

Water Right Conditions
Tracking Slip

Groundwater/Hydrology Section

FILE # G-17086

ROUTED TO: Water Rights

TOWNSHIP/

RANGE-SECTION: 24S/27E-11,13,24
23S/27E-34

CONDITIONS ATTACHED? Yes No

REMARKS OR FURTHER INSTRUCTIONS:

Reviewer: Mike Zwart

PUBLIC INTEREST REVIEW FOR GROUND WATER APPLICATIONS

TO: Water Rights Section Date November 21, 2008

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

SUBJECT: Application G- 17086 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 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: Phillip and Lorissa Singhose County: Harney

- A1. Applicant(s) seek(s) 7.7025 cfs from 4 well(s) in the Malheur Lake Basin,
Silver Creek subbasin Quad Map: Oakerman Lakes, Moon Reservoir
- A2. Proposed use: Irrigation, 616.2 acres Seasonality: March 1-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	HARN 755	3	QTs/QTb	7.7025	24S/27E-11 NE-NW	343' S, 1860' E fr NW cor S 11
2	HARN 756	13	QTs/QTb	7.7025	24S/27E-13 SW-NE	2050' N, 1710' W fr SE cor S 13
3	Proposed	15	QTs/QTb	7.7025	23S/27E-34 NE-SE	300' N, 400' W fr SE cor NE-SE S 34
4	Proposed	16	QTs/QTb	7.7025	24S/27E-24 SE-NW	1850' S, 2535' E fr NW cor S 24
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	4180	152	39	4/6/68	400	0-20	0-32	None	None	2850	161	P
2	4174	138	27.6	5/9/02	270	0-63*	0-63	None	No more	2000+		Air
3	4285				170	0-20	0-100 +/-					
4	4180				400	0-30	0-100 +/-					

Use data from application for proposed wells.

A4. **Comments: *HARN 756 was altered (HARN 50803) to extend the seal to 63 feet, into basalt, which cased and sealed off the shallowest water-bearing zone. This procedure was done at all six wells proposed by file G-15168 under an enforcement action. Well HARN 755 was not part of that application and was not altered. It was constructed by the same driller who originally constructed the six wells that have been repaired. I strongly suspect that this well also needs to have the seal extended and that the proposed seal depths for the new wells are not adequate. I recommend that Enforcement staff review HARN 755 for compliance with current standards.**

A5. **Provisions of the Malheur Lake** 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) 7N, 7K (as modified at B3 below);
 - 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: Region Manager Ivan Gall recommends use of condition 7N in this basin.

The Proposed wells 15 and 16 shall be continuously cased and continuously sealed to a minimum depth of 100 feet below land surface. The wells may not be completed in such a manner that it allows ground water to be developed from any overlying aquifer. If during well construction, it becomes apparent that the wells can be constructed to eliminate interference with nearby shallow wells or hydraulically connected streams in a manner other than specified in this permit, the permittee can contact the Department Hydrogeologist for this permit or the Ground Water/Hydrology Section Manager to request approval of such construction. The request shall be in writing, and shall include a rough well log and a proposed construction design for approval by the Department. The request can be approved only if it is received and reviewed prior to placement of any permanent casing and sealing material. If the well is constructed first and then the request made, requested modification will not be approved. If approved, the new well depth and construction specifications will be incorporated into any certificate issued for this permit.

(Please add bold language and delete strikethrough.)

I have spoken with the applicant and he is aware that a well construction condition could be included in the PFO and permit.

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
All	Interbedded basalt and sedimentary rocks	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	QTs and QTb of Map I-680, 1972	<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: The local well logs display much variation, with some wells penetrating significant basalt and others primarily sediments, usually interbedded clay, sand, sandstone and conglomerate. The water-bearing zones described appear confined in some wells and unconfined in others, but where separate water-bearing zones were identified, the static water level is above the level of the water-bearing zone.

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	Silver Creek	4140	4180	50	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	1	Silver Creek	4145	4175	4300	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3	1	Silver Creek	4150±	4200	4700	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4	1	Silver Creek	4150±	4170	1685	<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"/>

Basis for aquifer hydraulic connection evaluation: The head relationship suggests that the ground water elevation is below Silver Creek locally and for several miles downstream, resulting in poor local hydraulic connection. Ground water likely discharges to lower reaches of Silver Creek, such as within or below Moon Reservoir.

Water Availability Basin the well(s) are located within: 31202408 SILVER CR> HARNEY L- AB UNN STR

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"/>
		<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: This section does 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
		%	%	%	%	%	%	%	%	%	%	%	%
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													
(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:

D. WELL CONSTRUCTION, OAR 690-200

D1. Well #: 1 Logid: HARN 755

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) Commingling is possible, but the well log does not report a shallow water-bearing zone.

D4. **THE WELL construction deficiency is described as follows:** Six local wells were repaired prior to issuance of a permit for file G-15168. HARN 755 was constructed by the same well constructor at about the same time. I suspect that this well also does not meet current standards regarding the depth of the surface seal. Refer to memo from Mike McCord, dated June 20, 2001 (attached).

- 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).**

SILVER CR> HARNEY L- AB UNN STR
MALHEUR LAKE BASIN

Water Availability as of 11/19/2008

Watershed ID #: 31200408

Exceedance Level: 80%

Date: 11/19/2008

Time: 10:24 AM

Water Availability Calculation

Consumptive Uses and Storages

Instream Requirements

Reservations

Water Rights

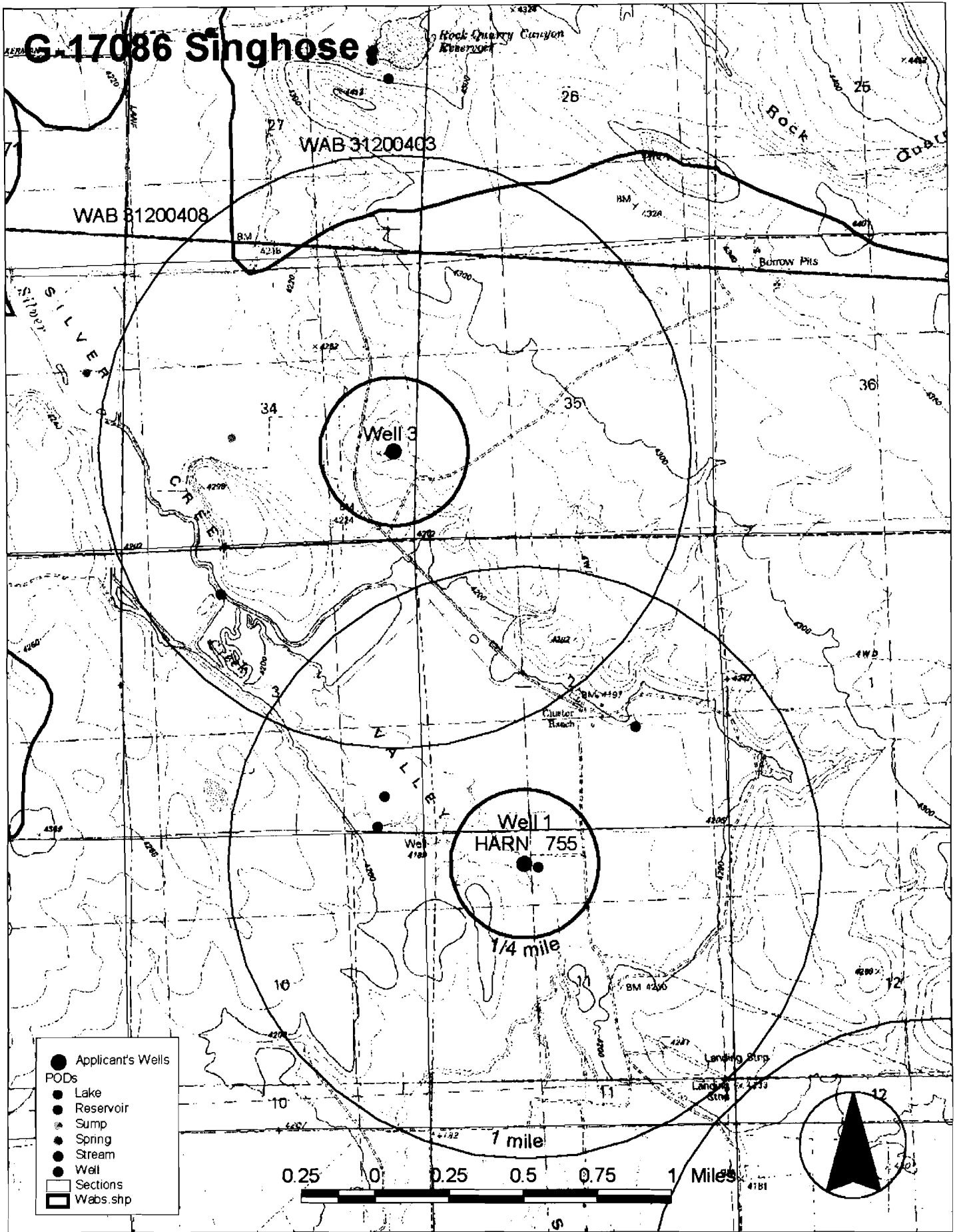
Watershed Characteristics

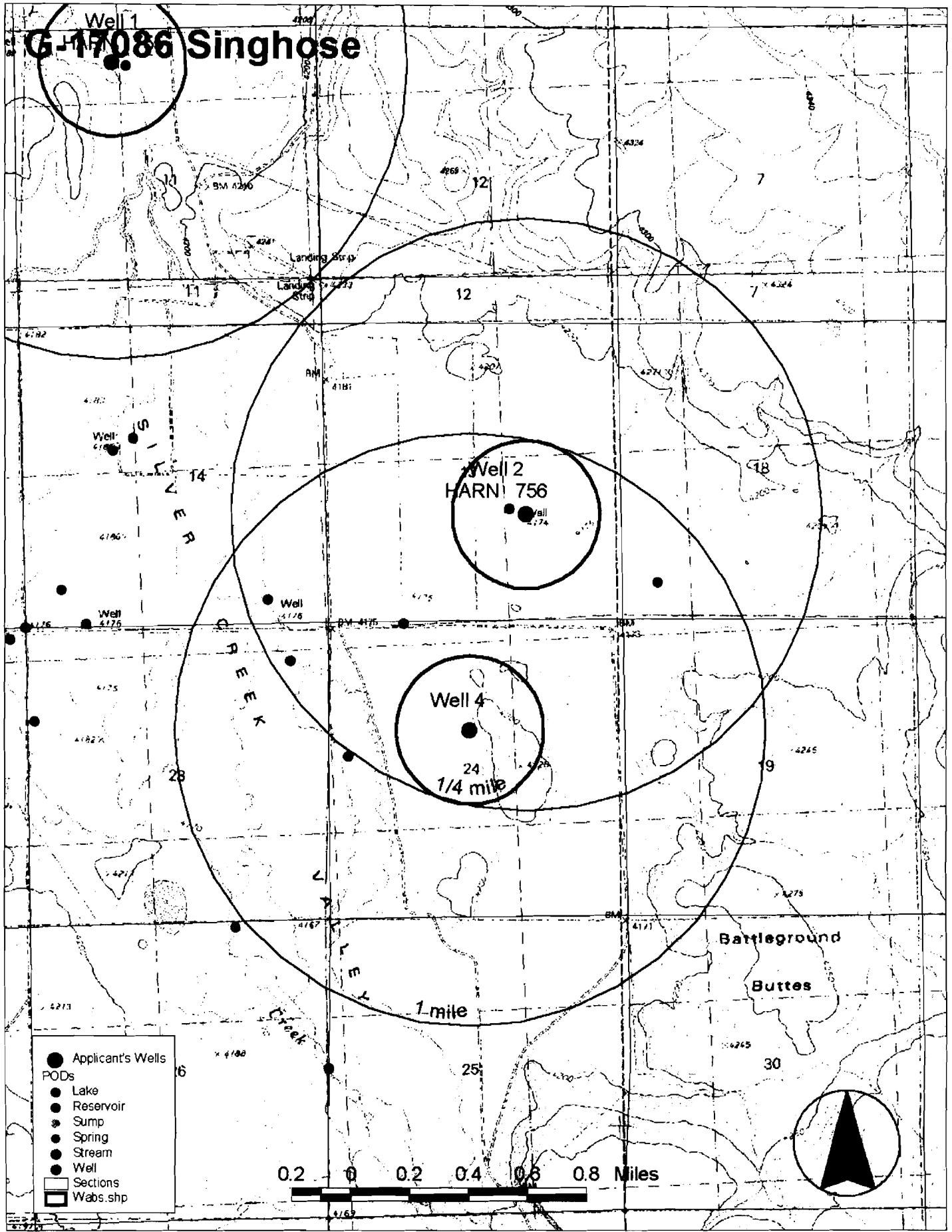
Water Availability Calculation

Monthly Streamflows in Cubic Feet per Second

Storage at 50% Exceedance in Acre-Feet

Month	Natural Stream Flow	Consumptive Use and Storage	Expected Stream Flow	Reserved Stream Flow	Instream Requirement	Net Water Available
Jan	5.66	2.94	2.72	0.00	0.00	2.72
Feb	13.40	7.56	5.84	0.00	0.00	5.84
Mar	40.90	34.00	6.90	0.00	0.00	6.90
Apr	115.00	89.30	25.70	0.00	0.00	25.70
May	44.70	141.00	-95.80	0.00	0.00	-95.80
Jun	20.90	109.00	-88.20	0.00	0.00	-88.20
Jul	5.33	36.20	-30.90	0.00	0.00	-30.90
Aug	2.26	14.70	-12.40	0.00	0.00	-12.40
Sep	2.22	7.79	-5.57	0.00	0.00	-5.57
Oct	2.91	4.27	-1.36	0.00	0.00	-1.36
Nov	4.24	1.14	3.10	0.00	0.00	3.10
Dec	5.11	1.76	3.35	0.00	0.00	3.35
Storage Acre-Feet at 50%	38,500.00	27,200.00	21,800.00	0.00	0.00	21,800.00





June 20, 2001

TO: Adam Sussman
From: Mike McCord

RE: G-15168

This attached application was forwarded to Enforcement after being reviewed by the GW section. Mike Zwart reviewed the application. After his review, you, I, and Mike met to discuss this application. Mike concluded that the wells were constructed in a weakly semiconfined aquifer. He did also note that he had some questions about the seal depth of all six wells proposed to be used under this application. When we met to discuss the application, we reviewed each log and determined if the surface seal had been done correctly. We even discussed if the wells were constructed properly even if earlier versions of the well construction rules were used as guidelines. We concluded that the wells would not have been constructed properly by those earlier standards, much less the standards of today.

Based on the discussion we had, I recommend that a permit **not be issued** for use from any of the wells proposed in the application until the following repairs are made:

- 1) HARN 753 - Surface seal needs to be extended to 40' BGS
- 2) HARN 757 - Surface seal needs to be extended to 44' BGS
- 3) HARN 758 - Surface seal needs to be extended to 49' BGS
- 4) HARN 756 - Surface seal needs to be extended to 62' BGS
- 5) HARN 764 - Surface seal needs to be extended to 107' BGS
- 6) HARN 761 - Surface seal needs to be extended to 38' BGS

These repairs will bring the wells into compliance with OAR 690-210-0080 and OAR 690-210-140.

Memo to File

File Application G-15168
From: Tracy Eichenlaub
Date: March 12, 2002

Memo of telephone conversation Tracy Eichenlaub had with Bill Beal, representing Denny Land and Cattle Co.

Owners bought a camera, pulled the pumps and videoed the wells. He said the videos do not match the logs. Asked if they could submit amended logs. No, only the original driller can amend a log. They can write up a page for each well with their findings from the video and send it in. (He'll send to my attention, I will give a copy to Renee)

I told him I need to see where in the process the file is, if it is at a point where we could change where we have determined the seal needs to be we will need to collaborate their video findings with our own. (Meaning we will have to go video these wells) Then can look at. He said the well we said needs to be sealed to 38' (#6), from their video should be sealed to 50'-54' (can't remember exactly). I said usually it is not a problem to seal deeper than we have said.

Beal said owners were trying to get Bob Maynard out to look at the video. I mentioned they could just send it to him to look at.

Beal said they really want to get going on this and are going to have Janssen Drilling do work. I said if they just want to do it now they will have to go by the last letter we sent.