

Approved:



# MEMO

**To:** Kristopher Byrd, Well Construction Manager  
**From:** Tommy Laird, Well Construction Program Coordinator  
**Subject:** Review of Water Right Application G-19413  
**Date:** March 11, 2025

The attached application was forwarded to the Well Construction Section by the Groundwater Section. Joe Kemper reviewed the application. Please see Joe's Groundwater Review and the Well Reports.

Applicant's Well #1 (Pilot Butte #3) (DESC 52907): Based on a review of the Well Report, Applicant's Well #1 (Pilot Butte #3) seems to protect the groundwater resource.

The construction of Well #1 (Pilot Butte #3) may not satisfy hydraulic connection issues.

Applicant's Well #2 (Neff Well), Well #4 (Outback Well 8), and Well #5 (Outback Well 9) (Proposed): Well #2 (Neff Well), Well #4 (Outback Well 8), and Well #5 (Outback Well 9) are proposed wells, therefore they cannot be reviewed for construction. Construction of these proposed wells shall be completed in a manner that protects ground water resources as required under Oregon Administrative Rules 690-200 through 690-240. During construction of these wells, specific attention should be paid to ensure sealing requirements are met and that the wells does not commingle aquifers.

The construction of proposed Well #2 (Neff Well), Well #4 (Outback Well 8), and Well #5 (Outback Well 9) may not satisfy hydraulic connection issues.

Applicant's Well #3 (Outback Well 7) (DESC 57760): Based on a review of the Well Report, Well #3 (Outback Well 7) seems to protect the groundwater resource.

The construction of Well #3 (Outback Well 7) may not satisfy hydraulic connection issues.

DESC  
52907

APR 10 2000

STATE OF OREGON WATER RESOURCES DEPT. WATER SUPPLY WELL REPORT SALEM, OREGON (as required by ORS 537.765)

WELL I.D. # L 39583 START CARD # 124991

Instructions for completing this report are on the last page of this form.

(1) OWNER: Well Number PB3 Name City of Bend Address PO Box 431 City Bend State OR Zip 97709

(2) TYPE OF WORK [X] New Well [ ] Deepening [ ] Alteration (repair/recondition) [ ] Abandonment

(3) DRILL METHOD: [X] Rotary Air [ ] Rotary Mud [ ] Cable [ ] Auger [ ] Other

(4) PROPOSED USE: [ ] Domestic [X] Community [ ] Industrial [ ] Irrigation [ ] Thermal [ ] Injection [ ] Livestock [ ] Other

(5) BORE HOLE CONSTRUCTION: Special Construction approval [X] Yes [ ] No Depth of Completed Well 1140 ft. Explosives used [ ] Yes [X] No Type Amount

HOLE SEAL table with columns: Diameter, From, To, Material, Sacks or pounds. Includes entries for cement at 20" diameter and bent/sand gravel backfill.

How was seal placed: Method [ ] A [ ] B [X] C [ ] D [ ] E Backfill placed from 822 ft. to 150 ft. Material bent/sand gravel Gravel placed from ft. to ft. Size of gravel

(6) CASING/LINER: table with columns: Diameter, From, To, Gauge, Steel, Plastic, Welded, Threaded. Includes entry for 14" casing.

Final location of shoe(s)

(7) PERFORATIONS/SCREENS: table with columns: From, To, Slot size, Number, Diameter, Material, Casing, Liner. Includes entry for 10" diameter perforations.

(8) WELL TESTS: Minimum testing time is 1 hour [X] Pump [ ] Bailer [ ] Air [ ] Flowing Artesian Yield gal/min Drawdown Drill stem at Time

Temperature of water 53 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 Deschutes Latitude Longitude Township 18 N or S Range 12 E or W. WM. Section 33 NE 1/4 NE 1/4 Tax Lot 101 Lot Block Subdivision Street Address of Well (or nearest address) 1402 NE Lafayette Bend, Oregon 97701

(10) STATIC WATER LEVEL: 786 ft. below land surface. Date 2-15-00 Artesian pressure lb. per square inch. Date

(11) WATER BEARING ZONES: Depth at which water was first found 815

Water bearing zones table with columns: From, To, Estimated Flow Rate, SWL. Includes entries for 752-815 and 871-1140.

(12) WELL LOG: Ground Elevation

Well log table with columns: Material, From, To, SWL. Includes the text 'SEE ATTACHED SHEET'.

Date started December 6, 1999 Completed March 24, 2000

(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 water supply well construction standards. Materials used and information reported above are true to the best of my knowledge and belief. WWC Number 1672

Signed [Signature] Date

(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 water supply well construction standards. This report is true to the best of my knowledge and belief. WWC Number 14164

Signed [Signature] Date

WATER SUPPLY WELL REPORT

DESC 52907 Amendment

Received Date 04/10/2000

Well ID Tag # L 39583

Start Card # 124991

(as required by ORS 537.765)

Instructions for completing this report are on the last page of this form.

**(1) OWNER** Well Number

Name CITY OF BEND

Street PO BOX 431

City BEND State OR Zip 97709

**(2) TYPE OF WORK**

New  Alter (Recondition)  Alter (Repair)

Deepening  Abandonment

**(3) DRILL METHOD**

Rotary Air  Rotary Mud  Cable  Auger

Other

**(4) PROPOSED USE**

Domestic  Community  Industrial  Irrigation  Injection

Livestock  Thermal  Other

**(5) BORE HOLE CONSTRUCTION**

Special Standards  Depth of completed well 1140 ft.

Explosives Used  Amount Type

How seal placed: Method Other

Backfill placed from ft. TO ft. Material

Filter pack from ft. TO ft. Size in.

**(6) CASING/LINER**

Casing or Liner	Diameter	Begin Depth	End Depth	Gauge	Material	Construction Weld	Threaded	Location Of Shoe
C	14.00	0.00	862.00	.375	S	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

**(7) PERFORATION/SCREENS**

Perforation: Method

Screens Type Material

**(8) WELL TESTS (Minimum testing time is 1 hour)**

Type	Yield	Units	Drawdown	Stem at	Duration
Pump	1000.0	G	30.0		24.0

Temperature of water 53 °F/C Depth artesian flow found ft.

Was water analysis done?

By Whom?

Did any strata contain water not suitable for intended use?  Too Little  Salty

Muddy  Odor  Colored  Other

Depth of strata ft.

**(9) LOCATION OF HOLE By legal description**

County Deschutes Latitude Longitude

Township 17.00 S Range 12.00 E Subdivision

Tax lot 101 Lot Block

Section 33 NE 1/4 NE 1/4

Street Address of Well (or nearest address)

1402 NE LAFAYETTE

MAP with location indentified must be attached

**(10) STATIC WATER LEVEL**

786.0 Ft. below land surface. Date 02/15/2000

Artesian Pressure lb/sq. in. Date

**(11) WATER BEARING ZONES**

Depth at which water was first found 815 ft.

**(12) WELL LOG** Ground Elevation ft.

Date started 12/06/1999 Completed 03/24/2000

(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 the best knowledge and belief.

Signed By

(bonded) Water Well Constructor Certification: WWC Number

I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work was done in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

WWC Number 1464

Signed By GREG MCINNIS GEO-TECH EXPLORATIONS

START CARD #: 124991

**FORMATION LOG FOR THE CITY OF BEND, PILOT BUTTE WELL #3  
BY GEO-TECH EXPLORATIONS, INC.**

<b>From/To</b>	<b>Material</b>
0-6	Sand & Cobbles
6-352	Cinders, red, soft
352-370	Basalt, gray, hard
370-390	Lava & Pumice, soft, red
390-470	Lava, gray, porous
470-560	Basalt, fractured, gray
560-580	Basalt, broken
580-650	Basalt, fractured, gray
650-693	Basalt, gray, hard
693-700	Lava, red, medium
700-705	Basalt, weathered, soft
705-717	Basalt, gray, medium
717-725	Basalt, gray-red, porous
725-815	Basalt, gray, fractured, medium
815-854	Basalt, gray, broken
854-871	Basalt, fractured, hard
871-884	Lava, red & brown, loose
884-900	Lava, red & black, some cinders, red-pumice, soft
900-915	Lava, gray-black, soft
915-927	Basalt, gray, medium
927-940	Lava, gray-red, porous
940-973	Cemented pea gravels, weathered
973-987	Lava, gray, medium
987-1,040	Lava conglomerate
1,040-1,115	Lava, black & brown, soft
1,115-1,121	Basalt, gray, hard, pin holes
1,121-1,131	Lava, gray-brown, soft
1,131-1,141	Basalt, gray, hard

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

(WELL I.D.)# L 72483  
(START CARD) # 168799

Instructions for completing this report are on the last page of this form.

(1) OWNER: Well Number Outback #7  
Name USFS Deschutes National Forest (Lessee: City of Bend)  
Address 1001 Emkay (Lessee: PO Box 431)  
City Bend State OR Zip 97702

(2) TYPE OF WORK  
 New Well  Deepening  Alteration (repair/recondition)  Abandonment

(3) DRILL METHOD:  
 Rotary Air  Rotary Mud  Cable  Auger  
 Other Reverse Circulation Rotary

(4) PROPOSED USE:  
 Domestic  Community  Industrial  Irrigation  
 Thermal  Injection  Livestock  Other

(5) BORE HOLE CONSTRUCTION:  
Special Construction approval  Yes  No Depth of Completed Well 860.5 ft.  
Explosives used  Yes  No Type \_\_\_\_\_ Amount \_\_\_\_\_

HOLE			SEAL			
Diameter	From	To	Material	From	To	Sacks or pounds
23	0	14	cement	0	160	128 sacks
20 nom	14	612	Intermediate	Sealing	Material:	
15	612	860.5	Bentonite	160	575	28,200 pounds
			Cement	575	612	110 sacks

How was seal placed: Method  A  B  C  D  E  
 Other Bentonite was poured & probed  
Backfill placed from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Material \_\_\_\_\_  
Gravel placed from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Size of gravel \_\_\_\_\_

(6) CASING/LINER:

	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing:	16	+2	612	.375	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Liner:	12	602.5	860.5	.375	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

(7) PERFORATIONS/SCREENS:

From		To		Slot size		Number		Diameter		Material	
From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner				
610.5	860.5	3/16x3	11424			<input type="checkbox"/>	<input checked="" type="checkbox"/>				

(8) WELL TESTS: Minimum testing time is 1 hour

Pump  Bailer  Air  Flowing Artesian

Yield gal/min	Drawdown	Drill stem at	Time
1470	0.8		1 hr.
1470	0.8		24 hr

Temperature of water ~52F 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 Deschutes Latitude \_\_\_\_\_ Longitude \_\_\_\_\_  
Township 18 S Range 11 E WM.  
Section 3 NE 1/4 of NW 1/4  
Tax Lot 200 Lot \_\_\_\_\_ Block \_\_\_\_\_ Subdivision \_\_\_\_\_  
Street Address of Well (or nearest address) 18900 Skyliners Rd  
Bend, OR 97709

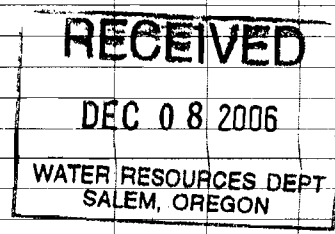
(10) STATIC WATER LEVEL:  
469.5 ft. below land surface. Date 10/17/06  
Artesian pressure \_\_\_\_\_ lb. per square inch. Date \_\_\_\_\_

(11) WATER BEARING ZONES:  
Depth at which water was first found trace 456+; significant @ 612'

From	To	Estimated Flow Rate	SWL
612	860	see (8)	see (10)
456+	528-	trace	456

(12) WELL LOG:  
Ground Elevation \_\_\_\_\_

Material	From	To	SWL
see attached formation log			



Date started 3/15/06 Completed 10/20/06

(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 water supply well construction standards. Materials used and information reported above are true to the best of my knowledge and belief.  
Signed \_\_\_\_\_ WWC Number \_\_\_\_\_ Date \_\_\_\_\_

(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 water supply well construction standards. This report is true to the best of my knowledge and belief.  
Signed Stephen J. Schneider WWC Number 649 Date 11/3/06

# DESC 57760

## USFS Deschutes National Forest / City of Bend Outback Well #7

by Schneider Drilling Co.

Start Card #168799 Label #L72483

<u>FM</u>	<u>TO</u>	<u>DESCRIPTION</u>
0	2	Top soil and basalt, broken
2	10	Basalt, grey, medium
10	16	Basalt, grey, medium, fractured
16	47	Basalt, grey, medium w/seams of red
47	66	Cinders, red w/seams of basalt, grey, medium
66	106	Pumice, white
106	157	Cinders, red w/seams of basalt, grey, medium & pumice, white
157	166	Pumice, tan
166	373	Pumice, tan & basalt, grey, medium & cinders, red
373	385	Basalt, grey, hard
385	397	Pumice, tan & basalt, grey, medium
397	400	Basalt, grey, hard, fractured
400	410	Cinders, red, soft
410	426	Basalt, grey hard
426	460	Basalt, grey, medium-hard interbedded with basalt, black, broken & cinders, black & red
460	475	Cinders, red w/black & pumice, tan; soft
475	508	Pumice, tan & cinders, red w/black; very soft
508	528	Cinders, red w/black, soft
528	548	Cinders, red & black, w/pumice, tan & some basalt chips, black
548	555	Cinders, red & black w/some pumice, tan
555	608	Pumice, tan w/cinders, red & black
608	610	Pumice, tan w/cinders, red-brown
610	639	Basalt, grey, hard, some fractures
639	647	Basalt, grey, hard-medium, some fractures, w/some basalt, brown, fracture, occ vesicles
647	656	Basalt, grey, hard, some fractures
656	673	Basalt, grey red & brown, medium-soft, broken, some vesicles, some cinders
673	687	Cinders, red & brown, soft, broken, some vesicles
687	704	Basalt, grey hard
704	712	Basalt, red & grey, medium-hard
712	717	Cinders, red, soft
717	726	Basalt, dark red w/some grey, medium-hard
726	732	Basalt, grey, medium-hard
732	740	Basalt, dark red & grey, medium-hard, vesicular
740	743	Basalt, grey w/some red, medium-hard
743	745	Basalt, grey, hard
745	767	Basalt, grey red & brown, medium-soft, broken, some vesicles, some cinders
767	774	Basalt, dark red, medium, broken, w/some cinders, red
774	781	Basalt, red, soft, cindery w/some grey basalt
781	782	Basalt, grey red brown, medium-hard, w/some red cinders
782	832	Basalt, grey w/some red, hard, fractured
832	852	Basalt, red w/some brown, medium, fractured w/cinders & some pumice
852	860.5	Basalt, grey w/some red, hard, fractured & some cinders

