

Engineers

Planners

Surveyors

Testing

Letter of Transmittal

Tim 725	gon Water Reso e Extension Summer Street em, OR 97301-1	•	Date:	Permit G-15100	
We are ser	nding you:				
✓ Attach✓ Shop I✓ Specifi	Drawings [☐ Under separate cover☐ Prints ☐ Plan☐ Cha		☐ Samples	☐ Pay Requests
Copies	Date	Description			
1	2/21/17	Application for Tir		Permit G-15100	
1	2/21/17	Time Extension fee	01 \$5 /5.00		
			2		
These are ☐ For app ☐ For you ☐ As req	ur use	hecked below:		Approved as submitted Approved as noted Returned for correction	S
Sincerely,					
751 1929	ie Rear				
Vickie Rea	am ative Assistant				
CC:	Luther Ho 1307-02 via: UPS Grou				CEIVED 27 2017
				O	WRD

Application for Extension of Time for a Water Right Permit (NON-Municipal/NON Quasi-Municipal water Use)



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

Criteria for a Permit Extension of Time

The Department can accept requests for an extension of time on permits to (1) <u>complete</u> <u>construction</u>, and/or to (2) <u>apply water</u> to beneficial use.

In order to approve a permit extension request the Department must be able to find:

- 1) Construction has begun:
 - A. For Groundwater Permits

Construction of the well began within 5 years of the date the permit was issued or by the actual construction date specified in the permit.

B. For Surface Water or Reservoir Permits

Construction of the water system began within 5 years of the date the permit was issued or by the actual construction date specified in the permit.

The Department will also confirm that:

2) A required fish screen, fish passage or fish by-pass device was installed <u>before or prior to diversion of any water</u>. An exception to the need to confirm installation prior to diversion of any water would be a waiver submitted to the Department from ODFW stating that a fish screen, fish passage or fish by-pass device was not required, provided your permit allows for a waiver.

If you have questions, please call the Department at (503)-986-0900 and ask to speak with a permit extension specialist.

Instructions are in Attachment A.

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TO THE DIRECTOR OF THE OREGON WATER RESOURCES DEPARTMENT A separate extension application must be submitted for <u>each</u> permit as per OAR 690-315-0020(2).

We, <u>Luther and Candace Horsley</u>	<u>/</u>		
NAME OF PERMIT HOLDER	[OAR 690-315-0020(1	1) and (3)(a)]	
PO Box 209	<u>Midland</u>	OR	97634
ADDRESS	CITY	STATE	ZIP
(541)891-7596 PHONE		adkins@adk E-MAIL ADD	cinsengineering.com
THORE		E WAIE ADD	RECEIVED
-	ation Number <u>G</u> -		FEB 2 7 2017
	Permit Number <u>G</u> آن	<u>-15100</u> DAR 690-315-0020(3)(b)]	OWRD
do hereby request that the time in	which to:		
installation of the equipmer on Month: October Day: 01 0020(3)(i)] N/A (Check this box if the p be completed.) and/or the time in which to:	Year: 2006, be ex	xtended to Octobe	r 1, <u>2027</u> , [OAR 690-315-
•			
apply water to full beneficia time now expires on Month 2027. [OAR 690-315-0020(3)(i)]			
I am the permit holder, or have written author Time), to apply for an extension of time under extension application are grounds for OWRD t	this permit. I understa	ind that false or misleadi	ng statements in this
Lath Houly		2/21/17	
Signature	D	Pate	
<u>Luther Horsley</u> Printed Name		Permit Holder Fitle	_

Before submitting your Application for Extension of Time, make sure the following items are included:

- This completed Application for Extension of Time.
- Statutory fee of \$575.
- Signature page (Second page of this Application for Extension of Time).
- All supporting documentation and/or evidence referenced in the Application for Extension of Time.

MAIL COMPLETED APPLICATION along with the Supporting documents and/ or evidence

\$575 STATUTORY FEE TO:

Water Resources Department Attn: Water Right Permit Extensions 725 Summer Street NE, Suite A Salem, Oregon 97301





- Permit holders of municipal or quasi-municipal water use permits DO NOT use this form. The
 correct form is APPLICATION FOR EXTENSION OF TIME FOR MUNICIPAL AND QUASI-MUNICIPAL WATER USE
 PERMITS, available at the following link:
 http://www.oregon.gov/owrd/PUBS/docs/forms/fillable_muni_quasi_ext_app_form_2014.doc
- Request the reasonable amount of time necessary to fully complete construction of the water project and/or to fully use the permitted quantity of water under the terms and conditions of your permit. Should this request be approved, it will be OWRD's expectation that you will complete your project within the new time period allowed. Future extensions may not be granted.
- A separate APPLICATION FOR EXTENSION OF TIME must be submitted for each permit. OAR 690-315-0020(2).
- An instruction sheet, INSTRUCTIONS FOR COMPLETING AN APPLICATION FOR EXTENSION OF TIME FOR A
 WATER RIGHT PERMIT (Attachment A), provides details that will help you answer each item on the
 application. Permit extensions are evaluated under OAR Chapter 690, Division 315. These rules
 may be viewed at: http://arcweb.sos.state.or.us/pages/rules/oars-600/oar-690/690 315.html
- You may provide OWRD with any additional information or evidence that will aid us in making our decision. Please note that OWRD may require other information that is necessary to evaluate the application. OAR 690-315-0020(3)(n).
- After careful review of the Application for Extension of Time, you may contact OWRD at (503) 986-0900, to ask questions and request assistance from a Permit Extensions Specialist in the Water Rights Services Division.

An Application for an Extension of Time will be reviewed for completeness. OWRD will return
any incomplete or deficient applications to the applicant. OAR 690-315-0040(1)(a).

Reference Materials Needed to Complete this Application:

- The water right permit. If needed, a copy of the water right permit can be downloaded from the Department's Website at http://apps.wrd.state.or.us/apps/wr/wrinfo/ (using the link to the Water Rights Information System (WRIS). Or, a copy of the permit (or other documents) may be requested by water right application number from the Water Rights Division at 503-986-0900 (copy fees will apply).
- Documentation which demonstrates compliance with permit conditions (for example, well
 construction logs; static water level measurement reports; annual water use reports; ODFW
 fish screen certification; a plan to monitor the effect of water use on ground water aquifers
 utilized under the permit; etc.).

Questions to complete this application for an Extension of Time Please see the instruction sheet to help you answer these items.

FEB 2 7 2017.

1. Beginning Construction within required deadlines. OAR 690-315-0020(3)(d) For Groundwater Permits

Has construction of the point of appropriation	(well) authorized under this permit begun?
∑ Yes	

Date construction began Month: March Day: 23 Year: 1998

Details of construction and attach documentation:

Well 1: <u>Installed new well by rotary air method</u>. Depth of well 454 feet total. Well log for well ID# KLAM51231 attached.

Well 2: <u>Previously installed</u>. <u>Depth of well 196 feet total</u>. <u>No well log attached and not required</u> by the permit.

OAR 690-315-0020(3)(A)(e)(A)

2a. Permits typically contain standard or special conditions that must be fully satisfied to lawfully develop and use permitted water. Review the permit subject to this extension to identify which of the conditions listed in the 2nd column are contained within it. Using the extra row labeled "other" to specify any other additional conditions specified in a final order approving a permit amendment or prior extension of time. In the 1st column check the box for each condition (row) identified as relevant. In the 3rd column check "Yes" if you have completed or met the permit condition. Check "No" if the condition is not yet satisfied. In the 4th column, give the date when the condition was satisfied or will be satisfied. Attach any pertinent documentation. Note: a pump test condition does not need to be addressed here however; you must submit the results of the test to the Department for approval prior to certification.

CHART-A

	Permit Conditions in this Permit	Have Completed or	Date satisfied/ or will
Checkbox	Ground water Check those included on this permit	Met?	be satisfied
	Installation of a meter/totalizing flow meter	⊠ Yes ⊠ No	Well 1-2003, Well 2- not installed
\boxtimes	Submittal of annual water usage report	⊠ Yes ☐ No	2001-2016
\boxtimes	Submittal of initial static water level measurement	⊠ Yes ☐ No	03/2003
\boxtimes	Submittal of annual static water level measurements in the month required	⊠ Yes □ No	2001-2016
	Submittal of Seven consecutive static water level measurements in the month required	Yes No	N/A
	Special well construction standards	Yes No	N/A
	Submittal of a monitoring plan	Yes No	N/A

2b. If you have NOT complied with Permit conditions, explain the reasons why and indicate a date certain, when you will be in compliance.

Need to install flow meter and apply water to full beneficial use of well #2. Completed date to be in compliance will be October 1, 2027.

[OAR 690-315-0020(3)(e)]

3. Provide evidence of physical work made toward completion of the water system, and of progress made toward making beneficial use of water within the permitted time period (CHART-B); and if applicable, within the time period of the most recent extension granted (CHART-C). CHART-B (below) must be completed for all Application for Extension of Time requests. Use chronological order. (this does NOT include planning, formulating a business plan, securing financing, letting contracts, purchasing but not installing equipment, surveying, clearing land, or planting crops)

CHART-B

CHART-D	
WORK ACCOMPLISHED BEFORE PERMIT WAS ISSUED List any work done before the permit was issued – eg. well drilled.	COST*
Well 1 Construction Completed.	25,000
Well 2 Construction Completed.	10,000
WORK ACCOMPLISHED AFTER PERMIT WAS ISSUED and PRIOR TO DATE SPECIFIED IN PERMIT FOR COMPLETE APPLICATION OF WATER List work/actions done during the permitted time period.	COST*
Date the permit was signed - find date above signature on last page of permit.	
Install 12" steel pipe approximately 530 feet.	18,000
Install 8" & 6" PVC pipe approximately 18225 feet.	157,000
Install 5" aluminum pipe approximately 90 feet.	2,400
Install wheel line system approximately 9400 feet.	181,200
Install 18" CMP approximately 410 feet.	5,200
	WORK ACCOMPLISHED BEFORE PERMIT WAS ISSUED List any work done before the permit was issued – eg. well drilled. Well 1 Construction Completed. WORK ACCOMPLISHED AFTER PERMIT WAS ISSUED and PRIOR TO DATE SPECIFIED IN PERMIT FOR COMPLETE APPLICATION OF WATER List work/actions done during the permitted time period. Date the permit was signed - find date above signature on last page of permit. Install 12" steel pipe approximately 530 feet. Install 8" & 6" PVC pipe approximately 18225 feet. Install 5" aluminum pipe approximately 90 feet. Install wheel line system approximately 9400 feet.

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10/01/06	Date the permit specified complete application of water to the use shall be made- all permits contain this date.	
DATE	WORK ACCOMPLISHED AFTER the date the permit specified complete application of water <u>COMPETE ONLY IF THIS IS YOUR 1st APPLICATION FOR AN EXTENSION OF TIME:</u> List work done after the date specified in the permit for complete application of water up to the date of this Application for Extension of Time.	COST*
10/30/14	Installed Pivot	\$134,400
	Total Cost for Chart-B \$533,200	

^{*} If exact cost is not known, you must provide your best estimate.

4. If this is <u>not</u> your 1st Application for Extension of Time request, fill out CHART-C below in addition to CHART-B above. *Use chronological order*.

CHART-C

WORK ACCOMPLISHED <u>DURING</u> THE LAST EXTENSION PERIOD List all work done during the last authorized extension period.	COST*
"Extended From" date for complete application of water used in the 1st (or the most recent) Application for Extension of Time.	
"Extended To" date for complete application of water resulting from the 1 st (or the most recent) Application for Extension of Time.	
WORK ACCOMPLISHED <u>AFTER</u> THE LAST EXTENSION PERIOD EXPIRED List all work done after the last authorized date for complete application of water up to the date of this Application for Extension of Time.	COST*
Total Cost of Chart-C	A 40 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	THE LAST EXTENSION PERIOD List all work done during the last authorized extension period. "Extended From" date for complete application of water used in the 1st (or the most recent) Application for Extension of Time. "Extended To" date for complete application of water resulting from the 1st (or the most recent) Application for Extension of Time. WORK ACCOMPLISHED AFTER THE LAST EXTENSION PERIOD EXPIRED List all work done after the last authorized date for complete application of water up to the date of this Application for Extension of Time.

^{*} If exact cost is not known, you must provide your best estimate. [OAR 690-315-0020(3)(f)]

5. Cost of project to date: \$533,200

(The total combined cost from CHART-B and CHART-C) [OAR 690-315-0020(f)]

[OAR 690-315-0020(3)(e)(B)]

Provide evidence of the maximum rate (or duty, if applicable) of <u>water diverted for beneficial use</u> under this permit and/or prior extensions of time (if any) <u>made to date</u>.

<u>TIP:</u> Report the rate used to date. Unless full beneficial use has been made, this rate will be less than the rate authorized on the permit.

6. For Surface Water Permit Extensions (e.g. S-XXXX or R-XXXX):

TIP: Report the rate in the same units of measurement as specified in the permit.

Maximum rate <u>used to date</u> = 4.01 cfs (cubic feet per second) Acre-feet stored to date = N/A AF



7. <u>For Ground Water Permit Extensions (e.g. G-XXXX)</u>:

<u>TIP:</u> Include information from ALL wells that pertain to this permit, including drilled wells not currently used.

CHART-D

Well # as identified on Permit					IF.	DRILLED		
	Water User's Well#	Has this well been drilled?	Well Log Number e.g. MORR 50473	Well Tag Number e.g. # 27566 or N/A	is the actual drilled location authorized on this permit or on a permit amendment?	Maximum instantaneous rate used to date from this well under this permit only (CFS or GPM)	is this well authorized or utilized under any OTHER water rights?	If yes, provide the Permit, Certificate, or Transfer No.
1	Hill	Yes 🛚 No 🗌	KLAM 51231	L19873	Yes ⊠ No □	4.01 CFS	Yes ☐ No ⊠	-
2	Smith	Yes ⊠ No □	N/A	N/A	Yes ⊠ No □	0.0 CFS	Yes ☐ No ⊠	-
	Tot	al instantaned	ous rate from all w	4.01 CFS				

8.	Has a Permit Amendment Application been filed? Yes N	o 🖂
	If yes, identify Transfer No. T-N/A	

Has the Permit Amendment been approved? Yes No No If yes, on what date was the Permit Amendment approved? N/A

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[OAR 690-315-0020(3)(e)(C)]

9. For Irrigation and Nursery Use Permits Extensions

Provide the total number of acres irrigated to date under this permit.

- a) Total acres irrigated to date: 326.8
- b) List by year, the number of acres irrigated each year since permit issuance.

Year		Acres	Year		Acres	Year		Acres
2016	18 ac.	24 a.f.	2010	326 ac.	596 a.f.	2004	326 ac.	403 a.f.
2015	26 ac.	14 a.f.	2009	26 ac.	15 a.f.	2003	326 ac.	456 a.f.
2014	326 ac.	389 a.f.	2008	26 ac.	42 a.f.	2002	326 ac.	450 a.f.
2013	312 ac.	518 a.f.	2007	326 ac.	406 a.f.	2001	326 ac.	574 a.f.
2012	326 ac.	607 a.f.	2006	326 ac.	364 a.f.			
2011	54 ac.	98 a.f.	2005	326 ac.	430 a.f.			

- c) Provide a copy of the application map identifying the acres irrigated.
- d) Please specify the number of acres irrigated by each Point of Diversion/Point of Appropriation (POD/POA).

(POD/POA)# 1 Acres 316

(POD/POA) # 2 Acres 10

[OAR 690-315-0020(3)(i)(j)]

10. In the chart below provide a summary of your future plans and schedule to complete the construction of the water system, and/or apply water to full beneficial use under the terms and conditions of the permit.

CHART-E

APPROXIMATE DATE RANGE (projected)	DATE RANGE WORK OR ACTION TO BE ACCOMPLISHED						
2017	Application for time extension	\$1000 -					
2017-2022	Install totalizing flow meter on well 2	\$1000					
Year:	Date intend to apply water to full beneficial use under the terms and conditions of this permit.						
	Total Cost	\$2000 1000-40					

[OAR 690-315-0020(3)(g)]

11. Estimated remaining cost to complete the project: \$2000 +000 +000 (The total cost from CHART-E)
[OAR 690-315-0020(3)(j)]

12. Provide a summary of your plan to complete construction, meeting all permit conditions and apply the water to beneficial use: (List all tasks or steps needed to complete the project, the date when each task will be completed, and the cost associated with each task; attach additional pages if necessary.) Ensure the pump is operational, install a flow meter and perform pump tests. Then complete interconnection of well #1 and well #2 with appropriate valves for efficient use of either well.

[OAR 690-315-0020(3)(k)]

13. <u>Justify the time requested</u> to complete the project and/or apply the water to full beneficial use. (Include any other information or evidence to establish that the requested amount of time is sufficient and that you will be able to complete the project within the amount of time requested.)

Time will give permit holder the ability to purchase and install flow meter on well #2 and apply water to full beneficial use using well #2.



[OAR 690-315--0020(3)(I)

14a. Will a denial of the extension result in undue hardship? (Describe the hardship and the effects.)

A denial will force continued use of the larger well #1 when smaller amounts of application would be more efficient. Presently, the acres for well #2 are also irrigated from well #1 to utilize the larger volume of flow from well #1.

14b. Are there any other reasonable alternatives that exist for meeting your water use needs? (Explain in detail)

Continue use of larger well #1 even when a smaller flow from well #2 would more efficiently satisfy the demand requirements.

[OAR 690-315-0020(3)(h)

15. Was the delay in the timely completion of this water development project and/or timely application of water to full beneficial use caused by any additional government requirements, other than the conditions contained within the permit, which significantly delayed the completion and perfection of this right? (Explain in detail, including how much time did this delay the project; list dates.)

No

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[OAR 690-315-0020(3)(h)

16. Describe any unforeseen events which contributed to the delay of completion of this project that you had no control over. (Explain in detail what the unforeseen events were and how much time was spent addressing the unforeseen events.)

The Biological Opinions issued in 2001 by the US National Marine fisheries Services and the US Fish and Wildlife Services for the endangered Coho Salmon and the Lost River and Short Nose Suckers respectively have diverted surface irrigation allocations for the farm to instream flows and lake level requirements. Since 2001 I have continuously been negotiating with the agencies and the parties involved trying to find solutions to this irrigation allocation curtailment. This effort has consumed a tremendous amount of my personal time, probably 20 to 30 hours per month, not allowing me to complete the work.

[OAR 690-315-0020(3)(h)]

17. Describe an additional reasons why the construction was not completed, and/or water was not beneficially used within permit time limits. (Provide supporting information for the reason(s) that best fits your circumstances.)

Since 2001, the acreage in the fields irrigated was large enough to utilize the flows from well #1 and the smaller volume from well #2 was not necessary. Now, with smaller field sizes, the smaller volume from well #2 would, in some instances, more efficiently fill the requirements.

[OAR 690-315-0020(3)(m)(n)]

18. Provide any other information you wish OWRD to consider while evaluating your Application for Extension of Time.

Cropping patterns have changed with the addition of smaller organic food plots. These changes have been instigated by the next generation, farming the land covered by this permit.

Some crops grown in the future will be in smaller plots which could be efficiently irrigated by a smaller pump and well.

[OAR 690-315-0040(2)(f)]

19. Will the income or use of the water project provide a fair and reasonable return on your investment? (Explain in detail)

The investment of this water project will not be returned to me but it will be beneficial to future generations who will be able to utilize the ground water resource more efficiently.

[OAR 690-315-0040(4)(d)]

20. Describe in detail if there are other economic interest, beyond those of the permit holder, which are dependent upon the completion of this project. (Who will be effected and how?)

My family, the next generation, is developing smaller organic food plots. The demand from these smaller plots may at times be satisfied by the smaller flow from well #2. The produce from these organic plots may sometimes require clean well water that cannot be obtained from surface irrigation water.

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Attach permit, and documentation to the application

MAY - 5 1993

WATER WELL REPORT STREED GROEN OF 96 # L19873
(as required by ORS 537.765) SALEM, DAUGON

107 338 (START CARD) #__

(1) OWNER:		Well ?	- Number_		(9) LOCATION (OF WELL by lega	l descri	ption:		
Name LUT	THER HOM				County KLATTY	Latitude		ongitude_		
	BOX 209		- 1 -	05/30		N or S. Range				v. WM.
	(ANO	State &	DLE	Zip 976.34		SE				100
(2) TYPE OF		7			Tax Lot K.370-1	Lot D 3/00 Block Well (or nearest address)	0//00	Subdivi	ision C	100
		Recondition	<u> </u>	Abandon	Street Address of	Vell (or nearest address)		D CANO	DK	I DUNIA,
(3) DRILL M Rotary Air	Rotary Mud	Cable			(10) STATIC WA	PED LEVEL.	, , , , ,			
Other	☐ Rotary Mud	L Cable				below land surface.		Dote	4/9	199
(4) PROPOSE	D USE:					lb. per so	ware inch			
	Community	Industrial	☐ Irrig	ation	(11) WATER BEA		dare men	. 5410_		
			57cd		(, , , , , , , , , , , , , , , , , , ,					
	LE CONSTRU				Depth at which water	was first found				
Special Construction	approval Yes	No Depth	of Compl	leted Well 432 ft.						
	Yes No Ty				From	To		ated Flow		SWL
HOLE		SEAL		Amount	379	454	1/6	00 6/1	4	44
	To Materia		To	sacks or pounds						-
172 0	36 Com	T 0	36	24 5KS						
1214 36					(12) WELL LOG	•				
	454		/		(II) WEED DOG	Ground eleva	tion			
How was seal place	ced: Method A	□в 🗹 с		D □ E						
☐ Other						Material		From	То	SWL
Backfill placed from	m ft. to	ft. Mate	rial							
	n ft. to	ft. Size	of gravel							-
(6) CASING/I	LINER:				-	ATTACHED LO			·	-
Diameter	From To	Gauge Steel	Plastic	Welded Threaded	See	TIITUREO, LO	<u>پي</u>			
Casing:	+1 36	230 2	, <u> </u>							+
	41 36									+
	1		H							+-
Liner:			H	ā ā						+-
Liner.										
Final location of s	hoe(s) 36 F	EST								
	ATIONS/SCRE									
Perforation	ons Method									
☐ Screens	Туре		Materia	al						
	Slot		ele/pipe			RECEIV	ED_			
From To	size Number	Diameter	size	Casing Liner				-		-
	+					FEB 272	017 -	-		-
	+ + -					014/5		 		+
						- OWR	D	-		+
	+ +								-	+
(0) 77:33	10000 7.51									
(8) WELL TE	STS: Minimun	n testing tim	e is 1 i		Date started MA	CH 23,98 Co	mpleted	APRIL	9	1998
Pump	☐ Bailer	☐ Air		Flowing Artesian		ell Constructor Certifi				
						work I performed on the		ion, altera	ition, o	r abandon
Yleld gal/min	Drawdown	Drill stem	at	Time		compliance with Oregon				
				1 hr.	used and information	reported above are true	to my bes	i knowled	ge and	Delief.
1100	10 H.			4 HAS				WWC N	umber .	
					Signed			Date		
	0	<u> </u>			(bonded) Water Well	Constructor Certificat	ion:			
Temperature of W		-		Cound	I accept responsib	ility for the construction	alteration	, or aband	onment	work per
Was a water analy					during this time is in d	ring the construction dat omphance with Oregon	ell constr	u above. A uction star	ıı work ıdards. '	This report
	tain water not suital				is true to the lest of	my know jedge and believe	f.	WWC N		4
☐ Salty ☐ Mu Depth of strata: _	*	Colored 🗀 (JUNET		Signed	VIII of	5	Date		20
TENNI OF PRESENT					I DIBITOR	· / · / · / · / · / · / · / · / · / · /	4		1101	

MAY - 5 1933

STOREY DRILLING

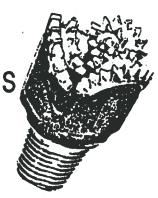
P.O. Box 98 • MIDLAND, OREGON 97634 (541) 884-3990 • (800) 245-8122 Fax #: (530) 528-2562 22560 ADOBE ROAD . RED BLUFF, CALIFORNIA 96080 CONTRACTOR'S LICENSES: OR #601 • CA #583153 • NV #38199

Luther Horsley P. O. Box 209 Midland, Oregon 97634

WELL LOCATION:

633 Old Midland Road below house on hilltop

SE1/4 SW1/4 S31 T39S R9E



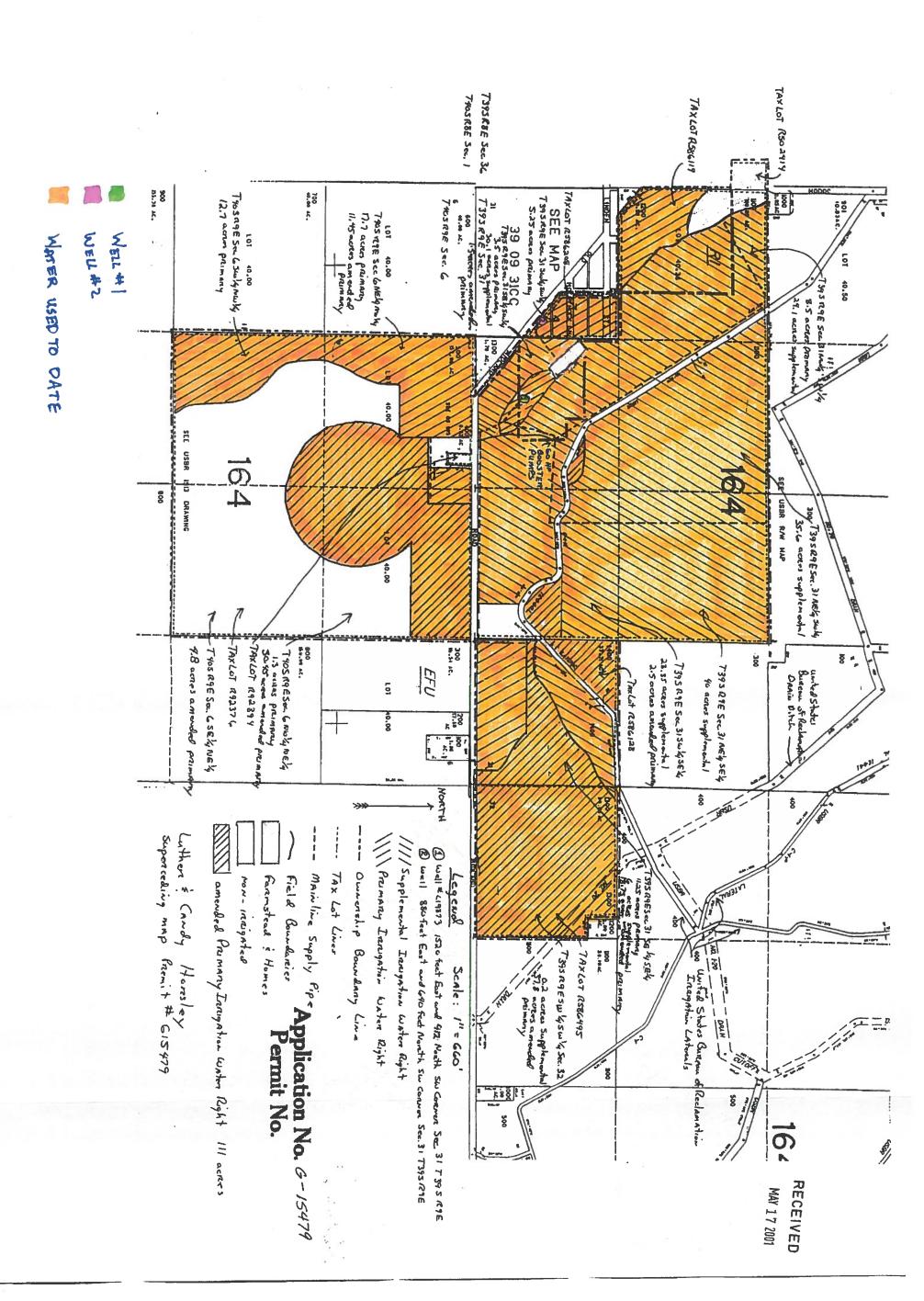
START: March 23, 1998 FINISH: April 9, 1998

LOG

0 - 2	Black clay topsoil
2 - 33	Yellow shale
33 - 50	Brown lava
50 - 60	Hard brown lava
60 - 66	Black basalt
66 - 79	Brown lava
79 - 136	Hard black basalt
136 - 141	Brown lava
141 - 153	Black basalt
153 - 157	Brown lava with red clay ash
157 - 184	Black basalt
184 - 194	Hard brown lava
194 - 233	Hard grey basalt
233 - 242	Brown lava
242 - 262	Bubbly black lava
262 - 312	Hard black basalt
312 - 318	Black lava & black clay ash
318 - 329	Hard black basalt
329 - 347	Black lava with red cinders
347 - 379	Hard grey basalt
379 - 404	Black lava
404 - 410	Hard black basalt
410 - 454	Black lava with streaks red cinders

37 feet of 14 inch O. D. x .250 wall steel casing set at 36 feet Temperature 55° F; Static water level 45 feet 121/4 inch diameter hole from 36 to 212 feet; 81/4 inch diameter hole from 212 to 454 feet. Finished depth 432 feet. Test pumped 1100 GPM at 55 feet for 4 hours: Specific capacity is 110 GPM per foot drawdown.

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