

PUBLIC INTEREST REVIEW FOR GROUND WATER APPLICATIONS

TO: Water Rights Section Date June 29, 2004

FROM: Ground Water/Hydrology Section Ivan Gall
Reviewer's Name

SUBJECT: Application G- 15943 Supersedes review of May 12, 2003
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: Mary Blandau County: Jackson

A1. Applicant(s) seek(s) 0.089 cfs from 1 well(s) in the Rogue Basin,
Constance Creek subbasin Quad Map: Boswell Mountain

A2. Proposed use: Irrigation of 7 acres, domestic Seasonality: April 1- Oct 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 55776	1	Bedrock	0.089	35S/02W-13ab	303' S, 1040' W fr N1/16 cor NE1/4 S 13
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	1380	64	35	10-18-02	300	0-20	0-19	0-300	180-280	50+		Air
1			4	Mar 03								

Use data from application for proposed wells.

A4. **Comments:** See aquifer test data report in file from Cascade Earth Sciences, dated March 5, 2003.

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: _____

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

Comments: _____

B. GROUND WATER AVAILABILITY CONSIDERATIONS, OAR 690-310-130, 400-010, 410-0070

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. * This finding is limited to the ground water 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 ground water 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 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, 7C, 7E, 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 applicant to install and maintain a properly functioning, totalizing flow meter on each POA.

The bedrock in the area is composed of upper Eocene siltstone, mudstone, sandstone, conglomerate, and coal of the Payne Cliffs Formation. The original sediments were river deposited with the provenance believed to be local. The main stem of Constance Creek west of the site has deposited older quaternary alluvium. The subject well log notes "blue claystone" from 2 to 82 feet bgs. Overlying the bedrock are 2 feet of "black soil". Well logs in the vicinity of the subject site suggest that the depth to bedrock is approximately 2 to 10 feet. Ground water appears to be encountered in fractures ranging from 30 to 150 feet bgs.

Well logs in Sections 12 and 13 listed in GRID: ~80 Well logs with yields of 5 gpm or less: 4 Highest well yield: 200 gpm Well depth range: from 40 to 315 feet; 30 logs with depths less than or equal to 100 feet, 7 wells over 300 feet deep Number of Well Deepenings: 11

Based on the reported well yields, the area appears to be good for domestic ground water development. OWRD has permitted some wells in the area for irrigation rights. However, sustainable well yields at the reported rates (on well logs) in fractured rock of the Payne Cliffs Formation are suspect based on general knowledge of the area, well interference complaints, and claims by landowners of significant reductions in well yields during summer months and following drought.

Water level data from JACK 3423 (Benson Well, 35S/2W-12abd1) are available for this area from approximately 1989 to 1995. The data show seasonal fluctuations of approximately 40 to nearly 100 feet, and no long-term decline. This well is 205 feet deep, with water first found at 162 feet bgs, and a reported yield of 110 gpm.

The applicant hired Cascade Earth Sciences to conduct an aquifer test, the results of which indicated the hydraulic connection of her well with neighboring wells, supporting the conceptualization of a pervasively fractured bedrock system. However, the drawdown in neighboring wells, over the short-term of the test, was not substantial, and did not appear likely to cause well interference over the course of an irrigation season.

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	Fractured bedrock	<input type="checkbox"/>	<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"/>

Basis for aquifer confinement evaluation: Well yields in area are generally good, suggesting the aquifer is pervasively fractured. Although the aquifer is likely more confined with depth, the water-bearing zones of the applicant's wells are fairly shallow and likely more unconfined than confined.

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	Constance Creek	1345-1376	1375	800	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<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"/>	<input type="checkbox"/>

Basis for aquifer hydraulic connection evaluation: Surface water flow evaluation by staff during 2003-2004 indicated Constance Cr flows dominated by precipitation, with very little, if any, groundwater contribution. Groundwater likely discharges to Rogue River, located approx. 11,000 feet east of the site. Given distance and low primary permeability of aquifer material, and discontinuity of formations, hydraulic connection with the Rogue was not evaluated.

Water Availability Basin the well(s) are located within: Rogue River above Curry Gage 14359000 (#270)

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?
		<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 #	Q _w > 5 cfs?	Instream Water Right ID	Instream Water Right Q (cfs)	Q _w > 1% ISWR?	80% Natural Flow (cfs)	Q _w > 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: _____

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													
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													
(A) = Total Interf.													
(B) = 80 % Nat. Q													
(C) = 1 % Nat. Q													
(D) = (A) > (C)		<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"/>
(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.

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) _____

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.

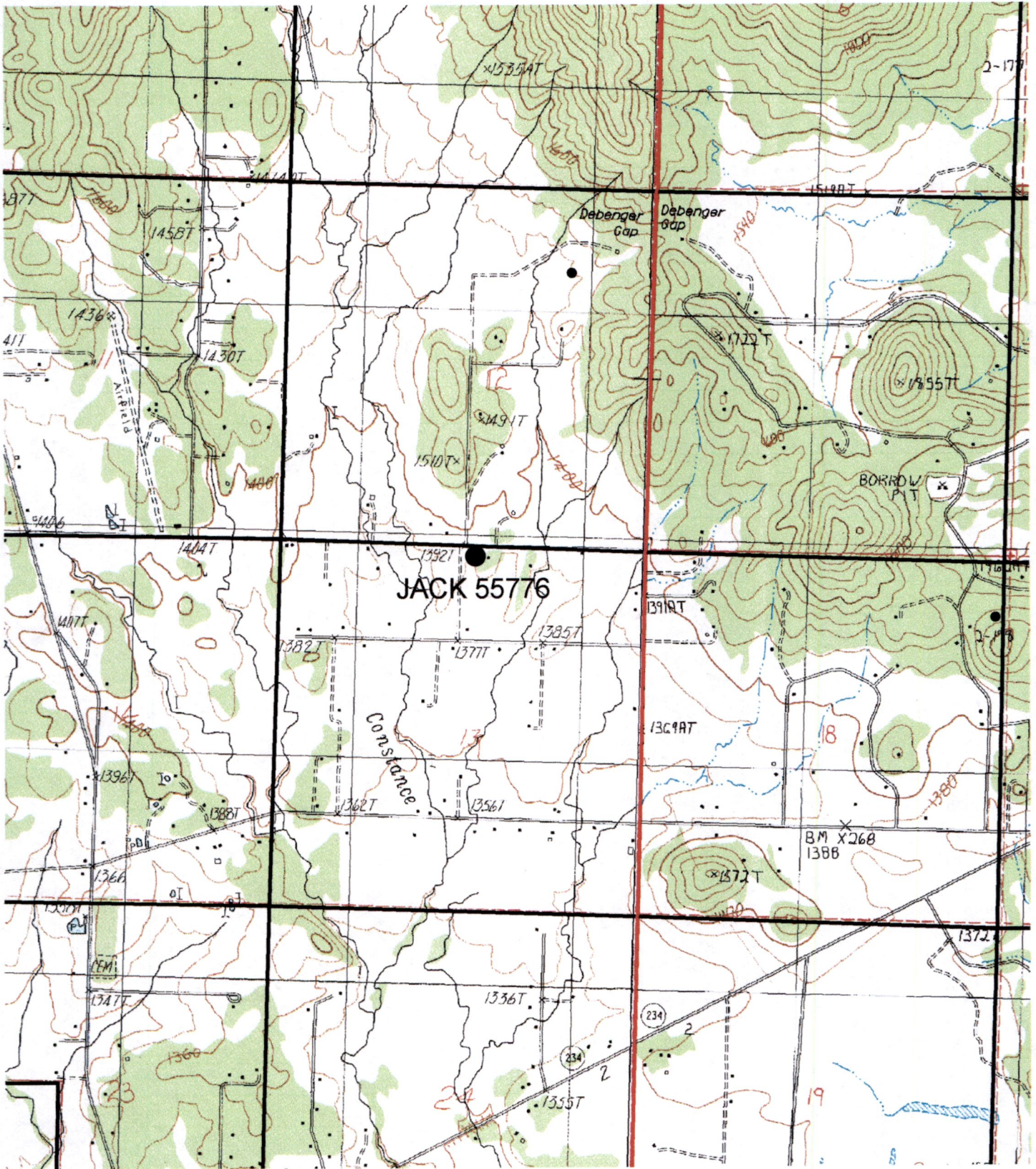
THIS SECTION TO BE COMPLETED BY ENFORCEMENT PERSONNEL

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).**

35S - 02W - 13ab
G-15943 Mary Blandau
Boswell Mountain Quad
Scale 1:24,000



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

GRIBBLE WELL DRILLING INC.

Jack
55776
(START CARD) # 152814

(1) OWNER: Well Number L-60752
Name Mary Blandau
Address 4203 Beagle Rd
City White City State Or Zip 97503

(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		SEAL		Material	Amount sacks or pounds
Diameter	From	To	To		
10	0	20	0	bent	350lbs
6	0	300			

How was seal placed: Method A B C D E
 Other poured dry
Backfill placed from _____ ft. to _____ ft. Material _____
Gravel placed from _____ ft. to _____ ft. Size of gravel _____

Casing	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
	6"	0	19	250	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	4"	0	300	160	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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

From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
180	200	10	30	1/8		<input type="checkbox"/>	<input checked="" type="checkbox"/>
220	240	10	30	1/8		<input type="checkbox"/>	<input checked="" type="checkbox"/>
260	280	10	30	1/8		<input type="checkbox"/>	<input checked="" type="checkbox"/>

(8) WELL TESTS: Minimum testing time is 1 hour
 Pump Bailer Air Flowing Artesian
Yield gal/min 50+ Drawdown _____ Drill stem at 300 Time 1 hr.

Temperature of Water 55 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 N 42° 32', 015 Longitude W 122° 53', 084
Township 35S N or S. Range 2W E or W. WM.
Section 13 NW 1/4 NW 1/4
Tax Lot 105 Lot _____ Block _____ Subdivision _____
Street Address of Well (or nearest address) SAME

(10) STATIC WATER LEVEL:
35' ft. below land surface. Date 10/18/02
Artesian pressure _____ lb. per square inch. Date _____

(11) WATER BEARING ZONES:
Depth at which water was first found 64

From	To	Estimated Flow Rate	SWL
64	67	3	35'
87	89	2	35
105	109	5	35
118	120	4	35
242	245	50+	35'

(12) WELL LOG:
Ground elevation _____

Material	From	To	SWL
brown soil	0	6	
brown claystone	6	13	
gray claystone	13	118	35'
gray claystone w/blk stk.	118	132	35
gray claystone	132	300	35

RECEIVED

NOV 03 2003

WATER RESOURCES DEPT.
SALEM, OREGON

RECEIVED

NOV 14 2002

WATER RESOURCES DEPT.
SALEM, OREGON

Date started 10/18/02 Completed 10/18/02

(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.
Signed _____ Date _____ WWC Number _____

(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.
Signed [Signature] Date 11-2-02 WWC Number 105 11-2-02



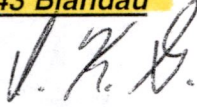
Oregon

Theodore R. Kulongoski, Governor

Water Resources Department

942 SW 6th Street
Suite E
Grants Pass, OR 97526
(541) 471-2886
FAX (541) 471-2876

TO: File G-15794 Decker
File G-15943 Blandau

FROM: Ivan Gall 

COPY: Larry Menteer – Jackson County Watermaster

DATE: June 28, 2004

SUBJECT: Observed Constance Creek Flows, Jackson County, Oregon

This memo summarizes the results of several field visits that were conducted to observe Constance Creek stream flows. The purpose of the observations was to estimate the groundwater contribution to stream flow by looking for the presence or absence of flow following periods of time without precipitation. If groundwater was noticeably contributing to stream flow it would be necessary to consider Constance Creek hydraulically connected to the aquifer under a Division 9 review.

Constance Creek is a seasonal stream, generally going dry each year during the summer and fall months. Constance Creek flows generally south towards the Rogue River, and is composed of several small tributaries that flow across relatively gentle topography. Anecdotal information from staff and residents in the area indicates that Constance Creek generally flows following extended periods of precipitation. Following days or weeks of no rain, Constance Creek flows diminish significantly or stop.

The subject properties are located north and south of Beagle Road in Jackson County, Oregon, west of the Rogue River and southwest of Shady Cove. Topography slopes to the south towards Upper and Lower Table Rock. The bedrock in the area is composed of upper Eocene siltstone, mudstone, sandstone, conglomerate, and coal of the Payne Cliffs Formation. The original sediments were river deposited with the provenance believed to be local. The main stem of Constance Creek west of the site has deposited older quaternary alluvium. The subject well log notes "blue claystone" from 2 to 82 feet bgs. Overlying the bedrock are 2 feet of "black soil". Well logs in the vicinity of the subject site suggest that the depth to bedrock is approximately 2 to 10 feet. Ground water appears to be encountered in fractures ranging from 30 to 150 feet bgs.

Groundwater levels in area wells are generally shallow during the wet months, suggesting the potential for groundwater to discharge into the creek. The overlying soil has a high clay content and soil permeability is likely to be very low. This would minimize connection between the stream and underlying aquifer. However, at some locations in Constance Creek, bedrock is visible in the streambed.

Constance Creek flows were observed on the following dates, generally in several locations (three tributaries along Beagle Road, Dodge Road, and Glass Road). Stream flow measurements were not taken due to staff time limitations.

Date:	Observation:	Staff:
October 30, 2003	No flow	Stanford
December 10, 2003	No flow	Gall, Stanford, Haynes
January 2, 2004	Flowing	Chapman, Stanford
January 30, 2004	Flowing	Chapman, Stanford
March 17, 2004	Flowing	Chapman
April 4, 2004	Flowing	Chapman
April 13, 2004	Flowing, very limited	Gall

No visits were conducted after April 13, 2004, as precipitation was negligible, and the stream flow on April 13 was nearly zero.

A summary of monthly precipitation totals as measured at the Medford Airport is provided below. Daily precipitation values are available.

Month:	Precipitation* (inches):	Departure from Normal* (inches):
September 2003	0.86	0.08
October 2003	0.05	-1.26
November 2003	2.38	-0.55
December 2003	4.67	1.77
January 2004	2.98	0.51
February 2004	3.35	1.25
March 2004	1.27	-0.58
April 2004	0.75	-0.56
May 2004	1.27	0.06

*Data Source Oregon Climate Service Web Page

Staff field observations between October 2003 and April 2004 suggest that stream flow in Constance Creek is dominated by precipitation. Any groundwater contribution to stream flow is minimal and of a short-term nature. No groundwater discharge occurs into Constance Creek near the applicants' properties during the dry months, as the stream is dry.

Limitations on staff resources did not allow location of wells and collection of water level elevation data to assess aquifer responses to precipitation, hydraulic gradients, and compare stream stage with aquifer levels. Quantitative stream flow measurements also were not collected due to staff limitations. These data would provide a more comprehensive evaluation of aquifer and stream interaction. However, I feel that the staff field observations are sufficient to remove Constance Creek from consideration in Division 9 reviews for groundwater rights in this area. If future data are gathered that change the conceptual model of the area, or indicate that surface and groundwater have a greater degree of interaction, then Constance Creek may need to be considered for a Division 9 review for future groundwater rights.