Approved: 

MEMO

To:	Kristopher Byrd, Well Construction and Compliance Section Manager
From:	Travis Kelly, Well Construction Program Coordinator
Subject:	Review of Water Right Application G-19067
Date:	August 18, 2021

The attached application was forwarded to the Well Construction and Compliance Section by the Groundwater Section. Joe Kemper reviewed the application. Please see Joe's review and the Well Report.

Applicant's Well #1 (JACK 62687): Based on a review of the Well Report, Applicant's Well #1 seems to protect the groundwater resource.

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

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

JACK 62687

8/16/2016

WELL I.D. LABEL# L 115701
START CARD # 1031778
ORIGINAL LOG #

(1) LAND OWNER

Owner Well I.D.
First Name JERRY Last Name SCHATZ
Company G AND N REALITY
Address P O BOX 718
City MEDFORD State OR Zip 97504

(2) TYPE OF WORK

☒ New Well ☐ Deepening ☐ Conversion ☐ Alteration (complete 2a & 10) ☐ Abandonment(complete 5a)

(2a) PRE-ALTERATION

	Dia	+	From	To	Gauge	Stl	Plstc	Wld	Thrd
Casing:						◯	◯	☐	☐

	Material	From	To	Amt	sacks/lbs
Seal:					

(3) DRILL METHOD

☒ Rotary Air ☐ Rotary Mud ☐ Cable ☐ Auger ☐ Cable Mud
☐ Reverse Rotary ☐ Other

(4) PROPOSED USE

☒ Domestic ☒ Irrigation ☐ Community
☒ Industrial/ Commericial ☐ Livestock ☐ Dewatering
☐ Thermal ☐ Injection ☒ Other APPLYING FOR WATER RIGHT

(5) BORE HOLE CONSTRUCTION

Special Standard ☐ (Attach copy)
Depth of Completed Well 205.00 ft.

BORE HOLE

Dia	From	To
10	0	19
6	19	205

SEAL

Material	From	To	Amt	sacks/lbs
Bentonite Chips	0	19	9	S
		Calculated	9	
		Calculated		

How was seal placed: Method ☐ A ☐ B ☐ C ☐ D ☐ E
☒ Other DRYPOURED
Backfill placed from ft. to ft. Material
Filter pack from ft. to ft. Material Size
Explosives used: ☐ Yes Type Amount

(5a) ABANDONMENT USING UNHYDRATED BENTONITE

Proposed Amount Actual Amount

(6) CASING/LINER

Casing	Liner	Dia	+	From	To	Gauge	Stl	Plstc	Wld	Thrd
◉	◯	6	☒	1	19	.250	◉	◯	☐	☐
◯	◉	4	☐	5	205	Sch 40	◯	◉	☐	☒
◯	◯		☐				◯	◯	☐	☐
◯	◯		☐				◯	◯	☐	☐
◯	◯		☐				◯	◯	☐	☐

Shoe ☐ Inside ☐ Outside ☐ Other Location of shoe(s)
Temp casing ☒ Yes Dia From To

(7) PERFORATIONS/SCREENS

Perforations Method factory
Screens Type Material

Perf/ Screen	Casing/ Screen Liner	Dia	From	To	Scrn/slot width	Slot length	# of slots	Tele/ pipe size
Perf	Liner	4	165	205	.032	2	6400	4

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

◯ Pump ◯ Bailer ◉ Air ◯ Flowing Artesian

Yield gal/min	Drawdown	Drill stem/Pump depth	Duration (hr)
22		204	2

Temperature 59 °F Lab analysis ☐ Yes By
Water quality concerns? ☐ Yes (describe below) TDS amount 235 ppm

From	To	Description	Amount	Units

(9) LOCATION OF WELL (legal description)

County JACKSON Twp 36.00 S N/S Range 1.00 W E/W WM
Sec 28 NE 1/4 of the SW 1/4 Tax Lot 600
Tax Map Number Lot
Lat ° ' " or 42.40936370 DMS or DD
Long ° ' " or -122.82849263 DMS or DD
◉ Street address of well ◯ Nearest address
EAST END OF RANDALL STREET.

(10) STATIC WATER LEVEL

	Date	SWL(psi)	+	SWL(ft)
Existing Well / Pre-Alteration				
Completed Well	8/16/2016			8

Flowing Artesian? ☐ Dry Hole? ☐

WATER BEARING ZONES Depth water was first found 65.00

SWL Date	From	To	Est Flow	SWL(psi)	+	SWL(ft)
8/15/2016	75	80	3			8
8/15/2016	145	150	19			8

(11) WELL LOG

Ground Elevation

Material	From	To
Soil brown, w/clay	0	12
sandstone w/clay	12	14
sandstone	14	205

Date Started 8/15/2016 Completed 8/16/2016

(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 1798 Date 8/16/2016

Signed GARY NEWMAN (E-filed)

Contact Info (optional) Southern Oregon Well Drilling Inc 541-772-1177

WATER SUPPLY WELL REPORT - continuation page

JACK 62687

8/16/2016

WELL I.D. LABEL# L 115701

START CARD # 1031778

ORIGINAL LOG #

(2a) PRE-ALTERATION

Dia	+	From	To	Gauge	Stl	Plstc	Wld	Thrd

Material	From	To	Amt	sacks/lbs

(5) BORE HOLE CONSTRUCTION

BORE HOLE Dia	From	To

SEAL Material	From	To	Amt	sacks/lbs
		Calculated		
		Calculated		
		Calculated		
		Calculated		

FILTER PACK

From	To	Material	Size

(6) CASING/LINER

Casing	Liner	Dia	+	From	To	Gauge	Stl	Plstc	Wld	Thrd

(7) PERFORATIONS/SCREENS

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

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

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

Water Quality Concerns

From	To	Description	Amount	Units

(10) STATIC WATER LEVEL

SWL Date	From	To	Est Flow	SWL(psi)	+	SWL(ft)

(11) WELL LOG

Material	From	To

Comments/Remarks

This well Is drilled as an exempt domestic well. However, we are applying for a water right for this well. This well is placed as far away as possible from any intermittent stream in the area as possible.

WATER SUPPLY WELL REPORT - Map with location identified must be attached and shall include an approximate scale and north arrow

JACK 62687

8/16/2016

Map of Hole

STATE OF OREGON
WELL LOCATION MAP

This map is supplemental to the WATER SUPPLY WELL REPORT

Oregon Water Resources Department
725 Summer St NE, Salem OR 97301
(503)986-0900

LOCATION OF WELL

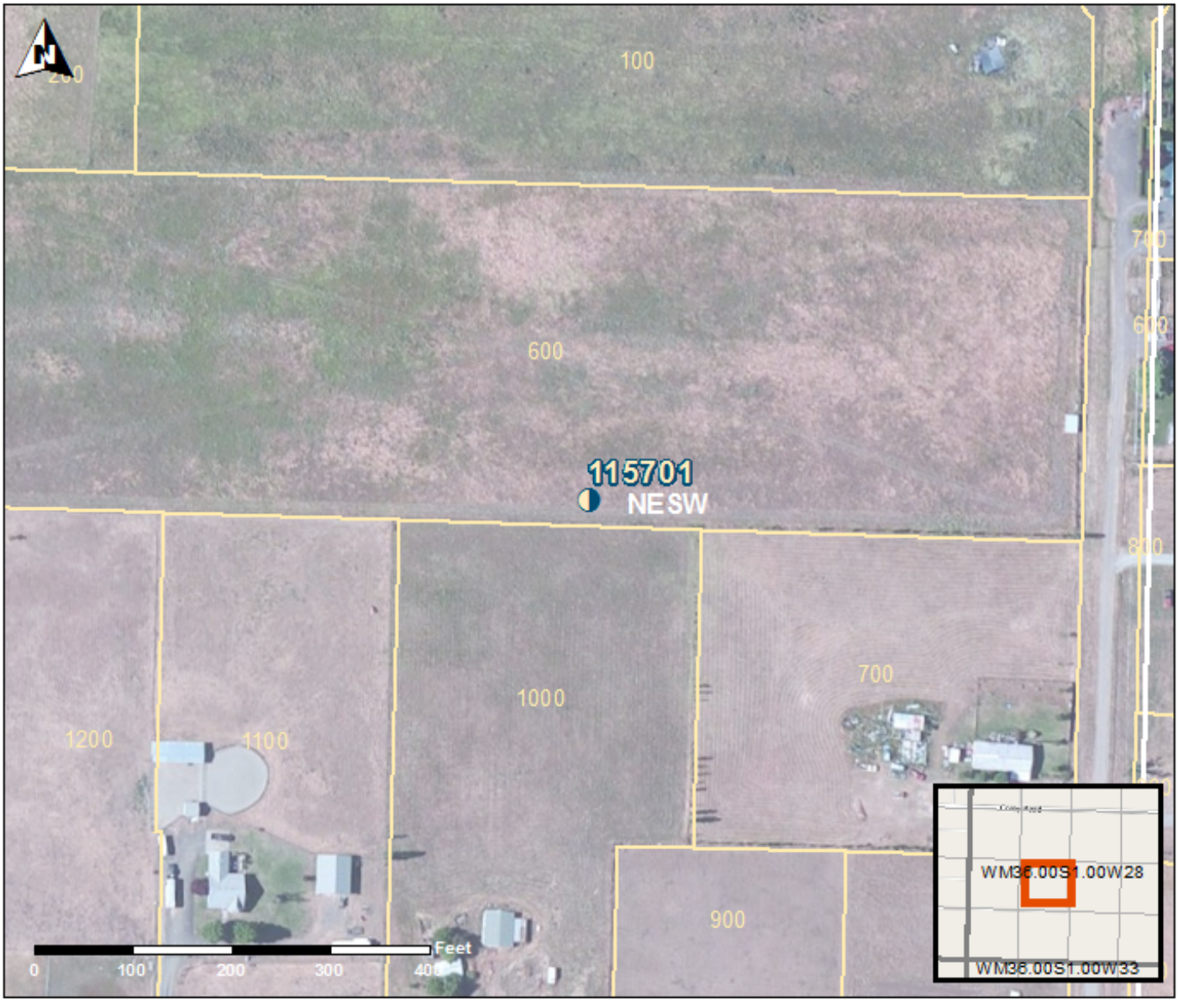
Latitude: 42.4093637044 Datum: WGS84
Longitude: -122.82849262677
Township/Range/Section/Quarter-Quarter Section:
WM 36S 1W 28 NESW
Address of Well:
EAST END OF RANDALL STREET.

Well Label: 115701

Printed: August 16, 2016

DISCLAIMER: This map is intended to represent the approximate location the well. It is not intended to be construed as survey accurate in any manner.

Provided by well constructor



Groundwater Application Review Summary Form

Application # G- _19067_

GW Reviewer _Joe Kemper_ Date Review Completed: _8/6/2021_

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.

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 6, 2021_**

TO: **Application** G-**_19067_**

FROM: **GW: _Joe Kemper_**
(Reviewer's Name)

SUBJECT: Scenic Waterway Interference Evaluation

☒ **YES**
☐ **NO**

The source of appropriation is hydraulically connected to a State Scenic Waterway or its tributaries

☒ **YES**
☐ **NO**

Use the Scenic Waterway Condition (Condition 7J)

☒ 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 Rogue 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
0.083	**0.083**	**0.083**	**0.083**	**0.083**	**0.083**	**0.083**	**0.083**	**0.083**	**0.083**	**0.083**	**0.083**

PUBLIC INTEREST REVIEW FOR GROUNDWATER APPLICATIONS

TO: Water Rights Section Date 8/6/2021
FROM: Groundwater Section Joe Kemper
Reviewer's Name
SUBJECT: Application G- **19067** Supersedes review of NA
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: **Eric Valencia** County: **Jackson**

A1. Applicant(s) seek(s) 0.053 cfs from 1 well(s) in the Rogue Basin, Middle Rogue subbasin

A2. Proposed use Irrigation (4.25 acres) Seasonality: April 1 through 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	JACK 62687	1	Bedrock	0.053	36S/1W-28 NE-SW	649' S, 2035' E fr W 1/4 cor S 28
2						

* 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	1348	75	8	8/16/2016	205	0-19	+1-19	5-205	165-205	22	-	Air

Use data from application for proposed wells.

A4. **Comments:**

A5. ☒ **Provisions of the** OAR 690-515 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: The Rogue Basin contains no such provisions.

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) **7C (7-yr SWL); 7J (Scenic); Medium 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 accesses an aquifer hosted in secondary fractures and joints of the Payne Cliffs Formation. Wells in the vicinity have low-moderate yields (median yield = 22 gpm) and are shallow (>50 % are less than 100-feet deep). Well reports and water level records from JACK 7302 from 1960 to 1986 indicate that water levels are typically between 5-20 feet BLS. There is insufficient water level data to determined whether the resource is over-appropriated at this time.

There are several adjacent tax lots that are likely supplied by exempt use water use wells and JACK 6382 under certificate 57119, which will likely be impacted by the requested use. Considering the relatively low requested rate/volume and the distance between the applicant's well and the adjacent developed properties, resulting well-to-well interference is not likely to prevent adjacent well owners from accessing their customary amount of water.

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	**Fractured Bedrock of Payne Cliffs Formation**	☐	☒
		☐	☐

Basis for aquifer confinement evaluation: In fractured-bedrock aquifer systems, water is stored and transmitted primarily by discrete but connected fracture sets. These fractures generally extend to near the surface, so water within these fractures is likely under atmospheric pressure (unconfined) despite an overall low storage coefficient for the aquifer system as a whole and static water levels often reported above water-bearing zones on driller's logs.

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**	**Whetstone Creek**	**1340**	**1342**	**950**	☐	☐	☒	☒	☐
						☐	☐	☐	☐	☐

Basis for aquifer hydraulic connection evaluation: As per OAR 690-009, a well accessing an unconfined aquifer located within ¼ mile of a surface water source is automatically assumed to be hydraulically connected to that surface water source. Additionally, groundwater levels are coincident with surface water elevations within ¼ mile of the applicant's well indicating that groundwater is in hydraulic connection with surface water.

Water Availability Basin the well is located within: ROGUE R > PACIFIC OCEAN - AB CURRY G AT GAGE 14359000

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 (SW) source. Limit evaluation to instream rights and minimum stream flows that are pertinent to that SW source, 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?
1	**1**	☒	☐	**MF270A**	**1200**	☐	**1130**	☐	**>25**	☒
		☐	☐			☐		☐		☐

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: Impacts to Whetstone Creek are estimated using the Hunt (1999) stream depletion mode using parameters representative of bulk aquifer properties.

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													
(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: Streams beyond 1 mile were not evaluated for PSI.

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:** The applicant's well accesses an unconfined aquifer and is located within ¼ mile of Whetstone Creek. As per OAR 690-009, the applicant's well is automatically assumed to be hydraulically connected to Whetstone Creek and to have the Potential for Substantial Interference (PSI) with Whetstone Creek. Analytical modeling indicates that stream depletion would be greater than 25% after 30 days of use, which also results in a finding of PSI as per OAR 690-009.

References Used:

Hunt, B. 1999. Unsteady Stream Depletion from Ground Water Pumping. Journal of Hydrologic Engineering, Vol 8(1), pp 12-19

OWRD Groundwater Information System Database – Accessed 8/6/2021.

Wiley, T.J., McClaughry, J.D., and D'Allura, J., 2011, Geologic database and generalized geologic map of Bear Creek Valley, Jackson County, Oregon: Oregon Department of Geology and Mineral Industries, Open-File Report O-2011-11, scale 1:24,000

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

Water Availability Analysis
Detailed Reports

ROGUE R > PACIFIC OCEAN - AB CURRY G AT GAGE 14359000
ROGUE BASIN

Water Availability as of 8/6/2021

Watershed ID #: 270 (Map) Exceedance Level: 80%
Date: 8/6/2021 Time: 12:48 PM

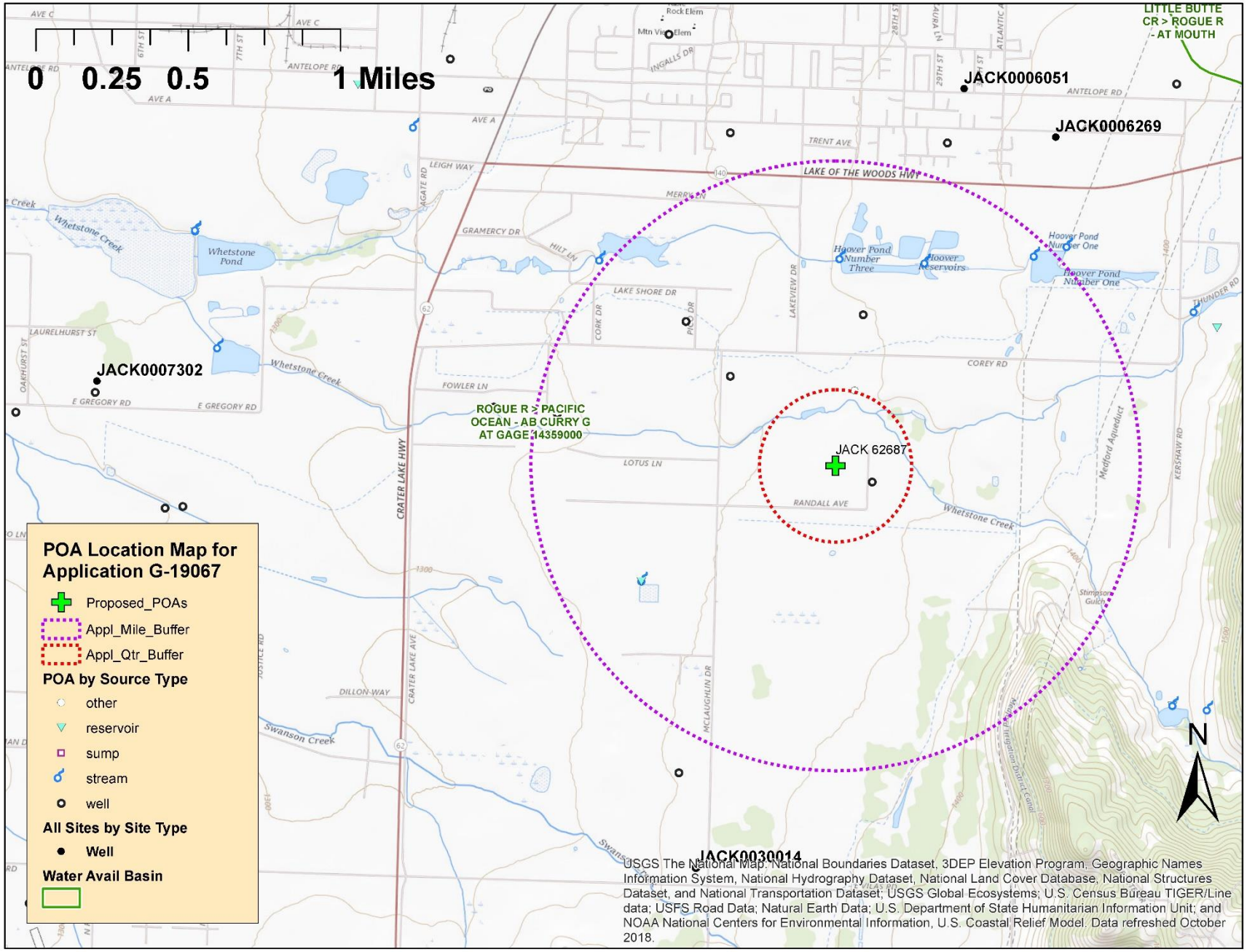
Water Availability Calculation | Consumptive Uses and Storages | Instream Flow Requirements | Reservations
Water Rights | Watershed Characteristics

Water Availability Calculation

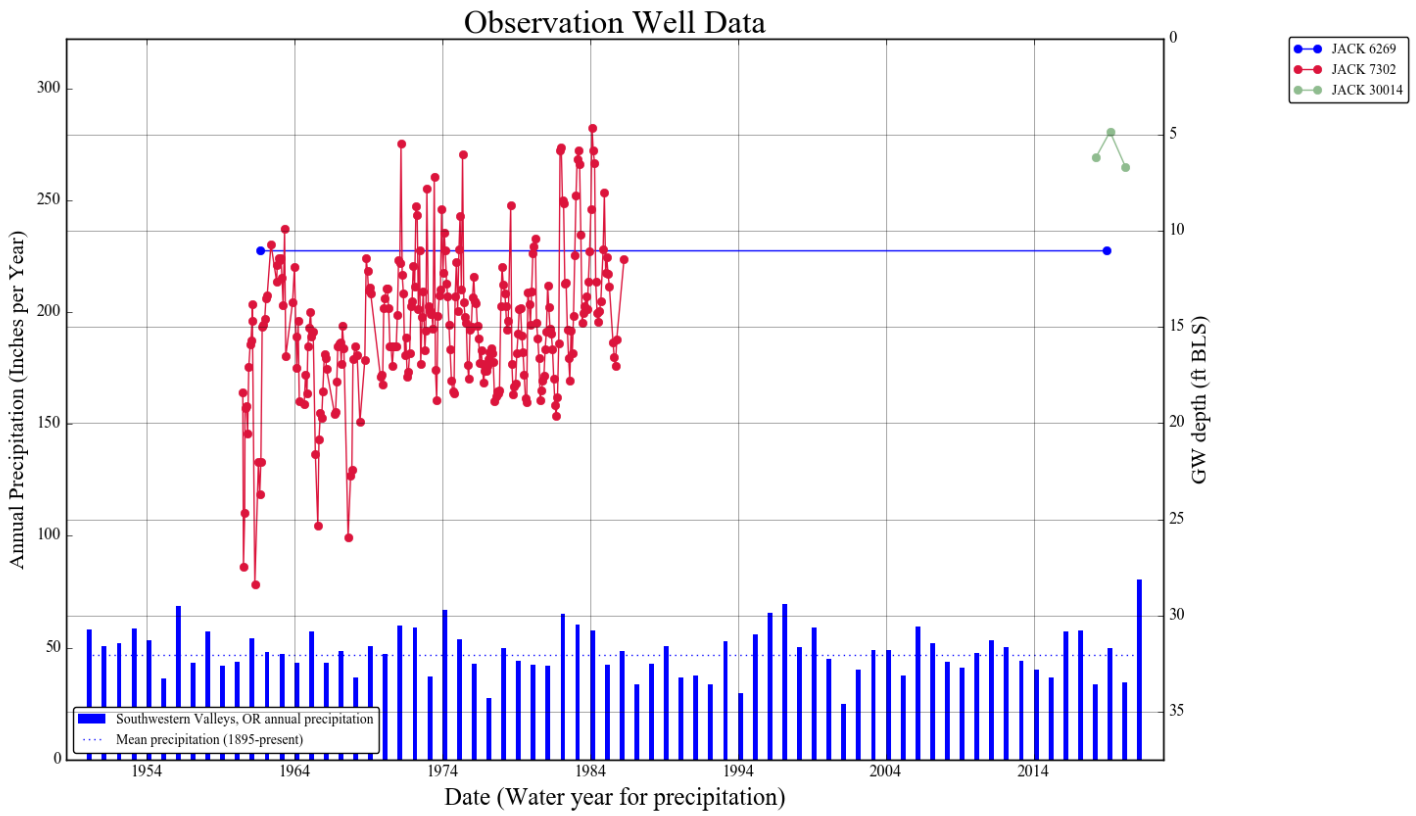
Monthly Streamflow in Cubic Feet per Second
Annual Volume at 50% Exceedance in Acre-Feet

Month	Natural Stream Flow	Consumptive Uses and Storages	Expected Stream Flow	Reserved Stream Flow	Instream Flow Requirement	Net Water Available
JAN	2,180.00	1,130.00	1,050.00	0.00	1,200.00	-149.00
FEB	2,710.00	2,050.00	664.00	0.00	1,200.00	-536.00
MAR	2,750.00	1,820.00	932.00	0.00	1,200.00	-268.00
APR	2,810.00	1,040.00	1,770.00	0.00	1,200.00	573.00
MAY	2,750.00	368.00	2,380.00	0.00	1,200.00	1,180.00
JUN	1,760.00	344.00	1,420.00	0.00	1,200.00	216.00
JUL	1,330.00	369.00	961.00	0.00	1,200.00	-239.00
AUG	1,160.00	331.00	829.00	0.00	1,200.00	-371.00
SEP	1,130.00	276.00	854.00	0.00	1,200.00	-346.00
OCT	1,160.00	228.00	932.00	0.00	1,200.00	-268.00
NOV	1,370.00	345.00	1,020.00	0.00	1,200.00	-175.00
DEC	1,810.00	563.00	1,250.00	0.00	1,200.00	47.40
ANN	1,900,000.00	529,000.00	1,370,000.00	0.00	869,000.00	532,000.00

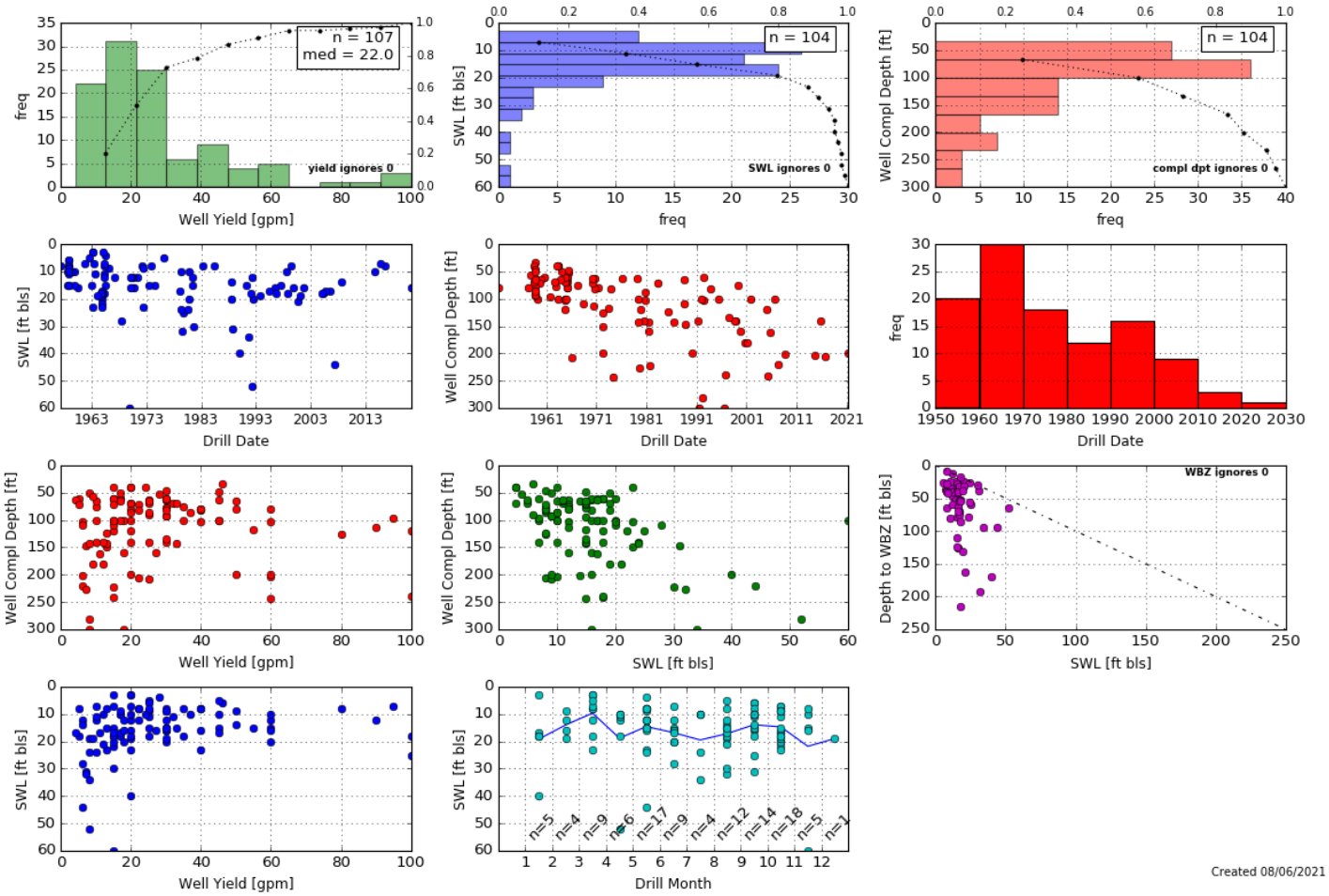
Well Location Map



Water-Level Measurements in Nearby Wells



Summary Statistics for Wells in TRS 36S/1W-28



Stream Depletion Modeling Parameters and Results

Application type:	G
Application number:	19067
Well number:	1
Stream Number:	1
Pumping rate (cfs):	0.053
Pumping duration (days):	211
Pumping start month number (3=March)	4

Parameter	Symbol	Scenario 1	Scenario 2	Scenario 3	Units
Distance from well to stream	a	950	950	950	ft
Aquifer transmissivity	T	100	320	1000	ft2/day
Aquifer storativity	S	0.001	0.0005	0.0001	-
Aquitard vertical hydraulic conductivity	Kva	0.01	0.05	0.1	ft/day
Not used		10.0	20.0	30.0	
Aquitard thickness below stream	babs	4.0	3.0	2.0	ft
Not used		0.2	0.2	0.2	
Stream width	ws	10	10	10	ft

Stream depletion for Scenario 2:

Days	10	300	330	360	30	60	90	120	150	180	210	240	270
Depletion (%)	33	13	10	9	51	62	68	72	74	76	78	28	18
Depletion (cfs)	0.02	0.01	0.01	0.00	0.03	0.03	0.04	0.04	0.04	0.04	0.04	0.01	0.01