



Oregon Water Resources Department  
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## Ground Water Review Form:

- Water Right Transfer
- Permit Amendment
- GR Modification
- Other

Application: T-13276

Applicant Name: Broken Spur Ranch LLC

Proposed Changes:  POA       APOA       SW→GW       RA  
 USE       POU       OTHER

Reviewer(s): J. Hackett

Date of Review: December 9, 2019

Date Reviewed by GW Mgr. and Returned to WRSD: 12/16/19

The information provided in the application is insufficient to evaluate whether the proposed transfer may be approved because:

- The water well reports provided with the application do not correspond to the water rights affected by the transfer.
- The application does not include water well reports or a description of the well construction details sufficient to establish the ground water body developed or proposed to be developed.
- Other \_\_\_\_\_

1. Basic description of the changes proposed in this transfer: The applicant, Broken Spur Ranch LLC, seeks to consolidate three groundwater certificates by allowing use from any of 3 POAs on each water right. This application seeks to add POAs and change the POU's on water right certificates 53743, 82164, and 86784.
2. Will the proposed POA develop the same aquifer (source) as the existing authorized POA?  
 Yes     No    Comments: The POAs associated with the applicant's certificates are UMAT 112, UMAT 5829, and UMAT 54384 (see table below).

Certificate	Authorized POA	Additional POAs
53743	UMAT 54384	UMAT 112, UMAT 5829
82164	UMAT 112	UMAT 5829, UMAT 54384
86784	UMAT 5829	UMAT 112, UMAT 54384

UMAT 112 is 401 feet deep, UMAT 5829 is 201 feet deep, and UMAT 54384 is 255 feet deep. All three wells produce from water-bearing zones in the Grande Ronde Formation of the Columbia River Basalt Group.

3. a) Is there more than one source developed under the right (e.g., basalt and alluvium)?  
 Yes     No \_\_\_\_\_
- b) If yes, estimate the portion of the right supplied by each of the sources and describe any limitations that will need to be placed on the proposed change (rate, duty, etc.): \_\_\_\_\_

4. a) Will this proposed change, at its maximum allowed rate of use, likely result in an increase in interference with **another ground water right**?

Yes  No Comments: If this application is approved, the maximum allowed rate at each of the POAs could increase to 1.47 cfs. The increase will be most significant if all production is from UMAT 5829 because the current certificated maximum pumping rate at this well is lowest (0.18 cfs). The increase in pumping rate will result in an increase in interference with nearby groundwater users.

b) If yes, would this proposed change, at its maximum allowed rate of use, likely result in another groundwater right not receiving the water to which it is legally entitled?

Yes  No If yes, explain: Interference was assessed using the Theis Distance-Drawdown analytical model with parameters appropriate for Columbia River Basalt Group aquifers (see attached results). Two scenarios were evaluated to assess the increase in interference; 1) baseline interference with the nearest well (UMAT 106, Radial distance = 800 feet) was established using the maximum current pumping rate at UMAT 5829 (0.18 cfs), and 2) the increase in interference at UMAT 106 was estimated by assigning all potential pumpage associated with this application (1.47 cfs) to UMAT 5829. Estimated interference (drawdown) at UMAT 106 increases from 2.64 feet (current condition) to 21.57 feet (potential maximum). Modeling shows that maximum interference can increase by up to 19 feet, however, it is unlikely that any of the POAs can or will pump the maximum allowed rate. So, the actual increase in interference is expected to be much less.

5. a) Will this proposed change, at its maximum allowed rate of use, likely result in an increase in interference with **another surface water source**?

Yes  No Comments: All three POAs are located similar distances from Birch Creek, so interference should not increase.

b) If yes, at its maximum allowed rate of use, what is the expected change in degree of interference with any **surface water sources** resulting from the proposed change?

Stream: \_\_\_\_\_  Minimal  Significant  
 Stream: \_\_\_\_\_  Minimal  Significant

Provide context for minimal/significant impact: \_\_\_\_\_

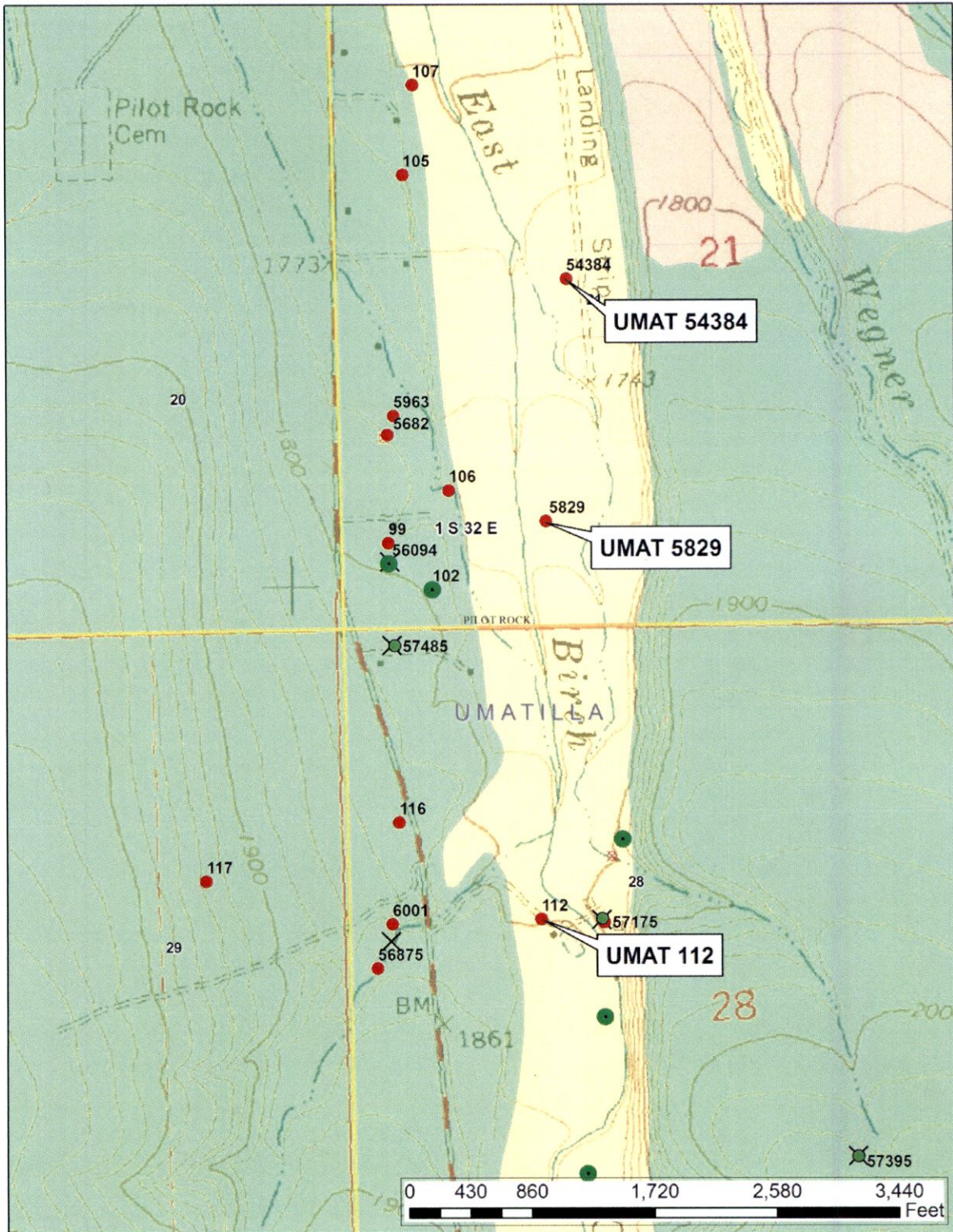
6. What conditions or other changes in the application are necessary to address any potential issues identified above: \_\_\_\_\_

7. Any additional comments: \_\_\_\_\_

Well Location Map

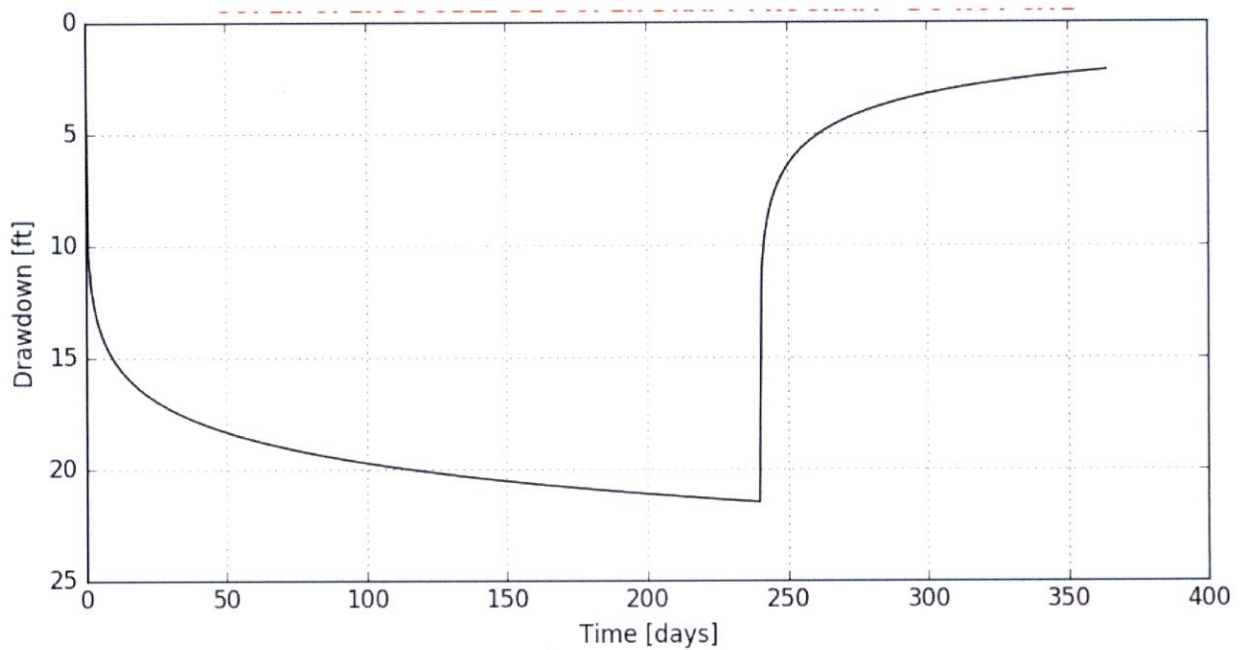
T-13276, Broken Spur Ranch LLC

1:10,000 scale



**Theis Distance-Drawdown, Pumping Rate = 1.47 cfs**

<b>Input Data:</b>	Var Name	Scenario 1	Scenario 2	Scenario 3	Units
Total pumping time	t		245		d
Radial distance from pumped well:	r		800.00		ft
Pumping rate	Q		1.470		cfs
Hydraulic conductivity	K	50.000	50.000	50.000	ft/day
Aquifer thickness	b		100		ft
Storativity	S_1		0.00010		
	S_2		0.00010		
<b>Transmissivity Conversions</b>	T_f2pd	5,000	5,000	5,000	ft <sup>2</sup> /day
	T_ft2pm	3.4722	3.4722	3.4722	ft <sup>2</sup> /min
	T_gpdpft	37,400	37,400	37,400	gpd/ft



**Theis Distance-Drawdown, Pumping Rate = 0.18 cfs**

Input Data:	Var Name	Scenario 1	Scenario 2	Scenario 3	Units	
Total pumping time	t		245		d	
Radial distance from pumped well:	r		800.00		ft	<b>Q conversions</b>
Pumping rate	Q		0.180		cfs	80.78 gpm
Hydraulic conductivity	K	50.000	50.000	50.000	ft/day	0.18 cfs
Aquifer thickness	b		100		ft	10.80 cfm
Storativity	S_1		0.00010			15,552.00 cfd
	S_2		0.00010			0.36 af/d
<b>Transmissivity Conversions</b>	T_ft2pd	5,000	5,000	5,000	ft <sup>2</sup> /day	
	T_ft2pm	3.4722	3.4722	3.4722	ft <sup>2</sup> /min	
	T_gpdft	37,400	37,400	37,400	gpd/ft	

