

# Groundwater Application Review Summary Form

Application # G- 18812

GW Reviewer M. Thom Date Review Completed: 06-10-19

## 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.

*2x 6/10/19*

*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).*



OK  
JH

# MEMO

**To:** Kristopher Byrd, Well Construction and Compliance Section Manager  
**From:** Joel Jeffery, Well Construction Program Coordinator  
**Subject:** Review of Water Right Application G-18812  
**Date:** June 17, 2019

The attached application was forwarded to the Well Construction and Compliance Section by Water Rights. Mike Thoma reviewed the application. Please see Mike's Groundwater Review and the Well Log.

Applicant's Well #1 (JOSE 60100): 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.

Applicant's Wells #2 is a proposed well and has not been constructed, therefore a review could not be completed.

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

JOSE 60100

WELL I.D. LABEL# L 125272  
START CARD # 1034557  
ORIGINAL LOG #

6/1/2017

(1) LAND OWNER  
Owner Well I.D. \_\_\_\_\_  
First Name DAVID Last Name LEE  
Company \_\_\_\_\_  
Address 18306 CALVERT ST.  
City TARZANA State CA Zip 91335

(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/ Commercial  Livestock  Dewatering  
 Thermal  Injection  Other \_\_\_\_\_

(5) BORE HOLE CONSTRUCTION Special Standard  (Attach copy)  
Depth of Completed Well 125.00 ft.

BORE HOLE SEAL

Dia	From	To	Material	From	To	Amt	sacks/lbs
10	0	18	Bentonite Chips	0	18	22	S
6	18	125				Calculated	8.22
						Calculated	

How was seal placed: Method  A  B  C  D  E  
 Other DRY POURED  
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  2 118 .250       
Shoe  Inside  Outside  Other Location of shoe(s) 118  
Temp casing  Yes Dia \_\_\_\_\_ From \_\_\_\_\_ To \_\_\_\_\_

(7) PERFORATIONS/SCREENS  
Perforations Method AIR  
Screens Type \_\_\_\_\_ Material \_\_\_\_\_  
Perf/ Casing/ Screen Scrn/slot Slot # of Tele/  
Screen Liner Dia From To width length slots pipe size  
Perf Casing 6 97 117 .188 1 480

(8) WELL TESTS: Minimum testing time is 1 hour  
 Pump  Bailer  Air  Flowing Artesian  
Yield gal/min Drawdown Drill stem/Pump depth Duration (hr)  
16 125 1

Temperature 55 °F Lab analysis  Yes By \_\_\_\_\_  
Water quality concerns?  Yes (describe below) TDS amount 310 ppm  
From To Description Amount Units

(9) LOCATION OF WELL (legal description)  
County JOSEPHINE Twp 38.00 S N/S Range 5.00 W E/W WM  
Sec 23 NE 1/4 of the NE 1/4 Tax Lot 120  
Tax Map Number \_\_\_\_\_ Lot \_\_\_\_\_  
Lat \_\_\_\_\_ " or \_\_\_\_\_ DMS or DD  
Long \_\_\_\_\_ " or \_\_\_\_\_ DMS or DD  
 Street address of well  Nearest address  
WILLIAMS HWY TL 120

(10) STATIC WATER LEVEL  
Date SWL(psi) + SWL(ft)  
Existing Well / Pre-Alteration \_\_\_\_\_  
Completed Well 5/23/2017 0.15  0.3  
Flowing Artesian?  Dry Hole?

WATER BEARING ZONES Depth water was first found 110.00

SWL Date	From	To	Est Flow	SWL(psi)	+ SWL(ft)
5/23/2017	110	121	16	0.15	<input checked="" type="checkbox"/> 0.3

(11) WELL LOG Ground Elevation \_\_\_\_\_  
Material From To  
BROWN CLAY & GRAVEL W/SAND 0 125

Date Started 5/23/2017 Completed 5/23/2017

(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 1994 Date 6/1/2017  
Signed SHAWN PETERSON (E-filed)

(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 1835 Date 6/1/2017  
Signed KEVIN D GILL (E-filed)  
Contact Info (optional) CLOUSER DRILLING INC

PUBLIC INTEREST REVIEW FOR GROUNDWATER APPLICATIONS

TO: Water Rights Section Date 06/10/2019  
 FROM: Groundwater Section Michael Thoma  
 Reviewer's Name  
 SUBJECT: Application G- 18812 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: David Lee, D Tiger Farm LLC County: Josephine

A1. Applicant(s) seek(s) 1.0 cfs from 2 well(s) in the Rogue Basin,  
Applegate subbasin

A2. Proposed use Nursery (17.3 ac) 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	JOSE 60100	1	Sediments	1.0	38S/5W-24NWNW	840' S, 6' E fr NE cor S 23
2	-	2	-	1.0	38S/5W-23NENE	900' S, 500' W fr NE cor S 23

\* 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	1280	110	-0.3	5/23/2017	125	0-18	0-118	-	97-117	16	-	A
2	1278	-	-	-	-	-	-	-	-	-	-	-

Use data from application for proposed wells.

A4. **Comments:** \_\_\_\_\_

A5.  **Provisions of the** Rogue (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: \_\_\_\_\_

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) \_\_\_\_\_;
  - 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 proposed POAs are within the POU served by GR 200 which originally authorized the use of 1.34 cfs from 3 sumps for irrigation of 190 acres but has been the subject of transfers lately which has added POAs and divided up the POU into smaller areas. All three of the original POAs on GR-200 are within 1500 ft of the proposed POAs as well as POAs for 2 other existing water rights (Cert. 51526 and Cert. 29717). Hydrologic interference (i.e., drawdown at a nearby well caused by pumping of another well) at a distance of 1500 ft and a rate of 1.0 cfs is likely to be over 20 ft, **which would result in injury to existing water rights GR-200, Cert. 51526, and Cert. 29717, as well as Cert. 27481** which is approx. 1700 ft from the applicant’s nearest POA.

The applicant proposes a maximum rate of appropriation of 1.0 cfs. Median well yield in this aquifer system is approx. 20 gpm and wells producing over 60 gpm are unlikely. Therefore, the proposed rate of 1.0 cfs, even from 2 wells (est. 220 gpm from each well), would not be available without potentially causing over-appropriation or impairing the character of the aquifer and the proposed use is found to **not be within the Capacity 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	Alluvium	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2	Alluvium	<input checked="" type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>

**Basis for aquifer confinement evaluation:** Many well logs in the area for wells over 100 ft depth report 'SWL' above 'First Water' indicating the aquifer is under some level of confinement

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	Williams Creek	1280	1260-1275	2040	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	1	Williams Creek	1280	1260-1275	1540	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Basis for aquifer hydraulic connection evaluation:** groundwater elevations are above surface water elevations implying that groundwater is flowing towards and discharging to surface water.

**Water Availability Basin the well(s) are located within:** Williams Cr > Applegate R – At Mouth (ID# 70981)

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?
1	1	<input type="checkbox"/>	<input type="checkbox"/>	IS70981A	2.37	<input checked="" type="checkbox"/>	1.89	<input checked="" type="checkbox"/>	< 10%	<input checked="" type="checkbox"/>
2	2	<input type="checkbox"/>	<input type="checkbox"/>	IS70981A	2.37	<input checked="" type="checkbox"/>	1.89	<input checked="" type="checkbox"/>	< 10%	<input checked="" type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>

**Comments:** Stream-depletion was estimated using the Hunt (1999) stream-depletion model with model parameter values reflecting a range expected for this type of aquifer system.

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?
			<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>

**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.

<b>Non-Distributed Wells</b>													
Well	SW#	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS													
Interference CFS													
<b>Distributed Wells</b>													
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:** No surface water sources were evaluated beyond 1 mile

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 proposed POAs would be producing from an aquifer that has been found to be hydraulically connected to surface water – specifically Williams Creek – at a distance of less than 1 mile. The proposed maximum rate of appropriation is greater than 1% of the pertinent adopted perennial streamflow and also greater than 1% of the adopted instream water right for the surface water source. Per OAR 690-009-0040(4) the POAs are assumed to have the Potential for Substantial Interference

**References Used:**

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

Oregon Department of Geology and Mineral Industries, *Geologic Map of Oregon*. <http://www.oregongeology.org/geologicmap/>

OWRD Well Log Database – Accessed 6/10/2019

Ramp, L. and Peterson, N. 2004. *Geologic Map of Josephine County, Oregon*. Oregon Dept. of Geol. and Mineral Industries, OFR O-04-13.



**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) \_\_\_\_\_

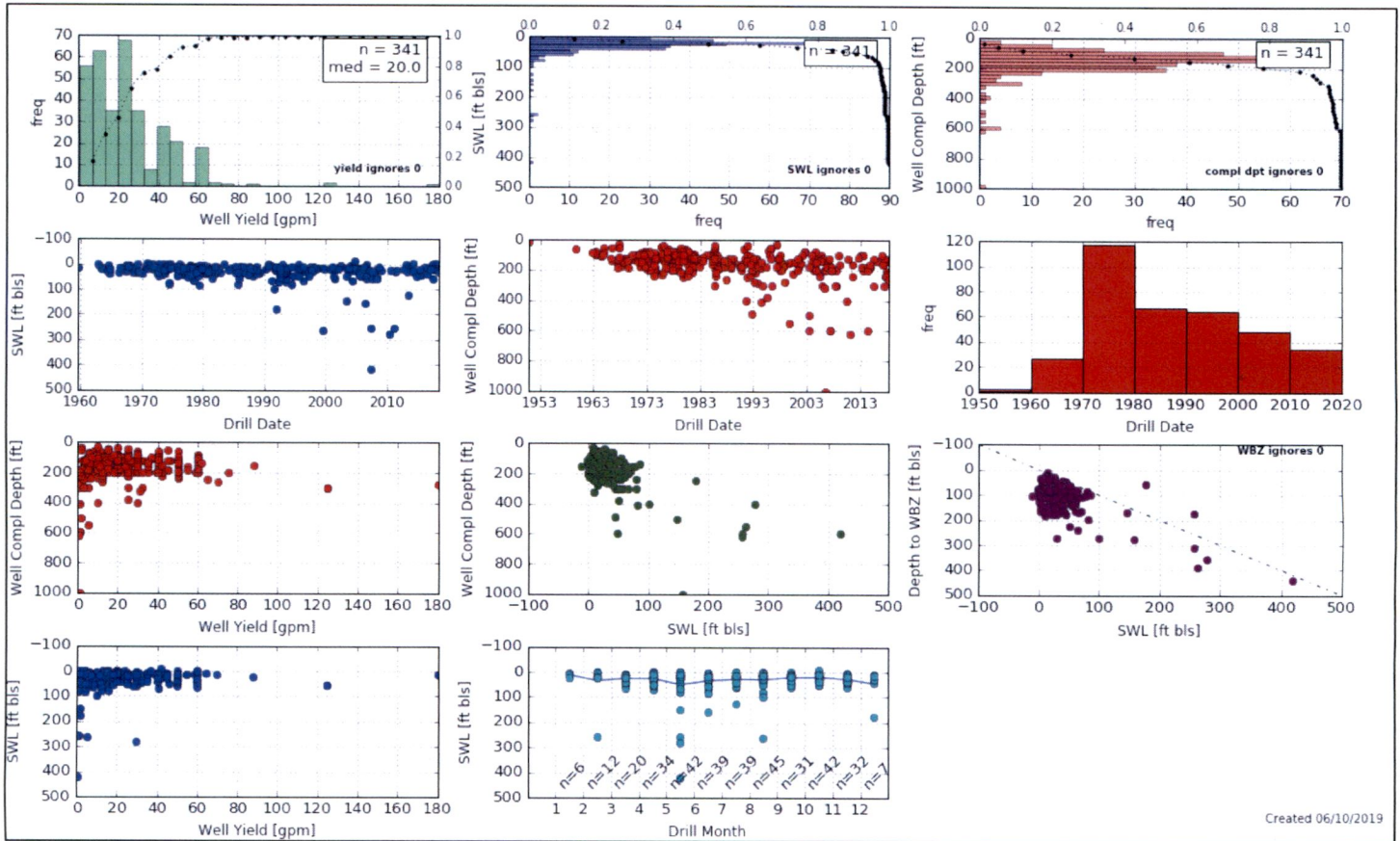
D3. THE WELL construction deficiency or other comment is described as follows: \_\_\_\_\_

D4.  Route to the Well Construction and Compliance Section for a review of existing well construction.

Water Availability Tables

Water Availability Analysis Detailed Reports							
WILLIAMS CR > APPLGATE R - AT MOUTH ROGUE BASIN							
Water Availability as of 6/10/2019							
Watershed ID #: 70981 ( <a href="#">Map</a> )				Exceedance Level: 80% ▾			
Date: 6/10/2019				Time: 9:31 AM			
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	67.30	1.09	66.20	0.00	110.00	-43.80	
FEB	110.00	1.49	109.00	0.00	110.00	-1.49	
MAR	107.00	1.09	106.00	0.00	110.00	-4.09	
APR	62.70	3.69	59.00	0.00	110.00	-51.00	
MAY	29.50	5.80	23.70	0.00	65.00	-41.30	
JUN	10.30	8.12	2.18	0.00	40.00	-37.80	
JUL	4.24	10.90	-6.61	0.00	15.00	-21.60	
AUG	2.68	9.02	-6.34	0.00	5.00	-11.30	
SEP	1.89	6.01	-4.12	0.00	50.00	-54.10	
OCT	2.28	2.14	0.14	0.00	80.00	-79.90	
NOV	6.60	0.45	6.15	0.00	80.00	-73.80	
DEC	32.30	0.75	31.60	0.00	110.00	-78.40	
ANN	54,800.00	3,060.00	52,600.00	0.00	53,300.00	15,200.00	

### Water-Level Trends in Nearby Wells



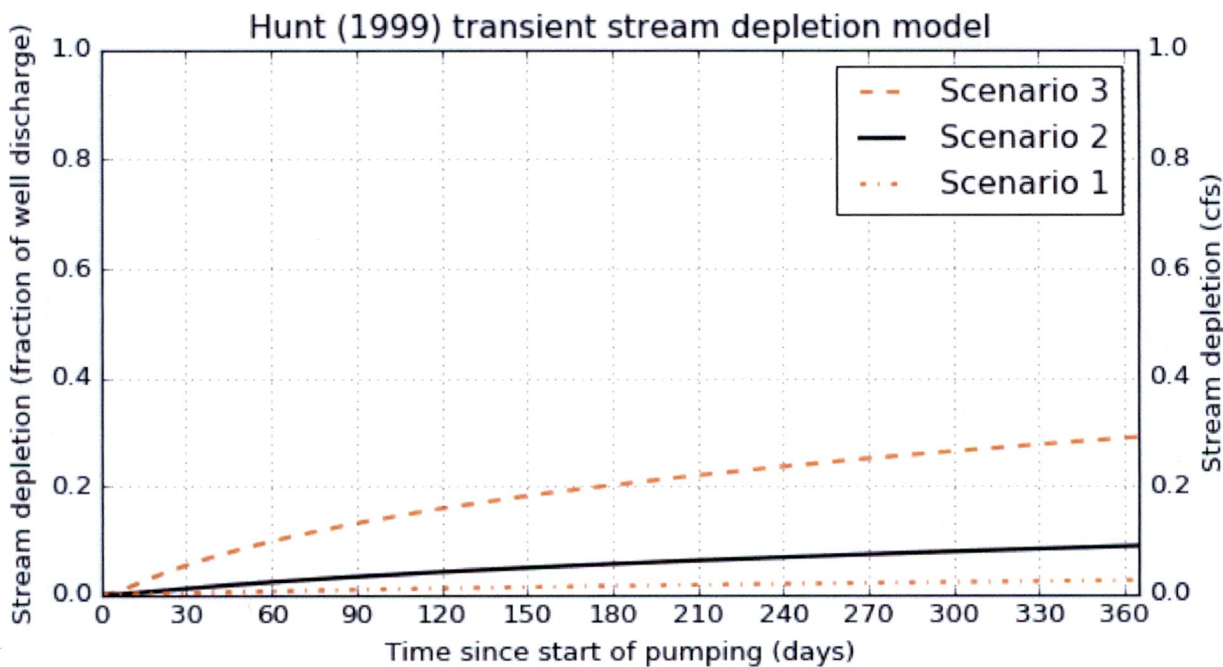
**Stream-Depletion Model Results**

Application type:	G
Application number:	18812
Well number:	2
Stream Number:	1
Pumping rate (cfs):	1
Pumping duration (days):	365
Pumping start month number (3=March)	1

Parameter	Symbol	Scenario 1	Scenario 2	Scenario 3	Units
Distance from well to stream	a	1540	1540	1540	ft
Aquifer transmissivity	T	500	300	100	ft <sup>2</sup> /day
Aquifer storativity	S	0.01	0.005	0.001	-
Aquitard vertical hydraulic conductivity	Kva	0.0005	0.001	0.001	ft/day
Not used		20.0	20.0	20.0	
Aquitard thickness below stream	babs	2	2	2	ft
Not used		0.2	0.2	0.2	
Stream width	ws	30	30	30	ft

Stream depletion for Scenario 2:

Days	10	30	60	90	120	150	180	210	240	270	300	330	360
Depletion (%)	0	1	2	3	4	5	6	6	7	7	8	8	9
Depletion (cfs)	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.06	0.07	0.07	0.08	0.08	0.09



Well Location Map

