

**PUBLIC INTEREST REVIEW FOR GROUND WATER APPLICATIONS**

TO: Water Rights Section Date 14 May 2008  
 FROM: Ground Water/Hydrology Section Gerald H. Grondin  
Reviewer's Name  
 SUBJECT: Application G- 16895 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 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: Stephen Roth County: Deschutes

- A1. Applicant(s) seek(s) 14.55 (6,530 gpm)\* cfs from 4 well(s) in the Deschutes Basin,  
South Fork Crooked River (Hampton Valley) subbasin Quad Map: Hampton
- A2. Proposed use: Irrigation (primary 932 acres) Seasonality: March 1 – October 31 (245 days)
- 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	Not drilled	10	Basalt?	2.79	22S/21E-sec 9 DAA	2233' N, 318' W fr SE cor S 9
2	Not drilled	11	Basalt?	3.23	22S/21E- sec 16 ABD	707' S, 1777' W fr NE cor S 16
3	Not drilled	12	Basalt?	5.30	22S/21E-sec 10 DCC	510' N, 2156' W fr SE cor S 10
4	Not drilled	13	Basalt?	3.23	22S/21E-sec 15 CBA	2468' N, 947' E fr SW cor S 15
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	4430	560	132	propose	850	0 - 40	+1 - 40		none	1500		
2	4420	560	132	propose	850	0 - 40	+1 - 40		none	1500		
3	4430	560	132	propose	850	0 - 40	+1 - 40		none	2500		
4	4420	560	132	propose	850	0 - 40	+1 - 40		none	1500		

Use data from application for proposed wells.

A4. **Comments: Proposed maximum pumping rate = 14.55 cfs (6,530 gpm), maximum rate allowed = 11.65 cfs (5,230 gpm)**

**Water well reports for nearby wells indicate the wells as proposed will likely penetrate through sedimentary and volcanic deposits within a small basin into underlying basalt along the brothers fault zone. The wells as proposed will likely be open to both the sedimentary and volcanic deposits and the underlying basalt. 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** \_\_\_\_\_ **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:** The basin rule allows the proposed use

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

**Comments:** Not applicable



**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	Basalt and overlying sedimentary and volcanic units	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	Basalt and overlying sedimentary and volcanic units	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3	Basalt and overlying sedimentary and volcanic units	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4	Basalt and overlying sedimentary and volcanic units	<input type="checkbox"/>	<input checked="" type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>

Basis for aquifer confinement evaluation: \_\_\_\_\_

**The water-bearing units are generally unconfined. Locally, they may be semi-confined because of the heterogeneity of the sedimentary deposits and spatial variability in permeability inherent to the lava flows. The proposed wells described in the application will likely be open to both the sedimentary and volcanic deposits and the underlying basalt. The sediment and basalt are likely hydraulically connected based upon well DESC 58016.**

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	Lizard Creek	4280	4415	5680	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	1	Lizard Creek	4280	4415	2370	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3	1	Lizard Creek	4280	4415	6610	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4	1	Lizard Creek	4280	4415	2920	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1	2	Mud Springs Creek	4280	4420	6300	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	2	Mud Springs Creek	4280	4420	6650	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3	2	Mud Springs Creek	4280	4420	9950	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4	2	Mud Springs Creek	4280	4420	10140	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1	3	Unnamed Creek	4280	4420	3650	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	3	Unnamed Creek	4280	4420	4350	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3	3	Unnamed Creek	4280	4420	150	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4	3	Unnamed Creek	4280	4420	1180	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1	4	Camp Creek	4280	4500	67000	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	4	Camp Creek	4280	4500	70000	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3	4	Camp Creek	4280	4500	69000	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4	4	Camp Creek	4280	4500	72000	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1	5	South Fork Crooked River	4280	4130	50000	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	5	South Fork Crooked River	4280	4130	53000	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3	5	South Fork Crooked River	4280	4130	49000	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4	5	South Fork Crooked River	4280	4130	52000	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Basis for aquifer hydraulic connection evaluation: \_\_\_\_\_

**For Lizard Creek, Mud Springs Creek, and the unnamed creek: interference is unlikely given these creeks appear intermittent and the ground water elevation appears to be well below the elevation of the creek beds.**



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.

<b>Non-Distributed Wells</b>													
Well	SW#	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS													
Interference CFS													
<b>Distributed Wells</b>													
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:** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**No analysis: no hydraulic connection**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_





**D. WELL CONSTRUCTION, OAR 690-200**

D1. Well #: \_\_\_\_\_ Logid: none drilled yet

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: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

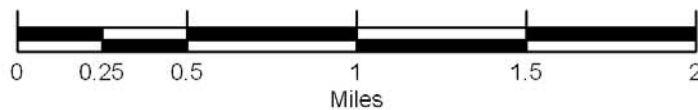
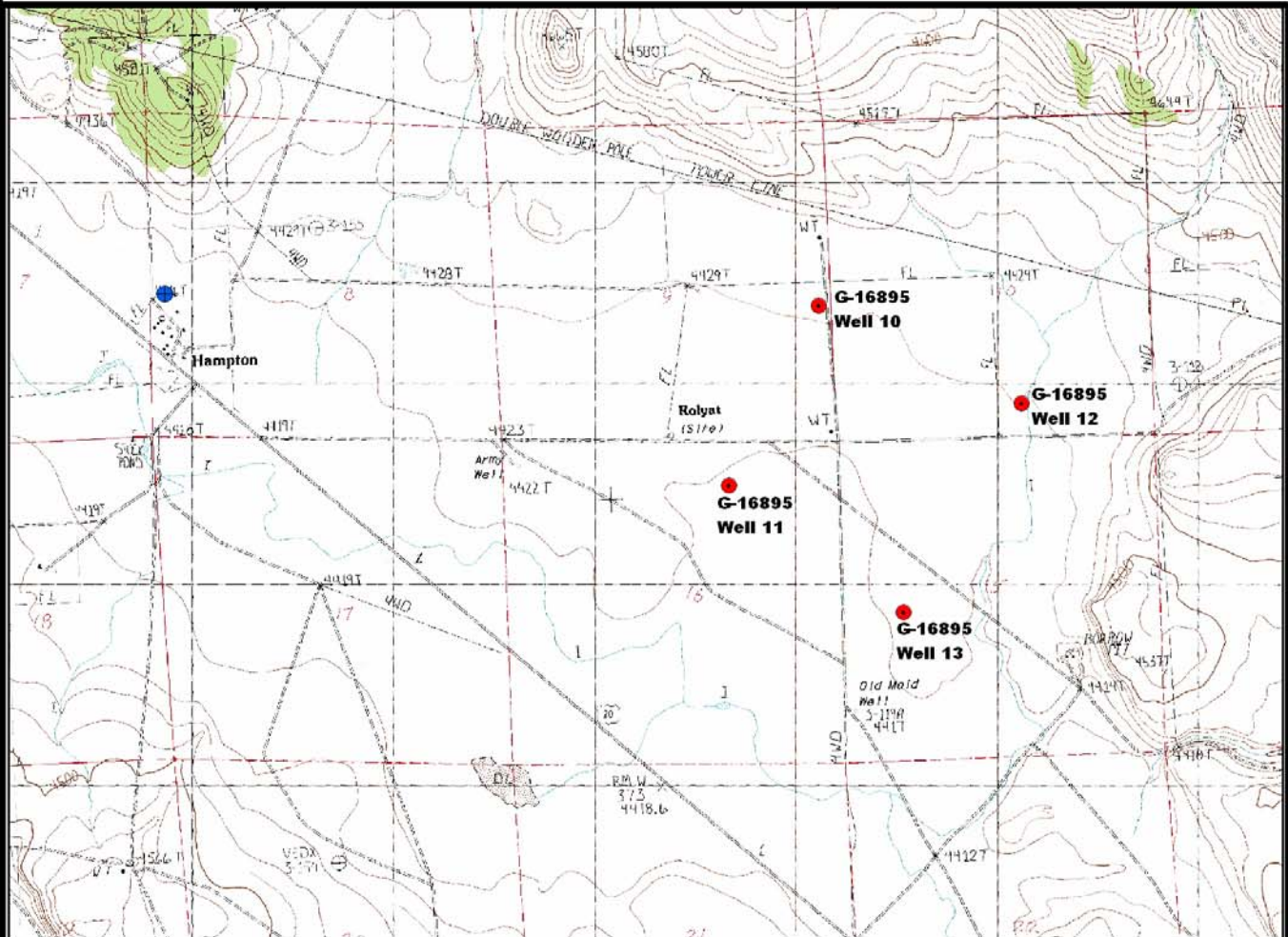
\_\_\_\_\_, 200\_\_\_\_.  
(Enforcement Section Signature)

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

\_\_\_\_\_



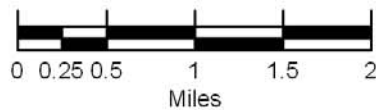
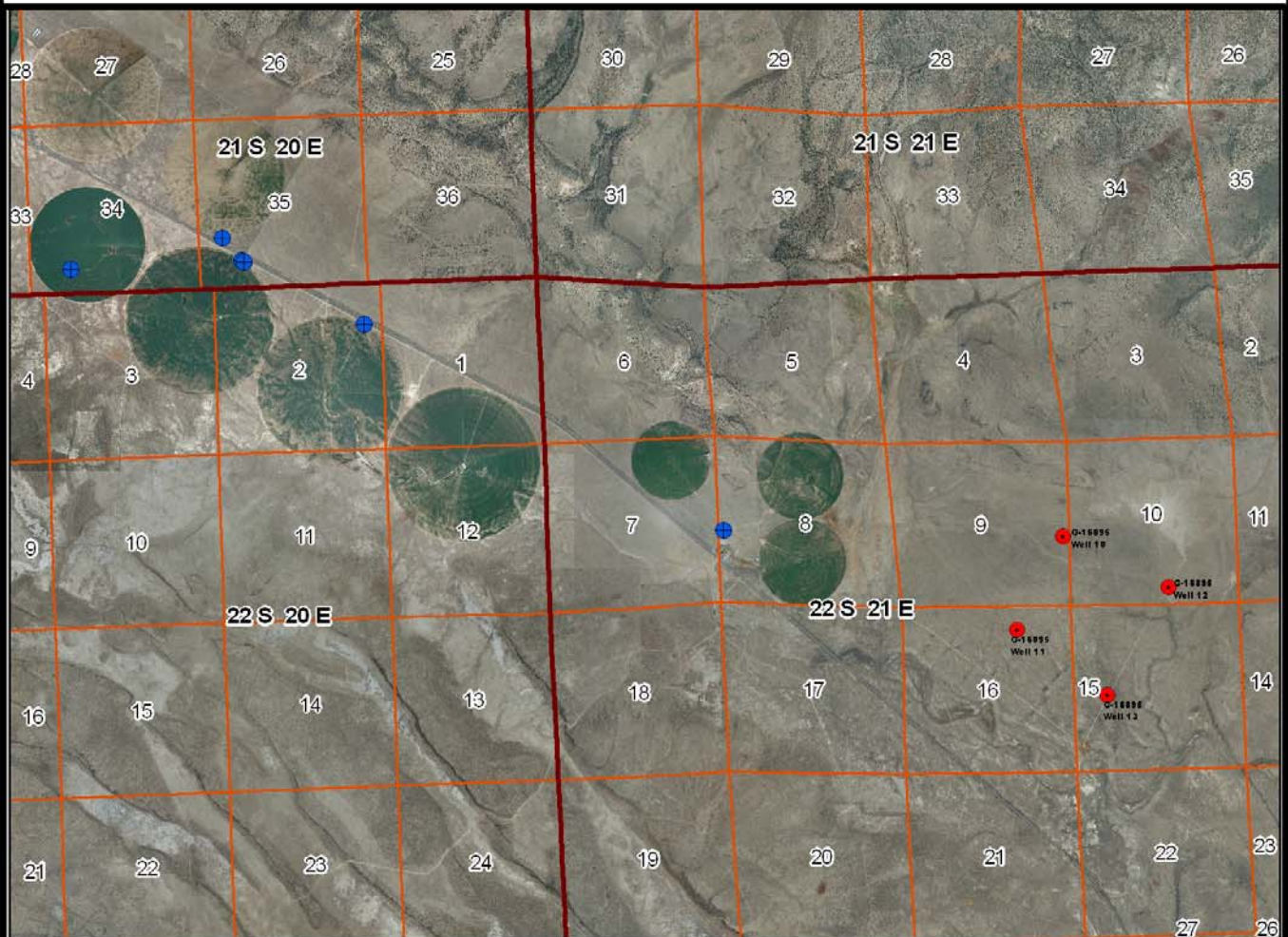
# Ground Water Application G-16895 Stephen Roth



**Proposed Wells = red dots**  
**Other Wells = blue dots**



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