Groundwater Application Review Summary Form

Application # G- 18823

GW Reviewer Ben Scandella **Date Review Completed:** 1/23/20

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:

[X] 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 1/23 ,20 20

TO: **Application G-** 18823

FROM: **GW:** Ben Scandella
(Reviewer's Name)

SUBJECT: Scenic Waterway Interference Evaluation

☐ YES
The source of appropriation is within or above a Scenic Waterway
☐ 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 _____ 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 1/23/2020

FROM: Groundwater Section Ben Scandella, Justin Iverson
Reviewer's Name

SUBJECT: Application G-18823 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: **DOANN HAMILTON; PACIFIC HYDRO-GEOLOGY INC.**
County: **TILLAMOOK**

A1. Applicant(s) seek(s) 2.005 CUBIC FEET PER SECOND from 2 well(s) in the North Coast Basin, Trask River subbasin

A2. Proposed use IRRIGATION (257.9 acres) Seasonality: MARCH 1 THROUGH OCTOBER 31

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	**TILL 50225***	**2**	**Alluvial**	**2.005**	**1S/10W-25 NW-SW**	**325'S, 870'E fr W ¼ cor S 25**
2	**Proposed**	**3**	**Alluvial**	**2.005**	**1S/10W-35 NE-NE**	**765'S, 2625' W fr SW cor DLC 44**

* 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	**7**	**5**	**1**	**6-6-97**	**135**	**0-61**	**+2-92**	**84-135**	**95-133**	**250+**	**N/A**	**A**
2	**7**	**N/A**	**N/A**	**N/A**	**100**	**0-50**	**0-100**	**N/A**	**TBD**	**N/A**	**N/A**	**N/A**

Use data from application for proposed wells.

A4. **Comments**: The amended application submitted on 1/22/2020 reduced the rate from 3.220 cfs (1450 gpm) to 2.005 cfs (900 gpm) and the total annual volume from 645 acre-feet to 387 acre-feet.
*TILL 50225 deepened on TILL 50400. Application specifies only "100" for casing intervals on proposed Well 2 (applicant's "Well 3"); this was assumed to extend continuously from land surface to 100 ft.

A5. ☒ **Provisions of the** North Coast (OAR 690-501) 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: The subject wells are not hydraulically connected with any of the water sources classified in OAR 690-501-0005.

A6. ☐ **Well(s) #** _____, _____, _____, _____, _____, tap(s) an aquifer limited by an administrative restriction.
Name of administrative area: _____
Comments: _____

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, 7F**;
   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 **Alluvial** 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 aquifer system accessed by the subject wells is composed of alluvial sediment (clay to gravel in size). The material was likely deposited by the river systems in the area (Trask, Tillamook) and marine processes (Schlicker *et al.*, 1972). Thickness of the sediments appears to exceed 135 feet based on a few nearby well logs. The elevation difference between ground surface and the stream stages are minimal, and levees are present to help control flooding of the lowlands (Schlicker *et al.*, 1972).

Groundwater for the proposed use cannot be determined to be over-appropriated due to insufficient available data regarding rates of recharge and the current quantity of groundwater withdrawals from the aquifer system.

Three observation wells are in the area: TILL 515, 634, and 654. Seasonal water level fluctuations range from less than 5 foot at the westernmost well (TILL 634) to over 10 feet at TILL 515, approximately 2 miles east of the subject well. The TILL 515 hydrograph appears to contain pumping data, so the exact seasonal fluctuation is difficult to ascertain.

Well density is low, and with the presence of the rivers and bay so close, long-term declines and well interference are unlikely to occur. The potential for salt water intrusion appears low given current groundwater development in the area, the distance and shallow depth of Tillamook Bay, and the presence of low-permeability material in the shallow subsurface recorded in many nearby well logs. However, additional groundwater pumping or increases in sea level in the future would increase the potential for salt water intrusion into the alluvial aquifer. To protect against saltwater intrusion, the following conditions should be included in the permit:

Special Permit Condition:

1. The applicant shall construct one (1) minimum six-inch diameter observation well to penetrate the same aquifer as the production wells. The well shall meet the Department's minimum well construction standards and shall be cased and continuously sealed to depth equal to the shallowest seal on any existing production wells. The well shall be constructed at a location approved by the Department for the purpose of instrumentation with continuous water-level and quality monitoring equipment. The landowner or permittee shall provide access to Department staff to install and maintain the monitoring equipment. The well shall not be used for any other purpose while the Department is monitoring water levels. The well shall be completed prior to water use under the terms of any permit issued.

The conditions recommended in item B1d should also help to avoid injury to existing groundwater rights or to the groundwater resource.

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	**Alluvial**	☐	☒
2	**Alluvial**	☐	☒
		☐	☐
		☐	☐
		☐	☐

Basis for aquifer confinement evaluation: Both the water-bearing zone and static water levels are shallow, and local stream reaches incise into the aquifer system. Fine-grained material may locally create semi-confined conditions.

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? YES	NO	ASSUMED	Potential for Subst. Interfer. Assumed? YES	NO
1	1	**Trask River**	5	5*	400	☒	☐	☐	☒	☐
1	2	**Trask Slough**	5	5*	1060	☒	☐	☐	☒	☐
1	3	**Tillamook River**	5	5*	3900	☒	☐	☐	☐	☒
2	1	**Trask River**	5	5*	3280	☒	☐	☐	☐	☒
2	2	**Trask Slough**	5	5*	280	☒	☐	☐	☒	☐
2	3	**Tillamook River**	5	5*	1630	☒	☐	☐	☐	☒

Basis for aquifer hydraulic connection evaluation: *Estimated; topo sheet not clear.

Water Availability Basin the well(s) are located within: TRASK R > TILLAMOOK BAY - AT MOUTH (WID 71235), TILLAMOOK R > TILLAMOOK BAY - AT MOUTH (WID 71232)

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 source. Limit evaluation to instream rights and minimum stream flows that are pertinent to that surface water source, and 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?
1	1	☒	☐	71235A	97	☒	80.2	☒	<25	☒
1	2	☒	☐			☐	80.2	☒	<25	☒
1	3	☐	☐	58A	20	☒	9.65	☒	<25	☒
2	1	☐	☐	71235A	97	☒	80.2	☒	<25	☒
2	2	☒	☐			☐	9.65	☒	<25	☒
2	3	☐	☐	58A	20	☒	9.65	☒	<25	☒

C3b. **690-09-040 (4):** Evaluation of stream impacts <u>by total appropriation</u> 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?
			☐			☐		☐		☐
			☐			☐		☐		☐
			☐			☐		☐		☐
			☐			☐		☐		☐

Comments: ________

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.

Non-Distributed Wells Well	SW#	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS													
Interference CFS													

Distributed Wells 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													
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS													
Interference CFS													
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS													
Interference CFS													
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS													
Interference CFS													
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS													
Interference CFS													

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
(A) = Total Interf.												
(B) = 80 % Nat. Q												
(C) = 1 % Nat. Q												
(D) = (A) > (C)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
(E) = (A / B) x 100	%	%	%	%	%	%	%	%	%	%	%	%

(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: The combination of Well 2 (Applicant's proposed Well 3) and Stream 2 (Trask Slough) is expected to experience the greatest potential depletion due to their proximity. This combination was modeled using the Hunt 1999 stream depletion model (Hunt, 1999), assuming constant pumping at the maximum rate from Well 2 until the total annual volume of 645 acre-feet was reached, after 101 days. Representative parameter values were estimated using the well logs for TILL 50225 and 50400, as well as standard literature (Freeze and Cherry, 1979). The most likely parameter values suggest that stream depletion at 30 days will be limited to 3% of the pumping rate, and even a highly conservative parameter set suggested it would be limited to less than 25% (see detailed results below).

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)_____;

ii. ☐ The permit should contain special condition(s) as indicated in "Remarks" below;

C6. **SW / GW Remarks and Conditions:** PSI is found for all combinations of wells and surface water sources in the above analysis, based on proximity of the wells to the surface water, the requested rate's exceeding 1% of the applicable instream water right or natural streamflow, or some combination of these. Reduction of the rate, but primarily the duty, of the application will reduce impacts to the tidally-influenced stream reaches. Because of proximity to Tillamook Bay, all of these stream reaches are heavily influenced daily by the ocean tides, which should mix them to some extent with brackish water from Tillamook Bay. The presence of Tillamook Bay will effectively maintain and control stream stage in the lower reaches of both rivers.

References Used:

Freeze, R.A. and J.A. Cherry, 1979. Groundwater. Prentice-Hall, Englewood Cliffs, N.J.

Hunt, B., 1999. Unsteady Stream Depletion from Ground Water Pumping. Groundwater 37:98–102.

Schlicker, H.G., R.J. Deacon, J.D. Beaulieu, and G.W. Olcott, 1972. Environmental Geology of the Coastal Region of Tillamook and Clatsop Counties, Oregon. Department of Geology and Mineral Industries. https://digital.osl.state.or.us/islandora/object/osl%3A26973. Accessed 9 Dec 2019.

D. WELL CONSTRUCTION, OAR 690-200

D1. **Well #:** _____ **Logid:** _____

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:** _____

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

Water Availability Tables

DETAILED REPORT ON THE WATER AVAILABILITY CALCULATION

TRASK R > TILLAMOOK BAY - AT MOUTH
Watershed ID #: 71235 Basin: NORTH COAST Exceedance Level: 80
Time: 4:16 PM Date: 12/09/2019

Monthly values are in cfs.
Storage is the annual amount at 50% exceedance in ac-ft.

Month	Natural Stream Flow	Consumptive Use and Storage	Expected Stream Flow	Reserved Stream Flow	Instream Requirements	Net Water Available
JAN	773.00	146.00	627.00	0.00	500.00	127.00
FEB	905.00	137.00	768.00	0.00	500.00	268.00
MAR	793.00	40.30	753.00	0.00	500.00	253.00
APR	580.00	40.40	540.00	0.00	500.00	39.60
MAY	358.00	40.70	317.00	0.00	467.00	-150.00
JUN	201.00	41.90	159.00	0.00	157.00	2.09
JUL	124.00	44.60	79.40	0.00	157.00	-77.60
AUG	86.30	43.60	42.70	0.00	103.00	-60.30
SEP	80.20	40.70	39.50	0.00	97.00	-57.50
OCT	94.60	40.40	54.20	0.00	220.00	-166.00
NOV	424.00	106.00	318.00	0.00	500.00	-182.00
DEC	869.00	141.00	728.00	0.00	500.00	228.00
ANN	560,000	51,900	508,000	0	253,000	269,000

DETAILED REPORT ON THE WATER AVAILABILITY CALCULATION

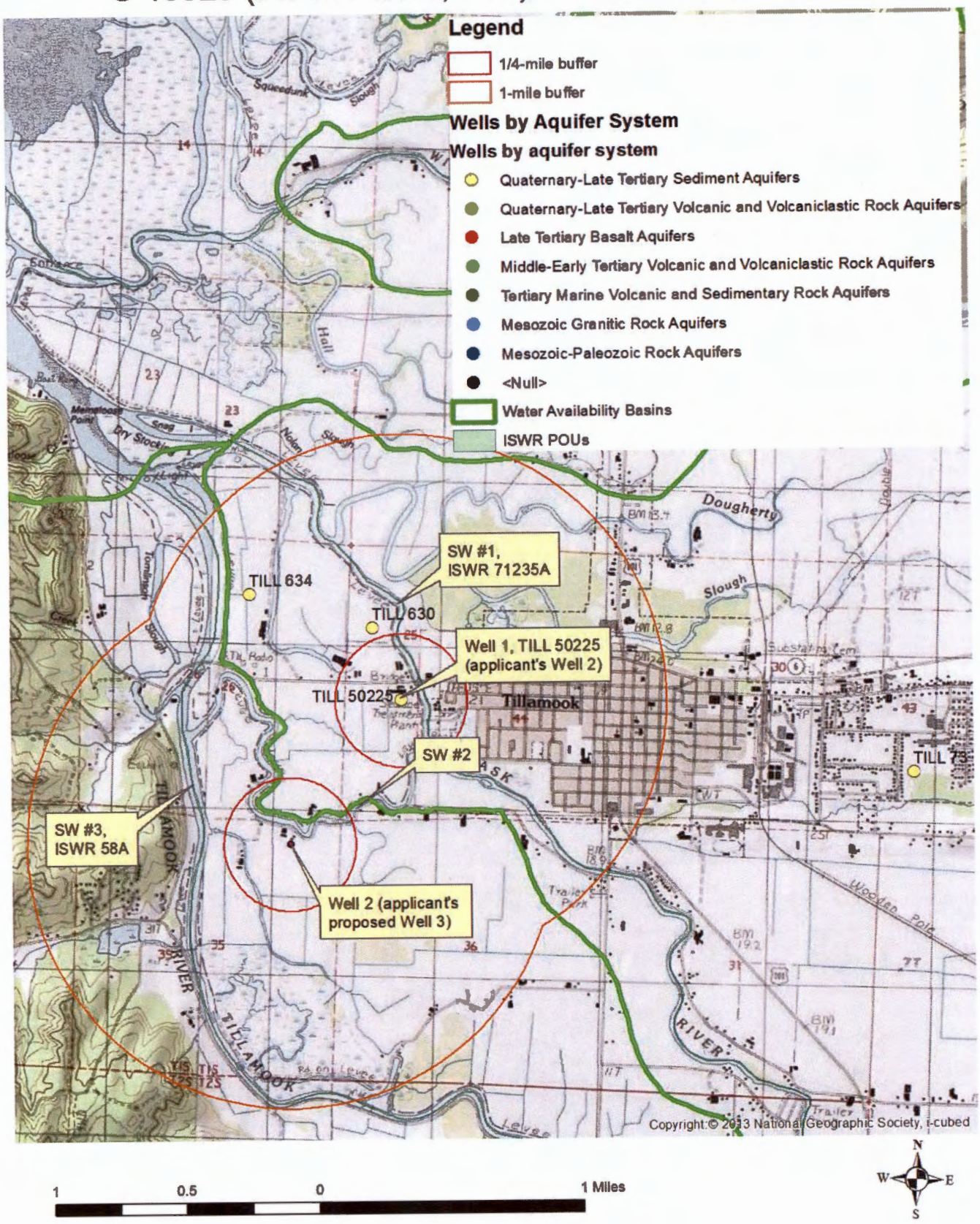
TILLAMOOK R > TILLAMOOK BAY - AT MOUTH
Watershed ID #: 71232 Basin: NORTH COAST Exceedance Level: 80
Time: 4:17 PM Date: 12/09/2019

Monthly values are in cfs.
Storage is the annual amount at 50% exceedance in ac-ft.

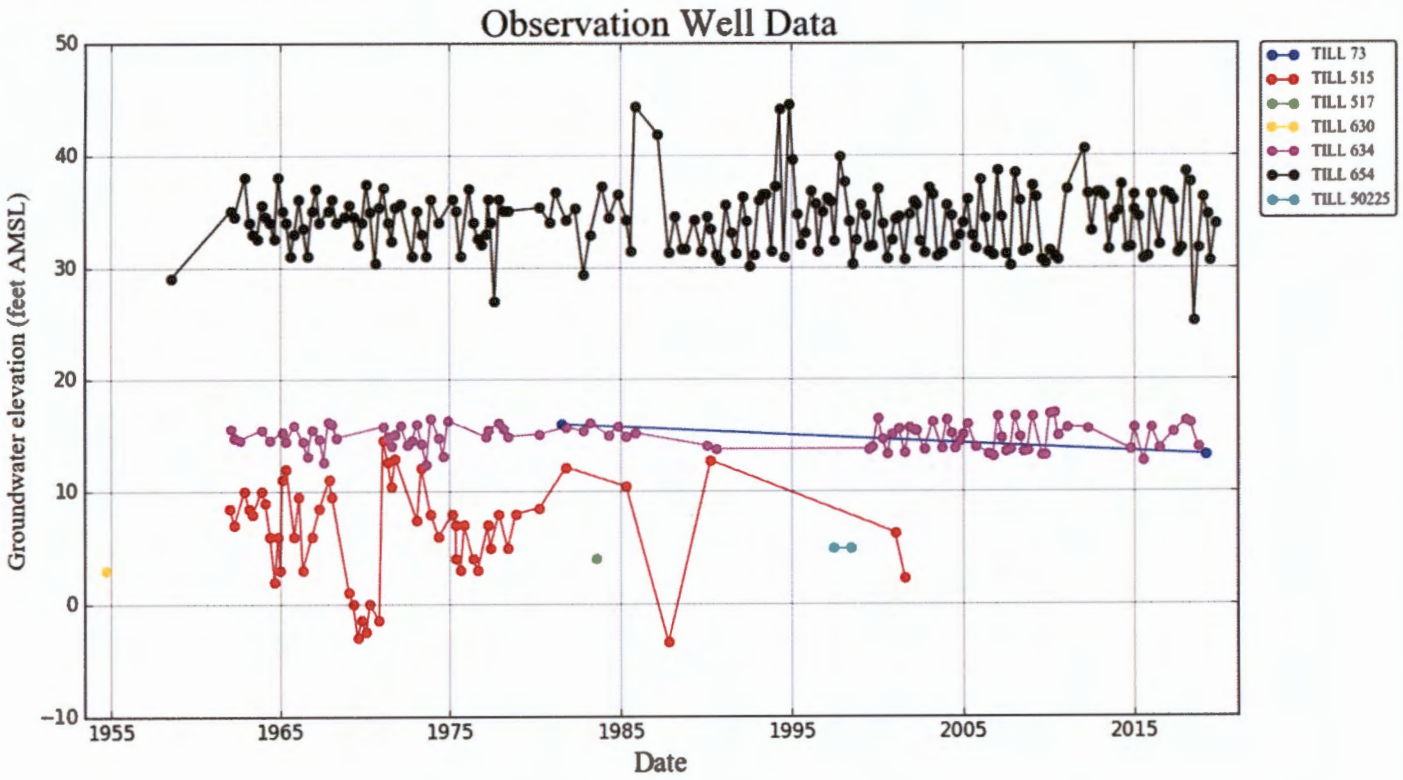
Month	Natural Stream Flow	Consumptive Use and Storage	Expected Stream Flow	Reserved Stream Flow	Instream Requirements	Net Water Available
JAN	207.00	37.80	169.00	0.00	143.00	26.20
FEB	284.00	37.50	246.00	0.00	143.00	103.00
MAR	253.00	34.40	219.00	0.00	143.00	75.60
APR	157.00	34.50	122.00	0.00	143.00	-20.50
MAY	96.90	34.50	62.40	0.00	80.00	-17.60
JUN	48.10	35.10	13.00	0.00	54.00	-41.00
JUL	21.40	36.60	-15.20	0.00	38.40	-53.60
AUG	13.70	36.00	-22.30	0.00	20.00	-42.30
SEP	9.65	34.50	-24.80	0.00	20.00	-44.80
OCT	15.50	34.30	-18.80	0.00	90.00	-109.00
NOV	82.30	36.00	46.30	0.00	143.00	-96.70
DEC	284.00	38.00	246.00	0.00	143.00	103.00
ANN	179,000	25,900	155,000	0	69,900	95,500

Well Location Map

G-18823 (Jenck Farms, LLC): T1S/R10W S25 & 26



Water-Level Trends in Nearby Wells



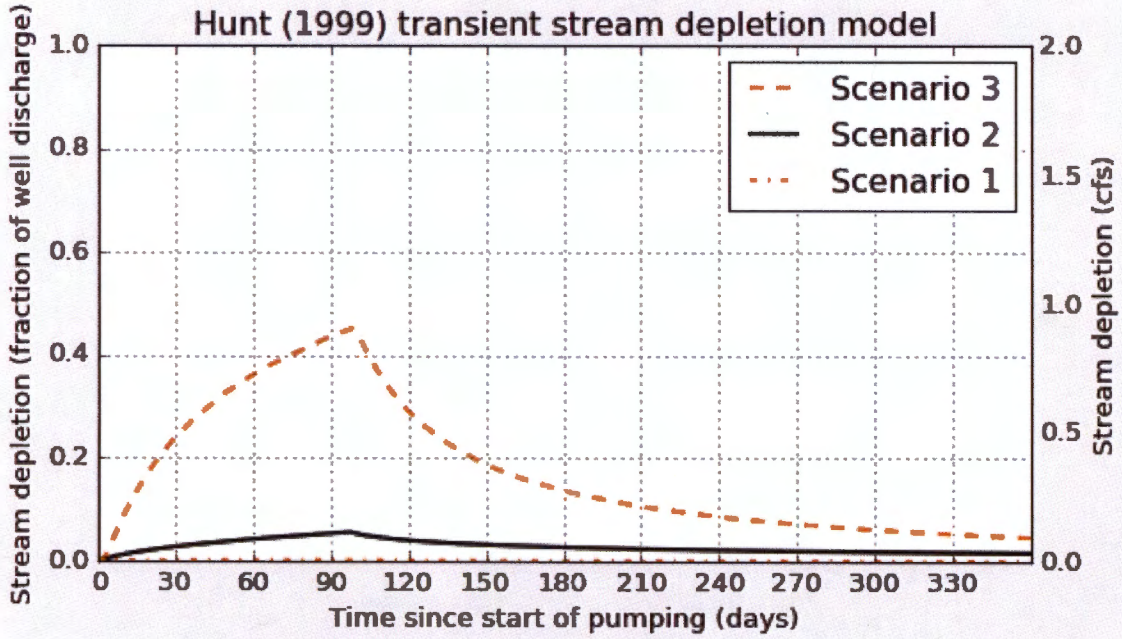
Stream depletion modeling parameters and results

Application type:	G
Application number:	18823
Well number:	2
Stream Number:	2
Pumping rate (cfs):	2.005
Pumping duration (days):	97
Pumping start month number (3=March)	3.0

Parameter	Symbol	Scenario 1	Scenario 2	Scenario 3	Units
Distance from well to stream	a	380.0	280.0	180.0	ft
Aquifer transmissivity	T	40000.0	2000.0	100.0	ft2/day
Aquifer storativity	S	0.15	0.1	0.05	-
Aquitard vertical hydraulic conductivity	Kva	0.01	0.05	0.1	ft/day
Not used		35.0	35.0	35.0	
Aquitard thickness below stream	babs	30.0	25.0	20.0	ft
Not used		0.2	0.2	0.2	
Stream width	ws	70.0	90.0	110.0	ft

Stream depletion for Scenario 2:

Days	10	330	360	30	60	90	120	150	180	210	240	270	300
Depletion (%)	1	2	2	3	4	5	4	3	3	2	2	2	2
Depletion (cfs)	0.02	0.04	0.03	0.05	0.08	0.11	0.08	0.06	0.05	0.05	0.04	0.04	0.04



MEMO

To: Kristopher Byrd, Well Construction and Compliance Section Manager

From: Joel Jeffery, Well Construction Program Coordinator

Subject: Review of Water Right Application G-18823

Date: February 12, 2020

The attached application was forwarded to the Well Construction and Compliance Section by Water Rights. Ben Scandella reviewed the application. Please see Ben's Groundwater Review and the Well Logs.

Applicant's Well #2 (TILL 50400 the deepening of TILL 50225): Based on a review of the Well Reports, Applicant's Well #2 seems to protect the groundwater resource.

The construction of Well #2 may not satisfy hydraulic connection issues.

Applicant's Well #3 is a proposed well and has not yet been constructed. Therefore a review cannot be completed.

till
50225

RECEIVED
JUN 20 1997
WATER RESOURCES DEPT.
SALEM, OREGON

Well ID# 109274

(START CARD) # 88575

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

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

(1) OWNER: Well Number 2

Name Jenck Farms

Address 745 Third St.

City Tillamook State Oregon Zip 97141

(2) TYPE OF WORK

[X] New Well [ ] Deepening [ ] Alteration (repair/recondition) [ ] Abandonment

(3) DRILL METHOD:

[X] Rotary Air [ ] Rotary Mud [ ] Cable [ ] Auger

[ ] Other

(4) PROPOSED USE:

[X] Domestic [ ] Community [ ] Industrial [ ] Irrigation

[ ] Thermal [ ] Injection [ ] Livestock [ ] Other

(5) BORE HOLE CONSTRUCTION:

Special Construction approval [ ] Yes [X] No Depth of Completed Well 110 ft.

Explosives used [ ] Yes [X] No Type ____ Amount ____

HOLE Diameter	From	To	SEAL Material	From	To	Sacks or pounds
12	0	61	Cement	0	61	45
8	61	110	—	—	—	—

How was seal placed: Method [ ] A [ ] B [X] 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:	8	+25	92	.250	[X]	[ ]	[X]	[ ]
					[ ]	[ ]	[ ]	[ ]
					[ ]	[ ]	[ ]	[ ]
					[ ]	[ ]	[ ]	[ ]
Liner:					[ ]	[ ]	[ ]	[ ]
					[ ]	[ ]	[ ]	[ ]

Final location of shoe(s) 92

(7) PERFORATIONS/SCREENS:

[ ] Perforations Method ____

[ ] Screens Type ____ Material ____

From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
						[ ]	[ ]
						[ ]	[ ]
						[ ]	[ ]
						[ ]	[ ]
						[ ]	[ ]

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

[ ] Pump [ ] Bailer [X] Air [ ] Flowing Artesian

Yield gal/min	Drawdown	Drill stem at	Time
250	89	90	1 hr.

Temperature of water 54 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 Tillamook Latitude ____ Longitude ____

Township 1S N or S Range 10W E or W. WM.

Section 25 NW 1/4 SW 1/4

Tax Lot 700 Lot ____ Block ____ Subdivision ____

Street Address of Well (or nearest address) JAME

(10) STATIC WATER LEVEL:

1 ft. below land surface. Date 6-6-97

Artesian pressure ____ lb. per square inch. Date ____

(11) WATER BEARING ZONES:

Depth at which water was first found 5

From	To	Estimated Flow Rate	SWL
5	10	1	
92	110	250	1

(12) WELL LOG:

Ground Elevation ____

Material	From	To	SWL
Topsoil	0	1	
Blue Clay	1	35	
Blue Clay + Med. Beach Sand	35	55	
Gray Clay	55	92	
Gray Clay w/ Lg. Gravel + Med. Sand	92	110	1

Date started 6-4-97 Completed 6-6-97

(unbonded) Water Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon water supply well construction standards. Materials used and information reported above are true to the best of my knowledge and belief.

WWC Number ____

Signed ____ Date ____

(bonded) Water Well Constructor Certification:

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

WWC Number 1221

Signed Tommy C Estes Date 6-6-97

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Till
50460

RECEIVED
JUN - 8 1998
WATER RESOURCES DEPT.
SALEM, OREGON

JUL - 7 1998
WATER RESOURCES DEPT.
SALEM, OREGON

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

WELL I.D. # L 09274
START CARD # 114032

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

(1) OWNER: Well Number

Name JENCK FARMS
Address 745 THIRD STREET
City TILLAMOOK State OR Zip 97141

(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 135 ft.
Explosives used ☐ Yes ☒ No Type Amount

HOLE Diameter	From	To	SEAL Material	From	To	Sacks or pounds
		SEAL UNDISTURBED				
8	0	110				
6	110	135				

How was seal placed: Method ☐ A ☐ B ☐ C ☐ D ☐ E
☐ Other
Backfill placed from ft. to ft. Material
Gravel placed from ft. to ft. Size of gravel

(6) CASING/LINER:

	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing:					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
Liner:	6"	84	135	250	☒	☐	☒	☐
					☐	☐	☐	☐

Final location of shoe(s) NUMEX 5½" @ 135'

(7) PERFORATIONS/SCREENS:

☒ Perforations Method DRIVE DOWN
☐ Screens Type Material STEEL

From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
95	133	¼ x 3	480	6"	pipe	☐	☒
						☐	☐
						☐	☐
						☐	☐
						☐	☐

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

☐ Pump ☐ Bailer ☒ Air ☐ Flowing Artesian

Yield gal/min	Drawdown	Drill stem at	Time
250+		80	1 hr.

Temperature of water 54 F 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 TILLAMOOK Latitude Longitude
Township 1S N or S Range 10W E or W. WM.
Section 25 NW 1/4 SW 1/4
Tax Lot 700 Lot Block Subdivision
Street Address of Well (or nearest address) 745 THIRD STREET

(10) STATIC WATER LEVEL:

1 ft. below land surface. Date 06/02/98
Artesian pressure lb. per square inch. Date

(11) WATER BEARING ZONES:

Depth at which water was first found ?/92

From	To	Estimated Flow Rate	SWL
92	131	250+ GPM	1

(12) WELL LOG:

Ground Elevation

Material	From	To	SWL
Existing 8" well reported	0	110	1
Cave-in, well bore cleaned out of debris	92	110	1
DEEPENING			
Gray & gray-brown gravel	110	131	1
Gray clay	131	135	

Date started 06/01/98 Completed 06/02/98

(unbonded) Water Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon water supply well construction standards. Materials used and information reported above are true to the best of my knowledge and belief.

WWC Number 1492
Signed Mel Bigsby Date 06/03/98

(bonded) Water Well Constructor Certification:

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

WWC Number 1266
Signed Jon Jenck Date 06/03/98

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WATER SUPPLY WELL REPORT

(as required by ORS 537.765)

RECEIVED
JUN 20 1997
WATER RESOURCES DEPT.
SALEM, OREGON

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

(START CARD) # 88575

(1) OWNER: Well Number #2
Name Jenck Farms
Address 745 Third St.
City Tillamook State Oregon Zip 97141

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

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

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

(5) BORE HOLE CONSTRUCTION:
Special Construction approval [ ] Yes [X] No Depth of Completed Well 110 ft.
Explosives used [ ] Yes [X] No Type _____ Amount _____

HOLE Diameter	From	To	SEAL Material	From	To	Sacks or pounds
12	0	61	Cement	0	61	45
8	61	110				

How was seal placed: Method [ ] A [ ] B [X] 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:	8	+2	92	.250	[X]	[ ]	[X]	[ ]
					[ ]	[ ]	[ ]	[ ]
					[ ]	[ ]	[ ]	[ ]
					[ ]	[ ]	[ ]	[ ]
Liner:					[ ]	[ ]	[ ]	[ ]
					[ ]	[ ]	[ ]	[ ]

Final location of shoe(s) 92

(7) PERFORATIONS/SCREENS:
[ ] Perforations Method _____
[ ] Screens Type _____ Material _____

From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
						[ ]	[ ]
						[ ]	[ ]
						[ ]	[ ]
						[ ]	[ ]
						[ ]	[ ]

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

[ ] Pump [ ] Bailer [X] Air [ ] Flowing Artesian

Yield gal/min	Drawdown	Drill stem at	Time
350	89	90	1 hr

Temperature of water 54 Depth Artesian Flow Found _____
Was a water analysis done? [ ] Yes By whom _____
Did any water 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 Tillamook Latitude _____ Longitude _____
Township 1S N or S Range 10W E or W WM
Section 25 NW 1/4 SW 1/4
Tax Lot 702 Lot _____ Block _____ Subdivision _____
Street Address of Well (or nearest address) SAME

(10) STATIC WATER LEVEL:
1 ft. below land surface. Date 6-6-97
Artesian pressure _____ lb. per square inch. Date _____

(11) WATER BEARING ZONES:
Depth at which water was first found 5

From	To	Estimated Flow Rate	SWL
5	10	1	
92	110	250	1

(12) WELL LOG:
Ground Elevation _____

Material	From	To	SWL
Topsoil	0	9	
Blue Clay	9	35	
Blue Clay & Med. Basalt Sand	35	55	
Gray Clay	55	92	
Gray Clay w/ Lg Gravel & Med Sand	92	110	1

Date started 6-4-97 Completed 6-6-97

(unbonded) Water Well Constructor Certification:
I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon water supply well construction standards. Materials used and information reported above are true to the best of my knowledge and belief.
WWC Number _____
Signed _____ Date _____

(bonded) Water Well Constructor Certification:
I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon water supply well construction standards. This report is true to the best of my knowledge and belief.
WWC Number 1221
Signed [signature] Date 6-6-97

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