

Groundwater Application Review Summary Form

Application # G- 18568

GW Reviewer DENNIS ORLOWSKI

Date Review Completed: 12/07/2017

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).

OK. KBJ

MEMO

To: Kristopher Byrd, Well Construction and Compliance Section Manager
From: Joel Jeffery, Well Construction Program Coordinator
Subject: Review of Water Right Application G-18568
Date: September 18, 2018

The attached application was forwarded to the Well Construction and Compliance Section by Water Rights. Dennis Orłowski reviewed the application. Please see Dennis's Groundwater Review and the Well Logs.

Applicant's Well #1 (COLU 1413 and the Deepening of COLU 1413; COLU 50731): Based on a review of the Well Reports, Applicant's Well #1 does not appear to comply with current minimum well construction standards (See OAR 690 Division 210). The casing and seal depth of the well is inadequate. In order to meet minimum well construction standards, the well must be cased and sealed to a minimum depth of 195 feet below land surface. In addition, the grout placement method used for this well; "Method E", cannot be used for a Municipal, Community or Public Water Supply Well.

My recommendation is that the Department **not issue** a permit for Applicant's Well #1 (COLU 1413 and the Deepening of COLU 1413; COLU 50731) unless it is brought into compliance with current minimum well construction standards, or information is provided showing that it is in compliance with current minimum well construction standards.

The repair of Applicants Well #1 may not satisfy hydraulic connection issues.

Applicant's Well #2 (COLU 51235): Based on a review of the Well Report, Applicant's Well #2 seems to protect the groundwater resource.

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

PUBLIC INTEREST REVIEW FOR GROUNDWATER APPLICATIONS

TO: Water Rights Section Date 12/07/2017
 FROM: Groundwater Section Dennis Orłowski
Reviewer's Name
 SUBJECT: Application G- 18568 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: Miloris Water Association, Inc. County: Columbia

A1. Applicant(s) seek(s) 0.06 cfs from 2 well(s) in the Columbia Basin,
Columbia subbasin

A2. Proposed use Quasi-municipal Seasonality: Year round

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

Well	Logid	Applicant's Well #	Proposed Aquifer*	Proposed Rate(cfs)	Location (T/R-S QQ-Q)	Location, metes and bounds, e.g. 2250' N, 1200' E fr NW cor S 36
1	COLU 1413/50731	1	CRB	0.06	T5N, R1W-28 NE-SW	N 84.8808° W fr ext of N Line DLC 55 and E Line DLC 56
2	COLU 51235	2	CRB	0.06	T5N, R1W-28 NE-SW	N 84.6278° W fr ext of N Line DLC 55 and E Line DLC 56

* 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	440			10/20/1997	500	0-30	+1-75	70-190	None	15		Air
2	440	508	390	11/03/1999	605	0-299	+2-300	230-503	461-503	25		Air

Use data from application for proposed wells.

A4. **Comments:** The location of this proposed groundwater use is in Columbia County just outside of Columbia City, Oregon, in the basalt uplands approximately 0.6 miles due west of the Columbia River.

This application appears to relate directly to expired permit G-13890 (application G-15093). Permit G-13890 was issued on 4/19/2001 for generally this same use, POU, and POAs (wells). However, permit G-13890 was cancelled on 5/10/2016 because the applicant failed to submit proof of appropriation of water in the allotted timeframe. Presumably this application is a resubmittal for cancelled permit G-13890.

A5. **Provisions of the** Columbia 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 location is within the Columbia Basin, and not within an established WAB. There are no provisions of the Columbia Basin Rules (OAR 690-519) relevant to this application.

A6. **Well(s) #** _____, _____, _____, _____, _____, tap(s) an aquifer limited by an administrative restriction. Name of administrative area: None
 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 (annual measurements); medium 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 proposed POAs (COLU 1413/50731 and COLU 51235) obtain groundwater from the Columbia River Basalt Group aquifer system. The area beneath the proposed POAs is underlain by approximately 400-500 feet of the CRBG. Basalt flow interiors are generally very dense with low permeability, and are typically separated by thinner and much more permeable interflow zones. This generalized structure of basalt aquifer systems leads to thin, tabular and often hydraulically-discrete aquifers corresponding to each interflow zone (Conlon and others, 2005; Gannett and Caldwell, 1998; Woodward and others, 1998).

However, the well log for COLU 51235 does not indicate the presence of productive interflow zones in the basalt aquifer system. "Water bearing zones" were identified from 508-548 ft bgs in "firm gray-black basalt"; thus it is likely that groundwater in these wells is transmitted via only fractures in the dense basalt, with generally low bulk permeability for the entire basalt aquifer system. This is substantiated by the relatively very low yields reported for wells completed in the same basalt aquifer system, which typically range from ~5-25 gpm. Furthermore, there is no large-scale groundwater development in the uplands above Columbia City, with mostly only low-yield domestic wells present.

There is no historic groundwater level data available for this area. However, even if available, such data are typically of limited use in assessing groundwater resource capacity in a fracture-dominated flow system because of the large variability that typically exists in such a system. Given that these particular proposed POAs have been pumped for quasi-municipal use for at least the past 15 years with no known interference reports to OWRD during that time, it is assumed that continued use will not be injurious to other groundwater rights.

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	CRBG	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2	CRBG	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Basis for aquifer confinement evaluation: The well log for the more-recently drilled COLU 51235 indicates a static groundwater level at 390 ft bls, which is in the cased and sealed portion of the well far above the water-bearing zone reported from 508-548 ft bls. This fact indicates confined conditions in the CRBG aquifer at this location.

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	McBride Creek	50	120-280	1800	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	1	McBride Creek	50	120-280	1750	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1	2	Columbia River	50	5	3250	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	2	Columbia River	50	5	3300	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Basis for aquifer hydraulic connection evaluation: Note: the SWLs reported on the well logs for both proposed POAs vary significantly, although completion depths are similar. However, on the deepening log for Well 1, COLU 50731, it is noted that “this well was completely dry when deepening began” (deepened from 190 ft to 500 ft in 1997), which casts some uncertainty on the SWL reported on COLU 50731. Given that Well 2, COLU 51235, is only about 40-50 feet from Well 2 and was completed more recently in 1999, for this review the reported SWL for COLU 51235 is assumed to be more reliable and representative.

The estimated groundwater elevation is markedly below the elevation of McBride Creek within approximately ½ mile, indicating that hydraulic connection is unlikely. Although the groundwater elevation is above the Columbia River elevation, there is likely no appreciable hydraulic connection between the upland CRBG aquifer system and the Columbia in this area.

Water Availability Basin the well(s) are located within: None

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?
		<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"/>

Comments: Not applicable.

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: Not applicable.

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 files: G-18568, G-15093

Conlon and Others, 2005, Ground-Water Hydrology of the Willamette Basin, Oregon, Scientific Report 2005-5168, USGS.

Gannett and Caldwell, 1998, Geologic Framework of the Willamette Lowland Aquifer System, Oregon and Washington, USGS Professional Paper 1424-A.

Woodward, Gannett and Vaccaro, 1998, Hydrogeologic Framework of the Willamette Lowland Aquifer System, Oregon and Washington, USGS Professional Paper 1424-B.

D. WELL CONSTRUCTION, OAR 690-200

D1. Well #: _____ Logid: _____

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

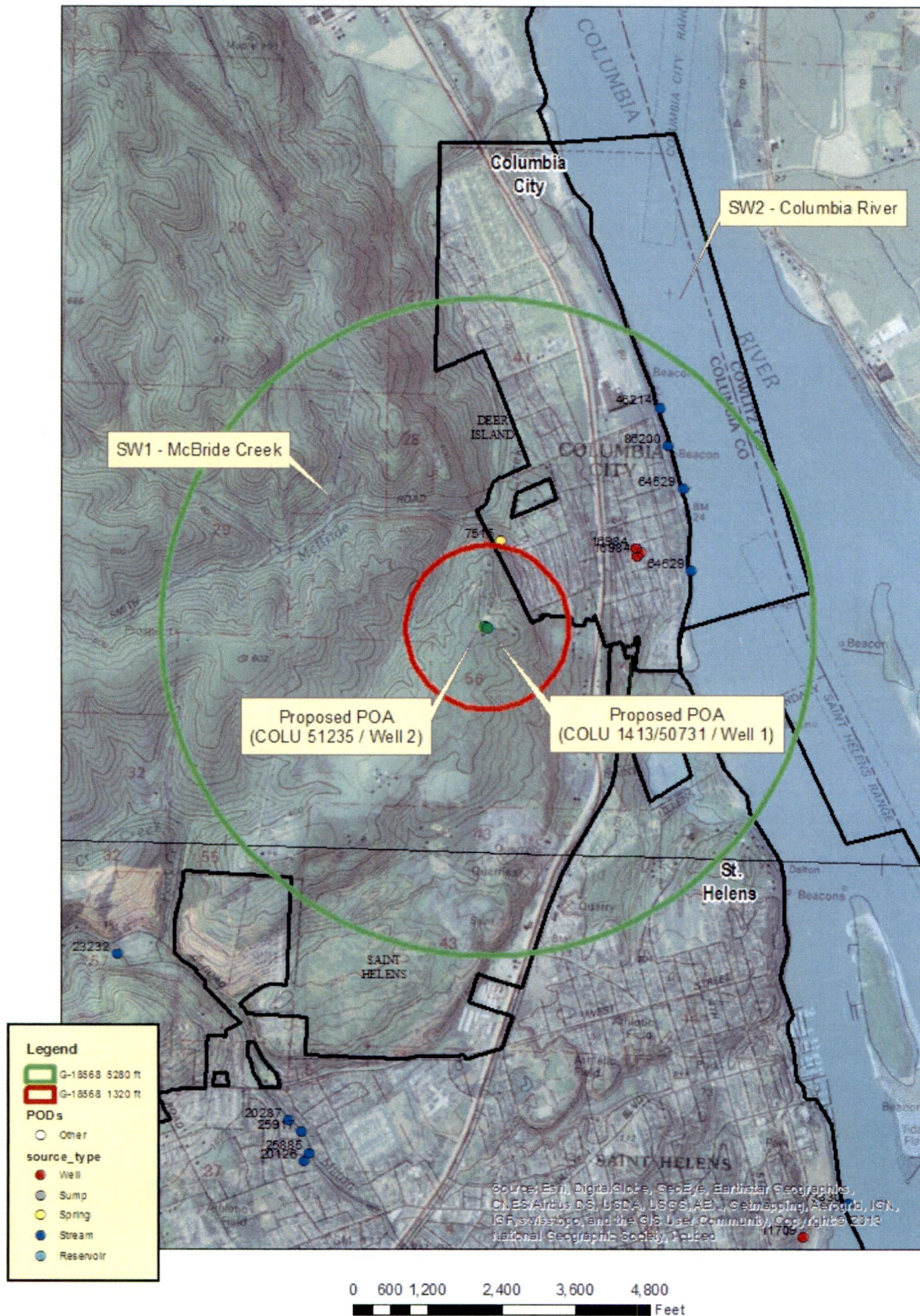
- a. review of the well log;
- b. field inspection by _____ ;
- c. report of CWRE _____ ;
- d. other: (specify) _____

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-18568 Miloris Water Assc., Inc. T5N R1W, Section 28



COLU
51235

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

WELL I.D. # L. 37249
START CARD # 126910

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

(1) OWNER: Well Number _____
Name VORIS PROBST
Address 36380 MILORIS WAY
City COLUMBIA CITY State OR Zip 97018

(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 605 ft.
Explosives used Yes No Type _____ Amount _____

HOLE		SEAL					
Diameter	From	To	Material	From	To	Sacks or pounds	
10	0	100	Cem/Bent	0	100		
8	100	299	Cem/Bent	100	299	94 SKS	
6	299	548					
5	548	605					

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: 6"	+2	300	250	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Liner: 5"	230	503	250	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Final location of shoe(s) _____

(7) PERFORATIONS/SCREENS:

Perforations Method TORCH
 Screens Type _____ Material STEEL

From	To	Slot size	Number	Diameter	Tele./pipe size	Casing	Liner
461	503	1/8x12	84			<input type="checkbox"/>	<input checked="" type="checkbox"/>

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

Pump Bailer Air Flowing
 Artesian

Yield gal/min	Drawdown	Drill stem at	Time
25		600	1 hr.

Temperature of water 56°F 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 COLUMBIA Latitude _____ Longitude _____
Township 5N N or S Range 1W E or W. WM.
Section 28 NE 1/4 SW 1/4
Tax Lot 300 Lot _____ Block _____ Subdivision _____
Street Address of Well (or nearest address) 36300 MILORIS WAY

(10) STATIC WATER LEVEL:
390 ft. below land surface. Date 11/03/99
Artesian pressure _____ lb. per square inch. Date _____

(11) WATER BEARING ZONES:
Depth at which water was first found 508

From	To	Estimated Flow Rate	SWL
508	548	25 GPM	390

RECEIVED

NOV 09 1999

(12) WELL LOG:
Ground Elevation _____
WATER RESOURCES DEPT.
SALEM, OREGON

Material	From	To	SWL
Topsoil	0	2	
Brown silty clay	2	54	
Sticky dark brown clay	54	96	
Firm brown basalt	96	104	
Firm gray-black basalt	104	158	
Soft brown basalt	158	165	
Firm gray-black basalt	165	248	
VOID loss circ.-no returns	248	256	
Firm formation-no returns	256	296	
Firm gray-black basalt	296	393	390
Hard gray basalt	393	458	
Firm gray-black basalt	458	468	
Firm blue-gray clatstone (caving)	468	500	
Firm gray-black basalt	500	605	390

Date started 10/11/99 Completed 11/03/99

(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.

WWC Number _____
Signed _____ Date _____

(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.

WWC Number 1266
Signed _____ Date 11/05/99

coly RECEIVED

AUG 27 1987

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

1413 JUN 29 1987

WATER RESOURCES DEPT.
SALEM, OREGON

5N/2W-29

(1) OWNER:

Name JOSEPH PROBST Owner WATER RESOURCES DEPT.
Address BOX 275 STARKS BLANCH SALEM, OREGON
City COLUMBIA CITY State Ore Zip 97054

(2) TYPE OF WORK:

New Well Deepen Recondition Abandon

(3) DRILL METHOD:

Rotary Air Rotary Mud Cable Other

(4) PROPOSED USE:

Domestic Community Industrial Irrigation
 Thermal Injection Other

(5) BORE HOLE CONSTRUCTION:

Depth of Completed Well _____ ft.
Special Standards date of approval _____

HOLE meter	From	To	SEAL		Amount sacks or pounds
			Material	From To	
1 1/2	0	30	Gravel	0	30
6	30	190			

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:

Casing/Liner	Diameter	From	To	Gauge	Material			
					Steel	Plastic	Welded	Threaded
Casing: 6"	75	190			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	6"	1	75	250	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Liner: 5"		70	190		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

location of shoe(s) _____

(7) PERFORATIONS/SCREENS: NO

Perforations Method _____
 Screens Type _____ Material _____

in	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
						<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"/>

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

Yield gal/min	Pumping level	Drill stem at	Flowing	
			Time	Artesian
<u>8</u>	<u>140</u>		1/4 hr	<input type="checkbox"/>
<u>8</u>	<u>160</u>		1 hr	<input type="checkbox"/>

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 Columbia Latitude _____ Longitude _____
Township 5 N or S, Range 2 W E or W, WM.
Section 29 1/4 1/4
Tax Lot _____ Lot _____ Block _____ Subdivision _____
Street Address of Well (or nearest address) _____

(10) STATIC WATER LEVEL:

138 ft. below land surface. Date 5-27-87
Artesian pressure _____ lb. per square inch. Date _____

(11) WELL LOG:

Material	From	To	WB?	SWL
TOP SOIL	0	3		
YELLOW CLAY	5	50		
RED CLAY	50	75		
BROWN SAND SOIL	75	175		135
BROKEN ROCK	175	190		138

Date started 5-16-87 Completed 5-29-87

(unbonded) Water Well Constructor Certification:
I constructed this well in compliance with Oregon well construction standards. Materials used and information reported above are true to my best knowledge and belief.
Signed _____ Date _____

(bonded) Water Well Constructor Certification:
I accept responsibility for construction of this well and its compliance with all Oregon water well standards. This report is true to the best of my knowledge and belief.
Signed _____ Date 6-24-87
Company _____ Job No. _____

colv
50731

JUN 1 1998

RECEIVED

JUL 30 1998

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

WELL I.D. # L 19670
WATER RESOURCES DEPT. CARD # 98747
SALEM, OREGON

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

(1) OWNER: Well Number _____
Name VORIS PROBST
Address 36380 MELONS LANE
City COLUMBIA CITY State OR Zip 97018

(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 500 ft.
Explosives used Yes No Type _____ Amount _____

HOLE			SEAL			
Diameter	From	To	Material	From	To	Sacks or pounds
<u>6</u>	<u>170</u>	<u>500</u>				

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: <u>8</u>				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Liner: <u>4.5</u>	<u>3</u>	<u>500</u>		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Final location of shoe(s) _____

(7) PERFORATIONS/SCREENS:

Perforations Method DRILL HOLE
 Screens Type _____ Material _____

From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
<u>290</u>	<u>440</u>	<u>2</u>	<u>2 PFT</u>		<u>4.5</u>	<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"/>

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

Yield gal/min	Drawdown	Drill stem at	Time
<u>156 gpm</u>		<u>500</u>	<u>1 hr.</u>

Temperature of water 52° 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 COLUMBIA Latitude _____ Longitude _____
Township 5N N or S Range 2W E or W. WM. _____
Section 29 SE 1/4 NW 1/4
Tax Lot 0101 Lot _____ Block _____ Subdivision _____
Street Address of Well (or nearest address) 36380 MELONS LANE, COLUMBIA CITY OR 97018

(10) STATIC WATER LEVEL:
135 ft. below land surface. Date 10/20/97
Artesian pressure _____ lb. per square inch. Date _____

(11) WATER BEARING ZONES:
Depth at which water was first found 450

From	To	Estimated Flow Rate	SWL
<u>450</u>	<u>480</u>	<u>156 gpm</u>	<u>185</u>

(12) WELL LOG:
Ground Elevation _____

Material	From	To	SWL
<u>BLACK BASALT</u>			
<u>W/ LAYERS OF</u>			
<u>TAN SANDSTONE</u>	<u>170</u>	<u>500</u>	<u>185</u>

THIS WELL WAS COMPLETELY DRY WHEN DEEPENING BEGAN

RECEIVED

DEC 04 1998

WATER RESOURCES DEPT.
SALEM, OREGON

Date started 10/13/97 Completed 10/20/97
(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.

WVC Number _____
Signed _____ Date _____

(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.

WVC Number 1480
Signed A.M.S. [Signature] Date 10/30/97