

# Groundwater Application Review Summary Form

Application # G: BS33

GW Reviewer: Aurora Bouchier Date Review Completed: 4/17/18

## 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).*



**PUBLIC INTEREST REVIEW FOR GROUNDWATER APPLICATIONS**

TO: Water Rights Section Date April 17, 2018  
 FROM: Groundwater Section Aurora C Bouchier  
 Reviewer's Name  
 SUBJECT: Application G- 18533 Supersedes review of na  
 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: Pan Estates LLC County: Lane

A1. Applicant(s) seek(s) 0.02\* cfs from 1 well(s) in the Willamette Basin,  
Coast Fork Willamette subbasin (Creswell quad)

A2. Proposed use Nursery \*\* Seasonality: year round

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	LANE 62512	1	Alluvium	0.02*	19S/3W-23 SW-SE	1296' N, 1570' W fr SW cor S 23 ***
2						
3						
4						
5						

\* 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	550	76	6	6/29/2003	140	0-22	-1.5-138.5	Na	120-135, 60-100	30	Na	A

Use data from application for proposed wells.

A4. **Comments:** \*The application requests a maximum rate of 11.2 with no units indicated. This review assumes they intend gallons per minute (gpm) for year round nursery use.  
\*\* The application is for nursery use. The nursery acreage is not specified. The application map indicates a total of 9.4 acres, but two different markers are used with no specification as to what they are. The application does identify underlying primary water right certificates 51019 and 35348, both of which are owned by the Creswell Irrigation Association. It appears that Certificate 51019 does not overlap with what appears to be the proposed POU.  
\*\*\*The meets and bounds are listed as from the SW corner of Section 23. However, to be in the tax lot listed it appears the meets and bounds should be from the SE corner.

A5.  **Provisions of the Willamette (OAR 69-502-0240)** Willamette 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 well is greater than 1/4-mile from a perennial surface water source, so the pertinent rule does not apply.

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) 7N;
  - 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 applicant’s well is located within the Holocene floodplain deposits of the Willamette River (Unit Qalc in O’Connor et al., 2001). Although most surfaces which are not active channel beds and bars can be covered by a variable thickness of fine sand, silt, and clay, the Holocene floodplain deposit aquifer is generally unconfined (Conlon et al., 2005).

Nearby State Observation Well (LANE 20028, located approximately 3-miles to the northeast in an area that has been mapped as Post-Missoula Flood Pleistocene sand and gravel unit Qg<sub>1</sub> by O’Connor and others, 2001) has been monitored periodically since the 1960’s through present. The spring time water-level in LANE 20028 show no decline over the period of record. The well is open to the Tertiary Marine Volcanic and Sedimentary Rock Aquifers described as “sandstone” on the well log. However, the well is cased and sealed one foot into the sandstone. It is possible that the well is producing, in part, from the unconsolidated alluvium (Unit Qg<sub>1</sub> from O’Conner and others, 2001) overlying the bedrock. The unconsolidated alluvium is likely in hydraulic connection with the nearby surface water sources.

\_\_\_\_\_

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\_\_\_\_\_

**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	Alluvium	<input type="checkbox"/>	<input checked="" type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>

**Basis for aquifer confinement evaluation:** Although the logs for the applicant's well reports a static water level above the depths at which water was first encountered, the groundwater in the Holocene Flood deposit is, in general, unconfined (Conlon et al., 2005). The variable thickness of fine topsoil and clay listed on nearby well logs are likely not widespread.

**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	Hill Creek	~545	540-564	1,910	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1	2	Coast Fork Willamette River	~545	534-546	3,100	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1	3	Tunnel Millrace*	~545	544-553	<20	<input type="checkbox"/>	<input checked="" 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"/>
						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Basis for aquifer hydraulic connection evaluation:** Published reports describe the subsurface material of the flood plain deposits of the Willamette River as unconsolidated material consisting of highly permeable zones of "substantial groundwater flow that is likely to be well connected to the surface flow in the Willamette River and major tributaries" (O'Connor et al., 2001). The water level in the applicant's well is above the water levels in nearby reaches of the surface water sources.

\* Tunnel Millrace is mapped as a partially perennial and partially intermittent stream. However, this feature is part of a conveyance system and should more appropriately be mapped as a canal (personal communication with Watermaster Lanaya Blakely, 4/16/2018). Therefore, Tunnel Millrace is not considered a viable surface water source on this review.

**Water Availability Basin the well(s) are located within:** Watershed ID: 532 [Coast Fk Willamette R > Willamette R – 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 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	<input type="checkbox"/>	<input type="checkbox"/>	na	na	<input type="checkbox"/>	65.60	<input type="checkbox"/>	<<25%	<input type="checkbox"/>
1	2	<input type="checkbox"/>	<input type="checkbox"/>	IS 81887	200*	<input type="checkbox"/>	65.60	<input type="checkbox"/>	<<25%	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>

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"/>
	<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:** \*IS 81887 provides 200 cfs required stream flow during the months of November through March for the fish. The remainder of the year has no water set aside for fish under IS 81887.

The stream depletion at 30 days was estimated using the Hunt 1999 model and assuming a 3 foot clogging layer beneath the streambed.

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													
(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:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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:** \_\_\_\_\_  
Stream depletions at 30 days is modeled to be less than 25%. However, stream depletion will increase over time until all of the pumped water is balanced by reduced stream flow.

**References Used:**  
Application files: G-18533.

Conlon, T. D., Wozniak, K. C., Woodcock, D., Herrera, N.B., Fischer, B.J. Morgan, D.S., Lee, K.K., and Hinkle, S.R., 2005, Ground-Water Hydrology of the Willamette Basin, Oregon: U. S. Geological Survey Scientific Investigations Report 2005-5168.

Gannett, Marshall W., and Caldwell, Rodney R., 1998, Geologic Framework of the Willamette Lowland Aquifer System, Oregon and Washington: U. S. Geological Survey Professional Paper 1424-A.

Murray, R.B., 2006, Preliminary geologic Map of the Creswell 7.5Æ quad., Lane County, OR, Open File Report O-06-12, Oregon Department of Geology and Mineral Industries, Portland, OR., map scale 1:24,000.

O'Connor, J. E., Sarna-Wojcicki, A., Wozniak, K. C., Polette, D. J., and Fleck, R. J., 2001, Geologic map of Quaternary units in the Willamette Valley, Oregon: Reston, Va., U.S. Geological Survey, Professional Paper 1620, map scale 1:250,000.

Woodward, Dennis G., Gannett, Marshall W., and Vaccaro, John J., 1998 Hydrogeologic Framework of the Willamette Lowland Aquifer System, Oregon and Washington: U. S. Geological Survey Professional Paper 1424-B.

**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**

WATER AVAILABILITY TABLE															
Watershed ID #: 532		COAST FK WILLAMETTE R > WILLAMETTE R - AT MOUTH						Exceedance Level: 80							
Time: 2:21 PM		Basin: WILLAMETTE						Date: 04/16/2018							
# watershed	Nest ID	Stream Name	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	STOR
1	181	WILLAMETTE R > COLUMBIA R - AT MOUTH	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
2	182	WILLAMETTE R > COLUMBIA R - AB MOLALLA R	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
3	183	WILLAMETTE R > COLUMBIA R - AB MILL CR AT GAGE 14191	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
4	30200321	WILLAMETTE R > COLUMBIA R - AB PERIWINKLE CR AT GAGE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
5	185	WILLAMETTE R > COLUMBIA R - AB MCKENZIE R	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES
6	532	COAST FK WILLAMETTE R > WILLAMETTE R - AT MOUTH	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES

DETAILED REPORT ON THE WATER AVAILABILITY CALCULATION						
Watershed ID #: 532		COAST FK WILLAMETTE R > WILLAMETTE R - AT MOUTH			Exceedance Level: 80	
Time: 2:21 PM		Basin: WILLAMETTE			Date: 04/16/2018	
Month	Natural Stream Flow	Consumptive Use and Storage	Expected Stream Flow	Reserved Stream Flow	Instream Requirements	Net Water Available
Monthly values are in cfs. Storage is the annual amount at 50% exceedance in ac-ft.						
JAN	955.00	123.00	832.00	0.00	200.00	632.00
FEB	1,080.00	297.00	783.00	0.00	200.00	583.00
MAR	1,080.00	468.00	612.00	0.00	200.00	412.00
APR	928.00	369.00	559.00	0.00	40.00	519.00
MAY	531.00	236.00	295.00	0.00	40.00	255.00
JUN	216.00	28.60	187.00	0.00	40.00	147.00
JUL	108.00	37.30	70.70	0.00	40.00	30.70
AUG	70.50	33.10	37.40	0.00	40.00	-2.57
SEP	65.60	24.70	40.90	0.00	40.00	0.86
OCT	86.40	8.13	78.30	0.00	40.00	38.30
NOV	268.00	93.70	174.00	0.00	200.00	-25.70
DEC	761.00	9.44	752.00	0.00	200.00	552.00
ANN	754,000	104,000	651,000	0	77,000	574,000



DETAILED REPORT OF INSTREAM REQUIREMENTS

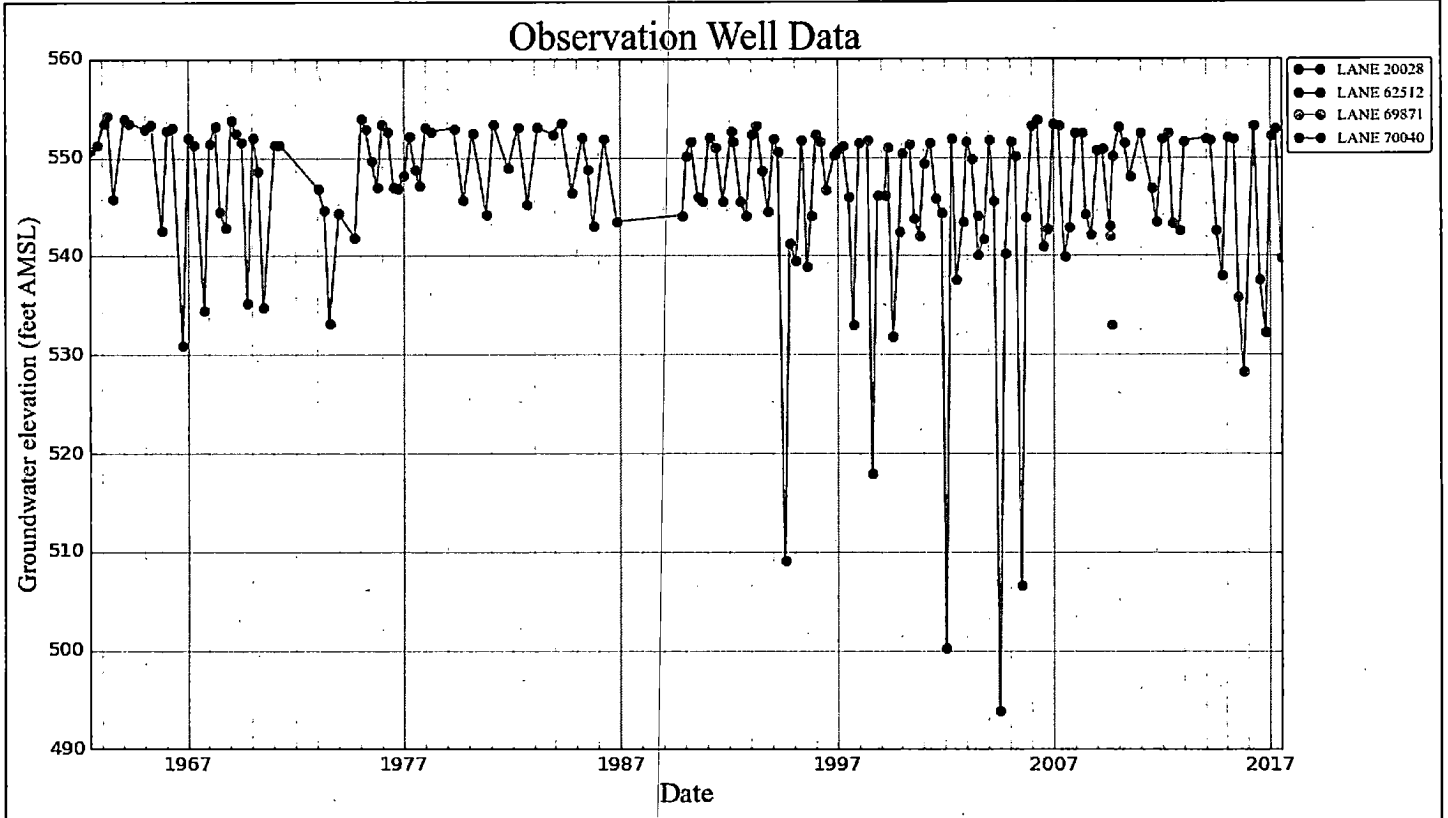
Watershed ID #: 532  
Time: 9:00 AM

COAST FK WILLAMETTE R > WILLAMETTE R - AT MOUTH

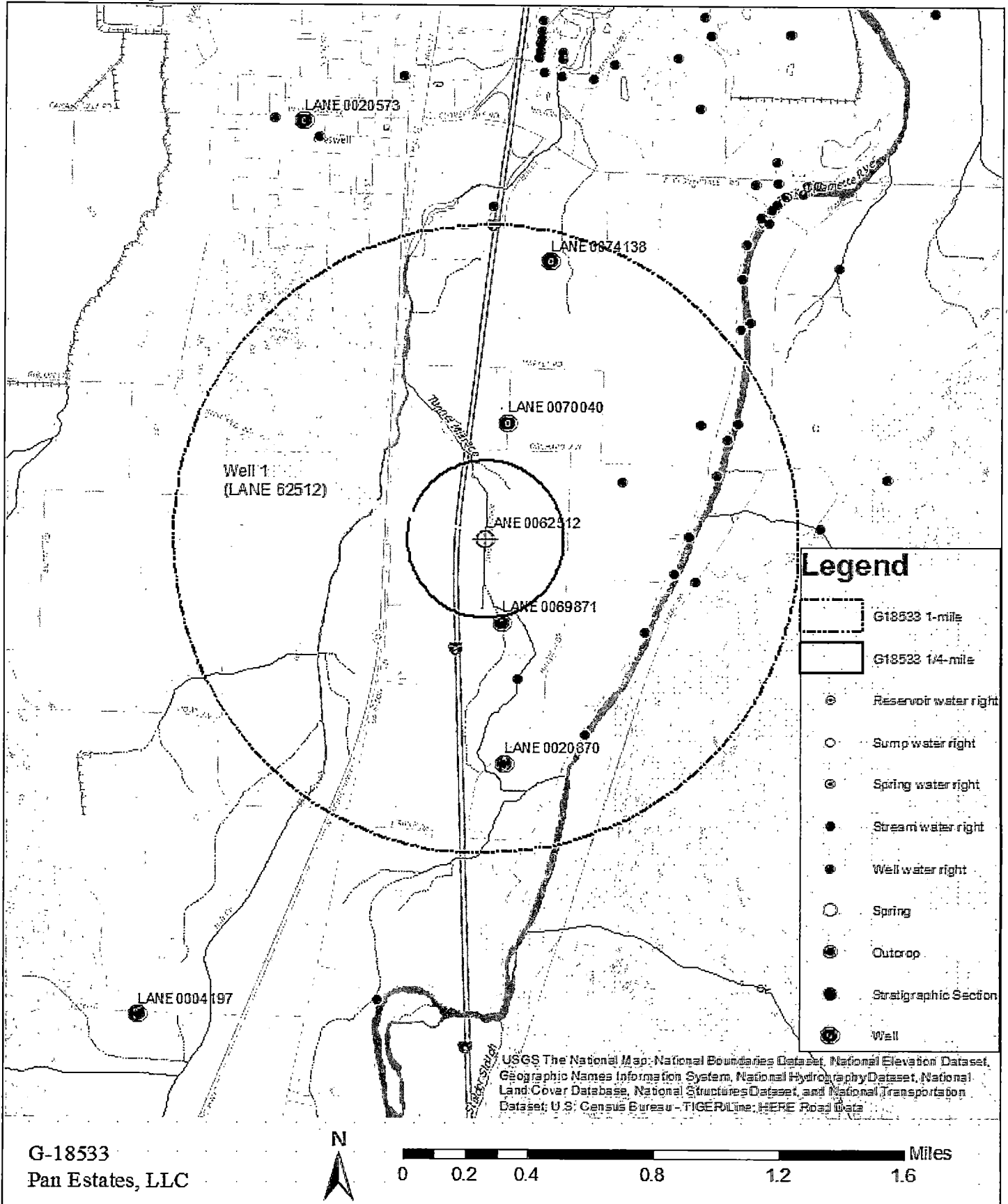
Basin: WILLAMETTE  
Date: 04/17/2018

Application Number	Status	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Monthly values are in cfs.													
MF532A	CERTIFICATE	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.00	40.0
MF84A	APPLICATION	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.00	40.0
IS81887A	CERTIFICATE	200.0	200.0	200.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	200.00	200.0
MAXIMUM		200.0	200.0	200.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	200.0	200.0

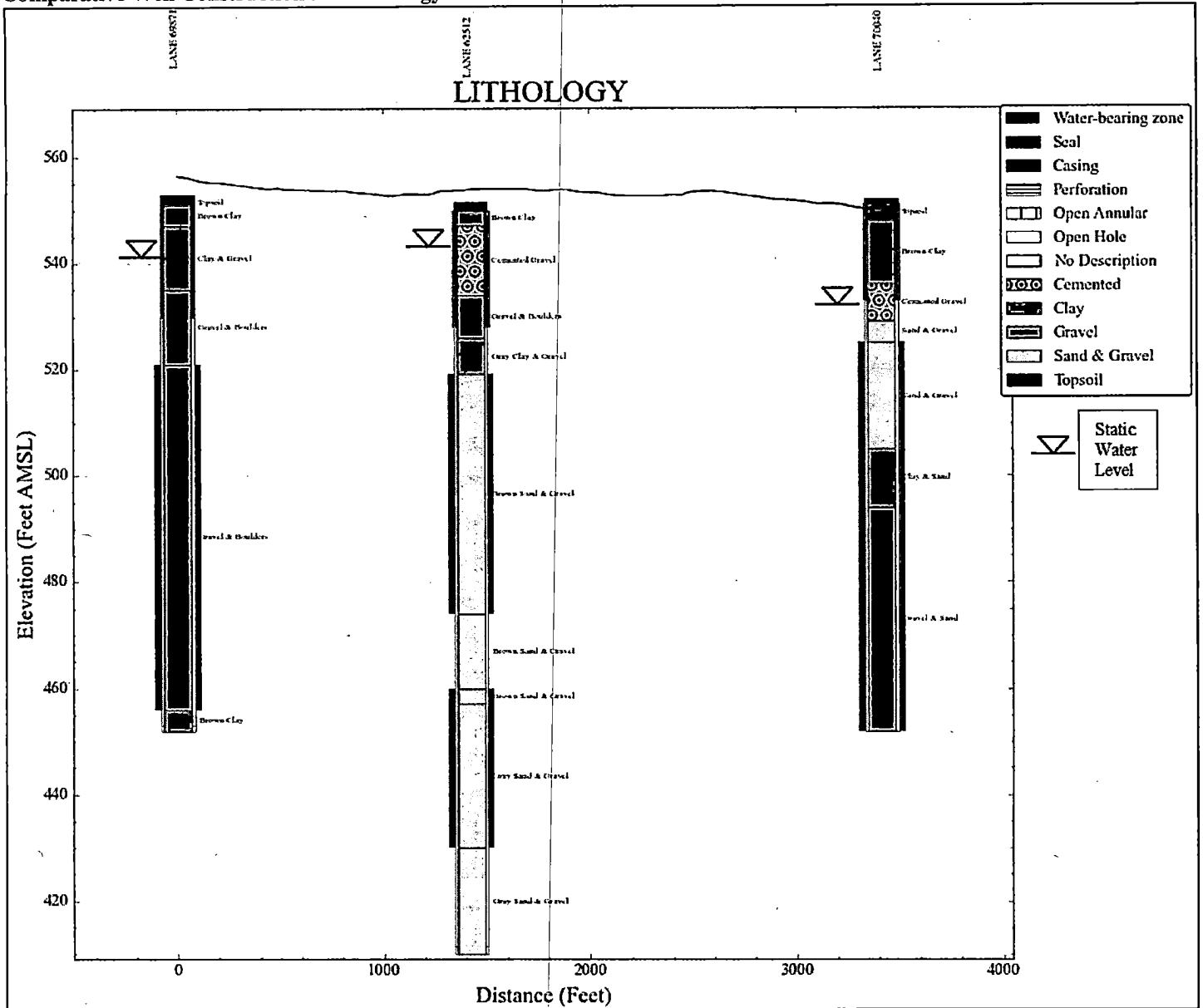
Water-Level Trends in Nearby Wells



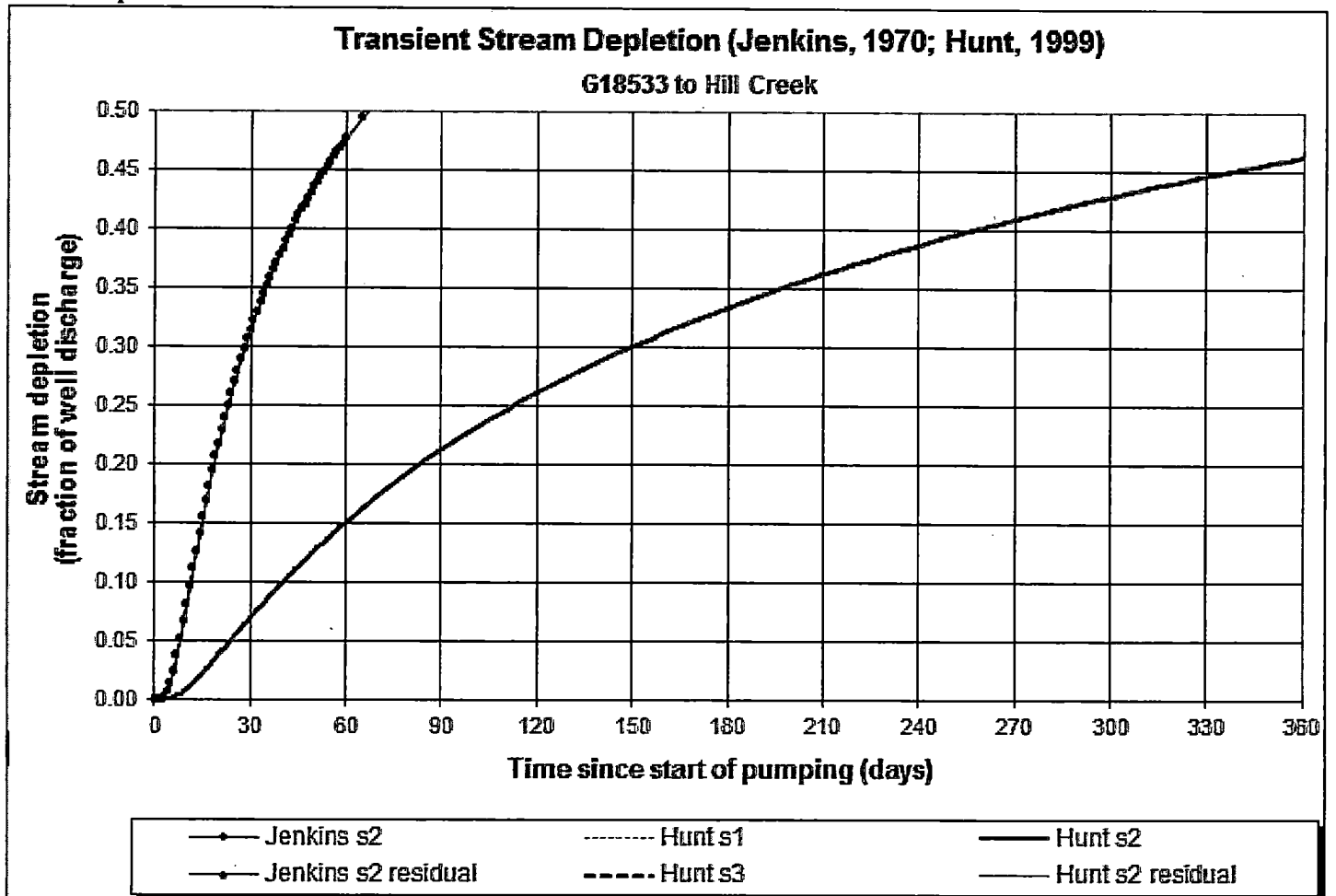
Well Location Map



Comparative Well Construction and Lithology



Stream Depletion Model Results

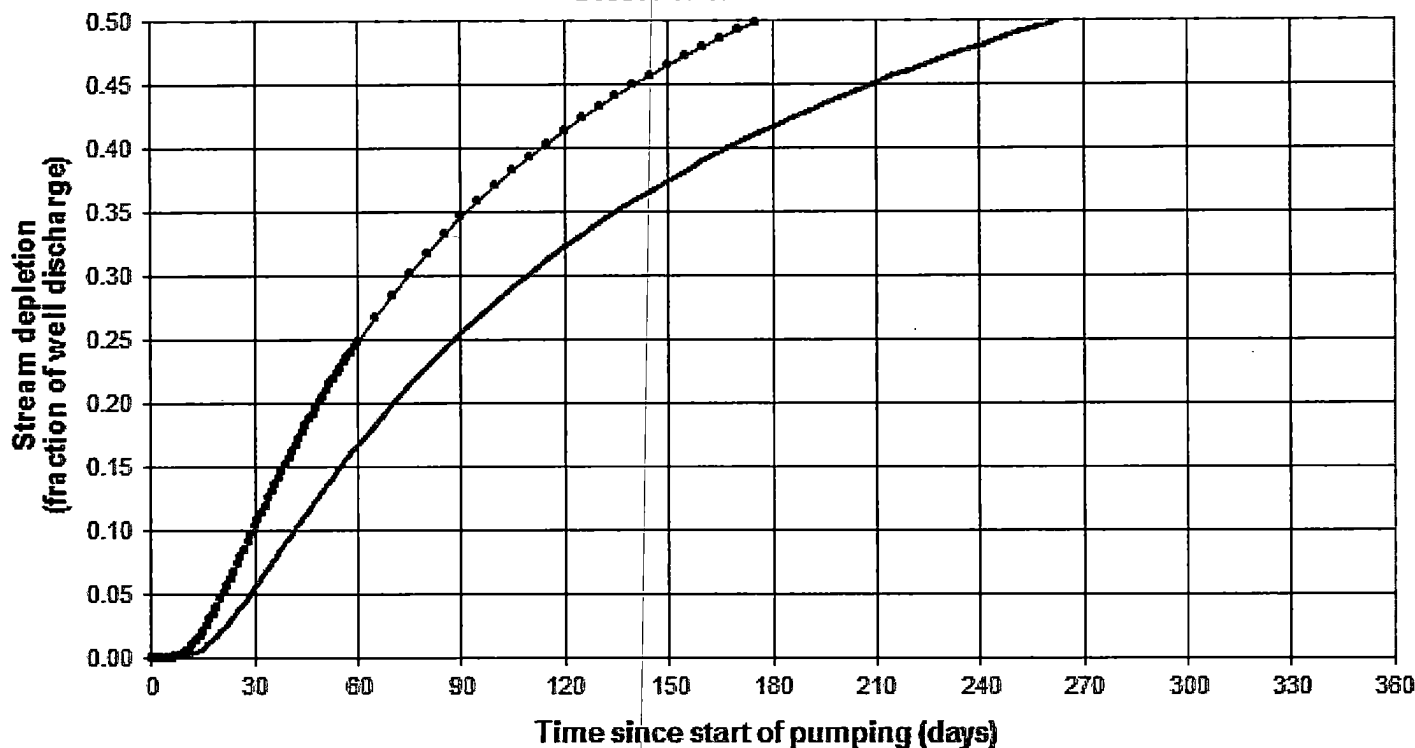


Output for Hunt Stream Depletion, Scenario 2 (s2):				Time pump on = 360 days								
Days	30	60	90	120	150	180	210	240	270	300	330	360
Qw, cfs	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
Jenk SD s2 %	31.41	47.66	56.11	61.47	65.26	68.11	70.36	72.19	73.72	75.02	76.15	77.14
Jen SD s2 cfs	0.008	0.012	0.014	0.015	0.016	0.017	0.018	0.018	0.018	0.019	0.019	0.019
Hunt SD s2 %	6.93	15.10	21.23	26.11	30.07	33.33	36.24	38.73	40.92	42.83	44.65	46.25
Hunt SD s2 cfs	0.002	0.004	0.005	0.007	0.008	0.008	0.009	0.010	0.010	0.011	0.011	0.012

Parameters:		Scenario 1	Scenario 2	Scenario 3	Units
Net steady pumping rate	Qw	11.2	11.2	11.2	gpm
Distance to stream	a	1910	1910	1910	ft
Aquifer hydraulic conductivity	K	600	600	600	ft/day
Aquifer thickness	b	20	20	20	ft
Aquifer transmissivity	T	12000	12000	12000	ft <sup>2</sup> /day
Aquifer storage coefficient	S	0.2	0.2	0.2	
Stream width	ws	20	20	20	ft
Streambed hydraulic conductivity	Ks	1	1	1	ft/day
Streambed thickness	bs	3	3	3	ft
Streambed conductance	sbc	6.666666667	6.666666667	6.666666667	ft/day
Stream depletion factor (Jenkins)	sdf	60.80166667	60.80166667	60.80166667	days
Streambed factor (Hunt)	sbf	1.061111111	1.061111111	1.061111111	

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

G18533 to Willamette River



—•— Jenkins s2	- - - - - Hunt s1	— Hunt s2
—•— Jenkins s2 residual	- - - - - Hunt s3	— Hunt s2 residual

Output for Hunt Stream Depletion, Scenario 2 (s2):					Time pump on = 360 days							
Days	30	60	90	120	150	180	210	240	270	300	330	360
Qw, cfs	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
Jenk SD s2 %	10.23	24.80	34.55	41.40	46.50	50.48	53.69	56.35	58.60	60.54	62.23	63.72
Jen SD s2 cfs	0.003	0.006	0.009	0.010	0.012	0.013	0.013	0.014	0.015	0.015	0.016	0.016
Hunt SD s2 %	5.54	16.70	25.53	32.24	37.47	41.67	45.14	48.07	50.57	52.73	54.66	56.33
Hunt SD s2 cfs	0.001	0.004	0.006	0.008	0.009	0.010	0.011	0.012	0.013	0.013	0.014	0.014

Parameters:		Scenario 1	Scenario 2	Scenario 3	Units
Net steady pumping rate	Qw	11.2	11.2	11.2	gpm
Distance to stream	a	3100	3100	3100	ft
Aquifer hydraulic conductivity	K	600	600	600	ft/day
Aquifer thickness	b	20	20	20	ft
Aquifer transmissivity	T	12000	12000	12000	ft <sup>2</sup> /day
Aquifer storage coefficient	S	0.2	0.2	0.2	
Stream width	ws	100	100	100	ft
Streambed hydraulic conductivity	Ks	1	1	1	ft/day
Streambed thickness	bs	3	3	3	ft
Streambed conductance	sbc	33.33333333	33.33333333	33.33333333	ft/day
Stream depletion factor (Jenkins)	sdf	160.1666667	160.1666667	160.1666667	days
Streambed factor (Hunt)	sbf	8.611111111	8.611111111	8.611111111	

BN

# Standard Application Completeness Checklist

Minimum Requirements (OAR 690-310-0040)(ORS 537.400)

This is the checklist used by WRD staff

# RECEIVED

JUL 06 2017

Yes No

Application B-18597 County LANE Priority Date 7-6-2017

Township 19S Range 3W Section 23

Amount 11.2 gpm Use Drainage WM Dist. # 2

Applicant Name PAN ESTATES, LLC by Jay Byrnes

Receipt No. 123902 Caseworker Assigned:  Barbe  Kim  Elsa  Scott

# OWRD

*(Handwritten signature/initials)*

Contact info: Applicant/Organization Name and Mailing Address

Signature (in ink) of all applicants or the applicant's authorized agent (include title or authority if for an organization or corporation).

Property ownership: Does the applicant own all the land for the proposed project? Y / N  
If No:

- The affected landowner's name and mailing address must be listed
- A signed statement declaring the existence of either written authorization or an easement permitting access to land crossed by the proposed ditch canal or other work must be submitted.

For a SW Application: Source of water must be indicated.

*(Handwritten: N/A)*

If the source is stored water, is the stored water component filled out and does the applicant own the reservoir or include a non-expired agreement for stored water? (ORS 537.400)

*NOTE: A surface water application cannot be filed at the same time as a Reservoir or Alt Reservoir if it will be for the use of the stored water under the PROPOSED Reservoir application, Exp. Secondary (E2)(ORS 537.147).*

If for stored water not under contract, is the source authorized under a permit, certificate, or decree?  
Permit or Certificate issued? Y / N Permit or Certificate # \_\_\_\_\_

For a GW Application: Well Development Tables completed and/or a well log report included (if existing)

*(Handwritten checkmark)*

Proposed water use

- Amount of water from each source in GPM, CFS, or AF
- Period of use indicated
- If for supplemental irrigation, primary acreage or underlying permit or certificate number listed (Primary and Supplemental Irrigation counts as 2 uses)

Water Management Section (Estimates if the water system has not been designed)

Resource Protection Section (N/A for Groundwater)

*(Handwritten: N/A)*

For all standard reservoir applications: Preliminary plans and specifications including dam height, width, crest width and surface area for each reservoir.

Project schedule (If system is already completed, indicate "existing.")

N/A

- Supplemental data sheets enclosed (if needed)
- Form M (Municipal or Quasi-Municipal)
- Spring Description Sheet (if source is a spring)

A completed **Land-Use Form** or receipt signed and dated by the appropriate planning department officials. *Please be certain that the Land-Use form lists all lands involved and all uses proposed. Date of signature must be within the past 12 months.*

A **Legal Description** of all the properties involved where water is diverted, crossed, and used. The Legal description includes a metes and bounds or other government survey description. A copy of the deed, land sales contract or title insurance policy can provide this information, or applicant may submit a lot book report prepared by a title company. Copies of tax bills are not acceptable.

TD

The proposed source **IS / IS NOT** (circle one) restricted or withdrawn from further appropriation. *NOTE: If it is withdrawn under ORS 538, then return application and fees. If it is withdrawn by other means, accept the application and a negative IR will be issued.*

The map must meet all the minimum requirements of OAR 690-310-0050.

- Township, Range, Section
- Location of main canals, ditches, pipelines or flumes (if POA/POD is outside of POU)
- Place of use, 1/4-1/4's and tax lot clearly identified
- Even map scale not less than 4" = 1 mile (1" = 1320 ft.); examples: 1" = 100 ft., 1" = 200 ft.
- Location of *each* diversion point, well or dam by reference to a recognized public land survey corner. Multiple wells shall be uniquely labeled, and identified on well logs if existing.
- Reference corner on map
- North Directional Symbol
- Number of acres per 1/4-1/4 if for irrigation, nursery, or agriculture

For a standard reservoir application to store  $\geq 9.2$  acre feet AND having a dam height  $\geq 10$  feet, map must be prepared by a CWRE

N/A

Fees:

Base Fee	\$ _____	Permit Recording Fees	\$ _____
1" CFS @ \$300	\$ _____	Mitigation Fee	\$ _____
___ add'l CFS @ \$300 ea	\$ _____		
___ AF up to 20 AF @ \$30 ea	\$ _____	Rec Fee Total	\$ _____
___ add'l AF @ \$1 ea	\$ _____	Rec Fee Paid	\$ _____
___ add'l <input type="checkbox"/> pod/poa <input type="checkbox"/> use @ _____ ea	\$ _____		
___ add'l res @ \$125 ea	\$ _____		
Exam Fee Total	\$ _____	Total Fees	\$ _____
Exam Fee Paid	\$ _____	Paid	\$ _____
		Amount Due	\$ _____

so print out

Reviewed by: \_\_\_\_\_

RD

Date: \_\_\_\_\_

7.6.17

# MEMO

OK  
KHJ

**To:** Kristopher Byrd, Well Construction and Compliance Section Manager  
**From:** Joel Jeffery, Well Construction Program Coordinator  
**Subject:** Review of Water Right Application G-18533  
**Date:** September 7, 2018

The attached application was forwarded to the Well Construction and Compliance Section by Water Rights. Aurora Bouchier reviewed the application. Please see Aurora's Groundwater Review and the Well Log.

Applicant's Well #1 (LANE 62512): Based on a review of the Well Report, Applicant's Well #1 appears to protect the groundwater resource.

The construction of Applicants Well #1 may not satisfy hydraulic connection issues.



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

WELL I.D. # L 64111  
 START CARD # 156105

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

(1) LAND OWNER Well Number \_\_\_\_\_  
 Name Dewey Walton  
 Address 31615 Lynx Hollow Rd  
 City Cheswell State OR Zip 97426

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

HOLE		SEAL		Sacks or pounds
Diameter	From To	Material	From To	
10"	0 22	Cement	22 0	19 sacks
6"	22 140			

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:	6"	4 1/2'	138	290	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Liner:					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Drive Shoe used  Inside  Outside  None  
 Final location of shoe(s) 139'

(7) PERFORATIONS/SCREENS:  
 Perforations Method Torch/Perforator  
 Screens Type \_\_\_\_\_ Material \_\_\_\_\_

From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
135'	120'	10"	36	1 1/2"	6"	<input checked="" type="checkbox"/>	<input type="checkbox"/>
100'	60'	2"	630	1 1/2"	6"	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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

Yield gal/min	Drawdown	Drill stem at	Time
30		140'	1 hr.

Flowing  Artesian   
 Pump  Bailer  Air

Temperature of water 57° 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 Lane Latitude \_\_\_\_\_ Longitude \_\_\_\_\_  
 Township 19 N or S Range 3 E or W/W.M.   
 Section 23 NW 1/4 SE 1/4  
 Tax Lot 5000 Lot \_\_\_\_\_ Block \_\_\_\_\_ Subdivision \_\_\_\_\_

Street Address of Well (or nearest address) corner of Green Valley Rd & Orchard Ave - Cheswell, OR 97426

(10) STATIC WATER LEVEL:  
6 ft. below land surface. Date 6/29/03  
 Artesian pressure \_\_\_\_\_ lb. per square inch Date \_\_\_\_\_

(11) WATER BEARING ZONES:  
 Depth at which water was first found 76'

From	To	Estimated Flow Rate	SWL
76'	80'	15 GPM	6'
90'	120'	15 GPM	6'

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

Material	From	To	SWL
Brown Clay	0	3	
Cemented Gravel	3	16	
Gravel/Boulders	16	24	
Gray Clay/Gravel	24	31	
Brown Sand/Gravel	31	93	6'
Gray Sand/Gravel	93	140	6'

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JUL 15 2003

WATER RESOURCES DEPT.  
 SALEM, OREGON

Date started 6/26/03 Completed 6/29/03

(unbonded) Water Well Constructor Certification:  
 I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon water supply well construction standards. Materials used and information reported above are true to 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 156105  
 Signed Sean Oldham Date 7/14/03

**INTEROFFICE MEMORANDUM**

TO: Joel Jeffery, Well Construction and Compliance Section  
FROM: Kim French, Water Rights Section  
DATE: September 6, 2018  
RE: G-18533 – Pan Estates LLC - request for determination of compliance with well construction standards

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Please review Well 1 (LANE 62512) and make a determination regarding well construction compliance.

Please route the file and your review back to me.

Thanks.

