Water Right Conditions Tracking Slip

Groundwater/Hydrology Section

FILE ## 15951

ROUTED TO: WATER RIGHTS

TOWNSHIP/
RANGE-SECTION: 35S/1W-8

CONDITIONS ATTACHED? [X] yes [ ] no

REMARKS OR FURTHER INSTRUCTIONS:

Reviewer: IKG

Water Resources Department

MEMO JUNE 5, 2003

TO **Application G-** 15951

FROM **GW:** IVAN GALL
(Reviewer's Name)

SUBJECT **Scenic Waterway Interference Evaluation**

☒ Yes
☐ No

The source of appropriation is within or above a Scenic Waterway

☒ Yes
☐ No

Use the Scenic Waterway condition (Condition 7J).

PREPONDERANCE OF EVIDENCE FINDING: (Check box only if statement is true)

☒ At this time the Department is unable to find that there is a preponderance of evidence that the proposed use of ground water will measurably reduce the surface water flows necessary to maintain the free-flowing character of a scenic waterway in quantities necessary for recreation, fish and wildlife.

FLOW REDUCTION: *(To be filled out only if Preponderance of Evidence box is not checked)*

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

TO: Water Rights Section JUNE 5, 2003

FROM: Ground Water/Hydrology Section IVAN GALL
Reviewer's Name

SUBJECT: Application G- 15951 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 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: ROBERT & BARBARA LOER

A1. Applicant(s) seek(s) 0.045 cfs from ONE well(s) in the ROGUE Basin, _____ subbasin Quad Map: SHADY COVE

A2. Proposed use: IRRIGATION Seasonality: APRIL 1 → OCTOBER 31

A3. Well and aquifer data **(attach and number logs for existing wells; mark proposed wells as such under logid)**:

Well	Logid	Proposed Aquifer*	Proposed Rate(cfs)	Location (T/R-S QQ-Q)	Location, metes and bounds, example: 2250' N, 1200' E fr NW cor S 36
1	JACK 30088	BEDROCK	0.045	35S/01W-8ca	1346'N, 2196'E fr SWcor S8
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	Casing Intervals	Liner Intervals	Perforations Or Screens	Well Yield	Draw Down	Test Type
1	1390	290	55	5/15/90	340	0-24'	+1-99'	0-340'	280-340'	45	—	AIR
1			31	2/13/03	DATA FROM AQ. TEST ON WEATHERS WELL					JACK 55505		X

Use data from application for proposed wells.

A4. Comments: * SEE FERRERO GEOLOGIC REPORT IN SUPPORT OF APPLICATION G-15793

A5. ☐ Provisions of the ROGUE 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: OAR 690-515-0000

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

Application G- 15951 continued JUNE 5, 2003

B. GROUND WATER AVAILABILITY CONSIDERATIONS, OAR 690-310-130 (b) (c)

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;

b. ☐ **will not** *or* ☐ **will** likely be available in the amounts requested without injury to prior ground water rights;

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) 7B, 7F, 7J;
   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: * Require the permittee to install and maintain a properly functioning, totalizing flow meter.

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	BEDROCK	☒	☐
		☐	☐
		☐	☐

Basis for aquifer confinement evaluation: Aquifer locally should be fairly confined. Depth to first water was 290 ft, at which point the static water level recovered to 55 ft, a 235 rise.

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.

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	ROGUE RIVER	1359	1295	2100	☒	☐	☐	☐	☒
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
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						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐

Basis for aquifer hydraulic connection evaluation: Bedrock geology from site to river is "continuous" on geol. maps. Rogue River is considered a regional ground water discharge point. Static water level in well is ~60 feet higher than river stage.

C3a. **690-09-040 (4):** Evaluation of stream impacts for <u>each well</u> 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. If Q is not distributed by well, use full rate for each well. If modeled, include description and model parameters in Comments (C3b). Any checked ☒ box indicates the well is assumed to have the potential to cause substantial interference with surface water.

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	☐	☐	59816	1,000	☐	1020	☐	10% *	☐
		☐	☐			☐		☐		☐
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		☐	☐			☐		☐		☐

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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: *Simple analytical results with low K and high S estimates, suggest 10% impact after 30 days pumping. Not all analytical model assumptions met, however, K & S values adjusted accordingly to make a more conservative estimate of impact. Initial T & S estimates from Blandau aq. test analysis (G-15943).

C4a. **690-09-040 (5):** Estimated impacts on surface water sources as percent or qualitative fraction* of proposed pumping rate. Limit evaluation to one year of pumping.

Well	SW#	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	1	L	L	L	VL	L	I	I	I	I	I	I	I

*VL = Very Low (<5%), L = Low (5-25%), I = Intermediate (25-75%), H = High (>75%).

Basis for impact evaluation: Simple analytical model as described above using aq. test data from Blandau (G-15943). However, aq. test conducted on Weathers (adjacent to Loer) suggests more than one wbz in area

C4b. **690-09-040 (5):** Evaluation of paragraphs under subsection 5. A determination of ☒ **Low** denotes no connection or a very indirect connection between surface water and ground water; ☒ **High** denotes hydraulic connection that would likely reduce surface water availability in the first year of pumping. Do not equate "Low" and "High" between C4a and C4b.

(a) The potential to reduce surface water availability in ROGUE RIVER is ☐ **Low** *or* ☒ **High**
The potential to reduce surface water availability in _____ is ☐ **Low** *or* ☐ **High**
The potential to reduce surface water availability in _____ is ☐ **Low** *or* ☐ **High**
The potential to reduce surface water availability in _____ is ☐ **Low** *or* ☐ **High**

Basis: Rogue River is regional gw discharge location. Bedrock geology from site to river appears continuous on geol. map (GMS-52, 1992 DOGAMI). Relatively high yielding wells in area suggest good degree of fracturing or interflow zones of some extent. Static in well ~60 ft higher than nearby river stage.

(b) **The potential to impair or detrimentally affect the public interest is to be determined by the Water Rights Section.**

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C4b. **690-09-040 (5):**. Evaluation of paragraphs under subsection 5 continued.

(c) The **percentage** of appropriation in the first year of use that will be at the expense of surface water 50%

Basis: Simple analytical modeling as described above.

(d) The timing of interference will be ☒ **immediate** (within one year), *or* ☐ **delayed**;

Basis: As abv. Well will likely capture ground water that will eventually discharge to the river.

(e) The potential for cumulative adverse impacts: A graphical distribution of POAs and summary of permitted rights ☐ **are** *or* ☒ **are not** available at this time of review.

Impacted stream	Impacted basin or sub-basin	Existing Ground Water Rights (cfs)

Comments:

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) 7B, 7F, 7J;
ii. ☒ The permit should contain special condition(s) as indicated in "Remarks" below; *
iii. ☐ The permit should be conditioned as indicated in item 6 below;

C6. ☐ **If the well is not reconstructed**, it will interfere with surface water. Well reconstruction, as follows, will adequately protect surface water from interference. If the ground water use under this permit is found to have the potential for substantial interference with surface water, I recommend withholding issuance of the permit until evidence of well reconstruction is filed with the Department and approved by the Ground Water Section.:

The well should be reconstructed as follows:

C7. **SW / GW Remarks** * Permittee shall install and maintain a properly functioning, totalizing flow meter.

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D. WELL CONSTRUCTION, OAR 690-200

D1. **Well #:** _____ **Logid:** _____

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) _____

N/A

D4. **THE WELL construction deficiency is described as follows:** _____

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).**

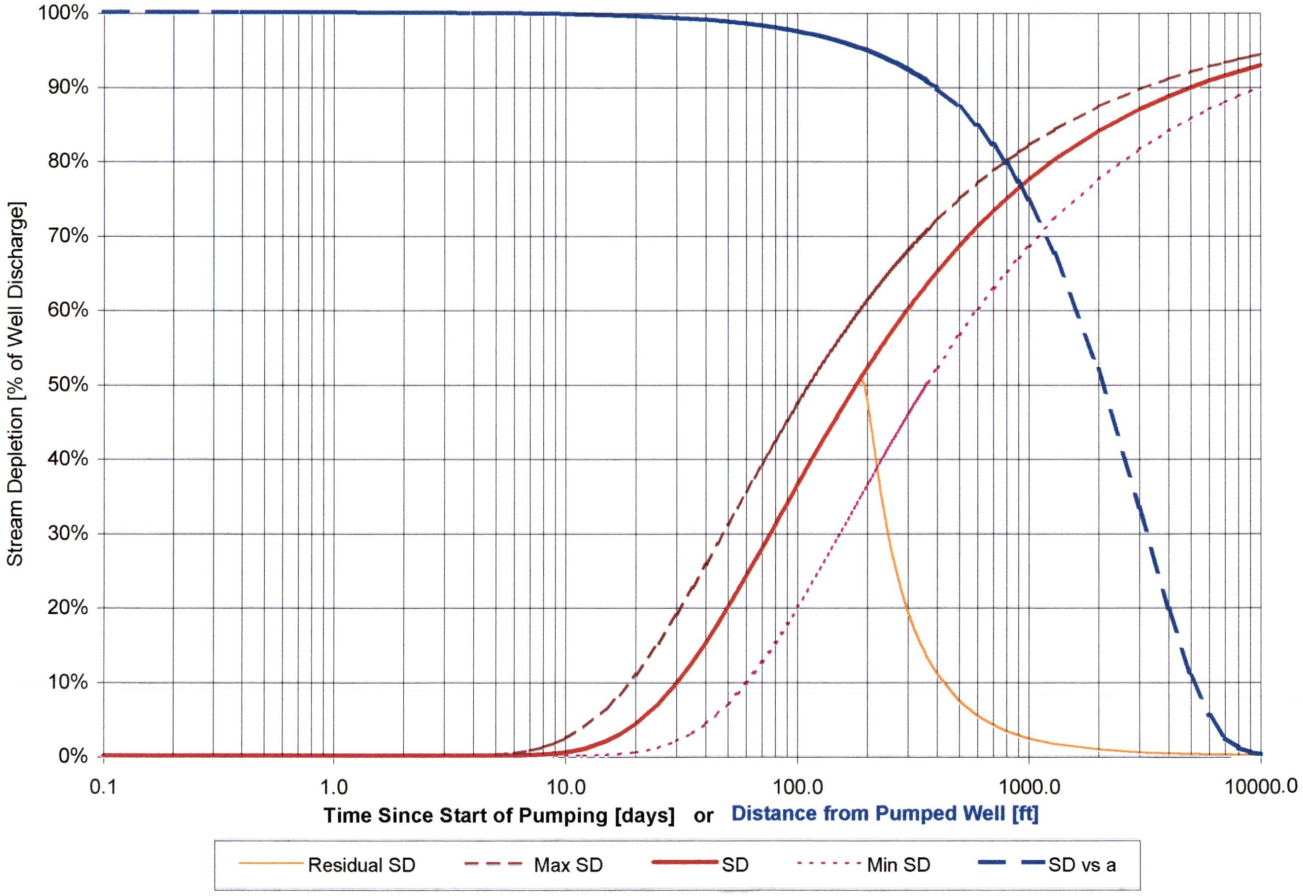
Q = 20 gpm
a = 2100 ft
S = 0.0050
t = 180.00 days

K Max = 16 gpd/ft*ft
K = 10 gpd/ft*ft
K Min = 5 gpd/ft*ft

G-15951

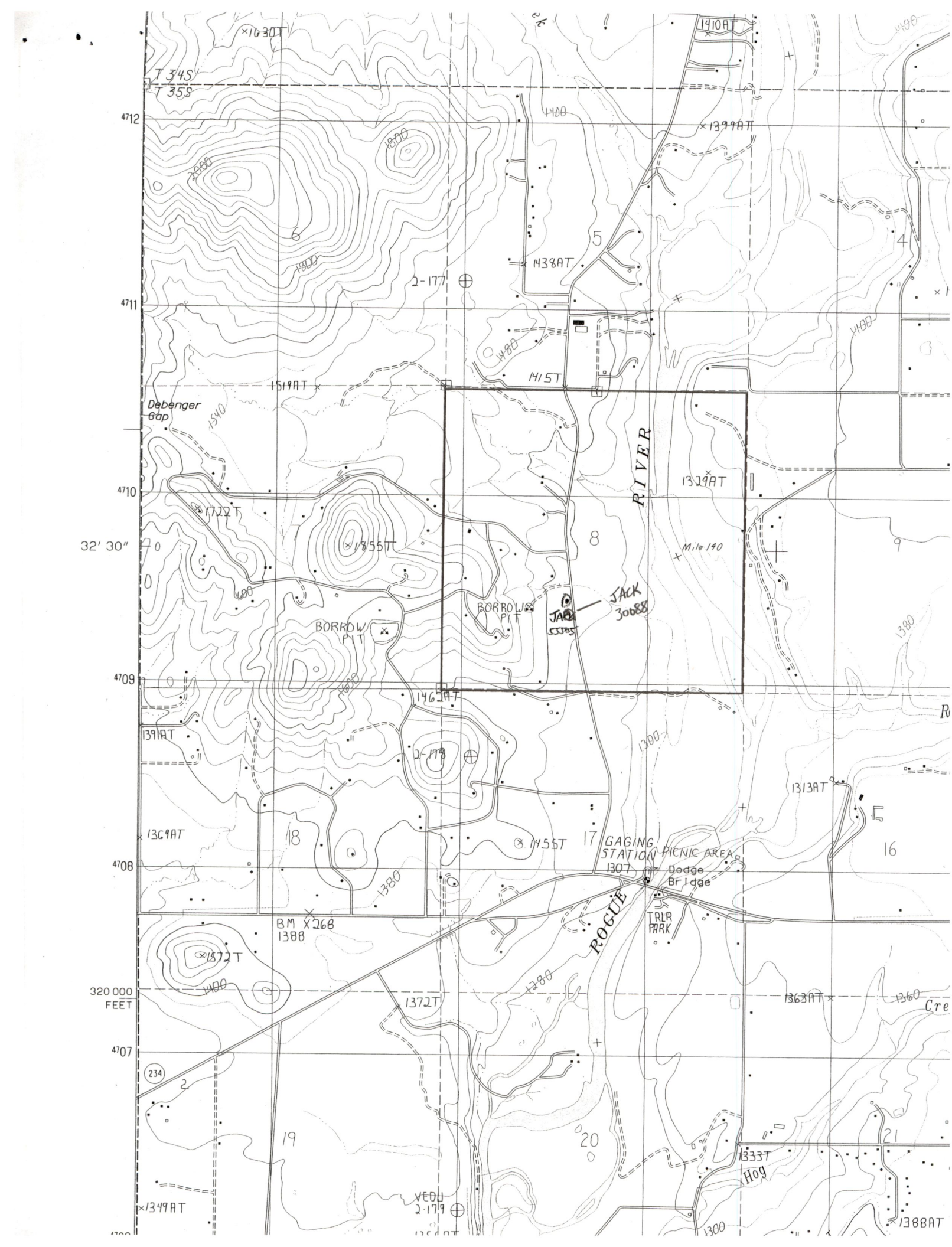
T Max = 1,600 gpd/ft
T = 1,000 gpd/ft
T Min = 500 gpd/ft

Transient Stream Depletion = 50% at t = 180.00 days



G-15943 Blandau Aquifer Test Data Summary

Method	Transmissivity (ft^2/min) JACK 3509	Transmissivity (ft^2/min) JACK 3427	Storativity JACK 3509	Storativity JACK 3427
Theis, confined	0.4715	0.4261	0.0021	0.0004
Cooper-Jacob, confined	0.5818	0.5318	0.0015	0.0003
Papadopulos-Cooper, confined	0.4666	0.4062	0.0021	0.0004
Hantush-Jacob, leaky	0.4714	0.4262	0.0021	0.0004
Theis, unconfined	0.4741	0.4285	0.0021	0.0004
Cooper-Jacob, unconfined	0.5433	0.5398	0.0016	0.0003
Average Value	0.5015	0.4598	0.0019	0.0004
Median Value	0.4728	0.4274	0.0021	0.0004
Average Value (gpd/ft)	5402	4953		
Median Value (gpd/ft)	5093	4604		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