Groundwater Application Review Summary Form

Application # G- _18877 re-review_

GW Reviewer _Travis Brown_ Date Review Completed: _11/22/2022_

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 **_November 22, 2022_**

TO: **Application** G-**_18877 re-review_**

FROM: **GW:** **_Travis Brown_**
(Reviewer's Name)

SUBJECT: Scenic Waterway Interference Evaluation

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

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

☐ Per ORS 390.835, the Groundwater Section is **able** to calculate ground water interference with surface water that contributes to a Scenic Waterway. The calculated interference is distributed below

☐ Per ORS 390.835, the Groundwater Section is **unable** to calculate ground water interference with surface water that contributes to a scenic waterway; **therefore, the Department is unable to find that there is a preponderance of evidence that the proposed use will measurably reduce the surface water flows necessary to maintain the free-flowing character of a scenic waterway**

DISTRIBUTION OF INTERFERENCE

Calculate the percentage of consumptive use by month and fill in the table below. If interference cannot be calculated, per criteria in 390.835, do not fill in the table but check the "unable" option above, thus informing Water Rights that the Department is *unable to make a Preponderance of Evidence finding.*

Exercise of this permit is calculated to reduce monthly flows in _[Enter]_ Scenic Waterway by the following amounts expressed as a proportion of the consumptive use by which surface water flow is reduced.

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

PUBLIC INTEREST REVIEW FOR GROUNDWATER APPLICATIONS

TO: Water Rights Section Date November 22, 2022
FROM: Groundwater Section Travis Brown
Reviewer's Name
SUBJECT: Application G- 18877 Supersedes review of January 29, 2020
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: Umatilla, Inc. c/o Jacques Renard County: CLACKAMAS

A1. Applicant(s) seek(s) 0.134 cfs from 1 well(s) in the WILLAMETTE Basin, MAINSTEM WILLAMETTE subbasin

A2. Proposed use: Supplemental Irrigation (21.2 acres, 0.134 cfs) / Agriculture (7.0 acres, 0.067 cfs)

Seasonality: Irrigation, 4/1-10/31 / Agriculture, 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 67911**	**CLAC 67911**	**CRB**	**0.134**	**2S/2E-34 NW-NW**	**435' S, 23' E fr NW cor S 34**

* 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	~207[a]	9	180	5/16/2011	361	0-38 323-329	+1.5-329	N/A	N/A	220	N/A	Air (1 hr)

Use data from application for proposed wells.

A4. **Comments:** The proposed POA/POU is ~1 mile east of Oregon City, OR. The applicant proposes multiple uses at different rates of withdrawal and seasonality per Section 5 of the application. Supplemental Irrigation use is requested at a maximum rate of 60 gpm (~0.134 cfs) from April–October for 21.2 acres, with an applicable duty of 2.5 feet and maximum annual volume of 53 af. Agriculture use is requested at a maximum rate of 30 gpm (~0.067 cfs) year-round for 7.0 acres, with no applicable duty. The total maximum rate requested for all uses is limited to 60 gpm (~0.134 cfs) per Section 3 of the application.

[a] Ground surface elevation at well location estimated from LIDAR (WSI, 2015).

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 produces water from a confined, basalt aquifer; therefore, 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: **N/A**
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 (Willamette CRB condition), 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 Group** 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. **Special Conditions:**

1. Any well constructed in future pursuant to this water right shall be continuously cased and continuously sealed from land surface into at least 5 feet of hard dense basalt, estimated to be at a depth of at least 324 feet below land surface (bls), to preclude hydraulic connection to nearby streams.

2. Each basalt well operated pursuant to this water right shall be open to a single aquifer of the Columbia River Basalt Group (CRBG) and shall meet 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 future construction of any well to be operated pursuant to this water right, it becomes apparent that the well can be constructed to eliminate 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 Ground Water/Hydrology 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.

3. A dedicated water-level measuring tube shall be installed in any well constructed in future pursuant to this water right. 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.

4. For any well constructed in future pursuant to this water right, the applicant 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 upon request.

5. For any well constructed in future pursuant to this water right, copies of all geologic and hydrogeologic reports completed for the permittee during the development of the well, including geophysical well logs and borehole video logs, 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.

Groundwater availability remarks:

The proposed POA produces water from a water-bearing zone within the Columbia River Basalt Group (CRBG), a series of lava flows with composite thickness estimated at greater than 1,000 feet in this area. CRBG thickness maps indicate that the basalts thin to the southwest and thicken to the northeast (Conlon et al., 2005). Units of the CRBG outcrop to the west around Willamette Falls and to the northwest around Gladstone, OR. Basalt and basaltic andesites of the much younger Boring Volcanic Field also outcrop near the proposed POA to the north, east, south, and southwest (Madin, 2009). Aquifers within the CRBG typically occur in relatively thin, permeable zones at the contacts between lava flows. The aquifers are generally confined by thick flow interiors with very low porosity and permeability (Conlon et al., 2005; Gannett and Caldwell, 1998).

The nearest known basalt well to the proposed POA is CLAC 4431, an authorized POA under **Certificate 37679*** which is ~5,060 ft west of the proposed POA. Under the standard condition for basalt aquifers in the Willamette Basin, Condition 7i, the requested use would need to be curtailed if hydraulic interference exceeded 15 ft in any neighboring well providing for senior water rights or exempt uses. However, at the relatively large radial distance of CLAC 4431 and the low requested pumping rate for the proposed POA, interference with CLAC 4431 is *not* anticipated to exceed 15 ft due to the proposed use.

Water level data for the CRBG aquifer(s) in the area of the proposed POA is limited. There is one well with relevant reported water level observations: CLAC 4396, ~1.2 miles west of the proposed POA. A hydrograph of reported water levels from CLAC 4396 does not show persistent declines over the period of record, 2011-2020 (see attached Hydrograph). Reported initial static water levels and well completion depths for wells greater than 350 ft in total depth in the Sections surrounding the proposed POA do not indicate progressive declines in static water levels or deepening well completion depths (see attached Well Statistics).

The conditions specified in B1(d)(i), B2(c), and B3 (Special Conditions) are recommended for any permit issued pursuant to this water right in order to protect senior groundwater users and the groundwater resource.

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 Group**	☒	☐

Basis for aquifer confinement evaluation: Static water level reported on the well log for the proposed POA (CLAC 67911) at the time of completion (180 ft bls on 5/16/2011) is above the applicable water-bearing zone in the basalt (~339-361 ft bls), indicating confined conditions. Comparison of reported static water levels to depth to water-bearing zones from well logs deeper than 350 ft in the surrounding Sections similarly indicates confined conditions (see attached Well Statistics).

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? YES	NO	ASSUMED	Potential for Subst. Interfer. Assumed? YES	NO
1	**1**	**Holcomb Creek**	**~25-30**	**~45-324**	**~890**	☐	☒	☐	☐	☒
1	**2**	**Charman Creek**	**~25-30**	**~41-421**	**~1,020**	☐	☒	☐	☐	☒
1	**3**	**Abernethy Creek**	**~25-30**	**~27-105**	**~1,550**	☐	☒	☐	☐	☒
1	**4**	**Bull Frog Lake**	**~25-30**	**~66**	**~2,470**	☐	☒	☐	☐	☒
1	**5**	**Potter Creek**	**~25-30**	**~126-179**	**~2,930**	☐	☒	☐	☐	☒
1	**6**	**Clackamas River**	**~25-30**	**~24**	**~8,650**	☒	☐	☐	☐	☒

Basis for aquifer hydraulic connection evaluation: The top of the applicable water-bearing zone noted in the well log for the proposed POA (CLAC 67911) is at an elevation of ~ –132 ft mean sea level (msl) (~339 ft bls). Based on the log, there is ~15 ft of competent basalt overlying the water-bearing zone. The overlying (presumably low permeability) basalt and the substantial difference in elevation between the estimated static groundwater versus surface water levels within 1 mile of the proposed POA indicate that the proposed POA is not hydraulically connected to SW 1-5. The proposed POA is likely hydraulically connected to the Clackamas River (SW 6) near Gladstone, where the CRBG outcrops and the estimated surface water elevation is coincident with the estimated static groundwater elevation in the proposed POA (CLAC 67911).

Water Availability Basin the well(s) are located within: SW 1-5: WILLAMETTE R > COLUMBIA R – AT MOUTH
SW 6: CLACKAMAS R > WILLAMETTE 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 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?
		☐	☐			☐		☐		☐

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: There are no hydraulically connected surface waters within 1 mile of the proposed POA.

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
1		**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**
Well Q as CFS		**0.067**	**0.067**	**0.067**	**0.134**	**0.134**	**0.134**	**0.134**	**0.134**	**0.134**	**0.134**	**0.067**	**0.067**
Interference CFS		**<0.067**	**<0.067**	**<0.067**	**<0.134**	**<0.134**	**<0.134**	**<0.134**	**<0.134**	**<0.134**	**<0.134**	**<0.067**	**<0.067**
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.		**<0.067**	**<0.067**	**<0.067**	**<0.134**	**<0.134**	**<0.134**	**<0.134**	**<0.134**	**<0.134**	**<0.134**	**<0.067**	**<0.067**
(B) = 80 % Nat. Q		**2,670**	**2,900**	**2,800**	**3,010**	**2,740**	**1,620**	**980**	**822**	**833**	**882**	**1,630**	**2,650**
(C) = 1 % Nat. Q		**26.7**	**29.0**	**28.0**	**30.1**	**27.4**	**16.2**	**9.80**	**8.22**	**8.33**	**8.82**	**16.3**	**26.5**
(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 SW 6 (Clackamas River) were not quantitatively estimated because the total maximum rate requested is less than 1 percent of the natural streamflow which is equaled or exceeded 80 percent of time for SW 6 (Clackamas River). Therefore, the proposed POA is not assumed to have PSI with SW 6 (Clackamas River).

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-18877, S-88777

Certificate: 37679*

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.

Madin, I.P., 2009, Geologic Map of the Oregon City 7.5' Quadrangle, Clackamas County, Oregon, 1:24,000: State of Oregon Department of Geology and Mineral Industries, GMS 119.

Swanson, R. D., McFarland, W. D., Gonthier, J. B., and Wilkinson, J. M., 1993, A description of hydrogeologic units in the Portland Basin, Oregon and Washington, Water-Resources Investigations Report 90-4196, 56 p.: U. S. Geological Survey, Reston, VA.

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

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, Oregon City quadrangle, Oregon [map], 1:24,000, 7.5 minute topographic series, U.S. Department of the Interior, Reston, VA.

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.

WSI, 2015, OLC Metro, Portland, OR, May 8.

D. WELL CONSTRUCTION, OAR 690-200

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

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

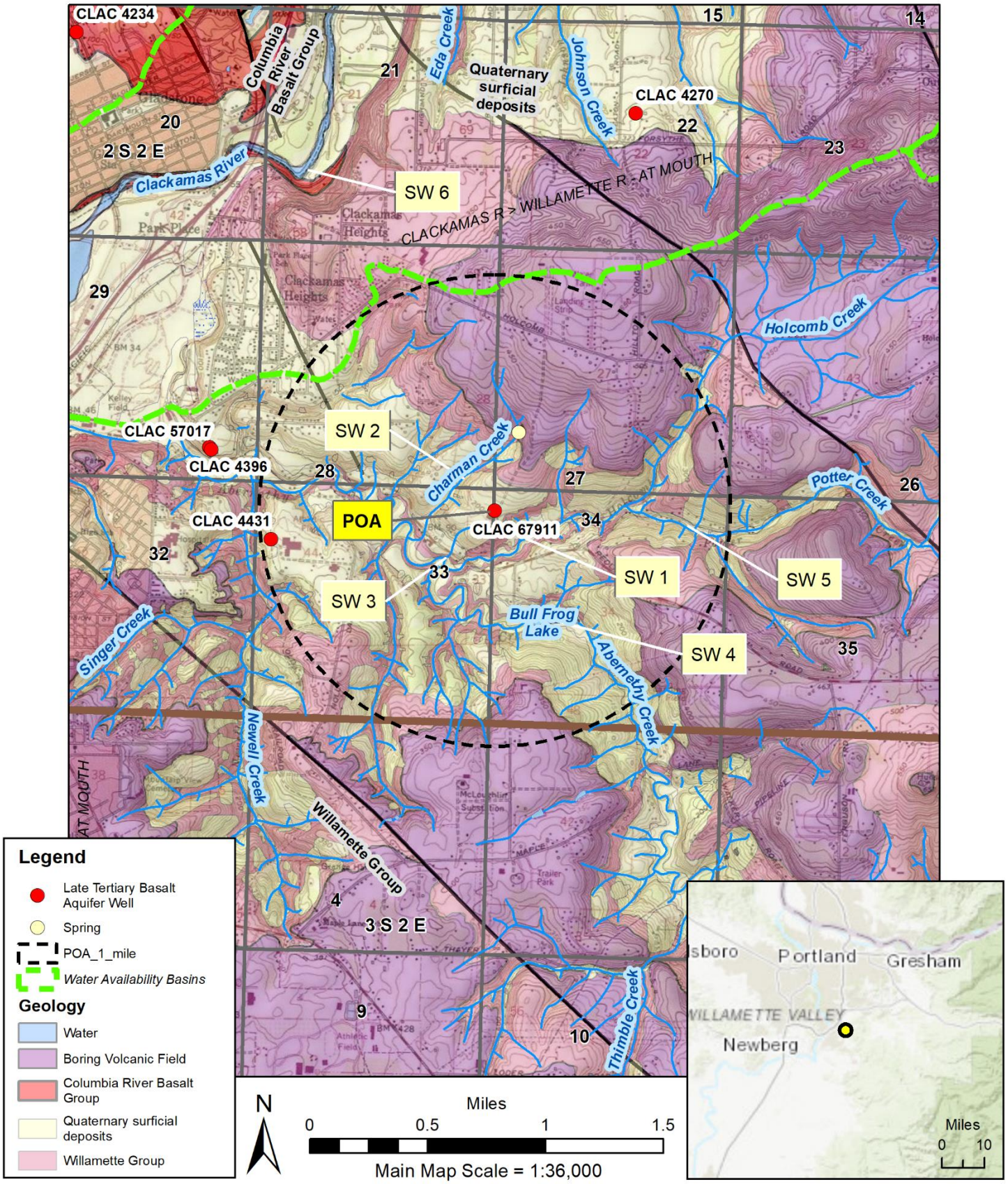
a. ☐ review of the well log;
b. ☐ field inspection by _____;
c. ☐ report of CWRE _____;
d. ☐ other: (specify) _____

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

G-18877 Umatilla, Inc.



Service Layer Credits: 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), swisstopo, © OpenStreetMap contributors, and the GIS User Community
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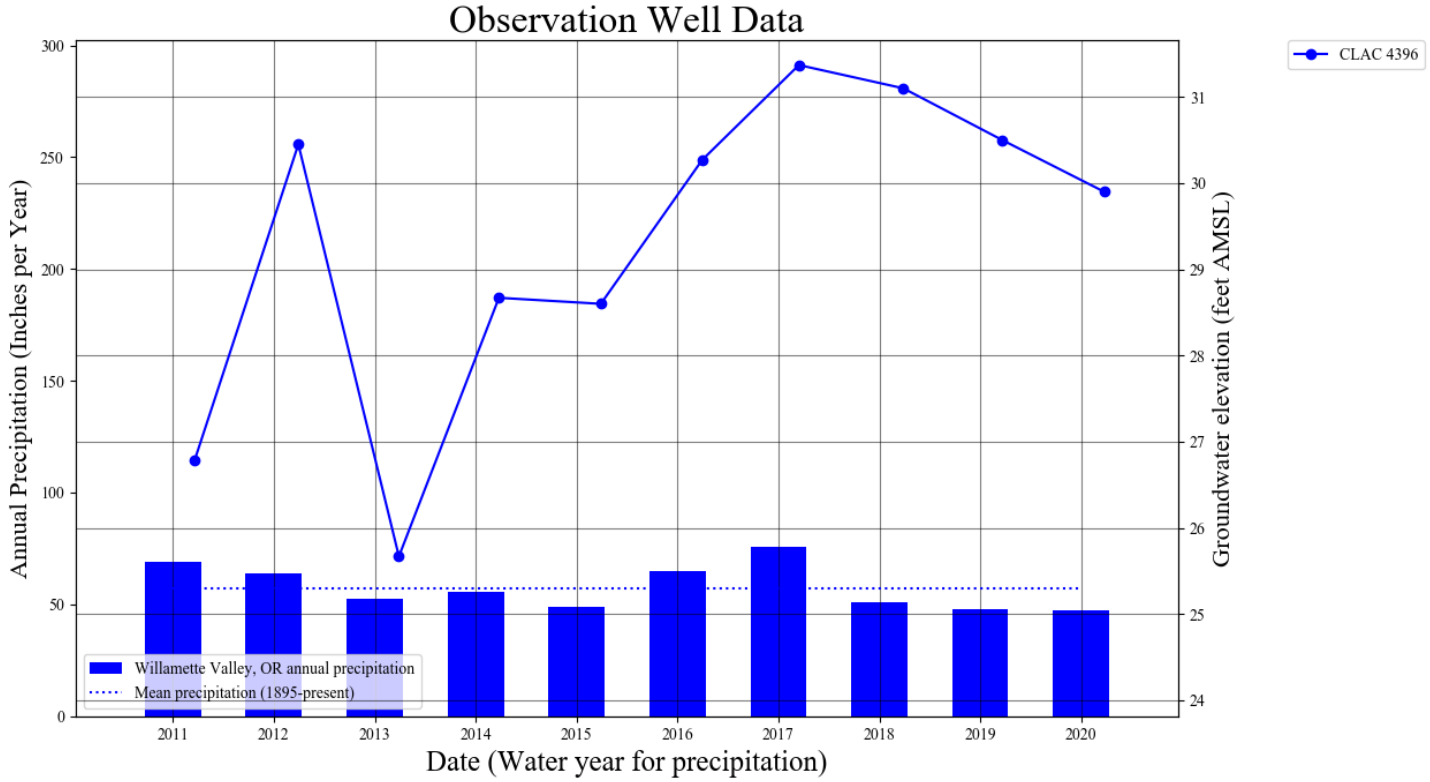
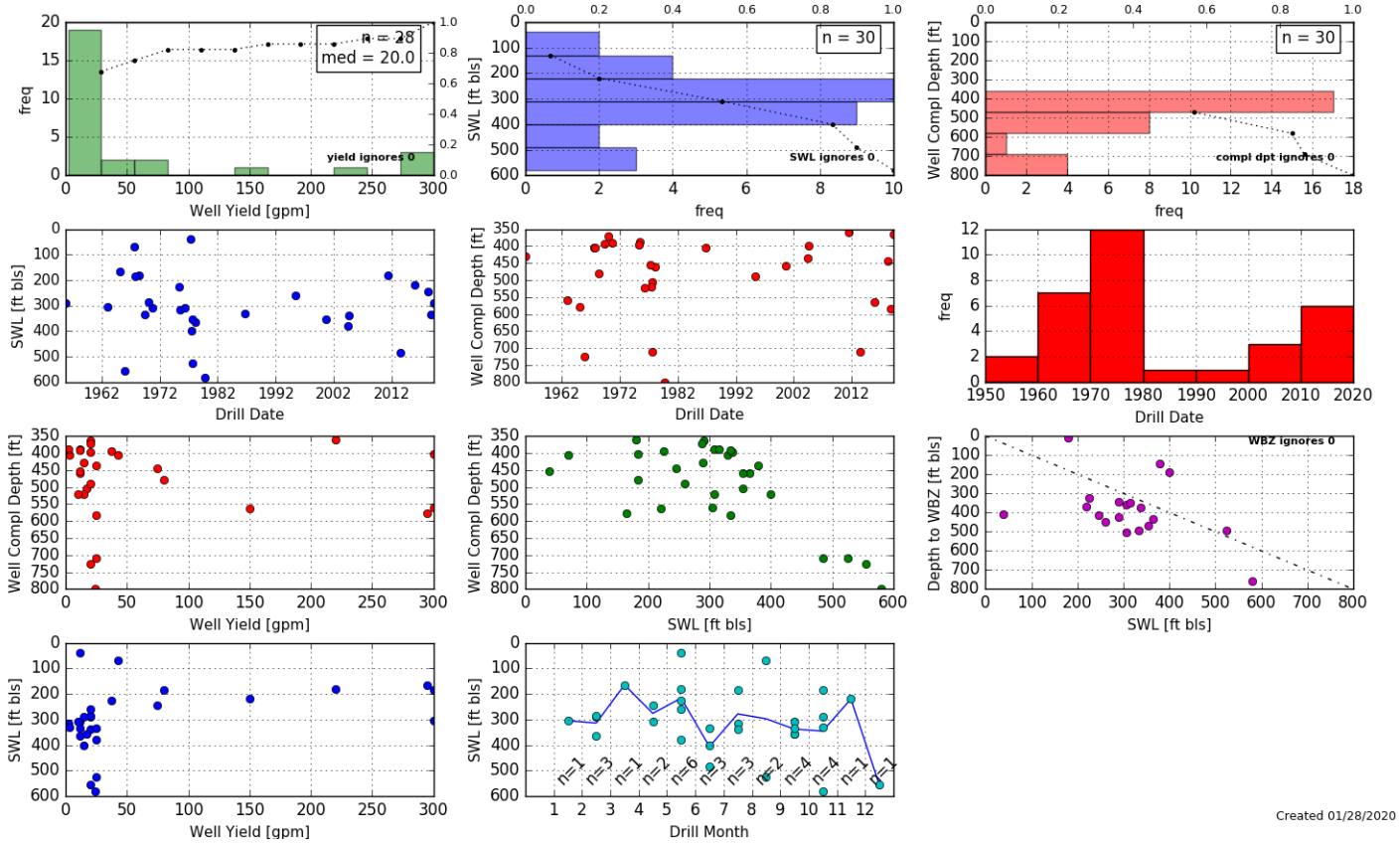
Hydrographs



Well Statistics



Water Availability Tables

Water Availability Analysis
Detailed Reports

WILLAMETTE R > COLUMBIA R - AT MOUTH
WILLAMETTE BASIN

Water Availability as of 1/28/2020

Watershed ID #: 181 (Map)
Date: 1/28/2020

Exceedance Level: 80%
Time: 3:09 PM

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	7,970.00	22,000.00	0.00	1,500.00	20,500.00
MAR	28,500.00	7,550.00	21,000.00	0.00	1,500.00	19,500.00
APR	25,400.00	7,200.00	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	1,700.00	3,230.00	0.00	1,500.00	1,730.00
OCT	5,990.00	735.00	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

CLACKAMAS R > WILLAMETTE R - AT MOUTH
WILLAMETTE BASIN

Water Availability as of 1/28/2020

Watershed ID #: 80 (Map)
Date: 1/28/2020

Exceedance Level: 80%
Time: 4:22 PM

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	2,670.00	326.00	2,340.00	0.00	1,000.00	1,340.00
FEB	2,900.00	362.00	2,540.00	0.00	1,000.00	1,540.00
MAR	2,800.00	330.00	2,470.00	0.00	1,000.00	1,470.00
APR	3,010.00	399.00	2,610.00	0.00	1,000.00	1,610.00
MAY	2,740.00	398.00	2,340.00	0.00	1,000.00	1,340.00
JUN	1,620.00	309.00	1,310.00	0.00	1,000.00	311.00
JUL	980.00	309.00	671.00	0.00	1,000.00	-329.00
AUG	822.00	294.00	528.00	0.00	890.00	-362.00
SEP	833.00	283.00	550.00	0.00	890.00	-340.00
OCT	882.00	276.00	606.00	0.00	1,000.00	-394.00
NOV	1,630.00	324.00	1,310.00	0.00	1,000.00	306.00
DEC	2,650.00	328.00	2,320.00	0.00	1,000.00	1,320.00
ANN	2,110,000.00	238,000.00	1,870,000.00	0.00	711,000.00	1,200,000.00

MEMO

To: Kristopher Byrd, Well Construction and Compliance Section Manager

From: Joel Jeffery, Well Construction Program Coordinator

Subject: Review of Water Right Application G-18877

Date: February 11, 2020

The attached application was forwarded to the Well Construction and Compliance Section by Water Rights. Travis Brown reviewed the application. Please see Travis's Groundwater Review and the Well Log.

Based on a review of the Well Report, Applicant's Well # CLAC 67911, (CLAC 67911) seems to protect the groundwater resource.

The construction of Applicant's Well # CLAC 67911, (CLAC 67911) may not satisfy hydraulic connection issues.

CLAC 67911

STATE OF OREGON
WATER SUPPLY WELL REPORT SKYLES DRILLING, INC.
(as required by ORS 537.765) 503-656-2683
Instructions for completing this report are on the last page of this form

WELL ID # L 105979
START CARD # W206835

(1) OWNER:

Well Number: 01

Name Umatilla, Inc
Address 14891 S Redland Rd
City Oregon City State OR Zip 97045

(2) TYPE OF WORK:

[X] New Well [ ] Deepening [ ] Alteration (repair/recondition) [ ] Abandonment

(3) DRILL METHOD:

[X] Rotary Air [ ] Rotary Mud [ ] Cable [ ] Auger
[ ] Other

(4) PROPOSED USE:

[X] Domestic [ ] Community [ ] Industrial [ ] Irrigation
[ ] Thermal [ ] Injection [ ] Livestock [ ] Other

(5) BORE HOLE CONSTRUCTION:

Special Construction approval [ ] Yes [X] No Depth of Completed Well 361 ft.
Explosives used [ ] Yes [X] No Type Amount

HOLE Diameter	From	To	SEAL Material	From	To	Amount sacks or pounds
11.5	0	38	Cement w/5%	38		
6	38	323	Bentonite		10	9 Sacks
8	323	329	Bentonite	10	0	8 Sacks
6	329	361	Cement	329	323	5 Sacks

How was seal placed: Method [ ] A [ ] B [X] C [ ] D [ ] E
[X] Other Pumped at 329'. Poured Bentonite.
Backfill placed from ft. to ft. Material
Gravel placed from ft. to ft. Size of gravel

(6) CASING/LINER:

	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing:	6	+1.5	329	.250	X		X	
Liner:	None							

Drive Shoe used [ ] Inside [X] Outside [ ] None
Final location of shoe(s) 329'

(7) PERFORATIONS/SCREENS:

[ ] Perforations Method
[ ] Screens Type

From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
None							

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

[ ] Pump [ ] Bailer [X] Air [ ] Flowing Artesian

Yield gal/min	Drawdown	Drill stem at	Time
220		359	1 hr.
75		240	1/2 hr.
21		200	1/4 hr.

Temperature of Water 58 Depth Artesian Flow found
Was a water analysis done? [X] Yes By whom Driller, Iron 0.25ppm
Did any strata contain water not suitable for intended use? [ ] Too little
[ ] Salty [ ] Muddy [X] Odor [ ] Colored [X] Other Iron 3.5ppm
Depth of strata: 163-189'

(9) LOCATION OF WELL by legal description:

County Clackamas Latitude Longitude
Township 2SOUTH N or S. Range 2EAST E or W. of WM.
Section 34 NW 1/4 NW 1/4
Tax lot 03500 Lot Block Subdivision
Street Address of Well (or nearest address) 14891 S Redland Rd, Oregon City, OR

(10) STATIC WATER LEVEL:

180 ft. below land surface. Date 5/16/2011
Artesian pressure lb. per square inch. Date

(11) WATER BEARING ZONES:

Depth at which water was first found 9'

From	To	Estimated Flow Rate	SWL
9	28	1	9
163	189	37	N/A
339	361	220	180

(12) WELL LOG:

Ground elevation

Material	From	To	SWL
Top soil, brown	0	2	
Clay w/sand, brown packed	2	32	
Clay, bluish-gray sandy	32	40	
Sand, brown cemented	40	48	
Sand, brown packed	48	62	
Sand, brown cemented	62	68	
Sand, brown w/mica	68	79	
Sand, brown w/mica & small gravels, fine	79	125	
Clay, gray	125	137	
Clay, gray stiff	137	163	
Sand, coarse slightly cemented w/wood, multicolored	163	189	
Clay, w/sand, gray packed	189	196	
Sand, cemented w/wood & clay, gray	196	199	
Sand, coarse w/wood, green	199	203	
Clay, gray sandy	203	206	
Sand, gray fine	206	210	
Sand, cemented w/wood & clay, brown	210	218	
Clay, gray sandy	218	230	
Clay, gray stiff @times	230	269	
Clay, gray sandy w/wood	269	297	

Continued on next page

Date started 5/5/2011 Completed 5/16/2011

(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 Skyles Drilling, Inc. WWC Number 1884 Date 5/23/2011

(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 Steven C. Bland Skyles Drilling, Inc. WWC Number 1592 Date 5/23/2011

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STATE OF OREGON
WATER SUPPLY WELL REPORT
(as required by ORS 537.765)
Instructions for completing this report are on the last page of this form

CLAC 67911
SKYLES DRILLING, INC.
503-656-2683

WELL ID # L **105979**
START CARD # **W206835**
Page 2

(1) OWNER:

Well Number: **01**

Name **Umatilla, Inc**
Address **14891 S Redland Rd**
City **Oregon City** State **OR** Zip **97045**

(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 ft.
Explosives used ☐ Yes ☐ No Type Amount

HOLE Diameter	From	To	SEAL Material	From	To	Amount sacks or pounds

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:

	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing:								
Liner:								

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

(7) PERFORATIONS/SCREENS:

☐ Perforations Method
☐ Screens Type Material

From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner

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

☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian

Yield gal/min	Drawdown	Drill stem at	Time

Temperature of Water 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 **2SOUTH** N or S. Range **2EAST** E or W. of WM.
Section **34** **NW** 1/4 **NW** 1/4
Tax lot **03500** Lot Block Subdivision
Street Address of Well (or nearest address) **14891 S Redland Rd, Oregon City, OR**

(10) STATIC WATER LEVEL:

ft. below land surface. Date
Artesian pressure lb. per square inch. Date

(11) WATER BEARING ZONES:

Depth at which water was first found

From	To	Estimated Flow Rate	SWL

(12) WELL LOG:

Ground elevation

Material	From	To	SWL
Clay, blue & brown stiff	**297**	**316**	
Claystone, brown & blue	**316**	**324**	
Basalt, gray	**324**	**339**	
Basalt, gray w/blue & tan streaks fractured	**339**	**358**	**180**
Basalt, gray & black fractured	**358**	**361**	**180**

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SALEM, OREGON

Date started **5/5/2011** Completed **5/16/2011**

(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 WWC Number **1884**
Skyles Drilling, Inc. Date **5/23/2011**

(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 Steven C. Bland WWC Number **1592**
Skyles Drilling, Inc. Date **5/23/2011**

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