

Water Right Conditions Tracking Slip

Groundwater/Hydrology Section

FILE # # G-17802
ROUTED TO: Water Rights - Mary
TOWNSHIP/
RANGE-SECTION: 8S/40E - 15, 16, 21

CONDITIONS ATTACHED?: yes no

REMARKS OR FURTHER INSTRUCTIONS:

Reviewer: Mike Zwart

PUBLIC INTEREST REVIEW FOR GROUNDWATER APPLICATIONS

TO: Water Rights Section Date April 9, 2014
 FROM: Groundwater Section Mike Zwart
 SUBJECT: Application G- 17802 Reviewer's Name Mike Zwart
 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: Rustin Smith County: Baker

A1. Applicant(s) seek(s) 4.585 cfs from five well(s) in the Powder Basin,
 _____ subbasin Quad Map: Baker City/Maggie Peak

A2. Proposed use Irrigation, 275.1 acres Seasonality: March 1 to October 31

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	Alluvium	4.585	8S/40E-16 SE-SE	50' N, 150' W fr SE cor S 16
2	Proposed	2	Alluvium	4.585	8S/40E-16 SE-SE	85' N, 1100' W fr SE cor S 16
3	Proposed	3	Alluvium	4.585	8S/40E-16 NE-SE	2615' N, 230' W fr SE cor S 16
4	Proposed	4	Alluvium	4.585	8S/40E-21 NE-NE	120' S, 80' W fr SE cor S 16
5	Proposed	5	Alluvium	4.585	8S/40E-15 NW-NW	5215' N, 80' E fr SE cor S 16

* 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	3348		5±		400±	0-18	0-400		200-400			
2	3349		5±		400±	0-18	0-400		200-400			
3	3345		5±		400±	0-18	0-400		200-400			
4	3348		5±		400±	0-18	0-400		200-400			
5	3342		5±		400±	0-18	0-400		200-400			

Use data from application for proposed wells.

A4. **Comments: Several nearby well logs were cited as examples. BAKE 52230 is reportedly owned by the applicant and is constructed very similarly to the proposed wells here.**

A5. **Provisions of the Powder** _____ 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: _____

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) 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: There are no current State Observation Wells nearby, but water levels were reasonably stable at the wells developing alluvium during their periods of record.

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
All	Interbedded sand, gravel and clay (Qal)	<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"/>
		<input type="checkbox"/>	<input type="checkbox"/>

Basis for aquifer confinement evaluation: Based on the local well logs and the proposed seal depth, the targeted aquifer is unconfined to poorly semiconfined. I believe that most local surface water sources, including Highway 203 Pond, reflect the head in the alluvial aquifer. BAKE 52230 reports a very shallow perched water table, but the head reportedly did not change below a depth of 27 feet.

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	Powder River	3340±	3338	5550	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	1	Powder River	3340±	3338	4650	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3	1	Powder River	3340±	3337	5250	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4	1	Powder River	3340±	3338	5700	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5	1	Powder River	3340±	3336	6150	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1	2	Baldock Slough	3340±	3349	6800	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	2	Baldock Slough	3340±	3350	7700	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3	2	Baldock Slough	3340±	3337	4700	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4	2	Baldock Slough	3340±	3349	6700	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5	2	Baldock Slough	3340±	3336	2600	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Basis for aquifer hydraulic connection evaluation: The head relationship and shallow water-bearing zones reported in local wells suggest an efficient hydraulic connection.

Water Availability Basin the well(s) are located within: Powder R > Snake R ab Rock Cr (30920327); Baldock SI > Powder R at mouth (30920330).

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?
2	1	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	12.6	<input checked="" type="checkbox"/>	<25%	<input checked="" type="checkbox"/>
3	1	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	12.6	<input checked="" type="checkbox"/>	<25%	<input checked="" type="checkbox"/>
3	2	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	0.06	<input checked="" type="checkbox"/>	<25%	<input checked="" type="checkbox"/>
5	2	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	0.06	<input checked="" type="checkbox"/>	<25%	<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"/>		<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: Proposed wells 2, 3 and 5 are less than one mile from Baldock Slough and/or the Powder River. Natural flows in both these surface water sources are low during the later part of the irrigation season.

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

C6. **SW / GW Remarks and Conditions** _____

References Used: Local well logs; local recent reviews; regional geologic mapping, especially GMS-7, Geology of the Oregon Part of the Baker 1 x 2 Quadrangle, 1976.

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.**

Water Availability Tables

STATE OF OREGON
WATER SUPPLY WELL REPORT

BAKE 52230

(ORS 537.765 & OAR 690-205-0210)

WELL LABEL # L 109672

START CARD # 206299

ORIGINAL LOG #

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

(1) LANDOWNER Owner Well I.D. _____
 First Name Rustin Last Name Smith
 Company _____
 Address P.O. Box 583
 City Baker City State OR Zip 97814

(2) TYPE OF WORK New Conversion Deepening
 Alteration (complete Sections 2a & 10) Abandonment (complete Section 5a)

(2a) PRE-ALTERATION: Well Depth _____ ft.
 Seal Material _____
 Casing Type: Steel Plastic Other _____
 Casing Gauge _____ Casing Diameter _____

(3) DRILL METHOD Rotary Air Rotary Mud Auger
 Cable Cable Mud Reverse Rotary Other _____

(4) PROPOSED USE Domestic Irrigation Community
 Industrial/Commercial Livestock Dewatering Injection
 Thermal Other _____

(5) BORE HOLE CONSTRUCTION
 Depth of Completed Well 390 ft. Special Standard: Yes (attach copy)

BORE HOLE			SEAL				
Dia	From	To	Material	From	To	Amount	SD/lbs
14	0	80	Concrete	10	80		36
10	80	200	Bent	0	10		11
8	200	390					

How was seal placed: Method A B C D E
 Other Poured Bentonite
 Backfill placed from _____ ft. to _____ ft. Material _____
 Filter pack from _____ ft. to _____ ft. Material _____ Size _____

(5a) ABANDONMENT USING UNHYDRATED BENTONITE:
 Calculated Amount Proposed to be Used: _____ sacks/lbs
 Actual Amount Used: _____ sacks/lbs

(6) CASING/LINER

Csng	Linr	Dia	+	From	To	Gauge	Steel	Plastic	Welded	Thrd
12	10			2	198	.250	OK		OK	
12	8			185	385	.250	OK		OK	

Shoe Inside Outside Other Location of shoe(s) 198'-385'
 Temporary casing Yes Diameter 14 From 0 To 80

(7) PERFORATIONS/SCREENS
 Perforations Method Torch
 Screens Type _____ Material Steel

Perf	Scm	Csng	Linr	Screen Dia	From	To	Screen/slot width	Slot length	# of slots	Tele/pipe size
12		12	10	185	385	1/2	6	405	8	

(8) WELL TESTS: Minimum testing time is 1 hour
 Pump Bailor Air Flowing Artesian
 Yield gal/min 700 Drawdown 384 Drill stem/Pump depth 390 Duration (hr) 4

Temperature 56 °F Lab analysis Yes By _____
 Water quality concerns? Yes (describe below) TDS _____ ppm

From	To	Description	Amount	Units

(9) LOCATION OF WELL (legal description)
 County Baker Twp 8 N or S Range 40 E or W W.M.
 Sec 22 SE 1/4 of the NW 1/4 Tax Lot 300
 Tax Map Number _____ Lot _____
 Lat _____ " or _____ DMS or DD
 Long _____ " or _____ DMS or DD

Street Address of Well (or nearest address) 1/4 mile east of 203 pond Baker City

(10) STATIC WATER LEVEL

	Date	SWL(psi)	+	SWL (ft)
Existing Well/Pre-Alteration				
Completed Well	<u>9-4-12</u>			<u>6</u>

Flowing Artesian? Yes Dry Hole? Yes

WATER BEARING ZONES Depth water was first found 4

SWL Date	From	To	Est Flow	SWL (psi)	+	SWL (ft)
<u>8-20-12</u>	<u>4</u>	<u>5</u>	<u>3</u>			<u>2</u>
<u>9-4-12</u>	<u>27</u>	<u>390</u>	<u>700</u>			<u>6</u>

(11) WELL LOG Ground Elevation _____

Material	From	To
<u>Top Soil</u>	<u>0</u>	<u>1</u>
<u>Brown Clay</u>	<u>1</u>	<u>4</u>
<u>Brown Clay Sand</u>	<u>4</u>	<u>5</u>
<u>Brown Clay</u>	<u>5</u>	<u>27</u>
<u>Sand Gravel w/ Brown and Blue Clay streaks</u>	<u>27</u>	<u>390</u>

RECEIVED BY OWRD
 SEP 12 2012
 SALEM, OR

Date Started 8-20-12 Completed 9-4-12

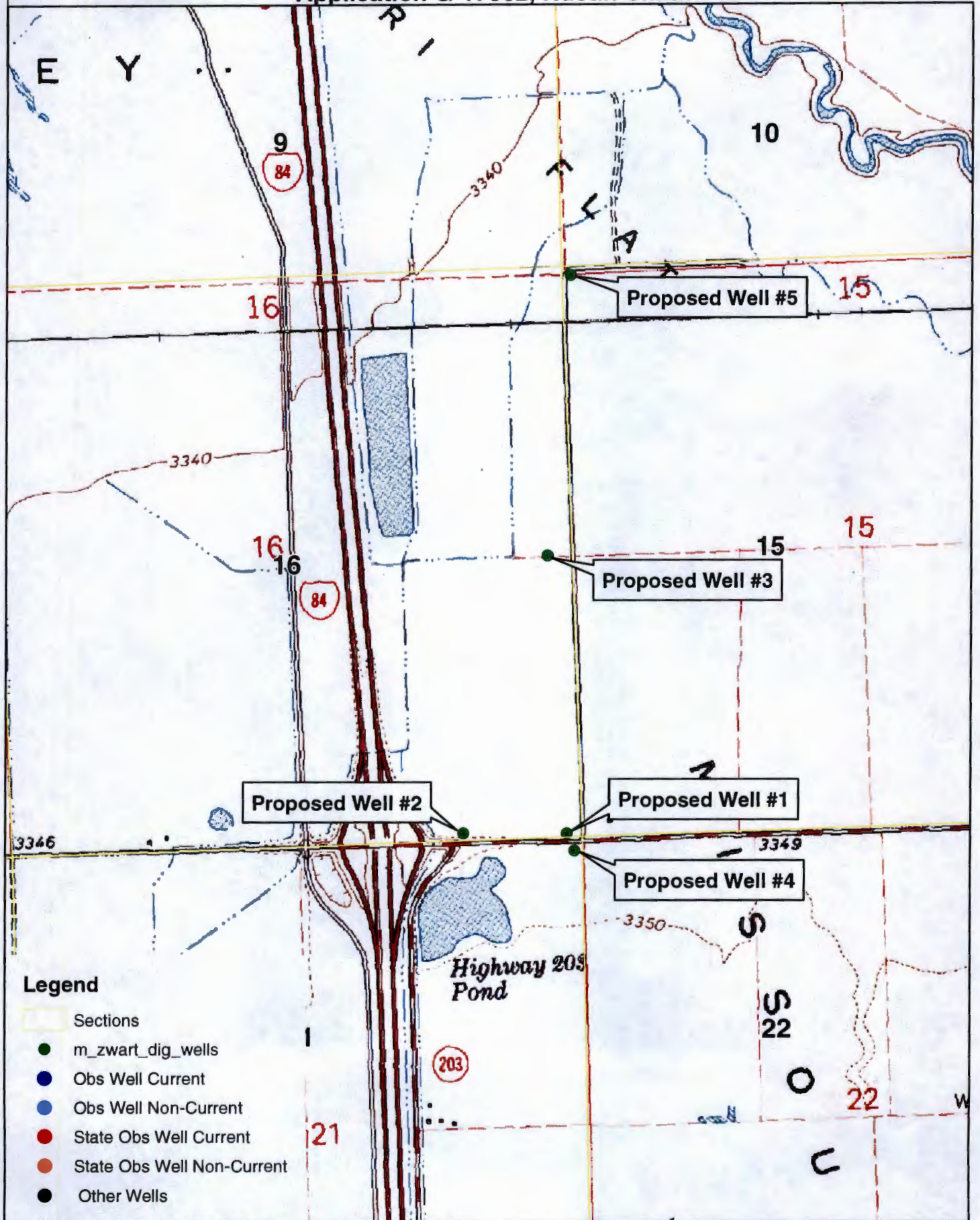
(unbonded) Water Well Constructor Certification
 I certify that the work I performed on the construction, deepening, alteration, or abandonment of this well is in compliance with Oregon water supply well construction standards. Materials used and information reported above are true to the best of my knowledge and belief.

License Number _____ Date _____
 Signed _____

(bonded) Water Well Constructor Certification
 I accept responsibility for the construction, deepening, 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.

License Number 1816 Date 9-10-12
 Signed [Signature]
 Contact Info. (optional) 541-519-0618

Application G-17802, Rustin Smith



Legend

- Sections
- m_zwart_dig_wells
- Obs Well Current
- Obs Well Non-Current
- State Obs Well Current
- State Obs Well Non-Current
- Other Wells

