

Westwood Well – DESC 5586

Bear Creek #2 Well – DESC 54251

Outback #3 Well – DESC 53735

Outback #4 Well – DESC 54252  
DESC 55365

Outback #5 Well – DESC 56371

Outback #6 Well – DESC 56449

T 10941

Attachment A

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Well Logs for Authorized Points of Appropriation

AUG 05 2009

WATER RESOURCES DEPT  
SALEM, OREGON

NOTICE TO WATER WELL CONTRACTOR

The original and first copy of this report are to be filed with the

STATE ENGINEER, SALEM, OREGON 97310 within 30 days from the date of well completion.

WATER WELL REPORT

STATE OF OREGON

(Please type or print)

(Do not write above this line)

APR 17 1978

State Well No. 18S12E-766

State Permit No.

(1) OWNER:

Name M. R. S. CO.

Address 220 OAK SQUARE - BEND, ORE. 97701

(2) TYPE OF WORK (check):

New Well [ ] Deepening [ ] Reconditioning [ ] Abandon [ ]

If abandonment, describe material and procedure in Item 13.

(3) TYPE OF WELL:

Rotary [ ] Driven [ ] Cable [x] Jettied [ ] Dug [ ] Bored [ ]

(4) PROPOSED USE (check):

Domestic [ ] Industrial [ ] Municipal [x] Irrigation [ ] Test Well [ ] Other [ ]

CASING INSTALLED:

10" Diam. from 2 ft to 58 ft. Gage 250. 10" Diam. from ft. to ft. Gage. 10" Diam. from ft. to ft. Gage.

PERFORATIONS:

Perforated? [ ] Yes [x] No.

Type of perforator used

Size of perforations in. by in. perforations from ft. to ft. perforations from ft. to ft. perforations from ft. to ft.

(7) SCREENS:

Well screen installed? [ ] Yes [x] No

Manufacturer's Name Type Model No. Diam. Slot size Set from ft. to ft. Diam. Slot size Set from ft. to ft.

(8) WELL TESTS:

Drawdown is amount water level is lowered below static level

Was a pump test made? [x] Yes [ ] No If yes, by whom?

Yield: 1087 gal./min. with 13 ft. drawdown after 3 hrs.

Bailer test gal./min. with ft. drawdown after hrs.

Artesian flow g.p.m.

Temperature of water 51 Depth artesian flow encountered ft.

(9) CONSTRUCTION:

Well seal—Material used CEMENT GROUT

Well sealed from land surface to 58 ft.

Diameter of well bore to bottom of seal 10 1/2 in.

Diameter of well bore below seal 10 in.

Number of sacks of cement used in well seal 11 sacks

Number of sacks of bentonite used in well seal sacks

Brand name of bentonite

Number of pounds of bentonite per 100 gallons of water lbs./100 gals.

Was a drive shoe used? [ ] Yes [x] No Plug Size: location ft.

Did any strata contain unusable water? [ ] Yes [x] No

Type of water? depth of strata

Method of sealing strata off

Was well gravel packed? [ ] Yes [x] No Size of gravel:

Gravel placed from ft. to ft.

WATER RESOURCES DEPT.

(10) LOCATION OF WELL:

County Deschutes Driller's well number N.W. 1/4 N.W. 1/4 Section 7 T. 18 R. 12-E W.M.

Bearing and distance from section or subdivision corner

(11) WATER LEVEL: Completed well.

Depth at which water was first found 306 ft. Static level 254 ft. below land surface. Date 3-4-78 Artesian pressure lbs. per square inch. Date

(12) WELL LOG:

Diameter of well below casing 10"

Depth drilled 311 ft. Depth of completed well 311 ft.

Formation: Describe color, texture, grain size and structure of materials; and show thickness and nature of each stratum and aquifer penetrated, with at least one entry for each change of formation. Report each change in position of Static Water Level and indicate principal water-bearing strata.

Table with columns: MATERIAL, From, To, SWL. Handwritten entries: REAMED 6" WELL 0' TO 58 FT. 1 1/2" - 1" INSTALLED 60' OF 10" CASING SEALD SAME WITH 7 SACK MIX SEAMENT GROUT 1 1/2 YARDS. REAMED FROM 58' TO 311' WITH TENDING, REAMER - COMPLETE DEPTH 311' - WELL TEST PUMPED 3 HRS AT 1087 GAL. PER MIN.

Work started 12-21 1977 Completed 3-25 1978

Date well drilling machine moved off of well 3-27 1978

Drilling Machine Operator's Certification:

This well was constructed under my direct supervision. Materials used and information reported above are true to my best knowledge and belief.

[Signed] William D. Down Date 3-27 1978 (Drilling Machine Operator)

Drilling Machine Operator's License No. 400

Water Well Contractor's Certification:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Name DAKER DRILLING CO. (Person, firm or corporation) (Type or print)

Address 20379 ILLAHEE DR. BEND

[Signed] William D. Down (Water Well Contractor)

Contractor's License No. 634 Date 3-27 1978

DESC 5586

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(USE ADDITIONAL SHEETS IF NECESSARY)

SP-4866-119



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

NOV 15 2001 DESC 54251

WELL ID # L52414

(START CARD) # 136883

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

**(1) OWNER:**

Name City of Bend  
 Address P.O. Box 431  
 City Bend State OR Zip 97701

**(2) TYPE OF WORK:**

New Well  Deepening  Alteration (repair/recondition)  Abandonment

**(3) DRILL METHOD:**

Rotary Air  Rotary Mud  Cable  Auger  
 Other

**(4) PROPOSED USE:**

Domestic  Community  Industrial  Irrigation  
 Thermal  Injection  Livestock  Other

**(5) BORE HOLE CONSTRUCTION:**

Special Construction approval  Yes  No Depth of Completed Well 1100 ft.  
 Explosives used  Yes  No Type \_\_\_\_\_ Amount \_\_\_\_\_

HOLE			SEAL			Amount
Diameter	From	To	Material	From	To	sacks or pounds
20in	0	780	Cement	745	780	86 sacks
15in	780	975	Cement	0	195	220 sacks
12in	975	1100				

How was seal placed: Method  A  B  C  D  E  
 Other

Backfill placed from 195 ft. to 745 ft. Material Bentonite  
 Gravel placed from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Size of gravel \_\_\_\_\_

**(6) CASING/LINER:**

Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing: 16in	+1.5	780	.375	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Liner: 10in	765	1100	.250	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Final location of shoe(s)

**(7) PERFORATIONS/SCREENS:**

Perforations Method Factory Saw  
 Screens Type \_\_\_\_\_ Material \_\_\_\_\_

From	To	Slot size	Number	Diameter	Tel./pipe size	Casing	Liner
768	1100	3/16	13280			<input type="checkbox"/>	<input checked="" type="checkbox"/>

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

Pump  Bailor  Air  Flowing Artesian

Yield gal/min	Drawdown	Drill stem at	Time
1400	9.5	720	24 hr.

Temperature of Water 50 Depth Artesian Flow found \_\_\_\_\_  
 Was a water analysis done?  Yes By whom City of Bend

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 17S N or S. Range 12E E or W. of WM.  
 Section 33 SE 1/4 SE 1/4  
 Tax lot 100 Lot \_\_\_\_\_ Block \_\_\_\_\_ Subdivision \_\_\_\_\_  
 Street Address of Well (or nearest address) 1375 Forbes Rd., Bend, OR 97701

**(10) STATIC WATER LEVEL:**

652 ft. below land surface. Date 10/30/01  
 Artesian pressure \_\_\_\_\_ lb. per square inch. Date \_\_\_\_\_

**(11) WATER BEARING ZONES:**

Depth at which water was first found 650

From	To	Estimated Flow Rate	SWL
650	771	800-900	621
795	845	1000	652
950	977	1000	652
1055	1100	5000	652

**(12) WELL LOG:**

Material	From	To	SWL
Brown Top Soil & Broken Rock	0	7	
Brown & Gray Basalt	7	110	
Soft Sandstone	110	112	
Broken Lava	112	140	
Tan Sandstone	140	162	
Hard Gray Basalt	162	175	
Brown Pumice	175	200	
Hard Gray Basalt	200	227	
Red Cinders	227	233	
Brown Pumice & Sandstone	233	247	
Hard Gray Basalt	247	287	
Brown & Gray Broken Basalt	287	291	
Hard Gray Basalt & Brown Sandstone	291	360	
Brown Sandstone Conglomerate	360	393	
Hard Gray Basalt	393	475	
Red Cinders	475	499	
Brown & Gray Basalt some broken	499	563	
Tan & Brown Sandstone Conglomerate	563	594	
Hard Gray & Brown Basalt	594	650	
Brown Sandstone WB	650	771	621
Hard Gray Basalt	771	795	621
Red Cinders WB	795	818	652

Continued on next page

Date started 2/6/01 Completed 10/30/01

**(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 my best 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 Robert Buckner WWC Number 1385  
 Date 11/7/01

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AUG 05 2009

T 10941

(1) OWNER:

Well Number: **Bear Crk#2**

Name **City of Bend**  
 Address **P.O. Box 431**  
 City **Bend**

State **OR** Zip **97701**

(2) TYPE OF WORK:

New Well  Deepening  Alteration (repair/recondition)  Abandonment

(3) DRILL METHOD:

Rotary Air  Rotary Mud  Cable  Auger  
 Other

(4) PROPOSED USE:

Domestic  Community  Industrial  Irrigation  
 Thermal  Injection  Livestock  Other

(5) BORE HOLE CONSTRUCTION:

Special Construction approval  Yes  No Depth of Completed Well \_\_\_\_\_ ft.  
 Explosives used  Yes  No Type \_\_\_\_\_ Amount \_\_\_\_\_

HOLE			SEAL			Amount sacks or pounds
Diameter	From	To	Material	From	To	

How was seal placed: Method  A  B  C  D  E  
 Other

Backfill placed from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Material \_\_\_\_\_  
 Gravel placed from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Size of gravel \_\_\_\_\_

(6) CASING/LINER:

Casing/Liner	Diameter	From	To	Gauge	Material			
					Steel	Plastic	Welded	Threaded
Casing:					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Liner:					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Final location of shoe(s) \_\_\_\_\_

(7) PERFORATIONS/SCREENS:

Method		Material					
Perforations	Screens	Type	Material				
From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
						<input type="checkbox"/>	<input type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>

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

Pump  Bailor  Air  Flowing Artesian

Yield gal/min	Drawdown	Drill stem at	Time

Temperature of Water \_\_\_\_\_ 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 **17S** N or S. Range **12E** E or W. of WM.  
 Section **33** **SE** 1/4 **SE** 1/4  
 Tax lot **100** Lot \_\_\_\_\_ Block \_\_\_\_\_ Subdivision \_\_\_\_\_  
 Street Address of Well (or nearest address) **1375 Forbes Rd., Bend, OR 97701**

(10) STATIC WATER LEVEL:

\_\_\_\_\_ ft. below land surface. Date \_\_\_\_\_  
 Artesian pressure \_\_\_\_\_ lb. per square inch. Date \_\_\_\_\_

(11) WATER BEARING ZONES:

Depth at which water was first found \_\_\_\_\_

From	To	Estimated Flow Rate	SWL

(12) WELL LOG:

Material	Ground elevation		
	From	To	SWL
Hard Gray & Brown Basalt	818	830	652
Sand & Gravel & Cinders WB	830	845	652
Brown Broken Basalt	845	950	652
Brown & Gray Basalt with Red Cinders WB	950	977	652
Hard Gray Basalt Broken WB	977	1055	652
Red Cinders & Black Basalt Sandstone WB	1055	1072	652
Broken Gray Basalt WB	1072	1089	652
Basalt, Sand & Gravel, Cinders WB	1089	1100	652

NOV 15 2009

WESTERN WATER DEVELOPMENT

WESTERN WATER DEVELOPMENT  
 P.O. Box 1670  
 Redmond, OR 97756

Date started **2/6/01** Completed **10/30/01**

(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 my best 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 **Robert Buckner** WWC Number **1385** Date **11/7/01**

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WATER RESOURCES DEPARTMENT  
 SALEM, OREGON

T 10941

**Pump Test Information**

Bear Creek #2

Date: 10/29/01

TIME	DEPTH (FT)	FLOW (GPM)	COMMENTS
9:30 AM	652	0	Bear Creek Well #1, has been running for the past
10:00 AM	652	0	3 days.
10:30 AM	652	0	

**DRAWDOWN DATA**

10:30 AM	652	1400	Lineshaft turbine test pump set @720ft, water level
10:30:30	660	1400	indicator is electric line inside of 1" pvc. Flow is
10:31:00	660	1450	registered through a 6" McCrometer registering
10:31:30	660	1450	in gallons per minute and totalizing in cubic feet.
10:32:00	660.5	1425	
10:32:30	660.5	1400+	
10:33:00	660.5	1400+	
10:33:30	660.5	1400+	
10:34:00	661	1400+	
10:34:30	661	1400+	
10:35:00	661	1400+	
10:35:30	661	1400+	
10:36:00	661	1400+	
10:36:30	661	1400+	
10:37:00	661	1400+	
10:37:30	661	1400+	
10:38:00	661	1400+	
10:38:30	661	1400+	
10:39:00	661	1400+	
10:39:30	661	1400+	
10:40:00	661	1400+	
10:40:30	661	1400+	
10:41:00	661	1400+	
10:41:30	661	1400+	
10:42:00	661	1400+	
10:42:30	661	1400+	
10:43:00	661	1400+	
10:43:30	661	1400+	
10:44:00	661	1400+	
10:44:30	661	1400+	
10:45:00	661	1400+	
11:00:00	661.5	1400+	
11:15:00	661.5	1400+	
11:30:00	661.5	1400+	
11:45:00	661.5	1400+	
12:00:00	661.5	1400+	
12:15:00	661.5	1400+	
12:30:00	661.5	1400+	
12:45:00	661.5	1400+	
1:00:00	661.5	1400+	

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WATER RESOURCES DEPT  
SALEM, OREGON

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1:15:00	661.5	1400+	RECEIVED
1:30:00	661.5	1400+	
1:45:00	661.5	1400+	NOV 15 2001
2:00:00	661.5	1400+	
2:15:00	661.5	1400+	WATER RESOURCES DEPT SALEM, OREGON
2:03:00	661.5	1400+	
2:45:00	661.5	1400+	
3:00:00	661.5	1400+	
3:15:00	661.5	1400+	
3:45:00	661.5	1400+	
4:00:00	661.5	1400+	
4:15:00	661.5	1400+	
4:30:00	661.5	1400+	
5:30:00	661.5	1400+	
6:30:00	661.5	1400+	
7:30:00	661.5	1400+	
8:30:00	661.5	1400+	
9:30:00	661.5	1400+	
10:30:00	661.5	1400+	
11:30:00	661.5	1400+	
12:30:00	661.5	1400+	
1:30:00	661.5	1400+	
2:30:00	661.5	1400+	
3:30:00	661.5	1400+	
4:30:00	661.5	1400+	
5:30:00	661.5	1400+	
6:30:00	661.5	1400+	
7:30:00	661.5	1400+	
8:30:00	661.5	1400+	
9:30:00	661.5	1400+	
10:30:00	661.5	1400+	

RECOVERY DATA

10:30:00	653	0
10:31:00	653	0
10:32:00	652	0
10:33:00	652	0
10:34:00	652	0
10:35:00	652	0

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WATER RESOURCES DEPT  
SALEM, OREGON

T 10941

STATE OF OREGON  
**WATER SUPPLY WELL REPORT**  
 (as required by ORS 537.785)

DESC 53735

# L43068

(START CARD) # 136871

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

(1) OWNER: Well Number: **Outback #3**  
 Name **City of Bend**  
 Address **P.O. Box 432**  
 City **Bend** State **OR** Zip **97701**

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

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

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

(5) BORE HOLE CONSTRUCTION:  
 Special Construction approval  Yes  No Depth of Completed Well **850** ft.  
 Explosives used  Yes  No Type \_\_\_\_\_ Amount \_\_\_\_\_

HOLE		SEAL		Amount	
Diameter	From To	Material	From To	sacks or pounds	
20in	0 667	Cement grout	532 567	44 sacks	
15in	667 795	Cement Grout	0 168	176 sacks	
11.5	795 850				

How was seal placed: Method  A  B  C  D  E  
 Other  
 Backfill placed from **532** ft. to **168** ft. Material **Bentonite**  
 Gravel placed from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Size of gravel \_\_\_\_\_

(6) CASING/LINER:

Diameter	From To	Gauge	Steel	Plastic	Welded	Threaded
Casing: 16in	+2 667	.375	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Liner: 12in	-652 795	.375	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
10in	-785 850	.365	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Final location of shoe(s) \_\_\_\_\_

(7) PERFORATIONS/SCREENS:

Perforations Method **Factory Saw**  
 Screens Type \_\_\_\_\_ Material \_\_\_\_\_

From To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
567 667	3/16	4800	16in	pipe	<input checked="" type="checkbox"/>	<input type="checkbox"/>
665 795	3/16	6720	12in	pipe	<input type="checkbox"/>	<input checked="" type="checkbox"/>
785 850	3/16	2600	10in	pipe	<input type="checkbox"/>	<input checked="" type="checkbox"/>

(8) WELL TESTS: Minimum testing time is 1 hour  
 Pump  Bailor  Air  Flowing Artesian

Yield gal/min	Drawdown	Drill stem at	Time
1400	4.25	558	24 hr

Temperature of Water **52** Depth Artesian Flow found \_\_\_\_\_  
 Was a water analysis done?  Yes By whom **Coffey**  
 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 **17S** N or S. Range **11E** E or W. of WM. \_\_\_\_\_  
 Section **34** SW 1/4 SE 1/4  
 Tax lot **6202R2** Lot \_\_\_\_\_ Block \_\_\_\_\_ Subdivision \_\_\_\_\_  
 Street Address of Well (or nearest address) **15900 Skyliner Rd., Bend, OR**

(10) STATIC WATER LEVEL:  
**477** ft. below land surface. Date **3/15/01**  
 Artesian pressure \_\_\_\_\_ lb. per square inch. Date \_\_\_\_\_

(11) WATER BEARING ZONES:

Depth at which water was first found **488**

From	To	Estimated Flow Rate	SWL
488	550	800	477
570	690	2000+	477
709	850	5000+	477

(12) WELL LOG: **RECEIVED**

Material	From	To	SWL
Brown Powder Top Soil	0	1	
Broken Brown Rubble	1	7	
Red Cinder Conglomerate	7	19	
Broken Gray Basalt & Large Cinders	19	22	
Smooth Hard Gray Basalt	22	55	
Red Cinders (Rough Drilling) Lost Circulation	55	70	
Brown Ash Tuft	70	105	
Red Cinders (Caving)	105	113	
Brown Conlomerate & Boulders Loose	113	170	
Cinders & Brown Ash Caving	170	202	
Pumice & Red & Black Cinders	202	237	
Pink Pumice & Gray Basalt	237	252	
Gray Sandstone	252	312	
Softer Brown Sandstone of tufted ash	312	348	
Dark Gray cemented gravel	348	381	
Black Silty Tufted Ash	381	392	
Red Cinder ash with Black & Gray Broken Basalt	392	405	
Gray & Brown Lava	405	428	

Continued on next page  
 Date started **10/3/00** Completed **3/15/01**

(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 my best knowledge and belief.  
 WWC Number \_\_\_\_\_  
 Signed \_\_\_\_\_ 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 **1385**  
 Signed **Robert Buckner** Date **3/20/01**  
**Robert Buckner**

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WATER RESOURCES DEPT  
 SALEM, OREGON



STATE OF OREGON  
WATER SUPPLY WELL REPORT

DESC 53735

WELL ID# L43058

(required by ORS 537.765)

(START CARD) # 136871

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

Page 2

(1) OWNER: Well Number: **Outback #3**  
Name **City of Bend**  
Address **P.O. Box 432**  
City **Bend** State **OR** Zip **97701**

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

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

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

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

HOLE			SEAL			Amount sacks or pounds
Diameter	From	To	Material	From	To	
How was seal placed: Method <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D <input type="checkbox"/> E						
<input type="checkbox"/> Other						
Bedfill 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:					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Liner:					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Final location of shoe(s) \_\_\_\_\_

(7) PERFORATIONS/SCREENS:

Perforations Method \_\_\_\_\_  
 Screens Type \_\_\_\_\_

From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
						<input type="checkbox"/>	<input type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>

(8) WELL TESTS: Minimum testing time is 1 hour  
 Pump  Baller  Air  Flowing Artesian

Yield gal/min	Drawdown	Drill stem at	Time

Temperature of Water \_\_\_\_\_ 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 **17S** N or S. Range **11E** E or W. of WM.  
Section **34** SW 1/4 SE 1/4  
Tax lot **6202R2** Lot \_\_\_\_\_ Block \_\_\_\_\_ Subdivision \_\_\_\_\_  
Street Address of Well (or nearest address) **15900 Skyliner Rd., Bend, OR**

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

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

From	To	Estimated Flow Rate	SWL

(12) WELL LOG:

Material	From	To	SWL
Red & Black Cinders Lost	428		
Circulation			445
Dark Gray Basalt some broken	445	450	
Dark Gray Basalt	450	469	
Red & Black Cinders Lost	469		
Circulation			471
Tan Pumice	471	488	
Broken Gray Basalt Water Bearing	488	502	477
Red & Black Cinders WB and caving poured 18 yards of cement grout in this zone.			524 477
Tan Sandstone	524	530	477
Red & Black Conglomerate	530	550	477
Brown & Gray Conglomerate	550	570	477
Tan Sandstone some basalt & cinders WB	570		600 477
Brown & Red Conglomerate WB	600	620	477
Red & Brown Cinders WB	620	636	477
Hard Gray Basalt	636	651	477
Red & Black Cinders some gray basalt WB	651		660 477
Hard Fractured Gray Basalt WB	660	671	477
Red & Gray Basalt WB	671	689	477
Hard Gray Basalt	689	709	477

Continued on next page

Date started **10/3/00** Completed **3/15/01**

(unbonded) Water Well Constructor Certification:  
I certify that the work 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 my best knowledge and belief.  
**RECEIVED**  
**MAR 28 2001**  
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 **Robert Buckner** WWC Number **1385**  
Date **3/20/01**

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T 10941

WATER RESOURCES DEPT  
SALEM, OREGON

STATE OF OREGON  
WATER SUPPLY WELL REPORT

(Required by ORS 537.765)

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

(1) OWNER: Well Number: **Outback #3**  
Name **City of Bend**  
Address **P.O. Box 432**  
City **Bend** State **OR** Zip **97701**

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

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

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

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

HOLE SEAL  
Diameter From To Material From To Amount  
sacks or pounds  
How was seal placed: Method  A  B  C  D  E  
 Other  
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: \_\_\_\_\_  
Liner: \_\_\_\_\_  
Final location of shoe(s) \_\_\_\_\_

(7) PERFORATIONS/SCREENS:  
 Perforations Method \_\_\_\_\_  
 Screens Type \_\_\_\_\_ Material \_\_\_\_\_  
From To Slot size Number Diameter Tele/pipe size Casing Liner

(8) WELL TESTS: Minimum testing time is 1 hour  
 Pump  Bailor  Air  Flowing Artesian  
Yield gal/min Drawdown Drill stem at Time  
Temperature of Water \_\_\_\_\_ 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 **17S** N or S. Range **11E** E or W. of WM.  
Section **34** SW 1/4 SE 1/4  
Tax lot **6202R2** Lot \_\_\_\_\_ Block \_\_\_\_\_ Subdivision \_\_\_\_\_  
Street Address of Well (or nearest address) **15900 Skyliner Rd., Bend, OR**

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

(11) WATER BEARING ZONES:  
Depth at which water was first found \_\_\_\_\_  
From To Estimated Flow Rate SWL

(12) WELL LOG:  
Ground elevation \_\_\_\_\_  
Material From To SWL  
**Red Cinder & Gray Basalt WB 709 714 477**  
**Hard Gray Fractured Basalt WB 714 731 477**  
**Red Cinders & Gray Basalt WB 731 748 477**  
**Hard Gray Fractured Basalt 748 774 477**  
**Red Basalt & Gray Hard WB 774 797 477**  
**Fractured Hard Gray Basalt WB 797 836 477**  
**Red Cinders & Brown Ash WB 836 850 477**

**WESTERN WATER DEVELOPMENT**  
P.O. Box 1670  
REDMOND, OR 97756

Date started **10/3/00** Completed **3/15/01**

(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 my best 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 **Robert Buckner** WWC Number **1385**  
Date **3/20/01**

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WATER RESOURCES DEPT  
SALEM, OREGON

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

DESC 54252  
 NOV 15 2009

WELL ID # **L52412**

(START CARD) # **136877**

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

**(1) OWNER:** Well Number: **Outback#4**  
 Name **City of Bend**  
 Address **P.O. Box 431**  
 City **Bend** State **OR** Zip **97701**

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

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

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

**(5) BORE HOLE CONSTRUCTION:**  
 Special Construction approval  Yes  No Depth of Completed Well **850** ft.  
 Explosives used  Yes  No Type Amount

HOLE		SEAL		Amount	
Diameter	From To	Material	From To	sacks or pounds	
20in	0 672	Cement	534 570	66 sacks	
15in	672 790	Cement	0 205	220 sacks	
12in	790 850				

How was seal placed: Method  A  B  C  D  E  
 Other  
 Backfill placed from **205** ft. to **534** ft. Material **Bentonite**  
 Gravel placed from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Size of gravel \_\_\_\_\_

**(6) CASING/LINER:**

Casing/Liner	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing:	16in	+1.5	672	.375	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Liner:	12in	658	798	.375	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	10in	788	848	.365	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Final location of shoe(s) \_\_\_\_\_

**(7) PERFORATIONS/SCREENS:**

Method		Material					
From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
572	672	3/16	4800	16in	pipe	<input checked="" type="checkbox"/>	<input type="checkbox"/>
658	798	3/16	6720	12in	pipe	<input type="checkbox"/>	<input checked="" type="checkbox"/>
788	848	3/16	2600	10in	pipe	<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
1400	2.5	520	24 hr.

Temperature of Water **51** Depth Artesian Flow found \_\_\_\_\_  
 Was a water analysis done?  Yes By whom **City of Bend**  
 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 **17S** N or S. Range **11E** E or W. of WM. \_\_\_\_\_  
 Section **34** SW 1/4 SE 1/4  
 Tax lot **6202R2** Lot \_\_\_\_\_ Block \_\_\_\_\_ Subdivision \_\_\_\_\_  
 Street Address of Well (or nearest address) **15900 Skyliner Rd., Bend, OR 97701**

**(10) STATIC WATER LEVEL:**  
**478** ft. below land surface. Date **5/2/01**  
 Artesian pressure \_\_\_\_\_ lb. per square inch. Date \_\_\_\_\_

**(11) WATER BEARING ZONES:**  
 Depth at which water was first found **519**

From	To	Estimated Flow Rate	SWL
519	612	800-900	478
612	768	2000+	478
774	850	5000+	478

**(12) WELL LOG:**

Material	From	To	SWL
Brown Powder Soil	0	3	
Broken Brown Rubble	3	17	
Red Cinders & Broken Basalt	17	19	
Smooth Hard Gray Basalt	19	125	
Brown Tufted Ash	125	172	
Pumice & Tan Sandstone	172	285	
Gray Sandstone	285	306	
Brown Sandstone or Tufted Ash	306	358	
Cemented Gravels	358	431	
Red Cinders & Broken Basalt	431	438	
Hard Gray Basalt some broken	438	449	
Hard Gray Basalt	449	468	
Tan Pumice	468	479	
Hard Gray Basalt	479	519	
Red Cinders & Broken Basalt WB	519	538	478
Brown Conglomerate WB	538	581	478
Tan & Gray Sandstone WB	581	612	478
Loose Cinders WB	612	639	478
Hard Gray Basalt	639	646	478
Red & Black Cinders & Slab Lava WB	646	659	478
Hard Gray Basalt	659	735	478
Red Cinders WB	735	768	478

Continued on next page

Date started **12/5/01** Completed **5/2/01**

**(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 my best 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 **Robert Buckner** WWC Number **1385**  
 Date **11/7/01**

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WATER RESOURCES DEPT  
 SALEM, OREGON

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

DESC 54252

WELL ID # L52412

(START CARD) # 136877

Page 2

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

(1) OWNER: Well Number: **Outback#4**  
Name **City of Bend**  
Address **P.O. Box 431**  
City **Bend** State **OR** Zip **97701**

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

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

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

(5) BORE HOLE CONSTRUCTION:  
Special Construction approval  Yes  No Depth of Completed Well \_\_\_\_\_ ft.  
Explosives used  Yes  No Type \_\_\_\_\_ Amount \_\_\_\_\_  
HOLE SEAL Amount  
Diameter From To Material From To sacks or pounds  
How was seal placed: Method  A  B  C  D  E  
 Other  
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: \_\_\_\_\_  
Liner: \_\_\_\_\_  
Final location of shoe(s) \_\_\_\_\_

(7) PERFORATIONS/SCREENS:  
 Perforations Method \_\_\_\_\_  
 Screens Type \_\_\_\_\_ Material \_\_\_\_\_  
From To Slot size Number Diameter Tele/pipe size Casing Liner

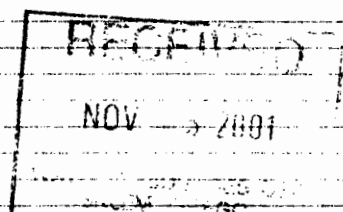
(8) WELL TESTS: Minimum testing time is 1 hour  
 Pump  Bailor  Air  Flowing Artesian  
Yield gal/min Drawdown Drill stem at Time  
Temperature of Water \_\_\_\_\_ Depth Artesian Flow found \_\_\_\_\_  
Was a water analysis done?  Yes By whom \_\_\_\_\_  
Did any strata contain water not suitable for intended use?  Too little  
 Salty  Muddy  Odor  Colored  Other  
Depth of strata: \_\_\_\_\_

(9) LOCATION OF WELL by legal description:  
County **Deschutes** Latitude \_\_\_\_\_ Longitude \_\_\_\_\_  
Township **17S** N or S. Range **11E** E or W. of WM.  
Section **34** SW 1/4 **SE** 1/4  
Tax lot **6202R2** Lot \_\_\_\_\_ Block \_\_\_\_\_ Subdivision \_\_\_\_\_  
Street Address of Well (or nearest address) **15900 Skyliner Rd., Bend, OR 97701**

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

(11) WATER BEARING ZONES:  
Depth at which water was first found \_\_\_\_\_  
From To Estimated Flow Rate SWL

(12) WELL LOG:  
Ground elevation \_\_\_\_\_  
Material From To SWL  
**Hard Gray Basalt 768 774 478**  
**Red Broken Basalt WB 774 781 478**  
**Hard Gray Basalt 781 836 478**  
**Red & Black Cinders & Broken Basalt WB 836 850 478**



WESTERN WATER DEVELOPMENT  
P.O. Box 1670  
REDMOND, OR 97756

Date started **12/5/01** Completed **5/2/01**

(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 my best 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 **Robert Buckner** WWC Number **1385** Date **11/7/01**

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

DESC 55365

WELL ID # L52412

(START CARD) # 150755

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

**(1) OWNER:** Well Number: Outback#4  
 Name CITY OF BEND  
 Address P.O. Box 431  
 City Bend State OR Zip 97701

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

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

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

**(5) BORE HOLE CONSTRUCTION:**  
 Special Construction approval  Yes  No Depth of Completed Well 845 ft.  
 Explosives used  Yes  No Type \_\_\_\_\_ Amount \_\_\_\_\_

HOLE			SEAL			Amount
Diameter	From	To	Material	From	To	sacks or pounds
			Not Disturbed			

How was seal placed: Method  A  B  C  D  E  
 Other Not Disturbed  
 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:					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Liner:					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Final location of shoe(s) \_\_\_\_\_

**(7) PERFORATIONS/SCREENS:**

Perforations		Method		Material			
From	To	Slot size	Number	Diameter	Telepipe size	Casing	Liner
						<input type="checkbox"/>	<input type="checkbox"/>

**(8) WELL TESTS: Minimum testing time is 1 hour**  
 Pump  Bailor  Air  Flowing Artesian

Yield gal/min	Drawdown	Drill stem at	Time

Temperature of Water \_\_\_\_\_ Depth Artesian Flow found \_\_\_\_\_  
 Was a water analysis done?  Yes  No 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 17S N or S. Range 11E E or W. of W.M.  
 Section 34 SW 1/4 SE 1/4  
 Tax lot 6202R2 Lot \_\_\_\_\_ Block \_\_\_\_\_ Subdivision \_\_\_\_\_  
 Street Address of Well (or nearest address) 15900 Skyliner Ave., Bend, OR 97701

**(10) STATIC WATER LEVEL:**  
482 ft. below land surface. Date 5/31/03  
 Artesian pressure \_\_\_\_\_ lb. per square inch. Date \_\_\_\_\_

**(11) WATER BEARING ZONES:**  
 Depth at which water was first found \_\_\_\_\_

From	To	Estimated Flow Rate	SWL

**(12) WELL LOG:** Ground elevation \_\_\_\_\_

Material	From	To	SWL
Well Video prior to pump installation showed approx. 1/3 of perforations were plugged and Iron Bacteria was growing. We used a wire brush and injected approx. 250 ppm chlorine to fix problem. Chlorine was mixed in a tanker and injected with water injection pump along with 900 cfm of air to achieve thorough dispersion in the perforated zone. Simultaneous brushing was used to remove scale and assist in unplugging of perforations.			

**RECEIVED**  
 WESTERN WATER DEVELOPMENT JUN - 4 2003  
 P.O. Box 1670  
 Redmond, OR 97756 WATER RESOURCES DEPT.  
 SALEM, OREGON

Date started 5/31/03 Completed 5/31/03

**(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 my best 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 Robert Buckner WWC Number 1385  
 Date 6/2/03

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WATER RESOURCES DEPT  
 SALEM, OREGON

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

(WELL I.D.)# L 72463  
(START CARD) # 147290

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

(1) OWNER: Well Number Outback #5  
Name City of Bend  
Address PO Box 431  
City Bend State OR Zip 97709

(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 861 ft.  
Explosives used  Yes  No Type \_\_\_\_\_ Amount \_\_\_\_\_

HOLE			SEAL			
Diameter	From	To	Material	From	To	Sacks or pounds
26	0	8	Cement & Bent	0	160	334 sks
20	8	635	Intermediate Seal ing			Material:
15	635	861	Bentonite	180	615	40,200 pounds
			Cement	615	625	175 sks

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	+3	625	.375	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Liner:	12	615	861	.375	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Final location of shoe(s) \_\_\_\_\_

(7) PERFORATIONS/SCREENS:

Perforations Method Factory mill cut  
 Screens Type \_\_\_\_\_ Material \_\_\_\_\_

From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
619	861	3/16x3	11520			<input type="checkbox"/>	<input checked="" type="checkbox"/>

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

Yield gal/min	Drawdown	Drill stem at	Time
1500	0.3 feet		1 hr.
1500	0.75 feet		24 hours

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 17 S Range 11 E WM.  
Section 34 SW 1/4 SE 1/4  
Tax Lot 6202 Lot \_\_\_\_\_ Block \_\_\_\_\_ Subdivision \_\_\_\_\_  
Street Address of Well (or nearest address) 18900 Skyliners Rd  
Bend, OR 97701

(10) STATIC WATER LEVEL:  
486 ft. below land surface. Date 10/7/04  
Artesian pressure \_\_\_\_\_ lb. per square inch. Date \_\_\_\_\_

(11) WATER BEARING ZONES:  
Depth at which water was first found 624

From	To	Estimated Flow Rate	SWL
624	861	see #8	see #10

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

Material	From	To	SWL
see attached formation log			
<b>RECEIVED</b>			
NOV 10 2004			
WATER RESOURCES DEPT SALEM, OREGON			

Date started 3/19/04 Completed 10/12/04

(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 [Signature] WWC Number 1695  
Date 11/9/04

(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 [Signature] WWC Number 649  
Date 11/9/04

ORIGINAL & FIRST COPY-WATER RESOURCES DEPARTMENT SECOND COPY-CONSTRUCTOR THIRD COPY-CUSTOMER

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**City of Bend Outback Well #5****by Schneider Drilling Co.****Start Card #W147290 Label #L72463**

<u>FM</u>	<u>TO</u>	<u>DESCRIPTION</u>
0	2	Top soil & cobbles
2	8.5	Basalt, soil, boulders, cobbles
8.5	21	Conglomerate, red, cindery
21	27	Basalt, grey, hard
27	68	Basalt, grey & some red, vesicular
68	70	Pumice, tan & basalt, grey
70	210	Pumice, tan, cinders, vesicular, grey
210	230	Pumice, white & cinders, red & grey
230	255	Pumice, tan & cinders, brown & red & basalt, grey
255	342	Basalt, grey & red & pumice, tan
342	355	Basalt, vesicular, grey & red, pumice, tan
355	365	Basalt, grey & red & pumice, tan
365	370	Basalt, grey & cinders, red w/ some Pumice, tan
370	388	Cinders, red & basalt, grey w/some pumice, tan
388	397	Cobbles & Gravel, cemented
397	417	Cinders, red & basalt, grey, vesicular
417	430	Basalt, grey, hard w/some cinders, red
430	446	Cinders, red, soft
446	468	Basalt, grey, medium-hard
468	550	Cinders, red & black
550	620	Pumice, tan & cinders red & black
620	624	Basalt, grey, hard
624	642	Cinders, soft
642	649	Basalt, black
649	666	Cinders, red & black
666	669	Cinders, red
669	696	Cinders, red & black
696	714	Basalt, grey
714	723	Basalt, red
723	742	Cinders, red
742	753	Basalt, grey, hard
753	757	Basalt, brown, vesicular
757	763	Basalt, black, broken
763	767	Cinders, black & red
767	779	Cinders, red
779	787	Basalt, grey, hard
787	833	Basalt, grey, hard, some fractures
833	837	Basalt, red & black
837	852	Basalt, tan & black
852	861	Basalt, brown, fractured

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SALEM, OREGON**RECEIVED**

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SALEM, OREGON

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Amendment

STATE OF OREGON WATER SUPPLY WELL REPORT

(WELL I.D.)# L 67857 (amended DESC 56449) (START CARD) # 164709

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

(1) OWNER: Well Number Outback #6 Name City of Bend Address P.O. Box 431 City Bend State Or Zip 97701

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

(3) DRILL METHOD: [X] Rotary Air [ ] Rotary Mud [ ] Cable [ ] Auger [X] Other Reverse Circulation, Dual Rotary

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

(5) BORE HOLE CONSTRUCTION: Special Construction approval [ ] Yes [X] No Depth of Completed Well 864 ft. Explosives used [ ] Yes [X] No Type Amount

Table with columns for HOLE Diameter, From, To, Material, and SEAL From, To, Sacks or pounds. Includes data for 20" and 16" diameters.

How was seal placed: Method [ ] A [ ] B [X] C [ ] D [ ] E [ ] Other Backfill placed from 160 ft. to 460 ft. Material sand grout Gravel placed from 480 ft. to 502 ft. Size of gravel 1/4

(6) CASING/LINER: Table with columns for Diameter, From, To, Gauge, Steel, Plastic, Welded, Threaded. Includes data for 16" casing and 12" liner.

Final location of shoe(s)

(7) PERFORATIONS/SCREENS: Table with columns for From, To, Slot size, Number, Diameter, Material, Casing, Liner. Includes data for 864' to 864' slot size.

(8) WELL TESTS: Minimum testing time is 1 hour. [X] Pump [ ] Bailer [ ] Air [ ] Flowing Artesian. Yield gallons 1,450 Drawdown 1' Drill stem at Time 24 hr

Temperature of water 53 F Depth Artesian Flow Found Was a water analysis done? [X] Yes By whom City of Bend 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 17 S Range 11 E WM. Section 34 SW 1/4 SE 1/4 Tax Lot 6202R2 Lot Block Subdivision Street Address of Well (or nearest address) 15900 Skyliner Rd., Bend, OR 97701

(10) STATIC WATER LEVEL: 480 ft. below land surface. Date 11/02/04 Artesian pressure lb. per square inch. Date

(11) WATER BEARING ZONES: Table with columns for From, To, Estimated Flow Rate, SWL. Includes data for 115, 516, 638, 582, 864, 30, 200 gpm, Rev.Circ- unmeasurable, 480.

(12) WELL LOG: Ground Elevation

Table with columns for Material, From, To, SWL. Includes a large 'RECEIVED' stamp and 'FEB 24 2005' date stamp.

Date started 08/14/04 Completed 11/24/04

(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 [Signature] WWC Number 1702 Date 02-21-05

(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 [Signature] WWC Number 1523 Date 02-21-05

ORIGINAL & FIRST COPY-WATER RESOURCES DEPARTMENT SECOND COPY-CONSTRUCTOR THIRD COPY-CUSTOMER

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WATER RESOURCES DEPT SALEM, OREGON

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Pilot Butte #4- DESC 58778

Shiloh #3- DESC 5613

Hole Ten #1- DESC 5655

Hole Ten #2- DESC 5654

Attachment C

---

Well Logs for Proposed Additional Points of Appropriation

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SALEM, OREGON

T 10941





**DESC 58778**

WESTERN WATER DEVELOPMENT  
 P.O. Box 1670  
 Redmond, OR 97756

Well: Pilot Butte Well #4  
 Customer: City of Bend, Oregon

**Formation Geology Description**

<b>Material</b>	<b>From</b>	<b>To</b>
Sandy Loam with Boulders	0	8
Broken Dark Gray Basalt	8	26
Black Vesicular Basalt	26	43
Broken Dark Gray Basalt	43	52
Black Vesicular Basalt	52	60
Dark Gray Basalt	60	74
Black / Red Basalt	74	95
Black / Red Basalt with Cinders	95	102
Black / Red Basalt	102	116
Vesicular Basalt with Cinders	116	130
Gray Basalt	130	144
Black / Red Basalt	144	152
Red Cinders	152	163
Hard Gray Basalt	163	170
Black / Red Basalt	170	181
Hard Gray Basalt	181	196
Red Cinders	196	202
Very Hard Gray Basalt	202	222
Red Cinders	222	228
Reddish Pumice & Gravels	228	250
Brown Pumice & Gravels	250	276
Brown Pumice & Sand	276	302
Broken Dark Gray Basalt	302	355
Hard Gray Basalt	355	367
Black Red Basalt	367	377
Brown Sandstone	377	388
Broken Black / Red Basalt	388	395
Void-Cement Grout	395	405
Hard Gray Basalt Slanted	405	414
Used Explosives to Straighten Borehole		
Black with Red / Brown Basalt	414	423
Brown Sandstone	423	437
Black Sandstone with Pumice	437	451
Hard Gray Basalt	451	463
Black & Red Basalt with Cinder Beds	463	474
Broken Gray Basalt	474	492
Broken Black Basalt	492	504
Broken Black & Red Basalt & Cinders	504	524
Hard Dark Gray Basalt	524	534
Very Hard Gray Basalt	534	541
Caving, cemented back to 500 ft. 10/31		
Caving, cemented back to 495' on 11/3		

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SALEM, OREGON**RECEIVED**

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WATER RESOURCES DEPT  
SALEM, OREGON

# DESC 58778

Material	From	To
Brown Sandstone	541	549
Dark Gray Basalt	549	578
Black & Red Broken Basalt	578	598
Broken Black Basalt	598	623
Brown Sandstone with Gravel	623	655
Dark Gray Basalt	655	664
Black & Red Basalt	664	694 SWL 682'
Vasicular with Ash Imbediments		
Broken Gray Basalt	694	705
Broken Black & Red Basalt	705	715
Redish Sandstone w/ Black & Red Gravels	715	743
Broken Black Basalt	743	755 SWL 685'
Hard Gray Basalt	755	766
Broken Black & Red Basalt w/ Red Cinders	766	780
Broken Vesicular Black, Red & Brown Basalt	780	790
Gray Basalt	790	813
Red Conglomerate	813	834 SWL 686.5'
Brown Sandstone	834	864
Black Basalt with Red Cinders	864	872
Brown Conglomerate	872	925
Black Basalt	925	958
(No Returns from 958'-970')		
Black Basalt with Red Cinder fragments and seams of Brown Ash	958	1035 687.5
No Returns	1035	1050
Black Basalt	1050	1080
No Returns	1080	1095
Black Basalt with Cinder Imbedaments	1095	1160

**Well Seal & Backfill Information**

Surface Grout Seal	40 yds cement grout	0	101
Bentonite Backfill	20 Super Sacks	101	307
Intermediate Seal	2 yds cement grout	307	335
Bentonite Backfill	33 Super Sacks	335	660
Bottom Grout Seal	2 yds cement grout	660	680

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WESTERN WATER DEVELOPMENT  
P.O. Box 1670  
Redmond, OR 97756

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SALEM, OREGON

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WATER RESOURCES DEPT  
SALEM, OREGON

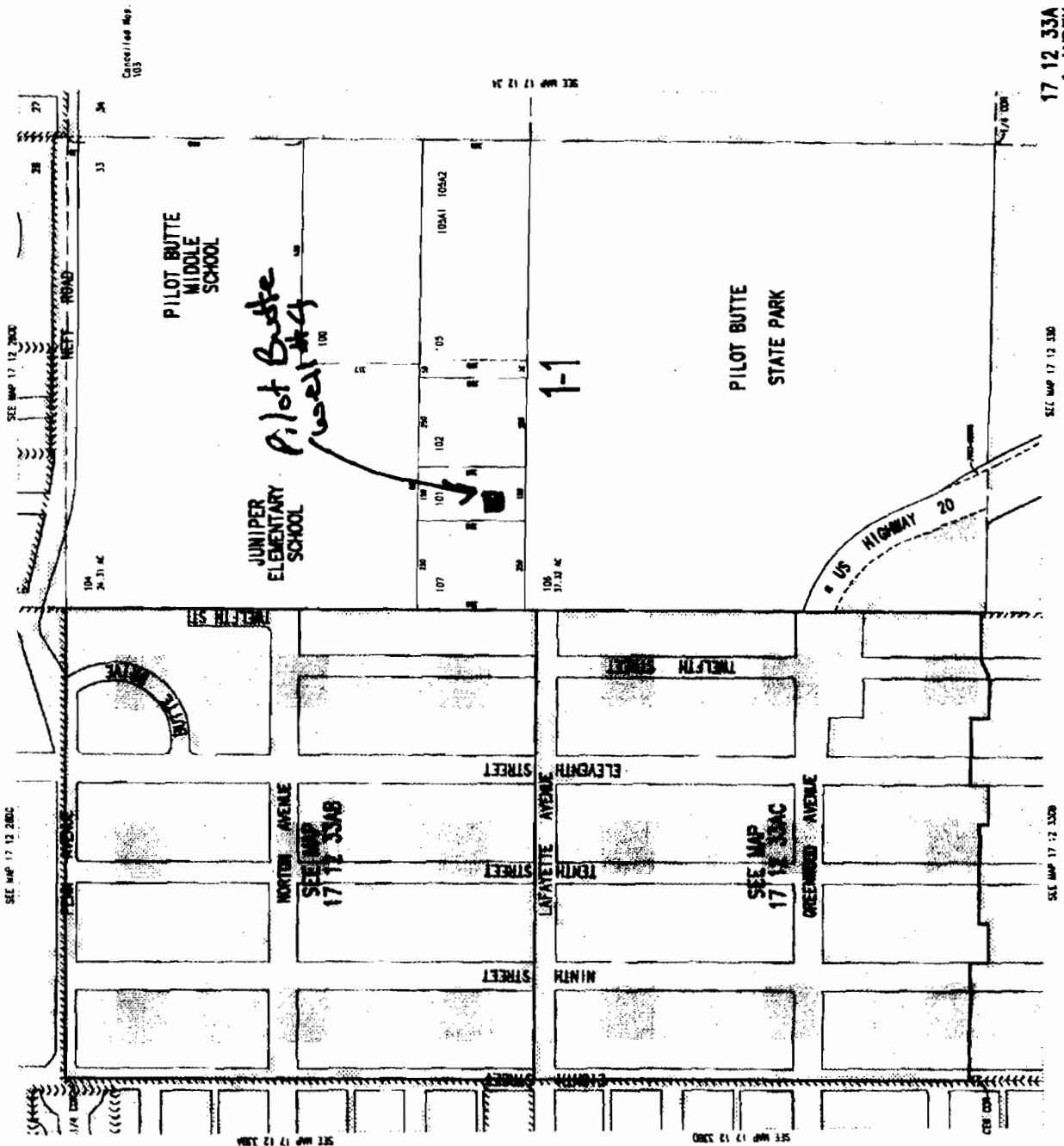
DESC 58778

17 12 33A  
& INDEX

17 12 33A  
& INDEX

DESC 58778  
NE 1/4 SEC. 33 T. 17S. R. 12E. W.M.  
DESCHUTES COUNTY

1" = 200'



THIS MAP WAS PREPARED FOR  
ASSESSMENT PURPOSES ONLY.  
REVISED: 03/27/1983

T 10941

WESTERN WATER DEVELOPMENT  
P.O. Box 1670  
Redmond, OR 97756

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JUL 02 2009

WATER RESOURCES DEPT  
SALEM, OREGON

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AUG 05 2009

WATER RESOURCES DEPT  
SALEM, OREGON



The original and first copy of this report are to be filed with the

STATE ENGINEER, SALEM, OREGON 97310 within 30 days from the date of well completion.

DESC 5/21/13 5/26/13

RECEIVED WATER WELL REPORT STATE OF OREGON WATER RESOURCES DEPT. SALEM, OREGON

State Well No. 195/12E-16bc State Permit No. AOB 8611336

(1) OWNER:

Name J.L. Ward Construction Co. Address 61045 Brosterhouse Rd. Bend 97702

(2) TYPE OF WORK (check):

New Well [X] Deepening [ ] Reconditioning [ ] Abandon [ ] If abandonment, describe material and procedure in Item 13.

(3) TYPE OF WELL:

Rotary [ ] Cable [X] Dug [ ] Driven [ ] Jetted [ ] Bored [ ]

(4) PROPOSED USE (check):

Domestic [X] Industrial [ ] Municipal [ ] Irrigation [X] Test Well [ ] Other [ ]

CASING INSTALLED:

12" Diam. from +2 ft. to -410 ft. Gage .250

PERFORATIONS:

Type of perforator used Torch Size of perforations 1/4 in. by 6 in. 500 perforations from 330 ft. to 410 ft.

(7) SCREENS:

Well screen installed? [ ] Yes [X] No Manufacturer's Name Type Model No. Diam. Slot size Set from ft. to ft.

(8) WELL TESTS:

Drawdown is amount water level is lowered below static level Was a pump test made? [X] Yes [ ] No If yes, by whom? Ward Yield: 1500 gal./min. with ft. drawdown after hrs. See Attached Letter

(9) CONSTRUCTION:

Well seal—Material used Portland Cement Grout Well sealed from land surface to 50 ft. Diameter of well bore to bottom of seal 18 in. Diameter of well bore below seal 16-18 in. Number of sacks of cement used in well seal sacks Number of sacks of bentonite used in well seal None sacks Brand name of bentonite NA Number of pounds of bentonite per 100 gallons of water lbs./100 gals. Was a drive shoe used? [ ] Yes [X] No Plugs Size: location ft. Did any strata contain unusable water? [ ] Yes [X] No Type of water? depth of strata Method of sealing strata off Was well gravel packed? [X] Yes [ ] No Size of gravel: 1/4-1/2 Gravel placed from 50 ft. to 410 ft.

(10) LOCATION OF WELL:

County Deschutes Driller's well number SW 1/4 NW 1/4 Section 16 T. 18S R. 12E W.M. Bearing and distance from section or subdivision corner 2,000' South of NW Corner of Sec. 16

(11) WATER LEVEL: Completed well.

Depth at which water was first found 335 ft. Static level 335 ft. below land surface. Date Artesian pressure lbs. per square inch. Date

(12) WELL LOG:

Diameter of well below casing 16" Depth drilled 417 ft. Depth of completed well 410 ft. Formation: Describe color, texture, grain size and structure of materials; and show thickness and nature of each stratum and aquifer penetrated, with at least one entry for each change of formation. Report each change in position of Static Water Level and indicate principal water-bearing strata.

Table with columns: MATERIAL, From, To, SWL. Rows include Sandy Soil, Gray Lave, Lava Chunks, Red Cinders, etc.

RECEIVED AUG 05 2009 WATER RESOURCES DEPT SALEM, OREGON

(Continued Below) Work started 4/18 1974 Completed 6/26 1974 Date well drilling machine moved off of well 6/28 1974

Drilling Machine Operator's Certification:

This well was constructed under my direct supervision. Materials used and information reported above are true to my best knowledge and belief. [Signed] Date 19 Drilling Machine Operator's License No.

Water Well Contractor's Certification:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief. Name Jan L. Ward Address 61045 Brosterhouse Road, Bend, Oregon [Signed] Contractor's License No. Date 19

T 10041

Childs #13

The original and last copy of this report are to be filed with the

WATER W DESC 5613

ENGINEER, SALEM, OREGON 97310 within 30 days from the date of well completion.

STATE OF (Please type)

(Do not write ab

OWNER:

Name J.L. Ward Construction Co. Address 61045 Brosterhous Rd.

(2) TYPE OF WORK (check):

New Well [x] Deepening [ ] Reconditioning [ ] Abandon [ ] If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL: (4) PROPOSED USE (check):

Rotary [ ] Driven [ ] Cable [x] Jetted [ ] Dug [ ] Bored [ ] Domestic [x] Industrial [ ] Municipal [ ] Irrigation [x] Test Well [ ] Other [ ]

(5) CASING INSTALLED: Threaded [ ] Welded [x]

12" Diam. from +2 ft. to -410 ft. Gage 350

(6) PERFORATIONS: Perforated? [x] Yes [ ] No.

Type of perforator used Torch Size of perforations 1/4 in. by 6 in. 500 perforations from 330 ft. to 410 ft.

(7) SCREENS: Well screen installed? [ ] Yes [x] No

Manufacturer's Name Model No. Diam. Slot size Set from ft. to ft.

(8) WELL TESTS: Drawdown is amount water level is lowered below static level

Was a pump test made? [x] Yes [ ] No If yes, by whom? Ward Yield: gal./min. with ft. drawdown after hrs. See Attached Letter

(9) CONSTRUCTION:

Well seal-Material used Portland Cement Grout Well sealed from land surface to 50 ft. Diameter of well bore to bottom of seal 18 in. Diameter of well bore below seal 16-18 in.

Formation: Describe color, texture, grain size and structure of materials; and show thickness and nature of each stratum and aquifer penetrated, with at least one entry for each change of formation.

Table with columns: MATERIAL, From, To, SWL. Rows include Red Cinders, Cemented Gravel, Gray Lava, etc.

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DEC 14 2000

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AUG 05 2009

WATER RESOURCES DEPT. SALEM, OREGON

WATER RESOURCES DEPT. SALEM, OREGON

Work started 4/18 194 Completed 6/23 1974

Drilling Machine Operator's Certification:

This well was constructed under my direct supervision. Materials used and information reported above are true to my best knowledge and belief.

[Signed] (Drilling Machine Operator) Date 1974

Water Well Contractor's Certification:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Name Jan I. Ward (Person, firm or corporation) (Type or print) Address 61045 Brosterhous Road, Bend, Oregon

[Signed] (Water Well Contractor) Contractor's License No. Date 1974

(USE ADDITIONAL SHEETS IF NECESSARY)

SP-4566-118

T 10941



"communities planned with pride"

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JUL 17 1978  
WATER RESOURCES DEPT.  
SALEM, OREGON

July 13, 1978

Water Resources Department of  
Oregon State  
555 13th N.E.  
Salem, Oregon 97310

Gentlemen:

Enclosed please find a completed well log for a well that was drilled in May and June of 1974.

The drilling was done with tools and machines belonging to Ward Construction Company and operated by Lawrence Kowaleski of Madras, Oregon .

The drilling was completed in late June 1974; the casing was installed and the seal was installed and the well completed on September 24, 1974.

An 8" Lineshaft Turbine Pump was installed in the summer of 1977 and the well as tested for a period of 30 days at a flow of 1500 Gallons Per Minute. There was no apparent draw down in the two adjacent wells before, during or after the test period.

The tardiness of this well log was due to my misunderstanding of who was to make the filing.

If there is any additional information required, please advise.

Ward Construction Company

Jan L. Ward  
President

T 10941

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AUG 05 2009

WATER RESOURCES DEPT  
SALEM, OREGON

JW/mc  
Enclosures

*has Johnson 8611336*

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DESC 5655  
655

18E/12E-20ac

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

APR 30 1986

WATER RESOURCES DEPT PLEASE TYPE OR PRINT IN INK

(for official use only)

(1) OWNER:

Name Mt High Water System Jan Ward  
Address 61045 Brosterhouse Rd  
City Bend State Ore

(2) TYPE OF WORK (check):

New Well  Deepening  Reconditioning  Abandon   
If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL:

Rotary Air  Driven   
Rotary Mud  Dug   
Cable  Bored

(4) PROPOSED USE (check):

Domestic  Industrial  Municipal   
Thermal  Withdrawal  ReInjection   
Other:  Community  
Piezometric  Grounding  Test

(5) CASING INSTALLED:

Steel  Plastic   
Threaded  Welded   
10" Diam. from 4.3 ft. to 488 ft. Gauge 250  
" Diam. from ft. to ft. Gauge

LINER INSTALLED:

Steel  Plastic   
Threaded  Welded   
" Diam. from ft. to ft. Gauge

(6) PERFORATIONS:

Perforated?  Yes  No  
Size of perforations 1/8 in. by 3 in.  
1170 perforations from 425 ft. to 485 ft.  
perforations from ft. to ft.  
perforations from ft. to ft.

(7) SCREENS:

Well screen installed?  Yes  No  
Manufacturer's Name \_\_\_\_\_  
Type \_\_\_\_\_ Model No. \_\_\_\_\_  
Diam. \_\_\_\_\_ Slot Size \_\_\_\_\_ Set from \_\_\_\_\_ ft. to \_\_\_\_\_ ft.  
Diam. \_\_\_\_\_ Slot Size \_\_\_\_\_ Set from \_\_\_\_\_ ft. to \_\_\_\_\_ ft.

(8) WELL TESTS:

Drawdown is amount water level is lowered below static level  
Was a pump test made?  Yes  No If yes, by whom?  
Field: \_\_\_\_\_ gal./min. with \_\_\_\_\_ ft. drawdown after \_\_\_\_\_ hrs.  
Air test 80 gal./min. with drill stem at 489 ft. 1 hrs.  
Bailer test pool gal./min. with return ft. drawdown after \_\_\_\_\_ hrs.  
Artesian flow \_\_\_\_\_ g.p.m.  
Temperature of water 52 Depth artesian flow encountered \_\_\_\_\_ ft.

(9) CONSTRUCTION:

Special standards: Yes  No   
Well seal—Material used cement  
Well sealed from land surface to 30 ft.  
Diameter of well bore to bottom of seal 15 in.  
Diameter of well bore below seal 12" 30 to 485-8" 485 to 488  
Amount of sealing material 84 cement sacks  pounds   
How was cement grout placed? pumped from 30 to 0

Was pump installed? NO Type \_\_\_\_\_ HP \_\_\_\_\_ Depth \_\_\_\_\_ ft.  
Was a drive shoe used?  Yes  No Plugs \_\_\_\_\_ Size: location \_\_\_\_\_ ft.  
Did any strata contain unusable water?  Yes  No  
Type of Water? \_\_\_\_\_ depth of strata \_\_\_\_\_  
Method of sealing strata off \_\_\_\_\_  
Was well gravel packed?  Yes  No Size of gravel: \_\_\_\_\_  
Gravel placed from \_\_\_\_\_ ft. to \_\_\_\_\_ ft.

(10) LOCATION OF WELL by legal description:

County Des SW 4 NE 4 of Section 20 of  
Township 18 S Range 12 E WM.  
(Township is North or South) (Range is East or West)  
Tax Lot \_\_\_\_\_ Lot \_\_\_\_\_ Block \_\_\_\_\_ Subdivision \_\_\_\_\_  
MAILING ADDRESS OF WELL (or nearest address) Mt. High Dev  
Bend, Ore

(11) WATER LEVEL of COMPLETED WELL:

Depth at which water was first found 415 ft.  
Static level 410 ft. below land surface. Date 4/4/86  
Artesian pressure \_\_\_\_\_ lbs. per square inch. Date \_\_\_\_\_

(12) WELL LOG:

Diameter of well below casing 0  
Depth drilled 488 ft. Depth of completed well 88 ft.  
Formation: Describe color, texture, grain size and structure of materials; and show thickness and nature of each stratum and aquifer penetrated, with at least one entry for each change of formation. Report each change in position of Static Water Level and indicate principal water-bearing strata.

MATERIAL	From	To	SWL
brn sand	0	2	
brn congl med	2	5	
tan congl crse	5	25	
gray basalt	25	38	
brn basalt	38	91	
brn congl	91	103	
gray basalt	103	151	
brn ss	151	173	
gray basalt	173	222	
brn congl crse	222	264	
dk gray basalt	264	279	
brn sand med hldrs	279	304	
dk gray basalt	304	325	
tan congl fine	325	336	
brn ss	336	357	
brn congl	357	403	
tan claystone	403	415	410
redish gray congl (WB)	415	439	
gray basalt brn ves basalt (WB)	439	458	
tan congl (fine gravel) (WB)	458	464	
gray basalt (WB)	464	488	
Date work started <u>2/28/86</u> /completed <u>4/4/86</u>			
Date well drilling machine moved off of well <u>4/4</u> <u>1986</u>			

(unbonded) Water Well Constructor Certification (if applicable):

This well was constructed under my direct supervision. Materials used and information reported above are true to my best knowledge and belief.  
[Signed] Myrtle D. Williams Date 4/7, 19 86

(bonded) Water Well Constructor Certification:

Bond 468400 Issued by: U.S.F. & G.  
(number) (Surety Company Name)  
On behalf of John V. Johnson  
(type or print name of Water Well Constructor)

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

(Signed) John V. Johnson  
(Water Well Constructor)  
(Dated) 4/7/86

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NOTICE TO WATER WELL CONSTRUCTOR  
The original and first copy of this report are to be filed with the

WATER RESOURCES DEPARTMENT,  
SALEM, OREGON 97310  
within 30 days from the date of well completion.

AUG 05 2009

WATER RESOURCES DEPT  
SALEM, OREGON

Hole Ten #1

RECEIVED DESC  
57054

189/18E-20ad

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

JUN 30 1987

(1) OWNER: OWNERS WATER RESOURCES DEPT  
Name Mt High Water Systems SALEM, OREGON  
Address 61045 Brosterhouse Rd.  
City Bend State Ore Zip 97701

(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:  
Depth of Completed Well 502 ft.  
Special Standards date of approval \_\_\_\_\_

HOLE			SEAL			Amount sacks or pounds
Diameter	From	To	Material	From	To	
15"	0	30	cem	0	30	75 sacks
12"	30	502				

How was seal placed? Method  A  B  C  D  E  
 Other \_\_\_\_\_

Backfill placed from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Material \_\_\_\_\_  
Gravel placed from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Size of gravel \_\_\_\_\_

(6) CASING/LINER:

Casing:	Diameter	From	To	Gauge	Steel		Plastic		Welded		Threaded	
					□	□	□	□	□	□	□	□
	10"	+2	502	.250	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Liner:					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Final location of shoe(s) \_\_\_\_\_

(7) PERFORATIONS/SCREENS:

Perforations Method machine  
 Screens Type \_\_\_\_\_ Material \_\_\_\_\_

From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
442	502	1/8 by				<input type="checkbox"/>	<input type="checkbox"/>
		3	1140			<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"/>

(8) WELL TESTS: Minimum testing time is 1 hour  
 Pump  Bailer  Air  Flowing  Artesian  
Yield gal/min \_\_\_\_\_ Pumping level \_\_\_\_\_ Drill stem at \_\_\_\_\_ Time \_\_\_\_\_  
To be test pumped \_\_\_\_\_  
at later date \_\_\_\_\_

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 Des Latitude \_\_\_\_\_ Longitude \_\_\_\_\_  
Township 18 S N or S, Range 12 E E or W, WM.  
Section 20 SE 14 NE 14  
Tax Lot \_\_\_\_\_ Lot \_\_\_\_\_ Block \_\_\_\_\_ Subdivision \_\_\_\_\_  
Street Address of Well (or nearest address) \_\_\_\_\_

(10) STATIC WATER LEVEL:  
412 ft. below land surface. Date 6/9/87  
Artesian pressure \_\_\_\_\_ lb. per square inch. Date \_\_\_\_\_

(11) WELL LOG: Ground elevation \_\_\_\_\_

Material	From	To	WB?	SWL
brn soil	0	2		
crs congl brn	2	21		
gray basalt	21	40		
brn vesicular basalt	40	45		
brn basalt	45	94		
brnsh gray cinders	94	102		
gray basalt	102	130		
brkn rubble zone	139	132		
brn congl med	132	145		
brn congl fine	145	159		
gray vesicular basalt	159	168		
brn ss congl crse	168	199		
gray basalt	199	215		
redish gray cinders	215	218		
gray basalt-intermitt	218	282		
(ent fractures)				
brn congl crse	282	302		
gray basalt	302	318		
brn ss congl	318	324		
gray basalt	324	335		
brn ss	335	354		
brn congl w/tan clay	354	403		
(strips)				
red cindery rubble	403	419	WB	412
dk gray basalt	419	430		
redish gray cinders	430	438	WB	
gray basalt	438	460		
red cinders	460	465	WB	
brkn gray basalt	465	483	WB	
redish gray cindery				
(cong)	483	496	WB	
med gravel	496	502	WB	

Date started 5/29/87 Completed 6/9/87

(unbonded) Water Well Constructor Certification:  
I constructed this well in compliance with Oregon well construction standards. Materials used and information reported above are true to my best knowledge and belief.  
Signed [Signature] Date 6/16/87

(bonded) Water Well Constructor Certification:  
I accept responsibility for construction of this well and its compliance with all Oregon water well standards. This report is true to the best of my knowledge and belief.  
Signed John Johnson Date 6/16/87  
Company Johnson Well Drilling Co. Job No. \_\_\_\_\_