

Groundwater Application Review Summary Form

Application # G- 19452

GW Reviewer Gabriela Ferreira Date Review Completed: November 26, 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

November 26, 2024

TO: Application G- 19452

FROM: GW: Gabriela Ferreira
(Reviewer's Name)

SUBJECT: Scenic Waterway Interference Evaluation

☐ YES The source of appropriation is hydraulically connected to a State Scenic
☒ NO 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 [Enter] 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

PUBLIC INTEREST REVIEW FOR GROUNDWATER APPLICATIONS

TO: Water Rights Section Date November 26, 2024
 FROM: Groundwater Section Gabriela Ferreira
 Reviewer's Name
 SUBJECT: Application G- 19452 Supersedes review of _____
 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: Paul M. Gibbons & Heather M. Mohan-Gibbons
 County: Columbia

A1. Applicant(s) seek(s) 0.01 cfs from one well(s) in the North Coast Basin

A2. Proposed use Irrigation (4.58 acres), Nursery (2 acres) Seasonality: March 1 – October 31 (Irrigation), Year round (Nursery)

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	COLU 2531	Main	Bedrock	0.01 ^a	7N / 4W – 18 NESE	1888' N 758' W fr SE cor S 18

* 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	242.75	0 - 38	+2 - 58.5	41.5 – 241.75	120 – 241	4.1	NA	Air

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	85 ^b	147	0 ^c	6/18/1984	TBD	TBD

Use data from application for proposed wells.

A4. **Comments:** ^aThe applicant indicates that the proposed use is Irrigation on 4.58 acres and Nursery on 2.0 acres, located approximately 0.5 mile southwest of Clatskanie. This review evaluates the requested instantaneous rate of 0.01 cfs (~5 gpm) with a maximum volume of 10 acre-feet per year.

^b Land surface elevation from LIDAR at the proposed well location (OLC, 2016).

^c The well reports indicates the well was flowing at time of drilling, with an artesian pressure of 2 psi.

A5. ☐ **Provisions of the** North Coast 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: North Coast Basin rules have no such provisions.

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

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) 7RL;
 - 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 proposed POA is located on the northern foothills of the Coast Range, between the Coast Range and the Columbia River. The Coast Range is composed of uplifted Tertiary marine sedimentary rocks and related marine volcanic intrusive rocks, considered the basement confining unit in Conlon et al., 2005. Significant faulting and structural deformation within the Coast Range has produced compartmentalized aquifers. The proposed POA/POU are within a canyon formed by Conyers Creek eroding through the Pittsburg Bluff formation, sandy siltstone and sandstones rising steeply to 450 feet amsl to the northwest and 300 feet to the southeast. The well construction likely extends into the underlying Scappoose formation, Miocene and Oligocene sandstone and volcanic debris flows, with interbedded siltstones claystone (Walsh, 1987). The basement confining unit is characterized by low porosity, low permeability, and low yields which are typically suitable only for domestic uses. Localized fracture zones may increase yields but the overall hydraulic conductivity is low.

Nineteen well reports were identified within township 7 north, range 3 west, section 16. Well logs for most of the wells indicate yields between 7 and 60 gpm, with the proposed POA reported yield of 150 gpm being the only reported yield above 60 gpm. Most of the identified wells are used for domestic purposes. No deepening were reported. The nearest groundwater right was identified approximately 5 miles northeast of the proposed POA for quasi-municipal use (Quincy Water District, two wells producing from the Columbia River Basalt Group, totaling 0.134 cfs).

No observation wells are located near the proposed POA. Three observation wells completed in Tertiary marine sedimentary

rocks ranging from 10 to 20 miles in distance to the proposed POA were selected for evaluation of water level data. Although these wells are not directly representative of groundwater conditions near the proposed POA, the data from these observation wells are analogous for similar Tertiary marine sedimentary and volcanic aquifers in the region. One well with long-term data located approximately 10 miles east (COLU 2270), shows a steady decline of approximately 25 feet over the past ~35 years. The other two wells have shorter data records and show rising or slightly declining (~15 feet over 25 years) groundwater conditions. Based on the relatively low requested rate (5 gpm) and overall relatively low appropriation of groundwater in the area, groundwater use is not over appropriated. No nearby wells fully penetrate the fractured bedrock aquifer in this area, and thus potential injury to nearby groundwater users was not assessed for this review.

Permit condition 7RL is recommended to assess future injury concerns and long-term groundwater conditions in the area.

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	Bedrock	☒	☐

Basis for aquifer confinement evaluation: Water was first encountered at 147 feet bls and the water level rose to artesian flowing conditions at time of drilling, which suggests confining conditions likely caused by the clay reported in overlying layers.

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?			Potential for Subst. Interfer. Assumed?	
						YES	NO	ASSUMED	YES	NO
1	1	Conyers Creek	85 ^a	9 – 210 ^b	340	☒	☐	☐	☐	☐

Basis for aquifer hydraulic connection evaluation: ^aThe groundwater elevation was estimated based on information provided in the well report.

^b Estimated ranges of stream surface elevations are based on LIDAR data for the perennial reach within approximately 1 mile of the proposed POA (OLC, 2016).

Because the estimated groundwater elevation for the POA is within the estimated elevation range for SW 1 (Conyers Creek), the aquifer system proposed to be accessed by the POA is hydraulically connected to SW1.

Water Availability Basin the well(s) are located within:

SW 1: WID # 70945, Clatskanie River > Clatskanie Slough – At Mouth

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?	Q _w > 5 cfs?	Instream Water Right ID	Instream Water Right Q (cfs)	Q _w > 1% ISWR?	80% Natural Flow (cfs)	Q _w > 1% of 80% Natural Flow?	Interference @ 30 days (%)	Potential for Subst. Interfer. Assumed?
1	1	☒	☐	N/A	N/A	☐	20.20	☐	N/A	☒

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

Comments: C3a: **PSI was determined because Well 1 is located within ¼ mile (~340 feet) of SW 1.** Interference at 30 days cannot be appropriately modeled within a fractured bedrock aquifer.

C3b: Not applicable

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:

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;

[illegible]

References Used:

Application file G-19452

Water well reports and data: COLU 2531, COLU 939, COLU 2270, COLU 50374

Conlon, T.D., Wozniak, K.C., Woodcock, D., Herrera, N.B., Fisher, B.J., Morgan, D.S., Lee, K.K., and Hinkle, S.R., 2005, Ground-water hydrology of the Willamette Basin, Oregon. Scientific Investigations Report 2005-5168: U. S. Geological Survey, Reston, VA.

Oregon Lidar Consortium (OLC), 2016, OLC metro 2014 lidar project, Oregon Department of Geology & Mineral Industries, Portland, OR, November 30.

United States Geological Survey, 2014, National Hydrography Dataset (NHD), 1:24,000, U. S. Department of the Interior, Reston, VA.

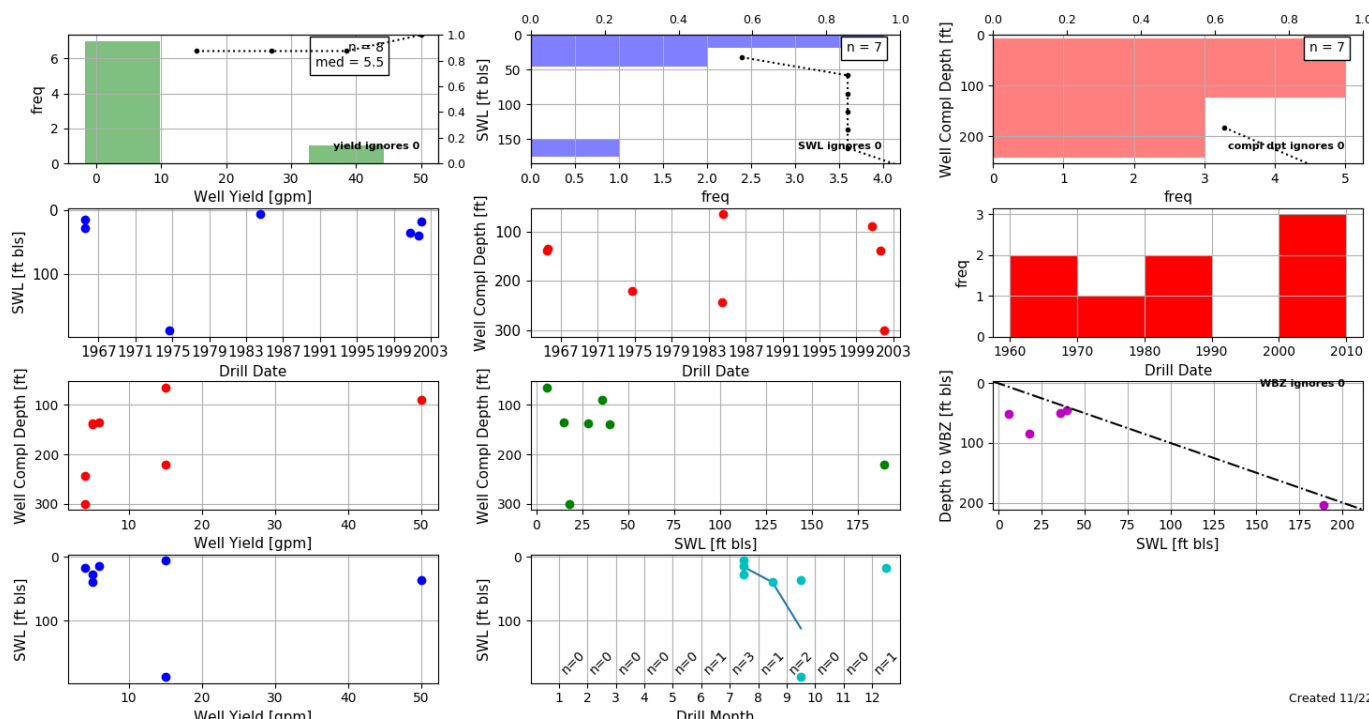
Walsh, T.J., 1987, Geologic map of the Astoria and Ilwaco Quadrangles, Washington and Oregon, Washington Division of Geology and Earth Resources Open File Report 87-2.

D. WELL CONSTRUCTION, OAR 690-200D1. Well #: 1 Logid: COLU 2531

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

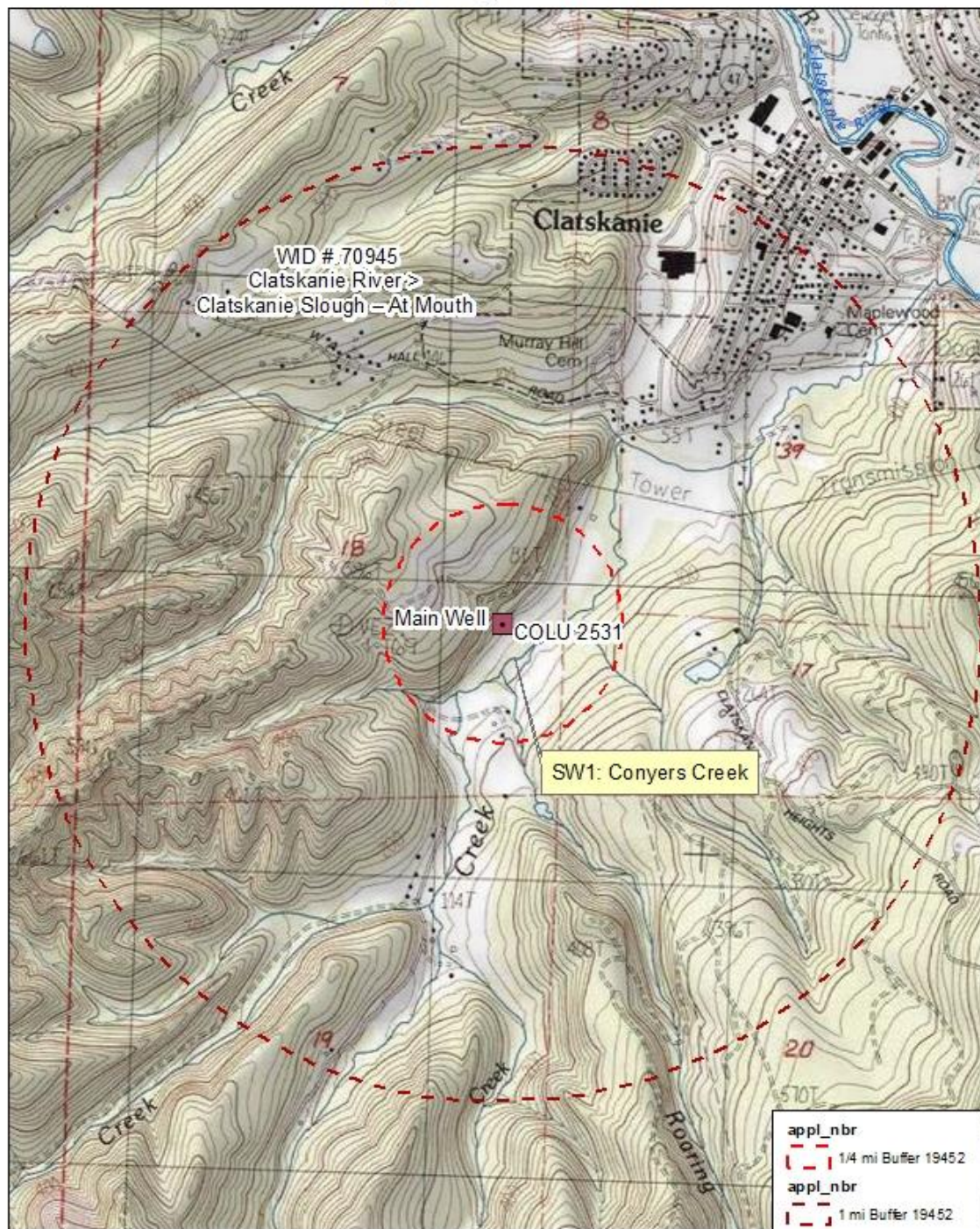
- a. ☐ review of the well log;
- b. ☐ field inspection by _____;
- c. ☐ report of CWRE _____;
- d. ☐ other: (specify) _____

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 Statistics**

Created 11/22/2024

Well Location Map

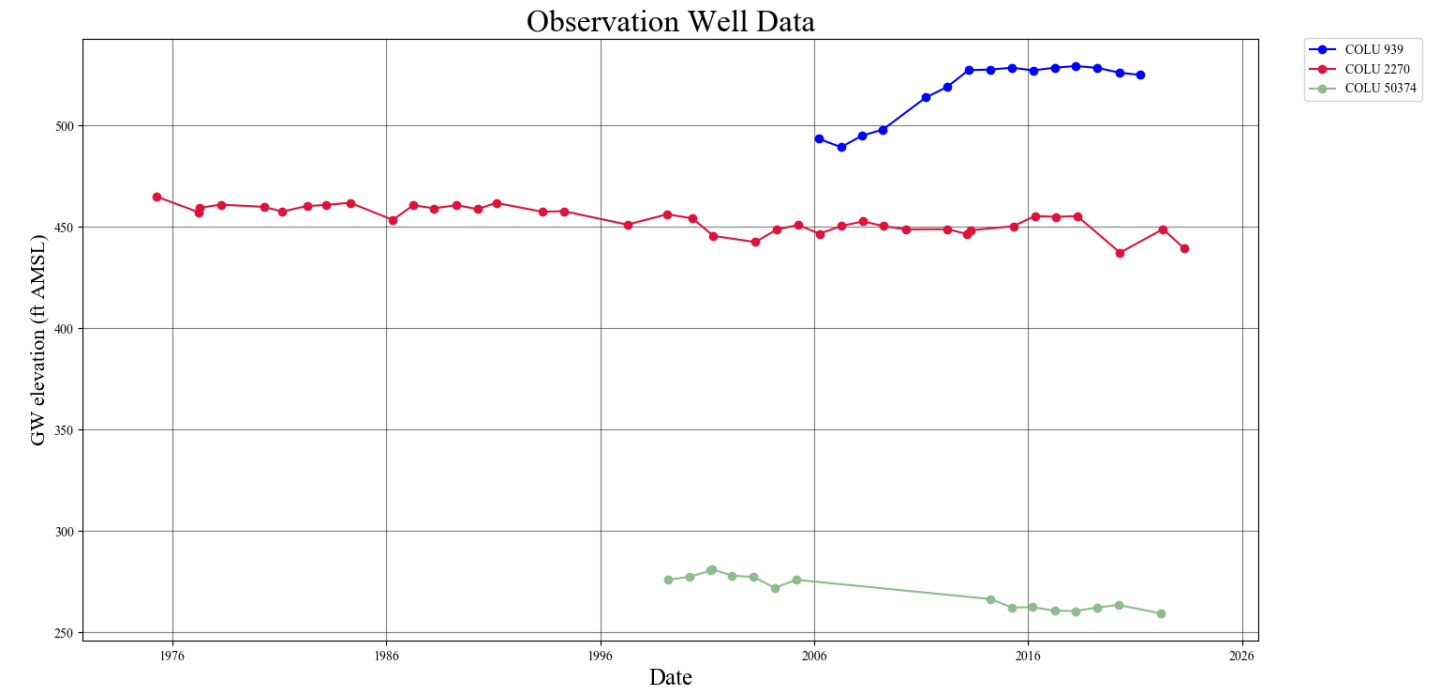
**Application G-19452 Gibbons
T7N, R4W, Section 18**

0 1,320 2,640 3,960 5,280
Feet

Main Map Scale = 1:24,000

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Water-Level Measurements in Nearby Wells



Water Availability Tables

Water Availability Analysis
Detailed Reports

CLATSKANIE R > CLATSKANIE SL - AT MOUTH
NORTH COAST BASIN
Watershed ID #: 70945 (Map)
Date: 11/26/2024
Water Availability as of 11/26/2024
Exceedance Level: 89%
Time: 9:55 AM

Water Availability Calculation

Water Rights

Consumptive Uses and Storages

Instream Flow Requirements

Watershed Characteristics

Reservations

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	210.00	0.74	209.00	0.00	147.00	62.30
FEB	218.00	0.74	217.00	0.00	147.00	70.30
MAR	157.00	0.74	156.00	0.00	147.00	9.26
APR	122.00	0.75	121.00	0.00	147.00	-25.80
MAY	91.00	0.76	90.20	0.00	81.00	9.24
JUN	43.90	0.84	43.10	0.00	54.00	-10.90
JUL	25.60	0.85	24.70	0.00	34.50	-9.75
AUG	22.50	0.84	21.70	0.00	26.20	-4.54
SEP	22.40	0.83	21.60	0.00	25.20	-3.63
OCT	20.20	0.74	19.50	0.00	80.00	-60.50
NOV	22.30	0.74	21.60	0.00	80.00	-58.40
DEC	105.00	0.74	104.00	0.00	160.00	-55.70
ANN	97,600.00	565.00	97,000.00	0.00	68,000.00	34,400.00