

Groundwater Application Review Summary Form

Application # G- 19443

GW Reviewer Joe Kemper Date Review Completed: 12/11/2024

Summary of GW Availability and Injury Review:

☐ Groundwater for the proposed use is either over appropriated, will not likely be available in the amounts requested without injury to prior water rights, OR will not likely be available within the capacity of the groundwater resource per Section B of the attached review form.

Summary of Potential for Substantial Interference Review:

☒ There is the potential for substantial interference per Section C of the attached review form.

Summary of Well Construction Assessment:

☐ The well does not appear to meet current well construction standards per Section D of the attached review form. Route through Well Construction and Compliance Section.

This is only a summary. Documentation is attached and should be read thoroughly to understand the basis for determinations and for conditions that may be necessary for a permit (if one is issued).

WATER RESOURCES DEPARTMENT

MEMO

12/11/2024

TO: Application G- 19443

FROM: GW: Joe Kemper
(Reviewer's Name)

**SUBJECT: Scenic Waterway Interference & General/Local Surface Water
Evaluation for Deschutes Ground Water Study Area**

The source of appropriation is within or above the Deschutes Scenic
Waterway

Use the Scenic Waterway condition (Condition 7J).

PREPONDERANCE OF EVIDENCE FINDING UNDER ORS 390.835:

Department has found that there is a preponderance of evidence that the proposed use of groundwater will measurably reduce the surface water flows necessary to maintain the free-flowing character of the Deschutes Scenic Waterway in quantities necessary for recreation, fish and wildlife.

LOCALIZED IMPACT FINDING

☐ The proposed use of groundwater will have a localized impact
to surface water in the [River Name] River/Creek Subbasin.

If the localized impact box above is checked, then the water use under any right issued pursuant to this application is presumed to have a localized impact on surface water within the identified subbasin. Mitigation of the impact, originating from within the Local Zone of Impact identified by the Department, will be required before a permit may be issued for the proposed use.

If the localized impact box above is not checked, then the water use under any right issued pursuant to this application is presumed to have a general (regional) impact on surface water. Mitigation of the impact, originating anywhere within the Deschutes Basin above the Madras gage, will be required before a permit may be issued for the proposed use.

PUBLIC INTEREST REVIEW FOR GROUNDWATER APPLICATIONS

TO: Water Rights Section Date 12/11/2024
FROM: Groundwater Section Joe Kemper
Reviewer's Name
SUBJECT: Application G- 19443 Supersedes review of NA
Date of Review(s)

PUBLIC INTEREST PRESUMPTION; GROUNDWATER

OAR 690-310-130 (1) *The Department shall presume that a proposed groundwater use will ensure the preservation of the public welfare, safety and health as described in ORS 537.525.* Department staff review groundwater applications under OAR 690-310-140 to determine whether the presumption is established. OAR 690-310-140 allows the proposed use be modified or conditioned to meet the presumption criteria. **This review is based upon available information and agency policies in place at the time of evaluation.**

A. GENERAL INFORMATION: Applicant's Name: Broken Top Family Farms County: Jefferson

A1. Applicant(s) seek(s) 1.75 cfs from 1 well(s) in the Deschutes Basin,
Lower Crooked subbasin

A2. Proposed use Supplemental Irrigation (140.12 acres) Seasonality: 1/1 to 12/31 (based on underlying certificate)

A3. Well and aquifer data (attach and number logs for existing wells; mark proposed wells as such under logid):

| POA Well | Logid | Applicant's Well # | Proposed Aquifer* | Proposed Rate(cfs) | Location (T/R-S QQ-Q) | Location, metes and bounds, e.g. 2250' N, 1200' E fr NW cor S 36 |
|----------|------------|--------------------|-------------------|--------------------|-----------------------|--|
| 1 | JEFF 51763 | 1 | Volcanics | 1.75 | 12S/12E-34 SE SW | 170' N, 2550' E fr SW Cor S 34 |
| 2 | | | | | | |
| 3 | | | | | | |
| 4 | | | | | | |

* Alluvium, CRB, Bedrock

| POA Well | Well Depth (ft) | Seal Interval (ft) | Casing Intervals (ft) | Liner Intervals (ft) | Perforations Or Screens (ft) | Well Yield (gpm) | Drawdown (ft) | Test Type |
|----------|-----------------|--------------------|-----------------------|----------------------|------------------------------|------------------|---------------|-----------|
| 1 | 985 | 0-71 | 0-898 | Na | Na | 200 | | Air |
| 2 | | | | | | | | |
| 3 | | | | | | | | |
| 4 | | | | | | | | |

| POA Well | Land Surface Elevation at Well (ft amsl) | Depth of First Water (ft bls) | SWL (ft bls) | SWL Date | Reference Level (ft bls) | Reference Level Date |
|----------|--|-------------------------------|--------------|----------|--------------------------|----------------------|
| 1 | 2820 | 745 | 745 | 6/8/2023 | NA | NA |
| 2 | | | | | | |
| 3 | | | | | | |
| 4 | | | | | | |

Use data from application for proposed wells.

A4. **Comments:** A reference level is not chosen at this time because there may be additional opportunities to characterize water level trends in this part of the aquifer.

A5. ☒ **Provisions of the** Deschutes (OAR 690-505) Basin rules relative to the development, classification and/or management of groundwater hydraulically connected to surface water ☒ **are**, or ☐ **are not**, activated by this application.
(Not all basin rules contain such provisions.)
Comments: Impacts to surface water are addressed by the Deschutes basin mitigation program as defined in basin rule.

A6. ☐ **Well(s) #** _____, _____, _____, _____, _____, tap(s) an aquifer limited by an administrative restriction.
Name of administrative area: _____
Comments: _____

B. GROUNDWATER AVAILABILITY CONSIDERATIONS, OAR 690-310-130, 400-010, 410-0070

B1. **Based upon available data**, I have determined that groundwater* for the proposed use:

- a. ☐ is over appropriated, ☒ is not over appropriated, or ☐ cannot be determined to be over appropriated during any period of the proposed use. * This finding is limited to the groundwater portion of the over-appropriation determination as prescribed in OAR 690-310-130;
- b. ☐ will not or ☐ will likely be available in the amounts requested without injury to prior water rights. * This finding is limited to the groundwater portion of the injury determination as prescribed in OAR 690-310-130;
- c. ☐ will not or ☐ will likely to be available within the capacity of the groundwater resource; or
- d. ☒ will, if properly conditioned, avoid injury to existing groundwater rights or to the groundwater resource:
 - i. ☒ The permit should contain condition #(s) 7RLN (March), Large-Water Use Reporting;
 - ii. ☐ The permit should be conditioned as indicated in item 2 below.
 - iii. ☐ The permit should contain special condition(s) as indicated in item 3 below;

- B2.
- a. ☐ **Condition** to allow groundwater production from no deeper than _____ ft. below land surface;
 - b. ☐ **Condition** to allow groundwater production from no shallower than _____ ft. below land surface;
 - c. ☐ **Condition** to allow groundwater production only from the _____ groundwater reservoir between approximately _____ ft. and _____ ft. below land surface;
 - d. ☐ **Well reconstruction** is necessary to accomplish one or more of the above conditions. The problems that are likely to occur with this use and without reconstructing are cited below. Without reconstruction, I recommend withholding issuance of the permit until evidence of well reconstruction is filed with the Department and approved by the Groundwater Section.

Describe injury –as related to water availability– that is likely to occur without well reconstruction (interference w/ senior water rights, not within the capacity of the resource, etc): _____

- B3. **Groundwater availability remarks:** The application requests supplemental irrigation of 140.12 acres at a maximum rate of 1.75 cfs (785 gpm) not to exceed a total annual volume of 280.24 AF. The applicant's property has a primary irrigation right (Certificate 72279) and is served by North Unit Irrigation District under. The application requests a single POA, JEFF 51763. The well produces from interbedded mafic lavas and sediments of the Deschutes Formation from 2075 to 1835 feet amsl. Wells at Opal Springs ~1 mile to the west are drilled from ~2000 to 1250 ft amsl, indicating an aquifer thickness of 750 feet in that area. Juniper Butte is located approximately 2 miles east and is comprised of the lower permeability, weathered volcanics of the John Day Formation. The Deschutes Formation at JEFF 51763 transitions to a pinch out from west to east as it onlaps the John Day Formation at Juniper Butte. The log for JEFF 51763 indicates saturated thickness of at least 240 feet at that location. The cross section below suggests that JEFF 51763 is producing from the same water-bearing rock units as the upper extent of the Opal Springs wells. Although water level data is limited for this group, all four wells have reported water level elevations between 2075 and 2110 feet amsl. Longer-term observation wells up gradient in the system do not indicate high magnitude declines at this time.

There is limited domestic well development in this area. The target aquifer is several hundred feet thick in this area, has a small degree of seasonal variation, and is highly permeable. It is unlikely that any well-to-well interference caused by JEFF 51763 would be large enough in magnitude to meet the standard of injury.

C. GROUNDWATER/SURFACE WATER CONSIDERATIONS, OAR 690-09-040

C6. **SW / GW Remarks and Conditions:** Impacts to surface water are addressed by the Deschutes basin mitigation program as defined in basin rule.

References Used:

Gannett, M. W., Lite Jr, K. E., Morgan, D. S., and Collins, C. A., 2001, Ground-Water Hydrology of the Upper Deschutes Basin, Oregon, USGS Water-Resources Investigations Report 00-4162, 74 p., <https://pubs.usgs.gov/wri/wri004162/pdf/WRIR004162.pdf>

Lite, K. E. and Gannett, M. W., 2002, Geologic Framework of the Regional Ground-Water Flow System in the Upper Deschutes Basin, Oregon. USGS Water-Resources Investigation Report 02-4015, 44 p., <https://pubs.er.usgs.gov/publication/wri024015>

Gannett, M. W. and Lite, K. E., 2004, Simulation of Regional Ground-Water Flow in the Upper Deschutes Basin, Oregon, USGS Water Resources Investigation Report 2003-4195, 84 p., <https://pubs.er.usgs.gov/publication/wri034195>

Gannett, M.W., Lite, K.E., Jr., Risley, J.C., Pischel, E.M., and La Marche, J.L., 2017, Simulation of groundwater and surface-water flow in the upper Deschutes Basin, Oregon: U.S. Geological Survey Scientific Investigations Report 2017-5097, 68 p., <https://doi.org/10.3133/sir20175097>.

Sherrod, D. R., Taylor, E. M., Ferns, M. L., Scott, W. E., Conrey, R. M. and Smith, G. A., 2004, Geologic Map of the Bend 30-x-60-Minute Quadrangle, Central Oregon. U. S. Geological Survey Geologic Investigations Series Map I-2683. 49p., <https://pubs.usgs.gov/imap/i2683/>

D. WELL CONSTRUCTION, OAR 690-200

D1. **Well #:** _____ **Logid:** _____

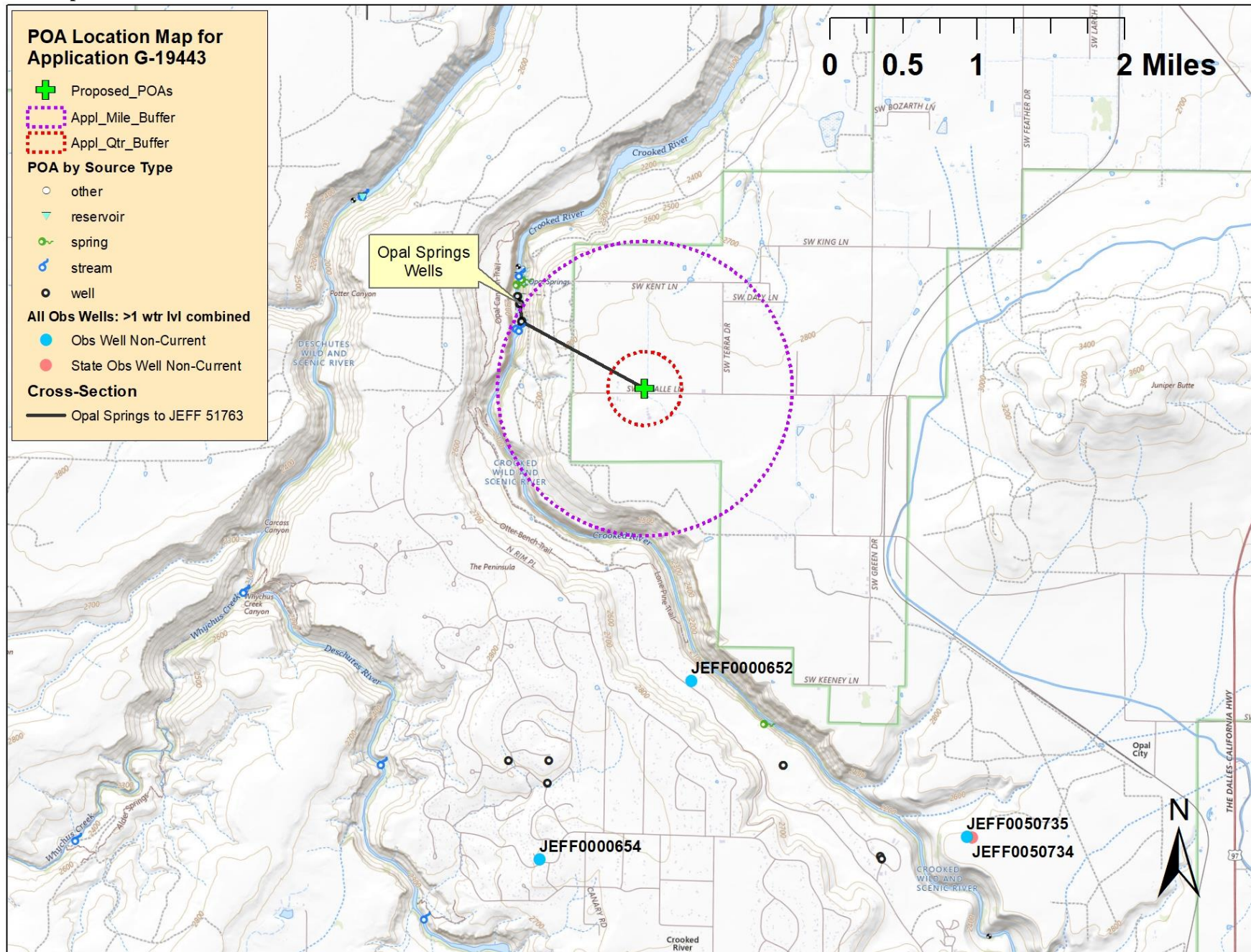
D2. **THE WELL does not appear to meet current well construction standards based upon:**

- a. ☐ review of the well log;
- b. ☐ field inspection by _____;
- c. ☐ report of CWRE _____;
- d. ☐ other: (specify) _____

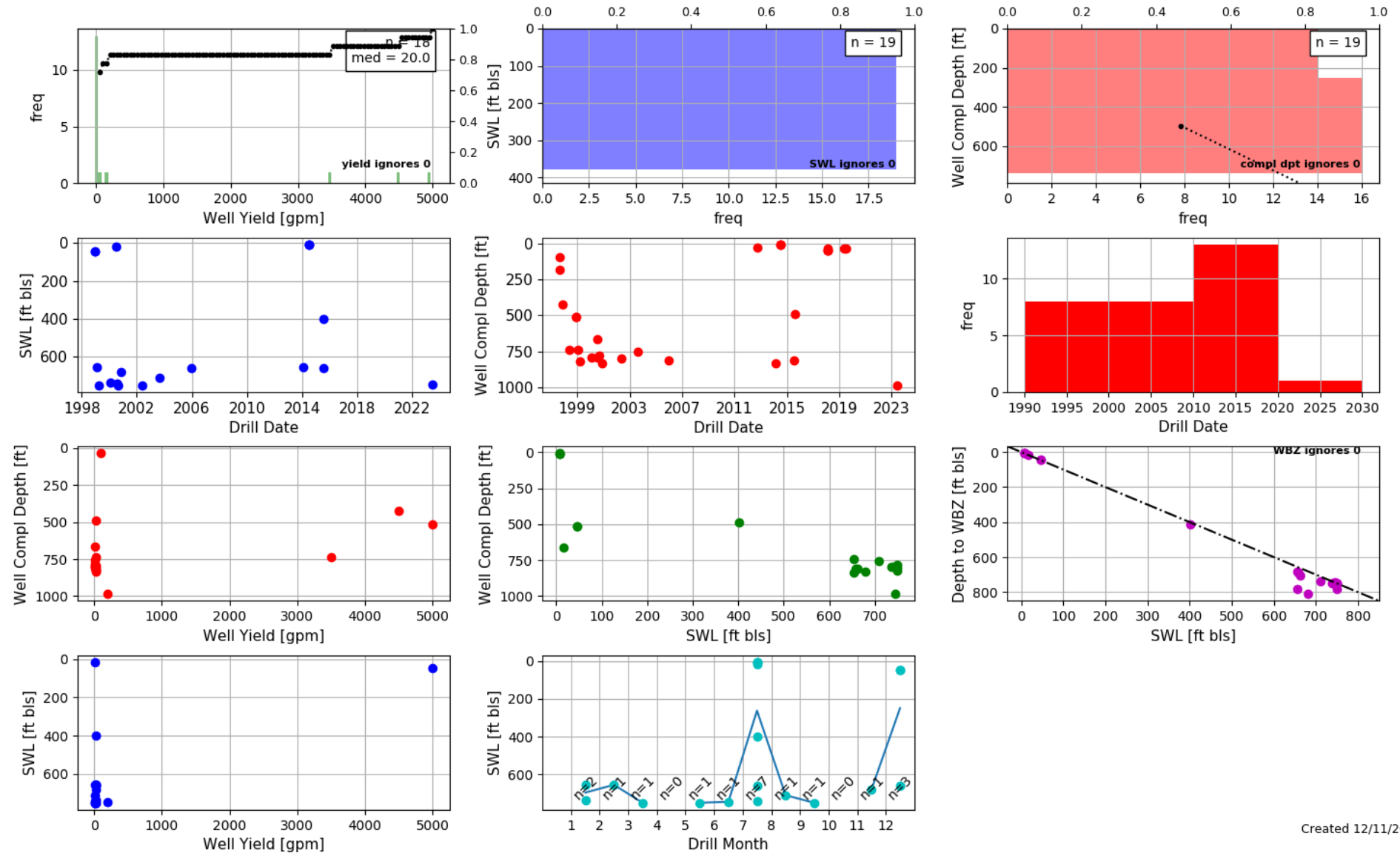
D3. **THE WELL construction deficiency or other comment is described as follows:** _____

D4. ☐ **Route to the Well Construction and Compliance Section for a review of existing well construction.**

Well Location Map

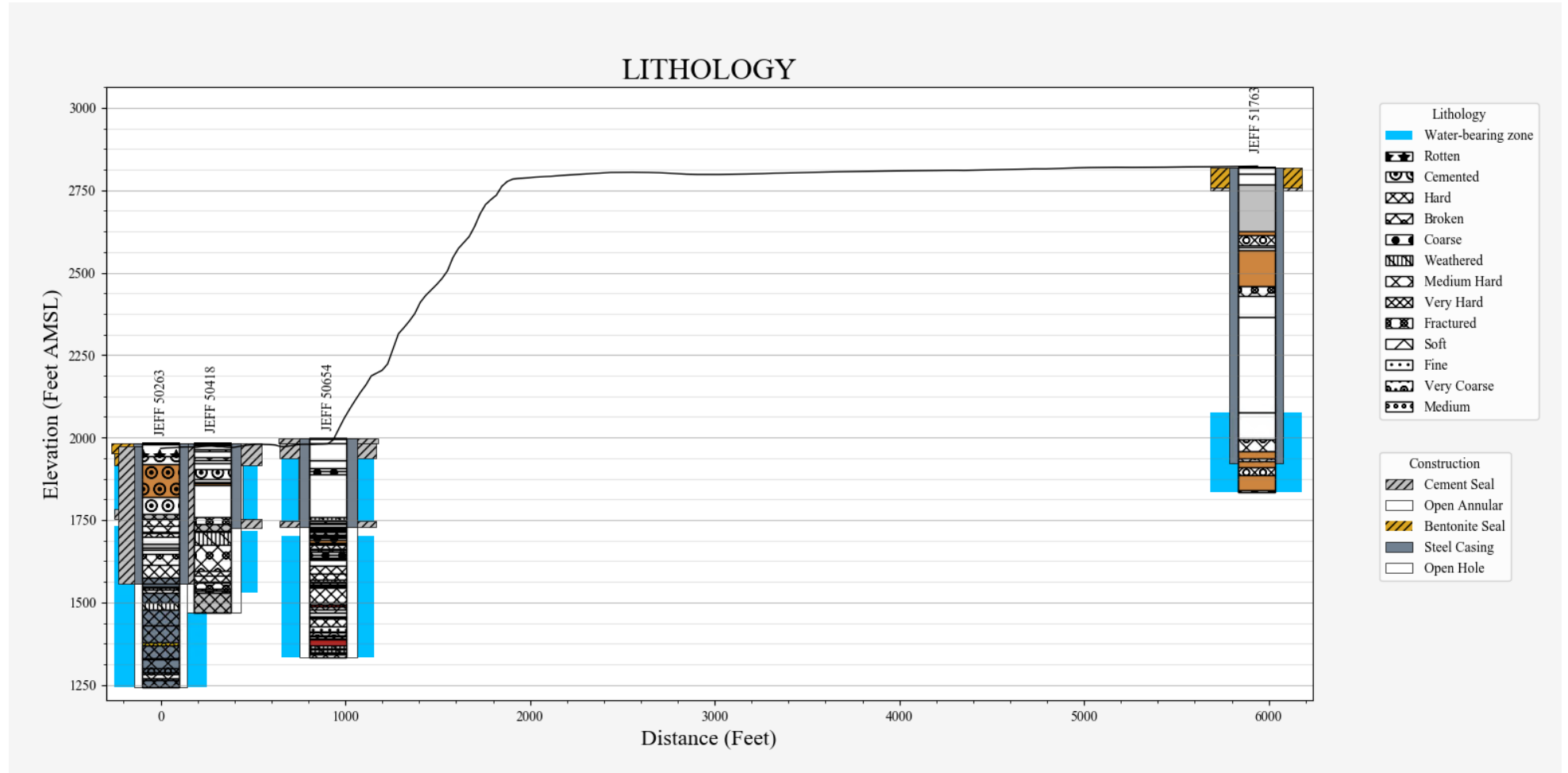


Well Statistics for Reports in 12S/12E S 26-28, 33-35 and 13S/12E S2-4



Created 12/11/2024

Cross Section



Water-Level Measurements in Nearby Wells

