

Approved:



MEMO

To: Kristopher Byrd, Well Construction and Compliance Section Manager
From: Travis Kelly, Well Construction Compliance Coordinator
Subject: Review of Water Right Application G-19054
Date: February 16, 2022

The attached application was forwarded to the Well Construction and Compliance Section by the Groundwater Section. Halley Schibel and Travis Brown reviewed the application. Please see Halley and Travis' Groundwater Review.

Applicant's Well #2 (Proposed Well): Applicant's Well #2 is a proposed well, therefore it cannot be reviewed for construction. Construction of this proposed well shall be completed in a manner that protects ground water resources as required under Oregon Administrative Rules 690-200 through 690-240. During construction of this well, specific attention should be paid to ensure sealing requirements are met and that the well does not commingle aquifers.

The construction of applicant's proposed Well #2 may not satisfy hydraulic connection issues.

Groundwater Application Review Summary Form

Application # G- 19054

GW Reviewer Halley Schibel/Travis Brown Date Review Completed: 2/1/2022

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

2/1/2022

TO: Application G- 19054

FROM: GW: Halley Schibel/Travis Brown
(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 2/1/2022
 FROM: Groundwater Section Halley Schibel/Travis Brown
 Reviewer's Name
 SUBJECT: Application G- 19054 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: De Terra LLC/Richard W. Todd County: Clackamas

A1. Applicant(s) seek(s) 0.25 cfs from 1 well(s) in the Willamette Basin,
Middle Willamette/Clackamas subbasin

A2. Proposed use Nursery (container/greenhouse/in-ground) Seasonality: Year Round

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

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	PROP0000114	Well 2	CRB ¹	0.25	3S/3E-32SENE	1500' S, 375' W fr NE cor, S 32

* Alluvium, CRB, Bedrock

Well	Well Elev ft msl	First Water ft bls	SWL ft bls	SWL Date	Well Depth (ft)	Seal Interval (ft)	Casing Intervals (ft)	Liner Intervals (ft)	Perforations Or Screens (ft)	Well Yield (gpm)	Draw Down (ft)	Test Type
1	979	~180-190 ²	~350-400 ³	-	~950	~0-750	~0-750	-	-	-	-	-

Use data from application for proposed wells.

A4. **Comments:** ¹Applicant proposes to draw water from the Columbia River Basalts (CRBs), however, the proposed construction will likely not allow for development from the CRBs (see B3). The applicant's previous application (G-18717) proposed drawing water from the Troutdale Aquifer and the well (CLAC 17036) was found in the Groundwater review to be hydraulically connected to surface water sources, including a State Scenic Waterway. This application was filed to attempt to avoid connection with surface water sources by drawing from the deep CRBs. Note that the requested rate (0.25 cfs) is 2.5 times greater than the previous request (0.1 cfs).

²Based on nearby well log, CLAC 17036

³Applicant stated approximately 350-400' based on "nearby deep CRB wells," however, nearby CRB wells (CLAC 18421, CLAC 20274, CLAC 56352, CLAC 56960, and CLAC 59771) indicate water level elevations closer to 90-150 ft above sea level, or roughly 830-890 ft below land surface at the applicant's proposed well.

The requested POA is within 50 ft of the hydrologic divide between the WILLAMETTE R > COLUMBIA R – AT MOUTH (Abernethy Creek) Water Availability Basin (WAB) and the CLEAR CR > CLACKAMAS R – AT MOUTH (Mosier Creek) WAB. WABs are determined based on topographical features for assessing surface water flow; groundwater flow does not always follow topography. Therefore, this application has been evaluated against the provisions of both the Main Stem Willamette River (OAR 590-502-0050) and Clackamas River (OAR 690-502-0140) Subbasin rules (see A5).

A5. ☐ **Provisions of the** Willamette 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: The proposed POA is within ¼ mile from the nearest stream but does not draw from unconfined alluvium. Per OAR 690-502-0240, the relevant basin rules do not apply

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) 7i, 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 Columbia River Basalt groundwater reservoir between approximately 980 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:** Groundwater for the proposed use cannot be determined to be over-appropriated due to insufficient available data regarding rates of recharge and the current quantity of groundwater withdrawals from the aquifer system.

The proposed POA is on a local upland of Miocene- to Pleistocene-aged volcaniclastic and terrestrial sediments (Troutdale Formation and Sandy River Mudstone) capped by Pliocene- to Pleistocene-aged lavas of the Boring Lava flow which emanated from Highland Butte approximately 2.3 miles to the south (Leonard and Collins, 1983). Leonard and Collins (1983) note that the Boring Lava flows in this area filled in an ancestral drainage in the southern part of T3S, R3E and that flows can be at least 300 ft thick in that area. The Martin Creek, Abernethy Creek, and Mosier Creek drainages have since eroded through the Boring Lava cap and into the underlying Troutdale Formation and Sandy River Mudstone.

The proposed well is significantly deeper than existing nearby wells and therefore lithologic and water level data is sparse. The proposed rate (~112 gpm) is greater than most wells nearby (see attached well statistics), although data for deep CRB wells is sparse. Applicant identified CRB as the proposed aquifer, but regional geologic maps and well logs (see attached cross section) indicate that the top of the CRBs is between -200 and 0 ft above mean sea level, whereas the proposed well will reach a maximum depth of 29 ft above mean sea level. A well constructed as proposed will likely not produce from the proposed aquifer. A condition to allow groundwater production from no shallower than 980 ft below land surface is recommended to allow production only from the CRBs, but this number may change as more evidence (drill cuttings) becomes available regarding the actual depth of the CRBs.

In order to protect senior users and the resource, the conditions listed in Items B1(d)(i) and B2, above, as well as the following Special Conditions are strongly recommended for any permit issued pursuant to this application.

Special Conditions:

- A. Each basalt well shall be open to a single aquifer of the Columbia River Basalt Group and shall meet the applicable well construction standards (OAR 690-200 and OAR 690-210).

In addition, the open interval in each well shall be no greater than 100 feet. An open interval of greater than 100 feet may be allowed if substantial evidence of a single aquifer completion can be demonstrated to the satisfaction of the Department Hydrogeologists, using information from a video log, downhole flowmeter, water chemistry and temperature, or other downhole geophysical methods. These methods shall characterize the nature of the basalt rock and assess whether water is moving in the borehole. Any discernable movement of water within the well bore when the well is not being pumped shall be assumed as evidence of the presence of multiple aquifers in the open interval.

If during well construction, it becomes apparent that the well can be constructed to eliminate the comingling of aquifers and/or interference with hydraulically connected streams in a manner other than specified in this permit, the permittee can contact the Department Hydrogeologist for this permit or the Groundwater Section Manager to request approval of such construction. The request shall be in writing and shall include a rough well log and a proposed construction design for approval by the Department. The request can be approved only if it is received and reviewed prior to placement of any permanent casing and sealing material. If the request is made after casing and seal are placed, the requested modification will not be approved. If approved, the new well depth and construction specifications will be incorporated into any certificate issued for this permit.

- B. A dedicated water level measuring tube shall be installed in each well. The measuring tube shall meet the standards described in OAR 690-215-0060. When requested, access to the wells shall be provided to Department staff in order to make water level measurements.
- C. For any wells constructed under this or subsequent permits, the permittee shall coordinate with the driller to ensure that drill cuttings are collected at 10-foot intervals and at changes in formation in each well. A split of each sampled interval shall be provided to the Department.
- D. If any geologic and hydrogeologic reports are completed for the permittee during the development of permitted wells, including geophysical well logs and borehole video logs, then copies of the reports shall be provided to the Department. Except for borehole video logs, two paper copies or a single electronic copy shall be provided of each report. Digital tables of any data shall be provided upon request.

[illegible]

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	Columbia River Basalt	☒	☐

Basis for aquifer confinement evaluation: Well proposed to draw from the Columbia River Basalt (CRB), locally overlain by the Troutdale Formation and Boring Lava. Water well reports for regional CRB wells (CLAC 18421, CLAC 59771, CLAC 56352, CLAC 20274, CLAC 56960) indicate water levels above the top of the relevant water-bearing zones, as do reports for shallower wells drawing from the Troutdale Formation. Based on the available evidence, the aquifer is confined.

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	Mosier Creek*	579-629	880	775	☐	☒	☐	☐	☒
1	2	Martin Creek	579-629	790	1,450	☐	☒	☐	☐	☒
1	3	Abernethy Creek	579-629	580	3,800	☐	☒	☐	☐	☒

Basis for aquifer hydraulic connection evaluation: A number of small streams (SW 1-4) drain the Boring Lava-capped highland surrounding the proposed POA. These streams quickly and deeply incise into the alluvial sediments of the Willamette Confining Unit as they flow generally north to join Abernethy Creek and, thence, the Willamette River. None of these small streams appear to incise into the Columbia River Basalts (CRB).

***Mosier Creek is above the Clackamas River State Scenic Waterway.**

Water Availability Basin the well(s) are located within: CLEAR CREEK > CLACKAMAS R – AT MOUTH
WILLAMETTE R > COLUMBIA R – 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?
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐

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: _____

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;

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

References Used: Application File: G-19054

Well Construction Reports (CLAC 18421, CLAC 59771, CLAC 56352, CLAC 20274, CLAC 56960, and CLAC 17036)

Gannett, M.W. and Caldwell, R., 1998, Geologic framework of the Willamette Lowland aquifer system, Oregon and Washington, Professional Paper 1424-A, 32 p: U. S. Geological Survey, Reston, VA.

Leonard, A.R., and Collins, C.A., 1983, Ground water in the northern part of Clackamas County, Oregon: Oregon Water Resources Department Ground Water Report 29. 85 p.

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

United States Geological Survey, 2017, *Redland quadrangle, Oregon* [map], 1:24,000, 7.5 minute topographic series, U.S. Department of the Interior, Reston, Virginia.

Watershed Sciences, 2009, LIDAR remote sensing data collection, Department of Geology and Mineral Industries, Willamette Valley Phase I, Oregon: Portland, OR, December 21.

D. WELL CONSTRUCTION, OAR 690-200

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

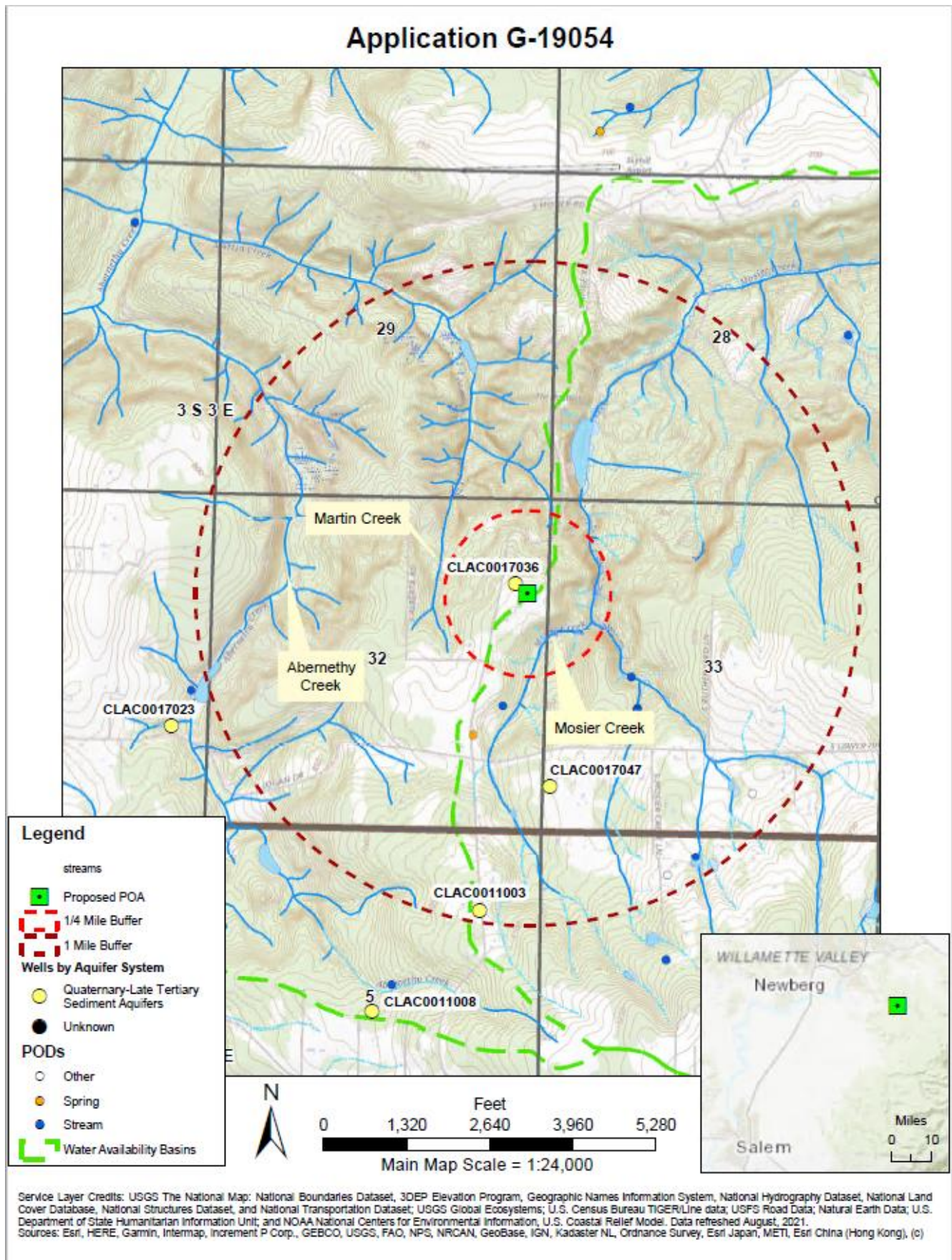
D2. **THE WELL does not appear to meet current well construction standards based upon:**

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

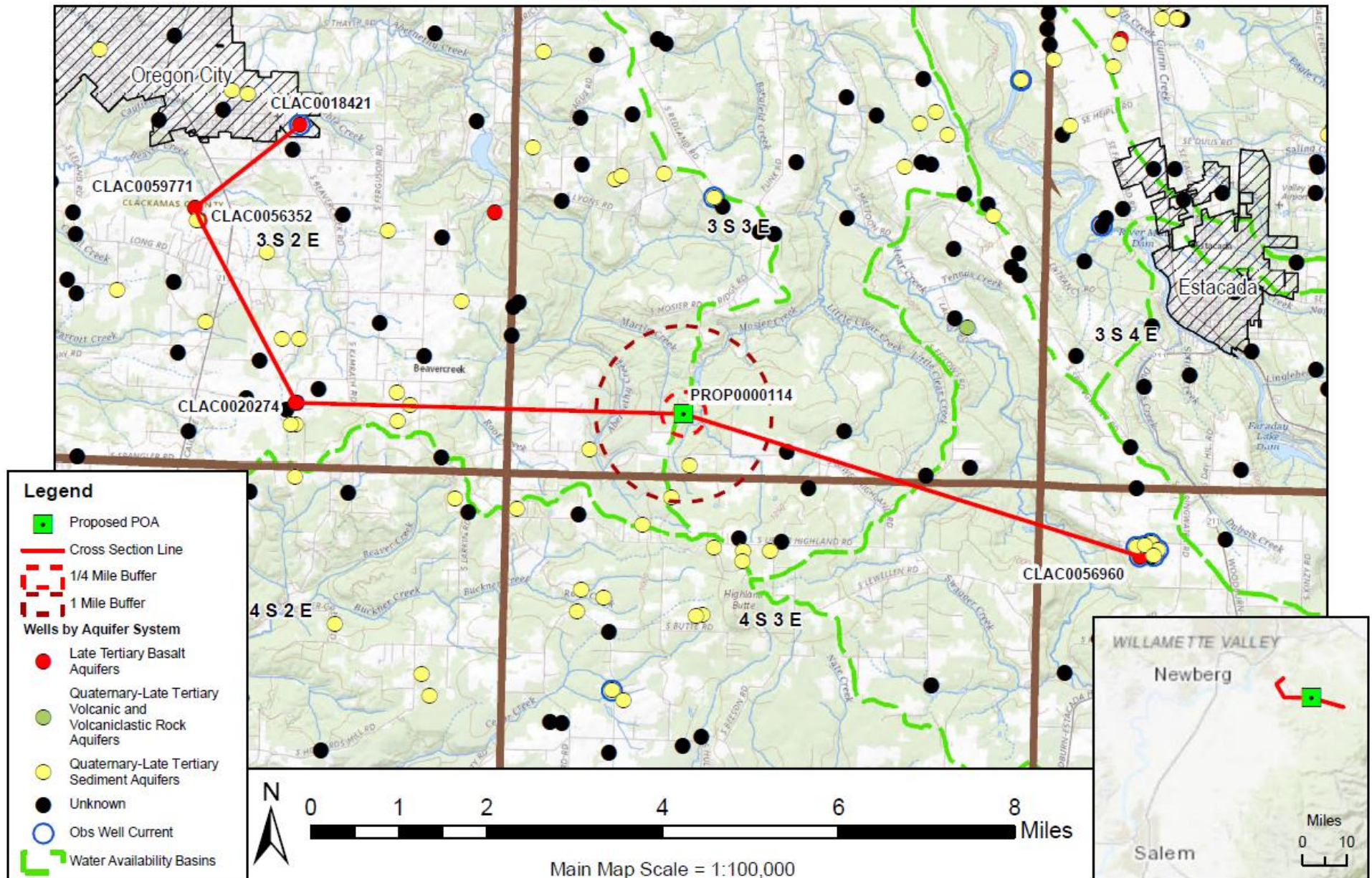
D3. **THE WELL construction deficiency or other comment is described as follows:** _____

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

Well Location Map



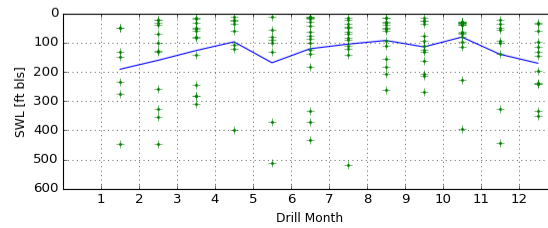
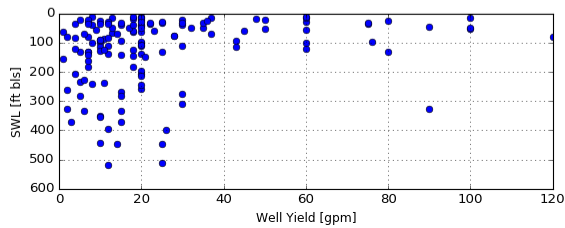
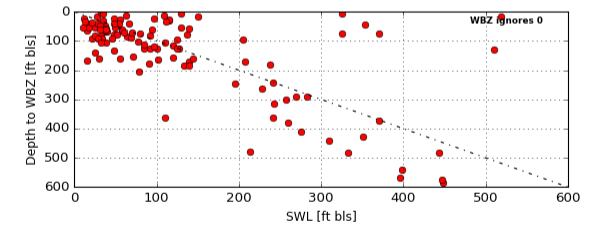
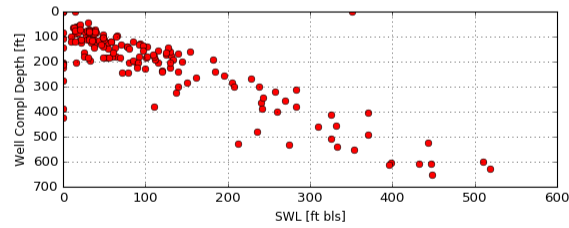
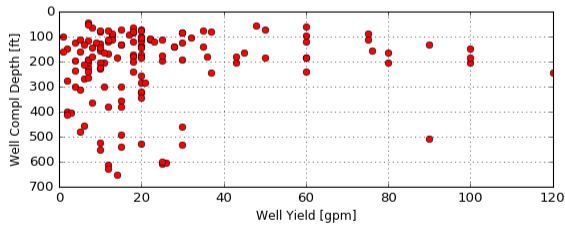
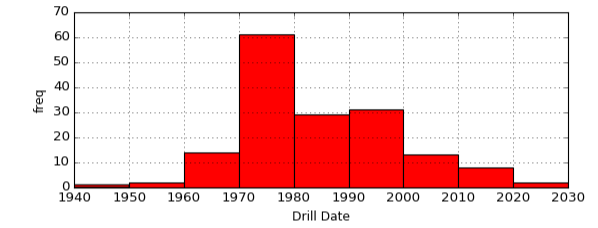
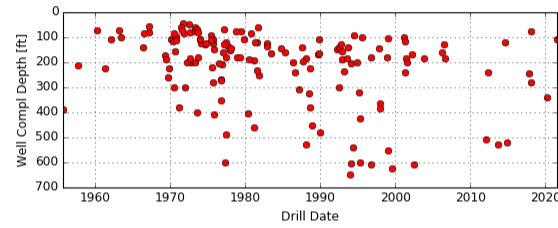
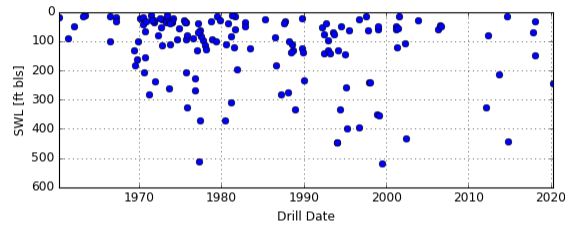
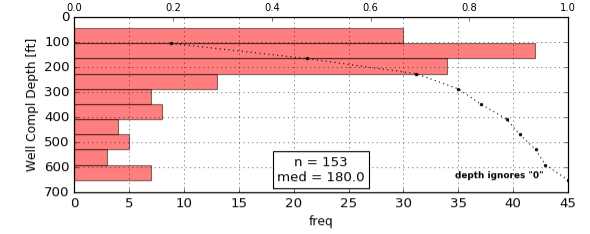
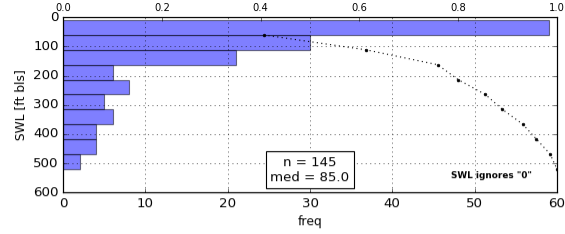
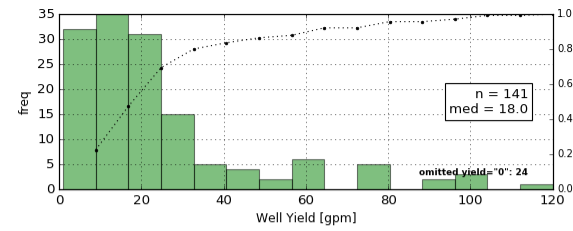
Application G-19054



Service Layer Credits: USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; USGS Global Ecosystems; U.S. Census Bureau TIGER/Line data; USFS Road Data; Natural Earth Data; U.S. Department of State Humanitarian Information Unit; and NOAA National Centers for Environmental Information, U.S. Coastal Relief Model. Data refreshed August, 2021.

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

Well Statistics for Sections 3S/3E-28, 29, 32, and 33 and 4S/3E-4 and 5

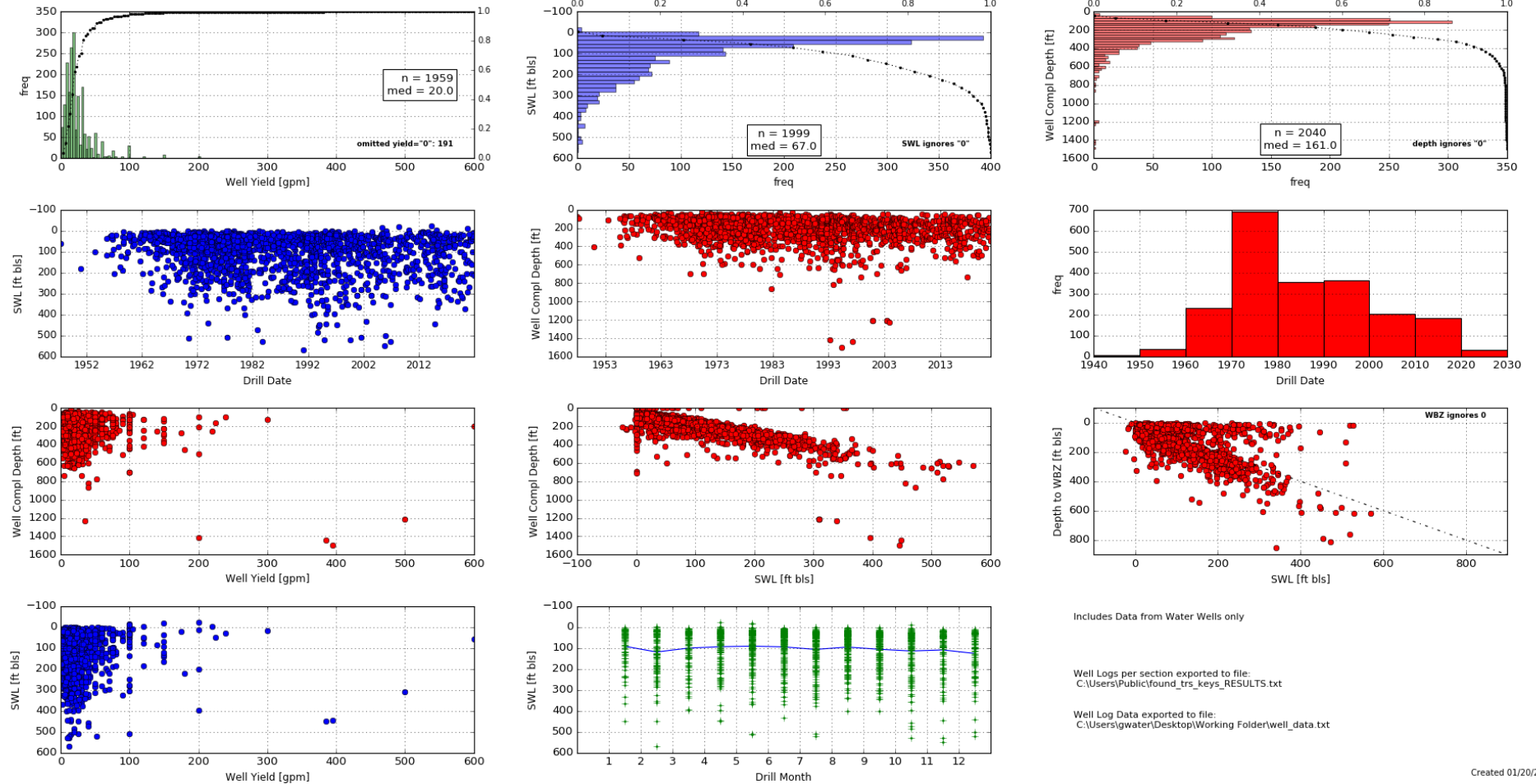


Includes Data from Water Wells only

Well Logs per section exported to file:
C:\Users\Public\found_trs_keys_RESULTS.txt

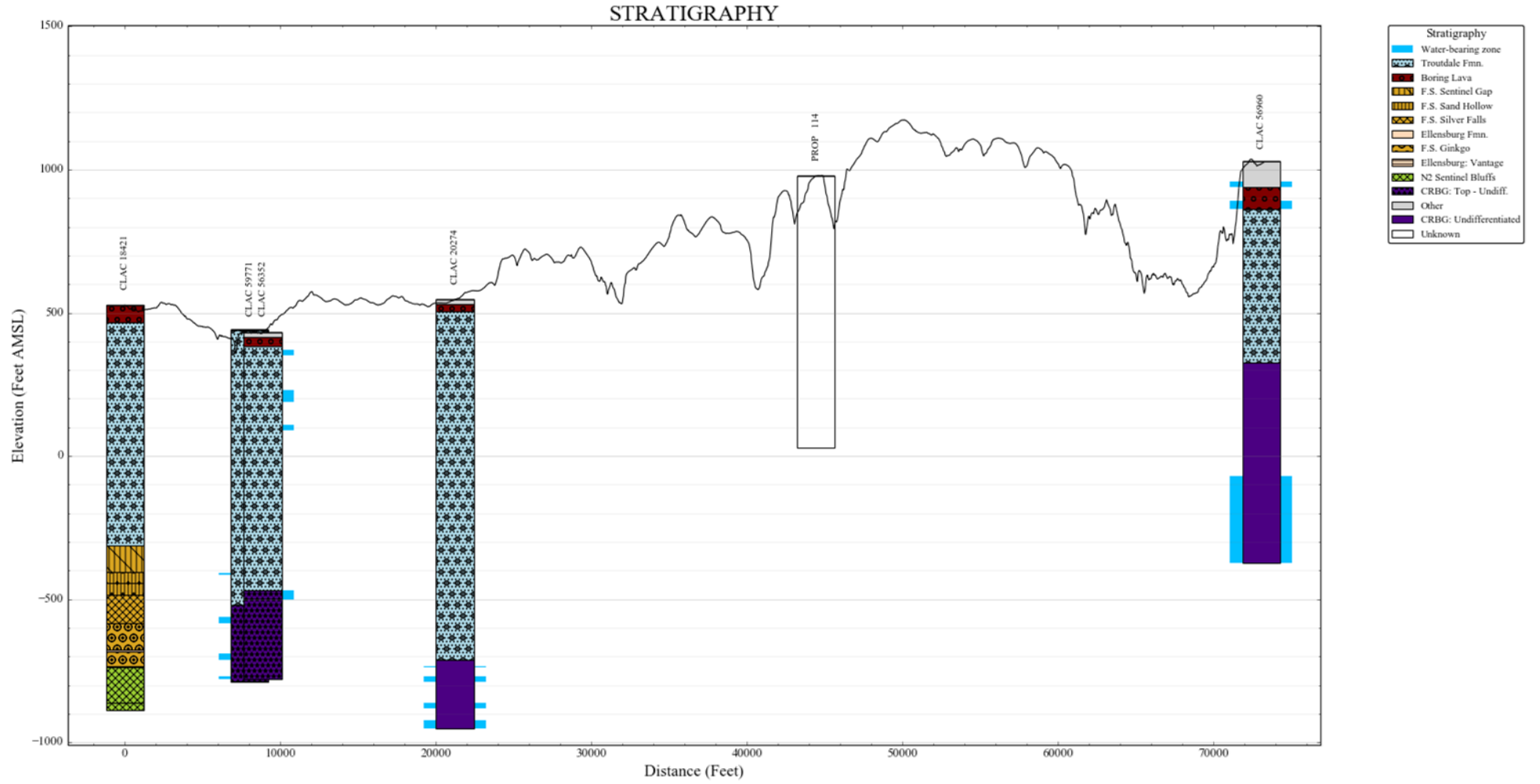
Well Log Data exported to file:
C:\Users\gwater\Desktop\Working Folder\well_data.txt

Created 01/14/2022

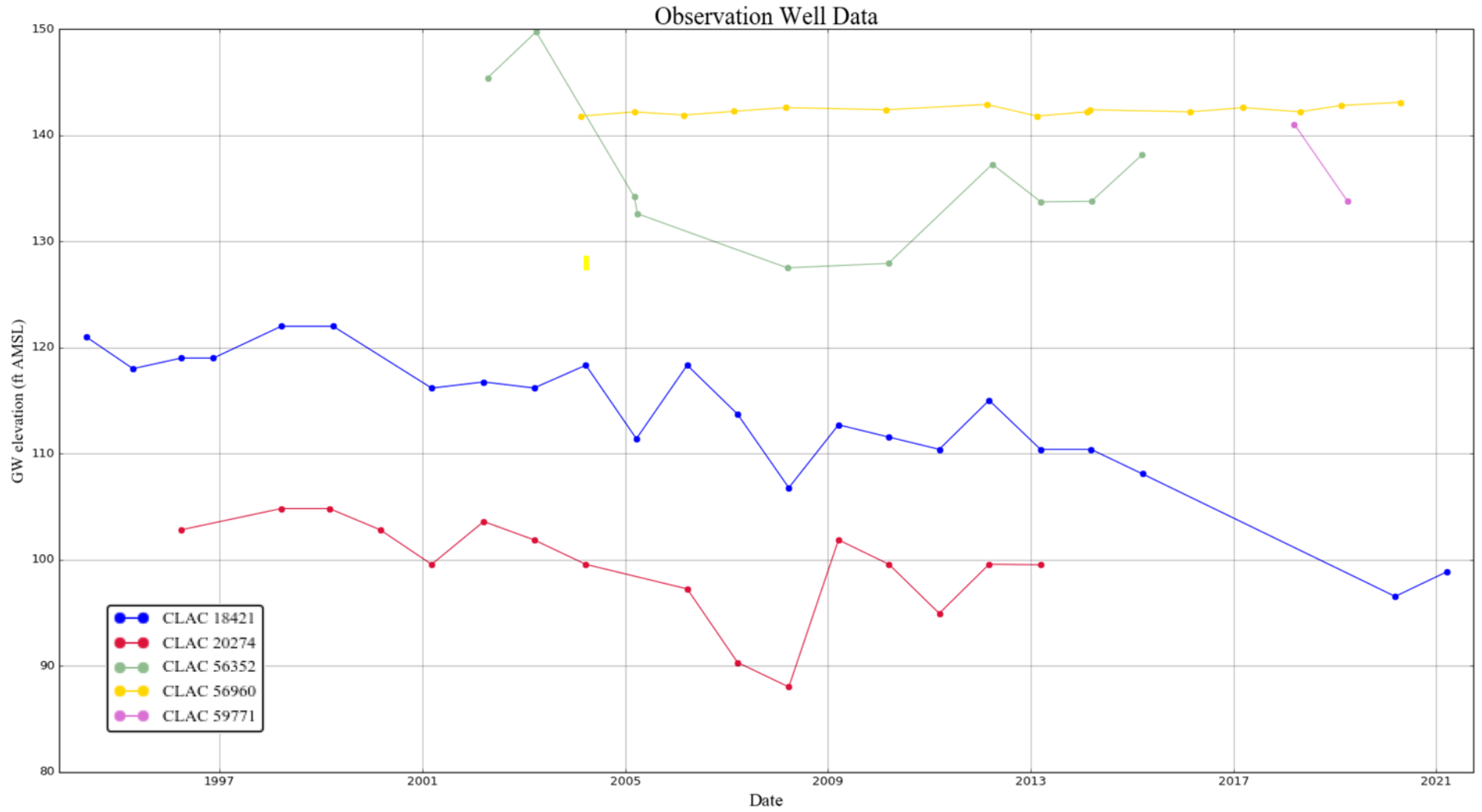
Well Statistics for Sections 3S/2E-10-15, 20-27, 34-36; 4S/2E-1-3, 10-12; 3S/3E-7-10, 15-22, 27-34; and 4S/3E-2-11

Created 01/20/2022

Cross-section of nearby CRB wells



Water-Level Measurements in Nearby Wells



Water Availability Tables

Water Availability Analysis Detailed Reports

WILLAMETTE R > COLUMBIA R - AT MOUTH
WILLAMETTE BASIN

Water Availability as of 1/26/2022

Watershed ID #: 181 ([Map](#))

Date: 1/26/2022

Exceedance Level: 80% ▼

Time: 11:34 AM

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	27,500.00	2,700.00	24,800.00	0.00	1,500.00	23,300.00
FEB	30,000.00	7,960.00	22,000.00	0.00	1,500.00	20,500.00
MAR	28,500.00	7,540.00	21,000.00	0.00	1,500.00	19,500.00
APR	25,400.00	7,190.00	18,200.00	0.00	1,500.00	16,700.00
MAY	20,700.00	4,430.00	16,300.00	0.00	1,500.00	14,800.00
JUN	11,000.00	2,360.00	8,640.00	0.00	1,500.00	7,140.00
JUL	6,280.00	2,310.00	3,970.00	0.00	1,500.00	2,470.00
AUG	4,890.00	2,070.00	2,820.00	0.00	1,500.00	1,320.00
SEP	4,930.00	1,690.00	3,240.00	0.00	1,500.00	1,740.00
OCT	5,990.00	726.00	5,260.00	0.00	1,500.00	3,760.00
NOV	12,700.00	1,040.00	11,700.00	0.00	1,500.00	10,200.00
DEC	24,800.00	1,360.00	23,400.00	0.00	1,500.00	21,900.00
ANN	19,700,000.00	2,480,000.00	17,300,000.00	0.00	1,090,000.00	16,200,000.00

Water Availability Analysis

Detailed Reports

CLEAR CR > CLACKAMAS R - AT MOUTH
WILLAMETTE BASIN

Water Availability as of 1/26/2022

Watershed ID #: 82 ([Map](#))

Date: 1/26/2022

Exceedance Level: 80% ▼

Time: 11:34 AM

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	1.31	125.00	0.00	0.00	125.00
FEB	128.00	1.22	127.00	0.00	0.00	127.00
MAR	128.00	0.84	127.00	0.00	0.00	127.00
APR	131.00	0.99	130.00	0.00	0.00	130.00
MAY	111.00	2.70	108.00	0.00	0.00	108.00
JUN	48.10	3.75	44.30	0.00	40.00	4.35
JUL	19.00	6.46	12.50	0.00	40.00	-27.50
AUG	8.02	5.28	2.74	0.00	20.00	-17.30
SEP	5.65	2.28	3.37	0.00	20.00	-16.60
OCT	6.23	0.91	5.32	0.00	0.00	5.32
NOV	21.50	0.88	20.60	0.00	0.00	20.60
DEC	103.00	1.38	102.00	0.00	0.00	102.00
ANN	99,100.00	1,700.00	97,400.00	0.00	7,260.00	93,300.00