

PUBLIC INTEREST REVIEW FOR GROUND WATER APPLICATIONS

TO: Water Rights Section Date June 15, 2005
 FROM: Ground Water/Hydrology Section Michael Zwart
Reviewer's Name
 SUBJECT: Application G- 16439 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: The Miller Ranch Company County: Wasco

A1. Applicant(s) seek(s) 12.68 cfs from six well(s) in the Hood Basin,
Fifteen Mile Creek subbasin Quad Map: Dufur East

A2. Proposed use: Irrigation/Agricultural Seasonality: March 1 to October 31/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	WASC 2217	1	CRB	0.557	1S/14E-17 NE-NW	1102' S, 1446' E fr NW cor S 17
2	Proposed	2	CRB	2.424	1S/14E-18 SE-NE	1420' S, 100' W fr NE cor S 18
3	Proposed	3	CRB	2.424	1S/14E-18 SE-NE	1420' S, 1320' W fr NE cor S 18
4	Proposed	4	CRB	2.424	1S/14E-18 SW-NE	1320' S, 2640' W fr NE cor S 18
5	Proposed	5	CRB	2.424	1S/14E-18 NW-NW	1320' S, 1215' E fr NW cor S 18
6	Proposed	6	CRB	2.424	1S/14E-18 SW-NW	2640' S fr NW cor S 18

* 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	1190	687*	-254	3/20/95	718	0-545	0-545	None	None	415	?	F
2	1260	710	Flow		740	0-550+	0-700	None	None	1088		
3	1300	750	Flow		780	0-550+	0-740	None	None	1088		
4	1290	790	Flow		820	0-550+	0-780	None	None	1088		
5	1245	830	Flow		860	0-550+	0-820	None	None	1088		
6	1290	870	Flow		900	0-550+	0-860	None	None	1088		

Use data from application for proposed wells.

A4. **Comments:** *Shallower water-bearing zones are cased and sealed off. See attached e-mail from agent regarding updated proposed seal depths. The intended construction for the proposed wells is similar to existing well #1, but it was not clear from a casual read of that log that it is sealed to 545'. The proposed seal depths will ensure that no commingling is likely to occur.

A5. Provisions of the Hood 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) 7C; 7K: 550 feet, shallower water-bearing zones ;
 - 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: Potential for water-level declines and overdraft of the resource exists virtually everywhere the Columbia River Basalt aquifers are developed, especially east of the Cascades where recharge is small. If no measurement/decline condition is used, as recommended above, then I would need to re-review the file, with the likely result being that one or both of the boxes 'will not likely be available...' being checked under B1b or B1c. If future water-level monitoring in this area discloses declines, I will likely find that the basalt ground water resource is over appropriated.

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	Basalt of the Columbia River Basalt Group	<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"/>

Basis for aquifer confinement evaluation: Water-bearing zones in the CRB are typically confined in this area. The static level at well #1 is well above 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	Starveout Creek	1444	1185	200	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1	2	Fifteenmile Creek	1444	1100	3100	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	1	Starveout Creek	1445±	1195	1100	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	2	Fifteenmile Creek	1445±	1105	3900	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3	1	Starveout Creek	1445±	1225	1300	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3	2	Fifteenmile Creek	1445±	1130	4700	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4	1	Starveout Creek	1445±	1230	600	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4	2	Fifteenmile Creek	1445±	1130	5500	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5	1	Starveout Creek	1445±	1240	100	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5	2	Fifteenmile Creek	1445±	1130	6300	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6	1	Starveout Creek	1445±	1270	600	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6	2	Fifteenmile Creek	1445±	1130	6700	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Basis for aquifer hydraulic connection evaluation: The significant head difference suggests poor local connection.

Water Availability Basin the well(s) are located within: Starveout Cr > Fifteenmile Cr at mouth (30410541).

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"/>

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: **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													
(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.

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 _____

References Used: Local well logs; nearby application reviews; regional geologic maps.

D. WELL CONSTRUCTION, OAR 690-200

D1. Well #: 1 Logid: WASC 2217

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: _____

(Enforcement Section Signature)

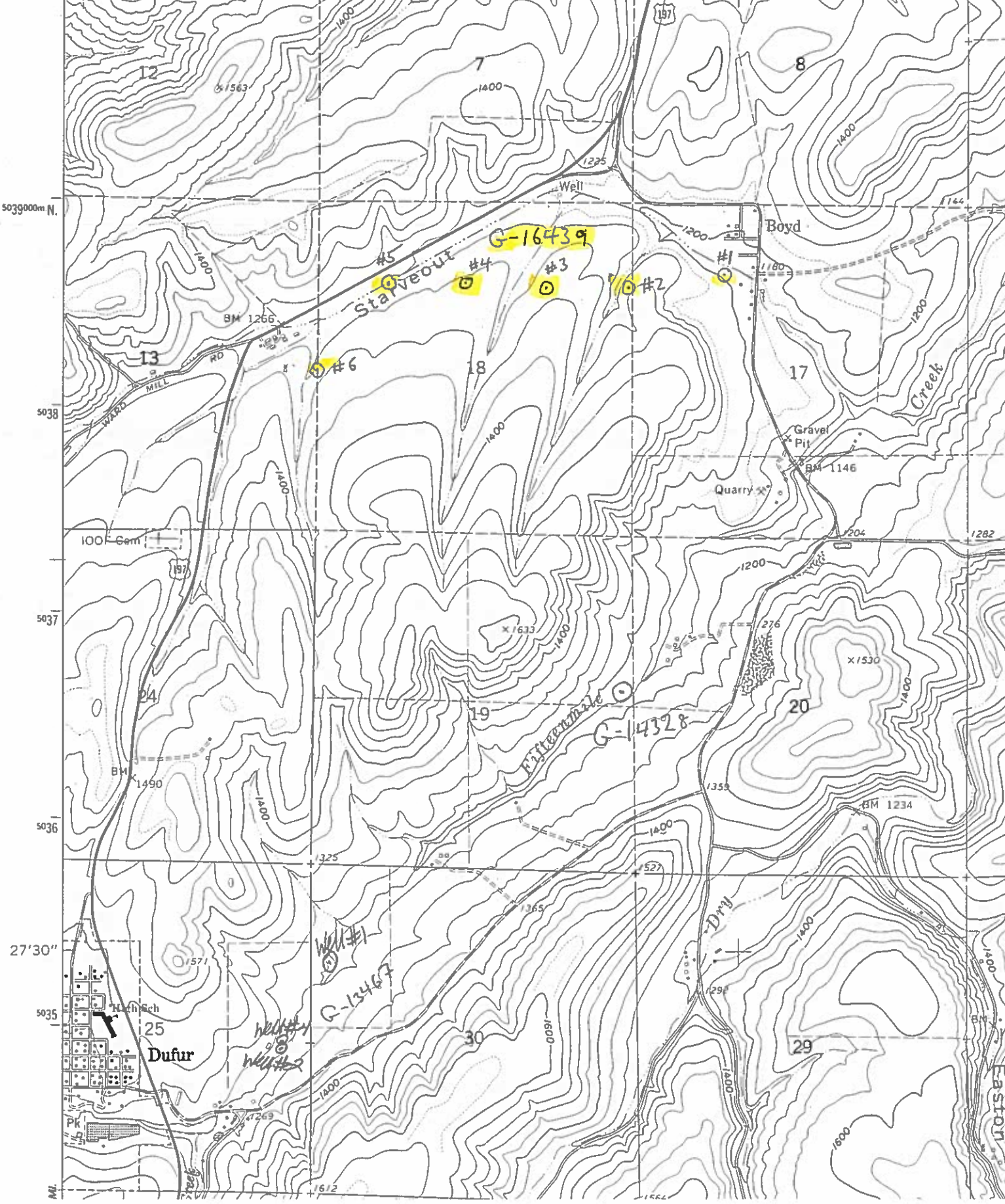
D8. Route to Water Rights Section (attach well reconstruction logs to this page).

177° 11' SW
DALLES SOUTH

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Dufur East

121° 07' 30" 647000m E. R. 13 E. R. 14 E. 648 13 MI. TO WASH. 14 THE DALLES (INTERSTATE 84) 10 MI. 5' 650



5039000m N.

5038

5037

5036

27' 30"

5035

MI.

100' Cont.

Dufur

Boyd

Gravel Pit

Quarry

G-16439

G-14328

G-13467

Starveout

Wagon

Wells #1

Wells #2

13

12

8

17

19

20

30

29

BM 1266

BM 1490

BM 1146

BM 1234

BM 1269

Well

157

Easton

WARD MILL RD

Creek

Dry

PK

Michich

15

16

17

18

19

20

21

22

23

24

25

26

27

28

29

30

31

32

33

34

35

x/563

1400

1275

1200

1400

1400

1400

x/633

1400

1400

1365

1400

1600

1400

1566

1200

1180

1200

1200

1204

1282

276

1355

1400

1400

1296

1400

1400

1144

1400

1400

1400

1200

1200

1400

x/530

1400

1400

1400

1400

1600

1400

1400

1144

1144

1144

1282

1282

1282

1400

1400

1400

Mike Zwart

From: "Walker, Tom" <Twalker@whpacific.com>
To: "ZWART Mike J" <Mike.J.ZWART@state.or.us>
Cc: <Mlrranch@aol.com>
Sent: Wednesday, June 15, 2005 9:52 AM
Subject: The Miller Ranch Company Application G-16439

Mike,

Thank you for your call and comments on the pending Miller Ranch groundwater application. Mr. William Miller and I discussed your evaluation of the seal depth for proposed wells and agree with your assessment. Based upon the estimated elevation of the existing well (#1) and the seal depth to 545 feet, we would expect to seal proposed wells to a depth of 550 feet to 650 feet below the ground surface. Generally, Mr. Miller expects to seal the casing into the confining layer immediately above the artesian flow to eliminate co-mingling or seepage into upper aquifers and optimize the production from the aquifer. Under section C in the original application, we described a similar program for control of artesian flow.

Please consider this email a clarification for the pending Miller Ranch application. We appreciate your review and the chance to comment.

Thomas A. Walker, P.E., C.W.R.E.

Creative Solutions ... Superior Service



FAX

To: Mr. Michael Zwart Date: June 15, 2005
 Company: Oregon Water Resources Department Project Number: 30162
 Address Project Name: The Miller Ranch Company
 City/State Re: Pending Groundwater Appropriation
 Phone: OWRD File #: G-16439
 Fax: 503-986-0902

From: Thomas A. Walker, P.E.,C.W.R.E.
 Phone: (541) 388-4255
 Fax: (541) 388-4229

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We are sending: Attached Facsimile 2 # Of Pages Including Cover

These Are Transmitted: For Your Info/File As Requested For Review & Comment

Copied To: William C. Miller

Copies	Description
1	Reduced Scale Application Map with Well Numbers

Mike,
 We appreciate your work on the pending Miller groundwater appropriation and the opportunity to clarify the application. Please consider our attachment with well numbers and never hesitate to contact me with any further questions or any need for additional information.

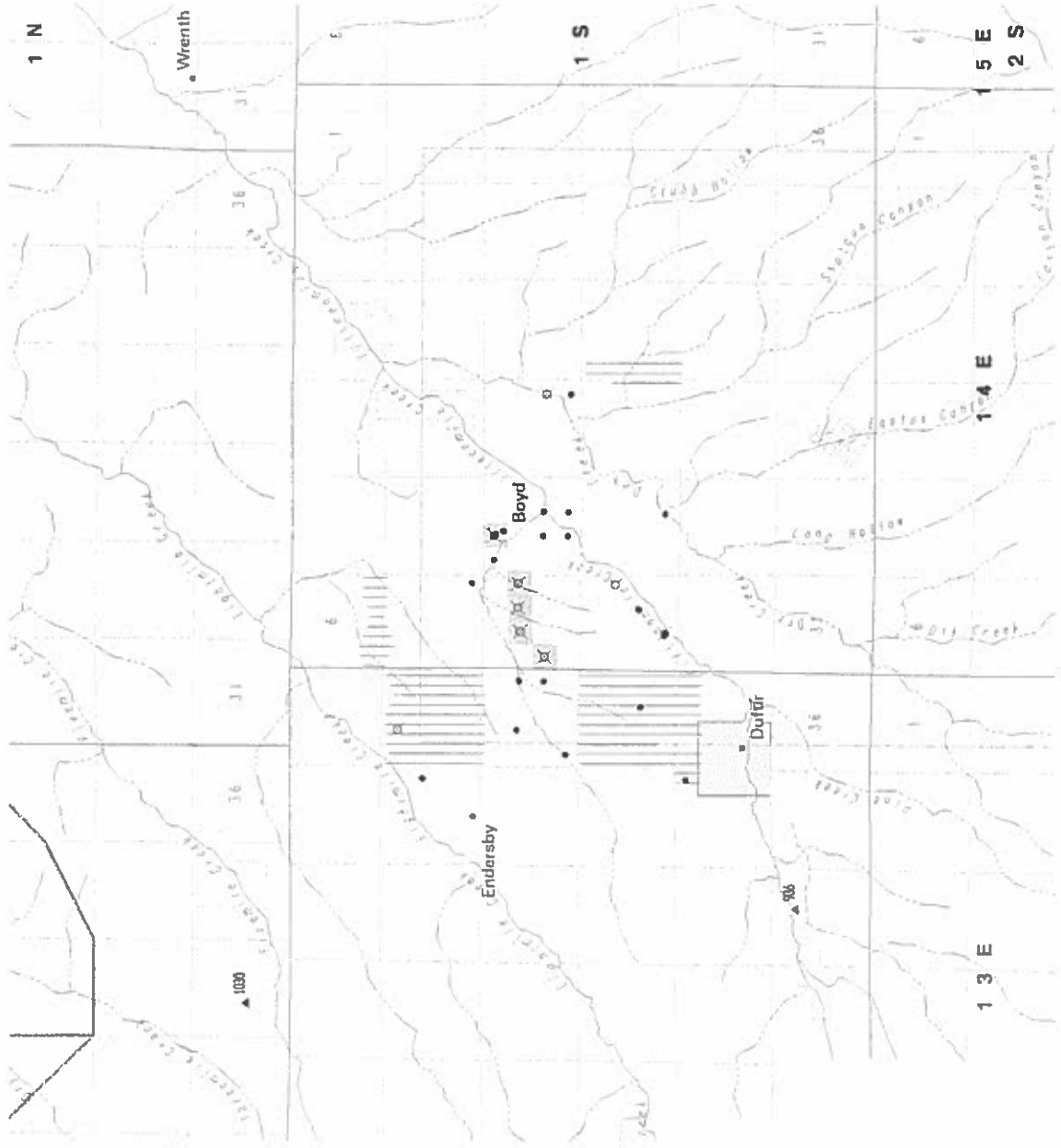
RECEIVED
 JUN 15 2005
 WATER RESOURCES DEPT.
 SALEM, OREGON

Civil and Structural Engineering ♦ Landscape Architecture
 Planning ♦ Surveying and Mapping

Washington ♦ Oregon ♦ Idaho

Wells in the vicinity of application G 16439

- Application well(s) in this 1/4-1/4 section
- Wells identified in this 1/4-1/4 section from OWRD's well log database within 1 mi. radius of application well(s)
- Permitted well(s) in this 1/4-1/4 section within 1 mi. radius of application well(s)
- ◐ Permitted well(s) in this 1/4-1/4 section within 5 mi. radius of application well(s)
- ▲ OWRD Observation well and well-id within 5 mi. radius of application well(s)
- Conditioned, permitted well(s) in this 1/4-1/4 section within 5 mi. radius of application well(s)
- Critical GW Area
- - - Regulated GW Area



ABANDON: 0
 RECONDITIONED: 0
 REPAIRED: 0
 CONVERSION: 0
 DEEPENINGS: 2
 NEW CONSTRUCT: 25

COMMUNITY USE: 0
 DOMESTIC USE: 18
 INDUSTRIAL USE: 0
 INJECTION USE: 0
 IRRIGATION USE: 12
 THERMAL USE: 0
 LIVESTOCK USE: 1

PERMITTED WELLS WITHIN 1 MILE OF APPLICATION G 16439

\$RECNO	APPLICATION	PERMIT	CLAIM	LOC-QQ	USE_CODE
1	G	14055	G 12898	0 1.00S13.00E12NENW	IR
1	G	6425	G 6035	0 1.00S13.00E12NENW	IS
1	G	8186	G 7599	0 1.00S13.00E12NENW	IS
2	G	8453	G 7598	0 1.00S14.00E17NENW	IR
2	S	70108	S 50845	0 1.00S14.00E17NENW	IR
2	G	16439	0	0 1.00S14.00E17NENW	IR
2	G	16439	0	0 1.00S14.00E17NENW	AG
2	G	16439	0	0 1.00S14.00E17NENW	AG
3	G	16439	0	0 1.00S14.00E18SWNE	IR
3	G	16439	0	0 1.00S14.00E18SWNE	AG
3	G	16439	0	0 1.00S14.00E18SWNE	AG
4	G	16439	0	0 1.00S14.00E18SENE	IR
4	G	16439	0	0 1.00S14.00E18SENE	AG
4	G	16439	0	0 1.00S14.00E18SENE	AG
4	G	16439	0	0 1.00S14.00E18SENE	IR
4	G	16439	0	0 1.00S14.00E18SENE	AG
4	G	16439	0	0 1.00S14.00E18SENE	AG
5	G	16439	0	0 1.00S14.00E18SENW	IR
5	G	16439	0	0 1.00S14.00E18SENW	AG
5	G	16439	0	0 1.00S14.00E18SENW	AG
6	G	16439	0	0 1.00S14.00E18NWSW	IR
6	G	16439	0	0 1.00S14.00E18NWSW	AG
6	G	16439	0	0 1.00S14.00E18NWSW	AG
7	G	9906	G 9511	0 1.00S14.00E16NESE	IR
8	G	14328	G 13258	0 1.00S14.00E19SENE	FW
8	G	14328	G 13258	0 1.00S14.00E19SENE	IR
8	G	14328	G 13258	0 1.00S14.00E19SENE	RC
8	G	10890	G 10041	0 1.00S14.00E19SENE	IC
8	R	75500	0	0 1.00S14.00E19SENE	FW
8	R	80834	R 11941	0 1.00S14.00E19SENE	FI
8	R	80834	R 11941	0 1.00S14.00E19SENE	RC
8	R	80834	R 11941	0 1.00S14.00E19SENE	WI
8	R	80834	R 11941	0 1.00S14.00E19SENE	FI
8	R	80834	R 11941	0 1.00S14.00E19SENE	RC
8	R	80834	R 11941	0 1.00S14.00E19SENE	WI
9	G	9476	G 8835	0 1.00S14.00E19SES	IS

\$RECNO	APPLICATION	PERMIT	LOC-QQ	CONDITION-CODE
1	G	11483	G 10615	1.00S13.00E32SESE
1	G	12273	G 11691	1.00S13.00E32SESE 4GG

APPLICATION G 16439 FALLS WITHIN THESE QUAD(S)

DUFUR EAST

The following OWRD Groundwater Management Areas are within the map extent:

\$RECNO	NAME1	NAME2	SUB-AREA	STATUS
1	THE DALLES			CRIT
2	THE DALLES	THREEMILE RESERVOIR		CRIT
