

Approved: 

# MEMO

**To:** Kristopher Byrd, Well Construction and Compliance Section Manager  
**From:** Travis Kelly, Well Construction Program Coordinator  
**Subject:** Review of Water Right Application G-18911  
**Date:** April 23, 2021

The attached application was forwarded to the Well Construction and Compliance Section by the Groundwater Section. Gerald Grondin reviewed the application. Please see Gerald's Groundwater Review and the Well Report.

Applicant's Well 2 (LAKE 1840): Based on a review of the Well Report, Applicant's Well 2 seems to protect the groundwater resource.

The construction of Applicant's Well 2 may not satisfy hydraulic connection issues.

**WATER WELL REPORT**  
STATE OF OREGON

**RECEIVED**  
LAKE 1840  
JUN 17 1981  
WATER RESOURCES DEPT  
SALEM, OREGON

State Well No. 205/24-17aa  
State Permit No. \_\_\_\_\_  
*nc Lake 1840*

**(1) OWNER:**

Name FITZGERALD BROTHERS RANCH  
Address \_\_\_\_\_  
City Push State 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 Air  Driven  Domestic  Industrial  Municipal   
Rotary Mud  Dug  Irrigation  Test Well  Other   
Bored  Thermal: Withdrawal  Reinjection

**(4) PROPOSED USE (check):**

**(5) CASING INSTALLED:**

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

**LINER INSTALLED:**

....." Diam. from ..... ft. to ..... ft. Gauge ..... NO

**(6) 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? Contractor  
2,200 gal./min. with 126 ft. drawdown after 24 hrs.  
Air test gal./min. with drill stem at ..... ft. hrs.  
Bailer test gal./min. with ..... ft. drawdown after ..... hrs.  
Artesian flow g.p.m.  
Temperature of water 62° Depth artesian flow encountered .....

**(9) CONSTRUCTION:**

Special standards: Yes  No   
Well seal—Material used Cement Grout  
Well sealed from land surface to ..... ft.  
Diameter of well bore to bottom of seal 24 in.  
Diameter of well bore below seal 15 in.  
Number of sacks of cement used in well seal 24 sacks  
How was cement grout placed? A 1 1/2 Inch Pipe was placed in the annular space and grout was pumped under pressure from 20 Ft. to the Surface.  
Was pump installed? Yes Type Turb HP 125 Depth 200 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:**

County Lake Driller's well number \_\_\_\_\_  
NE 1/4 NE 1/4 Section 17 T. 365 R. 24 E. W.M.  
Tax Lot # 3800 Lot Blk Subdivision \_\_\_\_\_  
Address at well location: \_\_\_\_\_

**(11) WATER LEVEL: Completed well.**

Depth at which water was first found 110 ft.  
Static level 28 ft. below land surface. Date 1/17/78  
Artesian pressure lbs. per square inch. Date \_\_\_\_\_

**(12) WELL LOG:**

Diameter of well below casing 15" to 165 Ft  
Depth drilled 12" to 400 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 and indicate principal water-bearing strata.

MATERIAL	From	To	SWL
Soil Zone (Sandy)	0	15	
Basalt (Grey, Red-Rim Rock)	15	36	
Basalt (Red)	36	100	
Volcanic Claystone (Brown)	100	110	
Basalt (Purple, Porous with layers of Volcanic Claystone)			
H <sub>2</sub> O Zone (100 G.P.M.)	110	130	28
Basalt Black With White Volcanic Claystone & Void Areas	130	138	
Basalt (Red, Fractured)			
Open Channel H <sub>2</sub> O Zone	138	195	
Basalt (Red) With Claystone	195	280	
Basalt (Grey) With Void Areas	280	335	
Basalt (Fractured, Red)	335	360	
H <sub>2</sub> O Zone			
Basalt (Grey, With Claystone)	360	380	
Basalt (Brown to Red, Fractured) Claystone Layers			
H <sub>2</sub> O Zone	380	400	

Work started Dec. 1, 19 77 Completed Jan. 17, 19 78  
Date well drilling machine moved off of well 1/17/ 19 78

**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] Gary Stookberry Date 1/17/1978  
(Drilling Machine Operator)  
Drilling Machine Operator's License No. 801

**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 RAPID WATER WELL DRILLING COMPANY  
(Person, firm or corporation) (Type or print)  
Address P. O. BOX 750 LAKEVIEW, OREGON 97630  
[Signed] Gary Stookberry  
(Water Well Contractor)  
Contractor's License No. 652 Date 1/17/1978

# LAKE 1840



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

APR 01 2020

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

### I. OWNER INFORMATION

OWRD

Current Owner Name (please print): Fitzgerald Ranch Inc

Mailing Address: 27493 Plush-Adel Rd

City, State, Zip: Plush, OR 97637

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

Name & Address: Eleanor Fitzgerald, Fitzgerald Partners Inc

City, State, Zip: 28975 Hogback Rd, Plush, OR 97637

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

Township: 36S (North / South) Range: 24 (East / West) Section: 17 NE 1/4 of the SE 1/4

Tax Lot (usually last 3-5 numbers of Tax Map #): 3800 County Lake

GPS Coordinates: \_\_\_\_\_

Street Address of Well, City: Hogback Rd, Plush, OR

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): 1/17/78 Total Well Depth: 400' Casing Diameter: 16"

Owner at time the well was constructed (if known): Fitzgerald Brothers Ranch Well Log # (if known): LAKE 1840

Other Information: \_\_\_\_\_

SUBMITTED BY (please print): Scott D Montgomery

PHONE: 541-548-5833

EMAIL &/or FAX: scott@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:

4-1-2020

Well Log Number:

LAKE 1840

Well Identification #:

L-137438

# Groundwater Application Review Summary Form

Application # G- 18911

GW Reviewer Gerald H. Grondin

Date Review Completed: 22 April 2021

## Summary of GW Availability and Injury Review:

Groundwater for the proposed use is either over appropriated, will not likely be available in the amounts requested without injury to prior water rights, OR will not likely be available within the capacity of the groundwater resource per Section B of the attached review form.

## Summary of Potential for Substantial Interference Review:

There is the potential for substantial interference per Section C of the attached review form.

## Summary of Well Construction Assessment:

The well does not appear to meet current well construction standards per Section D of the attached review form. Route through Well Construction and Compliance Section.

*This is only a summary. Documentation is attached and should be read thoroughly to understand the basis for determinations and for conditions that may be necessary for a permit (if one is issued).*



**WATER RESOURCES DEPARTMENT**

**MEMO**

**22 April 2021**

**TO:** Application G- **18911**

**FROM:** **GW:** **Gerald H. Grondin**  
(Reviewer's Name)

**SUBJECT: Scenic Waterway Interference Evaluation**

**YES** The source of appropriation is hydraulically connected to a State Scenic Waterway or its tributaries

**NO**

**YES** Use the Scenic Waterway Condition (Condition 7J)

**NO**

Per ORS 390.835, the Groundwater Section is **able** to calculate ground water interference with surface water that contributes to a Scenic Waterway. The calculated interference is distributed below

Per ORS 390.835, the Groundwater Section is **unable** to calculate ground water interference with surface water that contributes to a scenic waterway; **therefore, the Department is unable to find that there is a preponderance of evidence that the proposed use will measurably reduce the surface water flows necessary to maintain the free-flowing character of a scenic waterway**

**DISTRIBUTION OF INTERFERENCE**

*Calculate the percentage of consumptive use by month and fill in the table below. If interference cannot be calculated, per criteria in 390.835, do not fill in the table but check the "unable" option above, thus informing Water Rights that the Department is unable to make a Preponderance of Evidence finding.*

Exercise of this permit is calculated to reduce monthly flows in [Enter] Scenic Waterway by the following amounts expressed as a proportion of the consumptive use by which surface water flow is reduced.

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

PUBLIC INTEREST REVIEW FOR GROUNDWATER APPLICATIONS

TO: Water Rights Section Date 22 April 2021  
 FROM: Groundwater Section Gerald H. Grondin  
Reviewer's Name  
 SUBJECT: Application G- 18911 Supersedes review of \_\_\_\_\_  
Date of Review(s)

**PUBLIC INTEREST PRESUMPTION; GROUNDWATER**

**OAR 690-310-130 (1)** *The Department shall presume that a proposed groundwater use will ensure the preservation of the public welfare, safety and health as described in ORS 537.525.* Department staff review groundwater applications under OAR 690-310-140 to determine whether the presumption is established. OAR 690-310-140 allows the proposed use be modified or conditioned to meet the presumption criteria. **This review is based upon available information and agency policies in place at the time of evaluation.**

**A. GENERAL INFORMATION:** Applicant's Name: Eleanor Fitzgerald, Fitzgerald Ranches Inc. County: Lake

A1. Applicant(s) seek(s) 2.01 cfs from 1 well(s) in the Goose and Summer Lakes Basin,  
Warner Lakes subbasin

A2. Proposed use Irrigation (160.64 primary acres) Seasonality: 1 March to 31 October (245 days)

A3. Well and aquifer data (attach and number logs for existing wells; mark proposed wells as such under logid):

Well	Logid	Applicant's Well #	Proposed Aquifer*	Proposed Rate(cfs)	Location (T/R-S QQ-Q)	Location, metes and bounds, e.g. 2250' N, 1200' E fr NW cor S 36
1	LAKE 1840	Well 2	Basalt	2.01	36S/24E-sec 17 caa	2145' N, 245' W fr SE cor S 17
2						
3						
4						

\* Alluvium, CRB, Bedrock

Well	Well Elev ft msl	First Water ft bls	SWL ft bls	SWL Date	Well Depth (ft)	Seal Interval (ft)	Casing Intervals (ft)	Liner Intervals (ft)	Perforations Or Screens (ft)	Well Yield (gpm)	Draw Down (ft)	Test Type
1	4489	110	28	01/17/1978	400	0-20	0-20	None	None	2,200	126	pump

Use data from application for proposed wells.

A4. **Comments:** \_\_\_\_\_

The application requests a total maximum pumping rate of 2.01 cfs (901.50 gpm) and a total maximum annual volume of 482.1 acre-feet from a single well to supplemental irrigate 160.64 acres (3 ac-ft per acre). The maximum pumping rate and maximum annual volume are slightly larger than typically allowed for 160.64 acres, (901.25 gpm, 481.92 acre-feet).

A5.  Provisions of the in general OAR 690-513; particularly OAR 690-513-0040 (Warner Lakes sub-basin) Basin rules relative to the development, classification and/or management of groundwater hydraulically connected to surface water  are, or  are not, activated by this application. (Not all basin rules contain such provisions.)  
 Comments: \_\_\_\_\_

A6.  Well(s) # N.A., \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, tap(s) an aquifer limited by an administrative restriction.  
 Name of administrative area: \_\_\_\_\_  
 Comments: \_\_\_\_\_

Currently, there is no administrative area.

**B. GROUNDWATER AVAILABILITY CONSIDERATIONS, OAR 690-310-130, 400-010, 410-0070**

B1. **Based upon available data**, I have determined that groundwater\* for the proposed use:

- a.  is over appropriated,  is not over appropriated, or  **cannot be determined to be** over appropriated during any period of the proposed use. \* This finding is limited to the groundwater portion of the over-appropriation determination as prescribed in OAR 690-310-130;
- b.  **will not** or  **will likely** be available in the amounts requested without injury to prior water rights. \* This finding is limited to the groundwater portion of the injury determination as prescribed in OAR 690-310-130;
- c.  **will not** or  **will likely** to be available within the capacity of the groundwater resource; or
- d.  **will, if properly conditioned**, avoid injury to existing groundwater rights or to the groundwater resource:
  - i.  The permit should contain condition #(s) \_\_\_\_\_  
**7B (interference condition)**  
**7F (proposed well location condition)**  
**7N (annual measurement condition)**  
**7P (well tag condition)**  
**7T (measure tube condition)**  
**“Large” water use condition (flow meter measurement, recording, reporting)**  
**and others (see below)** \_\_\_\_\_;
  - ii.  The permit should be conditioned as indicated in item 2 below.
  - iii.  The permit should contain special condition(s) as indicated in item 3 below;

- B2. a.  **Condition** to allow groundwater production from no deeper than \_\_\_\_\_ ft. below land surface;
- b.  **Condition** to allow groundwater production from no shallower than \_\_\_\_\_ ft. below land surface;
- c.  **Condition** to allow groundwater production only from the \_\_\_\_\_ groundwater reservoir between approximately \_\_\_\_\_ ft. and \_\_\_\_\_ ft. below land surface;
- d.  **Well reconstruction** is necessary to accomplish one or more of the above conditions. The problems that are likely to occur with this use and without reconstructing are cited below. Without reconstruction, I recommend withholding issuance of the permit until evidence of well reconstruction is filed with the Department and approved by the Groundwater Section.

**Describe injury** –as related to water availability– that is likely to occur without well reconstruction (interference w/ senior water rights, not within the capacity of the resource, etc): \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

B3. **Groundwater availability remarks:** \_\_\_\_\_

The state observation well with long term data (early 1960s to 2020) closest to the proposed POA well is state observation well 377 (well LAKE 1886) located in T36S/R24E-sec 33 abt about 2.5 miles south of the proposed POA well (LAKE 1840). The water level data for the well shows long term climate influences as well as annual seasonal influences. Before the 2000, peak annual groundwater levels were generally between 15 and 17 feet below land surface at the well (4475 and 4475 ft. amsl). After 2001, the peak annual groundwater level has often been from 17 to 19 feet below land surface at the well (4473 and 4475 ft. amsl). Climate may be partly to entirely responsible for the lower annual peak levels after 2001. Ongoing groundwater level measurements will help that determination.

**If a permit is issued, the following conditions should be included: 7B, 7F, 7N, 7P, 7T, and**

**Special Groundwater Reference Level Condition:** “The Groundwater Reference Level at proposed the POA well (LAKE 1840) shall be 20.00 feet below land surface.” That reference level is based on 2017 to 2020 annual March CWRE measurements at the proposed well.”

**The “large” water use condition:** (require a totalizing flow meter at each well. Each flow meter shall be located within 50 feet of the wellhead and adjacent to each flow meter shall be a clearly visible monument with a sign noting the flow meter. Lastly, require for every flow meter the reading, recording (monthly at minimum), and annual reporting of the flow meter data, all flow meters).

**Special Condition for groundwater production:** “All POA wells under this permit shall comply with existing well construction standards. Groundwater production shall occur from the predominantly basalt unit below the predominantly basin fill unit by continuous casing and continuous seal through the predominantly basin fill unit and into the predominantly basalt unit.” The proposed POA well (LAKE 1840) meets this condition despite having minimum casing and seal (20 feet).

**C. GROUNDWATER/SURFACE WATER CONSIDERATIONS, OAR 690-09-040**

C1. **690-09-040 (1):** Evaluation of aquifer confinement:

Well	Aquifer or Proposed Aquifer	Confined	Unconfined
1	Basalt (proposed by application; required by permit condition)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>

Basis for aquifer confinement evaluation: \_\_\_\_\_

**Walker (1973) and Walker and Repenning (1965) respectively map the surface geology at the proposed POA well as Qal (unconsolidated fluvialite gravel, sand, and silt) adjacent to QTs (lacustrine, fluvialite, and Aeolian sedimentary rocks, interstratified tuff, ashy diatomite and unconsolidated clay, sand, and gravel). Basalt (Tb) is exposed in the uplands to the west of the wells.**

**The groundwater system is identified as generally unconfined with discontinuous low permeability layers causing local (discontinuous, limited) confinement. Generally, lower transmissivity (lower permeability) sediment (predominantly basin-fill sediment unit) of varying thickness overlies higher transmissivity (higher permeability) basalt (predominantly volcanic rock and sediment unit). Groundwater occurs in both the predominantly basin-fill sediment unit and the predominantly volcanic rock and sediment unit. Groundwater is vertically connected within each unit and between each unit. This is based upon investigations by Sammel and Craig (1981) for Warner Valley, Morgan (1988) for Goose Lake Valley and Miller (1984 and 1986) for the Fort Rock and Christmas Valley area. Sammel and Craig (1981) particularly note the similarity of the hydrogeology in the Warner lakes Valley to the Klamath Basin.**

**The predominant basin-fill sediment unit thickness can vary. For example, the depth to the top of the predominantly volcanic rock and sediment unit is about 104 feet at well LAKE 1825 located 2.7 miles north of the proposed POA; exceeds 640 feet (is below well bottom) at well LAKE 4281 located about 3.7 miles east of the proposed POA well; is about 150 feet at well LAKE 1886 located about 2.6 miles south of the proposed POA well; and is about 15 feet at the proposed POA well (LAKE 1840).**

C2. **690-09-040 (2) (3):** Evaluation of distance to, and hydraulic connection with, surface water sources. All wells located a horizontal distance less than ¼ mile from a surface water source that produce water from an unconfined aquifer shall be assumed to be hydraulically connected to the surface water source. Include in this table any streams located beyond one mile that are evaluated for PSI.

Well	SW #	Surface Water Name	GW Elev ft msl	SW Elev ft msl	Distance (ft)	Hydraulically Connected?			Potential for Subst. Interfer. Assumed?	
						YES	NO	ASSUMED	YES	NO
1	1	Honey Creek	4470	4505	6,465	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1	2	Un-named Lakes (ponds)	4470	4475	6,390	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1	3	Hart Lake	4470	4473	11,445	<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"/>	<input type="checkbox"/>	<input type="checkbox"/>

Basis for aquifer hydraulic connection evaluation: \_\_\_\_\_

Available reports indicate groundwater and surface water are connected in the Warner Lakes Valley, and groundwater generally flows from south to north in the valley.

The distance to Honey Creek is to the perennial flow portion of the creek. The surface water elevation is for the perennial portion north and west of Plush. Groundwater level in that vicinity is likely above 4500 ft. amsl based on nearby well LAKE 1876. The groundwater gradient is likely from perennial Honey Creek toward Plush, Hart Lake, and proposed POA well LAKE 1840.

Hart Lake and the un-named lakes appear to be coincident with groundwater.

Water Availability Basin the well(s) are located within: HONEY CR > HART L – AT MOUTH

C3a. **690-09-040 (4):** Evaluation of stream impacts for each well that has been determined or assumed to be **hydraulically connected and less than 1 mile** from a surface water (SW) source. Limit evaluation to instream rights and minimum stream flows that are pertinent to that SW source, not lower SW sources to which the stream under evaluation is tributary. Compare the requested rate against the 1% of 80% *natural* flow for the pertinent Water Availability Basin (WAB). If Q is not distributed by well, use full rate for each well. Any checked  box indicates the well is assumed to have the potential to cause PSI.

Well	SW #	Well < ¼ mile?	Qw > 5 cfs?	Instream Water Right ID	Instream Water Right Q (cfs)	Qw > 1% ISWR?	80% Natural Flow (cfs)	Qw > 1% of 80% Natural Flow?	Interference @ 30 days (%)	Potential for Subst. Interfer. Assumed?
		<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>

C3b. **690-09-040 (4):** Evaluation of stream impacts by total appropriation for all wells determined or assumed to be **hydraulically connected and less than 1 mile** from a surface water source. **Complete only if Q is distributed among wells.** Otherwise same evaluation and limitations apply as in C3a above.

SW #	Qw > 5 cfs?	Instream Water Right ID	Instream Water Right Q (cfs)	Qw > 1% ISWR?	80% Natural Flow (cfs)	Qw > 1% of 80% Natural Flow?	Interference @ 30 days (%)	Potential for Subst. Interfer. Assumed?
	<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
	<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>

Comments: \_\_\_\_\_

**No analysis in this section. The proposed POA well (LAKE 1840) is more than 1.0 mile away from nearest surface water.**

C4a. **690-09-040 (5):** Estimated impacts on **hydraulically connected surface water sources greater than one mile** as a percentage of the proposed pumping rate. Limit evaluation to the effects that will occur up to one year after pumping begins. This table encompasses the considerations required by 09-040 (5)(a), (b), (c) and (d), which are not included on this form. Use additional sheets if calculated flows from more than one WAB are required.

<b>Non-Distributed Wells</b>													
Well	SW#	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>1</b>	<b>1</b>	<b>0.4 %</b>	<b>0.5 %</b>	<b>0.0 %</b>	<b>0.0 %</b>	<b>0.1 %</b>	<b>0.1 %</b>	<b>0.1 %</b>	<b>0.2 %</b>	<b>0.2 %</b>	<b>0.3 %</b>	<b>0.3 %</b>	<b>0.4 %</b>
Well Q as CFS		0.00	0.00	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	0.00	0.00
Interference CFS		0.008	0.009	0.000	0.001	0.001	0.002	0.003	0.004	0.005	0.006	0.007	0.008
<b>Distributed Wells</b>													
Well	SW#	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS													
Interference CFS													
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS													
Interference CFS													
(A) = Total Interf.		0.008	0.009	0.000	0.001	0.001	0.002	0.003	0.004	0.005	0.006	0.007	0.008
(B) = 80 % Nat. Q		5.06	6.64	12.60	41.50	53.80	26.80	4.32	2.27	2.07	2.14	3.01	3.74
(C) = 1 % Nat. Q		0.0506	0.0664	0.1260	0.4150	0.5380	0.2680	0.0432	0.0227	0.0207	0.0214	0.0301	0.0374
(D) = (A) > (C)		No	No	No	No	No	No	No	No	No	No	No	No
(E) = (A / B) x 100		0.2 %	0.1 %	0.0 %	0.0 %	0.0 %	0.0 %	0.1 %	0.2 %	0.2 %	0.3 %	0.2 %	0.2 %

(A) = total interference as CFS; (B) = WAB calculated natural flow at 80% exceed. as CFS; (C) = 1% of calculated natural flow at 80% exceed. as CFS; (D) = highlight the checkmark for each month where (A) is greater than (C); (E) = total interference divided by 80% flow as percentage.

**Basis for impact evaluation:** \_\_\_\_\_

**Analysis is done in this section given the proposed POA well is more than 1.0 mile from Honey Creek and Hart Lake.**

**The Table above was used for interference with Honey Creek only given it is the water body in the area with water availability data.**

**Hunt (2003) was used to calculate the interference:**

**Used full pumping rate = 2.01 cfs (901 gpm),**

**Used aquifer transmissivity = 7,550 ft<sup>2</sup>/day based on specific capacity. The value is within the range noted by Sammel and Craig (1981)**

**Used, an intermediate storage coefficient = 0.001**

**Used, sediment hydraulic conductivity K<sub>v</sub> = 1.00 ft/day (based well LAKE 4281)**

**Used sediment thickness below creek = 150 feet (based on LAKE 1886 near Honey Creek)**

**Used stream width = 20 feet.**

**The Theis equation (Theis, 1935) was used to calculate the groundwater level drawdown at Hart Lake and un-named lakes (ponds) using the same values above. The calculated drawdowns are shown below. The potential drawdown at the lakes in addition to the potential drawdown by older groundwater rights may seasonally adversely impact the lakes.**

Pumping Scenario	Elapsed Time (days)	Calculated Drawdown (feet)	
		Hart Lake	Un-named Lakes
Continuous Full Rate (2.01 cfs)	30	2.74	4.69
	245	6.35	8.46
Continuous Pro-Rated (0.99 cfs)	30	1.35	2.31
	245	3.14	4.18

C4b. 690-09-040 (5) (b) The potential to impair or detrimentally affect the public interest is to be determined by the Water Rights Section.

C5.  If properly conditioned, the surface water source(s) can be adequately protected from interference, and/or groundwater use under this permit can be regulated if it is found to substantially interfere with surface water:

- i.  The permit should contain condition #(s) \_\_\_\_\_  
       **7B (interference condition)** \_\_\_\_\_  
       **7F (proposed well location condition)** \_\_\_\_\_  
       **7N (annual measurement condition)** \_\_\_\_\_  
       **7P (well tag condition)** \_\_\_\_\_  
       **7T (measure tube condition)** \_\_\_\_\_  
       **“Large” water use condition (flow meter measurement, recording, reporting)** \_\_\_\_\_  
       **and others (see below)** \_\_\_\_\_;
- ii.  The permit should contain special condition(s) as indicated in “Remarks” below;

C6. SW / GW Remarks and Conditions: \_\_\_\_\_

**If a permit is issued, the following conditions should be included: 7B, 7F, 7N, 7P, 7T, and**

**Special Groundwater Reference Level Condition:** “The Groundwater Reference Level at proposed the POA well (LAKE 1840) shall be 20.00 feet below land surface.” That reference level is based on 2017 to 2020 annual March CWRE measurements at the proposed well.”

**The “large” water use condition:** (require a totalizing flow meter at each well. Each flow meter shall be located within 50 feet of the wellhead and adjacent to each flow meter shall be a clearly visible monument with a sign noting the flow meter. Lastly, require for every flow meter the reading, recording (monthly at minimum), and annual reporting of the flow meter data, all flow meters).

**Special Condition for groundwater production:** “All POA wells under this permit shall comply with existing well construction standards. Groundwater production shall occur from the predominantly basalt unit below the predominantly basin fill unit by continuous casing and continuous seal through the predominantly basin fill unit and into the predominantly basalt unit.” The proposed POA well (LAKE 1840) meets this condition despite having minimum casing and seal (20 feet).

The groundwater system is identified as generally unconfined with discontinuous low permeability layers causing local (discontinuous, limited) confinement. Generally, lower transmissivity (lower permeability) sediment (predominantly basin-fill sediment unit) of varying thickness overlies higher transmissivity (higher permeability) basalt (predominantly basalt unit). Groundwater occurs in both the predominantly basin-fill sediment unit and the predominantly basalt unit. Groundwater is vertically connected within each unit and between each unit. This is based upon investigations by Sammel and Craig (1981) for Warner Valley, Morgan (1988) for Goose Lake Valley and Miller (1984 and 1986) for the Fort Rock and Christmas Valley area. Sammel and Craig (1981) particularly note the similarity of the hydrogeology in the Warner lakes Valley to the Klamath Basin.

References Used: \_\_\_\_\_

References consulted were:

Hampton, E.R., 1964, Geologic factors that control the occurrence and availability of ground water in the Fort Rock Basin, Lake County, Oregon: USGS Professional Paper 383-B, 29 p.

Hunt, B., 2003, Unsteady stream depletion when pumping from semiconfined aquifer: Journal of Hydrologic Engineering, January/February, 2003.

McFarland, W.D. and Ryals, G.N., 1991, Adequacy of available hydrogeologic data for evaluation of declining ground-water levels in the Fort Rock Basin, south-central Oregon: USGS Water Resources Investigations Report 89-4057, 47 p.

Miller, D.W., 1984, Appraisal of ground-water conditions in the Fort Rock Basin, Lake County, Oregon: OWRD Open File Report, 157 p.

Miller, D.W., 1986, Ground-water conditions in the Fort Rock Basin, northern Lake County, Oregon: OWRD Ground Water Report No. 31, 196 p.

Morgan, D.S., 1988, Geohydrology and numerical model analysis of ground-water flow in the Goose Lake Basin, Oregon and California: USGS Water Resources Investigations Report 87-4058, 92 p.

Oregon Water Resources Department, 1989, Goose and Summer Lakes Basin report: OWRD Basin Report, 112 p.

Peterson, N.V. and McIntyre, J.R., 1970, The reconnaissance geology and mineral resources of eastern Klamath County and western Lake County, Oregon: DOGAMI Bulletin 66, 70 p.

Phillips, K.N. and VanDenburgh, A.S., 1971, Hydrology and geochemistry of Abert, Summer, and Goose Lakes, and other closed-basin lakes in south-central Oregon: USGS Professional Paper 502-B, 86p.

Sammel, E.A. and Craig, R.W., 1981, The geothermal hydrology of Warner Valley, Oregon: a reconnaissance study: USGS Professional Paper 1044-I, 147 p.

Theis, C.V. 1935. The relation between the lowering of the piezometric surface and the rate and duration of discharge of a well using groundwater storage. American Geophysical Union Transactions, 16 annual meeting, vol. 16, pg. 519-524.

Walker, G.W., 1963, Reconnaissance geologic map of the eastern half of the Klamath Falls (AMS) quadrangle, Lake and Klamath Counties, Oregon: USGS Mineral Investigations Field Studies Map MF-260.

Walker, G.W. and Repenning, C.A., 1965, Reconnaissance geologic map of the Adel quadrangle, Lake, Klamath, and Malheur Counties, Oregon: USGS Miscellaneous Geologic Investigations Map I-446.

Walker, G.W., 1973, Preliminary geologic and tectonic maps of Oregon east of the 121<sup>st</sup> meridian: USGS Miscellaneous Field Studies Map MF-495

Waring, G.A., 1908, Geology and water resources of a portion of south-central Oregon: USGS Water Supply Paper 220, 85 p.

Goose and Summer Lakes Basin Program rules (OAR 690-513).

State Observation Wells SOW 377 (LAKE 1886).

Water well reports for wells in Township 35 & 36 South/Range 24 & 25 East

USGS Plush and Hart Lake quad maps (1:24,000 scale)



**D. WELL CONSTRUCTION, OAR 690-200**

D1. Well #: 1 Logid: LAKE 1840

D2. THE WELL does not appear to meet current well construction standards based upon:

- a.  review of the well log;
- b.  field inspection by \_\_\_\_\_;
- c.  report of CWRE \_\_\_\_\_;
- d.  other: (specify) \_\_\_\_\_

D3. THE WELL construction deficiency or other comment is described as follows: \_\_\_\_\_

**Comment / Observation:** \_\_\_\_\_

**The well has minimum casing and seal (0 to 20 feet) that does extend through the predominantly basin-fill unit and 5 feet into the water bearing predominantly volcanic rock and sediment unit below. The driller's first reported water bearing zone begins at 110 feet below land surface. CWRE reported static groundwater levels are about 20 feet below land surface.**

D4.  Route to the Well Construction and Compliance Section for a review of existing well construction.

Well Location Maps

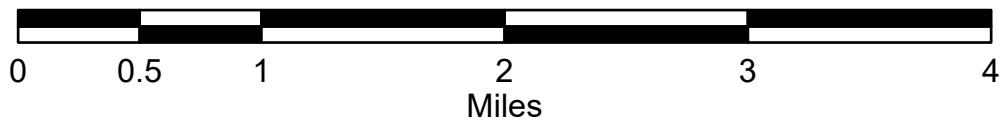
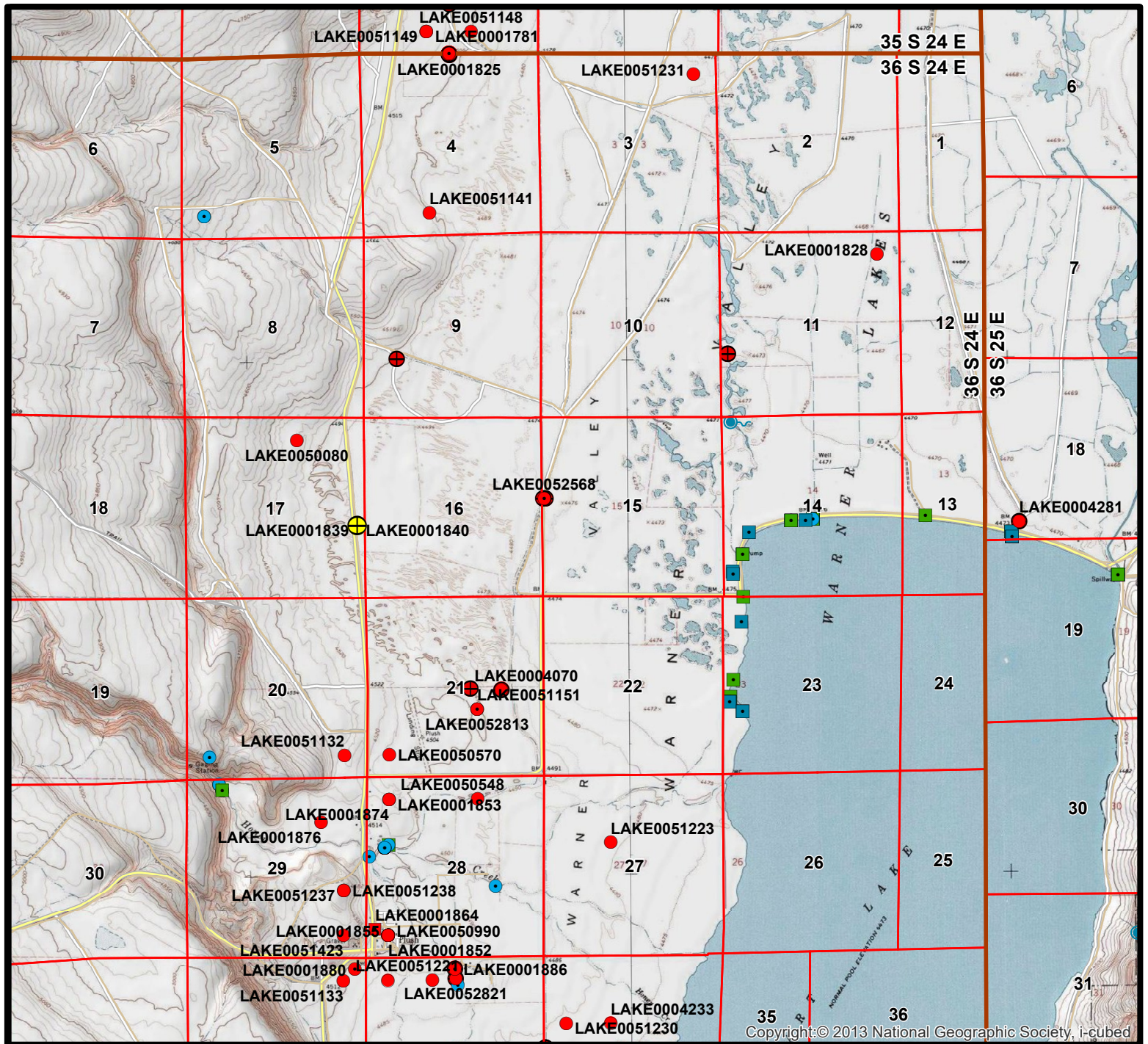
Water-Level Measurements in Nearby Wells

Drawdown and Interference Calculations

Water Availability Tables

Water Well Report

# Groundwater Permit Application G-18911 Eleanor Fitzgerald, Fitzgerald Ranches Inc.

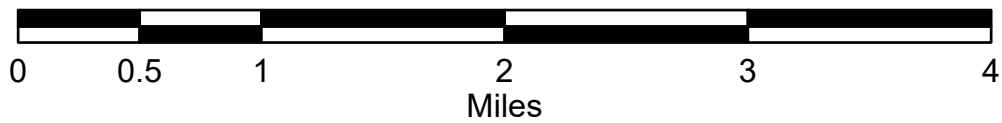
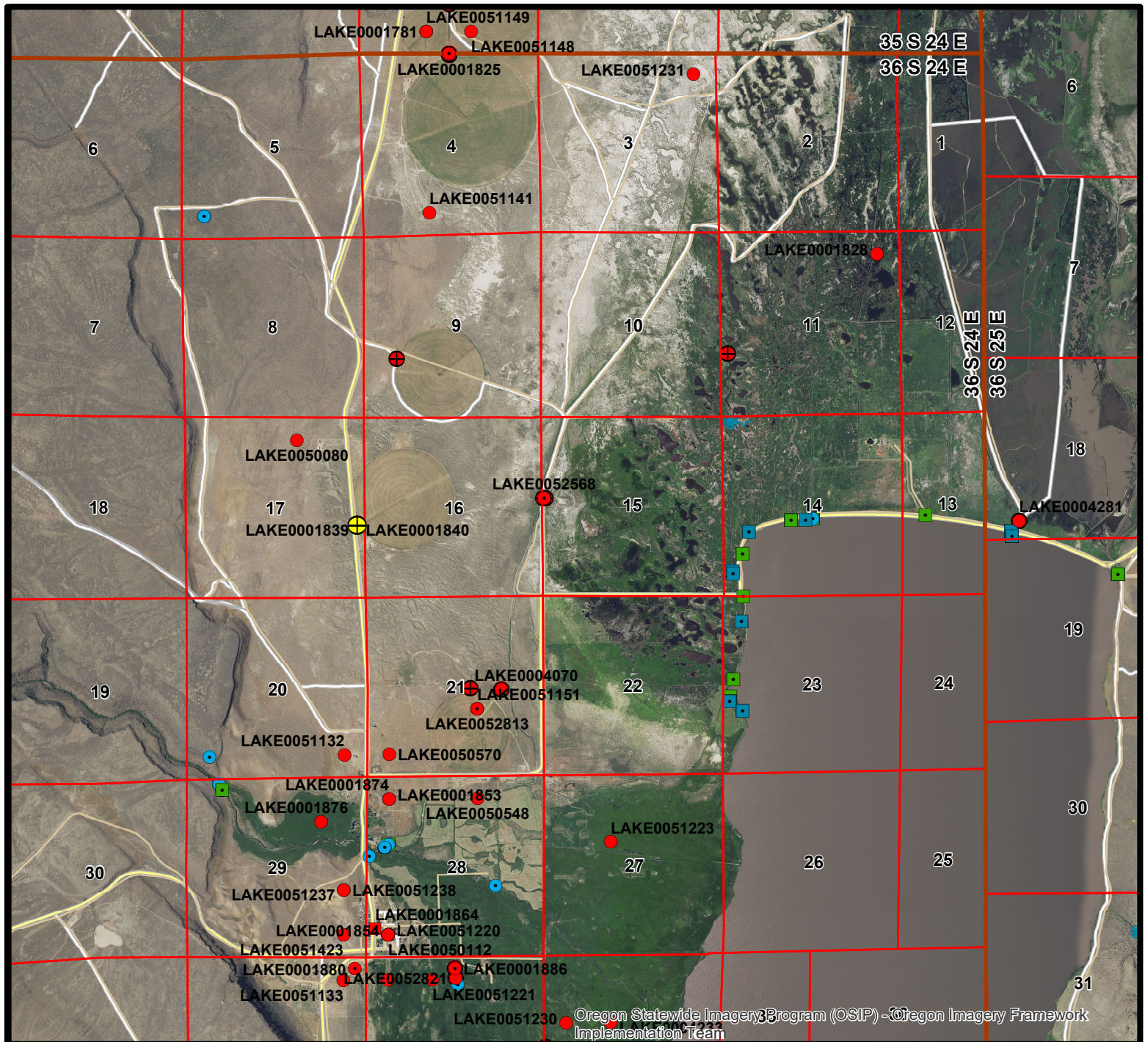


**Yellow = Proposed Well**  
**Red = Groundwater PODs or Other Wells**  
**Blue & Green = Surface Water PODs**





# Groundwater Permit Application G-18911 Eleanor Fitzgerald, Fitzgerald Ranches Inc.

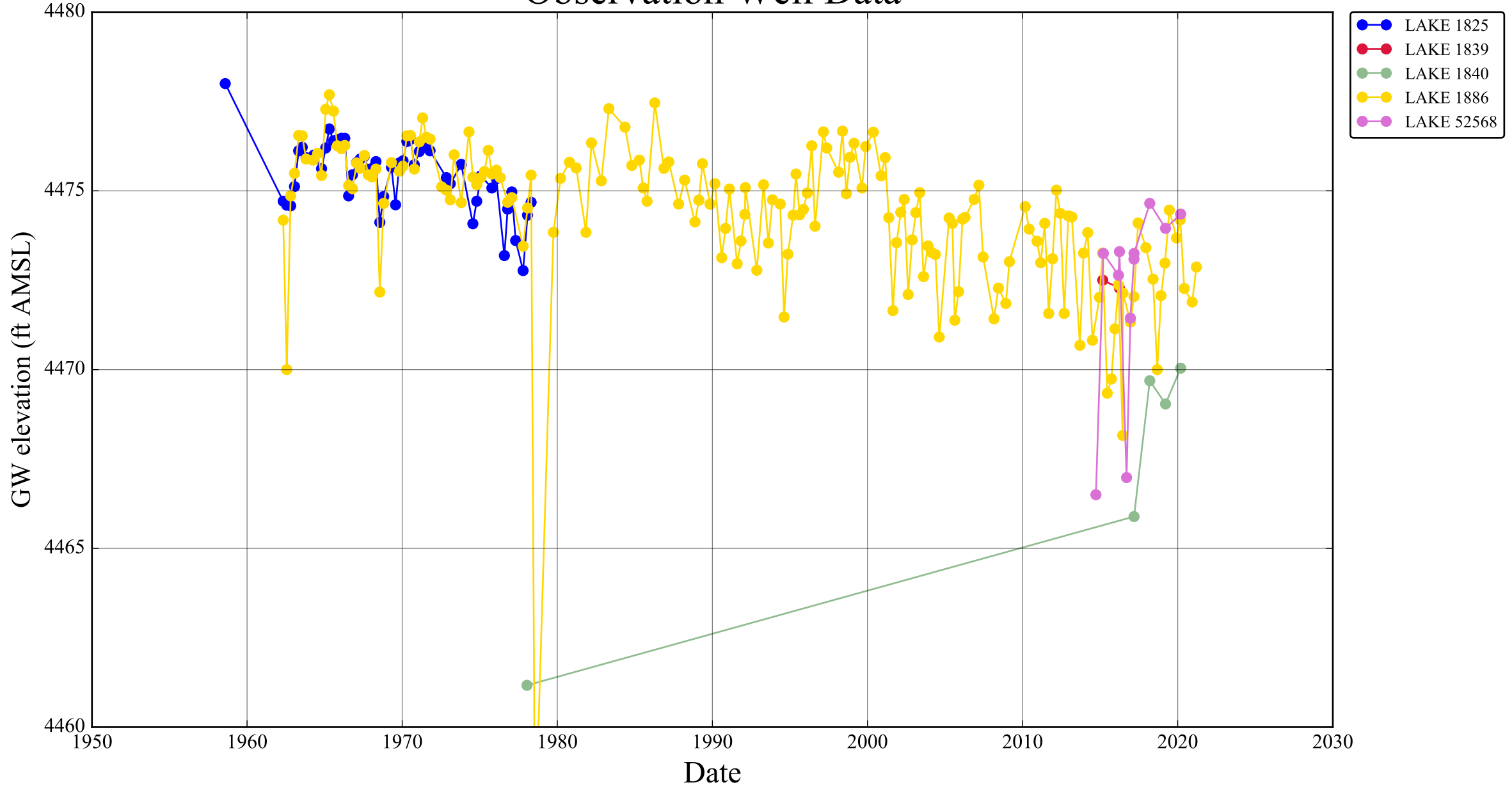


**Yellow = Proposed Well**  
**Red = Groundwater PODs or Other Wells**  
**Blue & Green = Surface Water PODs**



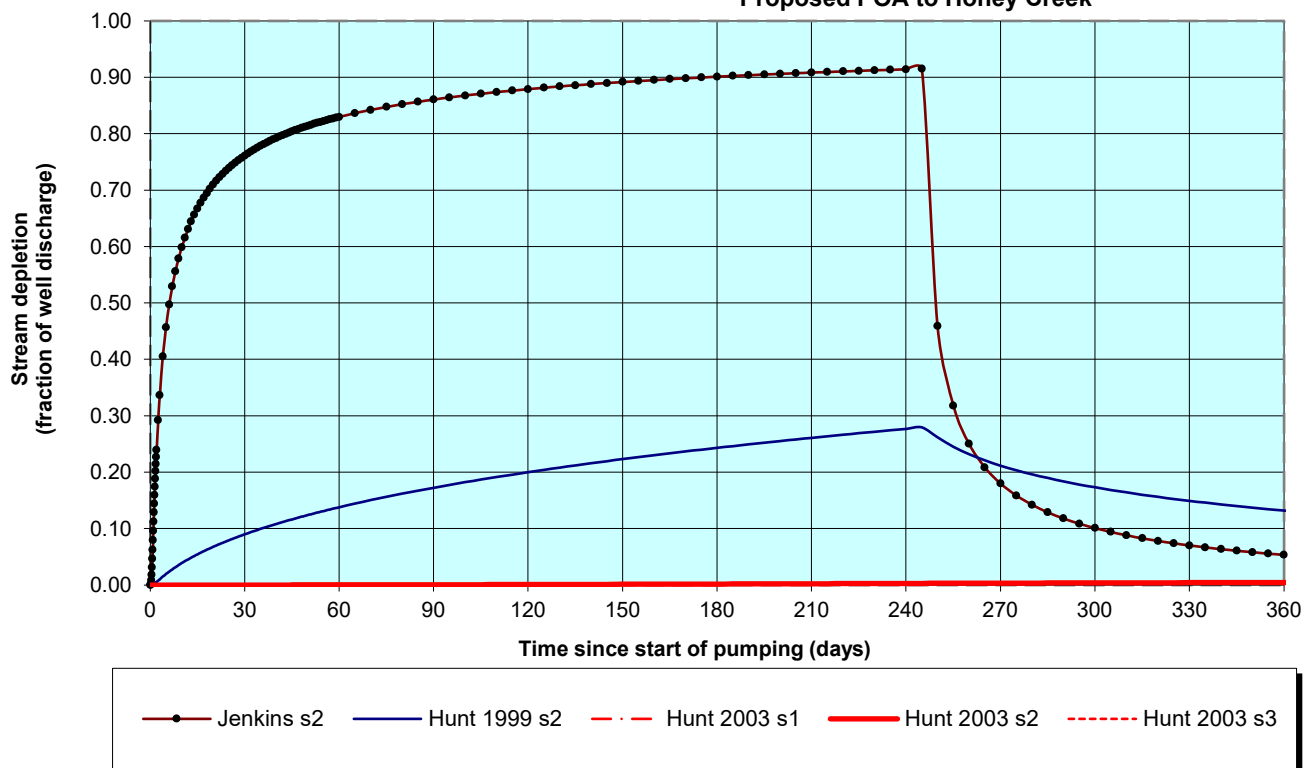


# Observation Well Data



## Transient Stream Depletion (Jenkins, 1970; Hunt, 1999, 2003)

### Proposed POA to Honey Creek



Output for Stream Depletion, Scenerio 2 (s2):						Time pump on (pumping duration) = 245 days						
Days	30	60	90	120	150	180	210	240	270	300	330	360
J SD	76.1%	83.0%	86.1%	87.9%	89.2%	90.1%	90.9%	91.4%	18.0%	10.1%	7.0%	5.3%
H SD 1999	9.0%	13.8%	17.3%	20.0%	22.3%	24.3%	26.1%	27.7%	21.2%	17.3%	14.9%	13.2%
H SD 2003	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.2%	0.3%	0.3%	0.4%	0.4%	0.5%
Qw, cfs	2.008	2.008	2.008	2.008	2.008	2.008	2.008	2.008	2.008	2.008	2.008	2.008
H SD 99, cfs	0.181	0.277	0.347	0.402	0.448	0.489	0.524	0.556	0.425	0.348	0.300	0.265
H SD 03, cfs	0.000	0.001	0.001	0.002	0.003	0.004	0.005	0.006	0.007	0.008	0.008	0.009

Parameters:		Scenario 1	Scenario 2	Scenario 3	Units
Net steady pumping rate of well	Qw	2.01	2.01	2.01	cfs
Time pump on (pumping duration)	tpon	245	245	245	days
Perpendicular from well to stream	a	6465	6465	6465	ft
Well depth	d	400	400	400	ft
Aquifer hydraulic conductivity	K	75.5	75.5	75.5	ft/day
Aquifer saturated thickness	b	100	100	100	ft
Aquifer transmissivity	T	7550	7550	7550	ft*ft/day
Aquifer storativity or specific yield	S	0.001	0.001	0.001	
Aquitard vertical hydraulic conductivity	Kva	1	1	1	ft/day
Aquitard saturated thickness	ba	150	150	150	ft
Aquitard thickness below stream	babs	150	150	150	ft
Aquitard porosity	n	0.2	0.2	0.2	
Stream width	ws	20	20	20	ft
Streambed conductance (lambda)	sbc	0.133333	0.133333	0.133333	ft/day
Stream depletion factor	sdf	5.535924	5.535924	5.535924	days
Streambed factor	sbfb	0.114172	0.114172	0.114172	
input #1 for Hunt's Q_4 function	t'	0.180638	0.180638	0.180638	
input #2 for Hunt's Q_4 function	K'	36.906159	36.906159	36.906159	
input #3 for Hunt's Q_4 function	epsilon'	0.005000	0.005000	0.005000	
input #4 for Hunt's Q_4 function	lamda'	0.114172	0.114172	0.114172	

**Drawdown Calculations Using Theis Equation**

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

s = drawdown (L) r = radial distance (L)  
 T = transmissivity (L<sup>2</sup>/T) t = time (T)  
 S = storage coefficient (dimensionless) u = dimensionless  
 pi = 3.141592654 W(u) = well function

Transmissivity T (gpd/ft)	Transmissivity T (ft <sup>2</sup> /day)	Storage Coefficient S	Pumping Rate Q (gal/min)	Pumping Rate Q (ft <sup>3</sup> /sec)	Time t (days)	Distance r (feet)	pi	u	W(u)	Drawdown s (feet)	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
<b>Proposed POA Well to un-named lakes (Transmissivity from specific capacity data)</b>											
56,477.93	7,550.00	0.00100	901.14	2.01	30.00	6,390.00	3.14	0.0451	2.5669	4.6933	Continuous Pumping at Full Rate
56,477.93	7,550.00	0.00100	901.14	2.01	245.00	6,390.00	3.14	0.0055	4.6279	8.4616	Continuous Pumping at Full Rate
56,477.93	7,550.00	0.00100	445.11	0.99	30.00	6,390.00	3.14	0.0451	2.5669	2.3182	Pro-Rated Pumping Rate
56,477.93	7,550.00	0.00100	445.11	0.99	245.00	6,390.00	3.14	0.0055	4.6279	4.1795	Pro-Rated Pumping Rate
<b>Proposed POA Well to Hart Lake (Transmissivity from specific capacity data)</b>											
56,477.93	7,550.00	0.00100	901.14	2.01	30.00	11,445.00	3.14	0.1446	1.4962	2.7357	Continuous Pumping at Full Rate
56,477.93	7,550.00	0.00100	901.14	2.01	245.00	11,445.00	3.14	0.0177	3.4744	6.3525	Continuous Pumping at Full Rate
56,477.93	7,550.00	0.00100	445.11	0.99	30.00	11,445.00	3.14	0.1446	1.4962	1.3513	Pro-Rated Pumping Rate
56,477.93	7,550.00	0.00100	445.11	0.99	245.00	11,445.00	3.14	0.0177	3.4744	3.1378	Pro-Rated Pumping Rate

<b>Theis_Equation_specific_capacity_to_transmissivity</b>					
<b>Basalt</b>					
<b>Well County</b>	<b>Well Num</b>	<b>Transmissivity ft<sup>2</sup>/day</b>	<b>Transmissivity gpd/ft</b>	<b>Open Interval feet</b>	<b>Conductivity ft/day</b>
LAKE	1779	4,299.52	32,162.65	120.00	35.83
LAKE	1825	15,338.56	114,740.40	100.00	153.39
LAKE	1839	12,012.45	89,859.37	53.00	226.65
LAKE	1840	4,532.75	33,907.34	380.00	11.93
LAKE	4070	1,551.71	11,607.60	203.00	7.64
		<b>7,547.00</b>	<b>56,455.47</b>	<b>Average</b>	<b>87.09</b>
<b>Basin-Fill</b>					
<b>Well County</b>	<b>Well Num</b>	<b>Transmissivity ft<sup>2</sup>/day</b>	<b>Transmissivity gpd/ft</b>	<b>Open Interval feet</b>	<b>Conductivity ft/day</b>
LAKE	4281	631.62	4,724.85	640.00	0.99
		<b>631.62</b>	<b>4,724.85</b>	<b>Average</b>	<b>0.99</b>



# Water Availability Analysis

HONEY CR > HART L - AT MOUTH  
GOOSE & SUMMER LAKE BASIN  
Water Availability as of 4/21/2021

Watershed ID #: 31300713 ([Map](#))  
Date: 4/21/2021

Exceedance Level:   
Time: 9:12 AM

[Download Data](#)

## Water Availability

Select any Watershed for Details

Nesting Order	Watershed ID #	Stream Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sto
1	31300713	HONEY CR> HART L - AT MOUTH	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes

## Limiting Watersheds

Monthly Streamflow in Cubic Feet per Second  
Annual Volume at 50% Exceedance in Acre-Feet

Month	Limiting Watershed ID #	Stream Name	Water Available?	Net Water Available
JAN	31300713	HONEY CR > HART L - AT MOUTH	Yes	4.85
FEB	31300713	HONEY CR > HART L - AT MOUTH	Yes	6.32
MAR	31300713	HONEY CR > HART L - AT MOUTH	Yes	10.50
APR	31300713	HONEY CR > HART L - AT MOUTH	Yes	33.10
MAY	31300713	HONEY CR > HART L - AT MOUTH	Yes	33.60
JUN	31300713	HONEY CR > HART L - AT MOUTH	Yes	11.30
JUL	31300713	HONEY CR > HART L - AT MOUTH	No	0.00
AUG	31300713	HONEY CR > HART L - AT MOUTH	Yes	0.04
SEP	31300713	HONEY CR > HART L - AT MOUTH	Yes	0.06
OCT	31300713	HONEY CR > HART L - AT MOUTH	Yes	0.85
NOV	31300713	HONEY CR > HART L - AT MOUTH	Yes	2.87
DEC	31300713	HONEY CR > HART L - AT MOUTH	Yes	3.55



## Detailed Reports for Watershed ID #31300713

HONEY CR > HART L - AT MOUTH  
 GOOSE & SUMMER LAKE BASIN  
 Water Availability as of 4/21/2021

Watershed ID #: 31300713 ([Map](#))  
 Date: 4/21/2021

Exceedance Level:  ▼  
 Time: 9:12 AM

### Water Availability Calculation

Monthly Streamflow in Cubic Feet per Second  
 Annual Volume at 50% Exceedance in Acre-Feet

Month	Natural Stream Flow	Consumptive Uses and Storages	Expected Stream Flow	Reserved Stream Flow	Instream Flow Requirement	Net Water Available
JAN	5.06	0.21	4.85	0.00	0.00	4.85
FEB	6.64	0.33	6.32	0.00	0.00	6.32
MAR	12.60	2.06	10.50	0.00	0.00	10.50
APR	41.50	8.36	33.10	0.00	0.00	33.10
MAY	53.80	20.20	33.60	0.00	0.00	33.60
JUN	26.80	15.50	11.30	0.00	0.00	11.30
JUL	4.32	4.32	0.00	0.00	0.00	0.00
AUG	2.27	2.23	0.04	0.00	0.00	0.04
SEP	2.07	2.01	0.06	0.00	0.00	0.06
OCT	2.14	1.29	0.85	0.00	0.00	0.85
NOV	3.01	0.14	2.87	0.00	0.00	2.87
DEC	3.74	0.19	3.55	0.00	0.00	3.55
ANN	18,800.00	3,440.00	15,400.00	0.00	0.00	15,400.00

### Detailed Report of Consumptive Uses and Storage

Consumptive Uses and Storages in Cubic Feet per Second

Month	Storage	Irrigation	Municipal	Industrial	Commercial	Domestic	Agricultural	Other	Total
JAN	0.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.21
FEB	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.33

## Water Availability Analysis

MAR	0.71	1.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.06
APR	2.05	6.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.36
MAY	2.81	17.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.20
JUN	1.18	14.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.50
JUL	0.19	4.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.32
AUG	0.07	2.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.23
SEP	0.07	1.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.01
OCT	0.09	1.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.29
NOV	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14
DEC	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.19

## Detailed Report of Reservations for Storage and Consumptive Uses

Reserved Streamflow in Cubic Feet per Second

**No reservations were found for this watershed.**

## Detailed Report of Instream Flow Requirements

Instream Flow Requirements in Cubic Feet per Second

**No instream flow requirements were found for this watershed.**

**WATER WELL REPORT**  
STATE OF OREGON

**RECEIVED**  
LAKE 1840  
JUN 17 1981  
WATER RESOURCES DEPT  
SALEM, OREGON

State Well No. 205/24-17aa  
State Permit No. \_\_\_\_\_  
*nc Lake 1840*

**(1) OWNER:**

Name FITZGERALD BROTHERS RANCH  
Address \_\_\_\_\_  
City Push State 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 Air  Driven  Domestic  Industrial  Municipal   
Rotary Mud  Dug  Irrigation  Test Well  Other   
Bored  Thermal: \_\_\_\_\_ Withdrawal  Reinjection

**(4) PROPOSED USE (check):**

**(5) CASING INSTALLED:**

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

**LINER INSTALLED:**

....." Diam. from ..... ft. to ..... ft. Gauge ..... NO

**(6) 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? Contractor  
2,200 gal./min. with 126 ft. drawdown after 24 hrs.  
Air test \_\_\_\_\_ gal./min. with drill stem at \_\_\_\_\_ ft. \_\_\_\_\_ hrs.  
Bailer test \_\_\_\_\_ gal./min. with \_\_\_\_\_ ft. drawdown after \_\_\_\_\_ hrs.  
Artesian flow \_\_\_\_\_ g.p.m.  
Temperature of water 62° Depth artesian flow encountered \_\_\_\_\_ ft.

**(9) CONSTRUCTION:**

Special standards: Yes  No   
Well seal—Material used Cement Grout  
Well sealed from land surface to ..... 20 ft.  
Diameter of well bore to bottom of seal 24 in.  
Diameter of well bore below seal 15 in.  
Number of sacks of cement used in well seal 24 sacks  
How was cement grout placed? A 1 1/2 Inch Pipe was placed in the annular space and grout was pumped under pressure from 20 Ft. to the Surface.  
Was pump installed? Yes Type Turb HP 125 Depth 200 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:**

County Lake Driller's well number \_\_\_\_\_  
NE 1/4 NE 1/4 Section 17 T. 365 R. 24 E. W.M.  
Tax Lot # 3800 Lot \_\_\_\_\_ Blk \_\_\_\_\_ Subdivision \_\_\_\_\_  
Address at well location: \_\_\_\_\_

**(11) WATER LEVEL: Completed well.**

Depth at which water was first found 110 ft.  
Static level 28 ft. below land surface. Date 1/17/78  
Artesian pressure \_\_\_\_\_ lbs. per square inch. Date \_\_\_\_\_

**(12) WELL LOG:**

Diameter of well below casing 15" to 165 Ft.  
Depth drilled 12" to 400 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 and indicate principal water-bearing strata.

MATERIAL	From	To	SWL
Soil Zone (Sandy)	0	15	
Basalt (Grey, Red-Rim Rock)	15	36	
Basalt (Red)	36	100	
Volcanic Claystone (Brown)	100	110	
Basalt (Purple, Porous with layers of Volcanic Claystone)			
H <sub>2</sub> O Zone (100 G.P.M.)	110	130	28
Basalt Black With White Volcanic Claystone & Void Areas	130	138	
Basalt (Red, Fractured)			
Open Channel H <sub>2</sub> O Zone	138	195	
Basalt (Red) With Claystone	195	280	
Basalt (Grey) With Void Areas	280	335	
Basalt (Fractured, Red)	335	360	
H <sub>2</sub> O Zone			
Basalt (Grey, With Claystone)	360	380	
Basalt (Brown to Red, Fractured) Claystone Layers			
H <sub>2</sub> O Zone	380	400	

Work started Dec. 1, 19 77 Completed Jan. 17, 19 78  
Date well drilling machine moved off of well 1/17/ 19 78

**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] Gary Stookberry Date 1/17/1978  
(Drilling Machine Operator)  
Drilling Machine Operator's License No. 801

**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 RAPID WATER WELL DRILLING COMPANY  
(Person, firm or corporation) (Type or print)  
Address P. O. BOX 750 LAKEVIEW, OREGON 97630  
[Signed] Gary Stookberry  
(Water Well Contractor)  
Contractor's License No. 652 Date 1/17/1978

# LAKE 1840



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

APR 01 2020

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

### I. OWNER INFORMATION

OWRD

Current Owner Name (please print): Fitzgerald Ranch Inc

Mailing Address: 27493 Plush-Adel Rd

City, State, Zip: Plush, OR 97637

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

Name & Address: Eleanor Fitzgerald, Fitzgerald Partners Inc

City, State, Zip: 28975 Hogback Rd, Plush, OR 97637

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

Township: 36S (North / South) Range: 24 (East / West) Section: 17 NE 1/4 of the SE 1/4

Tax Lot (usually last 3-5 numbers of Tax Map #): 3800 County Lake

GPS Coordinates: \_\_\_\_\_

Street Address of Well, City: Hogback Rd, Plush, OR

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): 1/17/78 Total Well Depth: 400' Casing Diameter: 16"

Owner at time the well was constructed (if known): Fitzgerald Brothers Ranch Well Log # (if known): LAKE 1840

Other Information: \_\_\_\_\_

SUBMITTED BY (please print): Scott D Montgomery

PHONE: 541-548-5833

EMAIL &/or FAX: scott@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:

4-1-2020

Well Log Number:

LAKE 1840

Well Identification #:

L-137438