WATER RESOURCES DEPARTMENT

MEMO August 15, 2012

TO: **Application G-** 17567

FROM: **GW:** Mike Zwart
(Reviewer's Name)

SUBJECT: **Scenic Waterway Interference Evaluation**

_____YES
The source of appropriation is within or above a Scenic Waterway
__✓__NO

_____YES
Use the Scenic Waterway condition (Condition 7J)
__✓__NO

_____Per ORS 390.835, the Ground Water Section is **able** to calculate ground water interference with surface water that contributes to a Scenic Waterway. The calculated interference is distributed below.

_____Per ORS 390.835, the Ground Water Section is **unable** to calculate ground water interference with surface water that contributes to a scenic waterway; **therefore, the Department is unable to find that there is a preponderance of evidence that the proposed use will measurably reduce the surface water flows necessary to maintain the free-flowing character of a scenic waterway.**

DISTRIBUTION OF INTERFERENCE

Calculate the percentage of consumptive use by month and fill in the table below. If interference cannot be calculated, per criteria in 390.835, do not fill in the table but check the "unable" option above, thus informing Water Rights that the Department is unable to make a Preponderance of Evidence finding.

Exercise of this permit is calculated to reduce monthly flows in _____ Scenic Waterway by the following amounts expressed as a proportion of the consumptive use by which surface water flow is reduced.

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

PUBLIC INTEREST REVIEW FOR GROUND WATER APPLICATIONS

TO: Water Rights Section Date **August 15, 2012**

FROM: Ground Water/Hydrology Section **Michael Zwart**
Reviewer's Name

SUBJECT: Application G- **17567** 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: **CTUIR** County: **Umatilla**

A1. Applicant(s) seek(s) **2.0053** cfs from **one** well(s) in the **Umatilla Basin** Basin, _____ subbasin Quad Map: **Table Rock**

A2. Proposed use: **Municipal** Seasonality: **Year Round**

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	**UMAT 57015**	**6**	**CRB**	**2.0053**	**2N/33E-34 SW-NW**	**110' N, 1000' E fr W ¼ cor S 34***
2						
3						
4						
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	**1578**	**55**	**59**	**11/23/11**	**1068**	**0-405**	**0-405**	**380-1068**	**405-700**	**1020**	**194**	**P**
									721-781			
									821-841			
									881-1068			

Use data from application for proposed wells.

A4. **Comments: *The metes and bounds were estimated from the application map and aerial photography. Note that the Water System Development Permit, issued by the CTUIR, includes an annual limitation of 200 acre feet. This is much less than 900 gpm on a continuous basis.**

A5. ☒ **Provisions of the Umatilla** 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, 7T***;
   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: Hydrographs for two non-current observation wells about 1.5 miles southeast of the subject well are attached. Both wells display relatively stable water-levels, but the deep irrigation well, UMAT 341, has declined moderately after a period of rising water levels in the late 1990s. Current water levels are similar to those in the early 1990s.**

***The Water System Development Permit, #WP-509, includes a condition that require monthly measurement and reporting of water levels to the Department of Natural Resources of the CTUIR. The above recommended conditions may not be necessary if the Department were to be provided copies of the measurements obtained to satisfy the CTUIR permit condition.**

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 of the Columbia River Basalt Group**	☒	☐
		☐	☐
		☐	☐
		☐	☐
		☐	☐

Basis for aquifer confinement evaluation: Basalt aquifers in the Umatilla Basin are typically confined. Some wells in the vicinity are flowing artesian.

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	**South Patawa Creek**	1519	1570	300	☐	☒	☐	☐	☒
1	2	**Patawa Creek**	1519	1560	5100	☐	☒	☐	☐	☒
1	3	**North Coyote Creek**	1519	1560	4950	☐	☒	☐	☐	☒
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐

Basis for aquifer hydraulic connection evaluation: The relatively deep well seal limits hydraulic connection with nearby stream reaches.

Water Availability Basin the well(s) are located within: Tutuilla Cr > Umatilla R at mouth, 30710332.

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: This section does not apply.

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													

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
(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; regional geologic maps; local knowledge; reviews of nearby files; GW Reports #30 and #35.**

D. WELL CONSTRUCTION, OAR 690-200

D1. **Well #:** 1 **Logid:** UMAT 57015

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:** I have no issues with the construction of the subject well.

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).**

UMAT 57015

STATE OF OREGON
WATER SUPPLY WELL REPORT
(as required by ORS 537.765 & OAR 690-205-0210)

WELL LABEL # L 100770

START CARD # 201155

(1) LAND OWNER

Owner Well I.D. 6

First Name _____ Last Name _____

Company Confederated Tribes of the Umatilla Indian Reserva

Address 46411 Timine Way

City Pendleton State OR Zip 97801

(2) TYPE OF WORK

[X] New Well [ ] Deepening [ ] Conversion
[ ] Alteration (repair/recondition) [ ] Abandonment

(3) DRILL METHOD

[X] Rotary Air [ ] Rotary Mud [X] Cable [ ] Auger [ ] Cable Mud
[X] Reverse Rotary [ ] Other _____

(4) PROPOSED USE

[ ] Domestic [ ] Irrigation [X] Community
[ ] Industrial/ Commericial [ ] Livestock [ ] Dewatering
[ ] Thermal [ ] Injection [ ] Other _____

(5) BORE HOLE CONSTRUCTION

Special Standard [ ] (Attach copy)

Depth of Completed Well 1,068 ft.

BORE HOLE Dia	From	To	SEAL Material	From	To	Amt	sacks/ lbs
30	0	47	Cement	0	405	528	S
18	47	405					
12	405	710					
10	710	1,068					

How was seal placed: Method [X] A [ ] B [X] C [ ] D [ ] E

[ ] Other _____

Backfill placed from _____ ft. to _____ ft. Material _____

Filter pack from _____ ft. to _____ ft. Material _____ Size _____

Explosives used: [ ] Yes Type _____ Amount _____

(6) CASING/LINER

Casing	Liner	Dia	+	From	To	Gauge	Stl	Plstc	Wld	Thrd
●	○	18	X	.7	47	.375	●	○	X	
●	○	12	X	2	405	.375	●	○	X	
●	○	10		380	678	.250	●	○	X	
○	●	10		678	710	.365	●	○	X	
○	●	8		695	1,068	.322	●	○	X	

except at screen

Shoe [ ] Inside [ ] Outside [ ] Other Location of shoe(s) _____

Temp casing [ ] Yes Dia _____ From _____ To _____

(7) PERFORATIONS/SCREENS

Perforations Method rotary (in 10" liner); factory in 8"

Screens Type V-wire wrap Material 304SS

Perf/Screen	Casing/Liner	Screen Dia	From	To	Scrn/slot width	Slot length	# of slots	Tele/pipe size
Perf	Liner	10	405	700	.19	1	8,850	PS
Perf	Liner	8	*	*	.19	2.5	*	PS
Screen	Liner	8	1,001	1,011	.15	continuous		PS

(8) WELL TESTS: Minimum testing time is 1 hour

[●] Pump [ ] Bailer [ ] Air [ ] Flowing Artesian

Yield gal/min	Drawdown	Drill stem/Pump depth	Duration (hr)
1,020	194		24

Temperature 60 °F Lab analysis [ ] Yes

Water quality concerns? [ ] Yes (describe below)

From	To	Description	Amount	Units

RECEIVED
MAY 01 2012
WATER RESOURCES DEPT
SALEM, OREGON

(9) LOCATION OF WELL (legal description)

County UMATILLA Twp 2 N N/S Range 33 E E/W WM

Sec 34 SW 1/4 of the NW 1/4 Tax Lot 4401

Tax Map Number _____ Lot _____

Lat ° 0 ' " or _____ DMS or DD

Long ° 0 ' " or _____ DMS or DD

(●) Street address of well ( ) Nearest address

71323 S Market Rd, Pendleton, OR 97801

(10) STATIC WATER LEVEL

	Date	SWL(psi)	+	SWL(ft)
Existing Well / Predeepening				
Completed Well	11-23-2011			59

Flowing Artesian? [ ] Dry Hole? [ ]

WATER BEARING ZONES Depth water was first found _____

SWL Date	From	To	Est Flow	SWL(psi)	+	SWL(ft)
Various	55	395	NM			62-60
11-23-2011	408**	1,158**	1,020			59
	**see formation log attached					

(11) WELL LOG

Ground Elevation _____

Material	From	To
see attached formation log		
* Perforations in 8" liner:		
1824 slots	721	781
608 slots	821	841
608 slots	881	1,001
1760 slots	1,011	1,068

Date Started 05-18-2011 Completed 11-23-2011

(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 1797 Date 04-30-2012

Password : (if filing electronically)

Signed _____ (by Stephen Schwindt)

(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 649 Date 04-30-2012

Password : (if filing electronically)

Signed _____

Contact Info (optional)

OWNER - WATER RESOURCES DEPARTMENT

THIS REPORT MUST BE SUBMITTED TO THE WATER RESOURCES DEPARTMENT WITHIN 30 DAYS OF COMPLETION OF WORK

Form Version: 0.89

UMAT 57015

Confederate Tribes of the Umatilla Indian Reservation - Well No. 6

by Schneider Drilling Co.

Start Card W201155; Label #L100770

FM	TO	DESCRIPTION	WB?	SWL
0	2	Topsoil		
2	4	Clay, brown, soft		
4	6	Clay, brown, gravel, cobbles, sandy		
6	8	Gravel, cobbles & sand		
8	22	Gravel, cobbles & sand w/cementation		
22	25	Gravel, cobbles & sand, multicolored, coarse w/cementation & clay, brown, medium		
25	30	Gravel, cobbles & boulders; cemented		
30	45	Basalt, brownish gray, medium, some fractures		
45	55	Basalt, gray, hard, occasional fracture		
55	80	Gravel, multicolored, 2"- & some cobbles	X	52
80	90	Basalt, brown, soft w/claystone, brown, soft-medium		
90	111	Basalt, brown & gray, medium, fractured		
111	131	Gravel, brown & gray, 2"-	X	55
131	151	Gravel, brown, 1"- w/claytsone, tan, soft, medium	X	60
151	172	Basalt, brown & gray, medium, fractured, some vesicles		
172	186	Basalt, brown & gray, weathered, soft-medium, occ. quartz		
186	263	Basalt, gray & brown, hard, fractured, occ. Claystone, white & green, hard		
263	271	Basalt, red, medium, fractured, some claystone, tan & green, medium		
271	305	Basalt, red, medium, fractured, some claystone, tan, medium		
305	336	Basalt, brown, broken	X	60
336	361	Basalt, red & brown, soft-medium, fractured, vesicular w/claystone, tan, medium		
361	384	Basalt, brown, medium, fracturd w/claystone, tan, medium		
384	395	Basalt, brownish gray, medium, broken	X	60
395	408	Basalt, dark gray, medium, frac. w/claystone, black-green-brown, med.; some quartz		
408	416	Basalt, brown, medium, some fractures	X	60
416	428	Basalt, brown & red, medium, fractured w/claystone, tan, medium		
428	432	Basalt, black, medium, fractured w/claystone, blue, medium		
432	441	Basalt, brown, medium, fractured w/claystone, brown, medium		
441	473	Basalt, gray, hard some fractures wclaystone, green & brown, medium; some quartz		
473	501	Basalt, brown & red, medium, fractured, some vesicles w/claystone, tan, medium	X	60
501	521	Basalt, brown, medium, fractured	X	60
521	600	Basalt, brown-black-red, med., frac., some vesicles w/claystone, tan & blue, med.	X	62
600	605	Basalt, brown & red, medium, fractured		
605	620	Basalt, brownish gray, hard, fractured		
620	662	Basalt, brown, medium, vescicular w/claystone, tan, med. some clay, brown, soft		
662	709	Basalt, gray, medium-hard, fractured		

Confederate Tribes of the Umatilla Indian Reservation - Well No. 6

by Schneider Drilling Co.

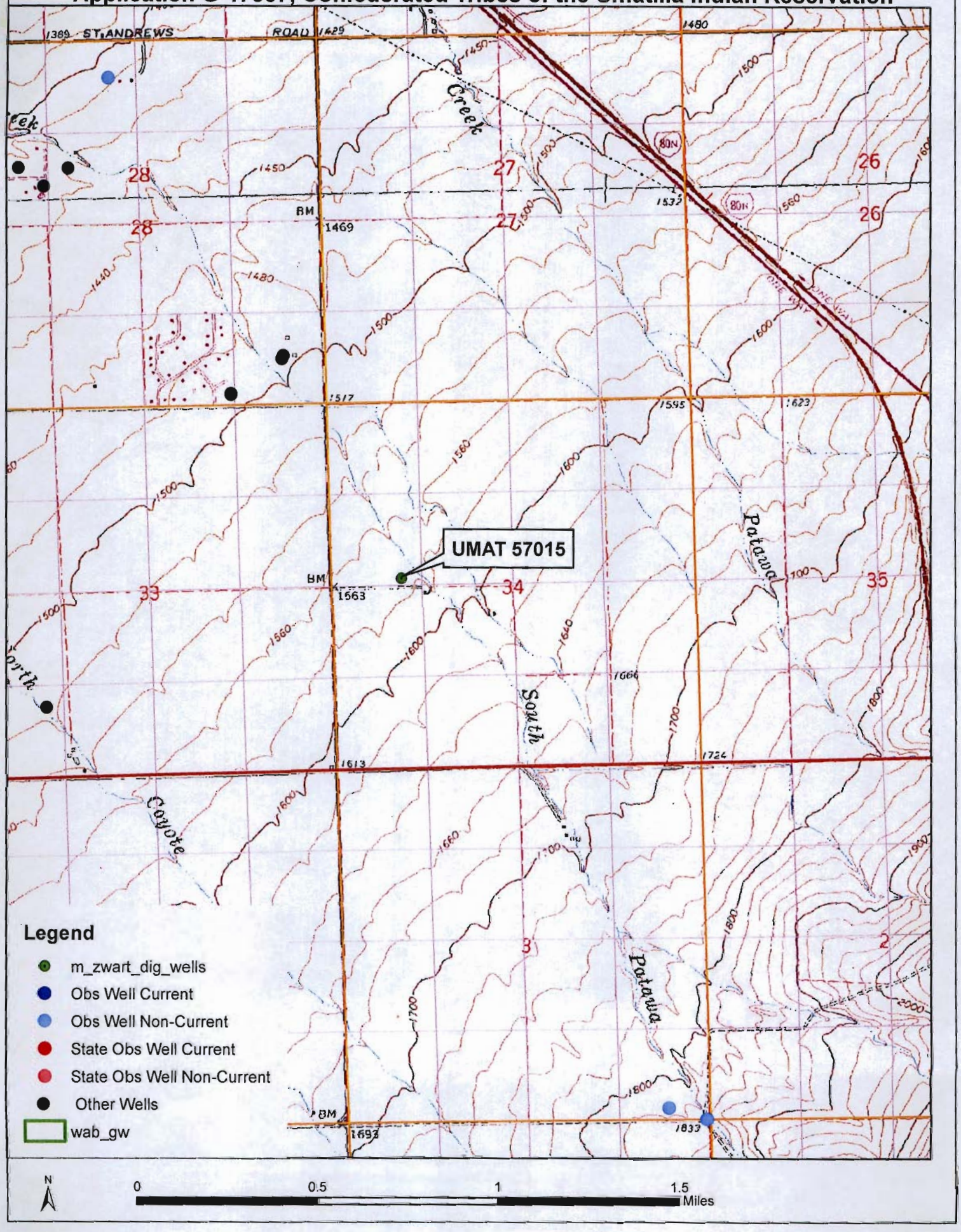
Start Card W201155; Label #L100770

FM	TO	DESCRIPTION	WB?	SWL
709	730	Basalt, dark gray, med-hard, fractured, some vescicles	X	60
730	745	Basalt, gray & brown, medium-hard, fractured	X	60
745	756	Basalt, brown, medium, fractured	X	60
756	775	Basalt, gray & brown, medium, fractured & some claystone, gray & tan, medium		
775	782	Basaltm brown & gray, medium-hard, fractured		
782	803	Basalt, brown & gray, medium, fractured & some claystone, yellow, medium		
803	805	Basalt, dark gray, hard, fractured		
805	817	Basalt, gray & brown, medium-hard, fractured		
817	832	Basalt, brown, medium, fractured	X	61
832	856	Basalt, gray & brown, medium, fractured		
856	877	Basalt, gray, hard, some fractures		
877	947	Basalt, gray & brown, hard, fractured		
947	956	Basalt, red, soft, fractured, vesicular	X	62
956	962	Basalt, black, soft, fractured, some vesicles	X	62
962	996	Basalt, dark gray, medium-hard, fractured		
996	1008	Basalt, brown, soft, fractured, vesicular	X	62
1008	1015	Basalt, black, soft, fractured, some vesicles	X	62
1015	1017	Basalt, brown, soft, fractured, vesicular	X	62
1017	1026	Basalt, black & brown, soft, fractured, some vesicles	X	62
1026	1032	Basalt, dark gray, soft-medium, fractured	X	61
1032	1053	Basalt, brown, soft-medium, fractured & some claystone, yellow, soft	X	61
1053	1058	Basalt, dark gray, soft-medium, fractured	X	61
1058	1068	Basalt, dark gray, medium-hard, some fractures		

NOTES: WB zones are estimated.

SWL changes can be from other well pumping, atmospheric pressure change, & seasonal.

Application G-17567, Confederated Tribes of the Umatilla Indian Reservation



State of Oregon
Water Resources Department

Ground Water

Oregon Water Resources Department hydrograph for UMAT 341 (1.00N / 33.00E - 3ddd2)

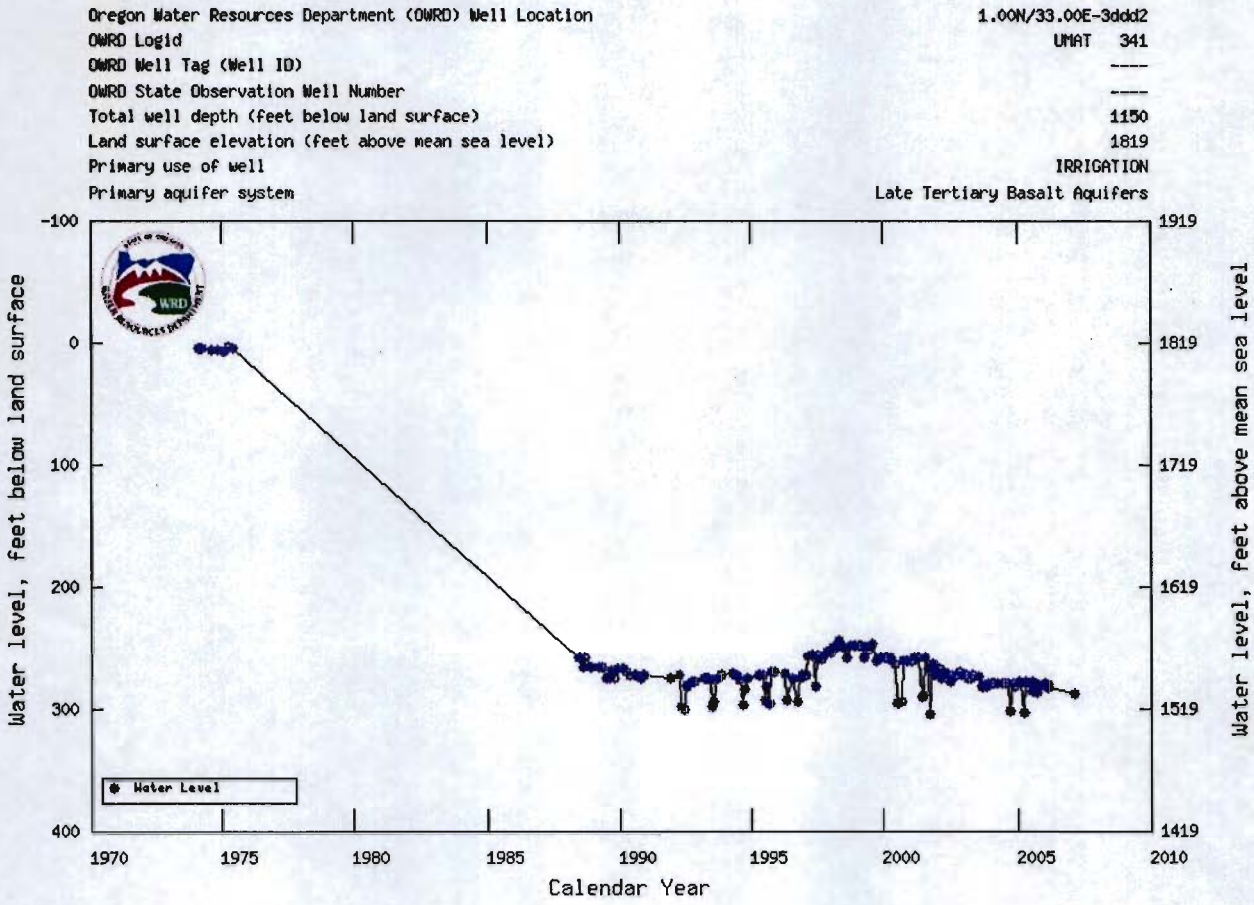


Table showing water-level data for UMAT 341

State of Oregon
Water Resources Department

Ground Water

Oregon Water Resources Department hydrograph for UMAT 55430 (1.00N / 33.00E - 3DDD1)

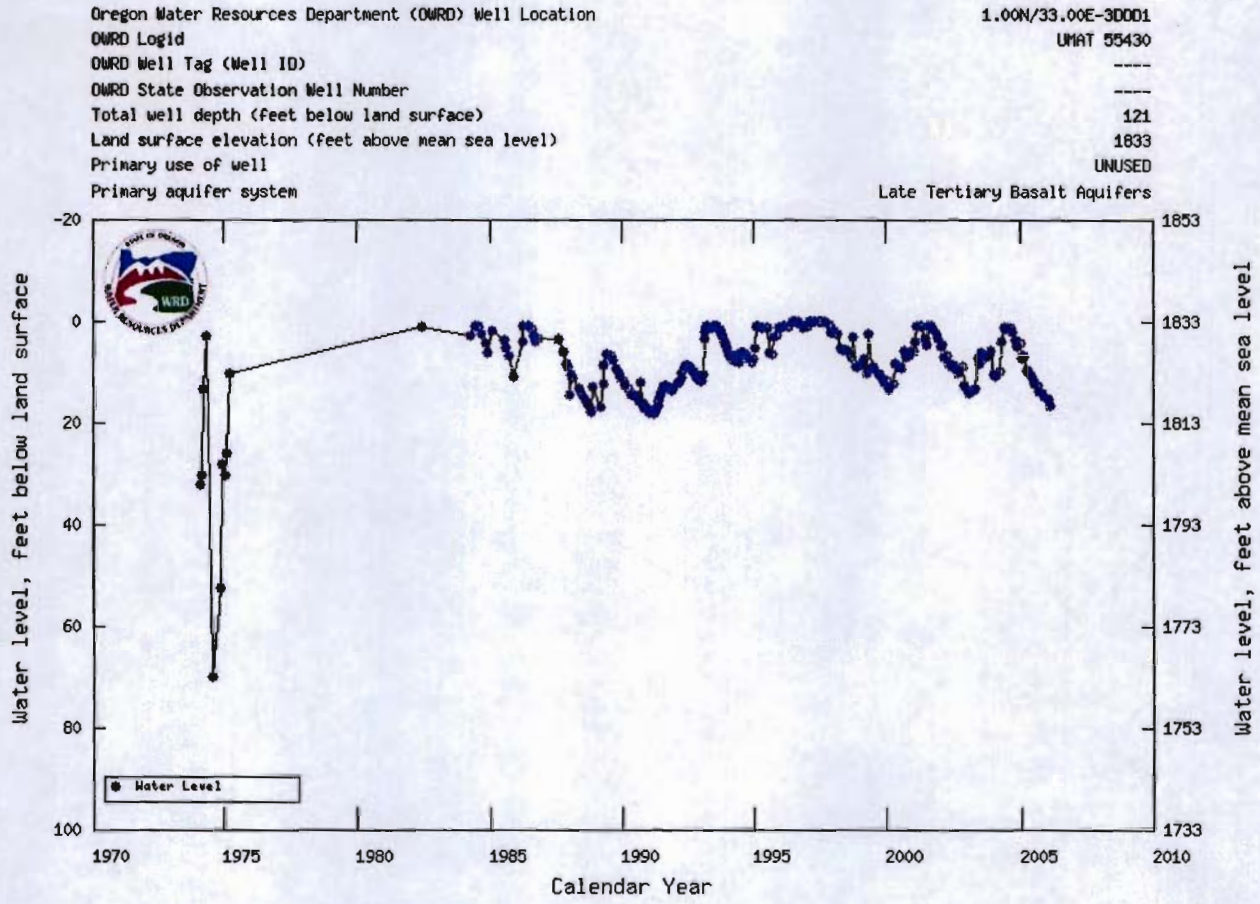


Table showing water-level data for UMAT 55430