

NOTICE TO WATER WELL CONTRACTOR

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

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

DESC 5534

RECEIVED

AUG 28 1968

STATE OF OREGON (Please type or print) (Do not write above this line)

STATE ENGINEER SALEM OREGON

G-4677

City Well #1 Lava Island #1

State Well No. 18/11-27E

State Permit No.

(1) OWNER:

Name CITY OF BEND
Address BEND, ORE

(2) TYPE OF WORK (check):

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

(3) TYPE OF WELL:

Driven Cable Jettied Dug Bored

(4) PROPOSED USE (check):

Domestic Industrial Municipal Irrigation Test Well Other

CASING INSTALLED:

Threaded Welded
16" Diam. from 0 ft. to 196 ft. Gage 612
12" Diam. from 0 ft. to 310 ft. Gage 330
1" Diam. from _____ ft. to _____ ft. Gage _____

PERFORATIONS:

Perforated? Yes No
Type of perforator used TORCH
Size of perforations 3/8 in. by 4 in.
1008 perforations from 278 ft. to 300 ft.
_____ perforations from _____ ft. to _____ ft.
_____ perforations from _____ ft. to _____ 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) WATER LEVEL: Completed well.

Static level 168 ft. below land surface Date 7/29/68
San pressure _____ lbs. per square inch Date _____

(9) WELL TESTS:

Drawdown is amount water level is lowered below static level.
Was a pump test made? Yes No If yes, by whom? STRASSER
Yield: 460 gal./min. with 10 1/2 ft. drawdown after 30 hrs.
430 " " 91 " " 6 " "
400 " " 70 " " 12 " "
Ballot test _____ gal./min. with _____ ft. drawdown after _____ hrs.
Artesian flow _____ g.p.m. Date _____
Temperature of water 57° Was a chemical analysis made? Yes No

(10) CONSTRUCTION:

Well seal—Material used CONCRETE
Depth of seal 22 ft ft.
Diameter of well bore to bottom of seal 20 in.
Were any loose strata cemented off? Yes No Depth _____
Was a drive shoe used? Yes No
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.

(11) LOCATION OF WELL:

County DESCHUTES Driller's well number 4279
SW 1/4 NW 1/4 Section 27 T. 18S R. 11E W.M.
Bearing and distance from section or subdivision corner _____

(12) WELL LOG:

Diameter of well below casing 12
Depth drilled 405 ft. Depth of completed well 400 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 as drilling proceeds. Note drilling rates.

MATERIAL	From	To	SWL
TOP SOIL	0	2	
SOFT LAVA ASH	2	6	
SOFT LAVA	6	36	
GREY LAVA	36	45	
BROKEN BROWN LAVA	45	64	
RED AND BROWN LAVA	64	106	
RED LAVA	106	130	
GREY LAVA	130	134	
RED LAVA	134	147	
BROWN LAVA	147	161	
MED HARD GREY BASALT	161	175	
BROKEN RED LAVA	175	186	
BROWN AND RED LAVA	186	228	
RED CINDERS	228	235	
RED LAVA	235	385	
SOFT BROWN LAVA	385	405	

Work started DEC 1 1967 Completed AUG 3 1968

Date well drilling machine moved off of well AUG 15 1968

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] Wm C Smith Date _____ 1968
(Drilling Machine Operator)

Drilling Machine Operator's License No. 175

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 R. STRASSER DRILLING CO
(Person, firm or corporation) (Type or print)

Address 8110 SE SUNSET LANE PORTLAND ORE

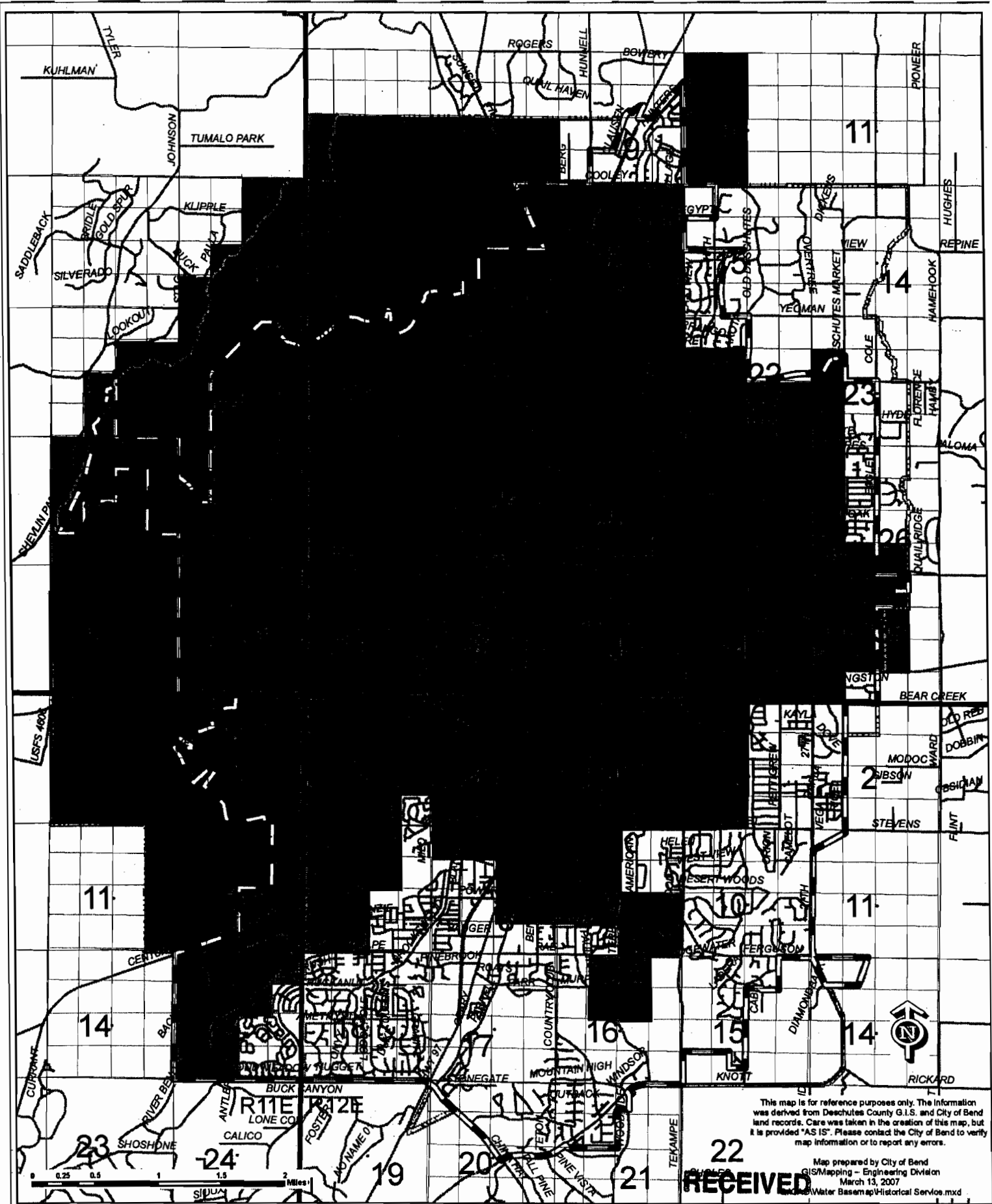
[Signed] Robert L Strasser
(Water Well Contractor)

Water Well Contractor's License No. 10 Date AUG 19 1968

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MAR 21 1968

WATER RESOURCES DEPT'S License No. _____ Date _____
SALEM, OREGON (USE ADDRESS IF NECESSARY)



The purpose of this map is to identify the location of the water right. It is not intended to provide information relative to the location of property ownership lines.

Place of Use Map
City of Bend

MAR 21 2007

WATER RESOURCES DEPT
SALEM, OREGON

- Legend:**
- Section Numbers
 - City Limits
 - Authorized Place of Use Permit G-4435 as Amended by T-8783

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.

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AUG 28 1968

STATE OF OREGON

STATE ENGINEER SALEM OREGON

(Please type or print)

Write above this line

G-4677

DESC 5526 City Well #2

Lava Island #2

State Well No. 18/11-27E

State Permit No.

(1) OWNER:

Name CITY OF BEND
Address BEND, OREGON

(2) TYPE OF WORK (check):

New Well Deepening Reconditioning Abandon

If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL:

Rotary Driven
Cable Jetted
Dug Bored

(4) PROPOSED USE (check):

Domestic Industrial Municipal
Irrigation Test Well Other

CASING INSTALLED:

Threaded Welded
8" Diam. from 0 ft. to 142 ft. Gage 277
12" Diam. from 0 ft. to 22 ft. Gage 330

PERFORATIONS:

Perforated? Yes 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.
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) WATER LEVEL: Completed well.

Static level 133 ft. below land surface Date 7/26/68
Artesian pressure lbs. per square inch Date

(9) WELL TESTS:

Drawdown is amount water level is lowered below static level

Was a pump test made? Yes No If yes, by whom?
Yield: gal./min. with ft. drawdown after hrs.

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

Artesian flow g.p.m. Date

Temperature of water Was a chemical analysis made? Yes No

(10) CONSTRUCTION:

Well seal—Material used BENTONITE
Depth of seal 22 ft.
Diameter of well bore to bottom of seal 12 in.
Were any loose strata cemented off? Yes No Depth
Was a drive shoe used? Yes No
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.

(11) LOCATION OF WELL:

County DESCHUTES Driller's well number 4780
SW 1/4 NW 1/4 Section 27 T. 18S R. 11E W.M.
Bearing and distance from section or subdivision corner

(12) WELL LOG:

Diameter of well below casing 8

Depth drilled 300 ft. Depth of completed well 300 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 as drilling proceeds. Note drilling rates.

MATERIAL	From	To	SWL
SANDY CLAY	0	7	
SAND AND BOULDERS	7	14	
SOFT SANDSTONE	14	32	
SOFT BLACK ROCK	32	40	
BLACK AND RED CINDERS	40	70	
BLACK BASALT	70	76	
RED AND BLACK ROCK	76	84	
BLACK BASALT	84	103	
RED AND BLACK ROCK	103	122	
RED CINDERS	122	133	
RED AND BLACK CINDERS	133	148	
CINDERS AND BOULDERS	148	170	
RED CINDERS	170	173	
YELLOW PUMICE	173	177	
RED AND BLACK CINDERS	177	203	
GREY BASALT WITH SEAMS	203	228	
GREY BASALT	228	239	
RED CINDERS	239	244	
RED ROCK	244	300	

Work started 7/26/68 Completed 7/26 1968
Date well drilling machine moved off of well 7/31 1968

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] *W. M. Smith* Date 1968
(Drilling Machine Operator)

Drilling Machine Operator's License No. 175

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 R. STRASSER DRILLING Co
(Person, firm or corporation) (Type or print)

Address 8110 SE SUNSET LAKE PORTLAND ORE

[Signed] *Robert L. Strasser*
(Water Well Contractor)

Contractor's License No. 10 Date AUG 19, 1968

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MAR 21 2007

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

NOV 15 2007 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	66 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 60 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:

Ground elevation _____

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

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

MAR 21 2007

(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:

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

Final location of shoe(s) _____

(7) PERFORATIONS/SCREENS:

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"/>
								<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 W.M.
 Section 33 1/4 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	From	To	SWL
Hard Gray & Brown Basalt	818	830	652
Sand & Gravel & Cinders WB	830	845	652
Brown Broken Basalt	845	850	652
Brown & Gray Basalt with Red	950		
Cinders WB		977	652
Hard Gray Basalt Broken WB	977	1055	652
Red Cinders & Black Basalt	1055		
Sandstone WB		1072	652
Broken Gray Basalt WB	1072	1089	652
Basalt, Sand & Gravel, Cinders WB	1089	1100	652

NOV 15 2001

WATER RESOURCES DEPT
 SALEM, OREGON

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

MAR 21 2007

WATER RESOURCES DEPT
 SALEM, OREGON

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

DESC 54251

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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NOV 15 2001

WATER RESOURCES DEPT
SALEM, OREGON

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WATER RESOURCES DEPT
SALEM, OREGON

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

DESC 53735

L43058

(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	532 667	44 sacks	
18in	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"/>
655	795	3/16	6720	12in	pipe	<input type="checkbox"/>	<input checked="" type="checkbox"/>
785	850	3/16	2800	10in	pipe	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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

Pump Baller 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 Conglomerate & Boulders	113	170	
Loose 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 gravels	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.

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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MAR 21 2007

WATER RESOURCES DEPT
 SALEM, OREGON

DESC 54251

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+	WATCH 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	RECEIVED
10:31:00	653	0	
10:32:00	652	0	MAR 21 2007
10:33:00	652	0	
10:34:00	652	0	WATER RESOURCES DEPT SALEM, OREGON
10:35:00	652	0	

STATE OF OREGON
WATER SUPPLY WELL REPORT

DESC 53735

WELL ID # L43058

(required by ORS 537.765)
Instructions for completing this report are on the last page of this form

(START CARD) # 136871

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 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	Material			
				Steel	Plastic	Welded	Threaded
Casing:				<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"/>
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 _____
 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"/>
						<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: Ground elevation _____

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	602	477
Red & Black Cinders WB and caving	602		
		624	477
Tan Sandstone	624	630	477
Red & Black Conglomerate	630	650	477
Brown & Gray Conglomerate	650	670	477
Tan Sandstone some basalt & cinders WB	670		
		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 _____
WATER RESOURCES DEPT.
SALEM, OREGON

(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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MAR 21 2007
WATER RESOURCES DEPT
SALEM, OREGON

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

DESC 53735

WELL ID # L43058

(START CARD) # 136871
 Page 3

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 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:					<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 _____ Material _____

From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
						<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 8202R2 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

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

DESC 54252
 NOV 15 2001

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:

Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing: 18in	+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	.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
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 Bailor 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:

Ground elevation _____

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.

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.

Signed Robert Buckner WWC Number 1385
 Date 11/7/01

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MAR 21 2007

WATER RESOURCES DEPT
 SALEM, OREGON

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:					<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 _____ 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"/>
						<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 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

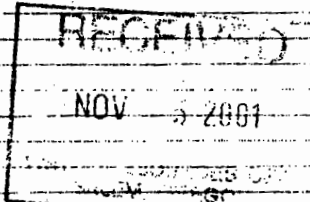
(10) STATIC WATER LEVEL:
 _____ ft. below land surface. Date _____
 Artesian pressure _____ lb. per square inch. Date _____

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

From	To	Estimated Flow Rate	SWL

(12) WELL LOG:

Material	Ground elevation		SWL
	From	To	
Hard Gray Basalt	788	774	478
Red Broken Basalt WB	774	781	478
Hard Gray Basalt	781	836	478
Red & Black Cinders & Broken Basalt WB	836	850	478



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WESTERN WATER DEVELOPMENT P.O. Box 1670
 REDMOND, OR 97756
 WATER RESOURCES DEPT SALEM, OREGON

MAR 21 2007

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

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

(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		Screens		Material			
From	To	Slot size	Number	Diameter	Tele/pipe 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 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 **8202R2** 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.			

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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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MAR 21 2007

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	160	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:

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

Method Factory mill cut
 Screens Type _____ Material _____

(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			
RECEIVED			
NOV 10 2004			
WATER RESOURCES DEPT SALEM, OREGON			
RECEIVED			
MAR 21 2007			
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

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

(WELL I.D.) # **L 67857**

(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
 New Well Deepening Alteration (repair/recondition) Abandonment

(3) DRILL METHOD:
 Rotary Air Rotary Mud Cable Auger
 Other **Reverse Circulation, Dual 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 **864** ft
 Explosives used Yes No Type _____ Amount _____

Diameter	HOLE		Material	SEAL		Sacks or pounds
	From	To		From	To	
20"	0	502'	Cement	460'	480'	5 yards
16"	502'	864'		0	160'	11 yards

How was seal placed Method A B C D E
 Other _____
 Backfill placed from **160** ft. to **460** ft. Material **sand/grout**
 Gravel placed from **480** ft. to **602** ft. Size of gravel **1/4**

(6) CASING/LINER:

Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing 16"	+1	875'	.375	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Liner 12"	662.1'	864'		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Final location of sheet(s)
 (7) PERFORATIONS/SCREENS:

Perforations Method **Factory**
 Screens Type _____ Material _____

From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
664'	864'	3/16x3	9,120	12"		<input type="checkbox"/>	<input checked="" type="checkbox"/>

(8) WELL TESTS: Minimum testing time is 1 hour
 Pump Dailer Air Flowing Artesian
 Yield **1,450** gal/min Drawdown **1'** Drill stem at _____ Time **24** hr

Temperature of water **53 F** 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 **17** S Range **11** E WM
 Section **34** SW 1/4 SE 1/4
 Tax Lot **8202R2** 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:
 Depth at which water was first found **115'**

From	To	Estimated Flow Rate	SWL
115	125	30	115
515	582	200 gpm	480
638	864	Rev.Circ- unmeasurable	480

(12) WELL LOG:
 Ground Elevation _____

Material	From	To	SWL
*** SEE ATTACHED LOG ***			
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DEC 15 2004			
WATER RESOURCES DEPT			
SALEM, OREGON			
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MAR 21 2007			
WATER RESOURCES DEPT			
SALEM, OREGON			

Date started **06/14/04** 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 **16462** Date **11/16/04**

(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 **1523** Date **12-02-04**

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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NOV 10 2004

WATER RESOURCES DEPT
SALEM, OREGON**RECEIVED**

MAR 21 2007

WATER RESOURCES DEPT
SALEM, OREGON

Amendment

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

(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
 New Well Deepening Alteration (repair/recondition) Abandonment

(3) DRILL METHOD:
 Rotary Air Rotary Mud Cable Auger
 Other Reverse Circulation, Dual 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 864 ft.
Explosives used Yes No Type _____ Amount _____

HOLE			SEAL			
Diameter	From	To	Material	From	To	Sacks or pounds
20"	0	502'	Cement	480'	480'	5 yards
16"	502'	864'		0	160'	11 yards

How was seal placed: Method A B 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:

Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing 16"	+1	675'	.375	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Liner 12"	662.1'	864'		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Final location of shoe(s) _____

(7) PERFORATIONS/SCREENS:

From	To	Slot size	Number	Diameter	Material	Casing	Liner
664'	864'	3/16x3	9,120	12"	Factory	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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

Yield gal/min	Drawdown	Drill stem at	Flowing Time
1,450	1'		24 hr

Temperature of water 53 F 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 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:
Depth at which water was first found 116'

From	To	Estimated Flow Rate	SWL
115	125	30	115
516	582	200 gpm	480
636	664	Rev.Circ- unmeasurable	480

(12) WELL LOG:
Ground Elevation _____

Material	From	To	SWL
*** SEE ATTACHED LOG ***			
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FEB 24 2005			
WATER RESOURCES DEPT SALEM, OREGON			
RECEIVED			
MAR 21 2007			
WATER RESOURCES DEPT SALEM, OREGON			

Date started 06/14/04 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 1623
Date 02-21-05

