

Groundwater Review Summary Form

Application # G- 18876

GW Reviewer Karl Wozniak Date Review Completed: 1-6-2020

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

January 6, 2020

TO: Application G- 18876

FROM: GW: Karl Wozniak
(Reviewer's Name)

SUBJECT: Scenic Waterway Interference Evaluation XW

☐ YES The source of appropriation is hydraulically connected to a State Scenic
☒ NO Waterway or its tributaries

☐ YES Use the Scenic Waterway Condition (Condition 7J)
☒ NO

☐ 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 _____ 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
 FROM: Groundwater Section Karl Wozniak
 SUBJECT: Application G- 18876
 Date January 6, 2020
 Reviewer's Name
 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: Marina Sharabarin County: Clackamas

A1. Applicant(s) seek(s) 0.26 cfs from 1 well(s) in the Willamette Basin,
Molalla subbasin

A2. Proposed use Irrigation Seasonality: March 1 – October 31

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	Proposed	1	Alluvium	0.26	4S/1E-26 NE-SE	255' S, 1510 E fr C1/4 cor S26
2						
3						
4						
5						

* 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	240				280	>=25	0-280					

Use data from application for proposed wells.

A4. **Comments:** The applicant seeks 0.26 cfs (117 gpm) from 1 proposed well for primary irrigation of 21.4 acres. Location and well construction in A3 tables are as proposed. CLAC 12530, a nearby, 260-foot deep irrigation well (about 530 feet east-southeast) is presumed to be a good representation of the conditions that will be met during the drilling of the proposed well.

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 well will produce from a confined aquifer so the pertinent basin rules (OAR 690-502-0240) 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) 7c, large water use reporting;
 - ii. ☐ The permit should be conditioned as indicated in item 2 below.
 - iii. ☐ The permit should contain special condition(s) as indicated in item 3 below;

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

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

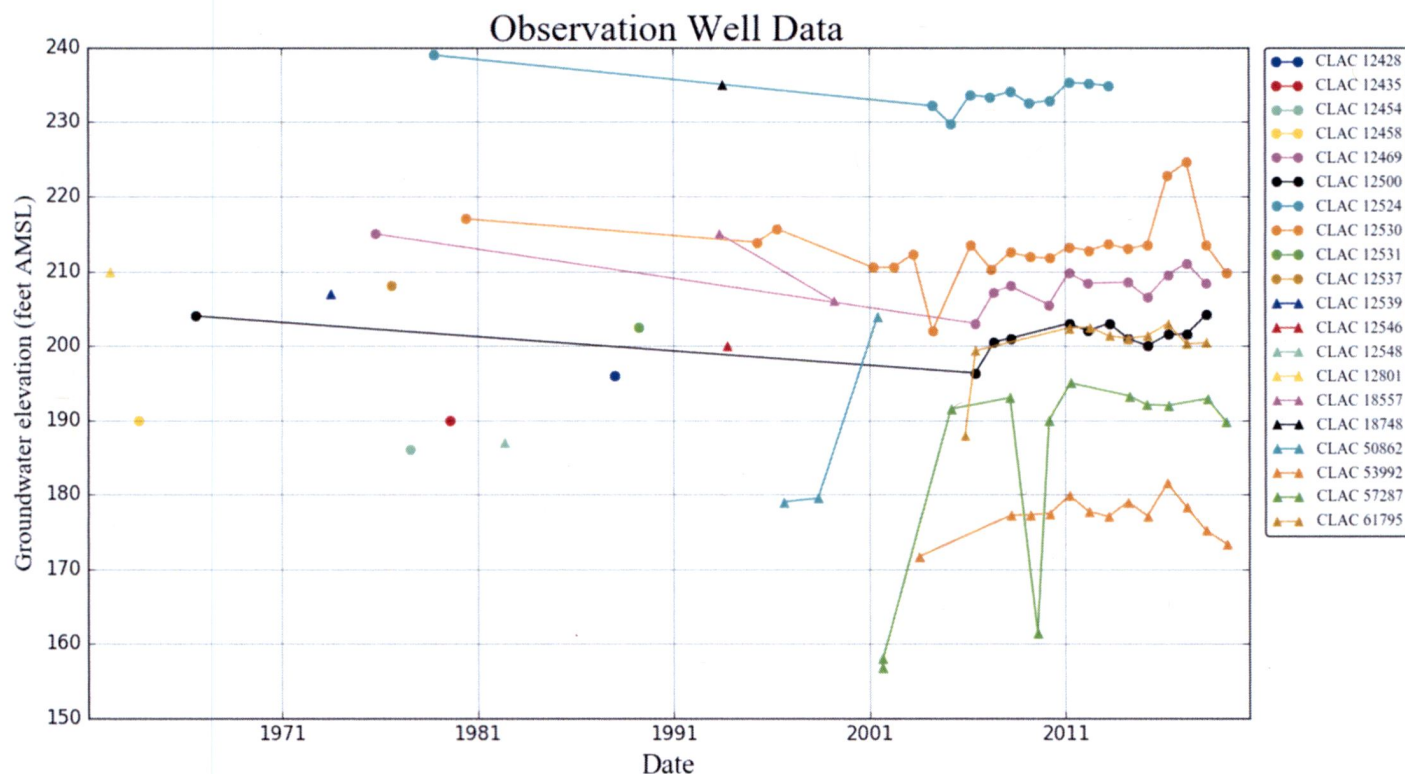
B3. **Groundwater availability remarks:** The applicant seeks 0.26 cfs (117 gpm) from 1 proposed well for primary irrigation of 21.4 acres. The proposed well is located in the eastern foothills of the Willamette Valley in an upland area just south of the Molalla River valley. The area around the proposed well is underlain by a thick sequence of sediments which comprise the alluvial aquifer system. A thin veneer of Willamette Silt, up to 30 feet thick, occurs at land surface. The silt is underlain by alluvial sediments, ranging up to 1000 feet thick, that were deposited in a broad alluvial fan where the Molalla River exits the Cascade Range (Molalla fan of Gannett & Caldwell, 1998). Local well logs indicate that sands and gravels predominate in the upper 200 feet of the fan but clays and silts predominate at deeper levels, although relatively thin sand and gravel beds are known to occur locally at depths as great as 470 feet (CLAC 53992/CLAC 59115). The water table occurs at shallow depths in the area. Well logs indicate a decrease in hydraulic head with depth, consistent with a broad upland recharge area. However, local discharge to streams is also evident as adjacent stream reaches become perennial as they are incised to the level of the water table. The aquifer system is progressively confined with depth by silt and clay layers within the upper part of the fan and local cementation within sand and gravel layers. Silt and clay beds in the upper 200 feet of the fan are unlikely to be aerially extensive as these are proximal alluvial fan deposits that are likely to be dominated by cut and fill structures. Deeper sand and gravel beds (within the thick sequence of clays and silts) are expected to be somewhat more isolated from the shallow sands and gravels and are likely to be narrow stringer sands associated with distal fan deposits of an earlier phase of fan construction.

Well density is moderately low in the area. The OWRD well log database shows about 60 well logs of record in adjacent sections 25 and 26 of T4S, R1E. The median reported well yield is 40 gpm but yields range from 12-500 gpm. In contrast, well reports for 11 irrigation wells (most with 10-inch or greater casing diameters) show a median well yield of 180 gpm and

a range from 54-500 gpm. Well logs also indicate a general increase in yield with depth. Groundwater levels in nearby wells show relatively stable trends over time. These facts indicate that the applicant is reasonably likely to drill a new well that is capable of the proposed yield of 117 gpm and that groundwater for the proposed use will likely be available within the capacity of the resource.

Since most of the productive water-bearing zones in the aquifer system are confined, pumping at the proposed wells is expected to produce a shallow but widespread cone of depression. Impacts on nearby wells are not expected to be injurious because reported drawdowns on well logs for most wells are relatively small relative to the total water column available in the aquifer. Also, progressive confinement with depth should buffer some of the impacts to shallow wells. Therefore, groundwater for the proposed use will likely be available in the amounts requested without injury to prior rights. However, predictive uncertainties and the lack of any seasonal water-level trends in the area indicate that it would be prudent to require conditions to limit hydraulic interference and to monitor and report groundwater levels and water use.

Water-Level Trends in Nearby Wells



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
	Alluvial groundwater aquifer system	☒	☐
		☐	☐

Basis for aquifer confinement evaluation: Well logs for nearby wells with similar depths and construction show static water levels that are well above productive water-bearing zones in the wells.

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	Gribble Creek	215	215-238	1670	☒	☐	☐	☐	☒
1	2	Creamery Creek	215	209-235	2560	☒	☐	☐	☐	☒
1	3	Dove Creek	215	212-226	3340	☒	☐	☐	☐	☒
1	4	Wheeler Creek	215	200-244	4940	☒	☐	☐	☐	☒
						☐	☐	☐	☐	☐

Basis for aquifer hydraulic connection evaluation: Local streams become perennial in nearby reaches. Porous media occur at all locations between local streambeds and water-bearing zones at depth. Groundwater levels at the well site are anticipated to be at or above local stream reach elevations. Published water-table maps indicate that groundwater flows toward, and discharges into, local streams. All of these facts indicate that local streams are hydraulically connected to the alluvial aquifer system.

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

MOLALLA R > WILLAMETTE R - AT MOUTH (WAB 69796) and PUDDING R > MOLALLA R - AB MILL CR (WAB 151). The well occurs within WAB 69796 but because the productive water-bearing zones are confined, pumping effects are expected to propagate out to distances greater than 1 mile and will therefore also impact nearby streams in WAB 151.

- 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 source. Limit evaluation to instream rights and minimum stream flows that are pertinent to that surface water source, and 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	☐	☐			☐	134	☐		☐
1	2	☐	☐			☐	134	☐		☐
1	3	☐	☐			☐	134	☐		☐
1	4	☐	☐	MF151	35	☐	67.3	☐		☐
		☐	☐			☐		☐		☐

- 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: Instream right MF151 (priority date 06/22/1964) is for instream flow in the Pudding River and its tributaries above USGS gage number 14-2020 at Aurora. Interference at 30 days was not modeled but is expected to be much less than 25% because of the presence of confining layers between the proposed well and local streams.

- 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													
(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: Impacts to streams greater than 1 mile from the proposed well because the proposed pumping rate is less than 1% of the natural streamflow for all streams greater than 1 mile in all months of the year.

- 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:
- ☐ The permit should contain condition #(s) _____;
 - ☐ The permit should contain special condition(s) as indicated in "Remarks" below;

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

References Used:

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: U.S. Geological Survey Scientific Investigations Report 2005-5168.

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

O'Connor, J.E., Sarna-Wojcicki, A., Wozniak, K.C., Polette, D.J., and Fleck, R.J., 2001: U.S. Geological Survey Professional Paper 1620.

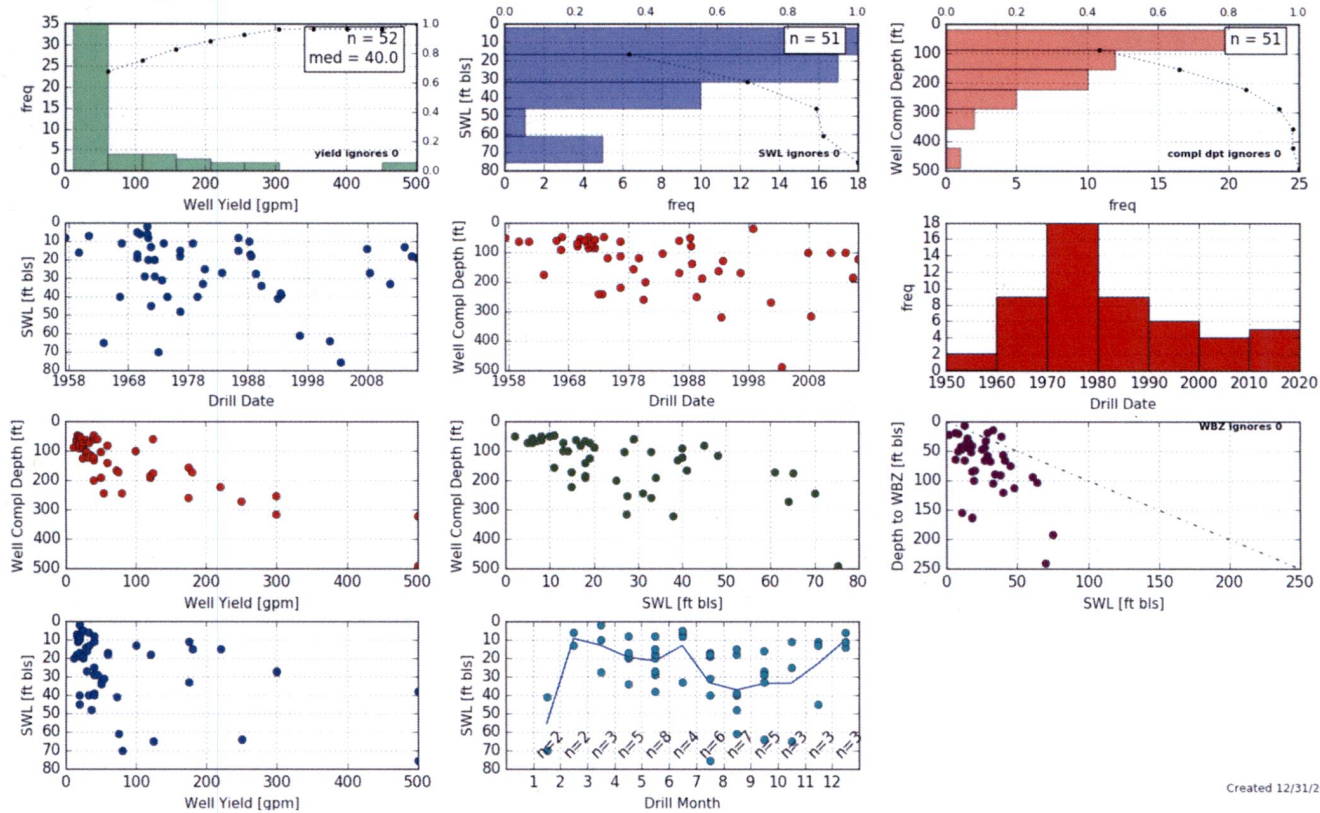
Woodward, D.G., Gannett, M.W., and Vaccaro, J.J., 1998, Hydrogeologic framework of the Willamette Lowland aquifer system, Oregon and Washington: U.S. Geological Survey Professional Paper 1424-B, 82p.

D. WELL CONSTRUCTION, OAR 690-200

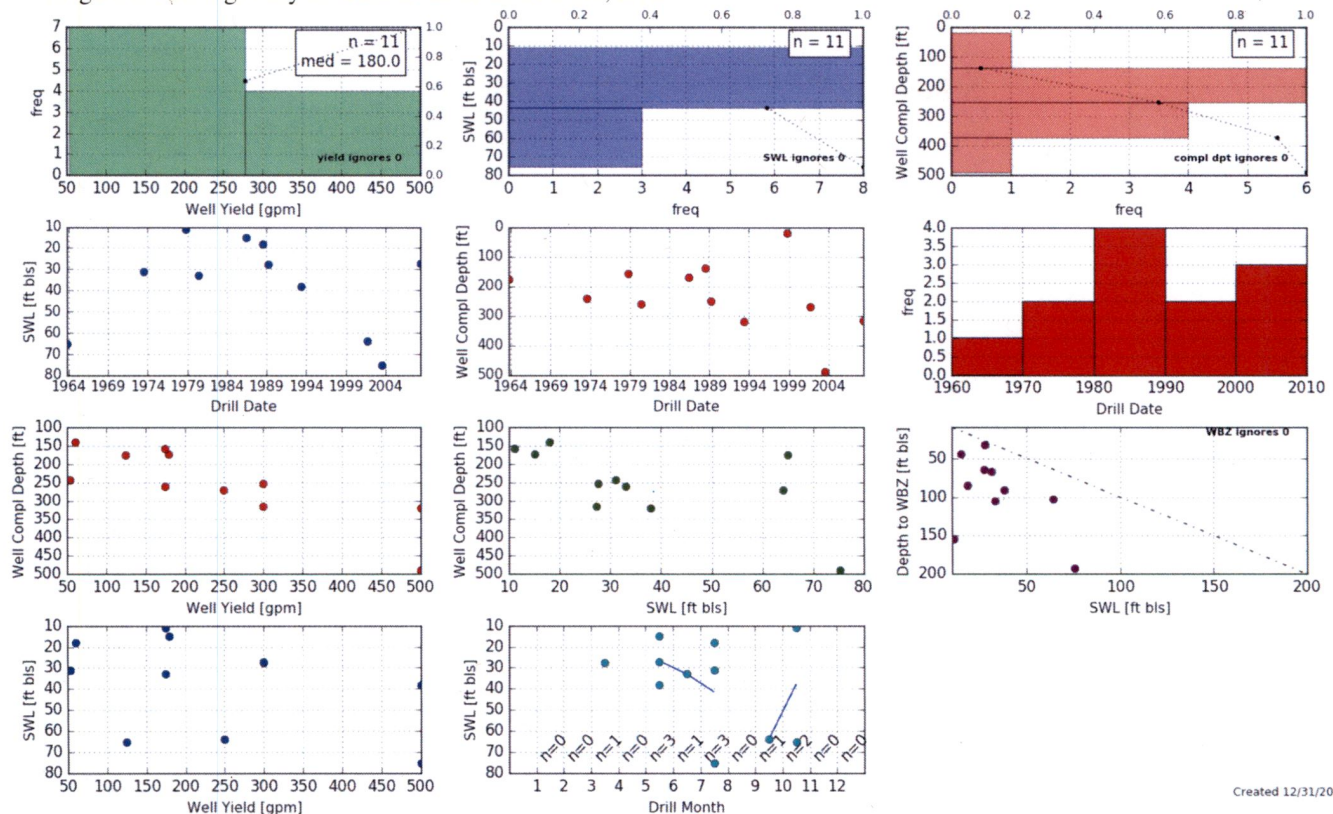
- D1. **Well #:** _____ **Logid:** _____
- D2. **THE WELL does not appear to meet current well construction standards based upon:**
- a. ☐ review of the well log;
 - b. ☐ field inspection by _____;
 - c. ☐ report of CWRE _____;
 - d. ☐ other: (specify) _____
- D3. **THE WELL construction deficiency or other comment is described as follows:** _____
- _____
- _____
- _____
- D4. ☐ **Route to the Well Construction and Compliance Section for a review of existing well construction.**
-
-

Well Statistics

All well logs in sections 25 & 26 of T4W, R1E



Irrigation well logs only in sections 25 & 26 of T4W, R1E



Water Availability Tables

DETAILED REPORT ON THE WATER AVAILABILITY CALCULATION

Watershed ID #: 69796		MOLALLA R > WILLAMETTE R - AT MOUTH				Exceedance Level: 80	
Time: 2:07 PM		Basin: WILLAMETTE				Date: 12/31/2019	
Month	Natural Stream Flow	Consumptive Use and Storage	Expected Stream Flow	Reserved Stream Flow	Instream Requirements	Net Water Available	
Monthly values are in cfs.							
Storage is the annual amount at 50% exceedance in ac-ft.							
JAN	1,870.00	155.00	1,720.00	0.00	500.00	1,220.00	
FEB	2,010.00	145.00	1,870.00	0.00	500.00	1,370.00	
MAR	1,830.00	113.00	1,720.00	0.00	500.00	1,220.00	
APR	1,530.00	86.50	1,440.00	0.00	500.00	943.00	
MAY	927.00	97.60	829.00	0.00	500.00	329.00	
JUN	431.00	119.00	312.00	0.00	500.00	-188.00	
JUL	204.00	184.00	19.00	0.00	200.00	-180.00	
AUG	139.00	155.00	-15.70	0.00	100.00	-116.00	
SEP	134.00	82.60	51.40	0.00	150.00	-98.60	
OCT	188.00	39.50	148.00	0.00	450.00	-302.00	
NOV	637.00	80.00	557.00	0.00	500.00	57.00	
DEC	1,700.00	150.00	1,550.00	0.00	500.00	1,050.00	
ANN	1,320,000	85,000	1,240,000	0	295,000	966,000	

DETAILED REPORT ON THE WATER AVAILABILITY CALCULATION

Watershed ID #: 151		PUDDING R > MOLALLA R - AB MILL CR				Exceedance Level: 80	
Time: 2:08 PM		Basin: WILLAMETTE				Date: 12/31/2019	
Month	Natural Stream Flow	Consumptive Use and Storage	Expected Stream Flow	Reserved Stream Flow	Instream Requirements	Net Water Available	
Monthly values are in cfs.							
Storage is the annual amount at 50% exceedance in ac-ft.							
JAN	1,040.00	125.00	915.00	0.00	36.00	879.00	
FEB	1,180.00	114.00	1,070.00	0.00	36.00	1,030.00	
MAR	1,010.00	76.20	934.00	0.00	36.00	898.00	
APR	787.00	52.00	735.00	0.00	36.00	699.00	
MAY	425.00	50.50	375.00	0.00	36.00	339.00	
JUN	224.00	72.00	152.00	0.00	36.00	116.00	
JUL	109.00	113.00	-4.39	0.00	36.00	-40.40	
AUG	71.00	92.90	-21.90	0.00	36.00	-57.90	
SEP	67.30	53.00	14.30	0.00	36.00	-21.70	
OCT	91.60	11.20	80.40	0.00	36.00	44.40	
NOV	363.00	48.60	314.00	0.00	36.00	278.00	
DEC	957.00	118.00	839.00	0.00	36.00	803.00	
ANN	706,000	55,900	650,000	0	26,100	626,000	

Well Location Map



NOTICE TO WATER WELL CONTRACTOR
The original and first copy of this report
are to be filed with the

WATER RESOURCES DEPARTMENT
SALEM, OREGON 97310
within 30 days from the date
of well completion.

WATER WELL REPORT

SALEM, OREGON (Please type or print)
(Do not write above this line)

State Well No.

State Permit No.

(1) OWNER:

Name Richard Gingerich
Address 10765 S. Barnards Rd.
Canby, Oregon 97013

(2) TYPE OF WORK (check):

New Well ☒ Deepening ☐ Reconditioning ☐ Abandon ☐
If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL:

Driven ☒
Jettied ☐
Bored ☐

(4) PROPOSED USE (check):

Domestic ☐ Industrial ☐ Municipal ☐
Irrigation ☒ Test Well ☐ Other ☐

(5) CASING INSTALLED:

Threaded ☐ Welded ☒
10" Diam. from 0 ft. to 198 ft. Gage 250
" Diam. from 190 ft. to 260 ft. Gage 250
" Diam. from ft. to ft. Gage

(6) PERFORATIONS:

Perforated? ☒ Yes ☐ No.Type of perforator used torch

Size of perforations 10 in. by 1/4 in.
200 perforations from 208 ft. to 260 ft.
perforations from ft. to ft.
perforations from ft. to ft.

(7) SCREENS:

Well screen installed? ☐ Yes ☒ No

Manufacturer's Name

Type Model No.

Diam. Slot size Set from ft. to ft.

Diam. Slot size Set from ft. to ft.

(8) WELL TESTS:

Drawdown is amount water level is lowered below static level

a pump test made ☒ Yes ☐ No. If yes, by whom? Aqua Pump

Yield: 125 gal./min. with 77 ft. drawdown after 4 hrs.

150 " 99 " 7 "

175 " 121 " 8 "

per test gal./min. with ft. drawdown after hrs.

Artesian flow g.p.m.

Temperature of water Depth artesian flow encountered ft.

(9) CONSTRUCTION:

Well seal—Material used cementWell sealed from land surface to 18 ft.Diameter of well bore to bottom of seal 14 in.Diameter of well bore below seal 10 in.Number of sacks of cement used in well seal 16 sacksHow was cement grout placed? pressure groutedWas a drive shoe used? ☒ Yes ☐ No Plugs Size: location ft.Did any strata contain unusable water? ☐ Yes ☒ No

Type of water? depth of strata

Method of sealing strata off

Was well gravel packed? ☐ Yes ☒ No Size of gravel:

Gravel placed from ft. to ft.

(10) LOCATION OF WELL:

County Clackamas Driller's well number D306-80NE $\frac{1}{4}$ SE $\frac{1}{4}$ Section 26 T. 4S R. 1E W.M.

Bearing and distance from section or subdivision corner

Heinz Rd.

(11) WATER LEVEL: Completed well.

Depth at which water was first found 105 ft.Static level 33 ft. below land surface, Date 6/12/80

Artesian pressure lbs. per square inch. Date

(12) WELL LOG:

Diameter of well below casing 10Depth drilled 260 ft. Depth of completed well 260 ft.

Formation: Describe color, texture, grain size and structure of materials; and show thickness and nature of each stratum and aquifer penetrated, with at least one entry for each change of formation. Report each change in position of Static Water Level and indicate principal water-bearing strata.

MATERIAL	From	To	SWL
topsoil	0	2	
clay brown	2	33	
gravel cemented	33	105	
gravel water bearing	105	110	
gravel cemented	110	125	
gravel water bearing	125	130	
gravel cemented	130	173	
sandstone black w/bearing	173	176	
sand brown	176	195	
clay	195	208	
gravel & sand w/bearing	208	224	
clay gray	224	236	
gravel & sand	236	241	
clay blue	241	247	
sandstone black w/bear	247	260	

Work started 6/4/80 19 Completed 6/12/80 19Date well drilling machine moved off of well 6/12/80 19

Drilling Machine Operator's Certification:

This well was constructed under my direct supervision. Materials used and information reported above are true to my best knowledge and belief.

(Signed) Brian Block (Drilling Machine Operator) Date 6/12/80, 19

Drilling Machine Operator's License No. 1169

Water Well Contractor's Certification:

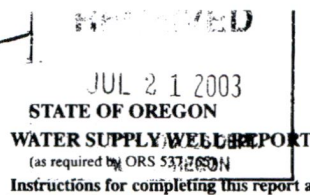
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Name S & M Drilling Inc. (Person, firm or corporation) (Type or print)Address 399 S E Walnut Canby, Ore 97013

(Signed) Glenn Mann (Water Well Contractor)

Contractor's License No. 497 Date 6/12/80, 19

(USE ADDITIONAL SHEETS IF NECESSARY)



 JUL 21 2003

 STATE OF OREGON

 WATER SUPPLY WELL REPORT

 (as required by ORS 537.200)

 Instructions for completing this report are on the last page of this form.

CLAC 59115

Westerberg Drilling, Inc.

36728 S. Kropf Rd.

Molalla, OR 97038

WELL I.D. # L 65642

 START CARD # 154513

(1) LAND OWNER Well Number _____

 Name R. VERNE GINGERICH

 Address 28350 S. MOLALLA FOREST RD.

 City CANBY State OR Zip 97013

(2) TYPE OF WORK

☐ New Well ☒ Deepening ☒ Alteration (repair/recondition) ☐ Abandonment

(3) DRILL METHOD:

☐ Rotary Air ☐ Rotary Mud ☒ Cable ☐ Auger

☐ Other _____

(4) PROPOSED USE:

☐ Domestic ☐ Community ☐ Industrial ☒ Irrigation

☐ Thermal ☐ Injection ☐ Livestock ☐ Other _____

(5) BORE HOLE CONSTRUCTION:

 Special Construction approval ☐ Yes ☒ No Depth of Completed Well 489 ft.

 Explosives used ☐ Yes ☒ No Type _____ Amount _____

HOLE			SEAL			
Diameter	From	To	Material	From	To	Sacks or pounds
16"	0	95	Cement	2	95	114 sacks
12"	95	490	Cement	316	335	10 sacks
			Bentonite	0	2	2 sacks

How was seal placed: Method ☐ A ☐ B ☒ C ☐ D ☐ E

☒ Other BENTONITE POURED & PROBED

Backfill placed from _____ ft. to _____ ft. Material _____

 Gravel placed from 489 ft. to 335 ft. Size of gravel 8 x 12

(6) CASING/LINER:

Diameter	From	To	Gauge Steel	Plastic	Welded	Threaded
Casing: 12"	+1	325	.250	☒	☒	☐
12"	485	489	.250	☒	☐	☐
(cut off w/ shoe) ☐						
Liner: 8"	305	426	.250	☒	☒	☐
8"	472	489	.250	☒	☒	☐

 Drive Shoe used ☐ Inside ☒ Outside ☐ None

 Final location of shoe(s) 489" (cut off)

(7) PERFORATIONS/SCREENS:

☐ Perforations Method _____

☒ Screens Type V-WIRE Material STAINLESS

From	To	Slot size	Number	Diameter	Tele/pipe size	STEEL Casing	Liner
426	472	6"	.045	8"	PS	☒	☐
						☐	☐
						☐	☐
						☐	☐

(8) WELL TESTS: Minimum testing time is 1 hour

☒ Pump	☐ Bailer	☐ Air	☐ Flowing
Yield gal/min	Drawdown	Drill stem at	Time
200	52'		1 hr.
400	127'		3-hr.
500	181'		8-hr.

Temperature of water 53° Depth Artesian Flow Found _____

 Was a water analysis done? ☐ Yes By whom _____

 Did any strata contain water not suitable for intended use? ☐ Too little

☐ Salty ☐ Muddy ☐ Odor ☐ Colored ☐ Other _____

 Depth of strata: _____

(9) LOCATION OF WELL by legal description:

 County CLACKAMAS Latitude _____ Longitude _____

 Township 4S N or S Range 1E E or W. WM.

 Section 25 SE 1/4 NE 1/4

 Tax Lot 202 Lot _____ Block _____ Subdivision _____

 Street Address of Well (or nearest address) 28350 S. MOLALLA FOREST RD. CANBY, OR 97013

(10) STATIC WATER LEVEL:

75' 4" ft. below land surface. Date 7-9-03

 Artesian pressure _____ lb. per square inch Date _____

(11) WATER BEARING ZONES:

Depth at which water was first found 192'

From	To	Estimated Flow Rate	SWL
192'	203'	N/A	52'
214'	228'	N/A	52'
426'	470'	500 GPM	75' 4"

(12) WELL LOG:

Ground Elevation _____

Material	From	To	SWL
original	0	19	
clay grey sticky	19	28	
gravel cobbles w/ clay	28		
grey		36	
gravel cobble w/ clay brown	36	83	
clay brown w/ gravel	83	106	
clay blue w/ sand med	106	118	
gravel med w/ blue clay	118	127	
clay silty brn w/ sand	127	142	
clay silty grey	142	151	
silty sand black brown	151	172	
clay grey silty sticky	172	185	
clay green w/ sand	185	196	
sand black coarse to	196		
fine loose		203	
clay grey silty	203	214	
sand black green cemented	214	222	
sand black loose med	222	225	
continued on page 2			

Date started 4-8-03 Completed 7-17-03

(unbonded) Water Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon water supply well construction standards. Materials used and information reported above are true to the best of my knowledge and belief.

Signed Charles Lunn WWC Number 1768

 Date 7-18-03

(bonded) Water Well Constructor Certification:

I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon water supply well construction standards. This report is true to the best of my knowledge and belief.

Signed Shawn N. Stodick WWC Number 688

 Date 7-18-03

ORIGINAL - WATER RESOURCES DEPARTMENT FIRST COPY - CONSTRUCTOR SECOND COPY - CUSTOMER

CLAC 59115



36728 S. Kropf Rd., Molalla, OR 97038 • Phone: (503) 829-2526 FAX (503) 829-7514

Page 2

WELL ID# L 65642OWNER: R. VERNE GINGERICHADDRESS: 28350 S. MOLALLA FOREST RD.CITY/STATE/ZIP: CANBY, OR 97013WELL ADDRESS: SAME AS ABOVECOUNTY CLACKAMASTOWNSHIP 4SRANGE 1ESECTION 25SE 1/4NE 1/4TAX LOT 202

(11) WATER BEARING ZONES CONT'D FROM PREVIOUS PAGE:

FROM	TO	ESTIMATED FLOW RATE	SWL

(12) WELL LOG INFO. CONT'D FROM PREVIOUS PAGE:

MATERIAL	FROM	TO	SWL
sand black coarse cemented	225	228	
clay silty grey dense	228	247	
clay blue dense	247	285	
clay grey traces of sand	285	292	
clay silty crumbly grey	292	314	
clay blue dense	314	322	
clay silty brown blue	322	337	
clay blue sandy blue fine	337	358	
clay brown sticky	358	380	
clay grey dense	380	394	
clay blue grey crumbly	394	426	
sand black slightly cemented	426	446	
clay blue dense	446	450	
sand black med loose heaving	450	470	
clay blue dense	470	489	

NOTE: This well was originally started in Oct. 1998 to fulfill permit requirements of well construction commencement (see attached well log start card #111469). This well had well ID tag #27153 assigned to it. This tag became misplaced during reconstruction & new well ID tag #L65642 has been assigned to it.

Westerberg Drilling, Inc.**36728 S. Kropf Rd.****Molalla, OR 97038**