

Application for Permit Amendment

Part 1 of 5 – Minimum Requirements Checklist



Oregon Water Resources Department
725 Summer Street NE, Suite A
Salem, Oregon 97301-1266
(503) 986-0900
www.oregon.gov/OWRD

This permit amendment application will be returned if Parts 1 through 5 and all required attachments are not completed and included.
For questions, please call (503) 986-0900, and ask for Transfer Section.

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Check all items included with this application. (N/A = Not Applicable)

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- Part 1 – Completed Minimum Requirements Checklist.
- Part 2 – Completed Application Map Checklist.
- Part 3 – Application Fee, payable by check to the Oregon Water Resources Department, and completed Fee Worksheet, page 3: **\$4,300**
- Part 4 – Completed Applicant Information and Signature.
- Part 5 – Information about Permits to be Amended: **Number of permits to be amended: 1**
List the Permits here: Permit G-7593
Please include a separate Part 5 for each permit. (See instructions on page 6)
- Completed Permit Amendment Application Map (Does not have to be prepared by a Certified Water Right Examiner). **(Attachment 1)**
- N/A Request for Assignment Form and statutory fee. The request for assignment form has to be completed if the applicant is **not** the permit holder of record and needs to be assigned to the permit; **or** the landowner of the proposed place of use is **not** the permit holder of record and needs to be assigned to the permit Assignment is not needed if the applicant is the permit holder of record.
- N/A Affidavit(s) of Consent are required from all permit holder(s) of record if the permit is not assigned to the applicant **or** other permit holders of record that are not listed as applicants. **(Attachment 2)**
- N/A Oregon Water Resources Department’s Land Use Information Form with approval and signature (or signed land use form receipt stub) from each local land use authority in which water is to be diverted, conveyed, and/or used. Not required if water is to be diverted, conveyed, and/or used only on federal lands or if **all** of the following apply: a) a change in place of use only, b) no structural changes, c) the use of water is for irrigation only, and d) the use is located within an irrigation district or an exclusive farm use zone. **(Attachment 3)**
- N/A Water Well Report/Well Log for changes in point(s) of appropriation (well(s)) or additional point(s) of appropriation. **Existing Well-1 Log Included (Attachment 4)**
- N/A Geologist Report for a change from a surface water point of diversion to a ground water point of appropriation (well), if the proposed well is more than 500 feet from the surface water source and more than 1000 feet upstream or downstream from the point of diversion. (ORS 540.531(2) or (3)).

(For Staff Use Only)

WE ARE RETURNING YOUR APPLICATION FOR THE FOLLOWING REASON(S):

<input type="checkbox"/> Application fee not enclosed/insufficient	<input type="checkbox"/> Map not included or incomplete
<input type="checkbox"/> Land Use Form not enclosed or incomplete	<input type="checkbox"/> Part _____ is incomplete
<input type="checkbox"/> Additional signature(s) required	

Other/Explanation _____

Staff: _____ 503- _____ Date: ____/____/____

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Part 2 of 5 – Permit Amendment Map Checklist

Your permit amendment application will be returned if any of the map requirements listed below are not met.

Please be sure that the map you submit includes all the items listed below and meets the requirements of OAR 690-380-3100, however, the map does not have to be prepared by a Certified Water Right Examiner. Check all boxes that apply.

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- N/A If **more than three** permits are involved, separate maps for each permit.
- Permanent quality printed with dark ink on good quality paper.
- The size of the map can be 8½ x 11 inches, 8½ x 14 inches, 11 x 17 inches, or up to 30 x 30 inches. For 30 x 30 inch maps, one extra copy is required.
- A north arrow, a legend, and scale.
- The scale of the map must be: 1 inch = 400 feet, **1 inch = 1,320 feet**, the scale of the county assessor map if the scale is not smaller than 1 inch = 1,320 feet, or a scale that has been pre-approved by the Department.
- Township, Range, Section, ¼ ¼, DLC, Government Lot, and other recognized public land survey lines.
- Tax lot boundaries (property lines) are required. Tax lot numbers are recommended.
- Major physical features including rivers and creeks showing direction of flow, lakes and reservoirs, roads, and railroads.
- Major water delivery system features from the point(s) of diversion/appropriation such as main pipelines, canals, and ditches.
- Existing place of use that includes separate hachuring for each water use permit, priority date, and use including number of acres in each quarter-quarter section, government lot, or in each quarter-quarter section as projected within government lots, donation land claims, or other recognized public land survey subdivisions. If less than the entirety of the permit is being changed, a separate hachuring is needed for the portion of the permit left unchanged.
- N/A If you are proposing a change in place of use, show the proposed place of use with hachuring that includes separate hachuring for each permit, priority date, and use including number of acres in each quarter-quarter section, government lot, or in each quarter-quarter section as projected within government lots, donation land claims, or other recognized public land survey subdivisions.
- Existing point(s) of diversion or well(s) with distance and bearing or coordinates from a recognized survey corner. This information can be found in your water use permit.
- N/A If you are proposing a change in point(s) of diversion or well(s), show the proposed location and label it clearly with distance and bearing or coordinates. If GPS coordinates are used, latitude-longitude coordinates may be expressed as either degrees-minutes-seconds with at least one digit after the decimal (example – 42°32'15.5") or degrees-decimal with five or more digits after the decimal (example – 42.53764°).

Part 3 of 5 – Fee Worksheet

FEE WORKSHEET for PERMIT AMENDMENT			
1	Base Fee (includes one type of change to one permit for up to 1 cfs)	1	\$1,360
2	Types of change proposed: <input type="checkbox"/> Place of Use <input checked="" type="checkbox"/> Point of Diversion/Appropriation Number of above boxes checked = <u>1 (2a)</u> Subtract 1 from the number in line 2a = <u>0 (2b)</u> <i>If only one change, this will be 0</i> Multiply line 2b by \$1090 and enter »	2	0
3	Number of permits included in Permit Amendment <u>1 (3a)</u> Subtract 1 from the number in 3a: <u>0 (3b)</u> <i>If only one permit this will be 0</i> Multiply line 3b by \$610 and enter »	3	0
4	Do you propose to add or change a well, or change from a surface water POD to a well? <input type="checkbox"/> No: enter 0 <input checked="" type="checkbox"/> Yes: enter \$480 for the 1 st well to be added or changed <u>\$480 (4a)</u> Do you propose to add or change additional wells? <input type="checkbox"/> No: enter 0 <input checked="" type="checkbox"/> Yes: multiply the number of additional wells by \$410 <u>\$2,460 (4b)</u> Add line 4a to line 4b and enter »	4	\$2,940
5	Do you propose to change the place of use? <input checked="" type="checkbox"/> No: enter 0 on line 5 <input type="checkbox"/> Yes: enter the cfs for the portions of the permits to be amended (see below*): _____ (5a) Subtract 1.0 from the number in 5a above: _____ (5b) If 5b is 0, enter 0 on line 5 » If 5b is greater than 0, round up to the nearest whole number: _____ (5c) and multiply 5c by \$350, then enter on line 5 »	5	0
6	Add entries on lines 1 through 5 above » » » » » » » » » » Subtotal:	6	\$4,300
7	Is this permit amendment: <input type="checkbox"/> necessary to complete a project funded by the Oregon Watershed Enhancement Board (OWEB) under ORS 541.932? <input type="checkbox"/> endorsed in writing by ODFW as a change that will result in a net benefit to fish and wildlife habitat? If one or more boxes is checked, multiply line 6 by 0.5 and enter on line 7 If no box is applicable, enter 0 on line 7 »	7	0
8	Subtract line 7 from line 6 » Permit Amendment Fee:	8	\$4,300

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*Example for Line 5a calculation to transfer 45.0 acres of Primary Permit S-12345 (total 1.25 cfs for 100 acres) and 45.0 acres of Supplemental Permit S-87654 (1/80 cfs per acre) on the same land:

- For irrigation calculate cfs for each permit involved as follows:
 - Divide total authorized cfs by total acres in the permit (*for S-12345, 1.25 cfs ÷ 100 ac*); then multiply by the number of acres to be changed to get the application cfs ($x 45 ac = 0.56 cfs$).
 - If the water right permit does not list total cfs, but identifies the allowable use as 1/40 or 1/80 of a cfs per acre; multiply number of acres proposed for change by either 0.025 (1/40) or 0.0125 (1/80). (*For S-87654, 45.0 ac x 0.0125 cfs/ac = 0.56 cfs*)
- Add cfs for the portions of permits on all the land included in the application; however **do not count cfs for supplemental permits on acreage for which you have already calculated the cfs fee for the primary permit on the same land**. The fee should be assessed only once for each “on the ground” acre included in the application. (*In this example, blank 5a would be only 0.56 cfs, since both permits serve the same 45.0 acres. Blank 5b would be 0 and Line 5 would then also become 0*).

Part 4 of 5 – Applicant Information and Signature

Applicant Information

APPLICANT/BUSINESS NAME City of Banks (Jolynn Becker, City Manager)			PHONE NO.	ADDITIONAL CONTACT NO.
ADDRESS 13680 NW Main Street				FAX NO.
CITY Banks	STATE OR	ZIP 97106	E-MAIL jbecker@cityofbanks.org	
BY PROVIDING AN E-MAIL ADDRESS, CONSENT IS GIVEN TO RECEIVE ALL CORRESPONDENCE FROM THE DEPARTMENT ELECTRONICALLY. COPIES OF THE FINAL ORDER DOCUMENTS WILL ALSO BE MAILED.				

Agent Information – The agent is authorized to represent the applicant in all matters relating to this application.

AGENT/BUSINESS NAME Bob Long, CWRE, RG, RHG			PHONE NO. 503-954-1626	ADDITIONAL CONTACT NO.
ADDRESS 311 B Ave, Suite P				FAX NO.
CITY Lake Oswego	STATE OR	ZIP 97034	E-MAIL bob.long@cwmh2o.com	
BY PROVIDING AN E-MAIL ADDRESS, CONSENT IS GIVEN TO RECEIVE ALL CORRESPONDENCE FROM THE DEPARTMENT ELECTRONICALLY. COPIES OF THE FINAL ORDER DOCUMENTS WILL ALSO BE MAILED.				

City of Banks Permit G-7593 currently has only one approved point of appropriation (POA), Well-1. Well-1 is constructed within 70 ft of City Well-2, and the two wells cause pumping interference when operated in conjunction. Well-2 has a higher pumping capacity and a higher pumping rate available on its water right. When Well-2 pumps, the water level in Well-1 drops (and vice-versa). Therefore, Well-1 cannot effectively operate at the same time as Well-2 and is only able to produce a fraction of its water right.

The purpose of this permit amendment application is to add additional POA locations to the Well-1 water right. Wells constructed at these additional POAs will be sufficiently separated from Well-2 that they will be able to operate independently without incurring significant interference. Furthermore, having multiple wells under Permit G-7593 will allow the City to optimize production under this right and limit the compounding drawdown effects between Well-1 and Well-2.

This amendment application includes 7 additional POA locations. The City intends to develop between 1 and 3 of these new wells on Permit G-7593. Adding the 7 proposed locations will give the City the flexibility to move forward with well construction planning and negotiations with landowners at the selected sites. The proposed POAs are located on property not owned by the City. The City is currently in negotiations to purchase the land at one of the proposed locations (WTP). Landowner consent has been granted for the City to develop the other proposed well location (AN), as documented in the attached consent forms.

Check this box if this project is fully or partially funded by the American Recovery and Reinvestment Act. (Federal stimulus dollars)

Is the applicant the permit holder of record? Yes No

If NO, include either:

- A completed assignment form (with required statutory assignment fee), assigning all or a portion of the permit to the applicant(s), **OR**
- An affidavit of consent from the permit holder(s) of record that gives permission for the applicant to amend the permit.

Has the Completion (“C”) Date of the permit(s) in this application expired? Yes No

If YES, this application will not be accepted by the Department.

If NO, what are the completion dates of the permit(s)? Extended Completion Date: 10/01/2027

- If the permit completion date expires while the Permit Amendment Application is pending, the Department will not approve the Permit Amendment Application until an Extension of Time Application is approved for the permit.

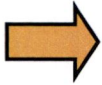
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- You may consider using the Reimbursement Authority process to expedite the processing of this Permit Amendment Application if the completion date of the permit expires within 6 months of the date of filing this application.

By my signature below, I confirm that I understand:

- Prior to Department approval of the permit amendment, I may be required to submit payment to the Department for publication of a notice in a newspaper with general circulation in the area where the permit is located, once per week for two consecutive weeks. If more than one qualifying newspaper is available, I suggest publishing the notice in the following newspaper: _____



I (we) affirm that the information contained in this application is true and accurate.

[Handwritten Signature]
Applicant Signature

City Manager
Print Name (and Title if applicable)
Johann Becker

4-10-24
Date

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Check one of the following:

- The applicant is responsible for completion of change(s). Notices and correspondence should continue to be sent to the applicant.
- The permit holder(s) of record will be responsible for completing the proposed change(s) after the final order is issued. Copies of notices and correspondence should be sent to the permit holder(s) of record.

Check the appropriate box, if applicable:

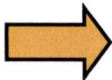
- Check here if any of the permits proposed for amendment are or will be located within or served by an irrigation or other water district.

IRRIGATION DISTRICT NAME Tualatin Valley Irrigation District	ADDRESS 2330 Elm Street	
CITY Forest Grove	STATE OR	ZIP 97116

**The City of Banks Urban Growth Boundary falls within the same Sections and Quarter-quarters as portions of the Tualatin Valley Irrigation District's service area. The water produced, conveyed, and used under the City's water rights and water distribution system is separate from water that may be provided by the District.*

- ~~Check here if water for any of the permits supplied under a water service agreement or other contract for stored water with a federal agency or other entity.~~

ENTITY NAME	ADDRESS	
CITY	STATE	ZIP



To meet State Land Use Consistency Requirements, you must list all local governments (each county, city, municipal corporation, or tribal government) within whose jurisdiction water will be diverted, conveyed or used.

ENTITY NAME City of Banks	ADDRESS 13680 NW Main Street	
CITY Banks	STATE OR	ZIP 97106

**The current and proposed POAs and the existing POU are located completely within the City of Banks' service area as defined by the Urban Growth Boundary. Therefore, all water production and usage under this right occurs within the jurisdiction of the City alone.*

Part 5 of 5 – Water Use Permit Information

Please use a separate Part 5 for each permit being changed. See instructions on page 6, to copy and paste additional Part 5s, or to add additional rows to tables within the form.

PERMIT # G-7593

Table 1. Location of Authorized and Proposed Point(s) of Diversion (POD) or Appropriation (POA)
(Note: If the POD/POA name is not specified in the permit, assign it a name or number here.)

POD/POA Name or Number	Is this POD/POA Authorized by the permit or is it Proposed?	If POA, OWRD Well Log ID#	Twp	Rng	Sec	¼	¼	Tax Lot, DLC or Gov't Lot	Measured Distances (from a recognized survey corner)		
Well-1 (Behrman Well 1)	<input checked="" type="checkbox"/> Authorized <input type="checkbox"/> Proposed	WASH-7651	2	N	3	W		31	NE NW	0402	135ft S & 560ft W of N ¼ Corner Sec 31
WTP (Water Treatment Plant)	<input type="checkbox"/> Authorized <input checked="" type="checkbox"/> Proposed	<i>PROPOSED</i>	2	N	4	W		36	NE NE	0600	175 ft S & 335 ft W of NW Corner Sec 31
AN (Aerts Rd North)	<input type="checkbox"/> Authorized <input checked="" type="checkbox"/> Proposed	<i>PROPOSED</i>	2	N	3	W		31	NE NE	0100	275 ft S & 475 ft W of the NE Corner Sec 31
AS (Aerts Rd South)	<input type="checkbox"/> Authorized <input checked="" type="checkbox"/> Proposed	<i>PROPOSED</i>	2	N	3	W		31	NE SE	0100	2,500 ft N & 565 ft W of the SE Corner Sec 31
Park-A (Park Primary)	<input type="checkbox"/> Authorized <input checked="" type="checkbox"/> Proposed	<i>PROPOSED</i>	2	N	3	W		31	NE SW	0600	2,120 ft N & 2,970 ft W of the SE Corner Sec 31
Park-B (Park Alternative)	<input type="checkbox"/> Authorized <input checked="" type="checkbox"/> Proposed	<i>PROPOSED</i>	2	N	3	W		31	NW SE	0100	2,460 ft N & 2,520 ft W of the SE Corner Sec 31
Park-C (Park Alternative)	<input type="checkbox"/> Authorized <input checked="" type="checkbox"/> Proposed	<i>PROPOSED</i>	2	N	3	W		31	NW SE	0400	2,630 ft N & 2,540 ft W of the SE Corner Sec 31
Well-2 (Behrman Well 2)	<input type="checkbox"/> Authorized <input checked="" type="checkbox"/> Proposed	WASH-62373	2	N	3	W		31	NE NW	0402	120ft S & 2,070 ft E of the NW Corner Sec 31

Check all type(s) of change(s) proposed below (change "CODES" are provided in parentheses):

- | | |
|---|--|
| <input type="checkbox"/> Place of Use (POU) | <input type="checkbox"/> Point of Appropriation/Well (POA) |
| <input type="checkbox"/> Point of Diversion (POD) | <input checked="" type="checkbox"/> Additional Point of Appropriation (APOA) |
| <input type="checkbox"/> Additional Point of Diversion (APOD) | <input type="checkbox"/> Surface water POD to Ground Water POA |

Will all of the proposed changes affect the entire water use permit?

- Yes** Complete only the proposed ("to" lands) section of Table 2 on the next page. Use the "CODES" listed above to describe the proposed changes.
- No** Complete all of Table 2 to describe the portion of the permit to be changed.

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For a change in place of use: **N/A**

~~Does the permit holder of record own or control the land TO which the place of use is being moved?~~

Yes No

~~If NO, the landowner of the land TO which the place of use is being moved must be assigned to the permit as a permit holder of record by submitting a completed Request for Assignment form and the required statutory fee for an assignment.~~

~~Is the proposed place of use contiguous to the authorized place of use?~~ Yes No

~~The permitted place of use can be moved only to lands that are contiguous to the authorized place of use unless the change to non-contiguous lands is in furtherance of mitigation or conservation efforts undertaken for the purposes of benefiting a species listed as sensitive, threatened, or endangered under ORS 496.171 to 496.192 or the federal Endangered Species Act of 1973 (16 U.S.C. 1531 to 1544), as determined by the listing agency. Contiguous land being either adjacent land or land separated from the land to which a permit is authorized by roads, utility corridors, irrigation ditches or publicly owned rights of way.~~

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Please use and attach additional pages of Table 2 as needed.
See page 6 for instructions.

Do you have questions about how to fill-out the tables?
Contact the Department at 503-986-0900 and ask for Transfer

Table 2. Description of Changes to Water Use Permit # G-7593

List the change proposed for the acreage in each ¼ ¼. If more than one change is proposed, specify the acreage associated with each change. If there is more than one POD/POA involved in the proposed changes, specify the acreage associated with each POD/POA.

AUTHORIZED (the "from" or "off" lands) The listing that appears on the certificate BEFORE PROPOSED CHANGES List only that part or portion of the water right that will be changed.									Proposed Changes (see "CODES" from previous page)	PROPOSED (the "to" or "on" lands) The listing as it would appear AFTER PROPOSED CHANGES are made.								
Twp	Rng	Sec	¼ ¼	Tax Lot	Gvt Lot or DLC	Acres (if applicable)	POD(s) or POA(s) (name or number from Table 1)	Priority Date		Twp	Rng	Sec	¼ ¼	Tax Lot	Gvt Lot or DLC	Acres	POD(s) or POA(s) to be used (from Table 1)	Priority Date
									APOA	The City of Banks Municipal Service Area						WELL-1 AN WTP AS PARK-A PARK-B PARK-C WELL-2	9/29/1977	
TOTAL ACRES						TOTAL ACRES						N/A						

Additional remarks: *The proposed changes effect the entire water right. The place of use for Permit G-7593 is the City's municipal service area.*

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14449 -

Are there other water rights certificates, water use permits or ground water registrations associated with the "from" or "to" lands? Yes No

If YES, list the other certificate, permit, or ground water registration numbers: N/A (no "from" lands)

If the permit(s) are for irrigation or supplemental irrigation use, other water rights existing on the same land for irrigation that are subject to transfer must either change concurrently or be cancelled. Any change to a water right certificate or ground water registration must be filed separately in a water right transfer application or ground water registration modification application, respectively.

For a change in point(s) of appropriation (well(s)) or additional point(s) of appropriation:

Well log(s) are attached for each authorized and proposed well(s) that are clearly labeled and associated with the corresponding well(s) in Table 1 above and on the accompanying application map. Well-1 Log is Attachment 4, Well-2 Log is Attachment 5, other new POAs are proposed, see Attachment 6 – Basalt Aquifer Memo.

AND/OR

Describe the construction of the authorized and proposed well(s) in Table 3 for any wells that do not have a well log. For *proposed wells not yet constructed or built*, provide "a best estimate" for each requested information element in the table. The Department recommends you consult a licensed well driller, geologist, or certified water right examiner to assist with assembling the information necessary to complete Table 3.

Table 3. Construction of Point(s) of Appropriation

Any well(s) in this listing must be clearly tied to corresponding well(s) described in Table 1 and shown on the accompanying application map. Failure to provide the information will delay the processing of your transfer application until it is received. The information is necessary for the department to assess whether the proposed well(s) will access the same source aquifer as the authorized point(s) of appropriation (POA). The Department is prohibited by law from approving POA changes that do not access the same source aquifer.

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Proposed or Authorized POA Name	Is well already built?	If an existing well, OWRD Well ID Tag No. L-____	Total well depth	Casing Diam.	Casing Intervals (feet)	Seal depth(s) (intervals)	Perforated or screened intervals (in feet)	Static water level (in feet)	Source aquifer	Well - specific rate (cfs or gpm).
WELL-1	YES	-	450 ft	8-5/8"	0-210 ft	0-210 ft	Open-hole to 450 ft	32.2 ft bgs*	CRBG	0.67 CFS
WELL-2	YES	WASH-62373	665 ft	12"	0-300 ft	0-300 ft	Open-hole to 665 ft	34.4 ft bgs*		
AN	NO	-	650-750 ft	12"	Wells will be cased and sealed from the surface to approx. 200-250 ft (depending on conditions encountered in the field)		Open-hole to depth of ~650-750 ft	~30-50 ft		
AS	NO	-								
PARK-A	NO	-								
PARK-B	NO	-								
PARK-C	NO	-								
WTP	NO	-								

**The proposed well designs are based on the general construction of Well-2, which is proposed to be added as a POA to this permit. The attached Basalt Aquifer Memo (Attachment 6) describes available data that suggests the two water-bearing zones function as a single aquifer.*

**Measurement at Well-1 collected on April 7, 2023.*

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Well-1

Application for Water Right Transfer



Oregon Water Resources Department
725 Summer Street NE, Suite A
Salem, Oregon 97301-1266
(503) 986-0900
www.wrd.state.or.us

Consent by Deeded Landowner

State of Oregon)
County of Washington)ss

I Martin Cropp in my/our capacity as Owner of the land containing a proposed POA,
mailing address 33687 NW Mountaindale Rd, North Plains, OR 97133
telephone number 503-939-3507, duly sworn depose and say that I/We

consent to the proposed change(s) to Water Right Certificate Number Permit G-7593
described in a Water Right Transfer Application (T- Not yet assigned),
(transfer number, if known)

submitted by The City of Banks, Jolynn Becker, City Manager

on the property in tax lot number(s) 2N43600 (TL 0600)

Section 36 NENE Township 2N North/South Range 4W East/West, W.M.

located at Southwest of the intersection of N Main Street and NW Cedar Canyon Road (WTP-1)
(site address)

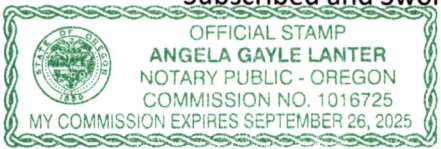
Signature of Affiant (handwritten signature)

Date 3/5/2024

Signature of Affiant

Date

Subscribed and Sworn to before me this 5th day of March, 2024.



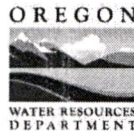
Notary Public for Oregon (handwritten signature)

My commission expires September 26, 2025

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Well-1

Application for Water Right Transfer



Oregon Water Resources Department
725 Summer Street NE, Suite A
Salem, Oregon 97301-1266
(503) 986-0900
www.wrd.state.or.us

Consent by Deeded Landowner

State of Oregon)
County of WASHINGTON)ss

I Robert S. Bobosky in my/our capacity as Owner of the land containing a proposed POA,
Manager, Wolverine Financial, LLC
mailing address 6770 SW Canyon Dr, Portland, OR 97225

telephone number 503 292-8261, duly sworn depose and say that I/We
consent to the proposed change(s) to Water Right Certificate Number Permit G-7593

described in a Water Right Transfer Application (T- Not yet assigned),
(transfer number, if known)

submitted by The City of Banks, Jolynn Becker, City Manager

on the property in tax lot number(s) 2N43600 (TL 0600)

Section 36 NENE Township 2N North/South Range 4W East/West, W.M.

located at Southwest of the intersection of N Main Street and NW Cedar Canyon Road (WTP-1)
(site address)

Signature of Affiant (handwritten signature)

Date January 9th, 2024

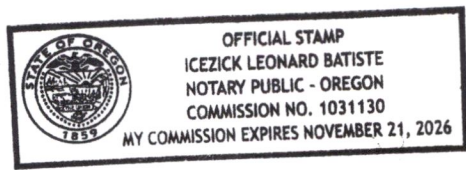
Signature of Affiant

Date

Subscribed and Sworn to before me this 09 day of January, 2024.

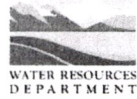
Notary Public for Oregon (handwritten signature)

My commission expires 11/21/2026



Application for Water Right Transfer

OREGON Oregon Water Resources Department
725 Summer Street NE, Suite A
Salem, Oregon 97301-1266
(503) 986-0900
www.wrd.state.or.us



Consent by Deeded Landowner

State of Oregon)
County of WASHINGTON)ss)

I QUAIL VALLEY GOLF COURSE in my/our capacity as Owner of the land containing a proposed POA,

mailing address 12565 NW AERTS RD BANKS OR 97106,

telephone number 503-324-4444, duly sworn depose and say that I/We

consent to the proposed change(s) to Water Right Certificate Number G-7593

described in a Water Right Transfer Application (T- Not yet assigned),
(transfer number, if known)

submitted by The City of Banks, Jolynn Becker, City Manager

on the property in tax lot number(s) 2N3310000100 (TL 0100),

Section 31 NENE Township 2N North/South Range 3W East/West, W.M.

located at near the intersection of Banks Rd and Aerts Rd (AN)
(site address)

Doug Hixson
Signature of Affiant

4.9.2024
Date

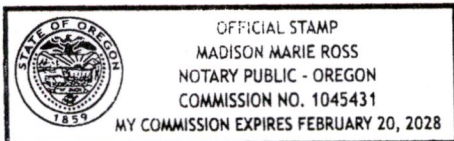
Signature of Affiant

Date

Subscribed and Sworn to before me this 9 day of April, ~~2024~~ 2024

Madison Marie Ross
Notary Public for Oregon

My commission expires February 2028



14449 -

Received
APR 29 2024

OWRD

ATTACHMENT 2
Application for
Water Right Transfer



Oregon Water Resources Department
725 Summer Street NE, Suite A
Salem, Oregon 97301-1266
(503) 986-0900
www.wrd.state.or.us

Consent by Deeded Landowner

State of Oregon)
)ss
County of WASHINGTON)

I QUAIL VALLEY GOLF COURSE in my/our capacity as Owner of the land containing three proposed POAs,

mailing address 12565 NW AERTS RD BANKS OR 97106,

telephone number 503-324-4444, duly sworn depose and say that I/We

consent to the proposed change(s) to Water Right Certificate Number G-7593

described in a Water Right Transfer Application (T- Not yet assigned),
(transfer number, if known)

submitted by The City of Banks, Jolynn Becker, City Manager

on the property in tax lot number(s) 2N331D000100 (TL 0100)

Section 31 NWSE/NESE Township 2N North/South Range 3W East/West, W.M.

located at along Aerts Rd (AS) and in two locations in a proposed park area (Park-B and Park-C)
(site address)

Doug Axtson
Signature of Affiant

4.9.2024
Date

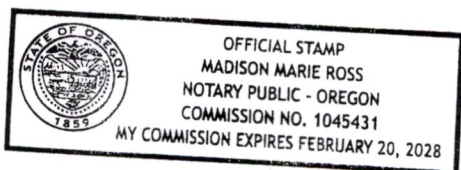
Signature of Affiant

Date

Subscribed and Sworn to before me this 9 day of April, 2024.

Madison Marie Ross
Notary Public for Oregon

My commission expires February 20 2028



Received

APR 29 2024

OWRD

ATTACHMENT 3

Land Use Information Form



Oregon Water Resources Department
725 Summer Street NE, Suite A
Salem, Oregon 97301-1266
(503) 986-0900
www.oregon.gov/OWRD

Washington County LUCS Form

NOTE TO APPLICANTS

In order for your application to be processed by the Water Resources Department (WRD), this Land Use Information Form must be completed by a local government planning official in the jurisdiction(s) where your water right will be used and developed. The planning official may choose to complete the form while you wait, or return the receipt stub to you. Applications received by WRD without the Land Use Form or the receipt stub will be returned to you. Please be aware that your application will not be approved without land use approval.

This form is NOT required if:

- 1) Water is to be diverted, conveyed, and/or used only on federal lands; **OR**
- 2) The application is for a water right transfer, allocation of conserved water, exchange, permit amendment, or ground water registration modification, and **all** of the following apply:
 - a) The existing and proposed water use is located entirely within lands zoned for exclusive farm-use or within an irrigation district;
 - b) The application involves a change in place of use only;
 - c) The change does not involve the placement or modification of structures, including but not limited to water diversion, impoundment, distribution facilities, water wells and well houses; **and**
 - d) The application involves irrigation water uses only.

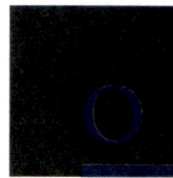
NOTE TO LOCAL GOVERNMENTS

The person presenting the attached Land Use Information Form is applying for or modifying a water right. The Water Resources Department (WRD) requires its applicants to obtain land-use information to be sure the water rights do not result in land uses that are incompatible with your comprehensive plan. Please complete the form or detach the receipt stub and return it to the applicant for inclusion in their water right application. You will receive notice once the applicant formally submits his or her request to the WRD. The notice will give more information about WRD's water rights process and provide additional comment opportunities. You will have 30 days from the date of the notice to complete the land-use form and return it to the WRD. If no land-use information is received from you within that 30-day period, the WRD may presume the land use associated with the proposed water right is compatible with your comprehensive plan. Your attention to this request for information is greatly appreciated by the Water Resources Department. If you have any questions concerning this form, please contact the WRD's Customer Service Group at 503-986-0801.

14449 - Received
APR 29 2024

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Land Use Information Form



Oregon Water Resources Department
 725 Summer Street NE, Suite A
 Salem, Oregon 97301-1266
 (503) 986-0900
 www.oregon.gov/OWRD

Applicant(s): City of Banks (Jolynn Becker, City Manager)

Mailing Address: 13680 NW Main Street

City: Banks

State: OR

Zip Code: 97106

Daytime Phone: 503-324-5112

A. Land and Location

Please include the following information for all tax lots where water will be diverted (taken from its source), conveyed (transported), and/or used or developed. Applicants for municipal use, or irrigation uses within irrigation districts may substitute existing and proposed service-area boundaries for the tax-lot information requested below.

Township	Range	Section	¼ ¼	Tax Lot #	Plan Designation (e.g., Rural Residential/RR-5)	Water to be:	Proposed Land Use:
2N	3W	31	All			<input type="checkbox"/> Diverted <input checked="" type="checkbox"/> Conveyed <input checked="" type="checkbox"/> Used	
		31	NE NW	0402		<input checked="" type="checkbox"/> Diverted <input type="checkbox"/> Conveyed <input type="checkbox"/> Used	
		31	NE NE	0100		<input checked="" type="checkbox"/> Diverted <input type="checkbox"/> Conveyed <input type="checkbox"/> Used	
		31	NE SW	6900		<input checked="" type="checkbox"/> Diverted <input type="checkbox"/> Conveyed <input type="checkbox"/> Used	
		31	NW SE	0100		<input checked="" type="checkbox"/> Diverted <input type="checkbox"/> Conveyed <input type="checkbox"/> Used	
		31	NE SE	0100		<input checked="" type="checkbox"/> Diverted <input type="checkbox"/> Conveyed <input type="checkbox"/> Used	
		25	SE SE	0600	*	<input type="checkbox"/> Diverted <input checked="" type="checkbox"/> Conveyed <input checked="" type="checkbox"/> Used	
		30	SW SW		*	<input type="checkbox"/> Diverted <input checked="" type="checkbox"/> Conveyed <input checked="" type="checkbox"/> Used	
	30	NW SW		*	<input type="checkbox"/> Diverted <input checked="" type="checkbox"/> Conveyed <input checked="" type="checkbox"/> Used		
	4W	36	NE NE	0600		<input checked="" type="checkbox"/> Diverted <input checked="" type="checkbox"/> Conveyed <input checked="" type="checkbox"/> Used	
		36	E ¼		*	<input type="checkbox"/> Diverted <input checked="" type="checkbox"/> Conveyed <input checked="" type="checkbox"/> Used	
		36	NW SE		*	<input type="checkbox"/> Diverted <input checked="" type="checkbox"/> Conveyed <input checked="" type="checkbox"/> Used	
		36	SW SE		*	<input type="checkbox"/> Diverted <input checked="" type="checkbox"/> Conveyed <input checked="" type="checkbox"/> Used	

*City of Banks Urban Growth Boundary is the City's service area. Various taxlots and land use classifications within the UGB.

List all counties and cities where water is proposed to be diverted, conveyed, and/or used or developed:

City of Banks (All water production, conveyance, and usage occurs within the City of Banks Service Area as defined by the City's Urban Growth Boundary)

Received

APR 29 2024

B. Description of Proposed Use

Type of application to be filed with the Water Resources Department:

OWRD

- Permit to Use or Store Water
 Water Right Transfer
 Permit Amendment or Ground Water Registration Modification
 Limited Water Use License
 Allocation of Conserved Water
 Exchange of Water

Source of water: Reservoir/Pond Ground Water Surface Water (name) _____

Estimated quantity of water needed: 0.67 cubic feet per second gallons per minute acre-feet

Intended use of water: Irrigation Commercial Industrial Domestic for _____ household(s)
 Municipal Quasi-Municipal Instream Other _____

Briefly describe:

Permit amendment application to add additional POAs to support potential construction of new well(s) for one of the City's two groundwater supply rights (G-7593).

Received

29 2024

OWRD

For Local Government Use Only

The following section must be completed by a planning official from each county and city listed unless the project will be located entirely within the city limits. In that case, only the city planning agency must complete this form. This deals only with the local land-use plan. Do not include approval for activities such as building or grading permits.

Please check the appropriate box below and provide the requested information

- Land uses to be served by the proposed water uses (including proposed construction) are allowed outright or are not regulated by your comprehensive plan. Cite applicable ordinance section(s):
- Land uses to be served by the proposed water uses (including proposed construction) involve discretionary land-use approvals as listed in the table below. (Please attach documentation of applicable land-use approvals which have already been obtained. Record of Action/land-use decision and accompanying findings are sufficient.) **If approvals have been obtained but all appeal periods have not ended, check "Being pursued."**

Type of Land-Use Approval Needed (e.g., plan amendments, rezones, conditional-use permits, etc.)	Cite Most Significant, Applicable Plan Policies & Ordinance Section References	Land-Use Approval:	
	Received	<input type="checkbox"/> Obtained <input type="checkbox"/> Denied	<input type="checkbox"/> Being Pursued <input type="checkbox"/> Not Being Pursued
	APR 29 2024	<input type="checkbox"/> Obtained <input type="checkbox"/> Denied	<input type="checkbox"/> Being Pursued <input type="checkbox"/> Not Being Pursued
	OWRD	<input type="checkbox"/> Obtained <input type="checkbox"/> Denied	<input type="checkbox"/> Being Pursued <input type="checkbox"/> Not Being Pursued
		<input type="checkbox"/> Obtained <input type="checkbox"/> Denied	<input type="checkbox"/> Being Pursued <input type="checkbox"/> Not Being Pursued

Local governments are invited to express special land-use concerns or make recommendations to the Water Resources Department regarding this proposed use of water below, or on a separate sheet.

Name: Johanna Becker Title: City Manager
 Signature: [Signature] Phone: 503-324-5112 Date: 4-9-24

Government Entity: _____

Note to local government representative: Please complete this form or sign the receipt below and return it to the applicant. If you sign the receipt, you will have 30 days from the Water Resources Department's notice date to return the completed Land Use Information Form or WRD may presume the land use associated with the proposed use of water is compatible with local comprehensive plans.



Receipt for Request for Land Use Information

Applicant name: _____

City or County: _____ Staff contact: _____

Signature: _____ Phone: _____ Date: _____

ATTACHMENT 4

CTOR
ort

WATER WELL REPORT

RECEIVED STATE OF OREGON
(Please type or print)

WASH
7651

State Well No. 2N/3W-31
Received
State Permit No. _____
APR 29 2024

of well completion.

SEP - 6 1977 (Do not write above this line)

(1) OWNER: WATER RESOURCES DEPT.
Name City of Banks SALEM, OREGON
Address Banks, Oregon

(2) TYPE OF WORK (check):
New Well Deepening Reconditioning Abandon
If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL: (4) PROPOSED USE (check):
Rotary Driven Domestic Industrial Municipal
Cable Jetted Irrigation Test Well Other
Dug Bored

(10) LOCATION OF WELL:
County Washington Driller's well number OWRD
1/4 Section 31 T. 2 N R. 8 W. J.W.M.
Bearing and distance from section or subdivision corner

(11) WATER LEVEL: Completed well.
Depth at which water was first found 130 ft.
Static level 34 ft. below land surface. Date 8/24/77
Artesian pressure lbs. per square inch. Date

(12) WELL LOG: Diameter of well below casing 8"
Depth drilled 450 ft. Depth of completed well 450 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
Dark brown clay topsoil	0	8	
Silty brown clay	8	15	
Red-brown clay w/rotten rock fragments	15	50	
Sticky red clay-occ. rotten rock streaks	50	95	
Brown clay & rotten rock	95	110	
Dark brown & gray-brown clay --organic material	110	120	
Soft blue-gray cemented gravel	120	130	
Rotten brown basalt	130	160	20 gpm
Soft brown basalt-occ.weatherd	160	195	
Black-brown basalt	195	215	
Hard gray-black basalt	215	230	
Broken brown basalt w/soapstone and lava interbeds	230	245	10 gpm
Fractured black basalt--occ. crevice	245	265	
Hard gray-black basalt, occ-			

Work started 8/16/77 19 Completed 8/24/77 19
Date well drilling machine moved off of well 8/24/77 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] Edmund Janssen Date 8/29/77, 19____
(Drilling Machine Operator)
Drilling Machine Operator's License No. 523

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 A. M. Janssen Drilling Co.
(Person, firm or corporation) (Type or print)
Address 21075 SW Tualatin Valley Hwy. Aloha, Oregon
[Signed] Edmund Janssen
(Water Well Contractor)
Contractor's License No. 79 Date 8/29/77, 19____

CASING INSTALLED: Threaded Welded
8-5/8" Diam. from plus 2 ft. to 210 ft. Gage .250
" Diam. from ft. to ft. Gage
" Diam. from ft. to ft. Gage

PERFORATIONS: Perforated? Yes No.
Type of perforator used
Size of perforations in. by in.
perforations from ft. to 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
Was a pump test made? Yes No If yes, by whom? AMJanssen
275 gal./min. with 224 ft. drawdown after 48 hrs.
150 " " 146 " " " "
" " " " " "
Bailer test gal./min. with ft. drawdown after hrs.
Artesian flow g.p.m.
Temperature of water 58° Depth artesian flow encountered ft.

(9) CONSTRUCTION:
Well seal—Material used Cement grout & 2% gel
Well sealed from land surface to 210 ft.
Diameter of well bore to bottom of seal 12-1/4" in.
Diameter of well bore below seal 8" in.
Number of sacks of cement used in well seal 25 sacks
How was cement grout placed? Placed on o.d. of casing through grout pipe - 20 sacks run @ 210', 5 sacks run to top off at ground level upon completion
Was a drive shoe used? Yes No Plugs Size: location ft.
Did any strata contain unusable water? Yes No
Type of water? insufficient depth of strata 130' to 160'
Method of sealing strata off cased and cemented
Was well gravel packed? Yes No Size of gravel:
Gravel placed from ft. to ft.

(USE ADDITIONAL SHEETS IF NECESSARY)

14449 - SP*45856-119

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.

RECEIVED
WATER WELL REPORT
STATE OF OREGON
(Please type or print)
SEP - 6 1977
(Do not write above this line)

State Well No. 2N/3W-31
State Permit No. _____

(1) OWNER:

Name City of Banks **SALEM, OREGON** **Page 2**
Address _____

(2) TYPE OF WORK (check):

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

(3) TYPE OF WELL:

Rotary Driven
Cable Jetted
Dug Bored

(4) PROPOSED USE (check):

Domestic Industrial Municipal
Irrigation Test Well Other

(5) CASING INSTALLED:

Threaded Welded

_____ " Diam. from _____ ft. to _____ ft. Gage _____
_____ " Diam. from _____ ft. to _____ ft. Gage _____
_____ " Diam. from _____ ft. to _____ ft. Gage _____

(6) PERFORATIONS:

Perforated? Yes No.

Type of perforator used _____
Size of perforations _____ in. by _____ in.
_____ perforations from _____ ft. to _____ 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

Was a pump test made? Yes No If yes, by whom?
Yield _____ gal./min. with _____ ft. drawdown after _____ hrs.
" " " " " "
" " " " " "
Ballor 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 _____
Well sealed from land surface to _____ ft.
Diameter of well bore to bottom of seal _____ in.
Diameter of well bore below seal _____ in.
Number of sacks of cement used in well seal _____ sacks
How was cement grout placed? _____

Was 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 _____ Driller's well number _____
_____ 1/4 Section T. R. W.M.
Bearing and distance from section or subdivision corner _____

(11) WATER LEVEL: Completed well.

Depth at which water was first found _____ ft.
Static level _____ ft. below land surface. Date _____
Artesian pressure _____ lbs. per square inch. Date _____

(12) WELL LOG:

Diameter of well below casing _____

Depth drilled _____ ft. Depth of completed well _____ 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
fracture	265	315	5 gpm
Brown basalt-occ.broken	315	325	10 gpm
Hard black & gray-black basalt-occ. crevice	325	360	
Black basalt--occ. broken w/ green soapstone	360	380	25 gpm
Broken black & brown basalt-w/ lava & soapstone interbed	380	400	200 gpm
Broken gray-brown basalt w/ lava streaks	400	415	100gpm
Hard gray-black basalt--occ. crevice	415	450	

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APR 29 2024
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Work started _____ 19 _____ Completed _____ 19
Date well drilling machine moved off of well _____ 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] _____ Date _____, 19____
(Drilling Machine Operator)

Drilling Machine Operator's License No. _____

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 _____
(Person, firm or corporation) (Type or print)

Address _____

[Signed] _____
(Water Well Contractor)

Contractor's License No. _____ Date _____, 19____

ATTACHMENT 5

JUN 02 2005

WELL I.D. # L 75346

START CARD # 173577

Instructions for completing this report are on the last page of this form. WATER RESOURCES DEPT SALEM, OREGON

(1) LAND OWNER Well Number _____ Name City of Banks Address 100 South Main Street City Banks State Or Zip 97106

(2) TYPE OF WORK [X] New Well [] Deepening [] Alteration (repair/recondition) [] Abandonment [] Conversion

(3) DRILL METHOD [X] Rotary Air [X] Rotary Mud [] Cable [] Auger [] Cable Mud [] Other

(4) PROPOSED USE [] Domestic [X] Community [] Industrial [] Irrigation [] Thermal [] Injection [] Livestock [] Other

(5) BORE HOLE CONSTRUCTION Special Construction: [] Yes [X] No Depth of Completed Well 665 ft. Explosives used: [] Yes [X] No Type _____ Amount _____

Table with columns: BORE HOLE (Diameter, From, To), SEAL (Material, From, To), Sacks or Pounds. Row 1: 16, 0, 300, Cem/Bent, 0, 300, 115 sks. Row 2: 12, 300, 665.

How was seal placed: Method [] A [X] B [X] 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. Casing: 12, +2, 300, .250, [X], [], [X], []. Liner: [], [], [], [], [], [], [], [].

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

(7) PERFORATIONS/SCREENS Table with columns: From, To, Slot Size, Number, Diameter, Tele/pipe size, Casing, Liner. Row 1: [], [], [], [], [], [], [], [].

(8) WELL TESTS: Minimum testing time is 1 hour [] Pump [] Bailer [X] Air [] Flowing Artesian Yield gal/min Drawdown Drill stem at Time 650+ 275-280 660 200 1hr. 1hr.

Temperature of water 57°F Depth Artesian Flow Found _____ Was a water analysis done? [X] Yes By whom A.M.J. Did any strata contain water not suitable for intended use? [] Too little [] Salty [] Muddy [] Odor [] Colored [] Other _____ Depth of strata: _____

(9) LOCATION OF WELL (legal description) County Washington Tax Lot 402 Lot _____ Township 2N N or S Range 3W E or W WM Section 31 NE 1/4 NW 1/4 Lat _____ or _____ (degrees or decimal) Long _____ or _____ (degrees or decimal)

Street Address of Well (or nearest address) 42000 NW Banks Rd. Banks, Or

(10) STATIC WATER LEVEL 48 ft. below land surface. Date 5-25-05 _____ ft. below land surface. Date _____ Artesian pressure _____ lb. per square inch Date _____

(11) WATER BEARING ZONES Table with columns: From, To, Estimated Flow Rate, SWL. Row 1: 378, 468, 350 gpm, 48. Row 2: 615, 660, 300 gpm, 48.

(12) WELL LOG Table with columns: Material, From, To, SWL. Rows: Brn & red-brn cly sticky, firm. (0, 69); Red-brn basalt, very weathered. (69, 102); Green clay soft (102, 121); Gry-brn clay firm (121, 155); Red-brn basalt very weathered. (155, 179); Brn basalt, weathered (179, 201); Gry-brn basalt (201, 206); Gry/gry-blk basal thrd (206, 231); Gry-brn basalt w/ interbeds. (231, 251); Gry-gry blk basalt hrd (251, 313); Brn basalt interbed (313, 325). Date Started 3-22-05 Completed 5-25-05.

(unbonded) Water Well Constructor Certification I certify that the work I performed on the construction, deepening, 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 573 Date 5-31-2005 Signed [Signature]

(bonded) Water Well Constructor Certification I accept responsibility for the construction, deepening, 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 Date May 31, 2005 Signed [Signature]

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

JUN 02 2005

WELL I.D. # L 75346

WATER RESOURCES DEPT
SALEM, OREGON

START CARD # 173577

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

(1) LAND OWNER Well Number _____
Name City of Banks Conti. Page 2
Address 100 South Main Street
City Banks State OR Zip 97106

(2) TYPE OF WORK New Well
 Deepening Alteration (repair/recondition) Abandonment Conversion

(3) DRILL METHOD
 Rotary Air Rotary Mud Cable Auger Cable Mud
 Other _____

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

(5) BORE HOLE CONSTRUCTION Special Construction: Yes No
Depth of Completed Well 665 ft.
Explosives used: Yes No Type _____ Amount _____

BORE HOLE			SEAL			Sacks or Pounds
Diameter	From	To	Material	From	To	

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 _____

Casing:	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
					<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"/>
					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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

Received
APR 29 2024

OWRD

(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 (legal description)
County Washington
Tax Lot 402 Lot _____
Township 2N N or S Range 3W E or W WM
Section 31 NE 1/4 NW 1/4

Lat _____ " or _____ (degrees or decimal)
Long _____ " or _____ (degrees or decimal)

Street Address of Well (or nearest address)
42000 NW Banks Rd., Banks, OR

(10) STATIC WATER LEVEL
48 ft. below land surface. Date 05/25/2005
_____ 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
<u>Blk basalt, frags, occ soapstone.</u>	<u>325</u>	<u>378</u>	
<u>Brn/gry-brn basalt frac broken occ red-brn basalt/lava streaks</u>	<u>378</u>	<u>420</u>	<u>48</u>
<u>Blk/gry blk basalt/lava</u>	<u>420</u>	<u>468</u>	
<u>Blk/gry blk basalt, hard occ frags.</u>	<u>468</u>	<u>615</u>	
<u>Blk basalt interbed, occ claystone occ lava streaks.</u>	<u>615</u>	<u>660</u>	<u>48</u>
<u>Blk/gry-blk basalt, frags.</u>	<u>660</u>	<u>665</u>	

Date Started 3-22-2005 Completed 5-25-2005 6100 29 2024

(unbonded) Water Well Constructor Certification
I certify that the work I performed on the construction, deepening, 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 573 Date 5-31-2005
Signed _____

(bonded) Water Well Constructor Certification
I accept responsibility for the construction, deepening, 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 Date May 31, 2005
Signed _____



April 17, 2024

1501011

Oregon Water Resources Department
Attn: *Groundwater Hydrogeology Section*
725 Summer St. NE Ste A
Salem, Oregon 97301

c/o: Dennis Orlowski, *Northeast Region Lead Hydrogeologist*

RE: INTERPRETATION OF BASALT WATER-BEARING ZONES IN THE AREA OF BANKS, OREGON

CwM-H2O (CwM) presents this technical memorandum to the Oregon Water Resources Department (OWRD) on behalf of the City of Banks (City). The purpose of the Technical Memorandum is twofold: 1) to present the results of additional investigations into the nature of two water-bearing zones (WBZs) within the Columbia River Basalt Group (CRBG), and 2) to support an application to modify Certificate 95849 that requests the additional points of appropriation and proposes the development of all basalt WBZs encountered to a depth of 665 feet below ground surface (bgs) as one aquifer unit. The WBZs investigated are documented in the City's primary production well, Well 2 (WASH 6237) and in the nearby Quail Valley Irrigation Well (QV Well, WASH 50693). The locations of each well are presented in Figure 1 - Vicinity Map.

This technical memorandum also presents a correction to the 2018 Banks-Green Mountain Aquifer Storage and Recovery Feasibility Study (ASR Feasibility Study) which incorrectly interpreted a downhole video observation to suggest water was moving within the borehole of Well 2. This interpretation is incorrect based on a reevaluation of the original video log and the new evidence presented in sections that follow which demonstrate that the WBZs encountered in Well 2 were in equilibrium and that no flow was evident in the video log.

Recent Geophysical Evidence

The investigation of Well 2 was conducted in 2017 as part of the Banks-Green Mountain Aquifer Storage and Recovery Feasibility Study (CwM, 2018). The investigation of the QV Well was completed in two separate investigations. The first was conducted by CwM to assess the condition of the QV Well as a potential asset for the City (CwM, 2020). A separate assessment was conducted by Holt Development and Summit Water Resources, LLC (Summit) in 2023, which focused on the potential flow between water bearing units in the QV Well. Both investigations utilized Pacific Survey, LLC of Auburn, CA for geophysical survey. The array of downhole methods used to evaluate both production wells included the following:

- Video Survey with down- and side-casting camera
- Caliper Log
- Dynamic Spinner Log
- Static Spinner Log
- Temperature Log

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All information gathered in these assessments is available for OWRD to review. However, for the purposes of this technical memorandum, the pertinent evidence of potential flow within the basalt borehole is found in the static spinner log data collected in each well. The raw data for static spinner log for each of these investigations is provided here for OWRD technical review in the attached Exhibit A - Geophysical Log Surveys with the original State of Oregon Water Well Reports (well logs) from each well.

Exhibit A also contains an excerpt from a report provided by Summit where Pacific Survey provides commentary on the 2017 Banks Well 2 and the 2023 QV Well spinner log results. Pacific Survey's analysis of the spinner logs states that zero flow is detected between the two WBZs. This indicates that, in both wells, the two WBZs are of equal head value and in combination act as a single aquifer without loss of water or artesian head from one zone to the other.

Evidence from Area Water Well Reports of Equivalent Static Water Levels

The observations of equivalent head values between upper and lower WBZs in Well 2 and the QV Well are also supported in the original well logs which document no change in static water level as the borehole was advanced through each WBZ during the time of drilling. This observation is not uncommon in the northern Tualatin Valley in the area of the City. In a limited search, CwM identified eight other deep (greater than 400 ft bgs) basalt wells in the area that tap a number of WBZs and show no change in static water levels as the wells were constructed. These wells include WASH 7691, WASH 13531, WASH 54161, WASH 55819, WASH 71480, WASH 72830, WASH 141, and WASH 0002 with deepening log WASH 199. The well locations are shown in Figure 1. The well logs for each are included in Exhibit B - Area Basalt Wells. The lack of a change in static water level suggests that the WBZs are interconnected, in equilibrium between WBZs, and that these basalt water WBZs act as one aquifer in the area of the City.

Evidence from Recent Water Level Elevations: Wells 1 and 2

Previous water levels reported to CwM from the City and to OWRD in annual report as "SCADA" reading are incorrect due to a long-term failure in the transducers measuring water levels in the City's Well 1 and Well 2. The City has recently completed an elevational survey of both wellheads and begun reconditioning and repairs for the pump and motor equipment in Well-1. This reconditioning included the replacement of the older non-functional transducer system. Concurrently, the City has also replaced the previous transducer system that was installed in Well-2.

Since March 2023, Well-1 has been offline as the equipment has been removed for repair or replacement. This allowed for direct access to Well 1 water levels by hand measurement with a well sounder. CwM geologists have collected three water levels during this time period when Well 2 has been idle for at least 7-days. The static water elevations (calculated with survey elevations and manual depth measurements) between the wells differed by 0.62 – 1.12 feet, Table 1.

Under static winter-spring conditions, groundwater elevations were less than 1 ft apart. Some variability in water level is expected due to the irrigation season and the use of multiple area wells for residential use. However, little variation has been observed. In summary, the static water

elevations are essentially equivalent, and the very small differences measured between the wells would not be sufficient to move groundwater between WBZs or cause a loss of water from one zone to the other.

Table 1 – Manual Groundwater Elevation Measurements				
Date	Well-1 Groundwater Elevation	Well-2 Groundwater Elevation	Difference in Elevation	Time Since Well-2 Pumped
3/15/2023	197.60 ft	196.98 ft	0.62 ft	7+ days
4/7/2023	199.17 ft	198.05 ft	1.12 ft	7+ days
10/13/2023	185.85 ft	184.89 ft	0.96 ft	7+ days

2023 Review of Video Survey of Well-2 completed in 2018

A video survey of Well-2 was conducted by Pacific Surveys LLC and CwM on January 12, 2018. The video covered the entire length of Well 2 including the cased and open-hole intervals. A CwM Principal-level review of the video was completed by Robert E. Long Jr. *RG, CWRE* in October of 2023 to assess the origin of comments made in the 2018 ASR Feasibility Study regarding the exchange of water between the upper and lower WBZs within Well 2. The quote “the exchange of water between the two water bearing zones was observed, with water from the water from the lower water bearing zone moving upwards and mixing with the upper water bearing zone” is found on page 11 of the ASR Feasibility Study and in Appendix C page 1.

In the review of the video survey, documented suspended sediment and debris dislodged from the inside of the well was observed floating downward in the water column, including when the camera was not in motion. The video survey from top of casing to the bottom of the well (0 to 669.7 bgs) at no time indicates evidence of upward flow. It is CwM’s conclusion that the survey interpretation error occurred as the video camera was retracted from the well. Specifically, it is believed that upward movement of sediment upon the retraction of the camera was interpreted as upward flow. In reality, this effect is the result of suction created behind the camera when it is being pulled back up the well.

CwM’s intent with this memo is to correct this statement about upward water flow and exchange between WBZ in Well 2. There is no evidence from the video survey of water movement in either direction. The evidence provided by the downhole video suggests that the two WBZs share very similar hydraulic pressure regimes under static conditions.

Summary

The goal of this memo is to update the factual evidence related to two water bearing zones (WBZ) with in the Columbia River Basalt Group (CRBG) that supply groundwater water to production wells in and around Banks, Oregon in the northern Tualatin Valley in support of a proposed application to add five additional points of appropriation to Certificate 95849. The application proposes to use both WBZs as a single aquifer for both production and for future ASR operations. It is the professional opinion of CwM, based on the evidence presented in geophysical analysis, well log static water levels,

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and current static water levels measured by CwM at Well 1 and Well 2, that these basalt WBZ are in equilibrium and operate as a single aquifer unit. Previous observations in the 2018 ASR Feasibility Study and interpretations of flow within the borehole based on a downhole video data are incorrect and are amended herein based on the reevaluation of the 2018 video in question.

Please let us know if there are any issues with processing this application or questions regarding the information included therein. Thank you for your assistance.

Sincerely,

CwM H2O, L.L.C.



Robert Long, CWRE

CC Jolynn Becker, City Manager, City of Banks
Joe Schiewe, Holt Homes
Paul Sellke, AKS Engineering & Forestry

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**EXHIBIT A
GEOPHYSICAL LOG SURVEYS**

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Jason Melady
Summit Water Resources, LLC

November 9, 2022

RE: Technical Memo: Static Spinner

Under non-pumping condition the spinner/flowmeter is lowered into the boring/well at a constant speed. The revolutions of the impeller are recorded as counts/sec. Once the spinner/flowmeter reaches total depth, the survey is stopped and a new survey begins with the tool ascending the boring/well. The spinner/flowmeter is raised to the surface at a constant rate and the revolutions of the impeller are recorded.

Both the down and up runs are merged onto one graph and scaled so that both spinner response overlay one another in a zone of known zero-flow. This zone is typically above all perforations. In the case of Well #2, this would be in the 12-inch casing that is set to 300ft. This zone of zero-flow demonstrates that the revolutions of the spinner is directly a result of the speed of descent/ascent of the tool.

If both the down and up run overlay one another throughout the entire boring/well, the inference would be that there is no vertical flow anywhere in the boring/well. If vertical flow was occurring, the down and up runs would diverge from one another in response to the direction of the flow (velocities are additive). In the case for Well #2, there is no significant divergence between the down and up runs, indicating zero-flow through the entire interval.

Best Regards,
Michael Ridder
Pacific Surveys, LLC

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PACIFIC SURVEYS

STATIC SPINNER UP & DOWN RUNS NON-PUMPING CONDITION

Job No. 23530
 Company CITY OF BANKS
 Well WELL 2
 File No. Field BANKS
 County WASHINGTON State OR

Location:
 41700 NW BANKS RD.
 GPS: 45.6214 -123.1066

Other Services:
 VIDEO CALIPER
 DYNAMIC SPINNER
 STOP COUNTS
 SPINNER ANALYSIS

Sec.	Twp.	Rge.	Elevation above perm. datum	Elevation
Permanent Datum	T.O.C.			
Log Measured From	T.O.C.			
Drilling Measured From	N/A			K.B. D.F. G.L.
Date	01-12-2018			
Run Number	ONE			
Depth Driller	669'			
Depth Logger	669'			
Bottom Logged Interval	660'			
Top Log Interval	225'			
Pump Set @	196' (BOTTOM)			
Time Pumping Prior to Survey	30 MIN			
Pumping Water Level	NOT MEASURED			
Max. Recorded Temp.	N/A			
Pump Rate (GPM)	N/A			
Time Well Ready	0800			
Time Logger on Bottom	1200			
Equipment Number	PS-7			
Location	SAC			
Recorded By	SCHUMACHER			
Witnessed By	R. DOUGHERTY			

Perforation Record				Perforation Record			
Type	Slot Size	From	To	Type	Slot Size	From	To

Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String	12"	N/A	0'	300'
Camera Tube				
Production String				
Liner	14449 -			

<<< Fold Here >>>

All interpretations are opinions based on inferences from electrical or other measurements and Pacific Surveys cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to Pacific Surveys' general terms and conditions set out in our current Price Schedule.

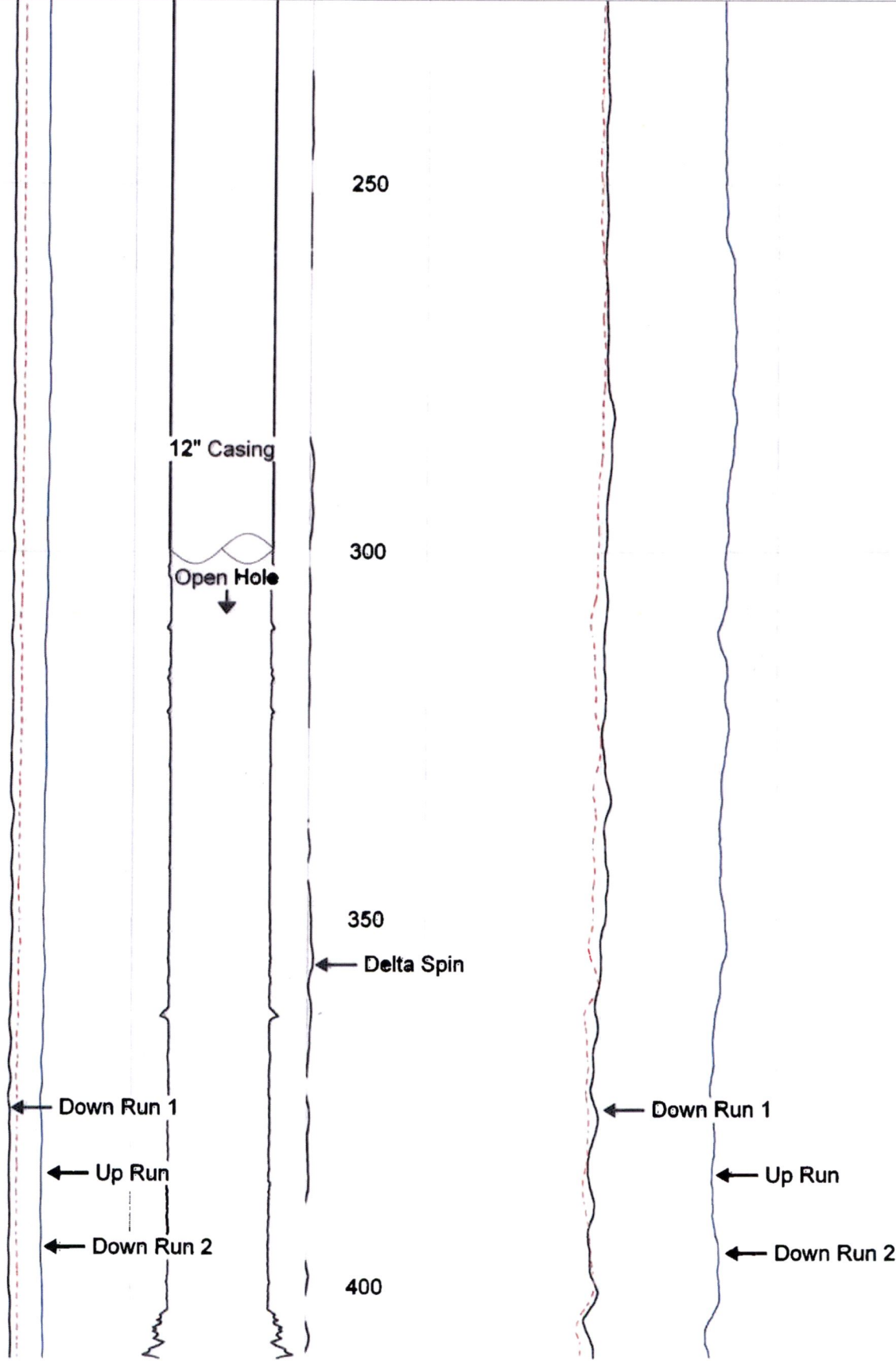
Comments

FULL BORE
 12" OPEN HOLE BELOW 300'

Database File 23530.db
 Dataset Pathname statD1
 Presentation Format spinnerg
 Dataset Creation Fri Jan 12 10:11:44 2018
 Created by North in Feet scaled 1:240

0	(ft/min) 100
LS	
0	(ft/min) 100
LS	
0	(ft/min) -100

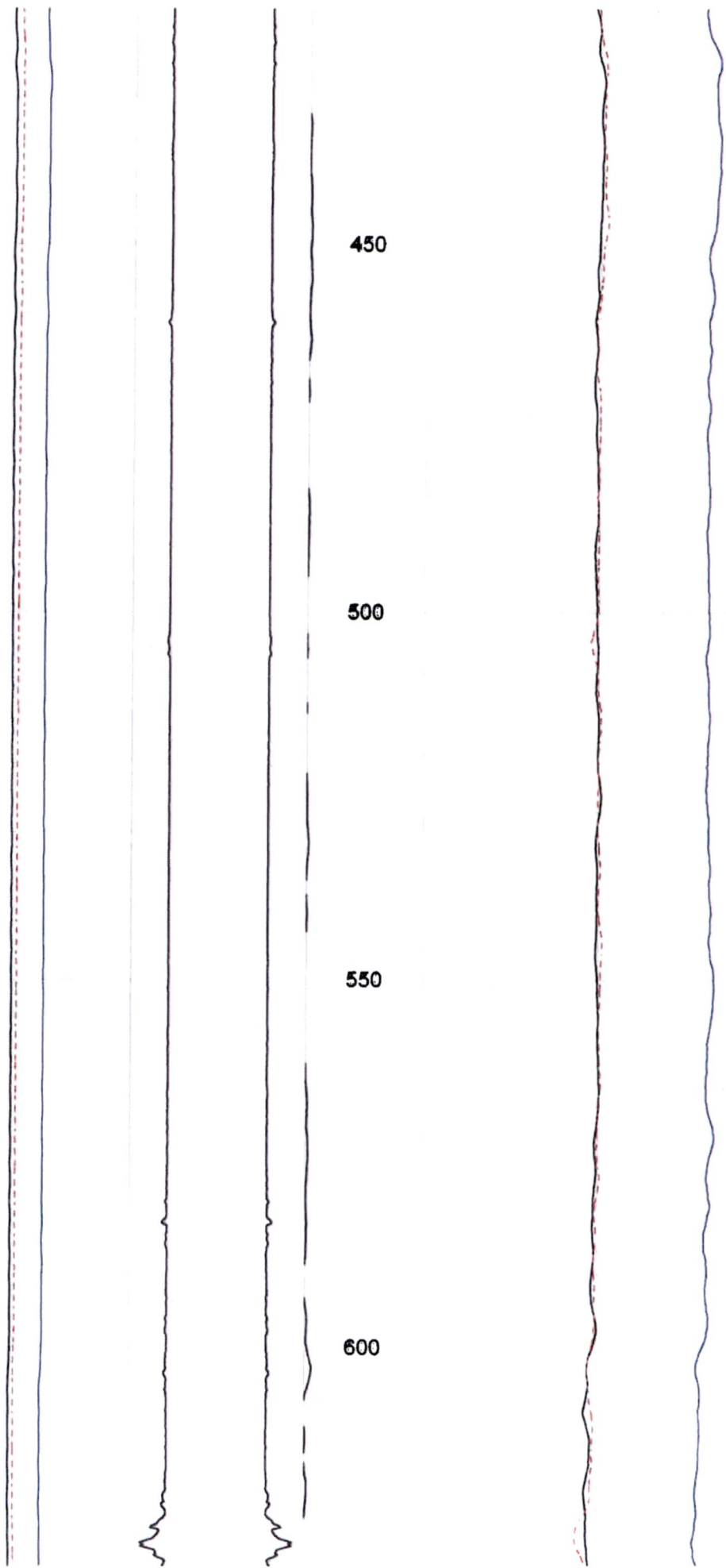
0	Spinner Down Run (cps)	40
1.5	Spinner Up Run (cps)	41.5



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450

500

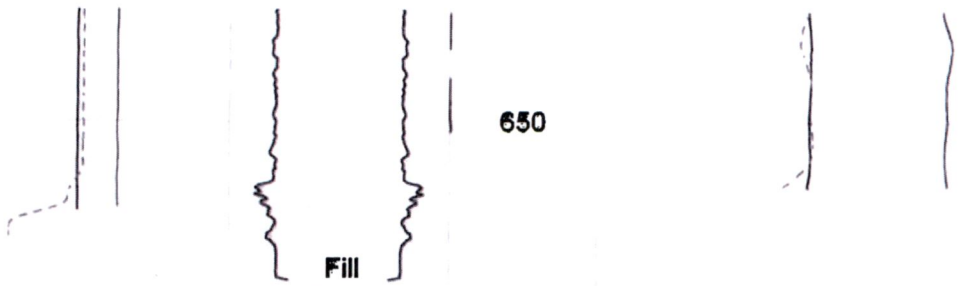
550

600

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LS 0 (ft/min) 100		Delta Spin 0	Spinner Down Run (cps)	40
LS 0 (ft/min) 100		0	Spinner Down Run (cps)	40
LS 0 (ft/min) -100		1.5	Spinner Up Run (cps)	41.5

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The original and first copy of this report are to be filed with the

WATER WELL REPORT

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

RECEIVED STATE OF OREGON
(Please type or print)

SEP - 6 1977 (Do not write above this line)

WASH 7651

State Well No. 2N/3W-31
State Permit No. _____

(1) OWNER: WATER RESOURCES DEPT.
Name City of Banks SALEM, OREGON
Address Banks, Oregon

(2) TYPE OF WORK (check):
New Well Deepening Reconditioning Abandon
If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL: (4) PROPOSED USE (check):
Rotary Driven Domestic Industrial Municipal
Cable Jetted Irrigation Test Well Other
Dug Bored

CASING INSTALLED: Threaded Welded
8-5/8" Diam. from plus 2 ft. to 210 ft. Gage 250
" Diam. from ft. to ft. Gage
" Diam. from ft. to ft. Gage

PERFORATIONS: Perforated? Yes No.
Type of perforator used _____
Size of perforations in. by in.
perforations from ft. to 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
Was a pump test made? Yes No If yes, by whom? AM Jannsen
Yield: 275 gal./min. with 224 ft. drawdown after 48 hrs.
150 " 146 " " "
" " " " " "
Baller test gal./min. with ft. drawdown after hrs.
Artesian flow g.p.m. APR 29 2024
Temperature of water 58° Depth artesian flow encountered ft.
OWRD

(9) CONSTRUCTION:
Well seal—Material used Cement grout & 2% gel
Well sealed from land surface to 210 ft.
Diameter of well bore to bottom of seal 12-1/4" in.
Diameter of well bore below seal 8" in.
Number of sacks of cement used in well seal 25 sacks
How was cement grout placed? Placed on o.d. of casing through grout pipe - 20 sacks run @ 210', 5 sacks run to top off at ground level upon completion
Was a drive shoe used? Yes No Plugs _____ Size: location _____ ft.
Did any strata contain unusable water? Yes No
Type of water? insufficient depth of strata 130' to 160'
Method of sealing strata off cased and cemented
Was well gravel packed? Yes No Size of gravel: _____
Gravel placed from _____ ft. to _____ ft.

(10) LOCATION OF WELL:
County Washington Driller's well number _____
1/4 1/4 Section 31 T. 2 N. R. 3 W. -W.M.
Bearing and distance from section or subdivision corner _____

(11) WATER LEVEL: Completed well.
Depth at which water was first found 130 ft.
Static level 34 ft. below land surface. Date 8/24/77
Artesian pressure _____ lbs. per square inch. Date _____

(12) WELL LOG: Diameter of well below casing 8"
Depth drilled 450 ft. Depth of completed well 450 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
Dark brown clay topsoil	0	8	
Silty brown clay	8	15	
Red-brown clay w/rotten rock fragments	15	50	
Sticky red clay-occ. rotten rock streaks	50	95	
Brown clay & rotten rock	95	110	
Dark brown & gray-brown clay --organic material	110	120	
Soft blue-gray cemented gravel	120	130	
Rotten brown basalt	130	160	20 gpm
Soft brown basalt-occ. weathered	160	195	
Black-brown basalt	195	215	
Hard gray-black basalt	215	230	
Broken brown basalt w/soapstone and lava interbeds	230	245	10 gpm
Fractured black basalt--occ. crevice	245	285	
Hard gray-black basalt, occ-			

Work started 8/16/77 19 Completed 8/24/77 19
Date well drilling machine moved off of well 8/24/77 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] [Signature] Date 8/29/77, 19____
(Drilling Machine Operator)
Drilling Machine Operator's License No. 523

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 A. M. Jannsen Drilling Co. (Type or print)
Address 21075 SW Tualatin Valley Hwy. Aloha, Oregon
[Signed] [Signature] (Water Well Contractor)
Contractor's License No. 79 Date 8/29/77, 19____

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.

RECEIVED
WATER WELL REPORT
STATE OF OREGON
 (Please type or print)
 SEP - 6 1977
 (Do not write above this line)

State Well No. 2N13W-31
 State Permit No. _____

(1) OWNER:

Name City of Banks **SALEM, OREGON** Page 2
 Address _____

(2) TYPE OF WORK (check):

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

(3) TYPE OF WELL:

Rotary Driven
 Cable Jetted
 Dug Bored

(4) PROPOSED USE (check):

Domestic Industrial Municipal
 Irrigation Test Well Other

(5) CASING INSTALLED:

Threaded Welded
 _____" Diam. from _____ ft. to _____ ft. Gage _____
 _____" Diam. from _____ ft. to _____ ft. Gage _____
 _____" Diam. from _____ ft. to _____ ft. Gage _____

PERFORATIONS:

Perforated? Yes No.

Type of perforator used _____

Size of perforations in. by in.
 _____ perforations from _____ ft. to _____ 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

Was a pump test made? Yes No If yes, by whom?
 _____ gal./min. with _____ ft. drawdown after _____ hrs.
 " " " " "
 " " " " "
 Baller test _____ gal./min. with _____ ft. drawdown after _____ hrs.
 Artesian flow _____ g.p.m.
 _____ erature of water _____ Depth artesian flow encountered _____ ft.

(9) CONSTRUCTION:

Well seal—Material used _____
 Well sealed from land surface to _____ ft.
 Diameter of well bore to bottom of seal _____ in.
 Diameter of well bore below seal _____ in.
 Number of sacks of cement used in well seal _____ sacks
 How was cement grout placed? _____

Was 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 _____ Driller's well number _____
 _____ 1/4 Section T. R. W.M.
 Bearing and distance from section or subdivision corner _____

(11) WATER LEVEL: Completed well.

Depth at which water was first found _____ ft.
 Static level _____ ft. below land surface. Date _____
 Artesian pressure _____ lbs. per square inch. Date _____

(12) WELL LOG:

Diameter of well below casing _____

Depth drilled _____ ft. Depth of completed well _____ 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
fracture	265	315	5 gpm
Brown basalt-occ. broken	315	325	10 gpm
Hard black & gray-black basalt-occ. crevice	325	360	
Black basalt--occ. broken w/ green soapstone	360	380	25 gpm
Broken black & brown basalt-w/ lava & soapstone interbed	380	400	200 gpm
Broken gray-brown basalt w/ lava streaks	400	415	100gpm
Hard gray-black basalt--occ. crevice	415	450	

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 OWRD

Work started _____ 19 _____ Completed _____ 19
 Date well drilling machine moved off of well _____ 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] _____ Date _____, 19_____
 (Drilling Machine Operator)

Drilling Machine Operator's License No. _____

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 _____ (Person, firm or corporation) _____ (Type or print)

Address _____

[Signed] _____ (Water Well Contractor)

Contractor's License No. _____ Date _____, 19____

Pacific Surveys, LLC

A full service geophysical well logging company

Ryan Dougherty
Summit Water Resources, LLC

December 14, 2022

RE: Static Spinner

On November 30th, 2022, we performed a static spinner survey on the Quail Valley Golf Course Well in Banks, OR. Only one down and up run were required for this survey, as both the down and up run overlaid one another throughout the entire cased and open-hole portions of the well, with no significant divergence. This corresponds with the Temperature Log performed on this well from November 2020, which, similarly, revealed no significant divergence from the expected geothermal gradient. Therefore, it appears that there is no vertical flow in the boring/well.

Best Regards,
Mike Schumacher
Pacific Surveys, LLC

Received

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PACIFIC SURVEYS

STATIC SPINNER
UP & DOWN RUNS
NON-PUMPING CONDITION

Job No. 30460
Company SUMMIT WATER RESOURCES, LLC
Well QVGC WELL
Field BANKS
County WASHINGTON State OR

Location: 12565 NW AERTS RD
GPS: 45.6167 -123.0958
Other Services: CALIPER

Permanent Datum	G.L.	Elevation above perm. datum	Elevation
Log Measured From	G.L.		K.B.
Drilling Measured From	N/A		D.B.
			G.L.
Date	11-30-2022		
Run Number	ONE		
Depth Driller	640'		
Depth Logger	641'		
Bottom Logged Interval	620'	Received	
Top Log Interval	0'		
Static Water Level	~25'	APR 29 2024	
Depth Of Pump Bowls	N/A		
Density / Viscosity	N/A		
Max. Recorded Temp.	N/A	OWRD	
Pump Rate (GPM)	N/A		
Time Well Ready	0900		
Time Logger on Bottom	0945		
Equipment Number	PS-8		
Location	SAC		
Recorded By	SCHUMACHER		
Witnessed By	R. DOUGHERTY		

Borehole Record				Tubing Record			
Run Number	Bit	From	To	Size	Weight	From	To
Casing Record		Size		Wgt/Ft		Top	Bottom
Surface String							
Prot. String							
Production String		10.25" ID		0.25" WALL		0'	315.1'
Liner							

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All interpretations are opinions based on inferences from electrical or other measurements and Pacific Surveys cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to Pacific Surveys' general terms and conditions set out in our current Price Schedule.

Comments

OPEN HOLE FROM 315.1 FT TO APPROX. 645 FT.

Database File 30460.db
 Dataset Pathname spn_d4
 Presentation Format spinnerg
 Dataset Creation Wed Nov 30 11:05:14 2022
 Created by Dent in Feet scaled 1:240

14449 -

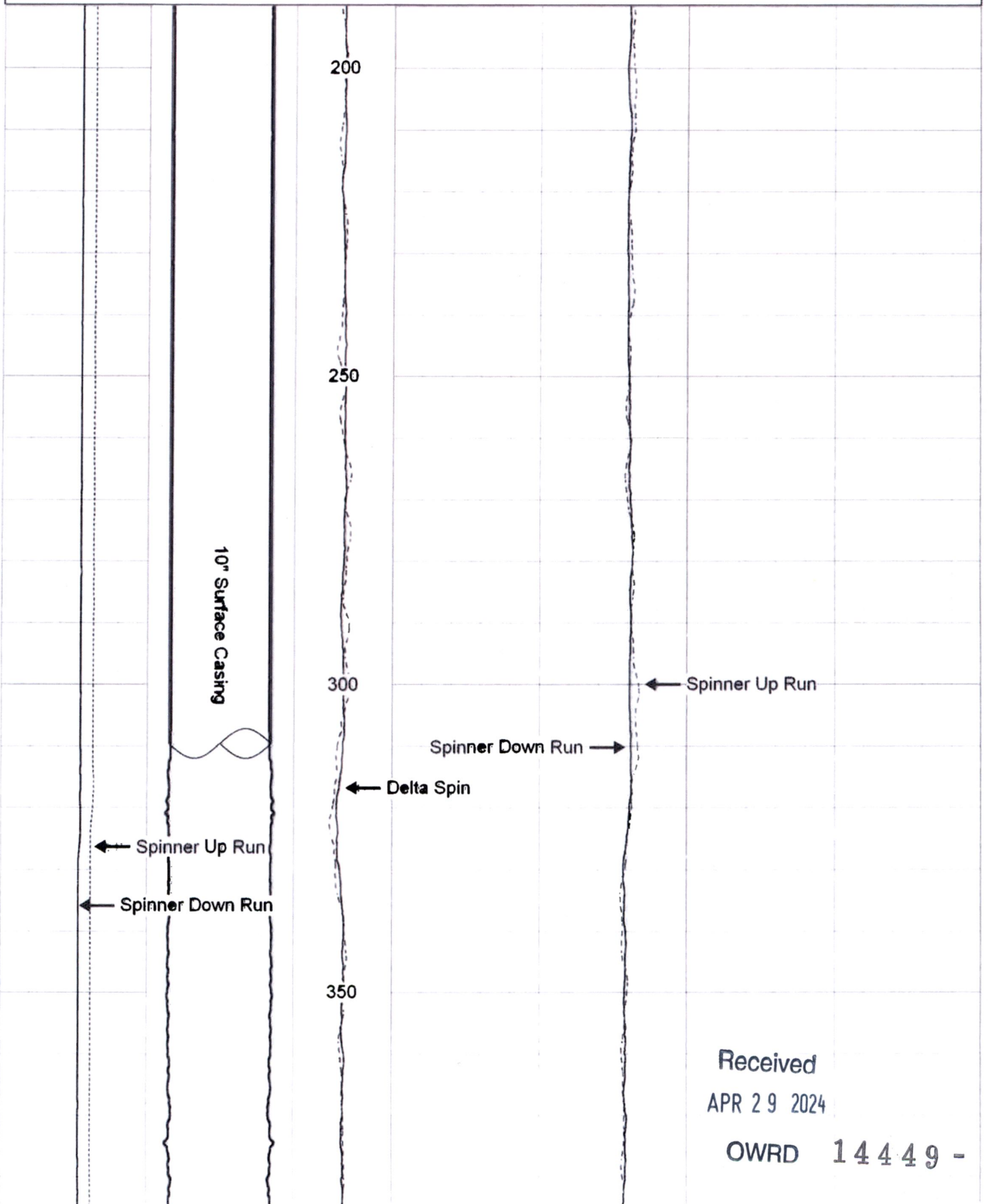
0 (ft/min) -100
LS
0 (ft/min) 100

Image

Delta Spin -1.2

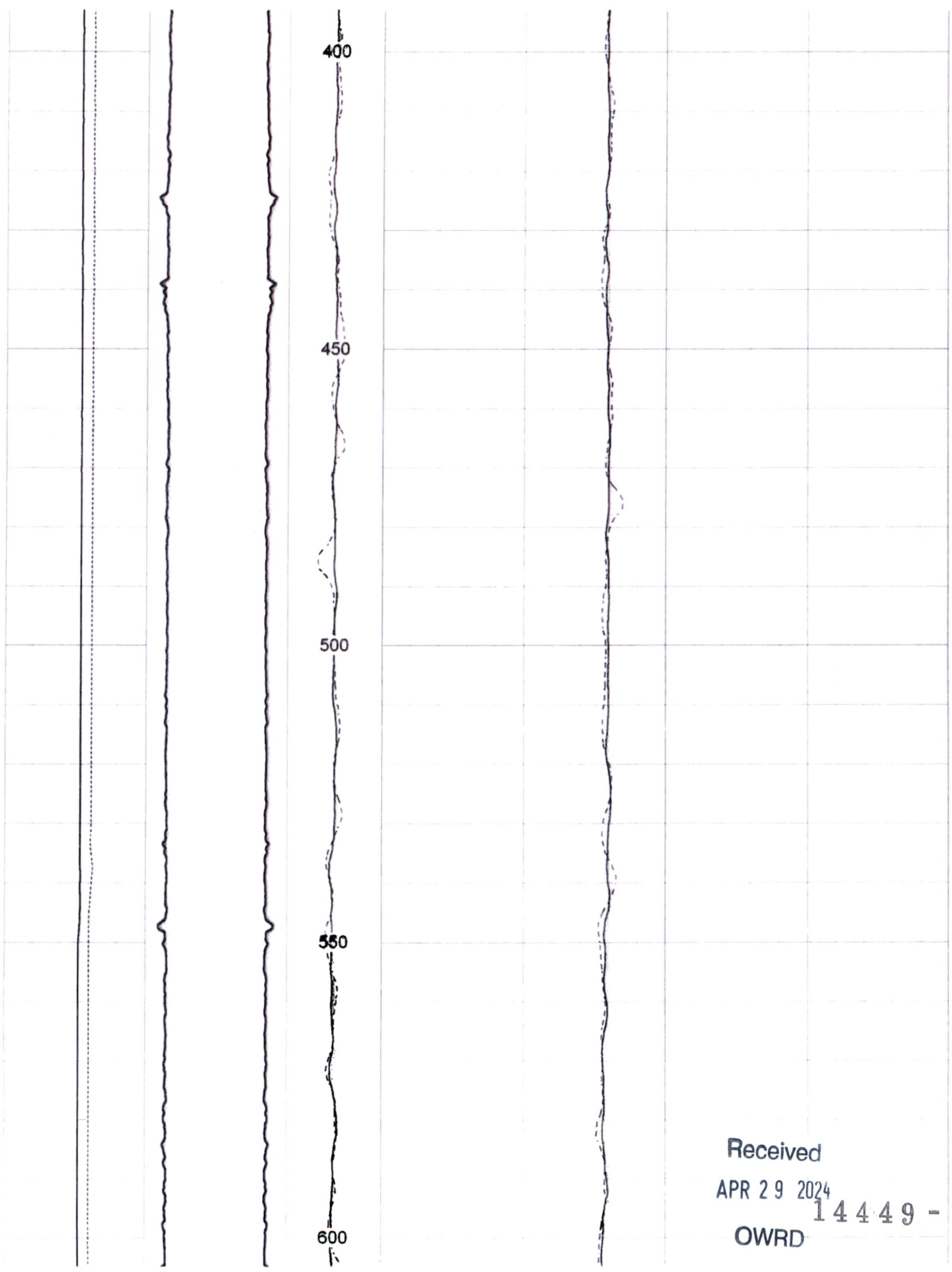
Spinner Up Run (cps)

48.8



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LS 0 (ft/min) -100	Borehole Caliper Image	Delta Spin 0	Spinner Down Run (cps)	50
		Delta Spin -1.2	Spinner Up Run (cps)	48.8
LS 0 (ft/min) 100				

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**EXHIBIT B
AREA BASALT WELLS**

Received
APR 29 2024

14449 - OWRD

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

RECEIVED WASH 62373

CITY WELL-2

WELL I.D. # L 75346

JUN 02 2005

START CARD # 173577

page 1

Instructions for completing this report are on the last page of this form
 WATER RESOURCES DEPT
 SALEM, OREGON

(1) LAND OWNER Well Number _____
 Name City of Banks
 Address 100 South Main Street
 City Banks State Or Zip 97106

(2) TYPE OF WORK New Well
 Deepening Alteration (repair/recondition) Abandonment Conversion

(3) DRILL METHOD
 Rotary Air Rotary Mud Cable Auger Cable Mud
 Other _____

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

(5) BORE HOLE CONSTRUCTION Special Construction: Yes No
 Depth of Completed Well 665 ft.
 Explosives used: Yes No Type _____ Amount _____

BORE HOLE			SEAL			Sacks or Pounds
Diameter	From	To	Material	From	To	
16	0	300	Cem/Bent	0	300	115 sks
12	300	665				

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:	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
	12	+2	300	.250	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Liner:					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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
						<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
 Pump Bailer Air Flowing Artesian

Yield gal/min	Drawdown	Drill stem at	Time
650+		660	1hr.
275-280		200	1hr.

Temperature of water 57°F Depth Artesian Flow Found _____
 Was a water analysis done? Yes By whom A.M.J.
 Did any strata contain water not suitable for intended use? Too little
 Salty Muddy Odor Colored Other _____
 Depth of strata: _____

(9) LOCATION OF WELL (legal description)
 County Washington
 Tax Lot 402 Lot _____
 Township 2N N or S Range 3W E or W WM
 Section 31 NE 1/4 NW 1/4

Lat _____ " or _____ (degrees or decimal)
 Long _____ " or _____ (degrees or decimal)
 Street Address of Well (or nearest address)
42000 NW Banks Rd. Banks, Or

(10) STATIC WATER LEVEL
48 ft. below land surface. Date 5-25-05
 _____ ft. below land surface. Date _____
 Artesian pressure _____ lb. per square inch Date _____

(11) WATER BEARING ZONES
 Depth at which water was first found 378

From	To	Estimated Flow Rate	SWL
378	468	350 gpm	48
615	660	300 gpm	48

(12) WELL LOG Ground Elevation _____

Material	From	To	SWL
Brn & red-brn cly sticky, firm.	0	69	
Red-brn basalt, very weathered.	69	102	
Green clay soft	102	121	
Gry-brn clay firm	121	155	
Red-brn basalt very weathered.	155	179	
Brn basalt, weathered	179	201	
Gry-brn basalt	201	206	
Gry/gry-blk basal thrd	206	231	
Gry-brn basalt w/ interbeds.	231	251	
Gry-gry blk basalt hrd	251	313	
Brn basalt interbed	313	325	

Date Started 3-22-05 Completed 5-25-05

(unbonded) Water Well Constructor Certification
 I certify that the work I performed on the construction, deepening, 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 573 Date 5-31-2005
 Signed _____

(bonded) Water Well Constructor Certification
 I accept responsibility for the construction, deepening, 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 Date May 31, 2005
 Signed _____

14449 -

WASH RECEIVED
50693

QV WELL

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

MAY 28 1996

(START CARD) # 86703

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

(1) OWNER: Well Number _____
Name QUAIL VALLEY GOLF COURSE
Address 12565 NW AERTS RD.
City BANKS State OR Zip 97106

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

HOLE			SEAL			
Diameter	From	To	Material	From	To	Sacks or pounds
14-3/4	0	312	Cement	0	90	35 SKS
			Cement	280	312	20 SKS
10	312	640				

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

Backfill placed from 90 ft. to 280 ft. Material Hivisc Gel & Bent. chips
Gravel placed from _____ ft. to _____ ft. Size of gravel _____

(6) CASING/LINER:

Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing: 10"	+1	312	250	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Liner:				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Final location of shoe(s) _____

(7) PERFORATIONS/SCREENS:

Perforations		Screens		Material		Casing	Liner
From	To	Slot size	Type	Number	Diameter		
						<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	Drawdown	Drill stem at	Time
300+		280	1 hr.
200		180	"
180		100	"

Temperature of water 56 F Depth Artesian Flow Found _____
Was a water analysis done? Yes By whom AMT
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 WASHINGTON Latitude _____ Longitude _____
Township 2N N or S Range 3W E or W. W.M.
Section 31 NW 1/4 SE 1/4
Tax Lo 00100 Lot _____ Block _____ Subdivision _____
Street Address of Well (or nearest address) 12565 NW AERTS RD
BANKS, OR

(10) STATIC WATER LEVEL:
18 ft. below land surface. Date 05/20/96
Artesian pressure _____ lb. per square inch. Date _____

(11) WATER BEARING ZONES:
Depth at which water was first found 340

From	To	Estimated Flow Rate	SWL
340	465	100 GPM	18
515	575	100 "	18
575	630	100+GPM	18

(12) WELL LOG:
Ground Elevation _____

Material	From	To	SWL
Topsoil	0	1	
Dark brown clay	1	4	
Sticky brown clay	4	16	
Sticky gray-brown clay	16	94	
Sticky red-brown clay	94	156	
Decomp. brown basalt, occ. clay interbeds	156	283	
Soft brown basalt	283	298	
Firm gray-brown basalt	298	310	
Hard gray basalt	310	340	
Gray-brown, gray-black basalt	340	465	18
occ. brown basalt streaks			"
(caving zone 420-435, grouted solid)			
Brown basalt & ash, cemented debris	465	515	
Gray-brown basalt, frac. occ. broken green mineral stain	515	575	18
Brown & gray-brown basalt, brown	575	630	18
Gray-black basalt, hard, frac.	630	640	

Date started 04/02/96 Completed 05/20/96

(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 & 573
Signed [Signature] Date 05/22/96

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

14449 -

Received
APR 29 2024

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

JUN 02 2005

WELL I.D. # L 75346

START CARD # 173577

WATER RESOURCES DEPT
SALEM, OREGON

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

(1) LAND OWNER Well Number _____
Name City of Banks Conti. Page 2
Address 100 South Main Street
City Banks State OR Zip 97106

(2) TYPE OF WORK New Well
 Deepening Alteration (repair/recondition) Abandonment Conversion

(3) DRILL METHOD
 Rotary Air Rotary Mud Cable Auger Cable Mud
 Other _____

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

(5) BORE HOLE CONSTRUCTION Special Construction: Yes No
Depth of Completed Well 665 ft.
Explosives used: Yes No Type _____ Amount _____

BORE HOLE			SEAL			Sacks or Pounds
Diameter	From	To	Material	From	To	

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 _____

Casing:	Diameter	From	To	Gauge	SEAL			
					Steel	Plastic	Welded	Threaded
					<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"/>
					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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
						<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
 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 (legal description)
County Washington
Tax Lot 402 Lot _____
Township 2N N or S Range 3W E or W WM
Section 31 NE 1/4 NW 1/4

Lat _____ " or _____ (degrees or decimal)
Long _____ " or _____ (degrees or decimal)

(10) STATIC WATER LEVEL
48 ft. below land surface. Date 05/25/2005
_____ 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
Blk basalt, frags, occ soapstone.	325	378	
Brn/gry-brn basalt frac broken occ red-brn basalt/lava streaks	378	420	48
Blk/gry blk basalt/lava	420	468	
Blk/gry blk basalt, hard occ frags.	468	615	
Blk basalt interbed, occ claystone occ lava streaks.	615	660	48
Blk/gry-blk basalt, frags.	660	665	

Date Started 3-22-2005 Completed 5-25-2005

(unbonded) Water Well Constructor Certification
I certify that the work I performed on the construction, deepening, 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 573 Date 5-31-2005
Signed _____

(bonded) Water Well Constructor Certification
I accept responsibility for the construction, deepening, 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 Date May 31, 2005
Signed _____

Received -
14449 - APR 29 2024
OWRD

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

WASH 7691

RECEIVED

SEP 29 1989 (START CARD) # 13022 pg. 1

2N/3W/36C

(1) OWNER: Well Number: WATER
 Name Pumpkin Ridge Development, Inc. SALE
 Address One Southwest Columbia, Suite 1010
 City Portland State OR Zip 97258

(8) LOCATION OF WELL by legal description:
 Township 2 N N or S, Range 3 W E or W, WM.
 Section 36 SE ¼ SW ¼
 Tax Lot _____ Lot _____ Block _____ Subdivision _____
 Street Address of Well (or nearest address) _____

(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:
 Special Construction approval Yes No Depth of Completed Well 583 ft.
 Yes No Type _____ Amount _____
 Explosives used Type _____ Amount _____

HOLE			SEAL			Amount sacks or pounds
Diameter	From	To	Material	From	To	
1 7/8	0	65	Cement	0	65	50 sacks
1 7/8	65	200	Drill gel	65	200	
1 7/8	200	224	Cement	200	224	25 sacks
1 4-3/4	224	232	Cement	224	232	" "

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: 12"	+2	232	.250	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Liner:				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Final location of shoe(s) _____

(7) PERFORATIONS/SCREENS:

From	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"/>

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

Yield gal/min	Drawdown	Drill stem at	Time
280	103		24 chr.
350	148		30 hr.
400	195		48 hr.

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: _____

(10) STATIC WATER LEVEL:
 40 ft. below land surface. Date 9/21/89
 Artesian pressure _____ lb. per square inch. Date _____

(11) WATER BEARING ZONES:

From	To	Estimated Flow Rate	BWL
245	253	20 gpm	40
335	350	10 gpm	"
380	403	70 gpm	"
413	417	15 gpm	"

(12) WELL LOG: Ground elevation _____

Material	From	To	SWL
Topsoil	0	1	
Firm brown clay	1	4	
Soft brown silty clay	4	23	
Sticky light gray-brown clay	23	47	
Sticky red-brown clay	47	79	
Sticky light gray clay	79	97	
Sticky red-brown clay	97	136	
Sticky red clay	136	151	
Decomposed brown basalt	151	156	
Firm decomp. gray-brown basalt	156	160	
Interbedded red, brown & gray clay	160	170	
Soft decomposed brown basalt	170	191	
Firm decomposed brown basalt	191	218	
Firm gray-brown basalt	218	220	
Hard gray basalt	220	253	
Firm gray-black basalt	253	261	
Soft black basalt	261	268	
Firm gray-black basalt	268	289	
Hard gray basalt	289	299	
Firm gray basalt	299	305	
Soft gray-black basalt	305	312	
Firm gray basalt	312	316	

Date started 8/10/89 Completed 9/25/89

(unbonded) Water Well Constructor Certification:
 I certify that the work I performed on the construction, alteration, abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to my best 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. Work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.
 WWC Number 1266
 Signed _____ Date 9/27/89

14449 -

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

RECEIVED Ridge Development
 SEP 29 1989 (START CARD) # 13022 pg 2
 LN/SW/3600

(1) OWNER: Name _____ Well Number: WATER RESOURCES DEPARTMENT
 Address _____
 City _____ State _____ Zip _____

LOCATION OF WELL by legal description:
 SALEM, OREGON
 Township _____ N or S, Range _____ E or W, WM.
 Section _____ 1/4 _____ 1/4
 Tax Lot _____ Lot _____ Block _____ Subdivision _____
 Street Address of Well (or nearest address) _____

(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:
 Special Construction approval Yes No Depth of Completed Well _____ ft.
 Explosives used Yes No Type _____ Amount _____

HOLE			SEAL			Amount sacks or pounds
Diameter	From	To	Material	From	To	
12"	232	552				
10"	552	583				

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	Material			
				Steel	Plastic	Welded	Threaded
Casing:				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Liner:				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Final location of shoe(s) _____

(7) PERFORATIONS/SCREENS:

Perforations Method _____
 Screens Type _____ Material _____

From	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"/>

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

(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
434	443	20 gpm	4
453	458	30 "	"
458	519	85 "	"
559	575	150 "	"

(12) WELL LOG: Ground elevation _____

Material	From	To	SWL
Hard gray basalt	316	335	
Soft reddish-black basalt w/ green claystone (335-337)	335	350	
Hard gray basalt	350	403	
Firm gray-black basalt	403	417	
Hard gray basalt	417	430	
Soft gray-black basalt	430	443	
Firm gray-black basalt	443	447	
Soft gray-black basalt	447	453	
Hard gray basalt	453	458	
Soft gray-black basalt w/claystone	458	504	
Soft gray-green Claystone	504	508	
Firm gray-black basalt	508	519	
Wood	519	523	
Soft gray-green claystone	523	528	
Gray basalt w/gray claystone interbeds	528	533	
Hard gray basalt	533	559	
Firm gray-black basalt, occ. broken streak	559	583	

Date started _____ Completed _____

(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 well construction standards. Materials used and information reported above are true to my best knowledge and belief.
 WWC Number _____
 Signed _____ Date _____

(bonded) Water Well Constructor Certification:
 I accept responsibility for the construction, alteration, or abandonment of work performed on this well during the construction dates reported above. My work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.
 WWC Number _____
 Signed _____ Date _____

GEOLOGIC LOG FOR SITE WASH 7691

NWIS Site ID: 453650123000301

OWRD Log ID: WASH 7691

Well location: 02N/03W-36CAA

Depth drilled, in feet below land surface: 583

Land surface altitude, in feet above Nation Geodetic Vertical Datum of 1929: 220

Logged by: T. L. Tolan and M. H. Beeson

Date drilled: 08/10/1989

Depth	Symbol	Lithologic Description	Elevation	Water Bearing Zones	Geochem Sample	Remarks
0		Wanapum Basalt, Frenchman Springs Member Basalt of Sand Hollow deeply weathered (laterite)	218			Top of CRBG at ground surface; very deeply weathered 0 to 218 ft. No samples from 0 to 235 ft. Unit contacts interpreted from drillers log.
100		Basalt of Ginkgo? deeply weathered (laterite)	121			
		Vantage Interbed claystone	58 48			160 ft: Vantage Interbed estimated to be approx. 10ft. thick.
200		Grande Ronde Basalt, Sentinel Bluffs Member flow 1 (-1) weathered flow top deeply weathered interior dense interior - columnar normal flow top dense interior - columnar, flow lobe	27 0 -32 -42	20gpm	245	Sentinel Bluffs Member flow 1 (-1): aphyric flow 2: sparsely plagioclase phyrlic with small phenocrysts
300		interbed - claystone	-83			305 ft: Interbed <2 ft. thick.
		Grande Ronde Basalt, Winter Water Member flow 1 normal flow top dense interior - columnar interbed - claystone	-97 -117 -137	10gpm	320	335 ft: Interbed <2 ft. thick. Winter Water Member flows 1 & 2: plagioclase phyrlic with small glomerocrysts
400		normal flow top dense interior - entablature dense interior - columnar	-167	70gpm	390	Note: Winter Water flows 2 and 3 may be flow lobes of a single flow.
		flow top dense interior	-167 -197 -202	16gpm	420	flow lobe: plagioclase phyrlic with small glomerocrysts flow 3: plagioclase phyrlic with small glomerocrysts
500		normal flow top dense interior - entablature pillow complex with massive claystone rip-ups	-212		480 500	
		interbed - siltstone with wood	-302			520 ft: Interbed approx. 10 ft. thick.
		Grande Ronde Basalt, Ortley Member normal flow top dense interior - entablature	-312 -322		565 575	Ortley Member: aphyric
600		TD 583 ft	-387			

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

JUN 10 1987 **RECEIVED** ^{WASH} 013531 24/3W-21dd

(1) OWNER:

Name Harry Lazott
 Address Rt 20 Box
 City Banks State Or Zip 97108

(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:

Special Construction approval Yes No Depth of Completed Well 500 ft.
 Explosives used Yes No Type _____ Amount _____

HOLE		SEAL		Amount	
Diameter	From To	Material	From To	sacks or pounds	
10"	0 100	Cement	0 100	28 sacks	
6"	100 500				

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:	Diameter	From	To	Gauge	Steel		Plastic		Welded		Threaded	
					✓							
	6	+1	180	1/4								
Liner:	4	10	500	1/4 RHD								

Final location of shoe(s) Drive shoe 180 ft

PERFORATIONS/SCREENS:

Perforations Method Drill
 Screens Type _____ Material _____

From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
400	490	1/2	160			<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
50		480	1 hr.
40		420	1/2
15		360	1/2

Temperature of water 55 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: _____

WHITE COPIES - WATER RESOURCES DEPARTMENT

YELLOW COPY - CONSTRUCTOR

PINK COPY - CUSTOMER

9809C 10/88

(9) LOCATION OF WELL by legal description:

County Wash Latitude _____ Longitude _____
 Township 2N Nor S, Range 3W E or W, WM.
 Section 21 SE SE

Tax Lot _____ Lot _____ Block _____ Subdivision _____

Street Address of Well (or nearest address) Hahn rd.

(10) STATIC WATER LEVEL:

257 ft. below land surface. Date 5-19-87

Artesian pressure _____ lb. per square inch. Date _____

(11) WATER BEARING ZONES:

Depth at which water was first found _____

From	To	Estimated Flow Rate	SWL
300	320	6	250
440	490	50	250

(12) WELL LOG:

Ground elevation _____

Material	From	To	SWL
Brn soil	0	2	
Red clay	2	40	
Tan clay	40	90	
Brn clay	90	140	
Brn clay - Broken rock	140	300	
Black Gravel - W.B.	300	320	250
Brn clay - Layers rock	320	440	
Black Gravel W.B.	440	490	250
Brn clay	490	500	250

Received

APR 29 2024

OWRD

Date started 5-18-87 Completed 5-19-87

(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 well construction standards. Materials used and information reported above are true to my best 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 well construction standards. This report is true to the best of my knowledge and belief.

WWC Number 711

Signed Joseph Trussell Date 5-21-87

14449 -

WASH
54161

RECEIVED

NOV 27 1998

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

WELL I.D. # L 27709
START CARD # 118198

Instructions for completing this report are on the last page of this form.
WATER RESOURCES DEPT.
SALEM, OREGON

(1) OWNER: Well Number _____

Name BILL & RHONDA OWEN
Address 4850 NW KAHNEETA CRT.
City PORTLAND State OR Zip 97229

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

HOLE		SEAL		Sacks or pounds	
Diameter	From To	Material	From To		
6	210 465	SEAL NOT	DISTURBED		

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:				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Liner:	4 1/2	0	455	200#	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Final location of shoe(s) 4 1/2 x 6 K-Packer @ 355 (SEE NOTE)

(7) PERFORATIONS/SCREENS:

Perforations Method SAW CUT
 Screens Type _____ Material PVC 200

From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
435	455	1/8x12	80			<input type="checkbox"/>	<input checked="" type="checkbox"/>

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

Yield gal/min	Drawdown	Drill stem at	Time
100+		350 to T.D.	1 hr.
60		180	"
18-20		100	"

Temperature of water 53°F Depth Artesian Flow Found _____
Was a water analysis done? Yes By whom AMT
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 WASHINGTON Latitude _____ Longitude _____
Township 2N N or S Range 3W E or W. WM.
Section 36 NW 1/4 NW 1/4
Tax Lot 103 Lot _____ Block _____ Subdivision _____
Street Address of Well (or nearest address) 13990 NW OLD PUMPKIN RIDGE RD., CORNELIUS, OR

(10) STATIC WATER LEVEL:

62 ft. below land surface. Date 11/18/98
Artesian pressure _____ lb. per square inch. Date _____

(11) WATER BEARING ZONES:

Depth at which water was first found ?/210

From	To	Estimated Flow Rate	SWL
---	210	6 GPM	62
210	435	4 GPM	"
435	465	90+GPM	62

(12) WELL LOG:

Ground Elevation _____

Material	From	To	SWL
Existing 6" steel cased well open hole	0	210	62
Red minerals sludge & rock fragments	200	210	
Gray-black basalt, occ. blk lava	210	257	
Multi-colored claystone, ash, sconia coleamic debris	257	270	
Black basalt & lava, occ. broken, creviced	270	390	
Gray-black basalt, occ. lava streaks	390	438	
Black lava, very broken, occ. gray-black basalt	438	455	
Black & red basalt & lava	455	465	62

Date started 11/12/98 Completed 11/18/98

(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 573
Signed _____ Date 11/20/98

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

WASH.
55819

APR - 5 2000

WATER RESOURCES DEPT.
SALEM, OREGON

WELL I.D.# L. 38991
START CARD # 129593

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

(1) OWNER: Well Number _____

Name CROPP FARMS
Address 31345 NW NORTH AVE.
City NORTH PLATINS State OR Zip 97133

(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 420 ft.

Explosives used Yes No Type _____ Amount _____

HOLE			SEAL			
Diameter	From	To	Material	From	To	Sacks or pounds
10	0	281	Cement	0	45	17 sks
			Drill gel	45	250	
8	281	363	Cement	250	363	28 sks
6	363	420				

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"	+1	363	250	<input checked="" 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"/>
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"/>

Final location of shoe(s) _____

(7) PERFORATIONS/SCREENS:

Perforations		Method		Material		Casing	Liner
From	To	Type	Number	Slot size	Tele./pipe size		
						<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

<input type="checkbox"/> Pump	<input type="checkbox"/> Bailer	<input checked="" type="checkbox"/> Air	<input type="checkbox"/> Flowing Artesian
Yield gal/min	Drawdown	Drill stem at	Time
45		400	1 hr.
36		250	"
21		150	"

Temperature of water 56°F Depth Artesian Flow Found _____

Was a water analysis done? Yes By whom AMT

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

Salty Muddy Odor Colored Other

Depth of strata: 231-278' (SEALED OFF)

(9) LOCATION OF WELL by legal description:

County WASHINGTON Latitude _____ Longitude _____
Township 2N N or S Range 3W E or W. WM.
Section 35 SE 1/4 NW 1/4
Tax Lot 500 Lot _____ Block _____ Subdivision _____
Street Address of Well (or nearest address) 34051 NW MTN DALE RD

(10) STATIC WATER LEVEL:

38 ft. below land surface. Date 03/30/2000
Artesian pressure _____ lb. per square inch. Date _____

(11) WATER BEARING ZONES:

Depth at which water was first found 383

From	To	Estimated Flow Rate	SWL
383	388	21 GPM	38
391	405	24 GPM	38

(12) WELL LOG:

Ground Elevation _____

Material	From	To	SWL
Topsoil	0	1	
Brown clay	1	17	
Gray clay	17	24	
Sticky brown clay	24	102	
Sticky gray clay	102	130	
Fine to coarse black sand	130	141	
Sticky gray clay	141	178	
Fine gray sand w/wood	178	190	
Soft dark gray clay	190	231	
Fine to med. black gravel	231	243	wb
Fine to med. brown gravel	243	247	wb
Fine to med. black gravel	247	278	wb
Sticky gray clay	278	318	
Firm gray-brown basalt	318	329	
Soft brown basalt	329	350	
Firm gray-brown basalt	350	391	38
Soft dk. gray-brown basalt	391	405	38
Firm gray-brown basalt	405	412	
Hard gray basalt	412	420	

Date started 03/06/2000 Completed 03/30/2000

(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 03/31/2000

14449 -

STATE OF OREGON
WATER SUPPLY WELL REPORT

WASH 71480

WELL LABEL # L 107489
START CARD # 207761
ORIGINAL LOG #

(ORS 537.765 & OAR 690-205-0210)

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

(1) LANDOWNER Owner Well I.D.
First Name Brady + Darci Last Name Wilson
Company _____
Address 1815 NW 143rd Ave B 28
City Portland State OR Zip 97229

(2) TYPE OF WORK New Conversion Deepening
 Alteration (complete Sections 2a & 10) Abandonment (complete Section 5a)

(2a) PRE-ALTERATION: Well Depth _____ ft.
Seal Material _____
Casing Type: Steel Plastic Other _____
Casing Gauge _____ Casing Diameter _____

(3) DRILL METHOD Rotary Air Rotary Mud Auger
 Cable Cable Mud Reverse Rotary Other _____

(4) PROPOSED USE Domestic Irrigation Community
 Industrial/Commercial Livestock Dewatering Injection
 Thermal Other _____

(5) BORE HOLE CONSTRUCTION
Depth of Completed Well 486 ft. Special Standard: Yes (attach copy)

BORE HOLE			SEAL			
Dia	From	To	Material	From	To	Amount (sacks/lbs)
10"	0	35	bentonite	0	35	30
6"	35	98				
8"	98	133	cement	98	133	9
6"	133	486				

How was seal placed: Method A B C D E
 Other bentonite poured in dry
Backfill placed from _____ ft. to _____ ft. Material _____
Filter pack from _____ ft. to _____ ft. Material _____ Size _____

(5a) ABANDONMENT USING UNHYDRATED BENTONITE:
Calculated Amount Proposed to be Used: _____ sacks/lbs
Actual Amount Used: _____ sacks/lbs

(6) CASING/LINER

Casing	Liner	Dia	+	From	To	Gauge	Steel	Plastic	Welded	Thrd
X		6"	+	1 1/2	133 1/2	250	X		X	
	X	4 1/2		6	486			X		

Shoe Inside Outside Other Location of shoe(s) 133 1/2
Temporary casing Yes Diameter _____ From _____ To _____

(7) PERFORATIONS/SCREENS
Perforations Method drilled
Screens Type _____ Material _____

Perf	Scrn	Casing	Liner	Screen Dia	From	To	Screen/slot width	Slot length	# of slots	Tele/pipe size
X			X		446	486	3/8"		120	4 1/2

(8) WELL TESTS: Minimum testing time is 1 hour
 Pump Bailor Air Flowing Artesian

Yield gal/min	Drawdown	Drill stem/Pump depth	Duration (hr)
60	200		1 1/2 hrs

Temperature 55 °F Lab analysis Yes By _____
Water quality concerns? Yes (describe below) TDS _____ ppm

From	To	Description	Amount	Units

(9) LOCATION OF WELL (legal description)
County Washington Twp 2N N or S Range 3W E or W W.M.
Sec 29 NE 1/4 of the NW 1/4 Tax Lot 140D
Tax Map Number _____ Lot _____
Lat _____ " or _____ DMS or DD
Long _____ " or _____ DMS or DD

Street Address of Well (or nearest address) 15600 NW Roads En. Banks Oregon 97106

(10) STATIC WATER LEVEL

Existing Well/Pre-Alteration	Date	SWL (psi)	+	SWL (ft)
Completed Well	<u>1-29-13</u>			<u>232</u>

Flowing Artesian? Yes Dry Hole? Yes
WATER BEARING ZONES Depth water was first found 350

SWL Date	From	To	Est Flow	SWL (psi)	+	SWL (ft)
1-29-13	350	365	10			232
1-29-13	415	430	15			232
1-29-13	472	486	35			232

(11) WELL LOG Ground Elevation

Material	From	To
brown soil	0	2
brown clay	2	5
red brown sandstone	5	12
red clay	12	48
brown clay	48	67
red clay	67	87
brown sandstone	87	98
grey rock	98	387
grey rock w/clay + wood	387	471
grey rock	471	460
grey rock w/clay + wood	460	471
grey rock	471	486

Date Started 11-19-12 Completed 1-29-13

(unbonded) Water Well Constructor Certification
I certify that the work I performed on the construction, deepening, 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.

License Number _____ Date MAR 06 2013
Signed _____ RECEIVED BY OWRD

(bonded) Water Well Constructor Certification
I accept responsibility for the construction, deepening, 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.

License Number 1430 Date 2-16-13
Signed Jeff Haboush Received

Contact Info. (optional) _____ APR 29 2024

OWRD

WASH 72830

STATE OF OREGON
WATER SUPPLY WELL REPORT
 (as required by ORS 537.765 & OAR 690-205-0210)

WELL LABEL # L 113897
START CARD # 210675

(1) LAND OWNER Owner Well I.D. _____
 First Name MATTHEW Last Name HUNT
 Company _____
 Address 32790 NW PEACEFUL LANE
 City NORTH PLAINS State OR Zip 97133

(2) TYPE OF WORK New Well Deepening Conversion
 Alteration (repair/recondition) Abandonment

(3) DRILL METHOD
 Rotary Air Rotary Mud Cable Auger Cable Mud
 Reverse Rotary Other _____

(4) PROPOSED USE Domestic Irrigation Community
 Industrial/ Commercial Livestock Dewatering
 Thermal Injection Other _____

(5) BORE HOLE CONSTRUCTION Special Standard Attach copy
 Depth of Completed Well 515 ft.

BORE HOLE			SEAL			Amt	sacks/ lbs
Dia	From	To	Material	From	To		
10	0	30	Bentonite	0	25	16	S
6	30	350					
8	350	428	Cement	350	428	20	S
5.5	428	515					

How was seal placed: Method A B C D E
 Other POUR SLOWLY & PROD
 Backfill placed from _____ ft. to _____ ft. Material _____
 Filter pack from _____ ft. to _____ ft. Material _____ Size _____
 Explosives used: Yes Type _____ Amount _____

(6) CASING/LINER

Casing	Liner	Dia	+	From	To	Gauge	Stl	Plstc	Wld	Thrd
<input checked="" type="checkbox"/>	<input type="checkbox"/>	6	<input checked="" type="checkbox"/>	2	428	250	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Shoe Inside Outside Other Location of shoe(s) _____
 Temp casing Yes Dia _____ From _____ To _____

(7) PERFORATIONS/SCREENS

Perforations Method _____
 Screens Type _____ Material _____

Perf/S creen	Casing/ Liner	Screen Dia	From	To	Screen/slot width	Slot length	# of slots	Tele/ pipe size

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

Pump Bailer Air Flowing Artesian

Yield gal/min	Drawdown	Drill stem/Pump depth	Duration (hr)
80		515	1
80		425	25
50		325	25

Temperature 54 °F Lab analysis Yes By _____
 Water quality concerns? Yes (describe below)
 From _____ To _____

(9) LOCATION OF WELL (legal description)
 County WASHING Twp 2 N N/S Range 3 W E/W WM
 Sec 35 SW 1/4 of the NE 1/4 Tax Lot 207
 Tax Map Number _____ Lot _____
 Lat _____ " or _____ DMS or DD
 Long _____ " or _____ DMS or DD
 Street address of well Nearest address
32790 NW PEACEFUL LANE

(10) STATIC WATER LEVEL

Existing Well / Predeepening	Date	SWL (psi)	+ SWL (ft)
Completed Well	07-08-2014		59

Flowing Artesian? Dry Hole?

WATER BEARING ZONES Depth water was first found 434

SWL Date	From	To	Est Flow	SWL (psi)	+ SWL (ft)
07-07-2014	434	505	24		59
07-08-2014	505	515	56		59

(11) WELL LOG Ground Elevation _____

Material	From	To
BROWN CLAY	0	19
GRAY CLAY	19	29
STICKY BROWN CLAY	29	43
SOFT BROWN SILTY CLAY	43	59
STICKY BROWN CLAY WITH GRAY STREAKS	59	135
STICKY GRAY CLAY WITH SOFT GRAY	135	
BROWN SEAMS		194
SOFT BROWN SANDY CLAY	194	198
STICKY GRAY CLAY WITH OCC. BROWN STREAKS	198	295
RED BROWN CLAY	295	314
BROWN, GRAY BROWN CLAY WITH BROKEN ROCK	314	363
GRAY & BROWN CLY W/ ROTTEN WOOD STRK	363	405
GRAY BROWN CLAY	405	419
GRAY SANDSTONE WITH CLAY	419	433
GRAY CLAY	433	434
GRAY, GRAY BROWN BASALT	434	478
GRAY BASALT	478	515

Date Started 06-23-2014 Completed 07-08-2014

(unbonded) Water Well Constructor Certification
 I certify that the work I performed on the construction, deepening, 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.
 License Number 1492 Date 07-09-2014
 Password: (if filing electronically) _____
 Signed Meen Bagby

(bonded) Water Well Constructor Certification
 I accept responsibility for the construction, deepening, 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.
 License Number 1266 Date 07-09-2014
 Password: (if filing electronically) _____
 Signed _____
 Contact Info (optional) _____

RECEIVED BY OWRD
 JUL 17 2014

Received
 APR 29 2024

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

WASH
141

SEP 24 1990

WATER RESOURCES DEPT.
SALEM, OREGON

2N/3W/29 6A

(START CARD) # 20118

(1) OWNER:
Name James & Chantal Farando
Address 808 S.W. 175th Pl.
City Beverton State OR Zip 97006

(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:
Special Construction approval Yes No
Explosives used Yes No Type _____ Amount _____
Depth of Completed Well 455 ft.

HOLE			SEAL			Amount sacks or pounds
Diameter	From	To	Material	From	To	
10	0	179	Cement Bentonite	0	179	38
6	179	455				

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	1	179	250	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Liner:	4	5	455		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Final location of shoe(s) None

(7) PERFORATIONS/SCREENS:

Perforations Method DRILL
 Screens Type _____ Material _____

From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
435	455		40	578		<input type="checkbox"/>	<input checked="" type="checkbox"/>

Received
APR 29 2024

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

Pump Bailor Air Flowing Artesian

Yield gal/min	Drawdown	Drill stem at	Time
5		440	1 hr.

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 Wash Latitude _____ Longitude _____
Township 2N N or S. Range 3W E or W. WM. _____
Section 29 NE 1/4 NW 1/4
Tax Lot 510 Lot _____ Block _____ Subdivision _____
Street Address of Well (or nearest address) Mallen Road Banks, OR

(10) STATIC WATER LEVEL:
305 ft. below land surface. Date 9-19-90
Artesian pressure _____ lb. per square inch. Date _____

(11) WATER BEARING ZONES:

Depth at which water was first found 374

From	To	Estimated Flow Rate	SW
374	383	3	30
393	397	2	30

(12) WELL LOG: _____ Ground elevation _____

Material	From	To	SW
Red Clay	0	26	
Ben Clay	26	150	
Weathered Rock	150	165	
Med Gray Rock	165	205	
Sandy Gray Rock	205	240	
Ben Rock	240	289	
Gray Rock	289	295	
Ben Rock	295	334	
DARK GRAY ROCK	334	346	
Gray Rock	346	374	
Black Pop Rock	374	383	30
Gray Rock	383	393	
Black Rock	393	397	30
BEN CLAY	397	402	
Blue Clay	402	406	
BEN GRAY CLAY	406	418	
DARK GRAY SANDSTONE	418	446	
DARK GRAY CLAY	446	455	

Date started 9-17-90 Completed 9-19-90

(unbonded) Water Well Constructor Certification:
I certify that the work I performed on the construction, alteration, abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to my best knowledge and belief.
Signed _____ WWC Number _____ 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. Work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.
Signed Don Fraker WWC Number 715 Date 9-20-90

14449 -

(START CARD) #

(1) OWNER: Name Oregon Canadian Forest Prod, Inc.
Address P.O. Box 279
City North Plains State OR Zip 97133

(9) LOCATION OF WELL by legal description:
County Wash Latitude Longitude
Township IN N or S, Range 3W E or W, WM.
Section 1 1/4 SW 1/4
Tax Lot Lot Block Subdivision
Street Address of Well (or nearest address) 740B West Commercial, North Plains

(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

(10) STATIC WATER LEVEL:
95 ft. below land surface. Date 3-27-90
Artesian pressure lb. per square inch. Date

(5) BORE HOLE CONSTRUCTION:
Special Construction approval Yes No Depth of Completed Well 380 ft.
Explosives used Type Amount

(11) WATER BEARING ZONES:
Depth at which water was first found 367

HOLE		SEAL		Amount sacks or pounds
Diameter	From To	Material	From To	
10	0 359	Cement + 52 Bent	0 359	140
8	359 380			

From	To	Estimated Flow Rate	SWI
367	380	180	95

How was seal placed: Method A B C D E
Backfill placed from ft. to ft. Material
Gravel placed from ft. to ft. Size of gravel

(12) WELL LOG: Ground elevation

(6) CASING/LINER:
Diameter From To Gauge Steel Plastic Welded Threaded
Casing: 8 +1 359 350
Liner: none

Material	From	To	SWI
FILL	0	4	
BRN CLAY	4	23	
BLUE CLAY	23	60	
TAN CLAY	60	84	
GRAY CLAY	84	109	
LT BRN CLAY	109	135	
GRAY CLAY	135	324	
Weathered Rock	324	329	
BRN Spongy Rock	329	344	
Med Grey Rock	344	367	
BRN Porous Rock	367	380	95

(7) PERFORATIONS/SCREENS: none

From	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"/>

Received
APR 29 2024
OWRD

(8) WELL TESTS: Minimum testing time is 1 hour
 Pump Bailor Air Flowing Artesian
Yield gal/min Drawdown Drill stem at Time
180 90 350 180 1 hr. 1/2 hr.

Date started 3-12-90 Completed 3-27-90
(unbonded) Water Well Constructor Certification:
I certify that the work I performed on the construction, alteration, abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to my best knowledge and belief.
Signed _____ WWC Number _____ Date _____

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: _____

(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. Work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.
Signed Don Feakin WWC Number 715 Date 3-30-90

#18

STATE OF OREGON

WATER WELL REPORT
(as required by ORS 537.785)

Wash
199

(START CARD) #

1N/3W/1 CC
18727

(1) OWNER: Well Number:
Name Forest Products Oregon Canadian Inc
Address
City North Plains State Ore Zip 97133

(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:
Special Construction approval Yes No Depth of Completed Well 500 ft.
Explosives used Type Amount

HOLE		SEAL		Amount sacks or pounds
Diameter	From To	Material	From To	
8	380 500			

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: Existing well
Liner:

Final location of shoe(s)

(7) PERFORATIONS/SCREENS:
 Perforations Method
 Screens Type Material

From	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
 Pump Bailer Air Flowing Artesian

Yield gal/min	Drawdown	Drill stem at	Time
500+	Full	500	1 hr.
250	Full	200	
120	Full	150	

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 Wash Latitude Longitude
Township 1N N or S, Range 3W E or W, WM.
Section 1 SW 1/4 SW 1/4
Tax Lot Lot Block Subdivision
Street Address of Well (or nearest address) 7402 West Commercial - North Plains Ore

(10) STATIC WATER LEVEL:
9.5 ft. below land surface. Date June 13
Artesian pressure lb. per square inch. Date

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

From	To	Estimated Flow Rate	SWL
Existing well		150 ±	95
413	434	150 ±	95
475	500	150 ±	95

(12) WELL LOG: Ground elevation 200 ±

Material	From	To	SWL
Existing well 380 Dep			
Broken Brown Basalt	380	413	
Dark grey Basalt broken	413	434	
Blue Basalt with holes	434	475	
Brown Basalt Broken w/holes	475	500	

RECEIVED
DEC 17 1990
Received WATER RESOURCES DEPT. LEM, OREGON
APR 29 2024
OWRD

Date started June 12 Completed 13 June

(unbonded) Water Well Constructor Certification:
I certify that the work I performed on the construction, alteration, abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to my best knowledge and belief.
Signed _____ WWC Number _____ 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. Work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.
Signed Dale S. Alen Date June 19 96 WWC Number 128