Water Right Conditions Tracking Slip

Groundwater/Hydrology Section

FILE ## G-16997

ROUTED TO: Water Rights

TOWNSHIP/
RANGE-SECTION: 23S/31E-24 aa
23S/32E-18 ec

CONDITIONS ATTACHED? [X] yes [ ] no

REMARKS OR FURTHER INSTRUCTIONS:

Reviewer: Mike Zwart

PUBLIC INTEREST REVIEW FOR GROUND WATER APPLICATIONS

TO: Water Rights Section Date **May 21, 2008**

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

SUBJECT: Application G- **16997** 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: **Steve Rickman** County: **Harney**

A1. Applicant(s) seek(s) **2.98** cfs from **two** well(s) in the **Malheur Lake** Basin, _____ subbasin Quad Map: **Poison Creek Slough**

A2. Proposed use: **Irrigation, 239.8 acres (P)** 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	**Proposed**	**1**	**Basin Fill**	**0.535**	**23S/31E-24 NE-NE**	**460' S, 1120' W fr NE cor S 24**
2	**Proposed**	**2**	**Basin Fill**	**2.451**	**23S/32E-18 SW-SW**	**280' N, 520' E fr SW cor S 18**
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	**4141**	**180***	**20**		**300**	**0-100+**	**0-300**	**None**	**250-300**			
2	**4138**	**180***	**20**		**300**	**0-100+**	**0-300**	**None**	**250-300**			

Use data from application for proposed wells.

A4. **Comments: *Local well logs usually describe the first water-bearing zone at 15-30 feet below land surface, so this figure is probably not accurate.**

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**;
   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 consistent use of Condition 7N in the Harney Basin.**

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
1,2	**Basin-fill sediments: sand, clay and volcaniclastic seds.**	☐	☒
	Qal and Tvs of Leonard, 1970	☐	☐
		☐	☐
		☐	☐
		☐	☐

Basis for aquifer confinement evaluation: **Regionally the basin-fill aquifer is unconfined and discharges to Malheur Lake or more local surface water sources, where they exist. Confining beds are usually not areally extensive and local well logs rarely describe changes in SWL as drilling progresses, which also suggests good vertical hydraulic connection between shallow and deep water-bearing zones.**

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
1	1	**Poison Creek Slough**	**4120±**	**4135+**	**100**	☒	☐	☐	☒	☐
2	1	**Poison Creek Slough**	**4120±**	**4135-**	**700**	☒	☐	☐	☒	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐

Basis for aquifer hydraulic connection evaluation: **It does not appear likely that a significantly thick or extensive low-permeability bed will be encountered in this area which could result in poor hydraulic connection with the local reach of the slough, despite the proposed seal depth here.**

Water Availability Basin the well(s) are located within: **Poison Cr Sl > Ninemile Sl at mouth (31200106).**

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	☒	☐			☐	**0.42**	☒	**<25%**	☒
2	1	☒	☐			☐	**0.42**	☒	**<25%**	☒
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐

Application G-16997 continued Date: May 21, 2008

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: ____________________

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													
		%	%	%	%	%	%	%	%	%	%	%	%
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:

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)_____;

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

C6. **SW / GW Remarks and Conditions** Applicant intends to "remove" existing surface water rights on Poison Creek Slough upon approval of this application. This includes potential mitigation for impacts of ground water use on surface water.

References Used: Local well logs; local recent reviews, particularly G-16762; GW Report 16, by Leonard, 1970; Greene, Walker, and Corcoran, 1972, Geologic Map of the Burns Quadrangle, Oregon, USGS Miscellaneous Geologic Investigations Map I-680; Memo by Ivan Gall, 1/15, 2008, Stream Assessment for Division 9 Review in the Malheur Lakes Basin.

Application G-16997 continued Date: May 21, 2008

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).**

WATER RESOURCES DEPARTMENT

MEMO

May 21, 2008

TO: **Application G-** 16997

FROM: **GW:** Mike 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 _____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

Water Availability as of 5/20/2008 for
NINEMILE SL > MALHEUR SL - AT MOUTH

Watershed ID #: 31200103 Basin: MALHEUR LAKE Exceedance Level: 80
Time: 16:18 Date: 05/20/2008

	ISWRs							
APP #	0	0	0	0	0	0	0	MAXIMUM
Status								
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

DETAILED REPORT ON THE WATER AVAILABILITY CALCULATION
Water Availability as of 5/20/2008 for
POISON CR SL > NINEMILE SL - AT MOUTH

Watershed ID #: 31200106 Basin: MALHEUR LAKE Exceedance Level: 80
Time: 16:18 Date: 05/20/2008

Month	Natural Stream Flow	Consumptiv Use and Storage	Expected Stream Flow	Reserved Stream Flow	Instream Require-ments	Net Water Available
1	1.43	0.05	1.38	0.00	0.00	1.38
2	4.59	0.36	4.23	0.00	0.00	4.23
3	11.30	2.53	8.77	0.00	0.00	8.77
4	25.20	7.61	17.60	0.00	0.00	17.60
5	14.80	16.30	-1.52	0.00	0.00	-1.52
6	7.49	13.20	-5.72	0.00	0.00	-5.72
7	1.74	4.40	-2.66	0.00	0.00	-2.66
8	0.69	1.76	-1.07	0.00	0.00	-1.07
9	0.49	0.91	-0.42	0.00	0.00	-0.42
10	0.42	0.44	-0.02	0.00	0.00	-0.02
11	0.51	0.02	0.49	0.00	0.00	0.49
12	0.90	0.04	0.86	0.00	0.00	0.86
Stor-50%	6830	2887	5250	0	0	5250

DETAILED REPORT OF CONSUMPTIVE USES AND STORAGES
Water Availability as of 5/20/2008 for
POISON CR SL > NINEMILE SL - AT MOUTH

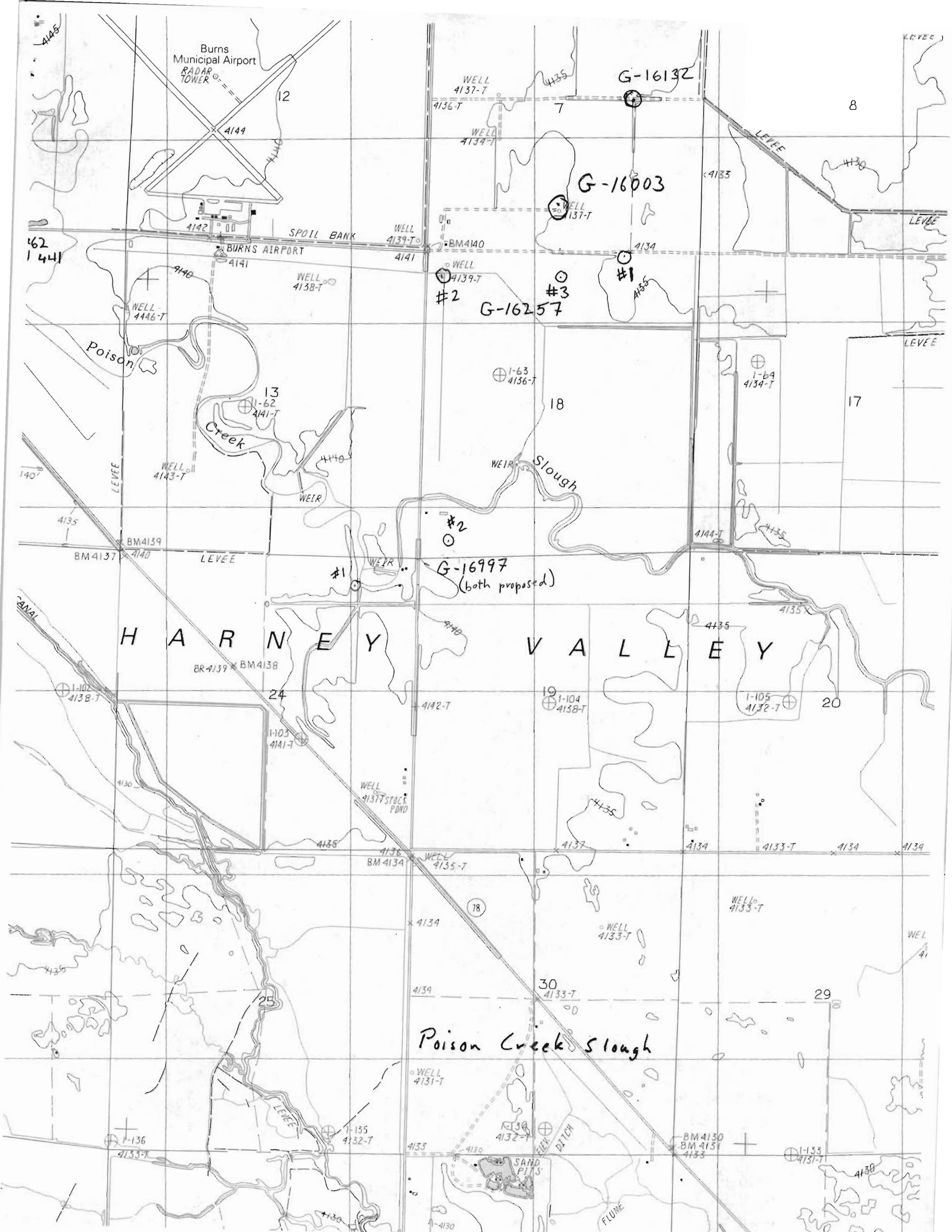
Watershed ID #: 31200106 Basin: MALHEUR LAKE Exceedance Level: 80
Time: 16:18 Date: 05/20/2008

Mo	Storage	Irrig	Munic	Ind/Man	Commer	Domest	Agricul	Other	Total
1	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
2	0.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.36
3	1.21	1.32	0.00	0.00	0.00	0.00	0.00	0.00	2.53
4	1.25	6.36	0.00	0.00	0.00	0.00	0.00	0.00	7.61
5	0.06	16.30	0.00	0.00	0.00	0.00	0.00	0.00	16.40
6	0.03	13.20	0.00	0.00	0.00	0.00	0.00	0.00	13.20
7	0.01	4.40	0.00	0.00	0.00	0.00	0.00	0.00	4.41
8	0.00	1.76	0.00	0.00	0.00	0.00	0.00	0.00	1.77
9	0.00	0.91	0.00	0.00	0.00	0.00	0.00	0.00	0.91
10	0.00	0.44	0.00	0.00	0.00	0.00	0.00	0.00	0.44
11	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
12	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04

DETAILED REPORT OF RESERVATIONS FOR CONSUMPTIVE USE
Water Availability as of 5/20/2008 for
POISON CR SL > NINEMILE SL - AT MOUTH

Watershed ID #: 31200106 Basin: MALHEUR LAKE Exceedance Level: 80
Time: 16:18 Date: 05/20/2008

	Reservations							
APP #	0	0	0	0	0	0	0	TOTAL


Burns
Municipal Airport
RADAR TOWER
BURNS AIRPORT
SPOIL BANK
G-16132
G-16003
G-16257
#1
#2
#3
G-16997
(both proposed)
LEVEE
WEIR
Poison
Creek
Slough
H A R N E Y V A L L E Y
Poison Creek Slough
SAND PITS
FLUME
12
7
8
13
18
17
24
19
20
25
30
29