



**PUBLIC INTEREST REVIEW FOR GROUNDWATER APPLICATIONS**

TO: Water Rights Section Date July 10, 2013

FROM: Groundwater Section Marc Norton

SUBJECT: Application G- 17604 Reviewer's Name \_\_\_\_\_  
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 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: NF Land LLC County: Umatilla

A1. Applicant(s) seek(s) 6.47 cfs from 7 well(s) in the Walla Walla River Basin.  
North Fork Walla Walla River subbasin Quad Map: Bowlus Hill & Peterson Ridge

A2. Proposed use Irrigation of 517.7 acres - primary Seasonality: March 1 – November 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	Proposed	1	CRBG	6.47	05N/36E-24 SE NW	1060' N, 885' W fr C of S 24
2	Proposed	2	CRBG	6.47	05N/36E-24 NE NW	620' S, 60' W fr N ¼ cor S 24
3	Proposed	3	CRBG	6.47	05N/36E-13 SW SW	45' N, 1200' E fr SW cor S 13
4	Proposed	4	CRBG	6.47	05N/36E-13 SW SE	1200' N, 900' E fr S ¼ cor S 13
5	Proposed	5	CRBG	6.47	05N/36E-13 SE SW	470' N, 250' W fr S ¼ cor S 13
6	Proposed	6	CRBG	6.47	05N/36E-24 NW NE	360' S, 1270' E fr N ¼ cor S 24
7	Proposed	7	CRBG	6.47	05N/36E-13 SE SW	1240' N, 300' W fr S ¼ cor S 13
8	Proposed	8	CRBG	6.47	05N/36E-23 SW NE	695' S, 125' E fr ¼ N cor S 23
9	Proposed	9	CRBG	6.47	05N/36E-24 NW NW	1250' S, 260' E fr NW cor S 24
10	Proposed	10	CRBG	6.47	05N/36E-23 NW NW	720' S, 215' E fr NW cor S 23
11	Proposed	11	CRBG	6.47	05N/36E-24 NW NW	375' S, 825' E fr NW cor S 24
12	Proposed	12	CRBG	6.47	05N/36E-23 NW NE	725' S, 1190' E fr N ¼ cor S 23
13	Proposed	13	CRBG	6.47	05N/36E-23 NE NW	585' N, 580' E fr S ¼ cor S 14
14	Proposed	14	CRBG	6.47	05N/36E-23 SE NE	895' S, 370' W fr NE cor S 23
15	UMAT 57199	15	CRBG	6.47	05N/36E-23 NE NW	245' N, 340' E fr S ¼ cor S 14

\* 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	1627				500	0 - 300	0 - 500		300 - 500			
2	1773				625	0 - 400	0 - 625		400 - 625			
3	1807				625	0 - 400	0 - 625		400 - 625			
4	2032				900	0 - 400	0 - 900		600 - 900			
5	2056				900	0 - 400	0 - 900		600 - 900			
6	2094				950	0 - 400	0 - 950		650 - 950			
7	2185				1000	0 - 400	0 - 1000		700 - 1000			
8	1540				350	0 - 50	0 - 50		50 - 350			
9	1590				410	0 - 50	0 - 50		0 - 410			
10	1520				320	0 - 50	0 - 50		50 - 320			
11	1720				520	0 - 50	0 - 50		50 - 520			
12	1560				380	0 - 50	0 - 50		50 - 380			
13	1700				510	0 - 50	0 - 50		50 - 510			
14	1580				410	0 - 50	0 - 50		50 - 410			
15	1660				305	0 - 20	+1 - 20	-----	-----	100	-----	Air

Use data from application for proposed wells.

A4. **Comments:** The proposed well construction will need to be modified so that when complete there will only be 100 feet of open borehole unless additional work is done to show that there is only one aquifer being developed. Well #15 was constructed by the prior owner in 1980.

Requested discharge rate is 2,904 gpm = 6.47 cfs.

A5.  Provisions of the \_\_\_\_\_ 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: \_\_\_\_\_  
\_\_\_\_\_

A6.  Well(s) # \_\_\_\_\_, tap(s) an aquifer limited by an administrative restriction. Name of administrative area: Umatilla Basin – five-mile radius for wells in basalt aquifers

Comments: **ALL WELLS ARE PROPOSED except #15. Wells 1 - 7 are located outside of the five-mile radius from City of Milton-Freewater wells. Wells 8 – 15 are within the five-mile radius from City of Milton-Freewater wells.**

**B. GROUNDWATER 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 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) **7B – Interference, 7N - Annual WL (February/March), 7P – Well Tag, 7T – Measuring Tube, Large measuring and reporting with flow meter on each well**;
  - 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.  Condition to allow production only from a single aquifer in the Columbia River Basalt groundwater reservoir;
- e.  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 is requesting 6.47 cfs (2900 gpm) from 15 wells for irrigation of 517.7 acres. Wells 1 – 14 are PROPOSED, well #15 has been constructed but the well constructor did not file a Water Well Report. Wells 1 - 7 are located outside of the five-mile radius from City of Milton-Freewater wells and wells 8 – 15 are within the five-mile radius. Aquifers within the Columbia River Basalt Group are capable of producing 2900 gallons per minute in many areas of the Umatilla Basin. The problem is that these same aquifers cannot sustain that amount of development without declines occurring. Declines have been documented in basalt aquifers in the Umatilla Basin and in the Walla Walla sub-basin. An example would be UMAT 55891, a well that develops water from an aquifer in the Columbia River Basalts. See attached hydrograph. UMAT 55891 is the POA for permits G-15862 and G-16445. The permits are for irrigation of 104.7 and 104.9 acres respectively. Use of the well began in 2008. From**

**February 2008 to February 2013, the groundwater level has declined 24 feet. Average pumpage was 1.7 acre-feet per acre for the first couple of years as only half of the land was irrigated. The groundwater resource cannot sustain the requested rate and quantity requested by this application. Groundwater levels in the many other wells in the area have significant groundwater level declines.**

A permit could be issued if the amount of water for this project was reduced to 210 acre feet annually. The proposed well construction will need to be modified so that when complete there will only be 100 feet of open borehole unless additional work is done to show that there is only one aquifer being developed.

#### **Aquifer/Well information for Groundwater Application G-17604 - Proposed**

Well #	Well Head Elevation	Well Depth	Seal Depth	Top of Open Interval	Bottom of Open Interval
1	1627	500	300	300	500
2	1773	625	400	400	625
3	1807	625	400	400	625
4	2032	900	400	400	900
5	2056	900	400	400	900
6	2094	950	400	400	950
7	2185	1000	400	400	1000
8	1540	350	50	50	350
9	1590	410	50	50	410
10	1520	320	50	50	320
11	1720	520	50	50	520
12	1560	380	50	50	330
13	1700	510	50	50	460
14	1580	410	50	50	360
15	1660	305	20	20	305

Well #	Elevation	Seal Depth	Elev. At Top Open Interval	Open Interval	Elev. At Bottom
1	1627	300	1327	200	1127
2	1773	400	1373	225	1148
3	1807	400	1407	225	1182
4	2032	400	1632	500	1132
5	2056	400	1656	500	1156
6	2094	400	1694	550	1144
7	2185	400	1785	600	1185
8	1540	50	1490	300	1190
9	1590	50	1540	360	1200
10	1520	50	1470	270	1200
11	1720	50	1670	470	1180
12	1560	50	1510	280	1180
13	1700	50	1650	410	1190
14	1580	50	1530	310	1170
15	1660	20	1640	285	1355

There is a basalt-well nearby that encountered groundwater at an elevation of about 1332 feet. Current well construction requirements are that the wells only have 100 feet of open interval to minimize the opportunity for comingling groundwater from different aquifers.

**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	CRBG	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2	CRBG	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3	CRBG	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4	CRBG	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5	CRBG	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6	CRBG	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7	CRBG	<input checked="" type="checkbox"/>	<input type="checkbox"/>
8	CRBG	<input checked="" type="checkbox"/>	<input type="checkbox"/>
9	CRBG	<input checked="" type="checkbox"/>	<input type="checkbox"/>
10	CRBG	<input checked="" type="checkbox"/>	<input type="checkbox"/>
11	CRBG	<input checked="" type="checkbox"/>	<input type="checkbox"/>
12	CRBG	<input checked="" type="checkbox"/>	<input type="checkbox"/>
13	CRBG	<input checked="" type="checkbox"/>	<input type="checkbox"/>
14	CRBG	<input checked="" type="checkbox"/>	<input type="checkbox"/>
15	CRBG	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Basis for aquifer confinement evaluation: UMAT 57199 – water was encountered at 265’ and rose to a level of 185’. This is normal for wells completed in the CRBG.**

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	North Fork Walla Walla River	1460	1565	700	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	1	North Fork Walla Walla River	1460	1565	2170	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3	1	North Fork Walla Walla River	1460	1545	2220	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4	1	North Fork Walla Walla River	1460	1560	4100	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5	1	North Fork Walla Walla River	1460	1565	3000	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6	1	North Fork Walla Walla River	1460	1595	2950	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7	1	North Fork Walla Walla River	1460	1570	3700	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8	1	North Fork Walla Walla River	1450	1490	580	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
9	1	North Fork Walla Walla River	1450	1550	550	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
10	1	North Fork Walla Walla River	1440	1470	600	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
11	1	North Fork Walla Walla River	1460	1570	1650	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
12	1	North Fork Walla Walla River	1450	1510	920	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
13	1	North Fork Walla Walla River	1450	1495	2050	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
14	1	North Fork Walla Walla River	1460	1520	850	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
15	1	North Fork Walla Walla River	1450	1495	1580	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Basis for aquifer hydraulic connection evaluation: Groundwater elevations are below surface water elevations. The aquifer is even deeper.**

**Water Availability Basin the well(s) are located within:**

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?
		<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"/>	<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"/>			<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: \_\_\_\_\_

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												



**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 groundwater reservoir;
- c.  permits the loss of artesian head;
- d.  permits the de-watering of one or more groundwater 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 Groundwater Section.

**THIS SECTION TO BE COMPLETED BY ENFORCEMENT PERSONNEL**

D7.  Well construction deficiency has been corrected by the following actions: \_\_\_\_\_

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

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

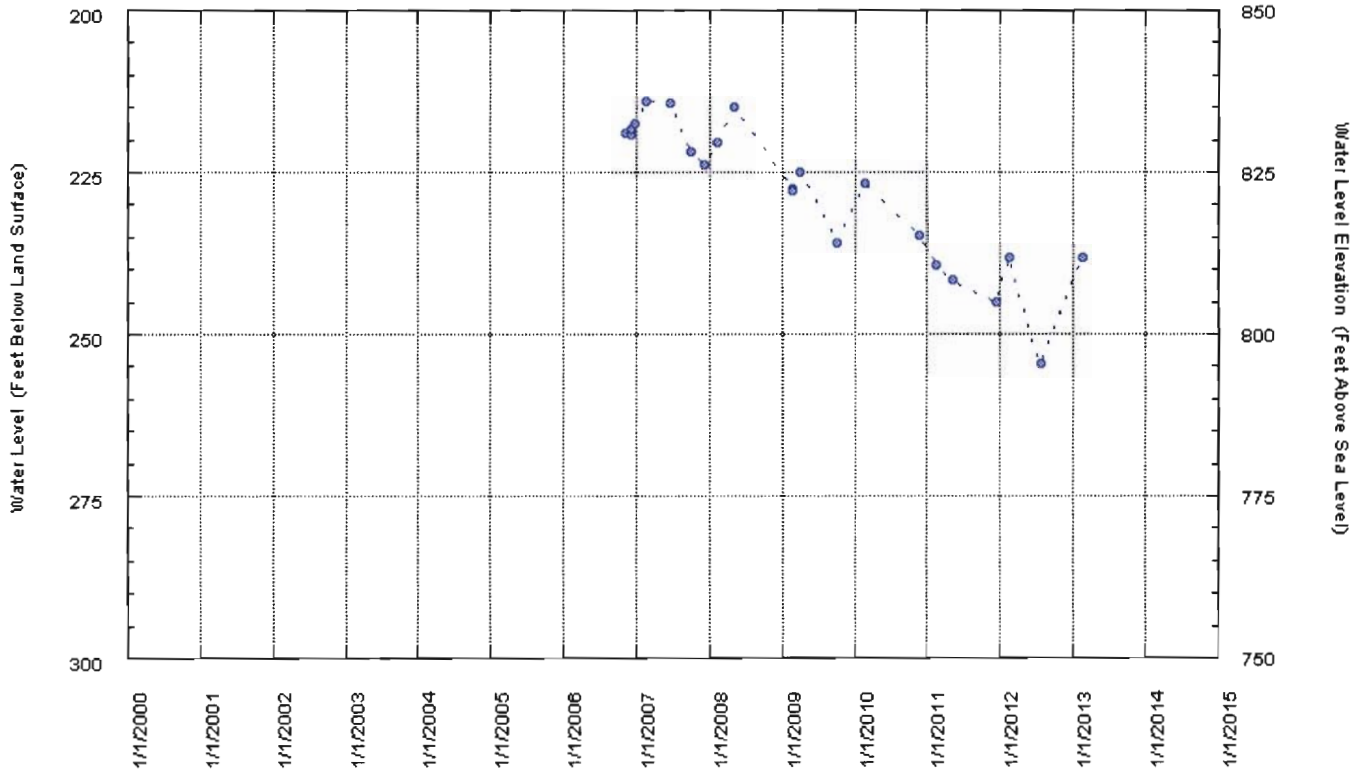
D8.  **Route to Water Rights Section (attach well reconstruction logs to this page).**

\_\_\_\_\_



Casper Irrigation  
Lithology: basalt  
Aquifer: Columbia River Basalt  
Land surface elevation: 1050'  
Well Depth: 800'

### WALLA WALLA SUB-BASIN - UMATILLA BASIN OWRD LOGID UMAT 55891 06N/035E-16DDC





# Groundwater Application G-17604, NF Land LLC Umatilla County, Bowlus Hill Quad

