Groundwater Transfer Review Summary Form

Transfer/PA # T- _13359_

GW Reviewer _Gerald H. Grondin_ **Date Review Completed: _24 March 2021_**

Summary of Same Source Review:

☐ The proposed change in point of appropriation is not within the same aquifer as per OAR 690-380-2110(2).

Summary of Injury Review:

☐ The proposed transfer will result in another, existing water right not receiving previously available water to which it is legally entitled or result in significant interference with a surface water source as per 690-380-0100(3).

Summary of GW-SW Transfer Similarity Review:

☐ The proposed SW-GW transfer doesn't meet the definition of "similarly" as per OAR 690-380-2130.

☒ **None of the Above**

This is only a summary. Documentation is attached and should be read thoroughly to understand the basis for determinations.

Oregon Water Resources Department
725 Summer Street NE, Suite A
Salem, Oregon 97301-1271
(503) 986-0900
www.wrd.state.or.us

Ground Water Review Form:

- ☒ **Water Right Transfer**
- ☐ **Permit Amendment**
- ☐ **GR Modification**
- ☐ **Other**

Application: **T-13359** Applicant Name: **Mike & Lori Chitwood**

Proposed Changes: ☒ POA ☐ APOA ☐ SW→GW ☐ RA ☐ USE ☒ POU ☐ OTHER

Reviewer(s): **Gerald H. Grondin** Date of Review: **24 March 2021**

Date Reviewed by GW Mgr. and Returned to WRSD: JTI 3/31/21

The information provided in the application is insufficient to evaluate whether the proposed transfer may be approved because:

☐ The water well reports provided with the application do not correspond to the water rights affected by the transfer.

☐ The application does not include water well reports or a description of the well construction details sufficient to establish the ground water body developed or proposed to be developed.

☐ Other _____

- -

1. Basic description of the changes proposed in this transfer:

This transfer application originally related to water right certificate 90485, which was cancelled and replaced by certificate 94851 via T-12704.

Certificate 94851 authorizes irrigation of 41.31 acres from one POA well (Well 2 (New) = LAKE 176, LAKE 186 deepening) located in T25S/R15E-sec 27. The certificate allows a maximum rate of 0.52 cfs at a maximum duty of 3 ac-ft per acre per year for all acreage (123.93 ac-ft / yr).

The transfer proposes the following changes: move 0.375 cfs to irrigate 30.0 POU acres from authorized POA well LAKE 176 (deepening LAKE 186) in T25S/R15E-sec 27 to proposed 30.0 POU acres and proposed POA well LAKE 745 in T25S/R14E-sec 16.

2. Will the proposed POA develop the same aquifer (source) as the existing authorized POA?
☒ Yes ☐ No Comments:

Essentially yes, the "same aquifer" (source) given the same groundwater system will likely be tapped despite the proposed POA well (LAKE 745) being 373 feet shallower than the authorized POA well LAKE 176/LAKE 186 (220 ft. blsd vs. 585 ft. blsd) and the authorized POA and proposed POA being completed in different geologic units (authorized POA in predominantly volcanic rocks and sediment unit and proposed POA in predominantly basin fill sediment unit). Long term groundwater level data indicates groundwater levels at wells in the vicinity of the currently authorized and proposed POA locations have similar elevations, seasonally fluctuate similarly, and show the same long-term trends (see attached hydrograph) despite being completed at varying depths and different geologic units.

Additionally, groundwater in the Fort Rock Valley-Christmas Valley area (Fort Rock Classified Area) is identified as a single groundwater system. Groundwater is found in both a shallower predominantly basin-fill sediment unit and a deeper predominantly volcanic rocks and sediments unit below. The predominantly basin fill sediment unit and the predominantly volcanic rocks and sediment unit both readily yield groundwater and the two units are hydraulically connected. The geologic unit yielding groundwater to the authorized POA (LAKE 176) is likely from the predominantly volcanic rocks and sediment unit. The proposed POA well (LAKE 745) appears to obtain groundwater from the predominantly basin fill sediment unit.

Miller (1984 and 1986) describes the groundwater source as the main groundwater reservoir. That reservoir includes groundwater in different geologic units. The reservoir has three characteristics. First, the "natural" groundwater level changes less than 1.5 feet annually, indicating the system is highly modulated. Second, the 1980s potentiometric surface was approximately 4292 feet elevation amsl basin-wide with Silver Lake an exception. Third, the reservoir consists of numerous water producing zones in several formations, all having an essentially common potentiometric level, and all being very transmissive in general.

3. a) Is there more than one source developed under the right (e.g., basalt and alluvium)?
☐ Yes ☒ No

Essentially no. Single hydraulically connected groundwater system. Both the "To" and "From" wells appear to obtain groundwater from the predominantly volcanic rocks and sediment unit. See discussion in part 2 above.

b) If yes, estimate the portion of the right supplied by each of the sources and describe any limitations that will need to be placed on the proposed change (rate, duty, etc.):

No estimate made and no limitation recommended. Single groundwater system. See item 2 and 3a above.

4. a) Will this proposed change, at its maximum allowed rate of use, likely result in an increase in interference with **another ground water right**?

☒ Yes ☐ No Comments:

The proposed POA well change will move groundwater pumping under this certificate closer to other water right wells. The calculated maximum additional seasonal groundwater level drawdown at an unidentified water right well closest to the proposed POA well (LAKE 745) is 1.00 feet or less. The change in seasonal groundwater level drawdown will be less at wells further away. All these water right wells should be able to accommodate the seasonal drawdown change.

The long-term impact on the groundwater system should be the same. That impact is to continue contributing its ongoing share to the annual Fort Rock Classified Area groundwater level decline (see the attached hydrograph…it shows an annual decline rate of about 0.25 feet per year).

b) If yes, would this proposed change, at its maximum allowed rate of use, likely result in another groundwater right not receiving the water to which it is legally entitled?

☐ Yes ☒ No If yes, explain:

See discussion in part 4a above.

5. a) Will this proposed change, at its maximum allowed rate of use, likely result in an increase in interference with **another surface water source**?

☐ Yes ☒ No Comments:

No. The POA changes moves pumping further away from surface water particularly Paulina Marsh and Silver Lake. The seasonal interference should be less, and the long-term interference should be the same.

b) If yes, at its maximum allowed rate of use, what is the expected change in degree of interference with any **surface water sources** resulting from the proposed change?

Stream: **Paulina Marsh** ☒ Minimal ☐ Significant

Stream: **Silver Lake** ☒ Minimal ☐ Significant

Provide context for minimal/significant impact:

See comment in part 5a above.

6. For SW-GW transfers, will the proposed change in point of diversion affect the surface water source similarly (as per OAR 690-380-2130) to the authorized point of diversion specified in the water use subject to transfer?

☐ Yes ☒ No Comments:

Not Applicable. No SW-GW transfer.

7. What conditions or other changes in the application are necessary to address any potential issues identified above:

Note: the proposed transfer is within the Fort Rock groundwater limited area.

The following are technical groundwater review recommendations. It is recognized that one or more technically recommended conditions may or may not be allowed under the transfer process rules and statutes. This technical groundwater review relies on other appropriate and authorized Department staff to make that determination.

"Large" flow meter condition for any proposed "To" POA well. Require the flow meter for any POA well to be properly installed and maintained. Each meter shall be either within 50 feet of the well head with a clearly visible monument adjacent to the meter or a surveyed location shall be provided and a clearly visible monument adjacent to the meter shall be installed for each meter more than 50 feet from the well head.

Condition 7P (well tag condition) for all the "To" and "From" POA wells.

Condition 7T (modified) for all "To" POA wells: "Prior to use, all POA wells shall be configured to allow a strictly clean water (no oil) static water level measurements with an electric-tape. That can include measurement access via an unobstructed vertical discharge pipe that allows the groundwater level to fluctuate freely within the discharge pipe (no valves, etc.). Otherwise, a dedicated measuring tube must be installed prior to use. The tube must be unobstructed, have a diameter of ¾ inch (0.75 inch) or greater, and pursuant to figure 200-5 in OAR 690-200."

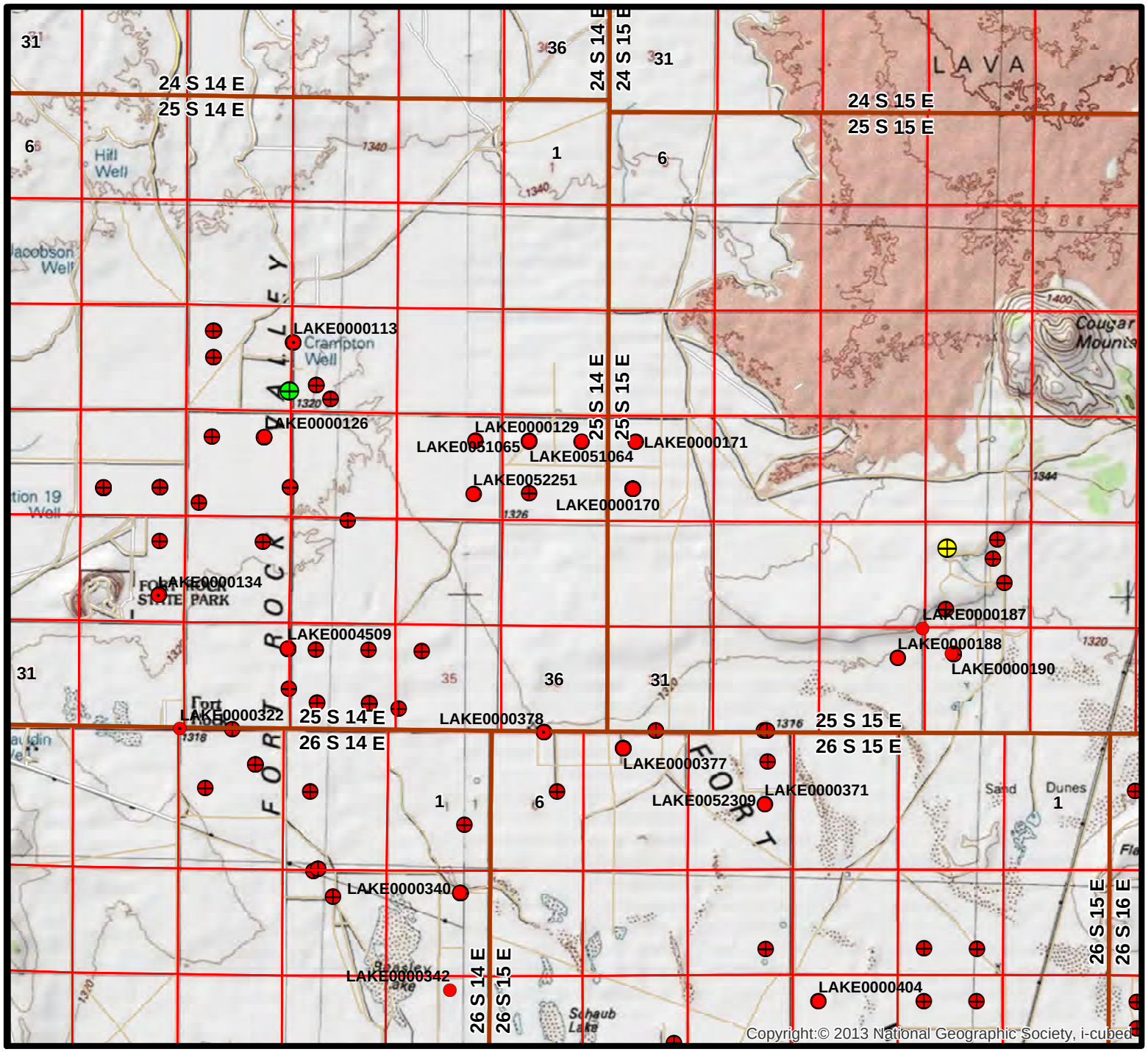
8. Any additional comments:

No additional comments.

References:

Miller, D.W., 1986, Appraisal of ground-water conditions in the Fort Rock Basin, Lake County, Oregon: Oregon Water Resources Department, Ground Water Report No. 31, 196 p and plates.

Groundwater Transfer Application T-13359
Mike & Lori Chitwood

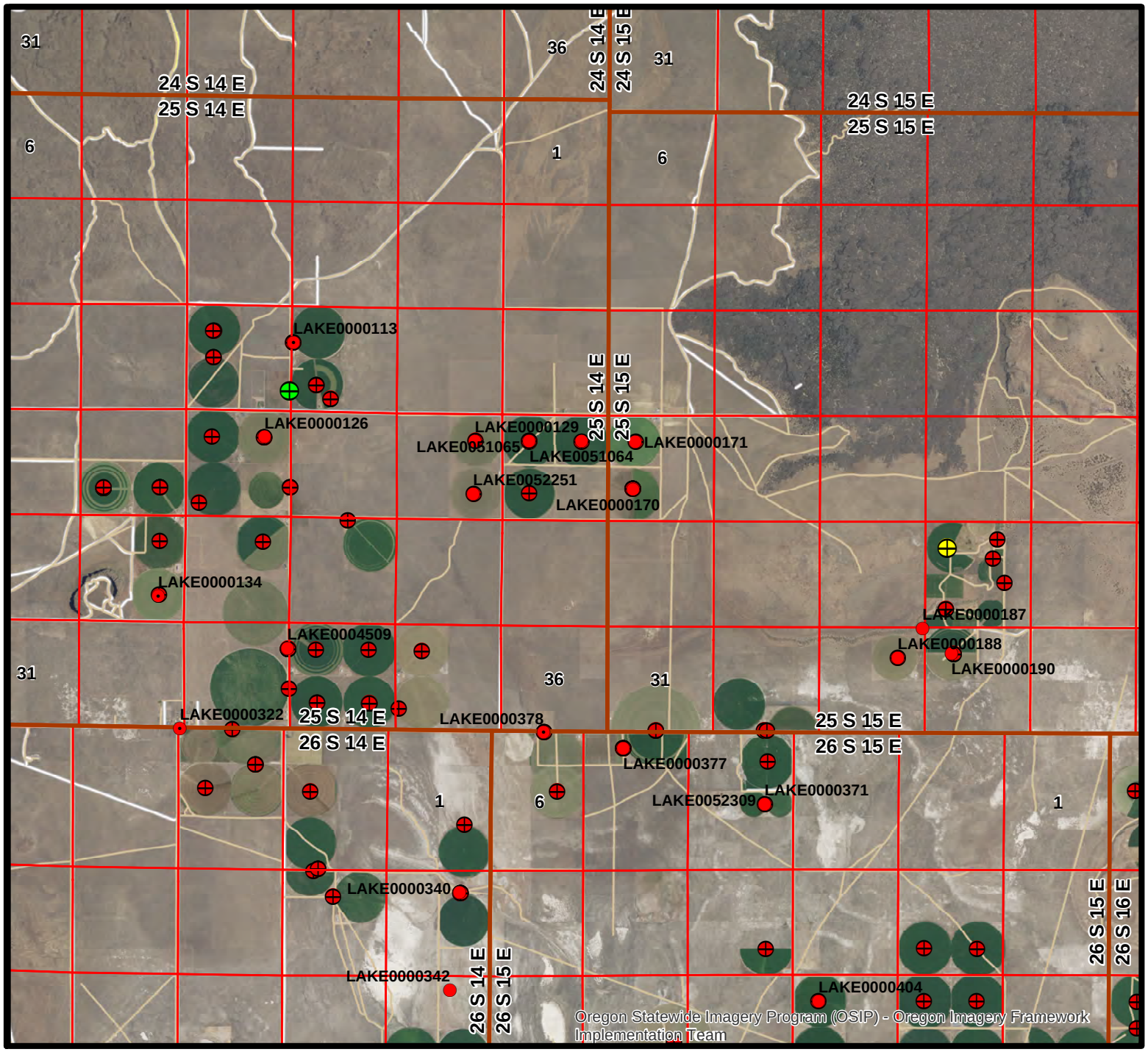


0 0.5 1 2 3 4
Miles

Yellow = Authorized Well (LAKE 176)
Green = Proposed Well (LAKE 745)
Red = Groundwater PODs or Other Wells
Blue = Surface Water PODs

N

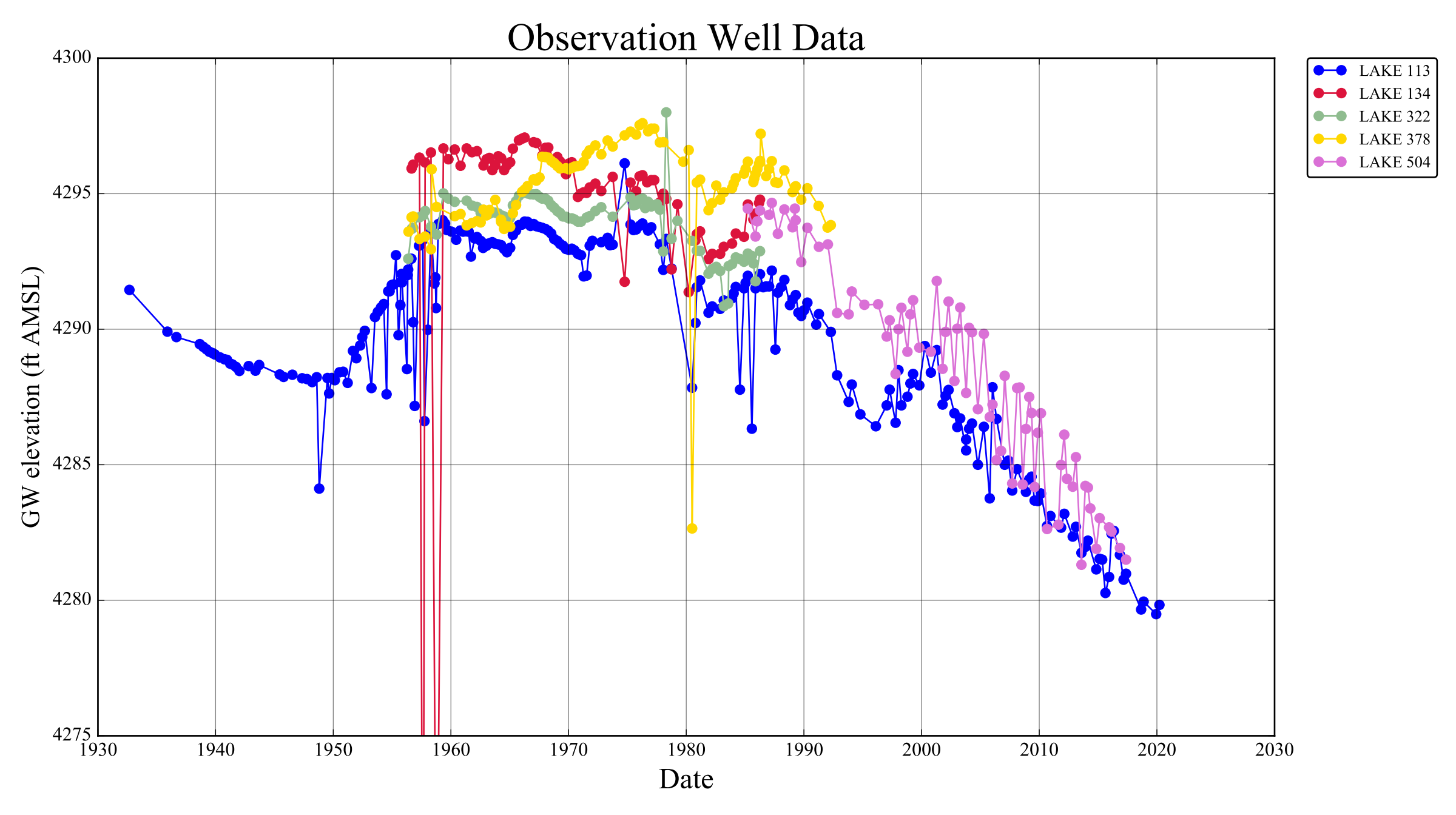
Groundwater Transfer Application T-13359
Mike & Lori Chitwood



0 0.5 1 2 3 4
Miles

Yellow = Authorized Well (LAKE 176)
Green = Proposed Well (LAKE 745)
Red = Groundwater PODs or Other Wells
Blue = Surface Water PODs

N


Observation Well Data
GW elevation (ft AMSL)
Date
4300
4295
4290
4285
4280
4275
1930
1940
1950
1960
1970
1980
1990
2000
2010
2020
2030
LAKE 113
LAKE 134
LAKE 322
LAKE 378
LAKE 504

Drawdown Calculations Using Theis Equation

Theis Equation: s = [Q/(4*T*pi)][W(u)]
u = (r*r*S)/(4*T*t)
W(u) = (-ln u)-(0.5772157)+(u/1*1!)-(u*u/2*2!)+(u*u*u/3*3!)-(u*u*u*u/4*4!)+...

s = drawdown (L)
T = transmissivity (L*L/T)
S = storage coefficient (dimensionless)
pi = 3.141592654
r = radial distance (L)
t = time (T)
u = dimensionless
W(u) = well function

Transmissivity T (gpd/ft)	Transmissivity T (ft2/day)	Storage Coefficient S	Pumping Rate Q (gal/min)	Pumping Rate Q (ft3/sec)	Time t (days)	Distance r (feet)	pi	u	W(u)	Drawdown s (feet)	Drawdown Change s (feet)	Pumping Well	Comments
								Note : W(u) calculation valid when u < 7.1					
Note:	**yellow grid areas are where values are calculated**							**7.0000**	**1.1545E-04**				**W(u) calculation test**
"From" POA wells to unidentified Water Right Well closest to Proposed "To" Well (Transmissivity from Morgan (1988) and McFarland and Ryals (1991)): Used S = 0.001													
112,207.80	15,000.00	0.00100	168.31	0.38	30.00	32,700.00	3.14	0.5941	0.4599	0.0790		LAKE 176	Continuous Pumping at Full Rate
			168.31	**0.38**						**0.08**			
"To" POA wells to unidentified Water Right Well closest to Proposed "To" Well (Transmissivity from Morgan (1988) and McFarland and Ryals (1991)): Used S = 0.001													
112,207.80	15,000.00	0.00100	168.31	0.38	30.00	1,380.00	3.14	0.0011	6.2752	1.0786		LAKE 745	Continuous Pumping at Full Rate
			168.31	**0.38**						**1.08**	**0.9996**		
"From" POA wells to unidentified Water Right Well closest to Proposed "To" Well (Transmissivity from Morgan (1988) and McFarland and Ryals (1991)): Used S = 0.001													
112,207.80	15,000.00	0.00100	83.13	0.19	30.00	32,700.00	3.14	0.5941	0.4599	0.0390		LAKE 176	Continuous Pro-Rated Pumping
			83.13	**0.19**						**0.04**			
"To" POA wells to unidentified Water Right Well closest to Proposed "To" Well (Transmissivity from Morgan (1988) and McFarland and Ryals (1991)): Used S = 0.001													
112,207.80	15,000.00	0.00100	83.13	0.19	30.00	1,380.00	3.14	0.0011	6.2752	0.5327		LAKE 745	Continuous Pro-Rated Pumping
			83.13	**0.19**						**0.53**	**0.4937**		

Drawdown Calculations Using Theis Equation

Theis Equation: s = [Q/(4*T*pi)][W(u)]
u = (r*r*S)/(4*T*t)
W(u) = (-ln u)-(0.5772157)+(u/1*1!)-(u*u/2*2!)+(u*u*u/3*3!)-(u*u*u*u/4*4!)+...

s = drawdown (L)
T = transmissivity (L*L/T)
S = storage coefficient (dimensionless)
pi = 3.141592654
r = radial distance (L)
t = time (T)
u = dimensionless
W(u) = well function

Transmissivity T (gpd/ft)	Transmissivity T (ft2/day)	Storage Coefficient S	Pumping Rate Q (gal/min)	Pumping Rate Q (ft3/sec)	Time t (days)	Distance r (feet)	pi	u	W(u)	Drawdown s (feet)	Drawdown Change s (feet)	Pumping Well	Comments
								Note : W(u) calculation valid when u < 7.1					
Note:	yellow grid areas are where values are calculated							7.0000	1.1545E-04				W(u) calculation test
"From" POA wells to unidentified Water Right Well closest to Proposed "To" Well (Transmissivity from Morgan (1988) and McFarland and Ryals (1991)): Used S = 0.001													
112,207.80	15,000.00	0.00100	168.31	0.38	245.00	32,700.00	3.14	0.0727	2.1151	0.3636		LAKE 176	Continuous Pumping at Full Rate
			168.31	**0.38**						**0.36**			
"To" POA wells to unidentified Water Right Well closest to Proposed "To" Well (Transmissivity from Morgan (1988) and McFarland and Ryals (1991)): Used S = 0.001													
112,207.80	15,000.00	0.00100	168.31	0.38	245.00	1,380.00	3.14	0.0001	8.3743	1.4394		LAKE 745	Continuous Pumping at Full Rate
			168.31	**0.38**						**1.44**	**1.0759**		
"From" POA wells to unidentified Water Right Well closest to Proposed "To" Well (Transmissivity from Morgan (1988) and McFarland and Ryals (1991)): Used S = 0.001													
112,207.80	15,000.00	0.00100	83.13	0.19	245.00	32,700.00	3.14	0.0727	2.1151	0.1796		LAKE 176	Continuous Pro-Rated Pumping
			83.13	**0.19**						**0.18**			
"To" POA wells to unidentified Water Right Well closest to Proposed "To" Well (Transmissivity from Morgan (1988) and McFarland and Ryals (1991)): Used S = 0.001													
112,207.80	15,000.00	0.00100	83.13	0.19	245.00	1,380.00	3.14	0.0001	8.3743	0.7109		LAKE 745	Continuous Pro-Rated Pumping
			83.13	**0.19**						**0.71**	**0.5314**		

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.

Lake 176

RECEIVED
JUN - 6 1977
WATER RESOURCES DEPT.
SALEM, OREGON

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

State Well No. 25S/15E-27bc
State Permit No.

(1) OWNER:
Name BILLY J. EDWARDS
Address GEN. DEL. FT. ROCK, OR. 97735

(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 ☑
" Diam. from 0-0 ft. to 112 ft. Gage 1/4"
" Diam. from ft. to ft. Gage
" Diam. from ft. to ft. Gage

PERFORATIONS:
Perforated? ☐ Yes ☑ No
e 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 ☑ 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? ART. W. REED
d: 1200 gal./min. with 14 ft. drawdown after 1 hrs.
1400 " 18 " 6 "
1500 " 19 " 1 "
Bailer test gal./min. with ft. drawdown after hrs.
Artesian flow g.p.m.
perature of water 62° Depth artesian flow encountered ft.

(9) CONSTRUCTION:
Well seal—Material used CEMENT
Well sealed from land surface to 25 ft.
Diameter of well bore to bottom of seal 18 in.
Diameter of well bore below seal 14 in.
Number of sacks of cement used in well seal 10 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 ☑ 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:
County LAKE Driller's well number 3
S.W. 1/4 N.W. 1/4 Section 27 T. 25S. R. 15 E. W.M.
Bearing and distance from section or subdivision corner
S. 47°30' W. 2080' N 1/4 CORNER

(11) WATER LEVEL: Completed well.
Depth at which water was first found 120 ft.
Static level 120 ft. below land surface. Date
Artesian pressure lbs. per square inch. Date

(12) WELL LOG:
Diameter of well below casing 14"
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 and indicate principal water-bearing strata.*

MATERIAL	From	To	SWL
TOP SOIL	0	3	
DIATOMACEOUS EARTH	3	13	
HEAVY BLUE CLAY	13	30	
PUMICE WHITE	30	35	
DIATOMACEOUS EARTH	35	60	
FINE BROWN ~~CLAY~~ SAND	60	75	
DIATOMACEOUS EARTH	75	85	
GREEN CLAY & GRAVEL	85	100	
GREEN HARD CLAY	100	118	
CORSE SAND & BLACK CINDERS	118	135	120
BLACK & GRAY CLAY	135	150	120
GRAY CLAY	150	165	120
FINE BLACK SAND	165	180	120
BLACK & GRAY CLAY	180	205	120
BLACK CLAY WITH PUMICE	205	250	120
SAND STONE	250	255	120
BLUE & GREEN CLAY	255	290	120
BLACK CLAY & ASH	290	295	120

Work started MARCH 1, 1977 Completed 5/12, 1977
Date well drilling machine moved off of well 5/15, 1977

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] Billy J Edwards (Drilling Machine Operator) Date 6/1, 1977
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 (Person, firm or corporation) (Type or print)
Address
[Signed] (Water Well Contractor)
Contractor's License No. Date, 19

(USE ADDITIONAL SHEETS IF NECESSARY)

SP*45656-119

LAKE 176

MATERIAL	FROM	TO	SWL
HARD BLACK ROCK	295	300	120

LAKE 176

Oregon Water Resources Department
725 Summer Street NE, Suite A
Salem Oregon 97301
(503) 986-0900
www.wrd.state.or.us

Application for Well ID Number

RECEIVED BY OWRD

JUL 15 2016

SALEM, OR

Do not complete if the well already has a Well Identification Number.

I. OWNER INFORMATION

Current Owner Name *(please print)*: Ken & Maria Cade

Mailing Address: PO Box 26

City, State, Zip: Fort Rock, OR 97735

Mail Well ID Tag to: ☒ SAME AS ABOVE ☐ In Care Of (C/O)

Name & Address: _____

City, State, Zip: _____

II. WELL LOCATION INFORMATION *(Please fill out as completely as possible)*

Township: 25 (North / South) Range: 15 (East / West) Section: 27 SW 1/4 of the NW 1/4

Tax Lot (usually last 3-5 numbers of Tax Map #): 1200 County Lake

GPS Coordinates: _____

Street Address of Well, City: Cougar Mountain Rd

If the property had a different street address in the past: _____

III. GENERAL WELL INFORMATION *(Please fill out as completely as possible, AND attach copy of Well Log, if available)*

Use of Well (domestic, irrigation, commercial, industrial, monitoring): Irrigation

Date Well Constructed (or property built): 5/25/77 Total Well Depth: 585 Casing Diameter: _____

Owner at time the well was constructed (if known): Billy J. Edwards Well Log # (if known): LAKE 186/176

Other Information: _____

SUBMITTED BY *(please print)*: Denise Montgomery

PHONE: 541-548-5833 **EMAIL &/or FAX:** neecee@apeands.com

Send application to: Oregon Water Resources Department 725 Summer St NE, Suite A, Salem, Oregon 97301; or fax to (503) 986-0902. Applications are processed in the order they are received, and Well ID Numbers are mailed within 4-5 business days.

For Official Use Only by the Oregon Water Resources Department:

Received Date:	Well Log Number(s)	Well Identification #:
7-15-16	LAKE 176 / LAKE 186 (ORIGINAL / DEEPENING)	L-123469

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.

RECEIVED JUN 29 1977 WATER RESOURCES DEPT. SALEM, OREGON

LAKE 186

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

Lake 186

State Well No. 25S/15E-27bc

State Permit No. .....

(1) OWNER:
Name Bill Edwards

Address Fort Rock, OR 97735

(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:
Casing Undisturbed Threaded ☐ Welded ☐

..... " Diam. from ..... ft. to ..... ft. Gage .....

..... " Diam. from ..... ft. to ..... ft. Gage .....

..... " Diam. from ..... ft. to ..... ft. Gage .....

PERFORATIONS:
Perforated? ☐ Yes ☐ No.

.. 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 ☒ 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? Art Reed

Yield: 150 gal./min. with 2.2 ft. drawdown after 8 hrs.

" " "

" " "

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

Artesian flow ..... g.p.m.

Temperature of water ..... Depth artesian flow encountered ..... ft.

(9) CONSTRUCTION:
Well seal—Material used Seal Undisturbed

Well sealed from land surface to ..... ft.

Diameter of well bore to bottom of seal ..... in.

Diameter of well bore below seal ..... in.

Number of sacks of cement used in well seal ..... 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 ☐ 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:
County Lake Driller's well number

SW ¼ NW¼ Section 27 T. 25S R. 15E W.M.

Bearing and distance from section or subdivision corner 1310' N & 1120' E of SW/4 Corner Sec. 27

(11) WATER LEVEL: Completed well.
Depth at which water was first found Unknown ft.

Static level 120 ft. below land surface. Date 5-23-77

Artesian pressure ..... lbs. per square inch. Date .....

(12) WELL LOG:
Started Drilling. 300'-8" Diameter of well below casing .....

Depth drilled 585 ft. Depth of completed well 585 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
Hard Brkn Gray Rock w/B	300	356	-120
Black Sand Fine w/B	356	375	120
" " Grn Clay	375	391	
Hd Brkn Gray Rock w/B	391	421	120
Black Sand Fine w/B	421	441	120
Green Clay	441	455	
Black Sand & Red Cinders w/B	455	549	120
Gray Lava Rock & Red " w/B	549	571	120
Hd Gray Rock	571	585	

Work started 5-23 1977 Completed 5-25 1977

Date well drilling machine moved off of well 5-25 1977

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. W. Williams (Drilling Machine Operator) Date 6-12, 1977

Drilling Machine Operator's License No. 864

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 ..... (Person, firm or corporation) (Type or print)

Address 2573 NE Wilkinson

[Signed] ..... (Water Well Contractor)

Contractor's License No. 488 Date 7/26, 1977

(USE ADDITIONAL SHEETS IF NECESSARY)

SP*45656-119

Oregon Water Resources Department
725 Summer Street NE, Suite A
Salem Oregon 97301
(503) 986-0900
www.wrd.state.or.us

Application for
Well ID Number

RECEIVED BY OWRD

JUL 15 2016

SALEM, OR

Do not complete if the well already has a Well Identification Number.

I. OWNER INFORMATION

Current Owner Name *(please print)*: Ken & Maria Cade

Mailing Address: PO Box 26

City, State, Zip: Fort Rock, OR 97735

Mail Well ID Tag to: ☒ SAME AS ABOVE ☐ In Care Of (C/O)

Name & Address: _____

City, State, Zip: _____

II. WELL LOCATION INFORMATION *(Please fill out as completely as possible)*

Township: 25 (North / South) Range: 15 (East / West) Section: 27 SW 1/4 of the NW 1/4

Tax Lot (usually last 3-5 numbers of Tax Map #): 1200 County Lake

GPS Coordinates: _____

Street Address of Well, City: Cougar Mountain Rd

If the property had a different street address in the past: _____

III. GENERAL WELL INFORMATION *(Please fill out as completely as possible, AND attach copy of Well Log, if available)*

Use of Well (domestic, irrigation, commercial, industrial, monitoring): Irrigation

Date Well Constructed (or property built): 5/25/77 Total Well Depth: 585 Casing Diameter: _____

Owner at time the well was constructed (if known): Billy J. Edwards Well Log # (if known): LAKE 186/176

Other Information: _____

SUBMITTED BY *(please print)*: Denise Montgomery

PHONE: 541-548-5833 **EMAIL &/or FAX:** neecee@apeands.com

Send application to: Oregon Water Resources Department 725 Summer St NE, Suite A, Salem, Oregon 97301; or fax to (503) 986-0902. Applications are processed in the order they are received, and Well ID Numbers are mailed within 4-5 business days.

For Official Use Only by the Oregon Water Resources Department:

Received Date:	Well Log Number(s)	Well Identification #:
7-15-16	LAKE 176 / LAKE 186 (ORIGINAL / DEEPENING)	L-123469

LAKE 745

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.

Lake 745

WATER WELL REPORT

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

RECEIVED JAN 5 1981 WATER RESOURCES DEPT SALEM, OREGON

see new form attached

State Well No. 27S/14E-16dd

State Permit No. G-9137

Obsolete log form

(1) OWNER:
Name Robert E. Suttle
Address Fit Rock Oregon 97735

(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 ☑
12 " Diam. from 0 ft. to 100 ft. Gage .250
" Diam. from ft. to ft. Gage
" Diam. from ft. to ft. Gage

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.

(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?
Yield: gal./min. with ft. drawdown after hrs.
" " " "
" " " "
Bailer test 100 gal./min. with ft. drawdown after 1 hrs.
Artesian flow g.p.m.
Temperature of water Depth artesian flow encountered ft.

(9) CONSTRUCTION:
Well seal—Material used Cement
Well sealed from land surface to 100 ft.
Diameter of well bore to bottom of seal 15 1/4 in.
Diameter of well bore below seal 10 in.
Number of sacks of cement used in well seal 51 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 ☑ 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:
County Lake Driller's well number 132
SE 1/4 SE 1/4 Section 16 T. 27S R. 14E W.M.
Bearing and distance from section or subdivision corner

(11) WATER LEVEL: Completed well.
Depth at which water was first found 186 ft.
Static level 42 ft. below land surface. Date Dec 20-80
Artesian pressure lbs. per square inch. Date

(12) WELL LOG:
Diameter of well below casing 10"
Depth drilled 212 ft. Depth of completed well 210 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
sandy brown soil	0	5	
brown clay	5	34	
Red gravel & green clay conglomerate	34	94	
Gray basalt hard	94	110	
Brown clay	110	135	
Brown sandstone	135	143	
Black pea gravel and	143	158	
Black sand conglomerate			
Green clay	158	162	
Brown Shale	162	186	
Brown clay & Brown	186	212	42
army seams w/b			

Work started Dec 19 1980 Completed Dec 20 1980
Date well drilling machine moved off of well Dec 22 1980

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] Stan L Adams (Drilling Machine Operator) Date Dec 20, 1980
Drilling Machine Operator's License No. 1302

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 Lyle Adams (Person, firm or corporation) (Type or print)
Address Box 467 Christmas Valley Ore 97638
[Signed] Lyle Adams (Water Well Contractor)
Contractor's License No. 690 Date Dec 22, 1980

(USE ADDITIONAL SHEETS IF NECESSARY)

SP*45656-119