WATER RESOURCES DEPARTMENT

MEMO August 29, 2016

TO: **Application** G- 18317

FROM: **GW:** Jen Woody
(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 _____ 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

MEMO

To: Kristopher Byrd, Well Construction and Compliance Section Manager

From: Joel Jeffery, Well Construction Program Coordinator

Subject: Review of Water Right Application G-18317

Date: September 6, 2018

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

Applicant's Well #1 (JACK 336 and JACK 60715, the reconditioning of JACK 336): Based on a review of the Well Report, Applicant's Well #1 appears to protect the groundwater resource.

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

JACK 60715

Jack 60715

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

WELL LABEL # L 101067

START CARD # 1011689

(1) LAND OWNER Owner Well I.D. _____
First Name THOMAS Last Name SMITH
Company _____
Address 4000 E. ANTELOPE RD
City EAGLE POINT State OR Zip 97524

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

(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 _____

(5) BORE HOLE CONSTRUCTION Special Standard ☐ Attach copy
Depth of Completed Well 401 ft.

BORE HOLE Dia	From	To	SEAL Material	From	To	Amt	sacks/ lbs
6"	301	401	NO CHANGE				

How was seal placed: Method ☐ A ☐ B ☐ 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
○	●	4"		0	401	SCH40		●	●	

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

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

Perf/ Screen	Casing/ Screen Liner	Dia	From	To	Scrn/slot width	Slot length	# of slots	Tele/ pipe size
	LINER	4	291	401	3/32	6"	182	

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

Yield gal/min	Drawdown	Drill stem/Pump depth	Duration (hr)
20 1/2		401	1 HR
2 1/8		301	1/5 HR

Temperature 61 °F Lab analysis ☐ Yes By _____
Water quality concerns? ☐ Yes (describe below)

From	To	Description	Amount	Units

(9) LOCATION OF WELL (legal description)
County JACKSON Twp 36S N/S Range 1E E/W WM
Sec 31 SE 1/4 of the SW 1/4 Tax Lot 1101
Tax Map Number _____ Lot _____
Lat ° 0 ' ° or 42.39213 N DMS or DD
Long ° 0 ' ° or -122.75014 W DMS or DD
● Street address of well ○ Nearest address
4000 E. ANTELOPE RD

(10) STATIC WATER LEVEL

	Date	SWL(psi)	+	SWL(ft)
Existing Well / Predeepening	10-4-10			276
Completed Well	10-6-10			277

Flowing Artesian? ☐ Dry Hole? ☐

WATER BEARING ZONES Depth water was first found _____

SWL Date	From	To	Est Flow	SWL(psi)	+	SWL(ft)
10-4-10	0	301	TRACE			276
10-6-10	333	336	14 1/2			277
10-6-10	341	381	5			277
10-6-10	381	401	2			277

(11) WELL LOG Ground Elevation 1804

Material	From	To
SOME GRAVEL / BROKEN ROCK DEBRIS IN BOTTOM FEW FEET OF HOLE		
SANDSTONE GREY FRACTURED 333-336	301	386
SANDSTONE GREY & BLACK	386	401

RECEIVED
OCT 27 2010
WATER RESOURCES DEPT
SALEM, OREGON

Date Started 10-4-10 Completed 10-5-10

(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 _____
Password : (if filing electronically) _____
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 796 Date 10-6-10
Password : (if filing electronically) _____
Signed _____
Contact Info (optional)

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

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WATER RESOURCES DEPT
SALEM, OREGON

Form Version: 0.88

Jack 336

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DEC 05 1989
WATER RESOURCES DEPT
SALEM, OREGON

365/1E/31ca

(START CARD) # 15939

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

(1) OWNER:
Name James & Peggy Lambourne
Address 4000 Hanover Rd.
City Eagle Point State OR Zip 97524

Well Number:

(2) TYPE OF WORK:
☑ New Well ☐ Deepen ☐ Recondition ☐ Abandon

(3) DRILL METHOD
☑ Rotary Air ☐ Rotary Mud ☐ Cable
☐ Other

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

(5) BORE HOLE CONSTRUCTION:
Special Construction approval Yes ☐ No ☑ Depth of Completed Well 300' ft.
Explosives used Yes ☐ No ☑ Type ____ Amount ____

HOLE Diameter	From	To	SEAL Material	From	To	Amount sacks or pounds
10"	0	20'	Cement	0	20	7 sx
6"	20	300				

How was seal placed: Method ☐ A ☐ B ☑ C ☐ D ☐ E
☐ Other
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"	+1	76'	.250	☑	☐	☑	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
Liner:	4"	0	300'	160	☐	☑	☐	☐
					☐	☐	☐	☐

Final location of shoe(s) ____

(7) PERFORATIONS/SCREENS:
☑ Perforations Method Saw Cut
☐ Screens Type 4" Material PVC 1600

From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
100'	300'	12	60	4"		☐	☑
						☐	☐
						☐	☐
						☐	☐
						☐	☐
						☐	☐

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

Yield gal/min	Drawdown	Drill stem at	Time
30	300'	300'	1 hr.

Temperature of water ____ 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 Jackson Latitude ____ Longitude ____
Township 36 S N or S, Range 1 E E or W, WM.
Section 31 NE¼ of SW¼ SE¼ of SW¼
Tax Lot 1100 Lot ____ Block ____ Subdivision ____
Street Address of Well (or nearest address) 4000 Hanover Rd. Eagle Point Ore.

(10) STATIC WATER LEVEL:
62' ft. below land surface. Date 11-10-89
Artesian pressure ____ lb. per square inch. Date ____

(11) WATER BEARING ZONES:
Depth at which water was first found 276'

From	To	Estimated Flow Rate	SWL
276'	277'	30	62

(12) WELL LOG:
Ground elevation ____

Material	From	To	SWL
Clay Brown	0	3	
Clay Stone Brown	3	12	
Sandstone Brown	12	15	
Sandstone Soft Gray	15	76	
Sandstone Gray	76	210	
Sandstone Blue	210	276	
Sandstone Blue	276	277	62
Sandstone Blue	277	300	

Date started 11-10-89 Completed 11-11-89

(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 well construction standards. Materials used and information reported above are true to my best 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 well construction standards. This report is true to the best of my knowledge and belief.

WWC Number 1957
Signed [signature] Date 12-3-89

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

8309C 3/88

PUBLIC INTEREST REVIEW FOR GROUNDWATER APPLICATIONS

TO: Water Rights Section Date 8/29/2016

FROM: Groundwater Section Jen Woody
Reviewer's Name

SUBJECT: Application G- 18317 Supersedes review of n/a
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: Carl A Laurella, Sleepy Shepard Farms LLC
County: Jackson

A1. Applicant(s) seek(s) 0.0557 cfs from 1 well(s) in the Rogue Basin, Antelope Creek subbasin

A2. Proposed use Nursery 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	JACK 336/60715	1	Bedrock	0.0557	T36S/R1E-31 SE ¼ SW ¼	1098'N, 2030'E fr SW cor S 31
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	1760	333	277	10/06/2010	401	0-20	0-76	0-401	291-401	20.5		air

Use data from application for proposed wells.

A4. **Comments:** Well construction and water level data source is the deepening well log : JACK 60715.

A5. ☐ **Provisions of the** Rogue 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: Rogue Basin Rules do not contain a provision that specifies management of groundwater hydraulically connected to surface water.

A6. ☐ **Well(s) #** _____, _____, _____, _____, _____, tap(s) an aquifer limited by an administrative restriction.
Name of administrative area: _____
Comments: N/A

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) **7E, 7J, 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): N/A

B3. **Groundwater availability remarks:** The application proposes to use 25 gallons per minute (gpm) from the fractured bedrock aquifer. Groundwater development is sparse in this area, with 25 well logs on file for Section 31. Well logs report yields in that section ranging from 0 to 129 gpm with a median yield of 20 gpm. There are no nearby static water level data available to determine local over-appropriation of the groundwater 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	**Little Butte Formation volcaniclastics**	☒	☐
		☐	☐
		☐	☐
		☐	☐
		☐	☐

Basis for aquifer confinement evaluation: The static water level rises above the water-bearing zone, indicating the aquifer is more confined than unconfined.

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**	**Antelope Creek**	**1483**	**1480**	**8800**	☒	☐	☐	☐	☒
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐

Basis for aquifer hydraulic connection evaluation: The static groundwater level is coincident with nearby surface water, indicating groundwater discharges to surface water and is therefore hydraulically connected.

Water Availability Basin the well(s) are located within: Watershed ID #: 248 ANTELOPE CR > LITTLE BUTTE CR - 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: The static groundwater level at the subject well is below the Antelope Creek within one mile. This evaluation focuses on the distance to the expected point of hydraulic connection, which is where groundwater is above or coincident with surface water. In this case the distance is greater than a mile, so sections C3a &C3b do 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
1	1	%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS		0.0557	0.0557	0.0557	0.0557	0.0557	0.0557	0.0557	0.0557	0.0557	0.0557	0.0557	0.0557
Interference CFS		*	*	*	*	*	*	*	*	*	*	*	*

Distributed Wells

Well	SW#	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
N/A	N/A	%	%	%	%	%	%	%	%	%	%	%	%
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													
(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: * Interference at greater than one mile could not be estimated because the terrain (high-relief slopes) and geology (fractured bedrock aquifer) do not meet model assumptions of the widely accepted techniques for determining stream depletion (e.g., Hunt 1999, 2003).

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:** Under OAR 690-009 the proposed use does not produce the finding of potential for substantial interference with Antelope Creek.

References Used:

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

Hunt, B. 2003. Unsteady Stream Depletion when Pumping from a Semiconfined Aquifer. Journal of Hydrologic Engineering. Vol 8(1), pp 12-19.

Beaulieu, J.D., Hughes, P.W. 1977 Land Use Geology of Central Jackson County, Oregon. State of Oregon Department of Geology and Mineral Industries Bulletin 94, 87 p.

U.S. Geological Survey topographic map, Brownsboro and Eagle Point Quadrangles.

D. WELL CONSTRUCTION, OAR 690-200

D1. **Well #:** _____ **Logid:** **this section does not apply**

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

ANTELOPE CR > LITTLE BUTTE CR - AT MOUTH
ROGUE BASIN

Water Availability as of 8/29/2016

Watershed ID #: 248 (Map) Exceedance Level:80%

Date: 8/29/2016 Time: 2:19 PM

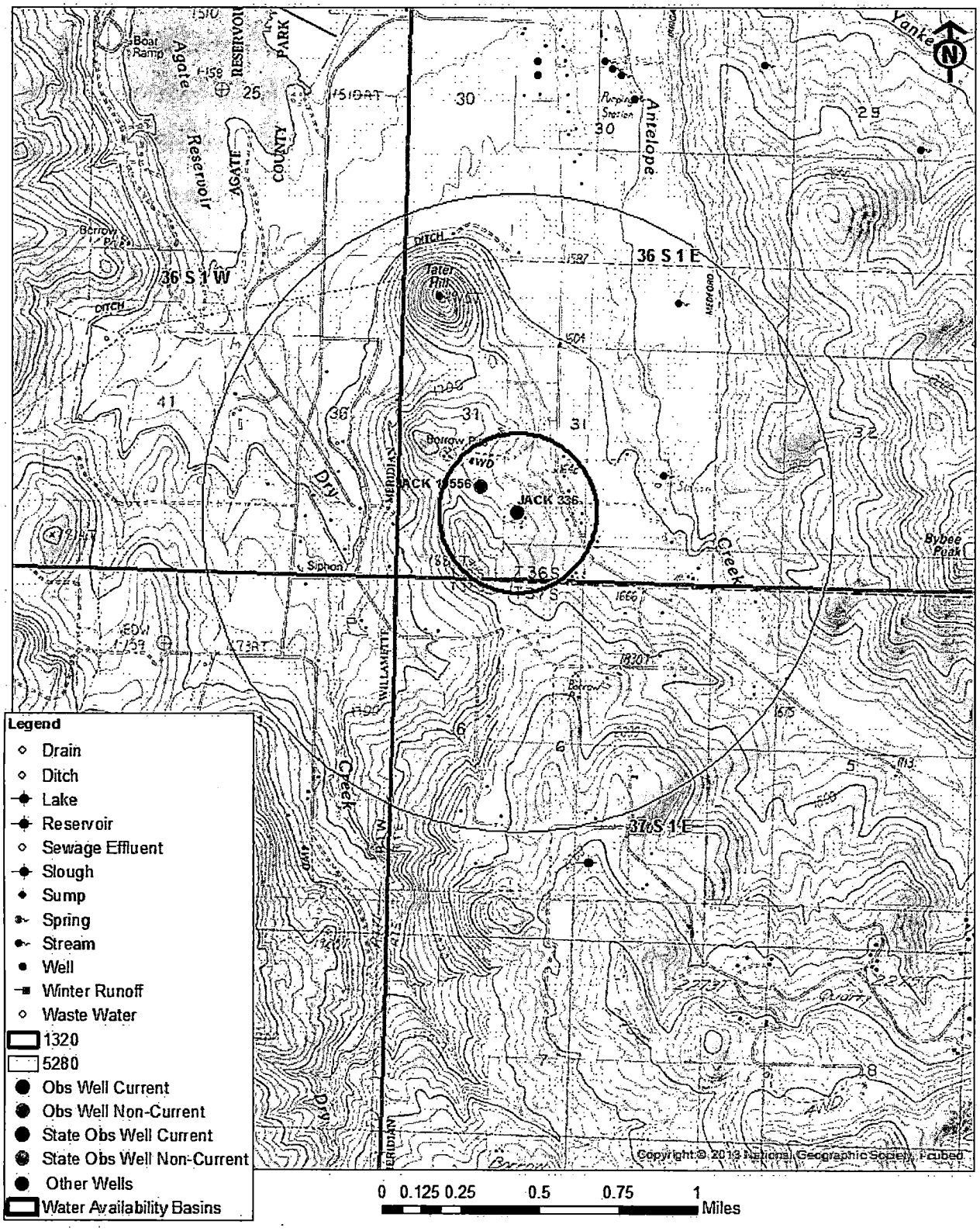
Water Availability Calculation

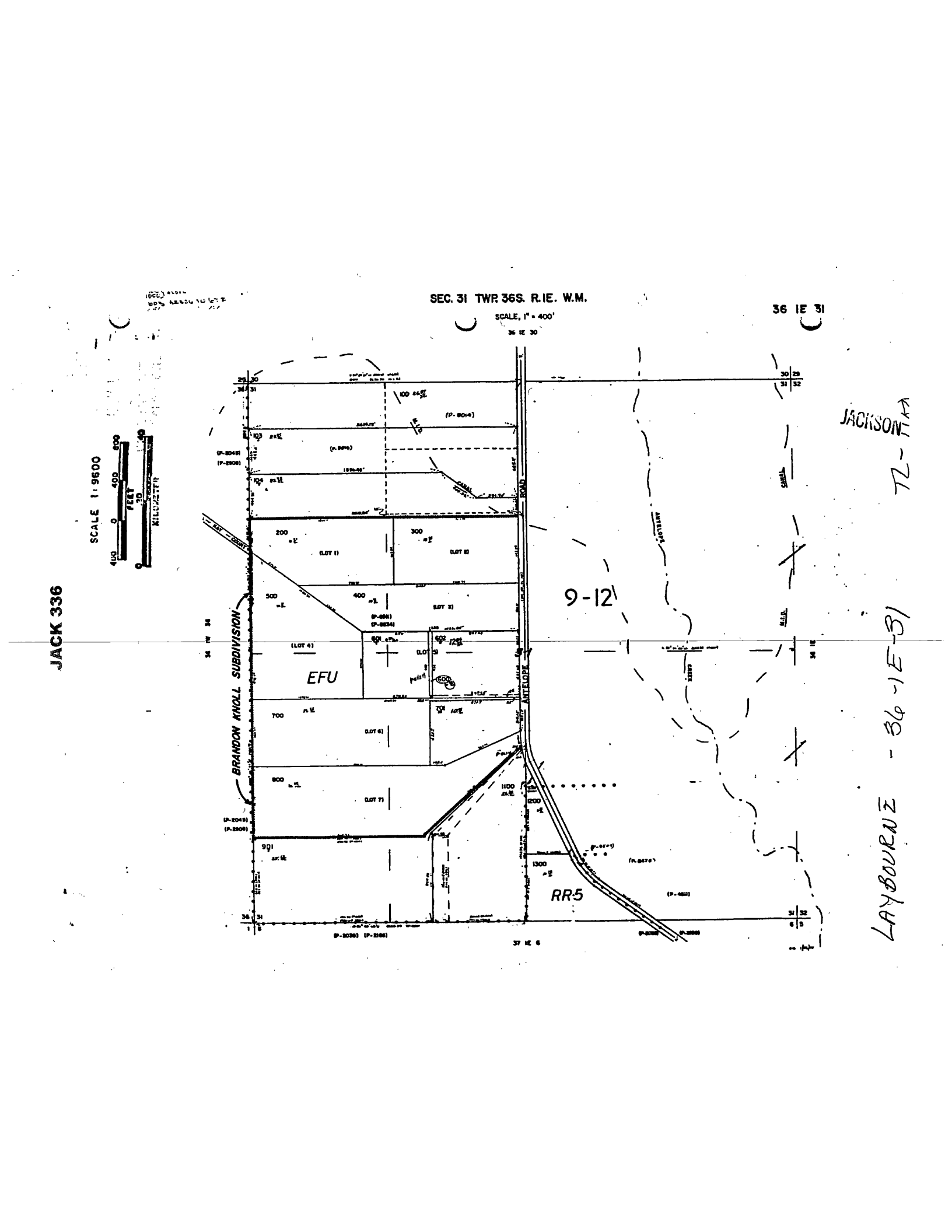
Monthly Streamflow in Cubic Feet per Second
Annual Volume at 50% Exceedance in Acre-Feet

Month	Natural Stream Flow	Consumptive Uses and Storages	Expected Stream Flow	Reserved Stream Flow	Instream Flow Requirement	Net Water Available
JAN	17.50	4.92	12.60	0.00	25.00	-12.40
FEB	29.00	6.18	22.80	0.00	25.00	-2.18
MAR	31.70	5.92	25.80	0.00	25.00	0.78
APR	34.70	0.66	34.00	0.00	25.00	9.05
MAY	11.70	1.36	10.30	0.00	10.00	0.34
JUN	6.62	2.11	4.51	0.00	5.00	-0.49
JUL	5.74	3.00	2.74	0.00	5.00	-2.26
AUG	5.92	2.44	3.48	0.00	5.00	-1.52
SEP	3.31	1.54	1.77	0.00	20.00	-18.20
OCT	1.06	0.23	0.83	0.00	20.00	-19.20
NOV	2.21	0.50	1.71	0.00	25.00	-23.30
DEC	5.47	3.08	2.39	0.00	25.00	-22.60
ANN	19,100.00	1,920.00	17,100.00	0.00	12,900.00	8,040.00

Well Location Map

G-18317 Laurella
T36S/R1E-Section 31




SEC. 31 TWP. 36S. R.1E. W.M.
SCALE, 1" = 400'
36 1E 31
36 1E 30
SCALE 1: 9600
FEET
JACK 336
BRANDON KNOLL SUBDIVISION
ANTELOPE ROAD
EFU
RR-5
9-12
JACKSON
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