

This Groundwater Technical Review and the included analysis help inform the Water Rights Section's review of whether the proposed groundwater use will ensure the preservation of the public welfare, safety and health as described in ORS 537.525 and ORS 537.621. The Water Rights Section also considers other information sources when making its public interest determination, including watermaster input, any comments received, input from other agencies, other Commission rules not evaluated as part of the Groundwater Review, and other information.

PUBLIC INTEREST TECHNICAL REVIEW FOR GROUNDWATER APPLICATIONS

TO: Water Rights Section Date: 7/10/2026
FROM: Groundwater Section Stacey Garrison
Reviewer's Name
SUBJECT: Application G - 19488 Supersedes review of _____

Date Reviewed by GW Lead and Returned to WRSD: Travis Brown, 7/21/2026

PUBLIC INTEREST PRESUMPTION: GROUNDWATER

OAR 690-310-0130 (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 if

(a) The proposed use is allowed in the applicable basin program established pursuant to ORS 536.300 and 536.340 or given a preference under ORS 536.310(12);

(b) Water is available;

(c) The proposed use will not injure other water rights; and

(d) The proposed use complies with the rules of the Commission.

Department staff review groundwater applications under OAR 690-310-0140 to determine whether the presumption is established and may modify or condition the proposed use 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:

A1. Application

Applicant's Name: Sterling Acres LLC County: Benton
Applicant(s) seek(s) 1.22 cfs from 1 well(s) in the Willamette Basin,
Mainstem subbasin
Proposed use Irrigation Seasonality: March 1-October 31

A2. Well and aquifer data:

A2 a: Well identifiers, aquifer, rate, and location

POA Well	Well Log ID	Applicant's Well #	Proposed Aquifer	Proposed Rate (cfs)	Location (T/R-S QQ-Q)	Latitude ^a	Longitude ^a
1	PROP 645	1	Alluvium	1.22	11S/4W-4 NE-SW	44.6406838	-123.1826481

A2 b: Well construction information by depth below land surface. All units in feet.

POA Well	Seal		Casing		Filter Pack		Open / Perforation / Screen		Well Bottom
	Min	Max	Min	Max	Min	Max	Min	Max	
1	N/A	N/A	N/A	N/A	N/A	N/A	0	100	100

A2 c: Well construction information by elevation above mean sea level. All units in feet.

POA Well	Land Surface Elevation ^b	Seal		Casing		Filter Pack		Open / Perforation / Screen		Well Bottom
		Min	Max	Min	Max	Min	Max	Min	Max	
1	226	N/A	N/A	N/A	N/A	N/A	N/A	226	126	126

A2 d: Information relevant to water levels, including land surface elevation, depth of first water, recent annual high level, and reference levels for permit conditions

POA Well	Depth of First Water from Well Log (ft bls)	Shallowest Static Water Level (ft bls)	Most Recent Annual High WL		Reference Levels for:				Well Tests			
					RSGL	Permit Conditions			(max yield on well log)			
			Depth (ft bls)	WL Date	Depth (ft bls)	Depth (ft bls)	Date	Pro-visional?	Yield (gpm)	Draw-down (ft)	Test Type	Duration (hours)
1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Use data from application for proposed wells.

“SWL” = static water level (most recent or representative SWL). “amsl” = above mean sea level. “bls” = below land surface

Comments: POA 1 is proposed, not yet constructed. The applicant does not specify casing interval, perforated or screened interval(s), or seal interval. The applicant has indicated a maximum well depth of 100 ft. For the open interval, the maximum interval of 0 to 100 ft bls is assumed.

A3. Description of hydrogeologic setting / conceptual model: Proposed POA and POU are in area with Willamette Silt mapped at the surface, which is underlain by a horizontally contiguous and water-bearing layer of sand and gravel. The alluvial package is at least 177 ft thick within a mile of the POA and is underlain by lithified sedimentary materials, most likely the Spencer formation, a Tertiary Marine Volcaniclastic Sedimentary unit. The sand and gravel water-bearing zone is between 24 and 86 ft bls with a median thickness of 23 ft, but ranges from 10 to 47 ft within a mile of the POA^c.

^a Latitude and longitude are based on the application map and description of metes and bounds; the latitude and longitude are provided here to record the location evaluated in this GW Review.

^b Land surface elevation estimated to nearest 5-foot interval from LIDAR at the proposed well site (OLC, 2023).

^c Wells within one mile of the POAs and using the QLTS aquifer: BENT 58, BENT 2500, BENT 2622, BENT 2545, BENT 2499, BENT 51604, BENT 2535, BENT 54843, BENT 2544, BENT 2510, BENT 54550

B. BASIN PROGRAM:

OAR 690-310-0130 (1)(a)

B1. ☐ **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 greater than 0.25 miles from the nearest surface water source. Per OAR 690-502-0240, the relevant basin rules do not apply.

B2. ☐ **Well(s) #** _____, _____, _____, _____, _____, are limited by an administrative restriction under the applicable basin program.

Comments: _____

C. WATER AVAILABILITY:

OAR 690-310-0130 (1)(b)

OAR 690-300-0010(57): “Water is Available” [...] means: [...]

- (d) The proposed groundwater source exhibits Reasonably Stable Groundwater Levels, as defined in OAR 690-008-0001; and
- (e) The total requested rate of groundwater allocation is obtainable by the expected yield of the well(s) proposed in the application given best available information; and
- (f) The proposed groundwater use does not have the Potential for Substantial Interference (OAR 690-009-0020(5)) with a surface water source [that does not have water available]

C1. Reasonably Stable Groundwater Levels

OAR 690-008-0001 (9): “Reasonably Stable Groundwater Levels” means that Annual High Water Levels, based on observed trends over time, remain within a range consistent with sustaining the function and character of a groundwater reservoir indefinitely, and:

- (a) The Annual High Water Levels as measured at one or more representative wells in a groundwater reservoir or part thereof:
- (A) indicate no decline or an average rate of decline of less than 0.6 feet per year over any immediately preceding averaging period with duration between 5 and 20 years. Four Annual High Water Levels are required to calculate the rate of change; one must have been measured in the year to which the evaluation of reasonably stable applies, and at least one must have been measured between 5 and 20 years prior; and
 - (B) have not declined by more than 25 feet from a reference level to the level in the year to which the evaluation of reasonably stable applies. The reference level shall be the highest known water level unless Annual High Water Levels have been measurably increased by human activity, in which case the Department may set a different reference level using best available information.
- (b) If water level data are insufficient to perform either test in (a) for a given year, then the Department will presume that groundwater levels are not reasonably stable unless:
- (A) the most recent evaluation of reasonably stable applies to a year within 5 years of the given year, in which case the Department may presume that the recent evaluation still applies; or
 - (B) groundwater has not yet been extracted or authorized for extraction from the groundwater reservoir, in which case the Department may presume that groundwater levels are reasonably stable.
- (c) The Department may evaluate Reasonably Stable Groundwater Levels for the year of the priority date of a groundwater right application or for a later year if more recent data are available.

- C1a. If part (a) of 690-008-0001(9) has been superseded by a basin program rule as per 690-008-0001(9)(B)(d) proceed to C1c. List one or more representative wells in the proposed groundwater reservoir or part thereof that have sufficient data to evaluate part (a) of 690-008-0001(9). Both the Rate (OAR 690-008-0001(9)(a)(A)) and Magnitude (OAR 690-008-0001(9)(a)(B)) tests for a given well must be passed in order to find that the water levels are Reasonably Stable. It is not necessary to include all POAs proposed on this application into this table, as long as they all access the same part of the groundwater reservoir and have the same reasonable stability status indicated in C1b below. If some POAs are found to be reasonably stable while others are not, then all the POAs on the application should be included in the table below, with their POA number indicated in the second column. In that situation, the reviewer does not need to indicate in this table which wells are considered representative for determining reasonable stability status for different POAs, but they should describe those relationships in the comments below.

Well Log ID	POA Well #	Reference Level for Evaluation of Reasonable Stability (ft bls)	Rate Test	Magnitude Test	Water Levels Reasonably Stable
BENT 2544	N/A	3.22	Pass	Pass	Reasonably Stable
BENT 54843	N/A	21.5	Pass	Pass	Reasonably Stable
BENT 55815	N/A	4.5	Pass	Pass	Reasonably Stable

Comments: Representative wells used for RSGL analysis are listed in the table above. POA is not yet constructed.

- ☒ **Are Reasonably Stable**

☐ **Are Not Reasonably Stable**

☐ Sufficient data are not available to evaluate reasonable stability

Comments: _____

- Comments: _____

C2a. OAR 690-300-0010(57)(e): Is the total requested rate of groundwater allocation obtainable by the expected yield of the well(s) proposed in the application given best available information?

☒ **Yes** ☐ **No**

Comments: A review of statistics for nearby well records was completed and compared with the proposed rates of 1.22 cfs (548 gpm) for POA 1 (see Well Statistics). The proposed rate is likely within the capacity of the groundwater resource; the median reported well yield for surrounding sections is 37.5 gpm and the maximum is 350 gpm. The proposed rate for POA 1 of application is 1460% of the median and 156% of the maximum. Within one mile of the POA, the median yield is 92.5 gpm and the maximum yield is 260 gpm^a.

^a Wells within one mile of the POAs and using the QLTS aquifer: BENT 58, BENT 2500, BENT 2622, BENT 2545, BENT 2499, BENT 51604, BENT 2535, BENT 54843, BENT 2544, BENT 2510, BENT 54550

*OAR 690-300-0010(57): "Water is Available", when used in OAR 690-310-0080, 690-310-0010 and 690-310-0130, means [...]:
(f) The proposed groundwater use does not have the Potential for Substantial Interference (OAR 690-009-0020(5)) with a surface water source [that is not available for further appropriation]*

OAR 690-009-0040: (1) When evaluating a Proposed Groundwater Use, Hydraulic Connection and the Potential for Substantial Interference with a surface water source shall be determined by the Department according to these rules. These determinations shall be based upon the application of generally accepted hydrogeologic principles using best available information concerning the hydrologic system of interest and the well(s) under consideration.

(a) Appropriate information that is provided in the application or in the public comment period for the application shall be considered in the process of making these determinations.

(b) Best available information may include, but is not limited to, pertinent water well reports, aquifer test analyses, hydrologic and geologic studies and reports, groundwater and surface water elevation data, available numerical and analytical groundwater flow models, and any other information that is used in applying generally accepted hydrogeologic principals and methodologies.

(2) A determination of Hydraulic Connection is a prerequisite for a determination of the Potential for Substantial Interference.

(3) A determination of the Potential for Substantial Interference with a surface water source shall at a minimum include application of the generally accepted hydrogeological principles described in “Streamflow Depletion by Wells – Understanding and Managing the Effects of Groundwater Pumping on Streamflow” by P. M. Barlow and S. A. Leake, 2012.

(4) *The Potential for Substantial Interference with a surface water source exists if the well(s) under consideration will, over the full term of the proposed or authorized groundwater use, obtain water from Streamflow Depletion.*

OAR 690-009-0020(4): "Hydraulic Connection" means saturated conditions exist allowing water to move between two or more sources of water, either between groundwater and surface water or between groundwater sources.

OAR 690-009-0020 (7) “Streamflow Depletion” means a reduction in the flow of a surface water source due to pumping a hydraulically connected groundwater source. Streamflow Depletion encompasses:

- (a) captured groundwater that would otherwise discharge to a surface water source; or
 (b) induced infiltration from a surface water source to the hydraulically connected groundwater source.

C3a. OAR 690-009-0020(5): *Potential for Substantial Interference*”, or “PSI”, means that a groundwater use will cause streamflow depletion based on the assessments described in OAR 690-009-0040, and therefore may cause or has caused substantial interference with or undue interference with a surface water source, based on the definitions in OAR 690-008-0001.

Summary of surface water sources evaluated for hydraulic connection and Potential for Substantial Interference. For hydraulic connection and potential for substantial interference, a value of 1 means yes, and blank means no.

POA Well	WRD Streamcode	Streamcode Surface Water Name	Water Availability Basin (WAB)	WAB Watershed ID	Hydraulically Connected	Potential for Substantial Interference
1	021140	WILLAMETTE R	WILLAMETTE R	30200321	Yes	Yes
1	02114013200010	FRAZIER CR	WILLAMETTE R	30200321	Yes	Yes

Comments: Groundwater elevations in this area are anticipated to be less than 200 ft amsl (Woodward et al., 1998), which is above or coincident with nearby surface water sources. Hydraulic connection to nearby surface water sources is likely. Given the hydraulic connection between the POA and nearby surface water sources, it is likely that groundwater pumping will result in Potential for Substantial Interference by groundwater capture, per OAR 690-009-0020 (7)(a).

List all surface water sources identified to have PSI and their associated Water Availability Basin:

WRD Streamcode	Streamcode Surface Water Name	Water Availability Basin (WAB)	WAB Watershed ID
021140	WILLAMETTE R	WILLAMETTE R	30200321
02114013200010	FRAZIER CR	WILLAMETTE R	30200321

Comments: The surface water sources with which the POAs have hydraulic connection and PSI are not over-appropriated during any period of the year.

D. INJURY:

OAR 690-310-0130 (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 if...(c) The proposed use will not injure other water rights.

To make a finding of injury to an existing water right, the Department must make a finding of “Substantial Interference” as defined in OAR 690-008-0001(10). The finding of “Substantial Interference” with a surface water right is made by the Water Rights Services Division based on the evaluation in section C3. Sections D1 and D2, below, address the finding of “Substantial Interference” with a groundwater right.

OAR 690-008-0001(10): “Substantial or Undue interference”, means the spreading of the cone of depression of a well to intersect a surface water source or another well, or the reduction of the groundwater levels as a result of pumping or otherwise extracting groundwater from an aquifer, which contributes to:

- (b) The groundwater level being drawn down to the Economic Pumping Level of the senior appropriator(s); or*
- (c) One or more of the senior groundwater appropriators being unable to obtain either the permitted or customary quantity of groundwater, whichever is less, from a reasonably efficient well that fully penetrates the aquifer where the aquifer is relatively uniformly permeable. However, in aquifers where flow is predominantly through fractures, full penetration may not be required as a condition of substantial or undue interference.*

D1a. OAR 690-008-0001(10): Will the proposed groundwater use result in substantial or undue interference with an existing groundwater user?

☐ Yes ☐ No ☒ **No, as long as the permit is conditioned as indicated in item F below.**

Comments: The nearest well to the proposed POA (PROP 645) was identified as BENT 54550, located approximately 238 ft north of the proposed POA. A Theis drawdown analysis was performed to estimate drawdown expected at BENT 54550 due to the use proposed by this application. The results of the Theis analysis (attached to this review) indicate that this proposed use is unlikely to cause Substantial or Undue Interference, as defined in OAR 690-008-0001(8), to either BENT 54550 or other nearby similarly completed wells. Conditions included in section F below are recommended to address any potential injury concerns.

E. OTHER RULES OF THE COMMISSION:

OAR 690-310-0130 (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 if...(d) The proposed use complies with the rules of the Commission.

E1. OAR 690-200, 690-210 and 690-215: Well Construction

Identify any notable well construction deficiencies or hydrogeologic considerations to support review by Well Construction & Compliance.

E1a. Well #: 1 Logid: PROP 645

E1b. Well construction deficiency or other comment is described as follows: Proposed construction is incomplete; recommend applicant refer to OAR 690-210 for applicable well construction standards, including but not limited to minimum seal depth, size of upper oversize drillhole and casing.

E2. OAR 690-310-0260: Water Rights Within or Above State Scenic Waterways

E2a. Are any of the proposed sources of appropriation hydraulically connected to a State Scenic Waterway or its tributaries?
☐ Yes ☒ No

Hydraulically connected State Scenic Waterway: _____

Comments: _____

E2b. Per ORS 390.835, is the Groundwater Section able to calculate ground water interference with surface water that contributes to a Scenic Waterway?

☐ Yes. The calculated interference is distributed below:

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 "No" option below, 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

☐ No. 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.

Comments: _____

E3. Other Relevant Rules of the Commission:

Comments: _____

F. RECOMMENDED MODIFICATIONS OR CONDITIONS:

OAR 690-310-0140(2): If the Department determines that the presumption is not established, the Department shall determine whether the proposed use will impair or adversely affect the public welfare, safety and health under ORS 537.525 and may either:

- (a) Propose denial of the application upon a finding that the use will impair or adversely affect the public welfare, safety and health;*
- or*
- (b) Make specific findings to demonstrate that even though the presumption is not established, the proposed use will not impair or adversely affect the public welfare, safety and health and propose approval of the application with appropriate modifications or conditions.*

Based on the findings in sections A-D above, the following conditions are recommended if the permit is approved:

7RLN, Large Water Use Reporting

REFERENCES:

Application file: G-19488

Department's Pump Test Database: BENT 980, BENT 56087, BENT 51640, BENT 856, LINN 8694, LINN 10585

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

Freeze, R.A. and J.A. Cherry, 1979. Groundwater, Prentice Hall, Englewood Cliffs, New Jersey, 604p

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.

Heath, R.C., 1983. Basic ground-water hydrology, U.S. Geological Survey Water-Supply Paper 2220, 86p.

McClaghry, J. D., T. J. Wiley, M. L. Ferns, and I. P. Madin. 2010. Digital Geologic Map of the Southern Willamette Valley, Benton, Lane, Linn, Marion, and Polk Counties, Oregon. Oregon Dept. of Geology and Mineral Industries. Open File Report O-10-13

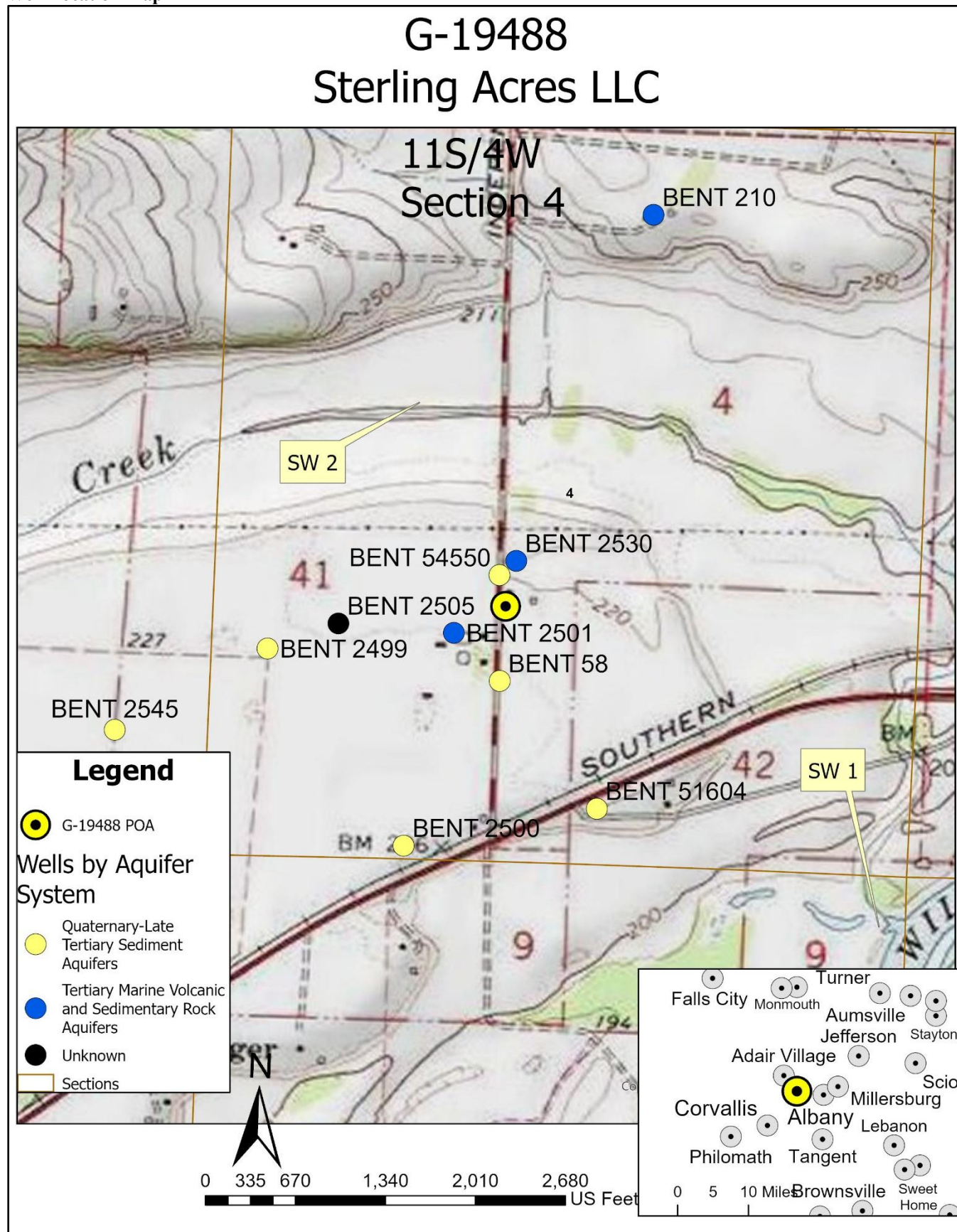
Oregon Lidar Consortium (OLC), 2023, OLC Willamette Valley 2023 lidar project, Oregon Department of Geology & Mineral Industries, Portland, OR.

Theis, C.V., 1935, The relation between the lowering of the piezometric surface and the rate and duration of discharge of a well using ground-water storage: American Geophysical Union transactions, v. 16, p. 519-524.

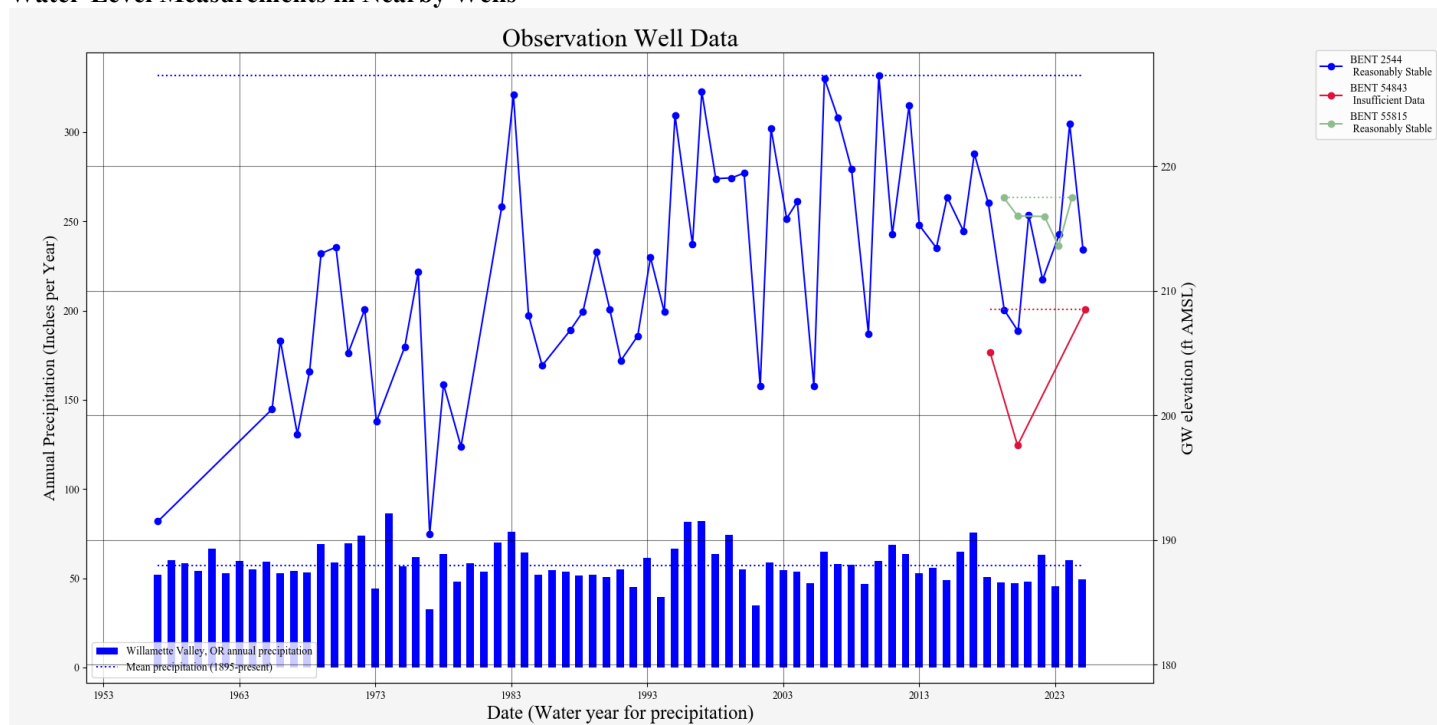
United States Geological Survey, 2013, National Elevation Dataset (NED) [DEM geospatial data]. 1/9th arc-second, updated 2013.

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

Woodward, D.G., Gannett, M.W., and Vaccaro, J.J., 1998, Hydrogeologic framework of the Willamette Lowland aquifer system, Oregon and Washington: U.S. Geological Survey Professional Paper 1424-B, 82 p.

ATTACHMENTS:**Well Location Map**

Water-Level Measurements in Nearby Wells



Modeled drawdown at BENT 54550 as a result of pumping PROP 645

Input Data:	Var Name	Scenario 1	Scenario 2	Scenario 3	Units	
Total pumping time	t		245		d	
Radial distance from pumped well:	r		238		ft	Q conversions
Pumping rate	Q		0.501595		cfs	225.12 gpm
Hydraulic conductivity	K	8	75	216	ft/day	0.50 cfs
Aquifer thickness	b		23		ft	30.10 cfm
Storativity	S_1		0.003			43,337.81 cfd
	S_2		0.2			0.99 af/d
Transmissivity Conversions	T_f2pd	184	1725	4968	ft ² /day	Recalculate
	T_ft2pm	0.12777778	1.19791667	3.45	ft ² /min	
	T_gpdpft	1376.32	12903	37160.64	gpd/ft	

The maximum requested rate, 1.22 cfs (547.6 gpm) could not be used for the entire 245-day period without exceeding the maximum allowed duty of 243.75 AF. For constant pumping over the 245-day period, the maximum annual duty of 247.75 could occur at an averaged rate of 0.501595 cfs (225 gpm). Scenarios T1S1 and T1S2 would result in de-watering of the pumping well with drawdown in the pumping well exceeding 100 ft within 2 hours of pumping; these scenarios are not included below.

