Approved:

MEMO

To: Kristopher Byrd, Well Construction and Compliance Section Manager

From: Travis Kelly, Well Construction Program Coordinator

Subject: Review of Water Right Application LL-1811

Date: July 17, 2020

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

Applicant's Well #1 (UNIO 51835(Original Well Report)/UNIO 51770(Alteration Well Report)): Based on a review of the Well Reports, Applicant's Well #1 seems to protect the groundwater resource.

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

"DEPARTMENT GENERATED" OFF OF ROUGH WELL LOG

STATE OF OREGON
WATER SUPPLY WELL REPORT ~~UNIO 51835~~ By ROBERT MAYNARD 12-7-06
(as required by ORS 537.765)

WELL I.D. # L 82655

START CARD # 159560

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

(1) LAND OWNER
Well Number _____
Name PAUL RUUD
Address 64053 GEKELER LANE
City LAGRANDE State OR Zip 97850

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

(3) DRILL METHOD
☐ Rotary Air ☐ Rotary Mud ☐ Cable ☐ Auger ☐ Cable Mud
☒ Other REVERSE ROTARY

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

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

BORE HOLE Diameter	From	To	SEAL Material	From	To	Sacks or Pounds
36	0	110	BENT.	0	10	UNKNOWN
			CEMENT	10	110	37,715 LBS
24	110	1100				

How was seal placed: Method ☐ A ☐ B ☒ C ☐ D ☐ E
☐ Other POUR DRY
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:	24	+1	110		☒	☐	☒	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
Liner:					☐	☐	☐	☐
					☐	☐	☐	☐

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

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

From	To	Slot Size	Number	Diameter	Tele/pipe size	Casing	Liner
N/A						☐	☐
						☐	☐
						☐	☐
						☐	☐
						☐	☐

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

Yield gal/min	Drawdown	Drill stem at	Time
N/A			

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? ☐ Salty ☐ Muddy ☐ Odor ☐ Colored ☐ Other _____
Depth of strata: _____

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(9) LOCATION OF WELL (legal description)
County UNION
Tax Lot _____ Lot _____
Township 2 S N or S Range 39 E E or W WM
Section 30 SW 1/4 NW 1/4
Lat ___ ° ___ ' ___ " or _____ (degrees or decimal)
Long ___ ° ___ ' ___ " or _____ (degrees or decimal)
Street Address of Well (or nearest address) BOOTH LANE

(10) STATIC WATER LEVEL
15 ft. below land surface. Date _____
_____ 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
15	1100		15

(12) WELL LOG Ground Elevation _____

Material	From	To	SWL
SOIL	0	5	
SAND + FINE GRAVEL	5	100	15
GRAY CLAY	100	217	
COURSE SAND + GRAVEL	217	230	
ALL CLAYS WITH	230	—	
SAND AND SAND	—	—	
STREAKS	—	1100	15
DRILLER DECEASE ON 10-17-05			
WELL TEMPORARY ABAN AND			
RIG MOVED OFF OF WELL			
RIVERSIDE will complete well			
UNDER START CARD [redacted]		172224	

Date Started 8-25-05 Completed 10-17-05

(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 _____ Date _____

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 1399 Date _____

Signed WALD LOWE

ORIGINAL – WATER RESOURCES DEPARTMENT FIRST COPY – CONSTRUCTOR SECOND COPY – CUSTOMER 06/16/2004

UNIO 51835

300 ft sand

0		
5	Topsoil	
25	sand.	
95-100	fine gravel - sand.	
100-114	Brown clay	
114-125	gray clay	ash?
126-127	gray clay	ash?
128-137	" "	ash?
138-139	" "	ash?
140-148	" "	ash?
148½-150	" "	ash?
150-170	" " with fine sand	ash?
171-195	" "	ash?
195-217	clay with fine sand silt	
218-230	course sand with clean gravel	12
231-243	clay	
244-260	clay with fine sand	16
261-269	clay	
270-272	Sand.	3
273-290	clay / sand	17 ?
291-305	clay. Blue.	
306-313	clay Blue / Sand.	
313-325	Blue Clay stickey.	
325-332	Blue Clay - Sand.	8 ? ?
333-345	Blue Clay - ~~Blue~~ sand.	12
345-350	" Clay with Sand	5
350-365	" Clay	
~~365-385~~	~~Sand / gravel~~ Tan clay crumbly	
~~385-397~~ 377		

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UNIO 51835

3~~77~~/383	clay with some gravel. /Sand.	6	?
383/389	yellow clay		
389/390	yellow clay /Sand	1	
391/~~440~~	Sticky yellow clay		
~~440~~-452	yellow clay - Rocks?		
452-460	Gray clay ~~=~~ course sand /Rock?	8	?
461-467	Gray clay Sand Rock	6	
465-467	Rock - sand.	2	
468-480	Yellow clay		
480-484	Sand - sm gravel.	4	
485-493	Tan clay		
494-498	Clay Sand sm gravel.	4	
498-501	Tan clay		
501-507	Brown Sand	6	
508-516	Tan clay		
517-520	Sand (like granite)	3	
520-527	Gray Clay with Sand	7	
527-542	Sand Brown - granite like. ~~yellow~~	27	good
542-545	Gray Clay — Sand	3	
545-547	Sand	2	
547-550	Brown clay	8	
551-559	Sand white.		
560-~~565~~	Brown Clay hard		
567-574	Clay Brown		
575-580	Clay Tan w/ fine sand?		
575-580	Clay Tan w ~~1 1/2 inch River Rock~~? Fine sand		
580-586	clay Tan w 1 1/2 inch River Rock		

UNIO 51835

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587 - 599	Brown clay	
599 - 601	Sand gravelly	2
602 - 605	Brown clay / sand	3
605 - 610	clay sand	5
610 - 612	Sand w gray clay	2
612 - 612 1/2	Brown clay / sand	
612 - 615	Sand clay sm gravel.	3
616 - 626	Brown clay	
626 - 628	Brown clay / sand	8
629 - 632	Brown clay	
633 - 637	Br clay - sand	4
637 - 678	Br clay	
638 - 647	Gr Clay - sand	9
648 - 649 1/2	Sm gravel. some brown clay	2
650 - 652	Br clay	
652 - 654	Grey clay	
654 - 656	grey clay / sand	2
655 - 658	small gravel	3
658 - 660	gray clay sm gravel / sand	2
660 - 661	Small gravel	1
661 - 663	Gr clay fine sand	2
662 - 664	Gr clay sand	1
664 - 665	Gr clay	
665 - 666	Gr clay Sand sm gravel	1
666 - 670	Sand small gravel	4
670 - 73	Gray clay small gravel	3
675 - 681	" "	
673 - 675	Brown clay	
681 - 82	Small gravel clay	1

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682-685	clay Tan	
685-687	"	
687-688	"	
688-689	" small gravel	1
689-695	Sand - small gravel	
695-710	Brown clay	
710-713	clay Sand	3
713-717	Sand sm gravel	4
717-722	Gr clay - Sand	5
722-724	Sand - sm gravel	2
24-25	Clay - Sand	1
725-727	Br clay	
727-729	Br Clay Sand	2
729-733	Sand sm gravel .05" gravel	4
733-734	Brown clay - Sand/gravel 1"	1
734-751	Clay - Brown grey	
751-762	Sand Small gravel (good)	11
762-780	" " "	18
780-783	Sand - sm gravel like granite.	3
783-84	Clay green	
84-790	green clay/sand	
791-793	Small gravel Some clay	2
794-795	Small to 1/2" gravel	1
795-798	Clay Some Sand	3
798-801	small gravel, sand some clay	3
802-811	Br clay	
812-813	Sm gravel Some Br Clay	1
814-820	Sand - gravel small some Br clay	6
820-824	Brown Clay - some sand	

846-848	Sand- gravel small some clay gray	2
848-853	Sm gravel 1/4 < 1/2"	5
853-855	Sand - clay green	855-856 2 pea gravel
855-873	Green clay	
873-876	green clay some sand	
877-887	Gr clay	
888-889	Gr clay - sand.	
890-901	Gr clay - sand.	
901-906	~~Sand & Gravel Clay~~ - sand gravel 1/2".	5
907-915	" " shale	8
915-918	Gr shale? Hard	
918-921	Gr clay	
921-924	Br clay 50% Sand	
925-932	Gr clay	
933-935	Gr clay - sand.	
935-945	Gr clay	
946-950	Gr clay - sand	
950-962	Gr clay some Sand at 954-955.	1
963-964	Sand	1
965-979	Gr clay	
975-983	Gr clay some sand	
985-995	Gr clay	
995-997	Sandy Gr clay	5
997-1005	Gr Clay	
1005-1010	Sand clay	5
1010-1036	Gr clay	
1036-1039	Tan clay	
1039-1045	Green clay	
1045-1058	Brown clay.	

1060-1065	clay - ~~coarse sand 1/4" gravel~~ (1065)
1065-1088	Green clay. < 3/4" Gravel. Sand >
1089-1090	Tan clay.
1090-1095	Green clay.
1096-1104	Gr. clay.
1104b-1106	Br. clay
1106-1120	coal - peat
1121-1135	Br. clay soft
1135-1145	Blue clay
1145-1148	Brown - Black clay
1148-1155	Blue-Green clay
1155-1165	Brown clay. Black.

UNIO 51835

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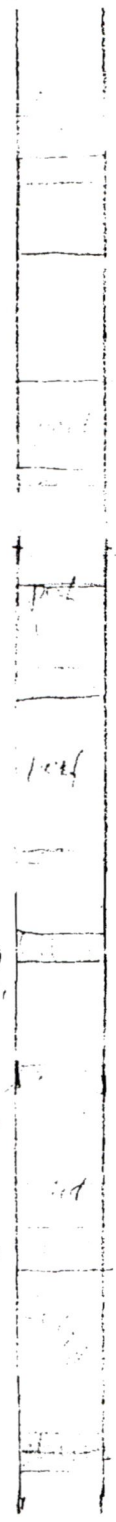
0 - 280	16"	pipe solid		
280 - 290	16"	screen	10'	
290 - 300	16"	solid / Reducer to 10"		
300 - 360	10"	solid "		
360 - 370	10"	screen.	10'	
370 - 390	10"	perf pipe.		20
390 - 450	10"	solid		
450 - 490	10"	perf.		40'
490 - 500'	10"	screen	10'	
500 - 520	10"	perf		20
520 - 550	10"	screen	30'	
550 - 570	10"	perf		20
570 - 590	10"	solid		
590 - 670	10"	perf		80
670 - 680	10"	screen	10'	
680 - 720	10"	solid		
720 - 740	10"	perf.		
740 - 760	10"	solid		
760 - 780	10"	Screen	20'	
780 - 840	10"	perf.		60'
840 - 860	10"	screen	20'	
860 - 880	10"	solid		
880 - 920	10"	perf		40'
920 - 940	10"	solid		
940 - 960	10"	perf		20'
960 - 980	10"	solid		
980 - 1000	10"	perf		20'
1000 - 1020	10'	- solid		
1020 - 1040	10"	perf		20'

1040 - 1060	10"	solid
1060 - 1080	10"	perf.
1080 - 1100	10"	solid

UNIO 51835



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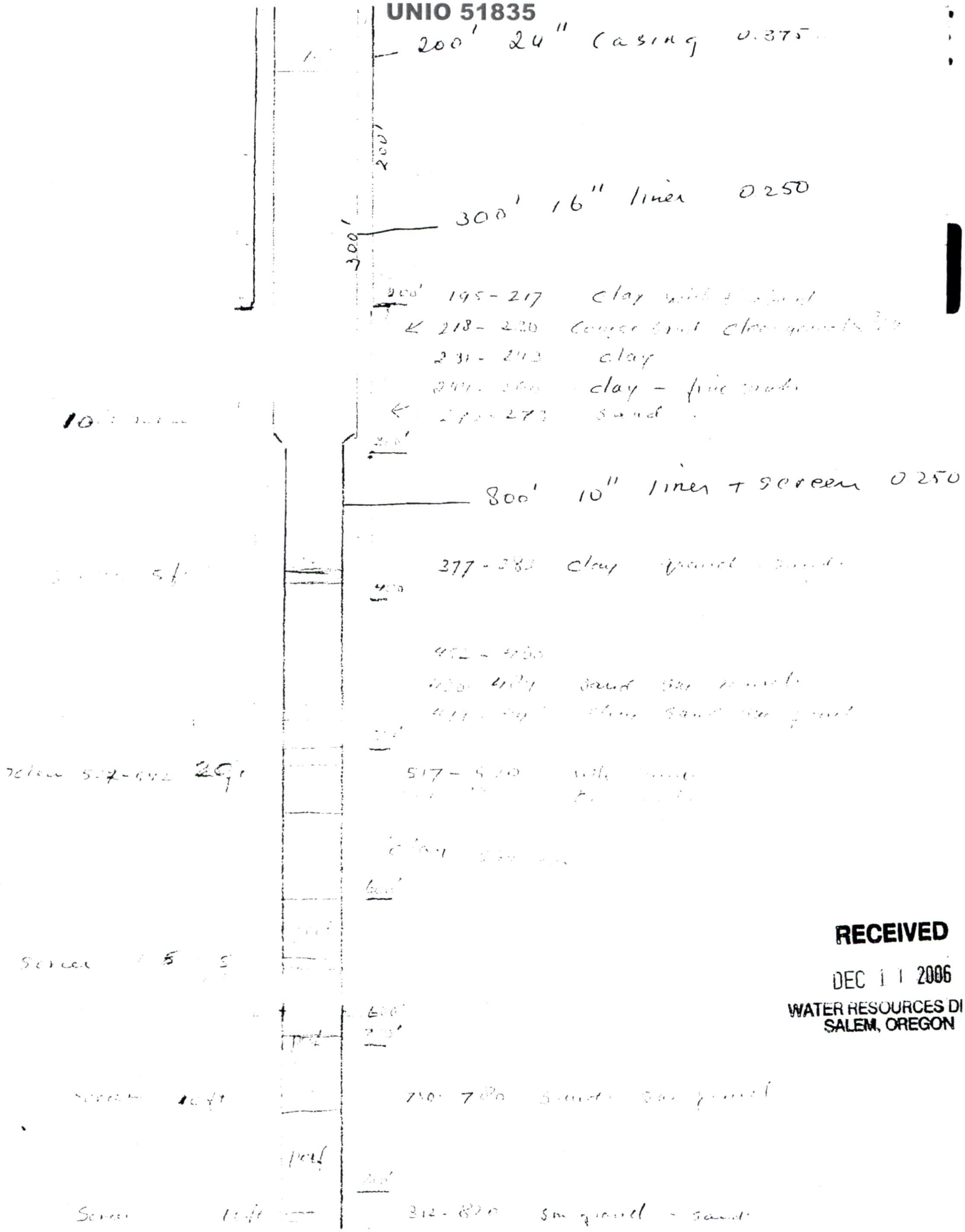
WATER RESOURCES DEPT
SALEM, OREGON

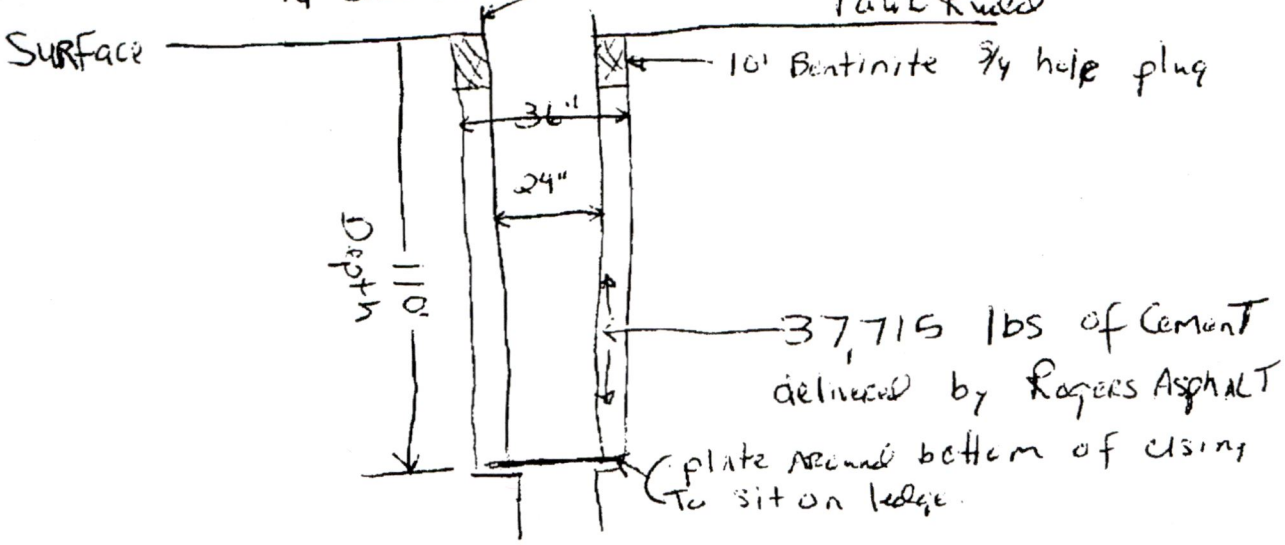
UNIO 51835



UNIO 51835

OCT 2005

Well Seal for Paul Rudd



Att Bob M.

COMPLETION OF WELL ORIGINALLY STARTED By WALDO LOWE DRILLING UNIQ 51770 PAGE #1

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

WELL I.D. # L 82655

START CARD # 172224

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

(1) LAND OWNER Well Number
Name PAUL RUDD
Address 64053 GEKLER LN
City LAGRANDE State OR Zip 97850

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

(3) DRILL METHOD
☐ Rotary Air ☐ Rotary Mud ☐ Cable ☐ Auger ☐ Cable Mud
☑ Other REVERSE

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

(5) BORE HOLE CONSTRUCTION Special Construction: ☐ Yes ☑ No
Depth of Completed Well 910 ft.
Explosives used: ☐ Yes ☑ No Type Amount

BORE HOLE Diameter	From	To	SEAL Material	From	To	Sacks or Pounds
22½"	792	920				

How was seal placed: Method ☐ A ☐ B ☐ C ☐ D ☐ E
☐ Other
Backfill placed from ft. to ft. Material
Gravel placed from 0 ft. to 920 ft. Size of gravel 3/8"

(6) CASING/LINER

	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing:	16"	+2	180	.250	☒	☐	☒	☐
	16	200	210	.250	☒	☐	☒	☐
	16	220	245	.375	☒	☐	☒	☐
	16	265	355	.375	☒	☐	☒	☐
Liner:	16	375	425	.375	☒	☐	☒	☐
	16	445	450	.375	☒	☐	☒	☐

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

(7) PERFORATIONS/SCREENS
☐ Perforations Method
☒ Screens Type WIREWRAP Material M.S.

From	To	Slot Size	Number	Diameter	Tele/pipe size	Casing	Liner
180	200	.060		16"		☒	☐
210	220	.060		16"		☒	☐
245	265	.060		16"		☒	☐
355	375	.060		16"		☒	☐
425	445	.060		16"		☒	☐

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

Yield gal/min	Drawdown	Drill stem at	Time
	N/A		

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 UNION
Tax Lot Lot
Township 2 N or S Range 39 E or W WM
Section 30 SW 1/4 NW 1/4
Lat ° ' " or (degrees or decimal)
Long ° ' " or (degrees or decimal)
Street Address of Well (or nearest address) BOOTH LANE
HWY 82, APPX 1¼ MI EAST

(10) STATIC WATER LEVEL
15 ft. below land surface. Date 7-6-06
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
ALL SAND + GRAVELS			
BELOW 15'			

(12) WELL LOG Ground Elevation

Material	From	To	SWL
GREEN, GREY CLAY SAND MIX	792	825	
COARSE SAND	825	834	
GREEN CLAY SHALE	834	855	
MED-COARSE SAND	855	864	
GREEN CLAY SHALE	864	882	
MED-COARSE SAND	882	886	
GREEN CLAY	886	893	
MED-COARSE SAND W/CLAY	893	907	
GREY CLAY	907	920	

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Date Started 4-30-06 Completed 5-8-06

(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 1673 Date 7-31-06
Signed Kevin Chastain

(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 1595 Date 7-31-06
Signed Jay Langston

ORIGINAL – WATER RESOURCES DEPARTMENT FIRST COPY – CONSTRUCTOR SECOND COPY – CUSTOMER 06/16/2004

UNIO 51770

Well I.I.#L 82655
Start Card# 172224

Name: Paul Rudd
Address 64053 Gekler Ln
City LaGrande State: OR Zip:97850

(6) CASING/LINER

Dia	From	To	Gauge	Steel	Welded
16"	470'	510'	0.375	X	X
16"x10" Reducer @ 510'					
10"	520'	530'	0.25	X	X
10"	540'	570'	0.25	X	X
10"	590'	610'	0.25	X	X
10"	630'	640'	0.25	X	X
10"	660'	665'	0.25	X	X
10"	675'	680'	0.25	X	X
10"	700'	720'	0.25	X	X
10"	730'	740'	0.25	X	X
10"	760'	790'	0.25	X	X
10"	835'	855'	0.25	X	X
10"	865'	880'	0.25	X	X

(7) PERFORATIONS/SCREENS

From	To	Slot Size	Dia	Casing			
450'	470'	0.06	16"	X	Type: Wire Wrap	Material:	M.S
510'	520'	0.04	10"	X			M.S
530'	540'	0.04	10"	X			M.S
570'	590'	0.03	10"	X	Type: Wire Wrap	Material:	S.S.
610'	630'	0.03	10"	X			S.S.
640'	660'	0.03	10"	X			S.S.
665'	675'	0.25	10"	X	Perforated Pipe	Method:	Factory
680'	700'	0.25	10"	X	Perforated Pipe		Factory
720'	730'	0.25	10"	X	Perforated Pipe		Factory
740'	760'	0.25	10"	X	Perforated Pipe		Factory
790'	835'	0.25	10"	X	Perforated Pipe		Factory
855'	865'	0.25	10"	X	Perforated Pipe		Factory
880'	910'	0.25	10"	X	Perforated Pipe		Factory

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Groundwater Review Summary Form

Application # LL- 1811

GW Reviewer Phillip I. Marcy **Date Review Completed: 07/15/2020**

Summary of GW Availability and Injury Review:

[ ] Groundwater for the proposed use is either over appropriated, will not likely be available in the amounts requested without injury to prior water rights, OR will not likely be available within the capacity of the groundwater resource per Section B of the attached review form.

Summary of Potential for Substantial Interference Review:

[ ] There is the potential for substantial interference per Section C of the attached review form.

Summary of Well Construction Assessment:

[ ] The well does not appear to meet current well construction standards per Section D of the attached review form. Route through Well Construction and Compliance Section.

This is only a summary. Documentation is attached and should be read thoroughly to understand the basis for determinations and for conditions that may be necessary for a permit (if one is issued).

WATER RESOURCES DEPARTMENT MEMO July 15 , 2020

TO: **Application LL-** 1811

FROM: Phil Marcy **- Groundwater Section**

SUBJECT: **Scenic Waterway Interference Evaluation**

X YES
The source of appropriation is within or above a Scenic Waterway
_____NO

X YES
Use the Scenic Waterway condition (condition 7J)
_____NO

X Per ORS 390.835, the Groundwater Section is able to calculate groundwater interference with surface water that contributes to a Scenic Waterway. The calculated interference distribution is provided below.

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

DISTRIBUTION OF INTERFERENCE

Calculate interference as the monthly fraction of the annual consumptive use and fill in the table below. If interference cannot be calculated, per criteria in 390.839, do not fill in the table but check the "unable" option above, thus informing the Water Rights Section that the Department is unable to make a Preponderance of Evidence finding.

Exercise of this permit is calculated to reduce monthly flows in the Grande Ronde Scenic Waterway by the following amounts, expressed as a proportion of the annual consumptive use pumped from the well.

Monthly Fraction of Annual Consumptive Use

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.087	**0.079**	**0.073**	**0.068**	**0.068**	**0.074**	**0.082**	**0.094**	**0.102**	**0.100**	**0.091**	**0.082**

PUBLIC INTEREST REVIEW FOR GROUNDWATER APPLICATIONS

TO: Water Rights Section Date 07/15/2020
FROM: Groundwater Section Phillip I. Marcy
Reviewer's Name
SUBJECT: Application LL- 1811 Supersedes review of
Date of Review(s)

PUBLIC INTEREST PRESUMPTION; GROUNDWATER

OAR 690-310-130 (1) *The Department shall presume that a proposed groundwater use will ensure the preservation of the public welfare, safety and health as described in ORS 537.525.* Department staff review groundwater applications under OAR 690-310-140 to determine whether the presumption is established. OAR 690-310-140 allows the proposed use be modified or conditioned to meet the presumption criteria. **This review is based upon available information and agency policies in place at the time of evaluation.**

A. GENERAL INFORMATION: Applicant's Name: **Brett Rudd** County: **Union**

A1. Applicant(s) seek(s) 0.78 cfs from 1 well(s) in the Grande Ronde Basin, subbasin

A2. Proposed use AR Testing Seasonality: December 1st – April 14th

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

Well	Logid	Applicant's Well #	Proposed Aquifer*	Proposed Rate(cfs)	Location (T/R-S QQ-Q)	Location, metes and bounds, e.g. 2250' N, 1200' E fr NW cor S 36
1	UNIO 51835	1	Alluvium	0.78	2S/39E-30 SW-NE	44'N, 2589'W fr W ¼ cor, S 29
2						
3						
4						
5						

* Alluvium, CRB, Bedrock

Well	Well Elev ft msl	First Water ft bls	SWL ft bls	SWL Date	Well Depth (ft)	Seal Interval (ft)	Casing Intervals (ft)	Liner Intervals (ft)	Perforations Or Screens (ft)	Well Yield (gpm)	Draw Down (ft)	Test Type
1	2702	15	15	07/06/2006	920	0-36	0-200; Various intervals below (see constructio n diagram)	NA	Various (see attached construction diagram)	800	110	Pump

Use data from application for proposed wells.

A4. **Comments:** This application proposes to use groundwater from an alluvial well (UNIO 51835) as the source of recharge for nearby UNIO 52415, a well completed into the volcanic sequence underlying the valley fill sediments. Since permit condition measurements began in 2015, the 4,025' deep UNIO 52415 has experienced regular, somewhat modest declines. It the applicant's intent to maintain the viability of the deep basalt aquifer into which this well is constructed, and from which the authorized pumping under G-17020 is possibly the only use. Conditions related to AR (OAR 690-350-0120) are included in section C6.
The applicant proposes a maximum pumping rate of 350 gpm from UNIO 51835 to use for recharge during non-irrigation months for the purpose of Artificial Recharge (AR) testing. UNIO 51835 is currently authorized under Certificate 90977 to pump up to 4.46 cfs during the period of March 1st – October 31st. Yield and drawdown information from pump test conducted in 2008.

A5. ☒ **Provisions of the** Grande Ronde (OAR 690-508-0010) Basin rules relative to the development, classification and/or management of groundwater hydraulically connected to surface water ☐ **are**, *or* ☒ **are not**, activated by this application. (Not all basin rules contain such provisions.)
Comments:

A6. ☐ **Well(s) #** _____, _____, _____, _____, _____, tap(s) an aquifer limited by an administrative restriction.
Name of administrative area:
Comments:

B. GROUNDWATER AVAILABILITY CONSIDERATIONS, OAR 690-310-130, 400-010, 410-0070

B1. **Based upon available data**, I have determined that groundwater* for the proposed use:

a. ☐ **is** over appropriated, ☒ **is not** over appropriated, *or* ☐ **cannot be determined to be** over appropriated during any period of the proposed use. * This finding is limited to the groundwater portion of the over-appropriation determination as prescribed in OAR 690-310-130;

b. ☐ **will not** *or* ☐ **will** likely be available in the amounts requested without injury to prior water rights. * This finding is limited to the groundwater portion of the injury determination as prescribed in OAR 690-310-130;

c. ☐ **will not** *or* ☐ **will** likely to be available within the capacity of the groundwater resource; or

d. ☒ **will, if properly conditioned**, avoid injury to existing groundwater rights or to the groundwater resource:
   i. ☒ The permit should contain condition #(s) **7N; "Large Water Use Reporting"**;
   ii. ☐ The permit should be conditioned as indicated in item 2 below.
   iii. ☐ The permit should contain special condition(s) as indicated in item 3 below;

B2. a. ☐ **Condition** to allow groundwater production from no deeper than _____ ft. below land surface;

b. ☐ **Condition** to allow groundwater production from no shallower than _____ ft. below land surface;

c. ☐ **Condition** to allow groundwater production only from the _____ groundwater reservoir between approximately _____ ft. and _____ ft. below land surface;

d. ☐ **Well reconstruction** is necessary to accomplish one or more of the above conditions. The problems that are likely to occur with this use and without reconstructing are cited below. Without reconstruction, I recommend withholding issuance of the permit until evidence of well reconstruction is filed with the Department and approved by the Groundwater Section.

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

B3. **Groundwater availability remarks:** This application proposes a pumping season of December through April, when nearby users are unlikely, and for the most part, unauthorized to pump groundwater for irrigation purposes. The proposed POA well, along with two other wells, is authorized under Certificate 90977 to produce up to 4.46 cfs from March 1st to October 31st.

Considering the proposed maximum rate of 350 gpm, and utilizing the derived pump test value for transmissivity of 689 ft^2/day, calculations were performed to predict expected drawdown during the proposed pumping season. The closest proximity POA well is located 2,650 feet to the WNW, and according to Theis drawdown calculations is likely to experience between 9.88 and 26.31 feet of drawdown induced by pumping at UNIO 51835 for 136 days at the maximum rate.

C. GROUNDWATER/SURFACE WATER CONSIDERATIONS, OAR 690-09-040

C1. **690-09-040 (1):** Evaluation of aquifer confinement:

Well	Aquifer or Proposed Aquifer	Confined	Unconfined
1	**Basin-fill sediments of Grande Ronde Valley**	☐	☒
		☐	☐
		☐	☐
		☐	☐
		☐	☐

Basis for aquifer confinement evaluation: There is no considerable difference in elevation of water-bearing lithologies and resulting static water level elevation. Also, no distinct and laterally continuous low-permeability horizon has been identified in this area that would serve to significantly limit vertical movement of groundwater.

C2. **690-09-040 (2) (3):** Evaluation of distance to, and hydraulic connection with, surface water sources. All wells located a horizontal distance less than ¼ mile from a surface water source that produce water from an unconfined aquifer shall be assumed to be hydraulically connected to the surface water source. Include in this table any streams located beyond one mile that are evaluated for PSI.

Well	SW #	Surface Water Name	GW Elev ft msl	SW Elev ft msl	Distance (ft)	Hydraulically Connected? YES	NO	ASSUMED	Potential for Subst. Interfer. Assumed? YES	NO
1	**1**	**Grande Ronde River**	**2687**	**2689**	**6500**	☒	☐	☐	☐	☒
1	**2**	**Wright Slough**	**2687**	**2701**	**1975**	☒	☐	☐	☐	☒
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐

Basis for aquifer hydraulic connection evaluation: Available data do not provide evidence of any significant and laterally continuous lithologic horizon that would prevent vertical migration of groundwater between water-bearing zones within the proposed POA well and local surface waters. Groundwater elevation, as measured by driller before and after alteration, is coincident with nearby surface water elevations.

Water Availability Basin the well(s) are located within: GRANDE RONDE R > SNAKE R - AB WILLOW CR

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

Well	SW #	Well < ¼ mile?	Qw > 5 cfs?	Instream Water Right ID	Instream Water Right Q (cfs)	Qw > 1% ISWR?	80% Natural Flow (cfs)	Qw > 1% of 80% Natural Flow?	Interference @ 30 days (%)	Potential for Subst. Interfer. Assumed?
1	**1**	☐	☐	**NA**	**NA**	☐	**85.60**	☐	**<<25%**	☐
1	**2**	☐	☐	**NA**	**NA**	☐	**85.60**	☐	**<<25%**	☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐

C3b. **690-09-040 (4):** Evaluation of stream impacts by total appropriation for all wells determined or assumed to be **hydraulically connected and less than 1 mile** from a surface water source. **Complete only if Q is distributed among wells**. Otherwise same evaluation and limitations apply as in C3a above.

	SW #		Qw > 5 cfs?	Instream Water Right ID	Instream Water Right Q (cfs)	Qw > 1% ISWR?	80% Natural Flow (cfs)	Qw > 1% of 80% Natural Flow?	Interference @ 30 days (%)	Potential for Subst. Interfer. Assumed?
			☐			☐		☐		☐
			☐			☐		☐		☐
			☐			☐		☐		☐
			☐			☐		☐		☐

Comments: Expected interference at 30 days is anticipated to be much less than 25% of the proposed pumping rate due to the majority of water-bearing zones accessed by the POA well existing at considerable depth, and interspersed with fine-grained lithologies that delay response in overlying zones.

C4a. **690-09-040 (5):** Estimated impacts on **hydraulically connected surface water sources greater than one mile** as a percentage of the proposed pumping rate. Limit evaluation to the effects that will occur up to one year after pumping begins. This table encompasses the considerations required by 09-040 (5)(a), (b), (c) and (d), which are not included on this form. Use additional sheets if calculated flows from more than one WAB are required.

Non-Distributed Wells													
Well	SW#	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS													
Interference CFS													

Distributed Wells													
Well	SW#	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS													
Interference CFS													
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS													
Interference CFS													
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS													
Interference CFS													
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS													
Interference CFS													
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS													
Interference CFS													
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS													
Interference CFS													

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
(A) = Total Interf.												
(B) = 80 % Nat. Q												
(C) = 1 % Nat. Q												
(D) = (A) > (C)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
(E) = (A / B) x 100	%	%	%	%	%	%	%	%	%	%	%	%

(A) = total interference as CFS; (B) = WAB calculated natural flow at 80% exceed. as CFS; (C) = 1% of calculated natural flow at 80% exceed. as CFS; (D) = highlight the checkmark for each month where (A) is greater than (C); (E) = total interference divided by 80% flow as percentage.

Basis for impact evaluation: This section does not apply.

C4b. **690-09-040 (5) (b) The potential to impair or detrimentally affect the public interest is to be determined by the Water Rights Section.**

C5. ☐ **If properly conditioned**, the surface water source(s) can be adequately protected from interference, and/or groundwater use under this permit can be regulated if it is found to substantially interfere with surface water:

i. ☐ The permit should contain condition #(s)_____;

ii. ☐ The permit should contain special condition(s) as indicated in "Remarks" below;

C6. **SW / GW Remarks and Conditions:** Appropriation of groundwater hydraulically connected to surface water in the Upper Grande Ronde Basin is limited by Scenic Waterway limitations. At this point, water is only available in or above watershed ID #227 (Grande Ronde River > Snake River – At Mouth) from December through February, thus an allocation of groundwater for the entirety of the proposed injection season may not be possible.

The applicant has proposed the use of groundwater from the source well previously authorized for primary irrigation under Certificate 90977 from March 1st – April 14th for the purpose of injection (email summarizing this request attached at the end of this review). If permitted, this change of use would allow the applicant to extend the injection season from three months to four and one half months. This proposal is outside the scope of a groundwater review, therefore the reviewer defers to the Department's Water Rights section to determine whether this proposal is feasible.

Recommended AR-related Conditions

1) **Approved Monitoring Plan**

(A) The licensee shall adhere to the approved monitoring plan. A revised, superseding plan may be submitted to the Department at any time. The Department may deny, condition or approve that plan.

(B) The licensee must have a DEQ-approved plan that addresses manganese treatment and management of treatment residuals prior to recharging water.

(C) All manual water level measurements shall be performed in accordance with the approved monitoring plan and only when wells are confirmed to be static. This shall be confirmed by performing a series of 3 measurements, 10 minutes apart, with no discernable change in water level within the well.

2) **Annual Reporting.**

(A) The user is required to provide a written report by February 15th of each year detailing the test results over the last year. This report shall include, but is not limited to, the results of testing efforts that relate to water quality, water quantity, and operations. Water level and water quality data shall be submitted in a Department-specified digital format. The user shall consult with ODEQ and OWRD to scope out additional specific reporting elements, but these agencies may also require additional testing. The first report in February 2021 shall also contain the testing results of any recharge testing under Limited License 1811 for water year 2020. The annual report shall be sealed and signed by a professional(s) registered or allowed, under Oregon law, to practice geology.

(B) As pertinent, annual reporting shall include the formatting and additional information cited in Condition 2 below.

3) **Special Reporting Condition**. The licensee shall provide the following information to the Department:

(A) Submission of any and all hydrogeologic data collected and reports developed for the project, including but not limited to cuttings analysis, video logs, geophysical logs, aquifer tests and step tests.

(B) Submission of digital water level data for all AR wells and any other wells measured in conjunction with the project (in a Department-specified format), including annual report data.

(C) Submission of annual reports with locations and elevations for all project wells (actual locations of built wells and proposed locations for proposed wells) and locations and elevations for all non-project wells that have been used for collecting water levels or other data pertinent to the project (in a Department-specified format).

(D) Notification in the annual report of any changes in well construction to the AR license file.

(E) Associating all project well data with the Department Well Identification Number (Well ID Number), the Department Well Log ID, if available, and the project Well Name.

(F) Submission of all digital water quality data collected in conjunction with the project (in a Department-specified format).

4) The user shall meter all water use and maintain a record of use, including the total volume diverted and the categories of beneficial use to which water is applied. During the period of the license, the record of use shall be available for review by the Department upon request, and shall be submitted to the Watermaster upon request. This record shall include the volume of water pumped from UNIO 51835 and the volume of water injected into UNIO 52415.

References Used: Application LL-1811, application review for G-16028.

Development Potential of Ground Water in the Grande Ronde Valley, Union County, Oregon, Ham, 1966

Ferns, M. L., McConnell, V. S., Madin, I. P., and Johnson, J. A., 2010, Geology of the upper Grande Ronde River basin, Union County, Oregon; Oregon Department of Geology and Mineral Industries Bulletin 107, scale 1:100,000, 65 p.

OWRD water level database, area well logs, GWIS geochemistry database.

D. WELL CONSTRUCTION, OAR 690-200

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

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

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

D3. **THE WELL construction deficiency or other comment is described as follows:** _____

D4. ☐ **Route to the Well Construction and Compliance Section for a review of existing well construction.**

Water Availability Tables

DETAILED REPORT ON THE WATER AVAILABILITY CALCULATION

GRANDE RONDE R > SNAKE R - AB WILLOW CR

Watershed ID #: 30810407
Time: 3:01 PM

Basin: GRANDE RONDE

Exceedance Level: 80
Date: 01/28/2020

Month	Natural Stream Flow	Consumptive Use and Storage	Expected Stream Flow	Reserved Stream Flow	Instream Requirements	Net Water Available
	Monthly values are in cfs. Storage is the annual amount at 50% exceedance in ac-ft.					
JAN	138.00	17.70	120.00	23.70	0.00	96.60
FEB	246.00	21.70	224.00	62.30	0.00	162.00
MAR	431.00	23.50	408.00	118.00	0.00	290.00
APR	966.00	148.00	818.00	131.00	0.00	687.00
MAY	1,100.00	332.00	768.00	187.00	0.00	581.00
JUN	530.00	293.00	237.00	58.40	0.00	179.00
JUL	257.00	138.00	119.00	0.00	0.00	119.00
AUG	185.00	90.20	94.80	0.00	0.00	94.80
SEP	127.00	63.60	63.40	0.00	0.00	63.40
OCT	85.60	23.30	62.30	1.55	0.00	60.80
NOV	93.10	15.00	78.10	0.00	0.00	78.10
DEC	111.00	16.80	94.20	13.00	0.00	81.20
ANN	429,000	71,500	358,000	35,900	0	322,000

Download Data

Water Availability

Select any Watershed for Details

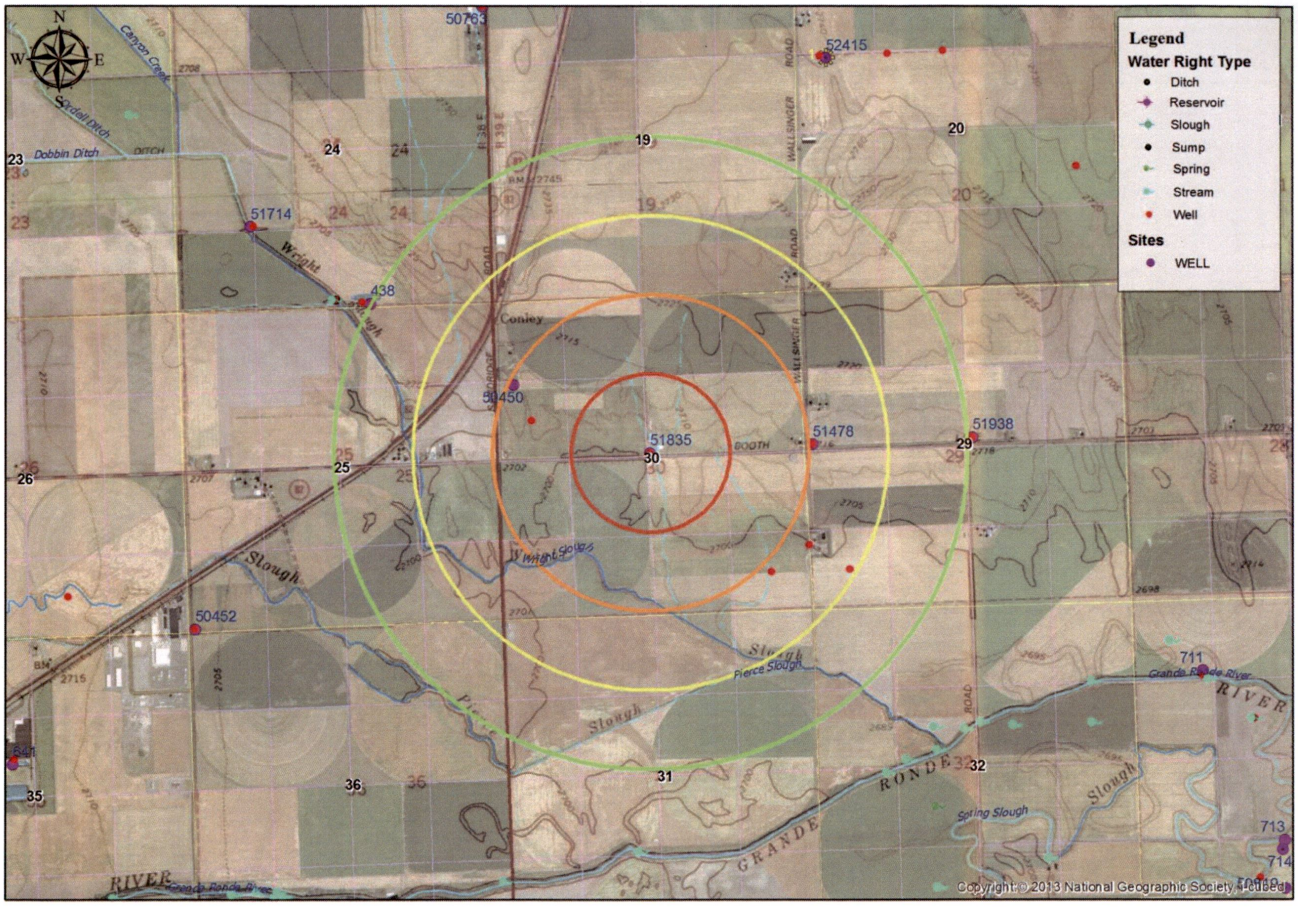
Nesting Order	Watershed ID #	Stream Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sto
1	227	GRANDE RONDE R> SNAKE R- AT MOUTH	Yes	Yes	No	No	No	No	No	No	No	No	No	Yes	Yes
2	228	GRANDE RONDE R> SNAKE R- AB SHEEP CR	Yes	Yes	No	No	No	No	No	No	No	No	No	Yes	Yes
3	30810416	GRANDE RONDE R> SNAKE R- AB WALLOWA R	Yes	Yes	No	No	No	No	No	No	No	No	No	Yes	Yes
4	30810406	GRANDE RONDE R> SNAKE R- AB GORDON CR	Yes	Yes	No	No	No	No	No	No	No	No	No	Yes	Yes
5	**30810407**	**GRANDE RONDE R> SNAKE R- AB WILLOW CR**	**Yes**	**Yes**	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**Yes**	**Yes**

Limiting Watersheds

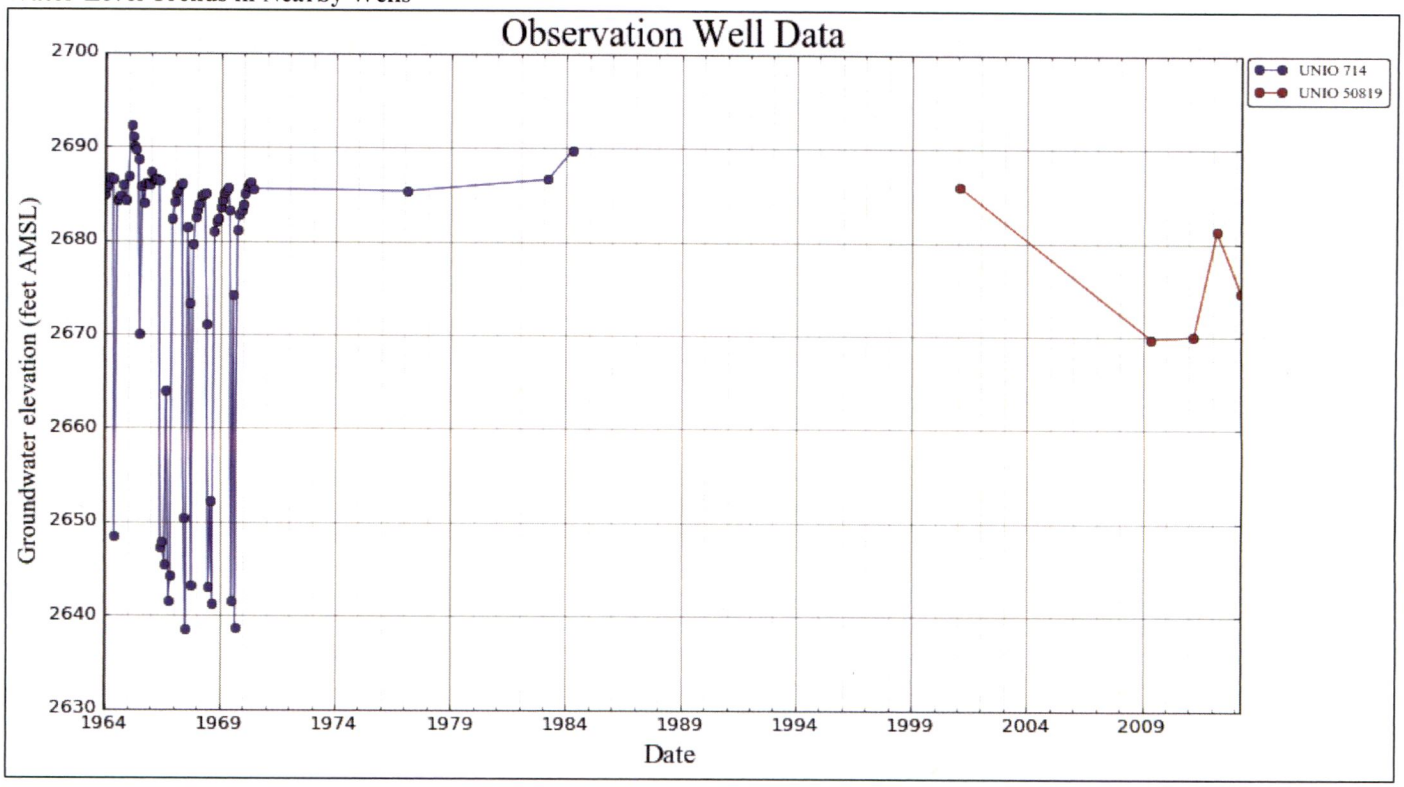
Monthly Streamflow in Cubic Feet per Second
Annual Volume at 50% Exceedance in Acre-Feet

Month	Limiting Watershed ID #	Stream Name	Water Available?	Net Water Available
JAN	227	GRANDE RONDE R > SNAKE R - AT MOUTH	Yes	94.10
FEB	30810407	GRANDE RONDE R > SNAKE R - AB WILLOW CR	Yes	162.00
MAR	227	GRANDE RONDE R > SNAKE R - AT MOUTH	No	-9.79
APR	227	GRANDE RONDE R > SNAKE R - AT MOUTH	No	-1,850.00
MAY	227	GRANDE RONDE R > SNAKE R - AT MOUTH	No	-859.00
JUN	227	GRANDE RONDE R > SNAKE R - AT MOUTH	No	-1,790.00
JUL	227	GRANDE RONDE R > SNAKE R - AT MOUTH	No	-699.00
AUG	227	GRANDE RONDE R > SNAKE R - AT MOUTH	No	-303.00
SEP	227	GRANDE RONDE R > SNAKE R - AT MOUTH	No	-179.00
OCT	227	GRANDE RONDE R > SNAKE R - AT MOUTH	No	-59.50
NOV	227	GRANDE RONDE R > SNAKE R - AT MOUTH	No	-393.00
DEC	227	GRANDE RONDE R > SNAKE R - AT MOUTH	Yes	34.40
ANN	30810407	GRANDE RONDE R > SNAKE R - AB WILLOW CR	Yes	196,000.00

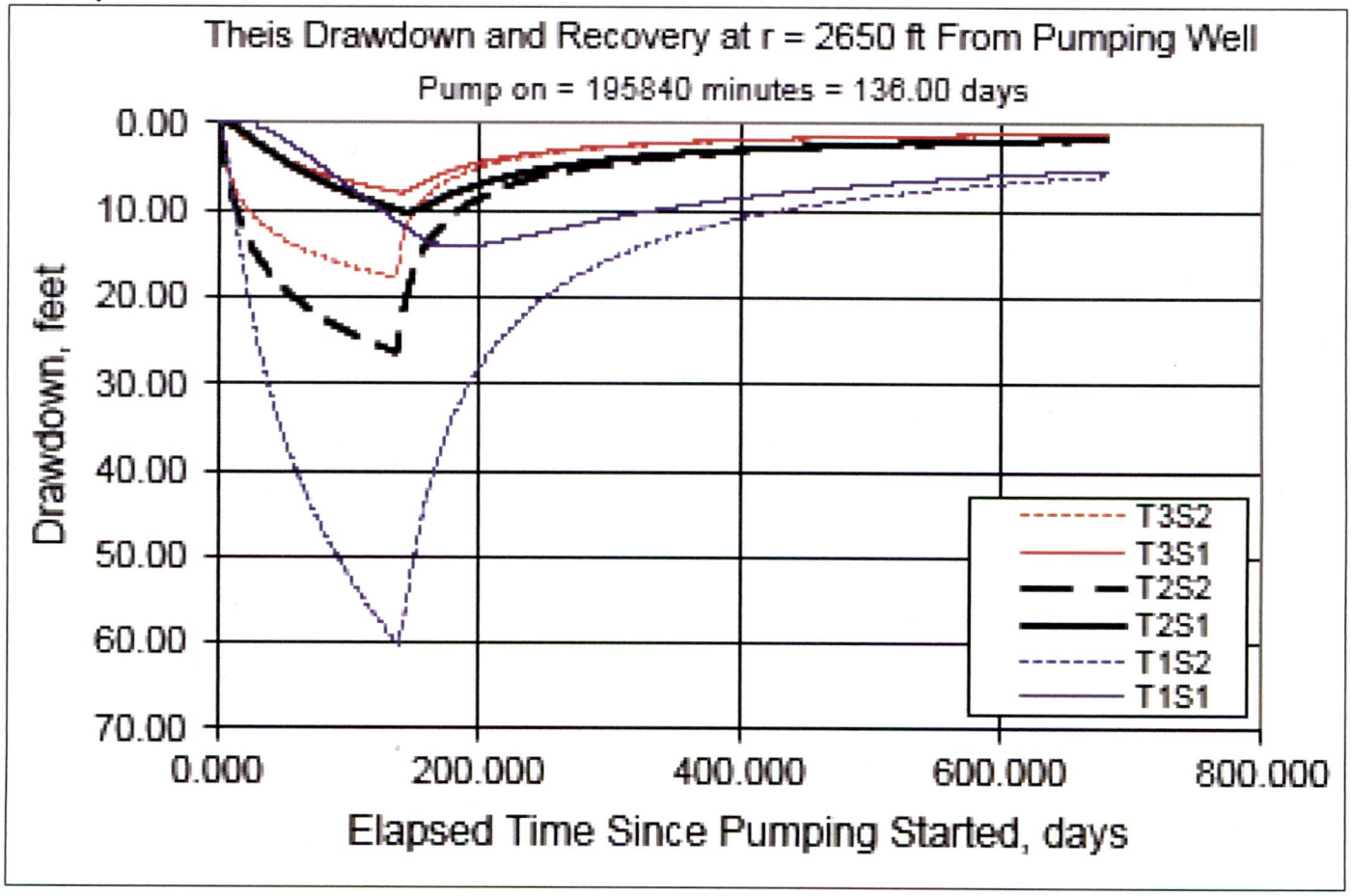
Well Location Map



Water-Level Trends in Nearby Wells



Observation well data from nearby alluvial wells is quite limited, but basin-wide trends do not display significant declines in the alluvial system.



Email from consultant proposing to use authorized irrigation water from Certificate 90977 for injection from March 1st – April 14th:

From: Ted Ressler <tressler@gsiws.com>
Sent: Monday, March 02, 2020 7:05 AM
To: WOODY Jennifer L * WRD <Jennifer.L.Woody@oregon.gov>; phillip.l.marcy@oregon.gov
Subject: AR LL-1811

Jen and Phil

Jen, I'm following up on a topic I mentioned during our phone call last week. This is in regards to the AR LL for Brett Rudd, specifically #5 in the Department's application completeness review letter dated 2/14/2020 addressing the availability of water for AR. I saw that Phil is also listed on the letter, so I've included him on this email also.

Under Item 5 of the completeness review letter, it is noted that groundwater from the alluvial aquifer is fully appropriated during the months of March and April and will therefore likely not be available for AR testing. Brett has an existing water right authorizing use of groundwater from the alluvial aquifer from March 1 through October 31 (Certificate 90977, 4.46 cfs for irrigation), which includes the two months (March and April) when water has been determined to be fully appropriated. I wanted to discuss potential options for how Brett might use this water right during the months of March and April.

A. Would it be possible for the Department to condition the AR LL to allow groundwater recharge during the months of March and April if the applicant reduces use of Certificate 90977 by a corresponding amount: the amount of groundwater withdrawn from the alluvial aquifer during the months of March and April under AR LL-1811, in combination with Certificate 90977, shall not exceed 4.46 cfs? I have seen this language used by the Department previously in water use permits to link two permits together so that the net appropriation is not more than from the original permit.
B. Pursue an ASR LL for the months of March and April referencing Certificate 90977 as the source.
C. Other?

Do you have some time this week to discuss? At this point, I have pretty good availability Tuesday through Friday.

Thanks
Ted

Theodore R. Ressler
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