Groundwater Application Review Summary Form

Application # G- 18577

GW Reviewer Phil Marcy **Date Review Completed:** 8/15/2018

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.
JI 8/15/18

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).

WATER RESOURCES DEPARTMENT

MEMO August 15, 2018

TO: **Application G-** 18577

FROM: **GW:** Phil Marcy
(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 Groundwater 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 Groundwater 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 Grande Ronde 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
.087	.084	.084	.083	.083	.083	.083	.083	.083	.083	.083	.083

OK. KB

MEMO

To: Kristopher Byrd, Well Construction and Compliance Section Manager

From: Joel Jeffery, Well Construction Program Coordinator

Subject: Review of Water Right Application G-18577

Date: August 16, 2018

The attached application was forwarded to the Well Construction and Compliance Section by Water Rights. Phil Marcy reviewed the application. Please see Phil's Groundwater Review and the Well Logs.

Applicant's Well #1 (UNIO 50216): Based on a review of the Well Report, Applicant's Well #1 seems to protect the groundwater resource.

The construction of Well #1 may not satisfy hydraulic connection issues.

Applicant's Well #2 (Union 50715): Based on a review of the Well Report, Applicant's Well #2 seems to protect the groundwater resource.

Based on a review of the Well Report, Applicant's Well #2 seems to protect the groundwater resource.

PUBLIC INTEREST REVIEW FOR GROUNDWATER APPLICATIONS

TO: Water Rights Section Date 08/15/2018
FROM: Groundwater Section Phillip I. Marcy
Reviewer's Name
SUBJECT: Application G- 18577 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: **R.D. Mac, Inc.** County: **Union**

A1. Applicant(s) seek(s) 2.23 cfs from 2 well(s) in the Grande Ronde Basin, subbasin

A2. Proposed use Industrial Seasonality: Year-round (365 days)

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	UNIO 50216	1	Alluvium	2.23	3S/38E-15 SW-NE	2621'S, 1266'E fr NW cor S 15
2	UNIO 50715	2	Alluvium	0.037	3S/38E-15 SW-NE	2384'S, 427'E fr NW cor S 15
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	2724	6	7	10/30/1997	315	0-35	Several between 0-312'	NA	Several between 120-305'	Unknown	NA	None
2	2728	16	65	08/03/2000	180	0-24	0-180	NA	None	50	NA	Air

Use data from application for proposed wells.

A4. **Comments:** Both proposed POA wells penetrate a thick succession of sands and gravels with no significant deposits of fine-grained, low-permeability materials reported. Both wells produce from sands and gravels, and report encountering groundwater at very shallow depths. There is likely very little confinement in the productive aquifer.

A5. ☒ **Provisions of the** Grande Ronde (690-508-0010) 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 – Annual Measurement Condition; "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:** Groundwater levels appear fairly stable in the area (see attached hydrograph), however annual measurements will provide the Department relevant data to evaluate any additional impacts to the alluvial aquifer system for the duration of this use.

Nearby senior water rights are approximately 3,000 feet from proposed POA 1, where the vast majority of pumping is proposed to occur. Using aquifer parameters reported by Ham (1966), and situational parameters from the well log database and site information file, the maximum drawdown at the closest groundwater POA during the first year of pumping is expected to be in the range of 1-5 feet.

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	**Alluvial sands and gravels**	☐	☒
2	**Alluvial sands and gravels**	☐	☒
		☐	☐
		☐	☐
		☐	☐

Basis for aquifer confinement evaluation: No significant confining beds exist above the productive zone within each POA well.

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	**Ladd Creek**	**2720**	**2708**	**14250**	☒	☐	☐	☐	☒
2	1	**Ladd Creek**	**2712**	**2708**	**15340**	☒	☐	☐	☐	☒
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐

Basis for aquifer hydraulic connection evaluation: Water level elevations within proposed POA wells are very similar to those of nearby surface water sources. In addition there are no significant deposits of low-permeability materials to prevent vertical or horizontal movement of groundwater to or from surface water.

Water Availability Basin the well(s) are located within: Catherine Cr > Grande Ronde R – At Mouth (ID # 30810408)

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, no surface water within 1 mile.

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
1	**1**	**0 %**	**0 %**	**.02 %**	**.08 %**	**.16 %**	**.28 %**	**.43 %**	**.59 %**	**.78 %**	**.97 %**	**1.17%**	**1.39%**
Well Q as CFS		**0.63**	**0.63**	**0.63**	**0.63**	**0.63**	**0.63**	**0.63**	**0.63**	**0.63**	**0.63**	**0.63**	**0.63**
Interference CFS		**.063**	**.130**	**.178**	**.214**	**.242**	**.265**	**.284**	**.300**	**.315**	**.327**	**.338**	**.348**
2	**1**	**0 %**	**0 %**	**0 %**	**.01 %**	**.04 %**	**.08 %**	**.14 %**	**.22 %**	**.32 %**	**.43 %**	**.56 %**	**.70 %**
Well Q as CFS		**.01**	**.01**	**.01**	**.01**	**.01**	**.01**	**.01**	**.01**	**.01**	**.01**	**.01**	**.01**
Interference CFS		**0**	**.001**	**.002**	**.002**	**.003**	**.003**	**.004**	**.004**	**.004**	**.004**	**.005**	**.005**
		%	%	%	%	%	%	%	%	%	%	%	%
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.		0.063	0.131	0.18	0.216	0.245	0.268	0.288	0.304	0.319	0.331	0.343	0.353
(B) = 80 % Nat. Q		**53.6**	**94.1**	**119.0**	**249.0**	**406.0**	**272.0**	**112.0**	**70.1**	**49.5**	**35.4**	**39.5**	**45.1**
(C) = 1 % Nat. Q		**.536**	**.941**	**1.19**	**2.49**	**4.06**	**2.72**	**1.12**	**.701**	**.495**	**.354**	**.395**	**.451**
(D) = (A) > (C)		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
(E) = (A / B) x 100		**.12%**	**.14%**	**.15%**	**.09%**	**.06%**	**.10%**	**.26%**	**.43%**	**.64%**	**.94%**	**.87%**	**.78%**

(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:

The proposed maximum rate (2.228 cfs) is much higher than the average rate of pumping, based upon the requested yearly use of 456.4 AF for well 1 (0.63 cfs). In addition, well 2 requests a maximum rate of 0.037 cfs, but the annual use is requested at 7.6 AF, resulting in an average rate of 0.0105 cfs. To establish an accurate estimate of stream depletion due to the proposed use, the average pumping rates will therefore be used here.

The model of Hunt (1999), which accounts for a "stream clogging" layer of fine-grained alluvium at the surface water source, was used to calculate likely stream depletion statistics. Hydraulic conductivity and other aquifer parameters were cited from aquifer test on nearby UNIO 1176 published in Ham (1966), with aquifer thickness and stream characteristics derived from aerial imagery and nearby well log reports.

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 groundwater 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:** Due to the distance to surface water from the proposed POA well locations, stream depletion within the first year of pumping is expected to be minimal. Long-term effects to the groundwater elevations, which effect the local gradient, may cause more significant impacts to local surface water. Therefore, as mentioned above, static water levels shall be measured in both proposed POA wells each year in the month of March to assess the effects of additional pumping from this system, and prohibit overdrafting of the unconfined aquifer and connected surface water sources.

References Used:

Hunt, B., 1999, Unsteady stream depletion from ground water pumping: Ground Water, v. 37, no. 1, p. 98-102.

Ham, H.H., 1966, Development Potential of Ground Water for Irrigation in the Grande Ronde Valley, Union County, Oregon: Bureau of Reclamation.

Ferns, M.L., McConnell, V.S., Madin, I.P., Johnson, J.A., 2010l., Geology of the Upper Grande Ronde River Basin, Union County, Oregon, vector digital data, Bulletin 107, Oregon Department of Geology and Mineral Industries, Portland, OR., map scale 1:100,

Local well log reports, application file G-18577, OWRD water level database (GWIS).

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

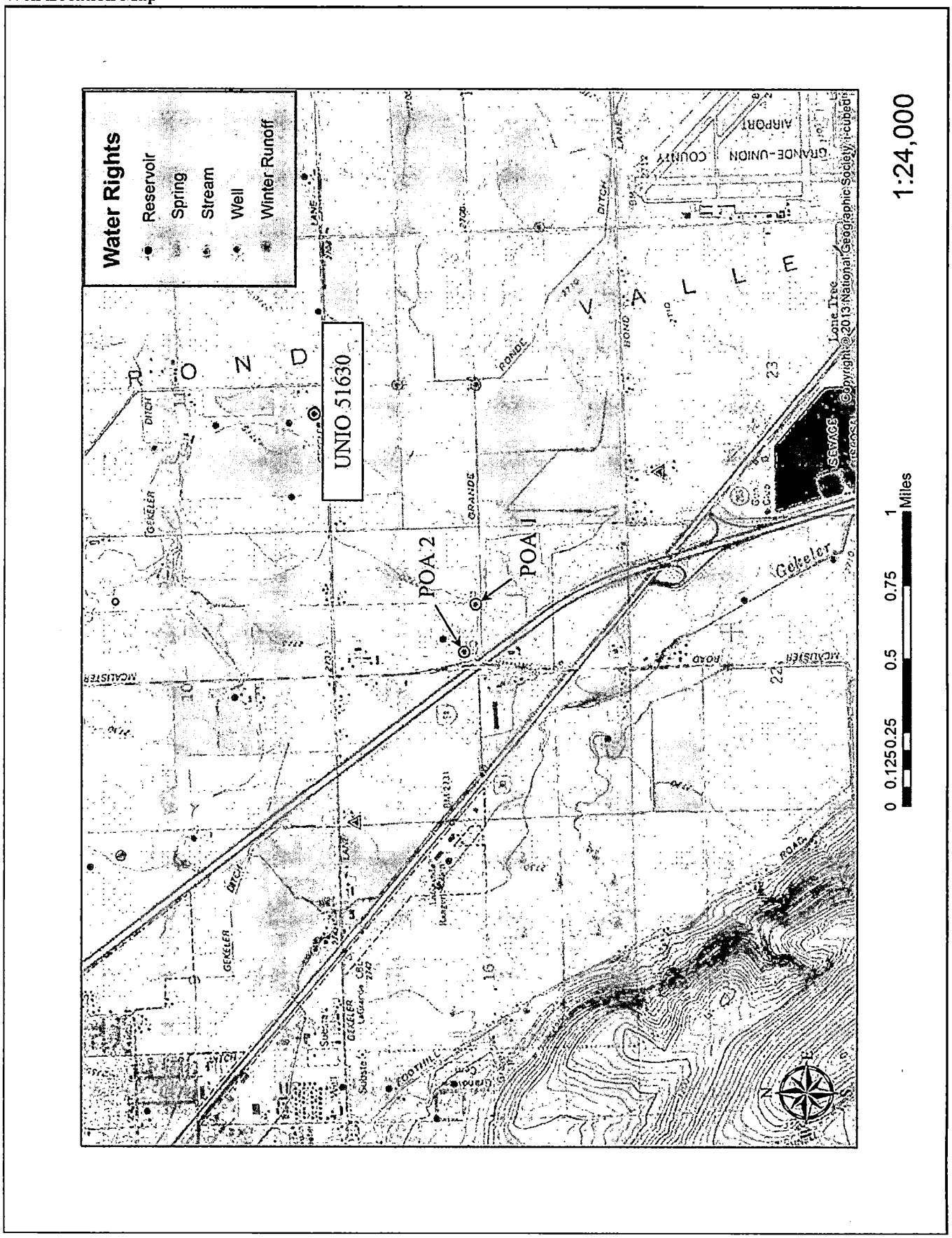
DETAILED REPORT ON THE WATER AVAILABILITY CALCULATION

CATHERINE CR > GRANDE RONDE R - AT MOUTH
Watershed ID #: 30810408 Basin: GRANDE RONDE Exceedance Level: 80
Time: 10:41 AM Date: 02/28/2018

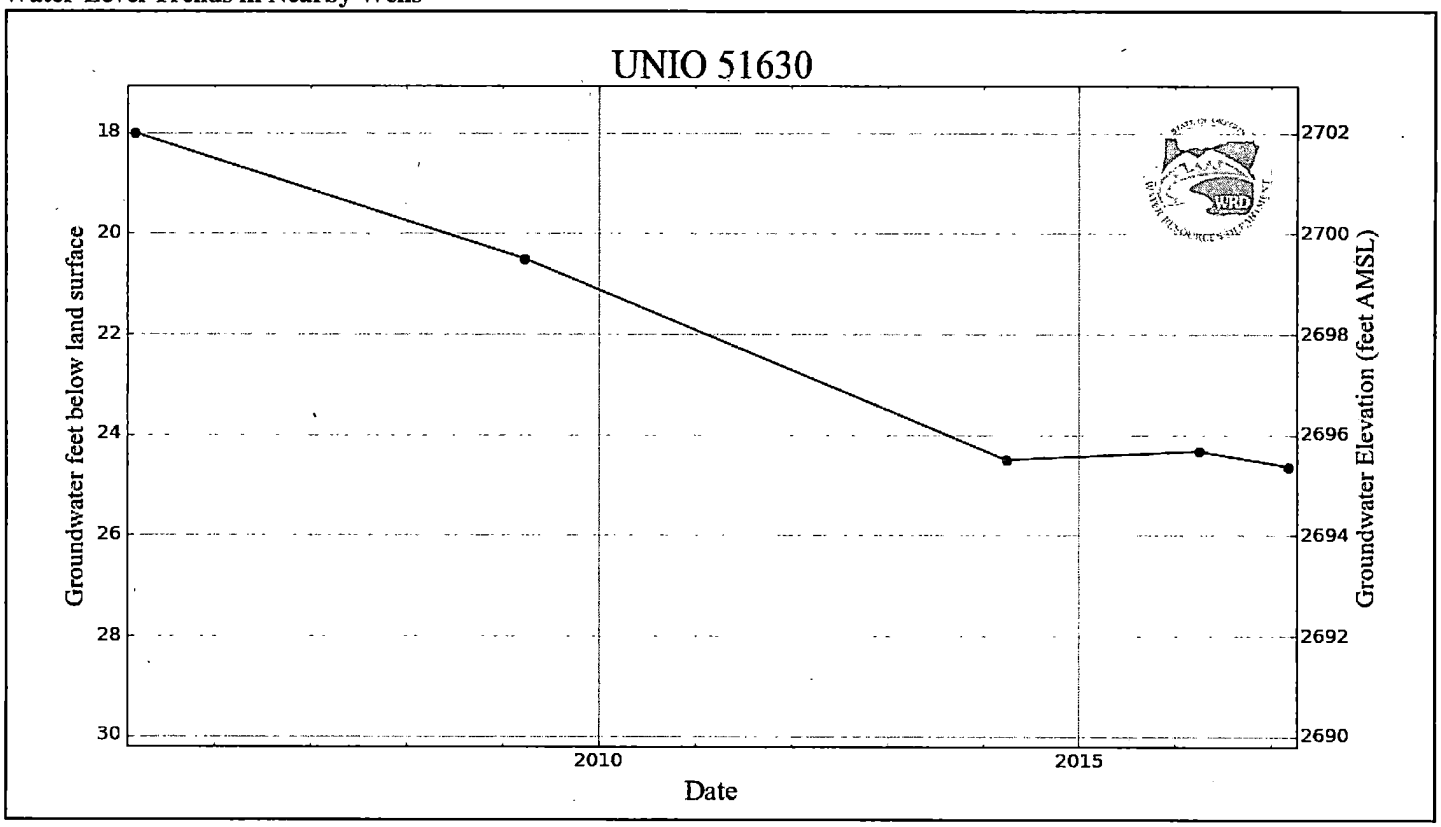
Monthly values are in cfs.
Storage is the annual amount at 50% exceedance in ac-ft.

Month	Natural Stream Flow	Consumptive Use and Storage	Expected Stream Flow	Reserved Stream Flow	Instream Requirements	Net Water Available
JAN	53.60	3.22	50.40	5.15	0.00	45.20
FEB	94.10	4.69	89.40	10.90	0.00	78.50
MAR	119.00	4.96	114.00	0.00	0.00	114.00
APR	249.00	64.70	184.00	0.00	0.00	184.00
MAY	406.00	164.00	242.00	79.90	0.00	162.00
JUN	272.00	156.00	116.00	49.60	0.00	66.60
JUL	112.00	71.40	40.60	0.00	0.00	40.60
AUG	70.10	39.10	31.00	0.00	0.00	31.00
SEP	49.50	25.20	24.30	0.00	0.00	24.30
OCT	35.40	5.79	29.60	0.33	0.00	29.30
NOV	39.50	1.88	37.60	0.00	0.00	37.60
DEC	45.10	3.00	42.10	3.01	0.00	39.10
ANN	150,000	32,900	117,000	9,000	0	108,000

Well Location Map



Water-Level Trends in Nearby Wells



UWIO 50216

RECEIVED

NOV 17 1997

WATER RESOURCES DEPT
SALEM, OREGON

90193

START CARD) # 90193

STATE OF OREGON
WATER SUPPLY WELL REPORT
(as required by ORS 537.765)

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

(1) OWNER: Well Number L/////

Name R & P Mac

Address P.O. Box 1086

City Island City State Ore. Zip 97851

(2) TYPE OF WORK

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

(3) DRILL METHOD:

[ ] Rotary Air [ ] Rotary Mud [ ] Cable [ ] Auger

[ ] Other Reverse Rotary

(4) PROPOSED USE:

[ ] Domestic [ ] Community [X] Industrial [X] Irrigation

[ ] Thermal [ ] Injection [ ] Livestock [ ] Other

(5) BORE HOLE CONSTRUCTION:

Special Construction approval [ ] Yes [X] No Depth of Completed Well 312 ft.

Explosives used [ ] Yes [X] No Type _____ Amount _____

HOLE Diameter	From	To	Material	SEAL From	To	Sacks or pounds
28"	0'	315'	Cement	0	35'	8 yards

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

[ ] Other Overburden, Tremie Pipe

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

Gravel placed from 35 ft. to 315 ft. Size of gravel 3/4"

(6) CASING/LINER:

	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing:	16"	+1.5	120'	.375	[X]	[ ]	[X]	[ ]
		140'	192'	.375	[X]	[ ]	[X]	[ ]
		182'	202'		[X]	[ ]	[X]	[ ]
		222'	255'		[X]	[ ]	[X]	[ ]
Liner:		275'	295'		[X]	[ ]	[X]	[ ]
		305'	312'		[X]	[ ]	[X]	[ ]

Final location of shoe(s) _____

(7) PERFORATIONS/SCREENS:

[ ] Perforations Method Johnston

[X] Screens Type Wire Wrap Material Steel

From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
120'	140'	.035	+	16"		[X]	[ ]
152'	182'	.035	=			[X]	[ ]
202'	222'		=			[X]	[ ]
255'	275'		=			[X]	[ ]
295'	305'		~			[X]	[ ]

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

[ ] Pump [ ] Bailer [ ] Air [X] Flowing Artesian

Yield gal/min	Drawdown	Drill stem at	Time
Not	available	at	1 hr.
this	Time		

Temperature of water 59° Depth Artesian Flow Found _____

Was a water analysis done? [ ] Yes By whom _____

Did any strata contain water not suitable for intended use? [ ] Too little

[ ] Salty [ ] Muddy [ ] Odor [ ] Colored [ ] Other _____

Depth of strata: _____

(9) LOCATION OF WELL by legal description:

County Union Latitude _____ Longitude _____

Township 3 N or [S] Range 38 [E] or W. WM.

Section 15 SW 1/4 NE 1/4

Tax Lot 201 Lot _____ Block _____ Subdivision _____

Street Address of Well (or nearest address) McClaster

(10) STATIC WATER LEVEL:

7 ft. below land surface. Date 10-30-97

Artesian pressure _____ lb. per square inch. Date _____

(11) WATER BEARING ZONES:

Depth at which water was first found 7'

From	To	Estimated Flow Rate	SWL
All	Sands &	Gravels	

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DEC 16 1997
WATER RESOURCES DEP
SALEM, OREGON

(12) WELL LOG:

Ground Elevation _____

Material	From	To	SWL
Topsoil	0'	6'	
Sand & Gravel	6'	36'	X
Brown Clay	36'	37'	
Sand & Gravels	37'	141'	
Brn Clay	141'	148'	
Coarse Sand	148'	178'	
Brn Clay	178'	202'	
Coarse Sand & Gravel	202'	222'	
Brn Clay	222'	233'	
Gray Clay Stks Sand	233'	258'	
Coarse Sand	258'	275'	
Grey Clay	275'	294'	
Coarse Sand	294'	306'	
Gray Clay	306'	315'	

Date started 10-21-97 Completed 10-30-97

(unbonded) Water Well Constructor Certification:

I certify that the work I performed on the construction, 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.

WWC Number _____

Signed _____ Date _____

(bonded) Water Well Constructor Certification:

I accept responsibility for the construction, 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.

WWC Number 1506

Signed _____ Date 11-3-97

ORIGINAL & FIRST COPY-WATER RESOURCES DEPARTMENT SECOND COPY-CONSTRUCTOR THIRD COPY-CUSTOMER

UNIO 50715

STATE OF OREGON
WATER SUPPLY WELL REPORT
(as required by ORS 537.765)

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

WELL I.D. # L 16197
START CARD # 103496

(1) OWNER: Well Number
Name R.D. MAC
Address 60931 McALISTER Rd.
City LAGRANDE State OR Zip 97850

(2) TYPE OF WORK
☒ New Well ☐ Deepening ☐ Alteration (repair/recondition) ☐ Abandonment

(3) DRILL METHOD:
☒ Rotary Air ☐ Rotary Mud ☐ Cable ☐ Auger
☐ Other

(4) PROPOSED USE:
☐ Domestic ☐ Community ☒ Industrial ☐ Irrigation
☐ Thermal ☐ Injection ☐ Livestock ☐ Other

(5) BORE HOLE CONSTRUCTION:
Special Construction approval ☐ Yes ☒ No Depth of Completed Well 180 ft.
Explosives used ☐ Yes ☒ No Type Amount

HOLE Diameter	From	To	SEAL Material	From	To	Sacks or pounds
10	0	24	Bentonite	0	24	16 sacks
7 7/8	24	180				

How was seal placed: Method ☐ A ☐ B ☐ C ☐ D ☐ E
☒ Other Poured dry
Backfill placed from ft. to ft. Material
Gravel placed from ft. to ft. Size of gravel

(6) CASING/LINER:

	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing:	6	+2	180	.250	☑	☐	☑	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
Liner:					☐	☐	☐	☐
					☐	☐	☐	☐

Final location of shoe(s) 180

(7) PERFORATIONS/SCREENS:
☐ Perforations Method
☐ Screens Type Material

From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
						☐	☐
						☐	☐
						☐	☐
						☐	☐
						☐	☐

(8) WELL TESTS: Minimum testing time is 1 hour
☐ Pump ☐ Bailer ☒ Air ☐ Flowing Artesian

Yield gal/min	Drawdown	Drill stem at	Time
50+		175	1 hr.

Temperature of water 54 Depth Artesian Flow Found
Was a water analysis done? ☐ Yes By whom
Did any strata contain water not suitable for intended use? ☐ Too little
☐ Salty ☐ Muddy ☐ Odor ☐ Colored ☐ Other
Depth of strata:

(9) LOCATION OF WELL by legal description:
County Union Latitude Longitude
Township 3S N or S Range 38E E or W. WM.
Section 15 SW 1/4 SE 1/4
Tax Lot 201 Lot Block Subdivision
Street Address of Well (or nearest address) Same

(10) STATIC WATER LEVEL:
65 ft. below land surface. Date 8-3-00
Artesian pressure lb. per square inch. Date

(11) WATER BEARING ZONES:
Depth at which water was first found 17

From	To	Estimated Flow Rate	SWL
17	17	20	10
65	65	4	60
140	180	50+	65+

(12) WELL LOG:
Ground Elevation

Material	From	To	SWL
gravel	0	3	
Shale + clay	3	10	
Clay + gravel	10	17	10
gravel clean	17	18	10
Clay + gravel	18	60	10
gravel + clay	60	140	60
Sand + gravel	140	180	65

RECEIVED
AUG 17 2000
WATER RESOURCES DEPT.
SALEM, OREGON

Date started 8-2-00 Completed 8-3-00

(unbonded) Water Well Constructor Certification:
I certify that the work I performed on the construction, 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.
WWC Number 494
Signed Carl Pitcher Date 8-3-00

(bonded) Water Well Constructor Certification:
I accept responsibility for the construction, 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.
WWC Number 494
Signed Carl Pitcher Date 8-3-00

ORIGINAL & FIRST COPY-WATER RESOURCES DEPARTMENT SECOND COPY-CONSTRUCTOR THIRD COPY-CUSTOMER