

PUBLIC INTEREST REVIEW FOR GROUND WATER APPLICATIONS

TO: Water Rights Section Date July 1, 2005

FROM: Ground Water/Hydrology Section Michael Zwart
Reviewer's Name

SUBJECT: Application G- 16446 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: LaGrande Farm, James Habberstad County: Union

A1. Applicant(s) seek(s) 0.35 cfs from one well(s) in the Grande Ronde Basin,
Catherine Creek subbasin Quad Map: Conley

A2. Proposed use: Irrigation Seasonality: March 1 to 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	UNIO 51315	12	Alluvium	0.35	3S/39E-24 SW-SW	45.28537326 N, -117.89086031 W

* 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
12	2694	12	12	2/14/03	368	0-55	0-368	None	118-178 228-238 328-358	200	?	Air

Use data from application for proposed wells.

A4. Comments: See reviews for files G-16172 and G-16368. This filing is intended to increase the legal production for well #12 by applying for a rate just below 1% of natural flow of Catherine Creek. The well location was again not provided in the required form for this file (location here is provided in decimal degrees without any datum or reference to a section corner).

A5. ☒ **Provisions of the Grande Ronde** 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: _____

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

B1. Based upon available data, I have determined that ground water* for the proposed use:

- 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:

Date: July 1, 2005

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
12	Alluvium	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Basis for aquifer confinement evaluation: Ham (1966) indicates that short-term aquifer testing usually results in semiconfined to confined aquifer parameters, but other data and a long-term test indicate that the aquifer exhibits unconfined characteristics.

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
12	1	Catherine Creek	2682	2682	4500	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input checked="" type="checkbox"/>

Basis for aquifer hydraulic connection evaluation: Based on the direction of ground-water flow, hydraulic connection is more likely with Catherine Creek than with Phys Slough.

Water Availability Basin the well(s) are located within: Catherine Cr > Grande Ronde R at mouth (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?
12	1	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	35.4 (Oct.)	<input type="checkbox"/> *	3.0	<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"/>		<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"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>

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"/>
	<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"/>

Comments: Used current version (1.10) of the Wozniak modification of the Hunt stream depletion model. *See comments at C6.

- 4a. **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
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: This section does not apply.

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 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) 7J;
- ii. ☐ The permit should contain special condition(s) as indicated in "Remarks" below;

C6. SW / GW Remarks and Conditions This is the third recent filing on this well. The applicant is taking advantage of the Division 9 rule thresholds regarding the rate of appropriation as compared to the natural streamflow to avoid a finding of PSI. I believe that the Department should strongly consider either denial of the permit or, if a permit is issued, place limitations on the maximum production rate of this well to limit interference with Catherine Creek. I suggest that the permit recognize the earlier permits and limit the rate to 0.35 cfs under any combination of these permits.

References Used: Development Potential of Ground Water in the Grande Ronde Valley, Union County, Oregon, Ham, 1966; local well logs; Files G-6578, G-16172 & G-16368.

WELL CONSTRUCTION, OAR 690-200

D1. Well #: 12 Logid: UNIO 51315

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) _____

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).**

Ken Stahr
(at FO)

WATER RESOURCES DEPARTMENT

MEMO

April 19, 2006

TO: Application G- 16446
FROM: GW: Michael Zwart
(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 Ground Water Section is **able** to calculate ground water interference with surface water that contributes to a Scenic Waterway. The calculated interference is distributed below.

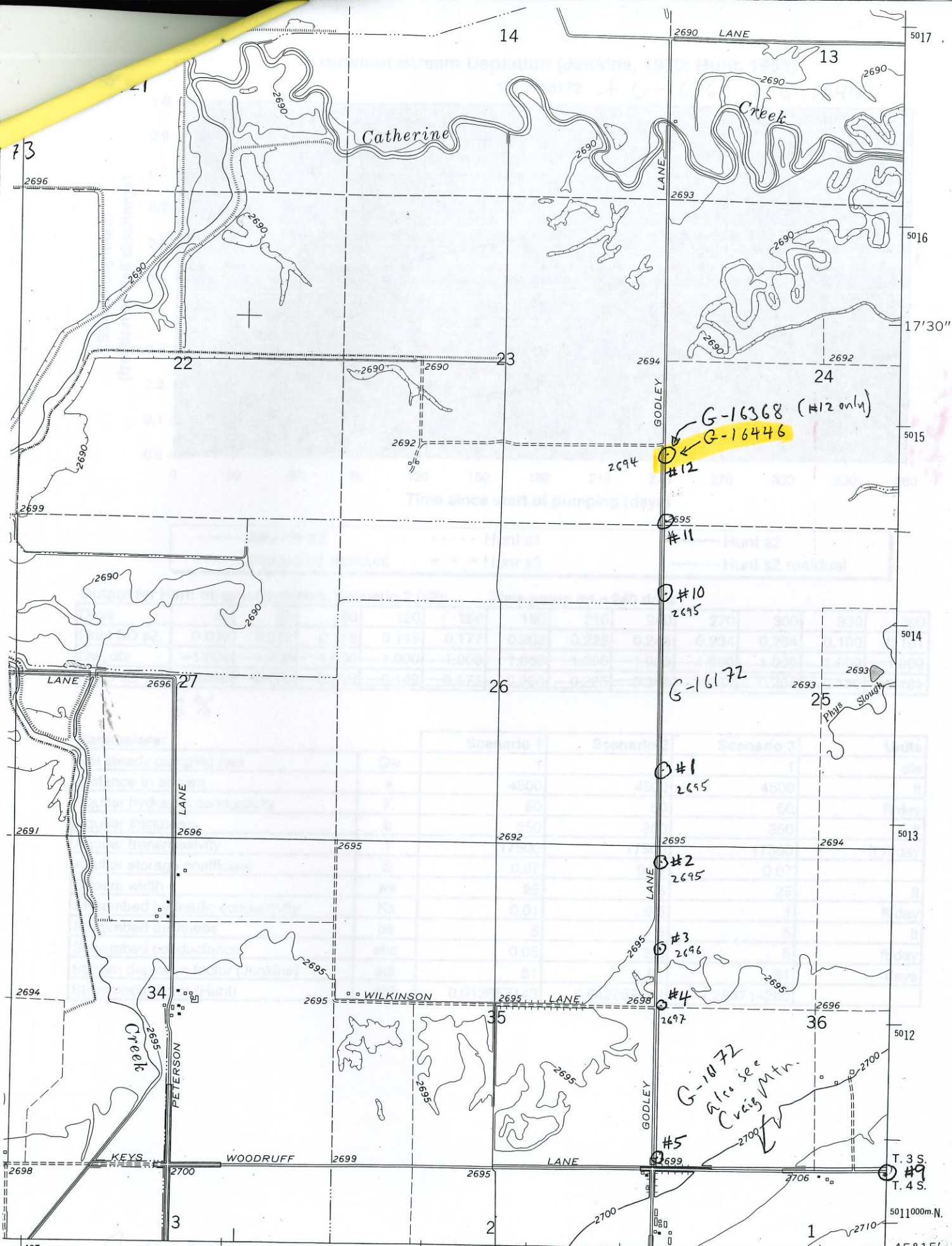
☐ Per ORS 390.835, the Ground Water Section is **unable** to calculate ground water interference with surface water that contributes to a scenic waterway; **therefore, the Department is unable to find that there is a preponderance of evidence that the proposed use will measurably reduce the surface water 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
0.091	0.088	0.085	0.082	0.081	0.081	0.081	0.083	0.084	0.084	0.082	0.079



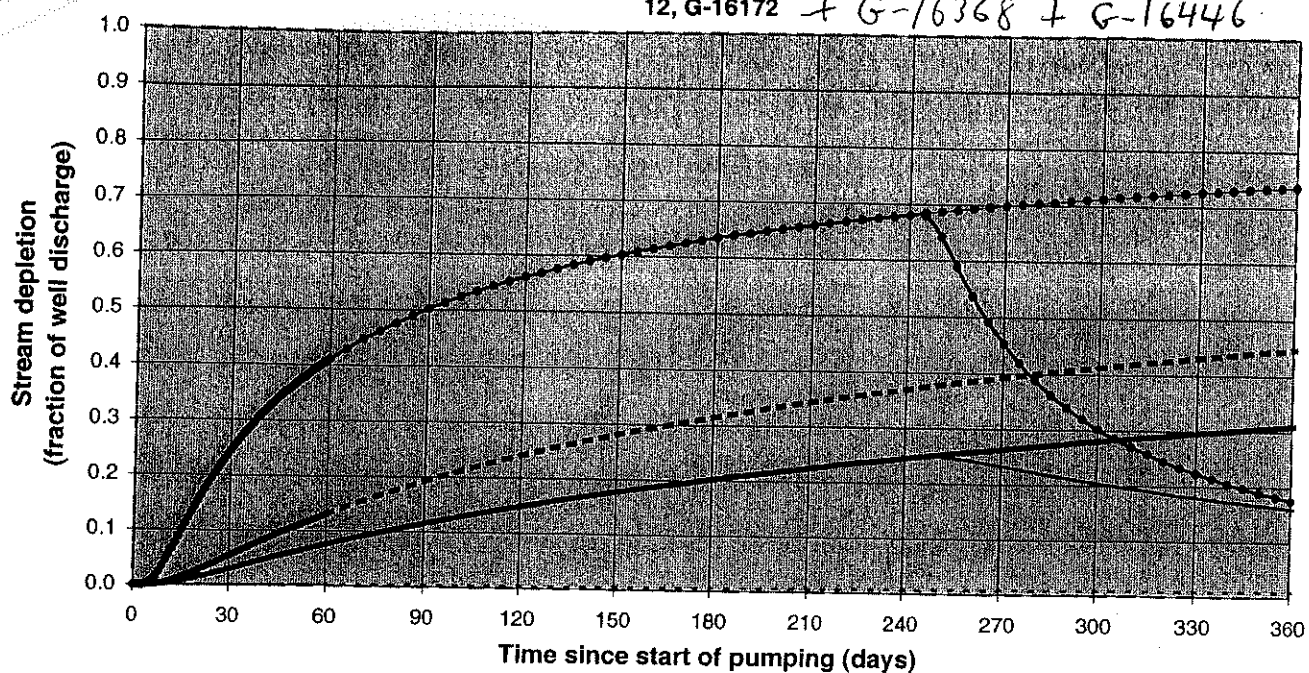
Conley

ROAD CLASSIFICATION

(UNION)
2474 11 N

Transient Stream Depletion (Jenkins, 1970; Hunt, 1999)

12, G-16172 + G-16368 + G-16446



—•— Jenkins s2	----- Hunt s1	— Hunt s2
—•— Jenkins s2 residual	- - - - Hunt s3	— Hunt s2 residual

Output for Hunt Stream Depletion, Scenerio 2 (s2): Time pump on = 240 days

Days	30	60	90	120	150	180	210	240	270	300	330	360
Hunt SD s2	0.030	0.076	0.115	0.149	0.177	0.203	0.225	0.245	0.234	0.204	0.180	0.161
Qw, cfs	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
H SD s2, cfs	0.030	0.076	0.115	0.149	0.177	0.203	0.225	0.245	0.234	0.204	0.180	0.161

3%

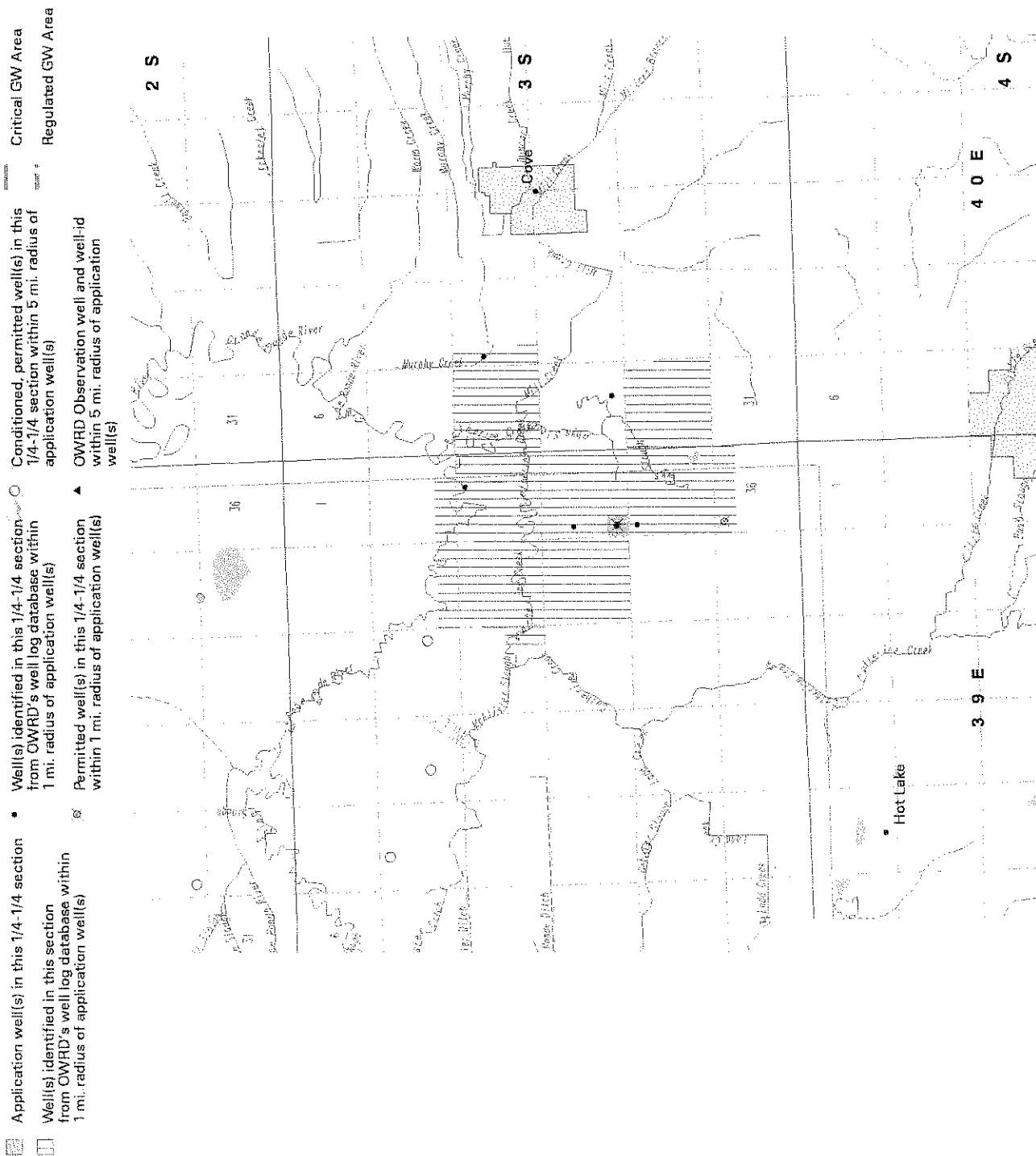
Parameters:

		Scenario 1	Scenario 2	Scenario 3	Units
Net steady pumping rate	Qw	1	1	1	cfs
Distance to stream	a	4500	4500	4500	ft
Aquifer hydraulic conductivity	K	50	50	50	ft/day
Aquifer thickness	b	350	350	350	ft
Aquifer transmissivity	T	17500	17500	17500	ft*ft/day
Aquifer storage coefficient	S	0.07	0.07	0.07	
Stream width	ws	25	25	25	ft
Streambed hydraulic conductivity	Ks	0.01	0.5	1	ft/day
Streambed thickness	bs	5	5	5	ft
Streambed conductance	sbc	0.05	2.5	5	ft/day
Stream depletion factor (Jenkins)	sdf	81	81	81	days
Streambed factor (Hunt)	sbf	0.012857143	0.642857143	1.285714286	

pp no. G 16172

sd_hunt_1_1.xls

Wells in the vicinity of application G 16446



ABANDON: 0
 UNCONDITIONED: 0
 REPAIRED: 0
 CONVERSION: 0
 DEEPENINGS: 2
 NEW CONSTRUCT: 9

COMMUNITY USE: 0
 DOMESTIC USE: 5
 INDUSTRIAL USE: 0
 INJECTION USE: 0
 IRRIGATION USE: 6
 THERMAL USE: 0
 LIVESTOCK USE: 0

PERMITTED WELLS WITHIN 1 MILE OF APPLICATION G 16446

\$RECNO	APPLICATION	PERMIT	CLAIM	LOC-QQ	USE_CODE
1	G	16172	0	0 3.00S39.00E24SWSW	IR
1	G	16172	0	0 3.00S39.00E24SWSW	IS
1	G	16172	0	0 3.00S39.00E24SWSW	CM
1	G	16368	0	0 3.00S39.00E24SWSW	IS
1	G	16368	0	0 3.00S39.00E24SWSW	IR
1	G	16446	0	0 3.00S39.00E24SWSW	IR
1	G	16446	0	0 3.00S39.00E24SWSW	IS
2	G	6578 G 7339	0	0 3.00S39.00E36NWNW	IC
2	G	16172	0	0 3.00S39.00E36NWNW	IR
2	G	16172	0	0 3.00S39.00E36NWNW	IS
2	G	16172	0	0 3.00S39.00E36NWNW	CM

CONDITIONED WELLS WITHIN 5 MILES OF APPLICATION G 16446

\$RECNO	APPLICATION	PERMIT	LOC-QQ	CONDITION-CODE
1			2.00S39.00E29SWSW	
2			3.00S39.00E 8NENW	
3			3.00S39.00E10NESE	
4			3.00S39.00E 9NESW	
5			3.00S39.00E29NENW	
6			3.00S39.00E30NWNW	

APPLICATION G 16446 FALLS WITHIN THESE QUAD(S)

CONLEY
