</td>
<td>Check link below, 1 week prior to meeting 2nd Quarter Meeting</td>
</tr>
<tr>
<td>August 2, 2021</td>
<td>10:00 AM - 2:00 PM</td>
<td>To be determined</td>
<td>Check link below, 1 week prior to meeting 3rd Quarter Meeting</td>
</tr>
<tr>
<td>November 1, 2021</td>
<td>10:00 AM - 2:00 PM</td>
<td>To be determined</td>
<td>Check link below, 1 week prior to meeting 4th Quarter Meeting</td>
</tr>
</tbody>
</table>

**Last Meeting of 2020**

<table>
<thead>
<tr>
<th>DATE</th>
<th>TIME</th>
<th>LOCATION / JOINING INFORMATION</th>
<th>MEETING DOCUMENTS &amp; RECORDINGS</th>
</tr>
</thead>
<tbody>
<tr>
<td>November 2, 2020</td>
<td>10:30 AM</td>
<td>Virtual Meeting: <a href="#">Join Google Hangout Meeting</a> By Phone: (US) +1 502-632-7718 PIN: 359 759 263#</td>
<td>Check link below, 1 week prior to meeting 4th Quarter Meeting</td>
</tr>
</tbody>
</table>

**Important Links:**
- [Complaint Process & Procedure - BOE](#)
- [Current Board Members (Previous Members)](#)
- [Well Construction & Inspection](#)

- [Board Member Training Manual - Best Practices for State Boards and Commissions](#)
- [Ask a Question and View FAQ](#)
In response to the Governor’s COVID-19 Stay at Home Order effective March 26, 2020, DWR staff are working remotely. Customers should use electronic means to communicate with DWR staff as processing documents received via mail may be delayed. General questions may be submitted through AskDWR or via email to our staff contacts. Applications may be submitted through DWRpermitsonline@state.co.us and payment processing online is expected to continue.
Approved Fluids & Additives, Log Waivers, Notifications, & Variances

- Approved Fluids & Additives
- Geophysical Log Waivers
- Notifications to Well Inspection Team
- Well Construction Variances

Important Links
- Board of Examiners (BOE) Meetings
- BOE Authority, Duties, Licensing, & Rules
- BOE Complaint Process & Procedure
- Licensed Contractor Lists
- Statewide Nontributary Groundwater Rules (Geophysical Logs: Rule 9)

Important Documents
- Forms - Well Construction & Inspection
- Water Well Construction Rules (2 CCR 402-2)
- Ask a Question and View FAQ
eForms

- Phase 1
  - Apply for a New Well Permit
  - Change in Ownership
  - Apply for a License
- Phase 2
  - Renew/Update a License
  - Construction/Installation Forms
  - Advance Notice & Risk Value Calculation
eForms

• Hope to launch this Spring

• Looking for Stakeholders for User Testing
  • Email me if interested, kevin.donegan@state.co.us
eForms

- Must have a CDSS Account, [dwr.state.co.us/tools](http://dwr.state.co.us/tools)
eForms Dashboard
First Available Forms

Well Permitting

Apply for New Well Permit
This application is designed to walk you through the process of applying for a new well permit, regardless of the well's use.

Change an Existing Permit
This application is designed to walk you through the process of changing or modifying your existing well permit.

Change of Ownership/Contact Information
Use this form if you need to update or change the owner's (or other associated individuals) contact information for a given permit. Please note, filing a Change of Ownership/Contact Information form is for contact information purposes ONLY. This action does not convey real property.

Refund Request
Use this form if you would like to request a refund.

Board of Examiners

Apply for Contractor License
Use this form if you would like to engage in the business of contracting for and performing either the construction and/or the repair of wells, the installation and/or repair of pumping equipment, or the installation and/or repair of cisterns connected to water well supply systems, and/or utilize special equipment or perform limited procedures in well construction, pump installation, or cistern installation.

Prerequisites:
- Per 37-91-105(2)(a) C.R.S., the contractor must be over the age of 21. This age requirement will be verified at the Board of Examiners written test.
- Per 37-91-105(2)(b) C.R.S., contractor's must be U.S. citizens or declare intention to become a citizen.

Update Contractor License
Use this form to update or manage the details of your Well Construction, Pump Installation, and/or Special License issued by the Board of Examiners of Water Well Construction and Pump Installation Contractors.
Location Spotter
Proposed Well Data

What is the proposed maximum pumping rate?* 15
What is the annual amount to be withdrawn?* 1
What is the anticipated depth of well(s) in feet?* 500
Please select the final aquifer:* FRACTURED CRYSSTALLINE
In what aquifer type is this well anticipated to be completed?* Type 2 (Unconfined)

Are you submitting a Well Construction Variance Request with this application?

Please upload a copy of your variance request.*

Maximum allowed file size is 10 MB.
BOE & Well Inspection Program

• BOE Admin Rule 8.1, effective 01/01/2021

• 8.1b. the Board, in conjunction with the CE Committee, will determine through policy the number of hours of approved continuing education that can be obtained by internet or online participation.
BOE & Well Inspection Program

• 8.1d. Due to significant limitations on the ability of people to meet in person due to the COVID-19 pandemic, all hours of accredited continuing education taken by internet or online participation from January 1, 2020 through January 31, 2021, may be used to obtain the required hours of continuing education. This Rule 8.1d. is repealed effective February 1, 2021, unless further extended by emergency or permanent rule.
DRAFT BOE Policies

• 2021-1 Continuing Education Obtained by Internet or Online Participation

• 2021-2 Poor Water Quality from Coal or Other Zones

• 2021-3 Construction Standards for Wells in the Northern High Plains Designated Basin
DRAFT Policy 2021-1

• Will set the number of hours of CE by internet or online participation for calendar year

• Determined by Board and CE Committee

• Reviewed during each 4th Quarterly BOE Meeting
DRAFT Policy 2021-2

• Updated from BOE Bulletin 2000-2

• Zones with poor quality water could be within permitted aquifer interval

• Drilling contractor must consult with well owner to determine if such zones should be sealed in production interval
DRAFT Policy 2021-3

• Geologic background BOE Policy 2003-3

• Alluvial (Type 3) aquifers: sediments deposited by modern streams during relatively recent time

• Ogallala and White River are considered “bedrock” due to their geologic age, not degree of lithification
DRAFT Policy 2021-3

• Within the Northern High Plains Designated Basin, the Ogallala and White River administered together

• Within NHP Basin the aquifer will be named the “High Plains Aquifer”

• The High Plains Aquifer is an unconfined bedrock aquifer, wells must be constructed as Type 2
## Northern High Plains Designated Basin

![Figure 67](image)

**Figure 67.** Geologic units ranging in age from Oligocene to Quaternary compose the High Plains aquifer. The permeable units consist of sand, sandstone, and gravel.

Open Board of Examiners Position

- Well Construction or Pump Installation Contractor
- Minimum 10 Years’ Experience
- July 1, 2021 to June 30, 2025
- Meetings typically held Room 814, 1313 Sherman Street, Denver, CO 80203 (or virtually)
Open Board of Examiners Position


• To Apply, https://www.colorado.gov/governor/boards-commissions-application

• For additional information please visit, https://www.colorado.gov/governor/boards-commissions
Well Inspection Program

• Legislative Audit Committee - December 7, 2020
• BOE does not support Advance Notice on all wells
• Office of State Auditor Recommendations to LAC
  1. Take no action
  2. Have DWR report back to LAC in 6 months
  3. Request legal opinion authority of SEO to require advance notice
  4. Sponsor legislation to require advance notice on all wells
  5. Notify applicable Committees to determine whether policy change related to program is warranted
High Risk Well Inspections

The Audit compared the number of inspections to constructed wells. The table below shows the number and percentage of inspections that were of high-risk and low-risk wells for the total number of wells inspected for the time period April 25, 2020 through October 31, 2020.

<table>
<thead>
<tr>
<th>Reporting Period</th>
<th>Total Number of Wells Inspected</th>
<th>Inspections of Low-Risk Well</th>
<th>Percentage of Inspections that were Low-Risk Wells</th>
<th>Inspections of High Risk Well</th>
<th>Percentage of Inspections that were High-Risk Wells</th>
</tr>
</thead>
<tbody>
<tr>
<td>Audit (FY 2018)</td>
<td>310</td>
<td>295</td>
<td>95%</td>
<td>15</td>
<td>5%</td>
</tr>
<tr>
<td>4/25/2020 thru 10/31/2020</td>
<td>257</td>
<td>98</td>
<td>38%</td>
<td>159</td>
<td>62%</td>
</tr>
</tbody>
</table>
Key Phase Well Inspections

The Audit also identified the number of the total wells inspected that were not inspected for a key phase. The table below shows the number and percentage of wells inspected that did include an inspection of a key phase for the time period April 25, 2020 through October 31, 2020.\(^3\)

<table>
<thead>
<tr>
<th>Reporting Period</th>
<th>Total Number of Wells Inspected</th>
<th>Well Not Inspected for a Key Phase</th>
<th>Percentage of Wells without Key Phase Inspection</th>
<th>Well Inspected for at Least One Key Phase</th>
<th>Percentage of Wells With at Least One Key Phase Inspection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Audit (FY 2018)</td>
<td>310</td>
<td>209</td>
<td>67%</td>
<td>101</td>
<td>33%</td>
</tr>
<tr>
<td>4/25/2020 thru 10/31/2020</td>
<td>257</td>
<td>17</td>
<td>7%</td>
<td>240</td>
<td>93%</td>
</tr>
</tbody>
</table>
### Key Phases Observed

<table>
<thead>
<tr>
<th>Key Phase</th>
<th>Observed</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Well Location</td>
<td>263</td>
<td>38%</td>
</tr>
<tr>
<td>Annular Space</td>
<td>116</td>
<td>17%</td>
</tr>
<tr>
<td>Minimum Grout</td>
<td>96</td>
<td>14%</td>
</tr>
<tr>
<td>Total Depth</td>
<td>91</td>
<td>13%</td>
</tr>
<tr>
<td>Disinfection</td>
<td>55</td>
<td>8%</td>
</tr>
<tr>
<td>Perforated Casing</td>
<td>36</td>
<td>5%</td>
</tr>
<tr>
<td>Pump Install</td>
<td>27</td>
<td>4%</td>
</tr>
<tr>
<td>Abandonment</td>
<td>6</td>
<td>1%</td>
</tr>
<tr>
<td>Cistern Install</td>
<td>0</td>
<td>0%</td>
</tr>
</tbody>
</table>
Legislative Audit Committee Decision

• Encouraged with progress so far
• DWR to report back in June 2021
• Focus on inspecting casing and grout

• [https://leg.colorado.gov/committees/legislative-audit-committee/2020-regular-session](https://leg.colorado.gov/committees/legislative-audit-committee/2020-regular-session)
Well Inspection Program

• Revised Advance Notice form in March 2020

• Received 632 notices (as of 1/12/21)

• Auto-calculating an Interim Risk Value (IRV) based on information provided in the notice and permit file

• Data from notices populate a Google Map for Inspectors
Well Inspection Program

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<table>
<thead>
<tr>
<th>Action</th>
<th>Action Date</th>
<th>Date Received</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permit Expiration Date</td>
<td>10/9/2022</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Well Inspected, Key Phase</td>
<td>12/2/2020</td>
<td>1/5/2021</td>
<td>Key Phase: Disinfection; cannot confirm minimum depth of grout.</td>
</tr>
<tr>
<td>Well Constructed</td>
<td>12/1/2020</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Well Inspected, Routine</td>
<td>11/28/2020</td>
<td></td>
<td>Routine Inspection: No change since previous visit.</td>
</tr>
<tr>
<td>Permit Issued</td>
<td>10/9/2020</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Application Information Submitted</td>
<td>9/30/2020</td>
<td>9/30/2020</td>
<td>Applicant submitted an amended application to change proposed use to only livestock, and submitted a letter from NWCWD</td>
</tr>
<tr>
<td>Application Information Requested</td>
<td>7/7/2020</td>
<td></td>
<td>Need letter from North Weld County Water District</td>
</tr>
<tr>
<td>Hydrogeology Review Completed</td>
<td>7/6/2020</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hydrogeology Review Requested</td>
<td>6/19/2020</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Application Received</td>
<td>6/9/2020</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Well Inspection Reports

<table>
<thead>
<tr>
<th>Receipt</th>
<th>Permit No</th>
<th>Permit Suf</th>
<th>Permit Rpl</th>
<th>Type</th>
<th>Annotated</th>
<th>Pages</th>
<th>Created</th>
</tr>
</thead>
<tbody>
<tr>
<td>View</td>
<td>10003925</td>
<td>318988</td>
<td></td>
<td>Well Construction</td>
<td>No</td>
<td>1</td>
<td>1/6/2021</td>
</tr>
<tr>
<td>View</td>
<td>10003925</td>
<td>318988</td>
<td></td>
<td>Well Inspection Report</td>
<td>No</td>
<td>4</td>
<td>11/30/2020</td>
</tr>
<tr>
<td>View</td>
<td>10003925</td>
<td>318988</td>
<td></td>
<td>Original File</td>
<td>No</td>
<td>11</td>
<td>10/9/2020</td>
</tr>
<tr>
<td>View</td>
<td>10003925</td>
<td>318988</td>
<td></td>
<td>Well Permit</td>
<td>No</td>
<td>2</td>
<td>10/9/2020</td>
</tr>
<tr>
<td>View</td>
<td>10003925</td>
<td>318988</td>
<td></td>
<td>Hydrogeologic Aquifer Evaluation</td>
<td>No</td>
<td>1</td>
<td>7/6/2020</td>
</tr>
</tbody>
</table>
WELL INSPECTION REPORT

Permit Receipt Number: 10003925  Permit Number: 318988

Inspector: CAJ

Date of inspection: 11/25/2020  Time Arrive: 12:45  Time Depart: 13:30

Division: 1  County: Weld  UTM Zone: ZONE 13  UTM X: 527647  UTM Y: 486623

Company: Alliance Irrigation Well & Pump  License: 889

Driller/Installer Personnel Onsite: no one onsite

Reason for Visit: Adv. Notice  Notice Required: YES  Notice Received: YES

Key Phases Observed:  Comments:

X  Well Location

X  Annular Space  +3" due to poor centralization in upper portion of casing  Rule 10.4.4 and 10.4.1

Total Depth

X  Minimum Grout  about 39 lbs, does not yet meet Rules.

Perforated Casing

Pump Install

Cistern Install

Disinfection

Abandonment

Well Inspection Report
Receipt No. 10003925
page 2 of 4

Additional Comments:

Found the rig apparently set up for haliburton pumping of grout with 7" steel casing in an approx 10" ID PVC conductor pipe. Found an approx 11" bit onsite. Fresh grout was observed in the discharge channel near the rig. Possible top of grout was measured to be about 39" bgs. The steel casing didn’t appear to be centralized within the borehole/conductor pipe. Though the borehole/conductor size relative to the casing diameter would suggest there should be sufficient annulus, it does not appear from the position of the surface casing at the top of the borehole that the casing is adequately centralized or that adequate annulus is present on the NW side of the pipe to provide grout cover on all sides of the casing. Rule 10.4.4 and 10.4.1. (Follow up call with Larry on 11-30 indicates Contractor will use the rig to centralize the top of the casing when they top off the grout.)

The information contained in this report reflects only what was observed during the inspection and does not endorse the well construction, pump installation, cistern installation, and/or abandonment. The responsible individual who certifies the work report pursuant to Rule 17.4 (2 CCR 402.2) is solely responsible for the work performed by them or under their direction or supervision.
**Hydrogeologic Aquifer Evaluation**

<table>
<thead>
<tr>
<th>WELL PERMIT NUMBER</th>
<th>318948-1</th>
</tr>
</thead>
<tbody>
<tr>
<td>RECEIPT NUMBER</td>
<td>10003925</td>
</tr>
</tbody>
</table>

**ORIGINAL PERMIT APPLICANT(S):**
DANE DYER

**APPROVED WELL LOCATION**
- **Water Division:** 1
- **Water District:** 1
- **Designated Basin:** N/A
- **Management District:** N/A
- **County:** WELD
- **Parcel Name:** AMRE-3146
- **Lot:** 8
- **Block:** Filing
- **Physical Address:** VACANT LAND EATON, CO 80615

SE 1/4 NW 1/4 Section 33 Township 70 N Range 64 W Sixth P.M.

*Wells to be constructed on specified tract of land*

**PERMIT TO CONSTRUCT A NEW WELL**

**EASEMENT OF THIS PERMIT DOES NOT CONFER A WATER RIGHT**

**CONDITIONS OF APPROVAL**

1. This well shall be used in such a way as to cause no material injury to existing water rights. The issuance of this permit does not ensure that no injury will occur to another vested water right or preclude another owner of a vested water right from seeking relief in a civil court action.

2. The construction of this well shall be in compliance with the Water Well Construction Rules 1 CCR 402-2, unless approval of this variance has been granted by the State Board of Examiners of Water Well Construction and Pump Installation Contractors in accordance with Rule 18.

3. Approved pursuant to C.R. 37-72(402-2)(a)(ii)(c) as the only well on a tract of land of 45.39 acres described as lot B, Amended Recorded Exemption A/REC-3146, Weld County.

4. Approved for the watering of livestock on a farm or ranch.

5. The pumping rate of this well shall not exceed 15 GPM.

6. Pursuant to Rule 6.2.3 of the Water Well Construction Rules, the well construction contractor shall submit the actual well location on well reports required by Rule 17.1 within 60 days of completion of the well. The measured location must be accessible to 200 feet of the actual location. The location information must include a GPS location (UHE coordinates) pursuant to the Division of Water Resources’ guidelines.

7. **ADVANCE NOTICE REQUIRED** - Pursuant to Construction Rules 6.2.1.1 (2 CCR 402-2), licensed or private drillers and pump installers must provide advance notification (at least 24 hours) to the State Engineer prior to each of the following for this well: well construction, the initial installation of the pump, and final installation of a system connected to the water well supply system. Any change of anticipated date of construction/installation must be re-notified at least 24 hours prior to revised anticipated date. Information regarding the notification process and a link to the electronic notification form can be found at: [www.water.state.co.us](http://www.water.state.co.us).

**NOTE:** A hydrogeologic aquifer evaluation has been completed for this permit and the details of the evaluation can be viewed in the hydrogeologic aquifer evaluation mapped document and the original permit file.

**NOTE:** At the proposed well location, the Laramie Formation is located at or near the ground surface and extends to a depth of approximately 240 feet. Wells completed in the Laramie Formation must be constructed in accordance with Well Construction Rule 10.5-6 (2 CCR 402-2) for a Type II aquifer.

**NOTE:** At the proposed well location, the Laramie-Fox Hills aquifer is located at a depth of approximately 240 feet and extends to a depth of approximately 460 feet. Wells completed in this Laramie-Fox Hills aquifer must be constructed with solid steel casing and grouted in accordance with Well Construction Rule 10.5-6 (2 CCR 402-2).

**NOTE:** This permit will expire on the expiration date written on the permit. Removal of evidence or alteration of the permit is prohibited by law. A Water Construction and Yield Estimate Report (GW-31) must be submitted to the Division of Water Resources to verify the well has been constructed. An extension of the expiration date may be available. Contact the DWR for additional information or refer to the extension request form (GW-40) available at: [www.water.state.co.us](http://www.water.state.co.us).
<table>
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</tr>
<tr>
<td>Hydrogeology Review Completed</td>
</tr>
<tr>
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</tr>
<tr>
<td>Application Received</td>
</tr>
</tbody>
</table>
Hydrogeologic Aquifer Evaluation
Hydrogeologic Aquifer Evaluation

Evaluator: Javier Vargas-Johnson
Receipt No.: 10003925
Location: SE 1/4 NW 1/4 Section 33, Township 7 North, Range 64 West, 6th P.M., Rule 6.2.3

Aquifer(s) Requested: Shale

Request: The proposed well is within the Cheyenne Basin and has a proposed depth of 400 feet. Please provide aquifer interval depths and necessary well construction rules. There was a 2020 hydrogeo review for receipt no. 3694293 not too far away.

<table>
<thead>
<tr>
<th>Consultation</th>
<th>Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>05/27/2020</td>
<td></td>
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<tr>
<td>05/10/2025</td>
<td></td>
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<tr>
<td>03/15/2025</td>
<td></td>
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<tr>
<td>02/27/2025</td>
<td></td>
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</tbody>
</table>

Special Permit
Conditions:
- Labrador Formation from surface to 240 feet
  - Rule 0.75-1 m³/h
  - (1400 - 5400 feet)
- Labrador for HOUSE Formation from 240 feet to 560 feet
  - Rule 0.75-1 m³/h
  - (1400 - 5400 feet)

Hydrogeologist Signature: [Signature]
Date: 7/1/2020
Nontributary Groundwater Rules

• Amending Rules (2 CCR 402-7) - Hearing: March 3, 2021
• Proposed Rule 9.1.3
  • Licensed Contractors or Private Drillers, who construct wells are responsible for obtaining and submitting the required geophysical logs on behalf of the well owner.
  • If the geophysical log is not obtained before casing is installed, the State Engineer may require a log from uncased borehole (test hole) or through the casing (See Rule 9.6.1).
**Nontributary Groundwater Rules**

- Proposed Rule 9.2
- Waivers for partial penetration and logs within 1,320 ft
- Proposed Rule 9.3

<table>
<thead>
<tr>
<th>Required Geophysical Logs</th>
<th>Additional Recommended Geophysical Logs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resistivity (shallow and deep)</td>
<td>Density (Porosity)</td>
</tr>
<tr>
<td>Gamma</td>
<td>Neutron</td>
</tr>
<tr>
<td>Spontaneous Potential (SP)</td>
<td>Single Point Resistance (SPR)</td>
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<tr>
<td>Caliper</td>
<td>Sonic</td>
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<tr>
<td></td>
<td>Magnetic Resonance</td>
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</tbody>
</table>
Nontributary Groundwater Rules

Proposed Rule 9.7

Timelines to Confirm or Amend Permitted Intervals

• SEO will respond ASAP (but < 12 hours) if notified:
  • ~2 business days before TD
  • ~12 hours before anticipated logging
  • When logging commences with anticipated end time

• SEO will respond ASAP (< 1 business day) if not notified
Wildland Fire Resources

Posted on https://dwr.colorado.gov

“Water Users and Property Owners Impacted by Wildland Fire”
https://dnrweblink.state.co.us/dwr/0/edoc/3687725/DWR_3687725.pdf?searchid=da35b77d-6b66-4eac-974e-01d2614af849

“Well Owners within Fire Areas”
https://dnrweblink.state.co.us/dwr/0/edoc/3681575/DWR_3681575.pdf?searchid=8cf5be2e-c9e9-4c81-a499-1fa797ca2b59
## Questions?

<table>
<thead>
<tr>
<th>Job Title</th>
<th>Full Name</th>
<th>E-Mail Address</th>
<th>Business Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chief of Hydrogeology</td>
<td>Matt Sares</td>
<td><a href="mailto:Matt.Sares@state.co.us">Matt.Sares@state.co.us</a></td>
<td>(303) 866-3581 Ext. 8290</td>
</tr>
<tr>
<td>Hydrogeologist, Senior</td>
<td>Kevin Donegan</td>
<td><a href="mailto:Kevin.Donegan@state.co.us">Kevin.Donegan@state.co.us</a></td>
<td>(303) 866-3581 Ext. 8221</td>
</tr>
<tr>
<td>Hydrogeologist</td>
<td>Andrew Flor</td>
<td><a href="mailto:Andrew.Flor@state.co.us">Andrew.Flor@state.co.us</a></td>
<td>(303) 866-3581 Ext. 8218</td>
</tr>
<tr>
<td>Hydrogeologist</td>
<td>Ashley Lennon</td>
<td><a href="mailto:Ashley.Lennon@state.co.us">Ashley.Lennon@state.co.us</a></td>
<td>(303) 866-3581 Ext. 8283</td>
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<tr>
<td>Chief of Well Inspection</td>
<td>Doug Stephenson</td>
<td><a href="mailto:Douglas.Stephenson@state.co.us">Douglas.Stephenson@state.co.us</a></td>
<td>(303) 866-3581 Ext. 8270</td>
</tr>
<tr>
<td>Well Inspector, Divisions 1 &amp; 2</td>
<td>Chris Jones</td>
<td><a href="mailto:Chris.Jones@state.co.us">Chris.Jones@state.co.us</a></td>
<td>(720) 618-9982</td>
</tr>
<tr>
<td>Well Inspector, Division 3</td>
<td>Larry Hakes</td>
<td><a href="mailto:Larry.Hakes@state.co.us">Larry.Hakes@state.co.us</a></td>
<td>(719) 588-8142</td>
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