

Groundwater Application Review Summary Form

Application # G- 18563

GW Reviewer Joe Kemper Date Review Completed: 1/3/2018

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.

on 1/7/19

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).

PUBLIC INTEREST REVIEW FOR GROUNDWATER APPLICATIONS

TO: Water Rights Section Date 1/3/2019
 FROM: Groundwater Section Joe Kemper
 Reviewer's Name
 SUBJECT: Application G- 18563 Supersedes review of NA
 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: Stargazer Ranch County: Jackson

A1. Applicant(s) seek(s) 0.0445 cfs from 1 well(s) in the Rogue Basin,
Applegate subbasin

A2. Proposed use Nursery (5.5 acres) Seasonality: Year-Round

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

Well	Logid	Applicant's Well #	Proposed Aquifer*	Proposed Rate(cfs)	Location (T/R-S QQ-Q)	Location, metes and bounds, e.g. 2250' N, 1200' E fr NW cor S 36
1	JACK 17618	1	Bedrock	0.0445	38S/4W-8 NE-SW	710' S, 420' W fr center S 8
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	1416	62	16.5	9/23/2017	240	0-20	0-59	0-240	220-240	20	na	air

Use data from application for proposed wells.

A4. **Comments:** JACK 17618 is the well original log. JOSE 55932 is the corresponding deepening log although its Logid suggests it is located in Josephine County.

A5. **Provisions of the** Rogue (690-515) Basin rules relative to the development, classification and/or management of groundwater hydraulically connected to surface water **are, or** **are not**, activated by this application. (Not all basin rules contain such provisions.)

Comments: The Rogue Basin rules contain no such provisions.

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) 7C (7-yr SWL); 7J; Medium water-use reporting;
 - ii. The permit should be conditioned as indicated in item 2 below.
 - iii. The permit should contain special condition(s) as indicated in item 3 below;

- B2. a. **Condition** to allow groundwater production from no deeper than _____ ft. below land surface;
- b. **Condition** to allow groundwater production from no shallower than _____ ft. below land surface;
- c. **Condition** to allow groundwater production only from the _____ groundwater reservoir between approximately _____ ft. and _____ ft. below land surface;
- d. **Well reconstruction** is necessary to accomplish one or more of the above conditions. The problems that are likely to occur with this use and without reconstructing are cited below. Without reconstruction, I recommend withholding issuance of the permit until evidence of well reconstruction is filed with the Department and approved by the Groundwater Section.

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

B3. **Groundwater availability remarks:** The applicant’s proposed POA will produce from a fractured bedrock aquifer hosted in meta-volcanics of the Applegate Group. There are very few OWRD observation well data within 1 mile that access the same aquifer system as the proposed POA so aquifer over-appropriation cannot be determined (see Figure 3).

The applicant’s well is ~1100 feet from two water rights on springs (Certificate 2116 & Certificate 9853) and ~1400 feet from a valid POA on G-17807 (JACK 17614). While this proximity poses some risk of interference, the applicant’s well has a low proposed rate, is at a lower elevation than these senior rights, is separated by a steep topography, and accesses complex geology (landslide overlying heavily faulted/fractured metamorphic rock). As such, the proposed use/rate will not likely cause injury to the above mentioned water rights.

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

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

Well	Aquifer or Proposed Aquifer	Confined	Unconfined
1	Bedrock of Applegate Group	<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"/>

Basis for aquifer confinement evaluation: The drillers logs reports “first water” at 62 feet BLS, WBZs at 62-85 and 100-140 BLS, and a SWL of 15 feet BLS. These observations indicate confined conditions in the WBZs accessed by the applicant’s well.

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

Well	SW #	Surface Water Name	GW Elev ft msl	SW Elev ft msl	Distance (ft)	Hydraulically Connected?			Potential for Subst. Interfer. Assumed?	
						YES	NO	ASSUMED	YES	NO
1	1	Applegate River	1400	1195	2275	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1	2	Unnamed trib. to Applegate R.	1400	1480	150	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1	3	Cove Creek	1400	1480	700	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1	4	Unnamed trib. to Applegate R.	1400	1480	1675	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Basis for aquifer hydraulic connection evaluation: The observed groundwater elevation is higher than the Applegate River, indicating that groundwater flows towards and discharges to this surface water source. Thus, it is found to be hydraulically connected.

Several streams with mapped PODs are located east of the applicant’s well (SW 2-4). These streams are not found to be hydraulically connected because previous reviews (G-18290), aerial imagery, vegetation, and the USGS mapping indicate they these streams are fed by seasonal precipitation rather than groundwater discharge.

Water Availability Basin the well(s) are located within: APPLEGATE R > ROGUE R - AT MOUTH ROGUE BASIN

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	<input type="checkbox"/>	<input type="checkbox"/>	MF249A	120	<input type="checkbox"/>	48.8	<input type="checkbox"/>	< 5%	<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"/>

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

	SW #		Qw > 5 cfs?	Instream Water Right ID	Instream Water Right Q (cfs)	Qw > 1% ISWR?	80% Natural Flow (cfs)	Qw > 1% of 80% Natural Flow?	Interference @ 30 days (%)	Potential for Subst. Interfer. Assumed?
			<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
			<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"/>

Comments: Pumping effects on adjacent surface water sources are evaluated using the Hunt (2003) stream depletion model with aquifer parameters representative of the local geology. Model parameters and results are presented in Figure 4.

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													
(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: No streams beyond one mile were evaluated for PSI.

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:** The applicant’s well has been determined to be hydraulically connected to the Applegate River. However, there is not a preponderance of evidence that the proposed use/rate has the Potential for Substantial Interference (PSI) as per OAR 690-009.

References Used:

Hunt, B. 2003. Unsteady Stream Depletion when Pumping from a Semiconfined Aquifer. Journal of Hydrologic Engineering. Vol 8(1), pp 12-19

OWRD Groundwater Site Information System Database – Accessed 9/25/2018.

Wiley, T. J. 2006. Preliminary Geologic Map of the Sexton Mountain, Murphy, Applegate, and Mount Isabelle 7.5' Quadrangles, Jackson and Josephine Counties, Oregon. Oregon Dept. of Geology and Mineral Industries. OFR O-06-11

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.

Figure 1. Water Availability Tables

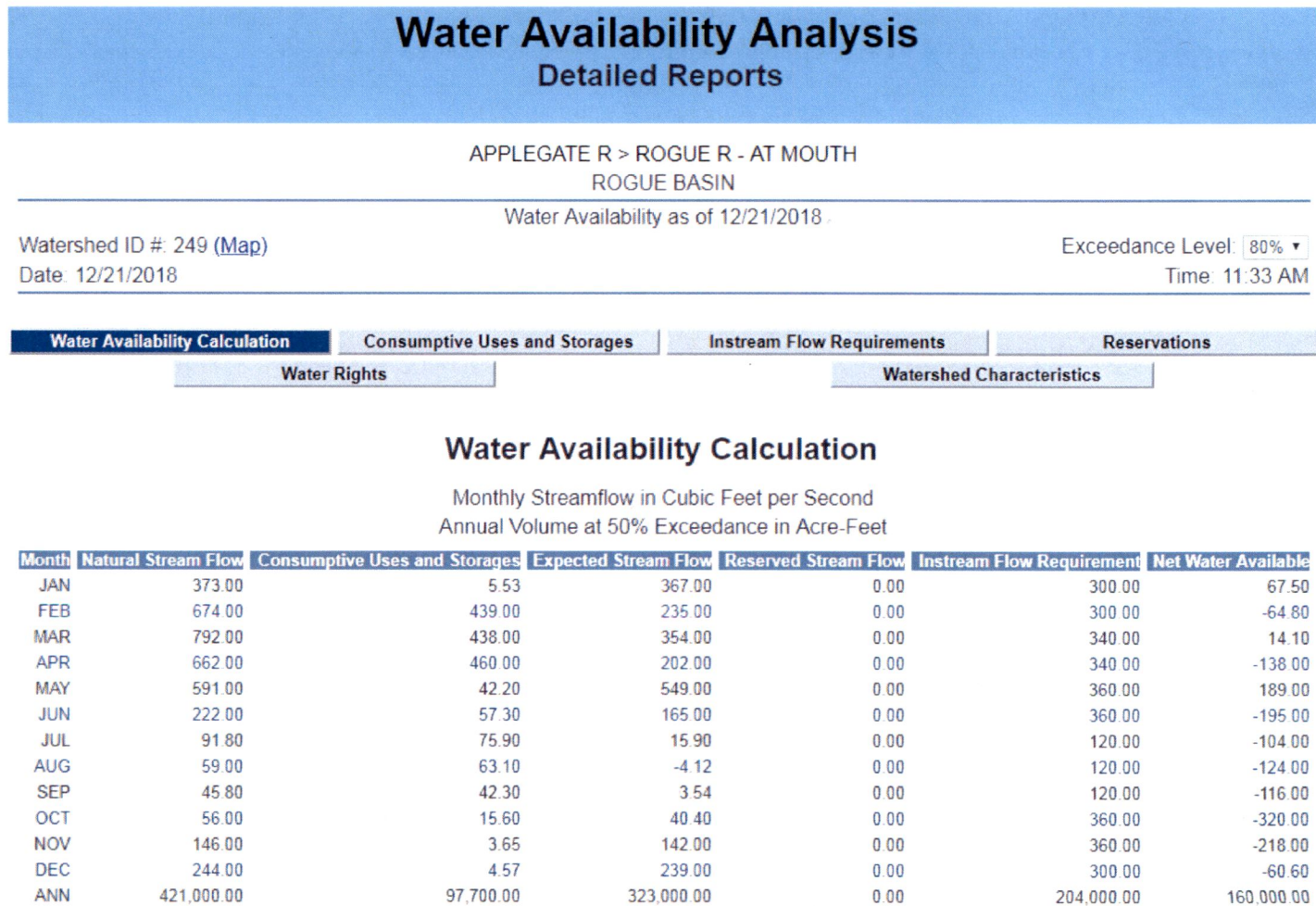


Figure 2. Well Location Map

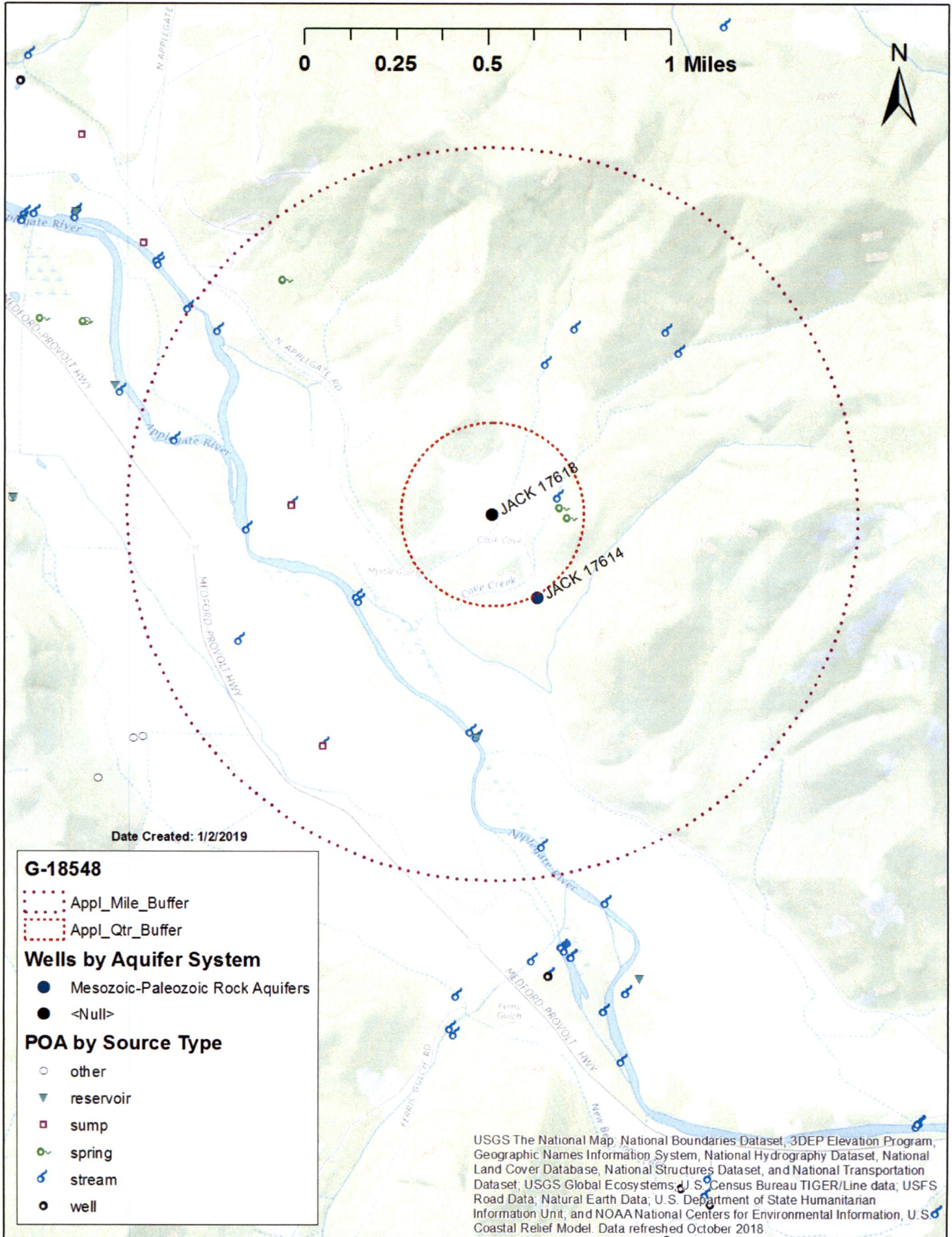


Figure 3. Water-Level Trends in Nearby Wells

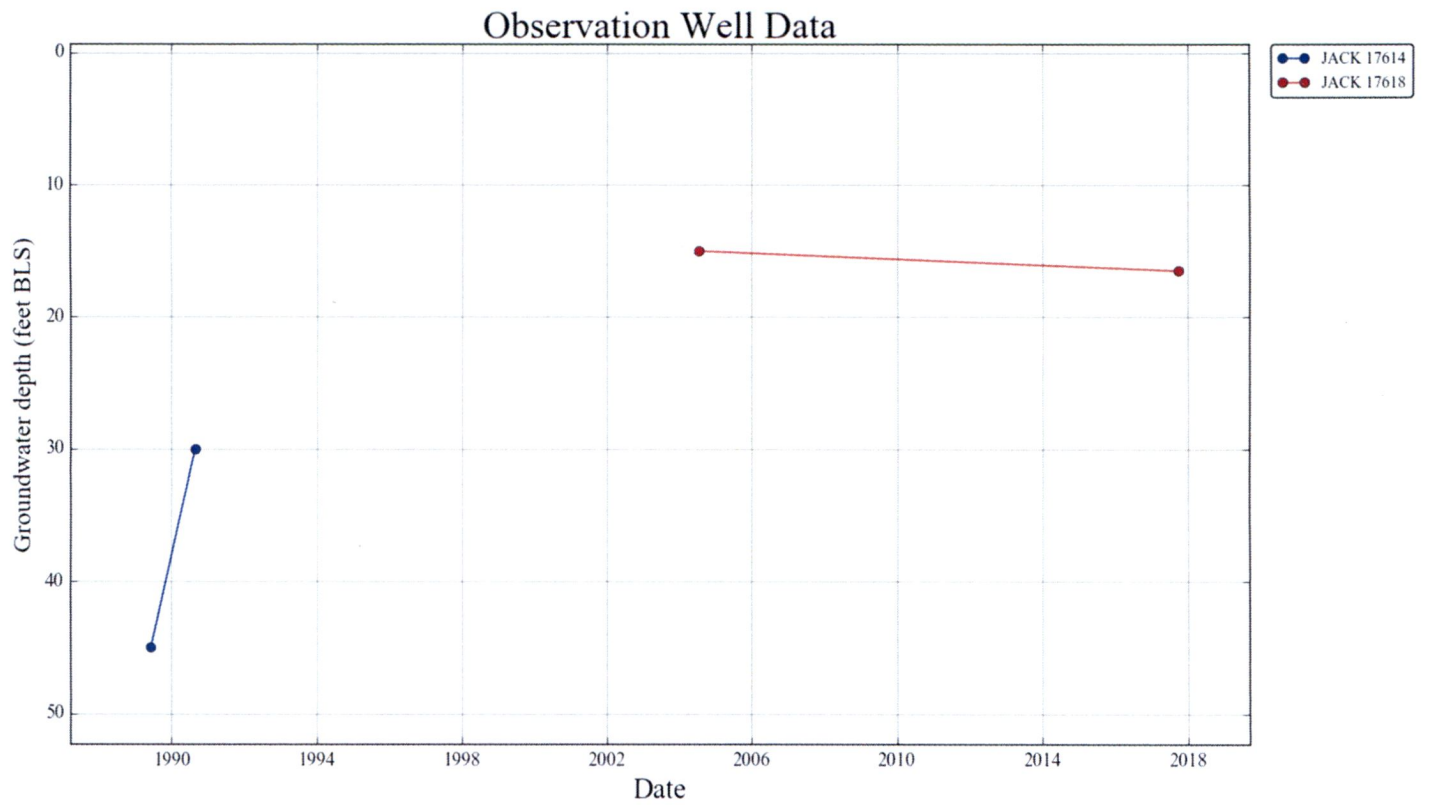


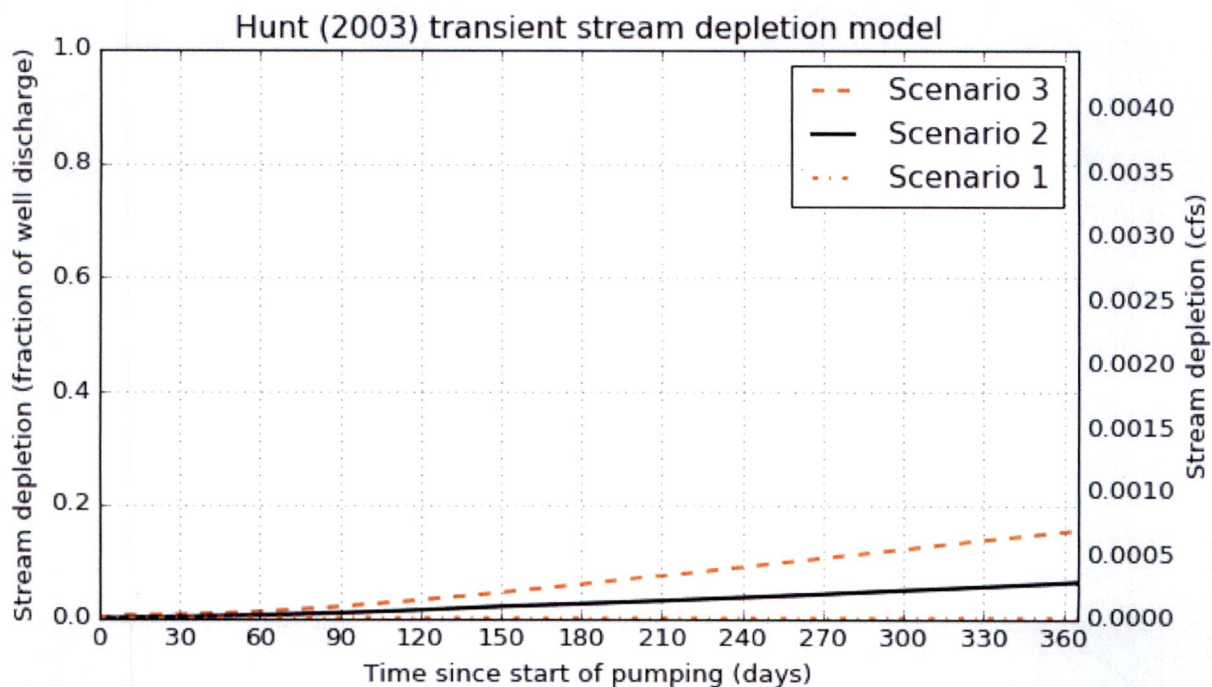
Figure 4. Stream Depletion Model

Application type:	G
Application number:	18563
Well number:	1
Stream Number:	1
Pumping rate (cfs):	0.00446
Pumping duration (days):	365

Parameter	Symbol	Scenario 1	Scenario 2	Scenario 3	Units
Distance from well to stream	a	2275	2275	2275	ft
Aquifer transmissivity	T	100	500	1000	ft ² /day
Aquifer storativity	S	0.1	0.01	0.001	-
Aquitard vertical hydraulic conductivity	Kva	0.01	0.05	0.1	ft/day
Aquitard saturated thickness	ba	20	15	10	ft
Aquitard thickness below stream	babs	3.0	3.0	3.0	ft
Aquitard specific yield	Sya	0.2	0.2	0.2	-
Stream width	ws	100.0	100.0	100.0	ft

Stream depletion for Scenario 2:

Days	10	30	60	90	120	150	180	210	240	270	300	330	360
Depletion (%)	0	0	1	1	1	2	3	3	4	4	5	6	6
Depletion (cfs)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00





MEMO

To: Kristopher Byrd, Well Construction and Compliance Section Manager
From: Joel Jeffery, Well Construction Program Coordinator,
Subject: Review of Water Right Application G-18563
Date: January 29, 2019

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

Applicant's Well #1 (JACK 17618 and JOSE 55932, the deepening of Jack 17618): Based on a review of the Well Report, Applicant's Well #1 seems to protect the groundwater resource.

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

NOTICE TO WATER WELL CONTRACTOR
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)

Mc Jack 17618
State Well No. 385/4W-8
State Permit No. _____

Krouse AUG 31 1977 *not write above this line*

(1) OWNER: WATER RESOURCES DEPT.

Name KROUSE RANCH, INC. SALEM, OREGON
Address 15877 N. APPLEGATE Rd.
GRANVILLE PASS, ORE

(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

CASING INSTALLED:

6" Diam. from 0 ft. to 59 ft. Gage 2250
" 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? DRILLER
Rate: 18 gal./min. with 50 ft. drawdown after 1 hrs.
" " " " " "
" " " " " "
Bailer test gal./min. with ft. drawdown after hrs.
Artesian flow g.p.m.
Temperature of water 50 Depth artesian flow encountered ft.

(9) CONSTRUCTION:

Well seal—Material used CEMENT
Well sealed from land surface to 20 ft.
Diameter of well bore to bottom of seal 10 in.
Diameter of well bore below seal 6 in.
Number of sacks of cement used in well seal 8 1/2 sacks
How was cement grout placed? PUMPED

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 JACKSON Driller's well number _____
1/4 1/4 Section 8 T. 385 R. 44 W.M.
Bearing and distance from section or subdivision corner
77th LOT 00200

(11) WATER LEVEL: Completed well.

Depth at which water was first found 62 ft.
Static level 7 ft. below land surface. Date 7-27-77
Artesian pressure lbs. per square inch. Date _____

(12) WELL LOG:

Diameter of well below casing 6"
Depth drilled 100 ft. Depth of completed well 100 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
BROWN CLAY	0	27	7
BROWN CLAY, FRACTURED BASALT	27	53	
FRACTURED BASALT	53	100	
AQUIFER	62	85	18 gpm

Work started 7-26 1977 Completed 7-27 1977
Date well drilling machine moved off of well 7-27 1977

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 7-27, 1977
(Drilling Machine Operator)

Drilling Machine Operator's License No. 1065

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 Payson Well Drilling
(Person, firm or corporation) (Type or print)

Address 1840 Willow Ln, G.P.

[Signed] [Signature]
(Water Well Contractor)

Contractor's License No. 622 Date 7/29, 1977

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

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

JOSE
 55932

WELL I.D. # L 70881
 START CARD # 163109

(1) LAND OWNER Well Number _____
 Name PHIL KROUSE
 Address 15877 N APPLGATE RD
 City GRANTS PASS State OR Zip 97527

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

HOLE		SEAL			
Diameter	From To	Material	From To	Sacks or pounds	
GROUT NOT DISTURBED					
6	100' 240'				

How 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"/>
				<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:	4"	0	240	160	<input checked="" 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 SAW
 Screens Type _____ Material _____

From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
220	240	6	45	1/4		<input type="checkbox"/>	<input checked="" type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>

(8) WELL TESTS: Minimum testing time is 1 hour
 Pump Bailer Air Flowing Artesian
 Yield gal/min 20 Drawdown _____ Drill stem at 239 Time X 1 hr.

Temperature of water 53 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 Clatsop Latitude _____ Longitude _____
 Township 38S N or S Range 4W E or W. WM.
 Section 8 NE 1/4 SW 1/4
 Tax Lot 800 Lot _____ Block _____ Subdivision _____
 Street Address of Well (or nearest address) 15877 N APPLGATE

(10) STATIC WATER LEVEL:
 15 ft. below land surface. Date 7-8-04
 Artesian pressure _____ lb. per square inch Date _____

(11) WATER BEARING ZONES:
 Depth at which water was first found 100

From	To	Estimated Flow Rate	SWL
100	140		15

(12) WELL LOG:
 Ground Elevation _____

Material	From	To	SWL
BASALT BLK SOFT	100	240	15
<i>S.W.L. before Deeper 15'</i>			

RECEIVED JUL 19 2004 WATER RESOURCES DEPT SALEM, OREGON
 RECEIVED AUG 02 2004 WATER RESOURCES DEPT SALEM, OREGON

Date started 7-8-04 Completed 7-8-04

(unbonded) Water Well Constructor Certification:
 I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon water supply well construction standards. Materials used and information reported above are true to the best of my knowledge and belief.
 Signed _____ WWC Number _____ 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.
 COLEMAN'S WELL DRILLING WWC Number 1324
 Signed Jim Sublette Date 7-12-04

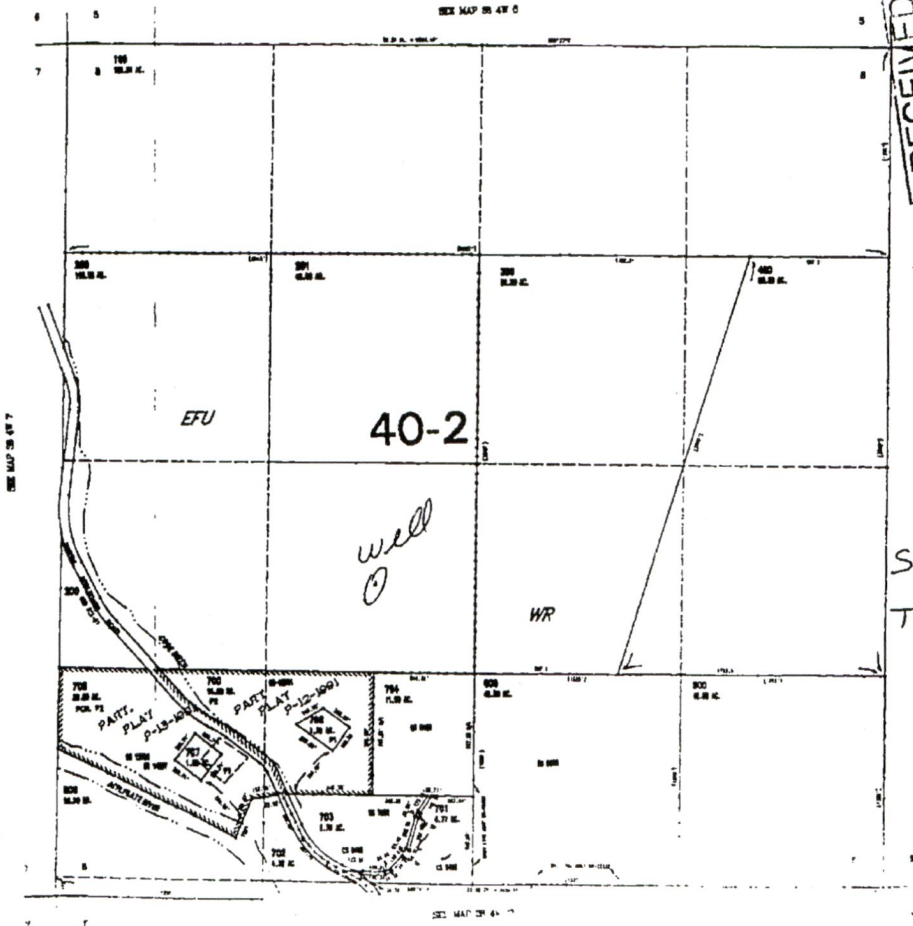
THIS MAP WAS PREPARED FOR
ASSESSMENT PURPOSES ONLY

JOSE 559 SECTION 8 T38S R4W. W.M.
JACKSON COUNTY

38 4W 8

RECEIVED
AUG 02 2004
WATER RESOURCES DEPT
SALEM, OREGON

TL 800
SC 163109



SC
TL

RECEIVED
JUL 12 2004
WATER RESOURCES DEPT
SALEM, OREGON

THIS MAP WAS PREPARED FOR
ASSESSMENT PURPOSES ONLY