Water Right Conditions Tracking Slip

Groundwater/Hydrology Section

FILE # # G-17519

ROUTED TO: Water Rights

TOWNSHIP/
RANGE-SECTION: 22S/20E-4,10

CONDITIONS ATTACHED?: [X] yes [ ] no

REMARKS OR FURTHER INSTRUCTIONS:
Re-review at higher rate (10.7 cfs) and location change for POA's 2 & 6.

Reviewer: K. Litz

PUBLIC INTEREST REVIEW FOR GROUND WATER APPLICATIONS

TO: Water Rights Section Date **5/29/2012**

FROM: Ground Water/Hydrology Section **K. Lite**
Reviewer's Name

SUBJECT: Application G- **17519** Supersedes review of **2/2/2012**
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 ground water 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: **David Roth** County: **Deschutes**

A1. Applicant(s) seek(s) **10.7** cfs from **6** well(s) in the **Deschutes** Basin, **Hampton Valley** subbasin Quad Map: **West of Hampton**

A2. Proposed use: **Irrigation** Seasonality: **April 1 – October 30**

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	**PROP999999**	**1**	**Seds & Volcanics**	**7.97**	**22S/20E-04DCA**	**6174' N, 1632' W fr SE cor S 9**
2	**PROP999999**	**2**	**Seds & Volcanics**	**7.97**	**22S/20E-10BBC**	**3962' N, 427' E fr SE cor S 9**
3	**PROP999999**	**3**	**Seds & Volcanics**	**7.97**	**22S/20E-10BBD**	**4005' N, 701' E fr SE cor S 9**
4	**PROP999999**	**4**	**Seds & Volcanics**	**7.97**	**22S/20E-10BCB**	**3857' N, 615' E fr SE cor S 9**
5	**PROP999999**	**5**	**Seds & Volcanics**	**7.97**	**22S/20E-10BCB**	**1896' N, 123' E fr SE cor S 9**
6	**PROP999999**	**6**	**Seds & Volcanics**	**7.97**	**22S/20E-10CBC**	**2865' N, 546' E fr SE cor S 9**

* 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	**4430**				**Prop 500**	**Prop 40**	**Prop 40**					
2	**4428**				**Prop 500**	**Prop 40**	**Prop 40**					
3	**4427**				**Prop 500**	**Prop 40**	**Prop 40**					
4	**4427**				**Prop 500**	**Prop 40**	**Prop 40**					
5	**4426**				**Prop 500**	**Prop 40**	**Prop 40**					
6	**4421**				**Prop 500**	**Prop 40**	**Prop 40**					

Use data from application for proposed wells.

A4. **Comments: WELLS WILL BE CONSTRUCTED INTO SEDIMENTARY AND VOLCANIC DEPOSITS WITHIN A SMALL BASIN ALONG THE BROTHERS FAULT ZONE. GROUND WATER LEVELS ARE BELOW SPRINGS AND EPHEMERAL STREAMS IN THE AREA. GROUND WATER FLOW DIRECTION IS UNCERTAIN, BUT MAY BE TOWARDS THE NORTHWEST (MILLICAN VALLEY).**

A5. ☐ **Provisions of the Deschutes** Basin rules relative to the development, classification and/or management of ground water 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: _____

Application G-17519 continued Date 5/29/2012

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

B1. **Based upon available data**, I have determined that ground water* 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 ground water 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 ground water 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 ground water resource; or

d. ☒ **will, if properly conditioned**, avoid injury to existing ground water rights or to the ground water resource:
   i. ☒ The permit should contain condition #(s) **7B, 7N**;
   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 ground water production from no deeper than _____ ft. below land surface;

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

c. ☐ **Condition** to allow ground water production only from the _____ ground water 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 Ground Water 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. **Ground water availability remarks:** **SEVERAL HIGH YIELDING (1800 – 2600 GPM) WELLS ARE LOCATED OR PLANNED IN THE VICINITY OF THE WELLS ON THIS APPLICATION. TWO PERMITS HAVE RECENTLY BEEN ISSUED TOTALLY 6.25 CFS IN CLOSE PROXIMITY (1-2 MILES) TO THE PROPOSED WELLS IN THIS APPLICATION. THE CLOSEST STATE OBSERVATION WELL IS LOCATED ABOUT 2 MILES TO THE NORTHEAST. THE WELL DESC 55145 HAS A SIMILAR TREND AND HAS DECLINED ABOUT 2.7 FEET SINCE 2004.**

CONDITION 7N MAY BE MODIFIED TO ALLOW ANNUAL WATER LEVEL MEASUREMENTS FROM A SMALLER SUBSET OF WELLS IF A SUBSEQUENT PLAN IS APPROVED BY THE DEPARTMENT.

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

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

Well	Aquifer or Proposed Aquifer	Confined	Unconfined
1	**SEDIMENTARY AND VOLCANIC UNITS**	☐	☒
2	**SEDIMENTARY AND VOLCANIC UNITS**	☐	☒
3	**SEDIMENTARY AND VOLCANIC UNITS**	☐	☒
4	**SEDIMENTARY AND VOLCANIC UNITS**	☐	☒
5	**SEDIMENTARY AND VOLCANIC UNITS**	☐	☒
6	**SEDIMENTARY AND VOLCANIC UNITS**		

Basis for aquifer confinement evaluation: **THE WATER-BEARING UNITS MAY BE LOCALLY SEMI-CONFINED BECAUSE OF THE HETEROGENITY OF THE SEDIMENTARY DEPOSITS AND SPATIAL VARIABILITY IN PERMEABILITY INHERENT TO THE LAVA FLOWS.**

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	**CAMP CREEK**	**Est. 4290**	**4500**	**65,480**	☐	☒	☐	☐	☒
2	1	**CAMP CREEK**	**Est. 4288**	**4500**	**66,290**	☐	☒	☐	☐	☒
3	1	**CAMP CREEK**	**Est. 4287**	**4500**	**66,515**	☐	☒	☐	☐	☒
4	1	**CAMP CREEK**	**Est. 4287**	**4500**	**66,690**	☐	☒	☐	☐	☒
5	1	**CAMP CREEK**	**Est. 4286**	**4500**	**68,700**	☐	☒	☐	☐	☒
6	1	**CAMP CREEK**	**Est. 4281**	**4500**	**67,130**	☐	☒	☐	☐	☒
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐

Basis for aquifer hydraulic connection evaluation: **GROUND WATER LEVELS ARE BELOW THE ELEVATION OF SPRINGS AND CAMP CREEK AT THE NEAREST DISTANCE.**

Water Availability Basin the well(s) are located within: **70358; S. FK CROOKED RIVER**

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?
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐

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: ____

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													
(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:

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 ground water use under this permit can be regulated if it is found to substantially interfere with surface water:

i. ☒ The permit should contain condition #(s) **7B**;

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

C6. **SW / GW Remarks and Conditions** **GROUND WATER FLOW DIRECTION IS UNCERTAIN, BUT MAY BE TOWARDS THE NORTHWEST (MILLICAN VALLEY). INTERFERENCE WITH THE NEAREST STREAM (CAMP CREEK) IS HIGHLY UNLIKELY GIVEN THE HYDRAULIC HEAD RELATION AND THE NEARBY OCCURRANCE OF EARLY TO MIDDLE TERTIARY GEOLOGIC UNITS THAT ARE TYPICALLY CHARACTERIZED AS BOUNDARIES TO REGIONAL GROUND WATER FLOW.**

References Used: **USGS GEOL MAP I-493; USGS WRIR 00-4162; OWRD GW REPORT 31; TOPO MAPS; APPL. FILE G-17519; WELL REPORTS DESC 53516, DESC 55145 DESC 51548, AND DESC 53516. STATE OBSERVATION WELLS 1324 AND 1341.**

D. WELL CONSTRUCTION, OAR 690-200

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

D2. **THE WELL does not 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**:
- a. ☐ constitutes a health threat under Division 200 rules;
- b. ☐ commingles water from more than one ground water reservoir;
- c. ☐ permits the loss of artesian head;
- d. ☐ permits the de-watering of one or more ground water reservoirs;
- e. ☐ other: (specify) _____

D4. **THE WELL construction deficiency is described as follows:** _____

D5. **THE WELL**
- a. ☐ **was**, *or* ☐ **was not** constructed according to the standards in effect at the time of original construction or most recent modification.
- b. ☐ I don't know if it met standards at the time of construction.

D6. ☐ **Route to the Enforcement Section.** I recommend withholding issuance of the permit until evidence of well reconstruction is filed with the Department and approved by the Enforcement Section and the Ground Water Section.

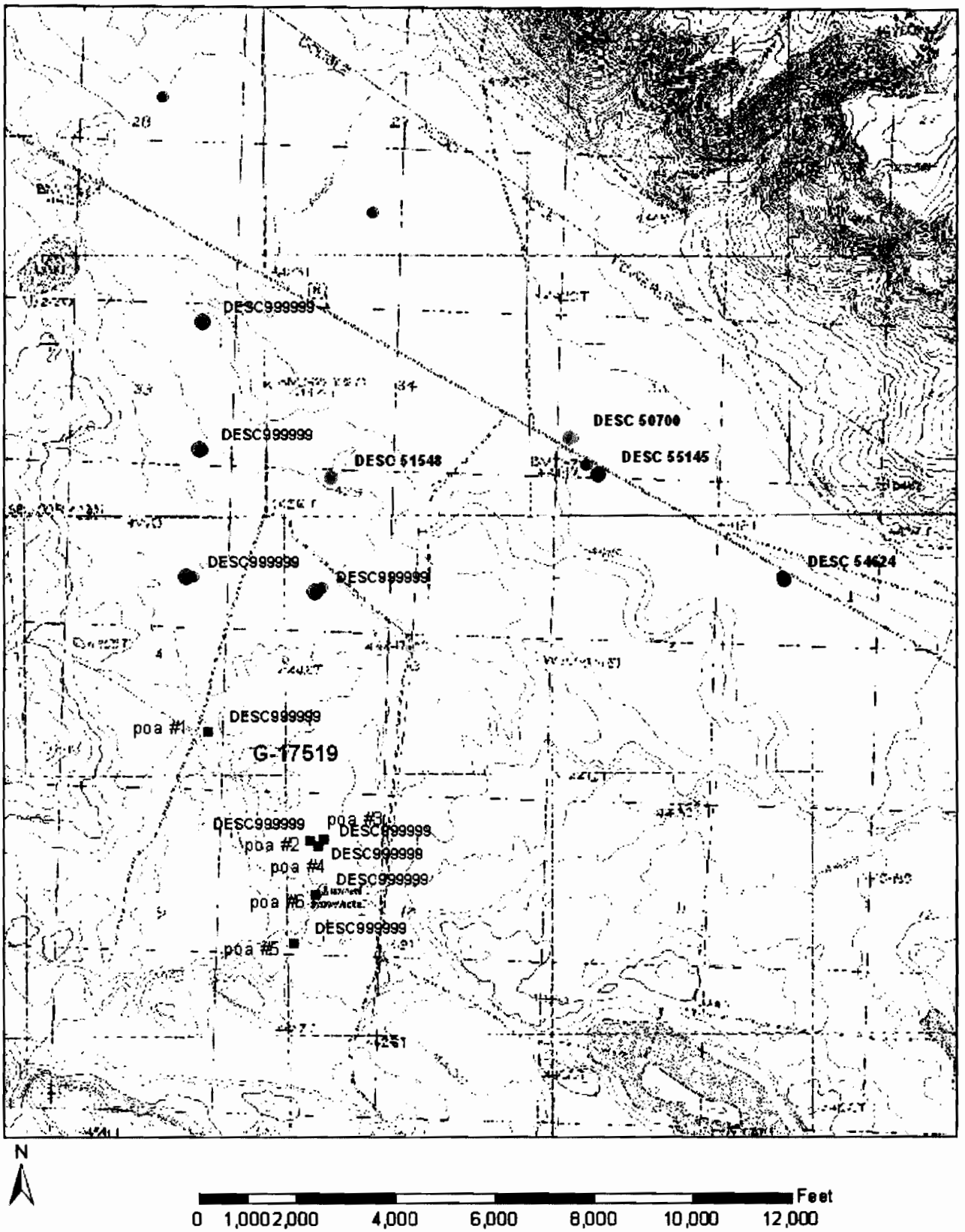
THIS SECTION TO BE COMPLETED BY ENFORCEMENT PERSONNEL

D7. ☐ Well construction deficiency has been corrected by the following actions: _____

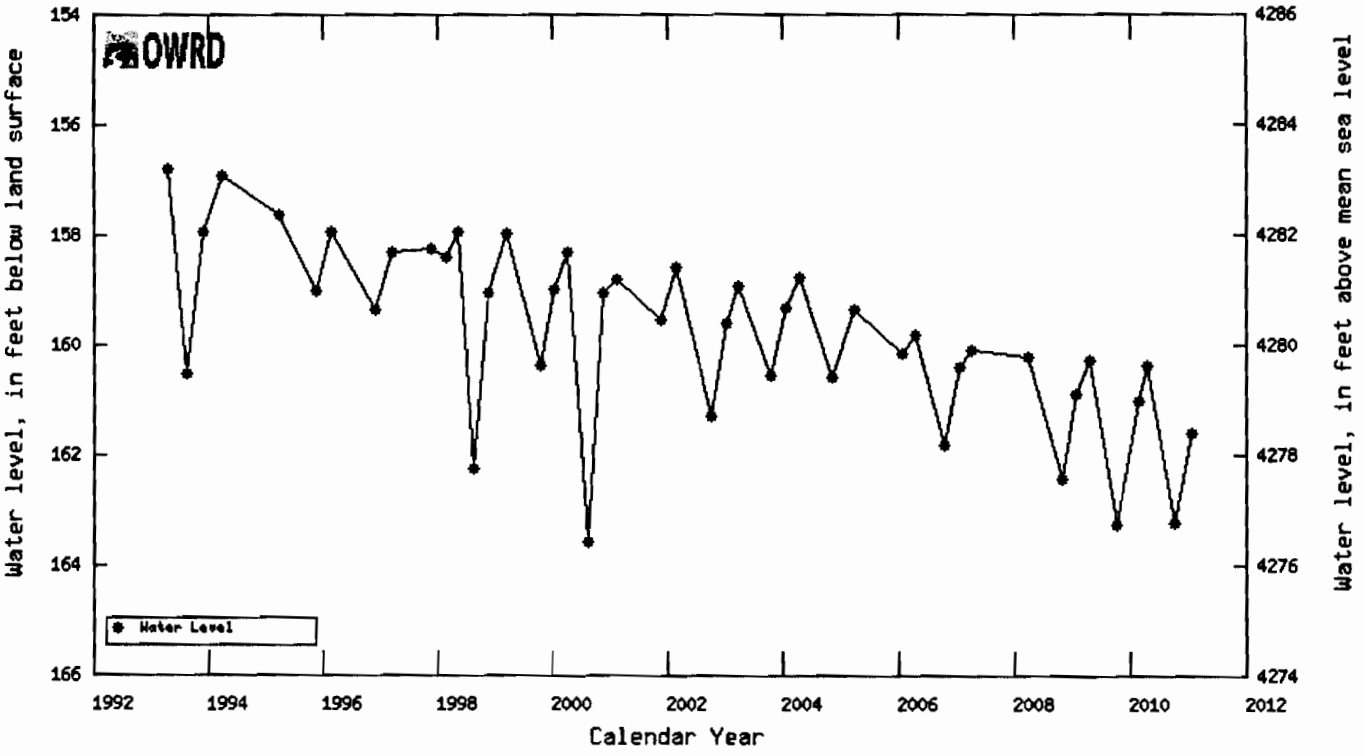
_____ _____, 200____.
(Enforcement Section Signature)

D8. ☐ **Route to Water Rights Section (attach well reconstruction logs to this page).**

G-17519: West of Hampton Quadrangle



Oregon Water Resources Department Well Location	21.00S/20.00E-8CCB
Oregon Water Resources Department Logid	DESC 53516
Oregon Water Resources Department Well Tag (Well ID)	----
Oregon Water Resources Department State Observation Well Number	1324
Total well depth (feet below land surface)	400
Land surface elevation (feet above mean sea level)	4440
Primary use of well	----
Primary aquifer system	----



Oregon Water Resources Department Well Location	21.00S/20.00E-35cc
Oregon Water Resources Department Logid	DESC 55145
Oregon Water Resources Department Well Tag (Well ID)	----
Oregon Water Resources Department State Observation Well Number	1341
Total well depth (feet below land surface)	410
Land surface elevation (feet above mean sea level)	----
Primary use of well	----
Primary aquifer system	----