

Approved: 

MEMO

To: Kristopher Byrd, Well Construction and Compliance Section Manager
From: Travis Kelly, Well Construction Program Coordinator
Subject: Review of Water Right Application G-19003
Date: January 22, 2021

The attached application was forwarded to the Well Construction and Compliance Section by the Groundwater Section. Phil Marcy reviewed the application. Please see Phil's Groundwater Review and the Well Report.

Applicant's Well #1 (CLAC 60456): Based on a review of the Well Report, Applicant's Well #1 seems to protect the groundwater resource.

The construction of Applicant's Well #1 may not satisfy hydraulic connection issues.

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

STATE OF OREGON
WATER SUPPLY WELL REPORT
(as required by ORS 537.765)

WELL I.D. # L 71430
START CARD # 166748

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

CLAC 60456

(1) LAND OWNER
Name Wendy Chadsey
Address PO Box 449
City Scotts Mills State OR Zip 97375

(2) TYPE OF WORK
XX New Well
Deepening Alteration Abandonment

(3) DRILL METHOD:
XX Rotary Air
Rotary Mud Cable Auger
Other

(4) PROPOSED USE:
XX Domestic
Community Industrial Irrigation
Thermal Injection Livestock Other

(5) BORE HOLE CONSTRUCTION:
Special Construction approval Yes No
Depth of Completed Well 374 ft.
Explosives used Yes No Type Amount

Table with columns: HOLE Diameter, From, To, Material, SEAL From, To, Sacks or pounds. Row 1: 10", 0, 339, Cement, 0, 339, 109 sacks. Row 2: 6 1/8", 339, 374.

How was seal placed: Method A B C D E
Other

Backfill placed from ft. to ft. Material
Gravel placed from ft. to ft. Size of gravel

(6) CASING/LINER:

Table with columns: Diameter, From, To, Gauge, Steel, Plastic, Welded, Threaded. Rows for Casing and Liner.

Drive Shoe used Inside Outside None
Final location of shoe(s) 339'

(7) PERFORATIONS/SCREENS:

XX Perforations Method Swift factory
Screens Type Material

Table with columns: From, To, Slot size, Number, Diameter, Tele/pipe size, Casing, Liner. Row 1: 334, 374, 1/4x3, 480, Casing, Liner.

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

Table with columns: Yield gal/min, Drawdown, Drill stem at, Time. Row 1: 60+, N/A, 374', 1 hr.

Temperature of water 60° 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 6S N or S Range 1E E or W. WM.
Section 10 SW 1/4 SW 1/4
Tax Lot 1600 Lot Block Subdivision
Street Address of Well (or nearest address) 37748 S. Nowlens Bridge Rd. Molalla, OR 97038

(10) STATIC WATER LEVEL:
74 ft. below land surface. Date 9-9-04
Artesian pressure lb. per square inch Date

(11) WATER BEARING ZONES:
Depth at which water was first found 360'

Table with columns: From, To, Estimated Flow Rate, SWL. Row 1: 360', 374', 60+ gpm, 74'.

(12) WELL LOG:

Table with columns: Material, From, To, SWL. Rows: Soil & rock (0-1), Boulders (1-4), Clay brown gritty (4-10), Sandstone blue-green (10-65), Sandstone grey-green (65-95), Sandstone green (95-210), Claystone grey hard (210-280), Claystone brown & grey (280-300), Siltstone grey-white (300-307), Claystone dark grey (307-329), Siltstone dark grey (329-349), Claystone brown (349-358), Sandstone green (358-374).

RECEIVED

SEP 14 2004

WATER RESOURCES DEPT
SALEM, OREGON

Date started 9-3-04 Completed 9-9-04

(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 [Signature] WWC Number 1358 Date 9-13-04

(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 [Signature] WWC Number 688 Date 9-13-04

Groundwater Application Review Summary Form

Application # G- 19003

GW Reviewer Phil Marcy Date Review Completed: 12/28/2020

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

December 28, 2020

TO: **Application G- 19003**

FROM: **GW: Phil Marcy**
 (Reviewer's Name)

SUBJECT: Scenic Waterway Interference Evaluation

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

NO

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, 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 12/28/2020
 FROM: Groundwater Section Phillip I. Marcy
 Reviewer's Name
 SUBJECT: Application G- 19003 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: Phillip H. Chadsey County: Clackamas

A1. Applicant(s) seek(s) 0.34 cfs from 1 well(s) in the Willamette Basin,
Molalla River subbasin

A2. Proposed use Irrigation (27.1 acres); Storage Seasonality: March 1st – October 31st (245 days); 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	CLAC 60456	1	Alluvium	0.34	6S/1E-10 SW-SW	5037'S, 1660'E fr NW cor DLC 46
2						
3						
4						

* 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	330	360	65.17	03/24/2006	374	0-339	0-339	327-374	334-374	60	NA	Air

Use data from application for proposed wells.

A4. **Comments:** Listed static water level from permit condition measurement instead of the driller's reported measurement on log. The applicant's well is located amidst marine sedimentary rocks of the Scotts Mills Formation, overlain in places by the onlapping CRBG basalts and Little Butte volcanics. The well may encounter basalt in the upper 4 feet, but is completed to produce from marine sediments.

A5. **Provisions of the** Willamette (690-502-0240) 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 is located within 1/4 mile of, and hydraulically connected to, Marquam Creek. However, it does not produce from "alluvium", so the pertinent 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) 7N;
 - 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:** Little groundwater elevation data are available in the pertinent area and aquifer targeted by the proposed POA well. At the rate and volume requested, interference is not anticipated to nearby groundwater users as a result of the proposed use.

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	Marine sedimentary rocks	<input checked="" type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>

Basis for aquifer confinement evaluation: Water within the borehole rises far above the elevation of productive water-bearing zones within the well.

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	Marquam Creek	264.83 **	280-410* 314-386*	130	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Basis for aquifer hydraulic connection evaluation: Given the elevation of groundwater within the well, the proposed POA is unlikely to be hydraulically connected to surface water within one mile. Nearby wells completed into shallower horizons display water levels commiserate with nearby stream reaches, with these horizons likely contributing to streamflow. The applicant's well produces from deeper horizons that do not have an efficient connection to nearby streams.

* Elevations of Marquam and Butte Creek within one mile of POA location.

** Permit condition measurement taken two years after well was constructed.

Water Availability Basin the well(s) are located within: PUDDING R > MOLALLA R - AB MILL CR

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

Well	SW #	Well < ¼ mile?	Qw > 5 cfs?	Instream Water Right ID	Instream Water Right Q (cfs)	Qw > 1% ISWR?	80% Natural Flow (cfs)	Qw > 1% of 80% Natural Flow?	Interference @ 30 days (%)	Potential for Subst. Interfer. Assumed?
		<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>

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?
			<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
			<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>

Comments: Section C3 does not apply, as the proposed POA well is not hydraulically connected to surface water within one mile.

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: This section does not apply.

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:** Condition 7N is recommended for the proposed use to evaluate impacts of increased pumping to the deep marine sedimentary aquifer here, for which there is little to no current data.

References Used:

Tolan, T. L., and Beeson, M. H., 1999, Geologic map of the Silverton and Scotts Mills 7.5 minute quadrangles, northwest Oregon: Reston, Va., U.S. Geological Survey, Open-File Report 99-141, Sheet 1., map scale 1:24,000.

Nearby well logs; GWIS water level database

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.

Water Availability Tables

DETAILED REPORT ON THE WATER AVAILABILITY CALCULATION						
Watershed ID #: 151			PUDDING R > MOLALLA R - AB MILL CR		Exceedance Level: 80	
Time: 2:54 PM			Basin: WILLAMETTE		Date: 12/28/2020	
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	115.00	1,070.00	0.00	36.00	1,030.00
MAR	1,010.00	76.60	933.00	0.00	36.00	897.00
APR	787.00	52.40	735.00	0.00	36.00	699.00
MAY	425.00	50.50	375.00	0.00	36.00	339.00
JUN	224.00	72.10	152.00	0.00	36.00	116.00
JUL	109.00	113.00	-4.25	0.00	36.00	-40.30
AUG	71.00	92.90	-21.90	0.00	36.00	-57.90
SEP	67.30	52.80	14.50	0.00	36.00	-21.50
OCT	91.60	11.50	80.10	0.00	36.00	44.10
NOV	363.00	48.60	314.00	0.00	36.00	278.00
DEC	957.00	119.00	838.00	0.00	36.00	802.00
ANN	706,000	56,000	650,000	0	26,100	626,000

Well Location Map

