# Groundwater Application Review Summary Form

**Application # G- 18743**

**GW Reviewer Darrick E. Boschmann Date Review Completed: 06/20/2025**

**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** **_06/20/2025_**

**TO:** **Application** G-**_18743_**

**FROM:** **GW:** **_Darrick E. Boschmann_**
(Reviewer's Name)

**SUBJECT: Scenic Waterway Interference Evaluation**

☒ **YES**
☐ **NO**

The source of appropriation is hydraulically connected to a State Scenic Waterway or its tributaries

☒ **YES**
☐ **NO**

Use the Scenic Waterway Condition (Condition 7J)

☒ Per ORS 390.835, the Groundwater Section is **able** to calculate ground water interference with surface water that contributes to a Scenic Waterway. The calculated interference is distributed below

☐ Per ORS 390.835, the Groundwater Section is **unable** to calculate ground water interference with surface water that contributes to a scenic waterway; **therefore, the Department is unable to find that there is a preponderance of evidence that the proposed use will measurably reduce the surface water flows necessary to maintain the free-flowing character of a scenic waterway**

DISTRIBUTION OF INTERFERENCE

*Calculate the percentage of consumptive use by month and fill in the table below. If interference cannot be calculated, per criteria in 390.835, do not fill in the table but check the "unable" option above, thus informing Water Rights that the Department* is *unable to make a Preponderance of Evidence finding.*

Exercise of this permit is calculated to reduce monthly flows in John Day Scenic Waterway by the following amounts expressed as a proportion of the consumptive use by which surface water flow is reduced.

| Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **0.083** | **0.083** | **0.083** | **0.083** | **0.083** | **0.083** | **0.083** | **0.083** | **0.083** | **0.083** | **0.083** | **0.083** |

PUBLIC INTEREST REVIEW FOR GROUNDWATER APPLICATIONS

TO: Water Rights Section Date 06/20/2025

FROM: Groundwater Section Darrick E. Boschmann
Reviewer's Name

SUBJECT: Application G- **18743** Supersedes review of 01/04/2019
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: **Jason Kehrberg** County: **Grant**

A1. Applicant(s) seek(s) 1.21 cfs from 1 well(s) in the John Day Basin, Upper John Day subbasin

A2. Proposed use Irrigation (31.0 acres primary; 66.1 acres supplemental); livestock; domestic Seasonality: varies by use

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 | Proposed | Kehrberg Well | CRBG* | 1.21 | 13.00S-31.00E-19-NW SW | 2170 FEET NORTH AND 840 FEET EAST FROM SW CORNER, SECTION 19 |
| 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 | NA | NA | NA | NA | NA | NA | NA | NA |
| 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 | 3016 | NA | NA | NA | NA | NA |
| 2 | | | | | | |
| 3 | | | | | | |
| 4 | | | | | | |

Use data from application for proposed wells.

A4. **Comments:**

This re-review addresses the finding in section B1a in accordance with the 02/06/2023 clarification memo on the current policy for determining over-appropriation for new groundwater applications.

The proposed well is in Grant County, along the John Day River, about four miles west of John Day. The area immediately underlying the well is mapped as Qtg (terrace gravels) by Brown and Thayer, 1966. At this location these Quaternary deposits overlie isolated eroded remnants of the Clarno Formation, which in turn overlie Triassic and Paleozoic rocks.

*The application proposes to develop groundwater from CRBG aquifers, which are not present in the section at this location (Brown and Thayer, 1966). Nearby domestic well GRAN 50893 reports "rock brn solid" and "vesicular basalt" from 50-105 feet, which likely represents volcanic rocks of the Clarno Formation – described by Brown and Thayer (1966) as andesitic to basaltic flows, mud-flow breccias and conglomerates; silicified and hydrothermally altered in places.

A5. ☐ **Provisions of the** John Day 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: _____

A6. ☐ **Well(s) #** _____ , _____ , _____ , _____ , _____ , tap(s) an aquifer limited by an administrative restriction.
Name of administrative area: _____
Comments: Currently no administrative area.

## 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 (25 feet, 25 feet, period=March); large WUR; 7J;**

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 proposes to develop groundwater from CRBG aquifers, which are not present in the section at this location (Brown and Thayer, 1966). Nearby domestic well GRAN 50893 reports "rock brn solid" and "vesicular basalt" from 50-105 feet, which likely represents volcanic rocks of the Clarno Formation.

Few nearby wells with a static water level record are completed within the Clarno Formation. State Observation Well 145 (GRAN 351) is located ~2.5 miles west-southwest of the proposed well, which based on mapping by Brown and Thayer (1966) likely produces groundwater from volcanic rocks of the Clarno Formation. The hydrograph for GRAN 351 is somewhat complicated by pumping and rising levels in the record, however a very slight decline trend totaling ~2-4 feet is apparent over the period of record 1965-2024.

The available water level record does not meet the Division 8 definition of excessively declining or declined excessively (for the *storage* portion of the source of water to wells).

Gannett (1984) reports low groundwater potential from the Clarno Formation, with adequate well yields for even domestic and stock use extremely difficult to obtain in many cases. Locally, higher yields are reported. The pump test on the well log for GRAN 351 reports 200 gpm with 16 feet of drawdown over 4 hours. The air test on the well log for GRAN 50893 reports 100 gpm. If highly fractured lavas are encountered higher yields may be possible, however it is unknown if the requested rate will be obtained.

There is very little groundwater development in the immediate vicinity of the proposed well.

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

C1. **690-09-040 (1):** Evaluation of aquifer confinement:

| Well | Aquifer or Proposed Aquifer | Confined | Unconfined |
|---|---|---|---|
| **1** | **Clarno Formation** | ☐ | ☒ |
| | | ☐ | ☐ |
| | | ☐ | ☐ |
| | | ☐ | ☐ |

**Basis for aquifer confinement evaluation:**

The Clarno Formation is a thick section of largely andesitic volcanic plugs, lava flows, and lahars that represent subduction related volcanism (Bestland, 1999), more analogous to Cascadian volcanism than to the widespread flood basalt volcanism required to form the confined conditions of the CRBG aquifers.

C2. **690-09-040 (2) (3):** Evaluation of distance to, and hydraulic connection with, surface water sources. All wells located a horizontal distance less than ¼ mile from a surface water source that produce water from an unconfined aquifer shall be assumed to be hydraulically connected to the surface water source. Include in this table any streams located beyond one mile that are evaluated for PSI.

| Well | SW # | Surface Water Name | GW Elev ft msl | SW Elev ft msl | Distance (ft) | Hydraulically Connected? YES | NO | ASSUMED | Potential for Subst. Interfer. Assumed? YES | NO |
|---|---|---|---|---|---|---|---|---|---|---|
| **1** | **1** | **John Day River** | ***2961** | **2945** | **1350** | ☒ | ☐ | ☐ | ☐ | ☒ |
| | | | | | | ☐ | ☐ | ☐ | ☐ | ☐ |
| | | | | | | ☐ | ☐ | ☐ | ☐ | ☐ |
| | | | | | | ☐ | ☐ | ☐ | ☐ | ☐ |

**Basis for aquifer hydraulic connection evaluation:**

The proposed well will produce groundwater from an unconfined aquifer. The estimated GW elevation is 16 feet above the river elevation at this location.

*The SWL used to calculate the GW elevation is taken from the well log for GRAN 50893.

**Water Availability Basin the well(s) are located within:** JOHN DAY R > COLUMBIA R - AB BEECH CR

C3a. **690-09-040 (4):** Evaluation of stream impacts for each well that has been determined or assumed to be **hydraulically connected and less than 1 mile** from a surface water (SW) source. Limit evaluation to instream rights and minimum stream flows that are pertinent to that SW source, not lower SW sources to which the stream under evaluation is tributary. Compare the requested rate against the 1% of 80% *natural* flow for the pertinent Water Availability Basin (WAB). If Q is not distributed by well, use full rate for each well. Any checked ☒ box indicates the well is assumed to have the potential to cause PSI.

| Well | SW # | Well < ¼ mile? | Qw > 5 cfs? | Instream Water Right ID | Instream Water Right Q (cfs) | Qw > 1% ISWR? | 80% Natural Flow (cfs) | Qw > 1% of 80% Natural Flow? | Interference @ 30 days (%) | Potential for Subst. Interfer. Assumed? |
|---|---|---|---|---|---|---|---|---|---|---|
| **1** | **1** | ☐ | ☐ | **MF212B** | **30** | ☒ | **61.2** | ☒ | * | ☒ |
| | | ☐ | ☐ | | | ☐ | | ☐ | | ☐ |
| | | ☐ | ☐ | | | ☐ | | ☐ | | ☐ |
| | | ☐ | ☐ | | | ☐ | | ☐ | | ☐ |

C3b. **690-09-040 (4):** Evaluation of stream impacts by total appropriation for all wells determined or assumed to be **hydraulically connected and less than 1 mile** from a surface water source. **Complete only if Q is distributed among wells**. Otherwise same evaluation and limitations apply as in C3a above.

| | SW # | | Qw > 5 cfs? | Instream Water Right ID | Instream Water Right Q (cfs) | Qw > 1% ISWR? | 80% Natural Flow (cfs) | Qw > 1% of 80% Natural Flow? | Interference @ 30 days (%) | Potential for Subst. Interfer. Assumed? |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | ☐ | | | ☐ | | ☐ | | ☐ |
| | | | ☐ | | | ☐ | | ☐ | | ☐ |

**Comments:**

***C3a**. *Interference at 30 days is not calculated here due to triggering of PSI under other criteria.

C4a. **690-09-040 (5):** Estimated impacts on **hydraulically connected surface water sources greater than one mile** as a percentage of the proposed pumping rate. Limit evaluation to the effects that will occur up to one year after pumping begins. This table encompasses the considerations required by 09-040 (5)(a), (b), (c) and (d), which are not included on this form. Use additional sheets if calculated flows from more than one WAB are required.

| **Non-Distributed Wells** Well | SW# | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | % | % | % | % | % | % | % | % | % | % | % | % |
| Well Q as CFS | | | | | | | | | | | | | |
| Interference CFS | | | | | | | | | | | | | |
| **Distributed Wells** Well | SW# | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| | | % | % | % | % | % | % | % | % | % | % | % | % |
| Well Q as CFS | | | | | | | | | | | | | |
| Interference CFS | | | | | | | | | | | | | |
| | | % | % | % | % | % | % | % | % | % | % | % | % |
| Well Q as CFS | | | | | | | | | | | | | |
| Interference CFS | | | | | | | | | | | | | |
| **(A) = Total Interf.** | | | | | | | | | | | | | |
| **(B) = 80 % Nat. Q** | | | | | | | | | | | | | |
| **(C) = 1 % Nat. Q** | | | | | | | | | | | | | |
| **(D) = (A) > (C)** | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| **(E) = (A / B) x 100** | | % | % | % | % | % | % | % | % | % | % | % | % |

(A) = total interference as CFS; (B) = WAB calculated natural flow at 80% exceed. as CFS; (C) = 1% of calculated natural flow at 80% exceed. as CFS; (D) = highlight the checkmark for each month where (A) is greater than (C); (E) = total interference divided by 80% flow as percentage.

**Basis for impact evaluation:**

No analysis here. The proposed well is within a mile of the evaluated surface water source.

C4b. **690-09-040 (5) (b) The potential to impair or detrimentally affect the public interest is to be determined by the Water Rights Section.**

C5. ☐ **If properly conditioned**, the surface water source(s) can be adequately protected from interference, and/or groundwater use under this permit can be regulated if it is found to substantially interfere with surface water:

i. ☐ The permit should contain condition #(s)_____;

ii. ☐ The permit should contain special condition(s) as indicated in "Remarks" below;

C6. **SW / GW Remarks and Conditions:**

**C1. 690-09-040 (1)**
It is determined that the well will produce water from an unconfined aquifer.

**C2. 690-09-040 (2) (3)**
It is determined that the well is hydraulically connected with the John Day River.

**C3a./C3b. 690-09-040 (4)**
PSI is assumed for Well 1 to SW 1.

**C4a. 690-09-040 (5)**
No analysis here. The proposed well is within a mile of the evaluated surface water source.

The applicant's proposed POA would be producing from an aquifer that has been found to be hydraulically connected to the John Day River. The proposed POA is hydraulically connected to a tributary of the John Day State Scenic Waterway and will have a long-term impact on flows necessary for the scenic waterway. Given the distance between the POA and the John Day State Scenic Waterway, the impact from the proposed use on the scenic waterway will likely be evenly distributed throughout the entire year (see Scenic Waterway Memo on page 2).

**References Used:**

Bestland, E.A., Hammond, P.E., Blackwell, D.L.S., Kays, M.A., Retallack, G.J. and Stimac, J., 1999. Geologic framework of the Clarno Unit, John Day Fossil Beds National Monument, central Oregon. Oregon Geology, 61(1), pp.3-19.

Brown, C.E., and Thayer, T.P., 1966, Geologic map of the Canyon City quadrangle, northeastern Oregon: U.S. Geological Survey, Miscellaneous Geologic Investigations Map I-447, scale 1:250,000

Reidel, S.P., Johnson, V.G., and Spane, F.A., 2002, Natural gas storage in basalt aquifers of the Columbia Basin, Pacific Northwest USA: a guide to site characterization, Pacific Northwest National Laboratory, Richland, Washington.

Gannet, M., 1984, Ground Water Assessment of the John Day Basin. Oregon Water Resources Department, Salem, Oregon.

## 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.**

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### Water Availability Tables

**Water Availability Analysis**
**Detailed Reports**

JOHN DAY R > COLUMBIA R - AB BEECH CR
JOHN DAY BASIN
Water Availability as of 1/3/2019

Watershed ID #: 30620117 (Map)
Date: 1/3/2019

Exceedance Level: 80%
Time: 1:44 PM

Water Availability Calculation | Consumptive Uses and Storages | Instream Flow Requirements | Reservations | Water Rights | Watershed Characteristics

**Water Availability Calculation**

Monthly Streamflow in Cubic Feet per Second
Annual Volume at 50% Exceedance in Acre-Feet

| Month | Natural Stream Flow | Consumptive Uses and Storages | Expected Stream Flow | Reserved Stream Flow | Instream Flow Requirement | Net Water Available |
|---|---|---|---|---|---|---|
| JAN | 126.00 | 4.08 | 122.00 | 0.00 | 80.00 | 41.90 |
| FEB | 165.00 | 4.33 | 161.00 | 0.00 | 118.00 | 42.70 |
| MAR | 234.00 | 4.61 | 229.00 | 0.00 | 118.00 | 111.00 |
| APR | 364.00 | 28.70 | 335.00 | 0.00 | 118.00 | 217.00 |
| MAY | 343.00 | 59.10 | 284.00 | 0.00 | 118.00 | 166.00 |
| JUN | 195.00 | 78.80 | 116.00 | 0.00 | 80.00 | 36.20 |
| JUL | 113.00 | 112.00 | 0.51 | 0.00 | 50.00 | -49.50 |
| AUG | 70.60 | 88.10 | -17.50 | 0.00 | 30.00 | -47.50 |
| SEP | 61.20 | 59.70 | 1.52 | 0.00 | 30.00 | -28.50 |
| OCT | 96.80 | 24.20 | 72.60 | 0.00 | 50.00 | 22.60 |
| NOV | 113.00 | 3.83 | 109.00 | 0.00 | 80.00 | 29.20 |
| DEC | 125.00 | 4.02 | 121.00 | 0.00 | 80.00 | 41.00 |
| ANN | 181,000.00 | 28,700.00 | 152,000.00 | 0.00 | 57,300.00 | 97,100.00 |

Download Data ( Text - Formatted , Text - Tab Delimited , Excel )

**Water Availability Analysis**
**Detailed Reports**

JOHN DAY R > COLUMBIA R - AB BEECH CR
JOHN DAY BASIN
Water Availability as of 1/3/2019

Watershed ID #: 30620117 (Map)
Date: 1/3/2019

Exceedance Level: 80%
Time: 2:31 PM

Water Availability Calculation | Consumptive Uses and Storages | Instream Flow Requirements | Reservations | Water Rights | Watershed Characteristics

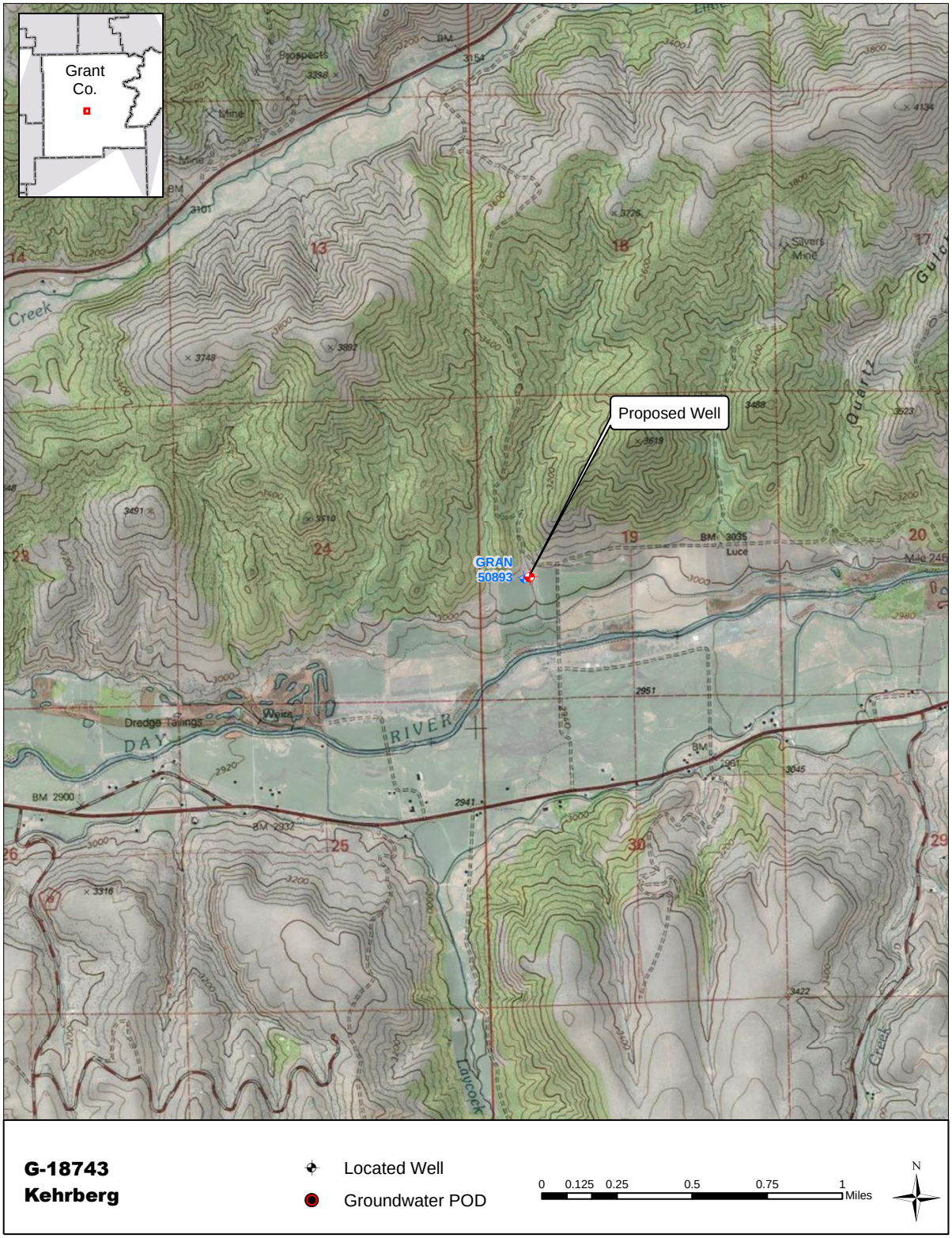
**Detailed Report of Instream Flow Requirements**

Instream Flow Requirements in Cubic Feet per Second

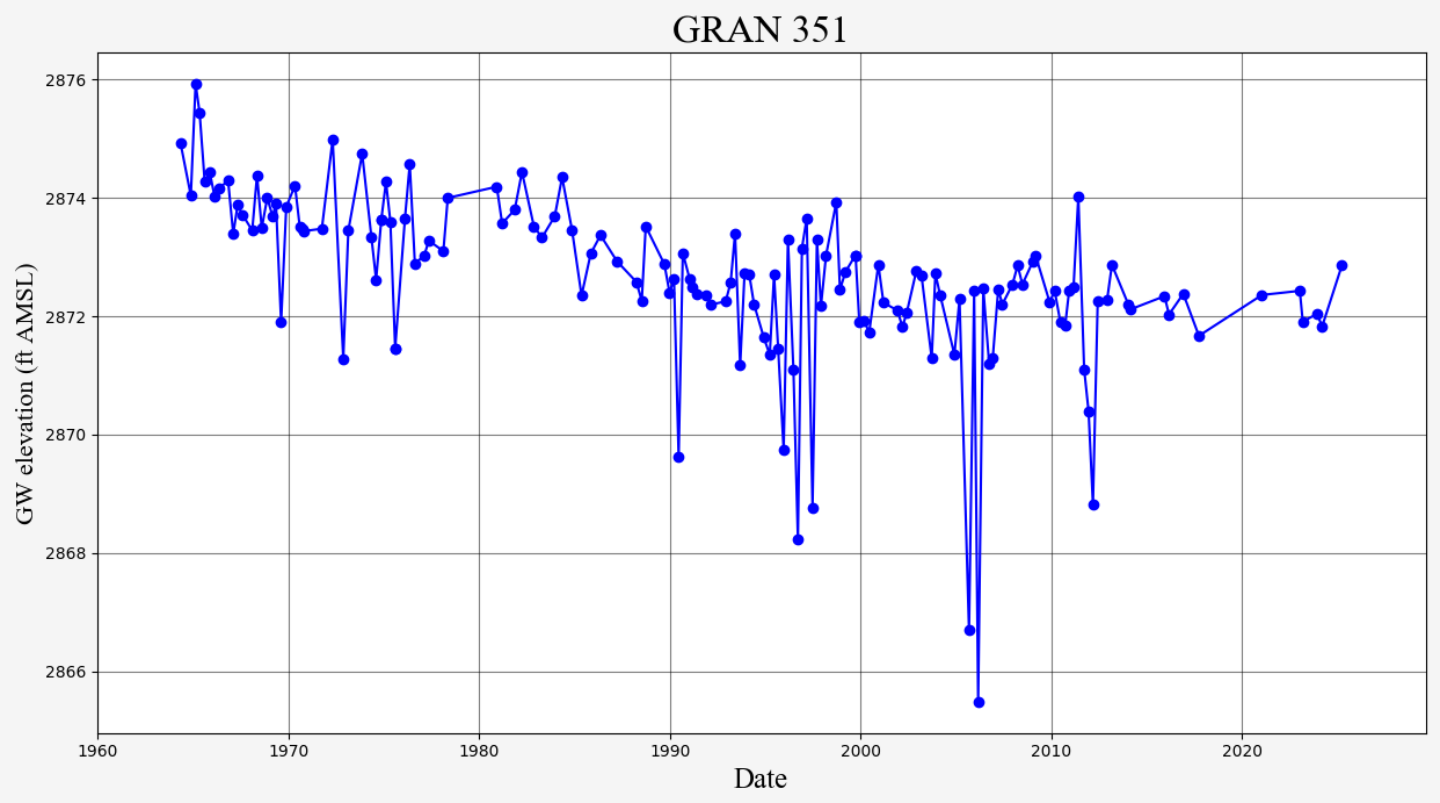
| Application # | Status | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MF212B | CERTIFICATE | 80.00 | 118.00 | 118.00 | 118.00 | 118.00 | 80.00 | 50.00 | 30.00 | 30.00 | 50.00 | 80.00 | 80.00 |
| Maximum | | 80.00 | 118.00 | 118.00 | 118.00 | 118.00 | 80.00 | 50.00 | 30.00 | 30.00 | 50.00 | 80.00 | 80.00 |

Download Data ( Text - Formatted , Text - Tab Delimited , Excel )

**Well Location Map**



**Water-Level Measurements in Nearby Wells**




January to April measurements: