

Groundwater Application Review Summary Form

Application # G- 18738

GW Reviewer J. Hackett Date Review Completed: 10/1/2018

Summary of GW Availability and Injury Review:

[] Groundwater for the proposed use is either over appropriated, will not likely be available in the amounts requested without injury to prior water rights, OR will not likely be available within the capacity of the groundwater resource per Section B of the attached review form.

Summary of Potential for Substantial Interference Review:

[] There is the potential for substantial interference per Section C of the attached review form.

Summary of Well Construction Assessment:

[] The well does not appear to meet current well construction standards per Section D of the attached review form. *Route through Well Construction and Compliance Section.*
or 10/5/18

This is only a summary. Documentation is attached and should be read thoroughly to understand the basis for determinations and for conditions that may be necessary for a permit (if one is issued).

SUBJECT: Scenic Waterway Interference Evaluation

OK.
JHJ

MEMO

To: Kristopher Byrd, Well Construction and Compliance Section Manager
From: Joel Jeffery, Well Construction Program Coordinator
Subject: Review of Water Right Application G-18738
Date: October 5, 2018

The attached application was forwarded to the Well Construction and Compliance Section by Water Rights. Josh Hackett reviewed the application. Please see Josh's groundwater review and the Well Log.

Applicant's Well #1 (UMAT 57711): Based on a review of the Well Report, Applicant's Well #1 does not appear to comply with current minimum well construction standards (See OAR 690 Division 210). The well report indicates that the casing seal is not continuous from land surface to the bottom of the seal (39 feet below land surface) as required by rule. There is a gap in the sealing interval from 20 to 24 feet below land surface.

My recommendation is that the Department **not issue** a permit for Applicant's Well #1 (UMAT 57711) unless it is brought into compliance with current minimum well construction standards or information is provided showing that it is in compliance with current minimum well construction standards.

Bringing Applicant's Well #1 into compliance with minimum well construction standards may not satisfy hydraulic connection issues.

(a) PRE-ALTERATION

Dia	+	From	To	Gauge	Stl	Plstc	Wld	Thrd
								
								
								

Material	From	To	Amt	sacks/lbs
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(5) BORE HOLE CONSTRUCTION

BORE HOLE

Dia	From	To	Material	From	To	Amt	sacks/ lbs
-----	------	----	----------	------	----	-----	---------------

					Calculated		
					Calculated		
					Calculated		
					Calculated		
					Calculated		

FILTER PACK

From	To	Material	Size
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(6) CASING/LINER

Casing	Liner	Dia	+	From	To	Gauge	Stl	Plstc	Wld	Thrd
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(7) PERFORATIONS/SCREENS

Perf/	Casing/	Screen			Scrn/slot	Slot	# of	Tele/
Screen	Liner	Dia	From	To	width	length	slots	pipe size

[illegible]

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

Yield gal/min	Drawdown	Drill stem/Pump depth	Duration (hr)
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Water Quality Concerns

From	To	Description	Amount	Units
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(10) STATIC WATER LEVEL

SWL Date	From	To	Est Flow	SWL(psi)	+ SWL(ft)
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[illegible]

(11) WELL LOG

Material	From	To
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[illegible]

Comments/Remarks

Bottom 20' caved in with natural broken basalt to 82'.

PUBLIC INTEREST REVIEW FOR GROUNDWATER APPLICATIONS

TO: Water Rights Section
 FROM: Groundwater Section J. Hackett
 Date October 1, 2018
 SUBJECT: Application G- 18738
 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: C.C.P.D., Inc County: Umatilla

A1. Applicant(s) seek(s) 0.75 cfs from 1 well(s) in the Umatilla Basin,
 _____ subbasin

A2. Proposed use Irrigation Seasonality: March 1 - 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	UMAT 57711	1	CRB	0.75	5N/31E-33 NW-NW	1715'N, 1415'E fr W ¼ cor S 33
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	987	82	23	11/9/2016	102	0-39	+1-39			300		A

Use data from application for proposed wells.

A4. **Comments:** _____

A5. ☒ **Provisions of the** Umatilla 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: _____
 Comments: _____

B. GROUNDWATER AVAILABILITY CONSIDERATIONS, OAR 690-310-130, 400-010, 410-0070

B1. Based upon available data, I have determined that groundwater* 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) 7N; Large water-use reporting;
 - 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. ☐ 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's well is located in an area that is underlain by approximately 8,000 feet of basalt flows of the Columbia River Basalt Group (CRBG). The applicant's well is 102 feet deep and produces from a water-bearing zone from 82-102 feet bls in the Frenchman Springs Member of the Wanapum Formation of the CRBG. Within the CRBG, most water occurs in confined aquifers that occupy thin rubble zones (interflow zones) at the contacts between lava flows. The interiors of the basalt flows generally have low porosity and permeability and act as confining beds. This geometry generally produces a stack of thin aquifers (interflow zones) separated by thick confining beds (flow interiors).

Basalt aquifers in the Umatilla basin are subject to long-term water level declines. Five miles southwest of the applicant's well, water levels in wells in the Stage Gulch Critical Groundwater Area have declined over 100 feet since 1980. Four miles northwest of the applicant's well, wells in 5N/30E have declined by up to 150 feet since 2013. Wells in these areas are typically much deeper (> 500 feet total depth), and produce from deeper water-bearing zones, than the applicant's well. No groundwater development has occurred in a 2-3 mile radius around the applicant's well, so the sustainability of the resource is not known. However, because the well is relatively shallow, it may have better access to groundwater recharge. Long-term water level monitoring and water-use reporting conditions are recommended to assess the viability of the resource.

C. GROUNDWATER/SURFACE WATER CONSIDERATIONS, OAR 690-09-040**C1. 690-09-040 (1):** Evaluation of aquifer confinement:

Well	Aquifer or Proposed Aquifer	Confined	Unconfined
1	CRB	☒	☐
		☐	☐
		☐	☐
		☐	☐
		☐	☐

Basis for aquifer confinement evaluation: CRB aquifers are typically confined.

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	Cold Springs Canyon	950	940-1000	200	☐	☒	☐	☐	☒
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐

Basis for aquifer hydraulic connection evaluation: Local reach of Cold Springs Canyon (> 2 miles) is ephemeral, so hydraulic connection was not evaluated.

Water Availability Basin the well(s) are located within: 30710342: COLD SPRINGS CAN > COLD SPRINGS RES – AT MOUTH

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: _____

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		%	%	%	%	%	%	%	%	%	%	%	%

[illegible]

This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

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

COLD SPRINGS CAN > COLD SPRINGS RES - AT MOUTH
UMATILLA BASIN

Water Availability as of 9/25/2018

Watershed ID #: 30710342 ([Map](#))

Exceedance Level: 80% ▼

Date: 9/25/2018

Time: 4:07 PM

Water Availability Calculation

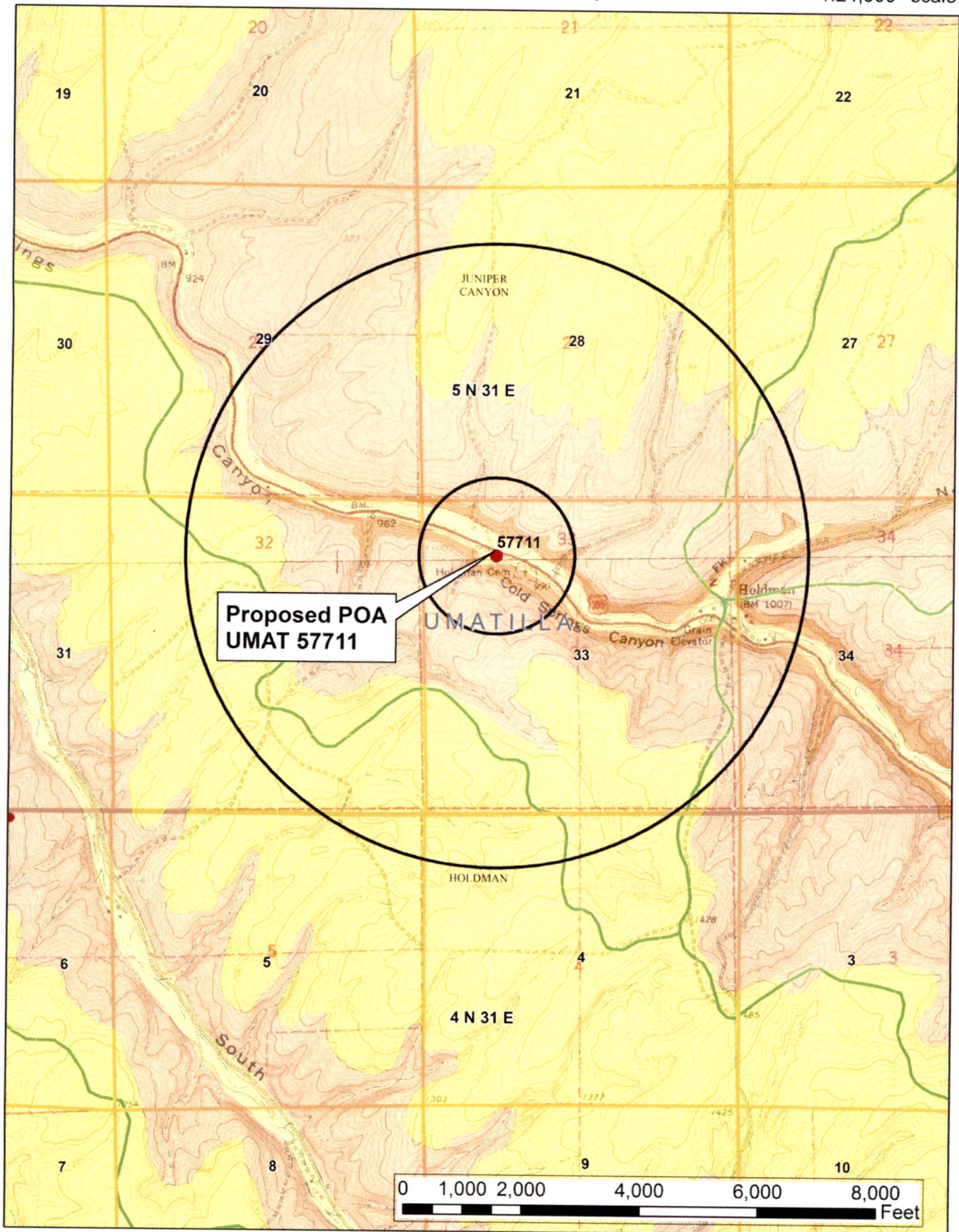
Monthly Streamflow in Cubic Feet per Second
 Annual Volume at 50% Exceedance in Acre-Feet

Month	Natural Stream Flow	Consumptive Uses and Storages	Expected Stream Flow	Reserved Stream Flow	Instream Flow Requirement	Net Water Available
JAN	0.55	0.01	0.54	0.00	0.00	0.54
FEB	2.49	0.03	2.46	0.00	0.00	2.46
MAR	6.25	0.09	6.16	0.00	0.00	6.16
APR	1.69	0.16	1.53	0.00	0.00	1.53
MAY	0.24	0.23	0.01	0.00	0.00	0.01
JUN	0.09	0.30	-0.21	0.00	0.00	-0.21
JUL	0.05	0.41	-0.36	0.00	0.00	-0.36
AUG	0.02	0.33	-0.31	0.00	0.00	-0.31
SEP	0.00	0.20	-0.20	0.00	0.00	-0.20
OCT	0.00	0.00	0.00	0.00	0.00	0.00
NOV	0.00	0.00	0.00	0.00	0.00	0.00
DEC	0.13	0.00	0.13	0.00	0.00	0.13
ANN	3,230.00	107.00	3,190.00	0.00	0.00	3,190.00

Well Location Map

G-18738, C.C.P.D., Inc.

1:24,000 scale



Water-Level Trends in Nearby Wells

