Approved: Kanada

MEMO

To: Kristopher Byrd, Well Construction and Compliance Section Manager

From: Travis Kelly, Well Construction Program Coordinator

Subject: Review of Water Right Application G-19176

Date: November 23, 2021

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

Applicant's Well #1 (BENT 2748): Based on a review of the Well Report, Applicant's Well #1 does not appear to comply with current minimum well construction standards (See OAR 690 Division 210). The problem is that the Well Report indicates that the well head is flush with land surface. In order to meet minimum well construction standards, the well head must be extended so that it is at least one-foot above land surface.

The construction of Applicant's Well #1 may not satisfy hydraulic connection issues.

NOTICE TO WATER WELL CONTRACTOR
The original and first copy of this report
are to be filed with the

WATER RESOURCES DEPARTMENT. SALEM, OREGON 97310 within 30 days from the date of well completion.

WATER WELL REPORT

STATE OF OREGON

(Please type or print)

(Do not write above this line)

Ben 5 2748

State Well No. 115 /4w-19
State Permit No.

(1) OWNER: (Mark Johnson)	(10) LOCATION OF WELL:
Name Goodtime Trying	County Benton Driller's well number C/19/M
Address 1810 N.E. Seavy Rd.	14 14 Section 19 T. 11SR. 4W W.M.
Corvallis, Oregon 97330	Bearing and distance from section or subdivision corner
(2) TYPE OF WORK (check):	
New Well ☐ Deepening ☐ Reconditioning ☐ Abandon ☐	
If abandonment, describe material and procedure in Item 12.	(11) WATER LEVEL: Completed well.
(3) TYPE OF WELL: (4) PROPOSED USE (check):	Depth at which water was first found 23 ft.
Rotary Driven Domestic T Industrial Municipal D	Static level 8 ff. below land surface. Date 5/23/20
Cable G Jetted June 1 Industrial Mullicipal Dug Bored Irrigation Test Well Other	Artesian pressure lbs. per square inch. Date
CASING INSTALLED: Threaded Welded 250 .250	(12) WELL LOG: Diameter of well below casing 6
	Depth drilled 40 ft. Depth of completed well ft.
"Diam from ft. to ft. Gage	Formation: Describe color, texture, grain size and structure of materials:
" Diam. fromft. toft. Gage	and show thickness and nature of each stratum and aquifer penetrated
PERFORATIONS: Perforated? Yes No.	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.
Type of perforator used Torch cut	MATERIAL From To SWL
Size of perforations 3/8 in. by 4 in.	
50 perforations from 25 ft. to 35 ft.	Brown clay (sticky)
perforations from ft. to ft.	Brown clay 6 8
perforations fromft. toft.	Sand&gravel 8 35
(7) SCREENS: Well screen installed? Yes No	Blue clay 35 40
Manufacturer's Name	7
Type Model No.	<u> </u>
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	RECEIVED
Was a pump test made? ☐ Yes 🖄 No If yes, by whom?	
Yield: gal./min. with ft. drawdown after hrs.	JUL - 5 19/9 * * 3
" " "	WATER RECOURAGE MEDT
" " " "	SALES OFFICER
Bailer test 40 gal./min. with 32 ft. drawdown after 4 hrs.	Or himbursay California California
Artesian flow g.p.m.	
nperature of water Depth artesian flow encountered ft.	r /01 /20
	Work started 5/23/79 19 Completed 5/24/79 5/24/79
(9) CONSTRUCTION:	Date well drilling machine moved off of well 5/24/79
Well seal—Material used	Drilling Machine Operator's Certification:
Well sealed from land surface toft.	This well was constructed under my direct supervision. Materials used and information reported above are true to my
Diameter of well bore to bottom of sealin.	best knowledge and belief.
Number of reals of seals of se	[Signed] Date Date Date J/29/ (39 Date Dat
How was cement grout placed?	Drilling Machine Operator's License No. 1343
Pumped through tremie	
	Water Well Contractor's Certification:
。 · · · · · · · · · · · · · · · · · · ·	This well was drilled under my jurisdiction and this report is
Was a drive shoe used? 🗶 Yes 🗌 No Plugs Size; location ft.	true to the best of my knowledge and belief. Name Corvallis Drilling Co. Inc.
Oid any strata contain unusable water? 🗌 Yes 🐧 No	(Person, firm or corporation) (Type or print)
Type of water?depth of strata	Address 3440 SW 3rd St. Corvallis, Oregon 97330
Method of sealing strata off	[Signal] Alix X
Was well gravel packed? ☐ Yes ☑ No Size of gravel:	[Signed] (Water Well Contractor)
Gravel placed fromft. toft.	Contractor's License No. 721 Date 5/29/79

Groundwater Application Review Summary Form

Application # G- <u>19176</u>
GW Reviewer Phillip I. Marcy Date Review Completed: 11/04/2021
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:
\square 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 <u>11/04/2021</u>												
то:		Applica	tion G-	19176	-							
FROM: GW: Phillip I. Marcy (Reviewer's Name)												
SUBJ	ECT: So	enic Wa	aterway	Interf	erence l	Evaluat	ion					
	YES	The	source (of appro	priation	is hydr	aulically	y connec	cted to a	a State S	Scenic	
\boxtimes	NO		erway o		-	J	-	,				
	YES	••					(G. 1					
\boxtimes	NO	Use	the Scer	nic Wate	erway C	Conditio	n (Cond	ition 7J))			
	interfer	S 390.8 ence with ence is d	h surfac	e water	that con					_		
	interfered Depart propos	S 390.8 ence with ment is a sed use in the fr	h surfac unable will me	e water to find easurab	that con that the ly redu	tributes ere is a p ace the	to a sce prepone surface	enic wat derance e water	erway; e of evic	therefo	re, the at the	
Calculd per crit the Dep Exerci Water	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:			Rights Sec							11/0	4/2021			
FROM	:	Ground	dwater Sec	ction		Phillip I	. Marcy wer's Nam	,						
SUBJE	СТ·	Applic	ation G	19176	S									
SCEUL	C1.	тррпс			_	Juperseue	510,10	., 01			D	ate of Revi	ew(s)	
PURLI	C INTE	REST	PRESUM	IPTION; (ROUND	WATER	!							
								lwat	er use will en	isure th	he preser	vation of	the publi	c
welfare,	safety and	d health	as describ	ed in ORS 5	<i>37.525</i> . De	epartment s	staff rev	iew g	groundwater	applica	ations un	der OAR	690-310	-140
									e proposed u					
the pres	umption c	riteria.	This reviev	w is based u	pon availa	ible inforn	nation a	and a	agency polic	ies in p	place at t	the time of	of evalua	tion.
A. <u>GE</u> I	NERAL :	INFO	RMATIO:	<u>N</u> : App	olicant's N	ame: T	om Dei	nisor	n		Co	ounty:		
A1.	Applican	t(s) see	k(s) <u>0.089</u>	ofs from	_1	well(s) in the		Willamette					Basin,
						subbas	sin							
A2.	Proposed	luse	Nurs	erv (3.42 acı	res)	Seaso	nality:	Yea	ar-round (365	5 davs))			
112.	Торовес		11015	<u>01 y (3.12 de)</u>	.05)		maney.		ar rouna (200	<i>3 days)</i>				
A3.	Well and	aquifer	data (atta	ch and num	ber logs fo	or existing	wells;	marl	k proposed v	vells a	s such ui	nder logi	d):	
Well	Logic	i	Applicant'	s Propose	d Aquifer*	Propo			Location			n, metes a		
1	BENT 2		Well #	_	uvium	Rate(0		1	(T/R-S QQ-Q 11S/4W-19 SW-			I, 1200' E : N, 1090'E f		
2												-		
3 4														
* Alluviu	ım, CRB, E	Bedrock												
	Well	First	CMI	CWI	Well	Seal	Casii	ng	Liner	Perfo	orations	Well	Draw	Т4
Well	Elev ft msl	Water	SWL ft bls	SWL Date	Depth	Interval	Interv		Intervals (ft)		Screens	Yield	Down	Test Type
1	204	ft bls 23	8	05/23/1979	(ft) 40	(ft) 0-18	(ft) 0-37		None		(ft) 5-35	(gpm) 40	(ft) 32	Unk
Use data	from appli	cation fo	r proposed v	wells.										
A4.	Comme	nts: Th	e applicant	proposes to	utilize an e	existing we	ell comp	letec	d into alluviu	m for y	year-rour	ıd irrigati	on of 3.4	<u>2</u>
	acres of 1	nursery	use.											
A5. 🛛	Provisio	ns of th	e Willame	tte (690-502	2-0240)		Basir	ı rule	es relative to	the de	velopmei	nt, classif	ication a	nd/or
									are, or 🗵					
	_	•	-	such provisi	•	ted to surre			- 412,07 —		,	ou of un	о прричи	
	Commen	ts: The	proposed]	POA well is	not within				ater source, th		e the per	tinent bas	in rules o	<u>lo not</u>
	apply.													
A6. 🗆	Well(s) #	<i></i>	,	,	,	,	,	tap((s) an aquifer	limite	d by an a	dministra	itive resti	riction.
	Commen	ts:												

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

Bas	sed upon available data, I have determined that groundwater* for the proposed use:
a.	□ is over appropriated, \boxtimes 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.	\square will not or \square 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.	\square will not or \square 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. \square The permit should contain special condition(s) as indicated in item 3 below;
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):
the suff aqu scer	pundwater availability remarks: The aquifer properties in the unconfined Quaternary alluvium here, and the position of proposed POA well within one mile of the Willamette River make it unlikely that the proposed pumping will induce itient drawdown to cause injury to senior water right holders. A Theis time drawdown analysis based on expected local ifer conditions was performed to evaluate potential impacts to nearby senior groundwater rights. The most reasonable narios calculated an anticipated drawdown of less than 5 feet at the nearest mapped point of groundwater appropriation R-715; BENT 2669) at a distance of 650 feet after 365 days of continuous pumping at the maximum authorized rate.
(01	2713, BENT 2007) at a distance of 050 feet after 505 days of continuous pumping at the maximum authorized rate.

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	Holocene Alluvium (Ha of McClaughry, 2010)		⊠

Basis for aquifer confinement evaluation: There does not exist a fine-grained, laterally continuous unit overlying the water-bearing zone to act as a confining layer. Wells completed into alluvium nearby do not exhibit higher pressure at depth, which may illustrate confinement within the alluvial sequence.

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		Potentia Subst. Int Assum YES	erfer.
1	1	Willamette River	196	192-	3830	\boxtimes				⊠
				195						

Basis for aquifer hydraulic connection evaluation: The proposed POA well in completed into unconfined alluvium in efficient connection with surface water and the Willamette River. There are no significant barriers to groundwater movement identified in the area.

Water Availability Basin the well(s) are located within: Willamette R > Columbia R – AB Periwinkle CR at Gage 14174

C3a. **690-09-040** (4): Evaluation of stream impacts for <u>each well</u> 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 \boxtimes box indicates the well is assumed to have the potential to cause PSI.

Well	SW #	Well < 1/4 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			MF184A	1750		2540		<<25%	

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?

Comments: Anticipated impacts to the nearby Willamette River are anticipated to be less than 25% of the pumping rate at 30 days, due to high storativity within the aquifer system and the presence of fine-grained sediments lining the river channel in a low energy river such as the Willamette.

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-Di	istributed	Wells											
Well	SW#	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		%	%	%	%	%	%	%	%	%	%	%	9/
Well Q	Q as CFS												
Interfer	ence CFS												
Distrib	uted Wells	<u> </u>											
Well	SW#	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		%	%	%	%	%	%	%	%	%	%	%	9/
Well Q	Q as CFS												
Interfer	ence CFS												
		%	%	%	%	%	%	%	%	%	%	%	9/
Well Q	Q as CFS												
Interfer	ence CFS												
(A) = To	otal Interf.												
(B) = 80	% Nat. Q												
(C) = 1	% Nat. Q												
		/				/			/	/	/		
$(\mathbf{D}) = ($	$(\mathbf{A}) > (\mathbf{C})$	√	√	√	√	√	√	√	√	√	√	✓	√
$(\mathbf{E}) = (\mathbf{A})$	/ 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:

basis for impact evaluation.			

Application G-19176 Date: 11/04/2021 7 Page 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. \square 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: References Used: Jones, M.A., 1999, Geologic Framework of the Puget Sound aquifer system, Washington and British Columbia: U.S. Geological Survey Professional Paper 1424C.

McClaughry, J.D., Wiley, T.J., Ferns, M.L., and Madin, I.P., 2010, Digital Geologic Map of the Southern Willamet Valley, Benton, Lane, Linn, Marion, and Polk Counties, Oregon, Open-File Report O-10-03, Oregon Department of Geology and Mineral

Theis, C.V., 1941, The effect of a well on the flow of a nearby stream: Am. Geophys. Union Trans., v. 22, pt.3, p. 734-738.

Industries,

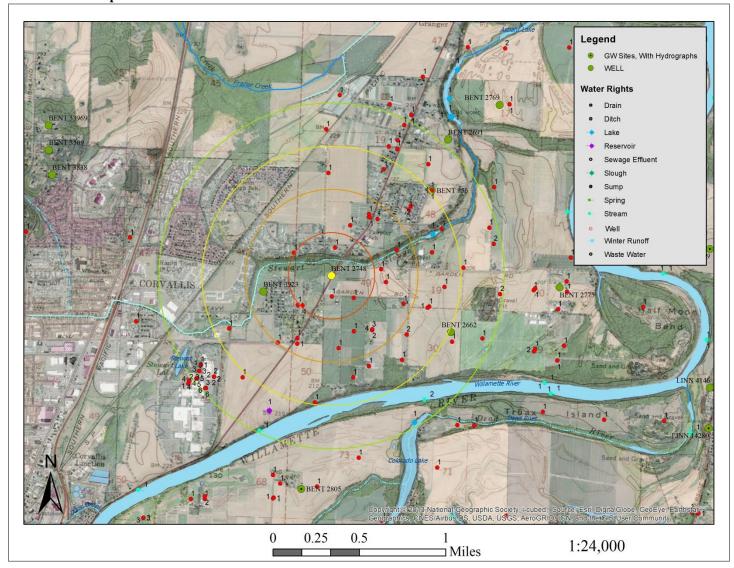
D. WELL CONSTRUCTION, OAR 690-200

D1.	Well #:	Logid:	
D2.	THE WELL does	s not appear to meet current well construction standards based up	oon:
	a. \square review of	the well log;	
	b. \square field insp	ection by	;
		CWRE	
	d. \square other: (sp	pecify)	
D3.	THE WELL cons	struction deficiency or other comment is described as follows:	
D4. [☐ Route to the We	ll Construction and Compliance Section for a review of existing w	vell construction.

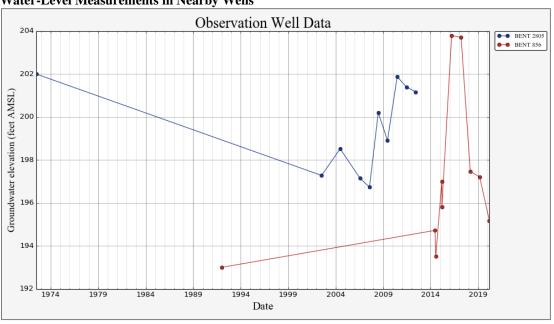
Water Availability Tables

		Wate	er Availability Calcu	ulation		
			y Streamflow in Cubic Feet pe Volume at 50% Exceedance in			
Month	Natural Stream Flow	Consumptive Uses and Storages	Expected Stream Flow	Reserved Stream Flow	Instream Flow Requirement	Net Water Available
JAN	10,100.00	1,370.00	8,730.00	0.00	1,750.00	6,980.00
FEB	11,600.00	4,290.00	7,310.00	0.00	1,750.00	5,560.00
MAR	11,000.00	4,560.00	6,440.00	0.00	1,750.00	4,690.00
APR	9,760.00	4,260.00	5,500.00	0.00	1,750.00	3,750.00
MAY	8,430.00	2,560.00	5,870.00	0.00	1,750.00	4,120.00
JUN	5,360.00	857.00	4,500.00	0.00	1,750.00	2,750.00
JUL	3,270.00	667.00	2,600.00	0.00	1,750.00	853.00
AUG	2,560.00	605.00	1,950.00	0.00	1,750.00	205.00
SEP	2,540.00	518.00	2,020.00	0.00	1,750.00	272.00
OCT	2,860.00	270.00	2,590.00	0.00	1,750.00	840.00
NOV	4,170.00	355.00	3,820.00	0.00	1,750.00	2,070.00
DEC	8,150.00	380.00	7,770.00	0.00	1,750.00	6,020.00
ANN	7,460,000.00	1,240,000.00	6,230,000.00	0.00	1,270,000.00	4,960,000.00

Well Location Map



Water-Level Measurements in Nearby Wells



Input Data:			Va	Var Name	e Sce	Scenario 1	Scenario 2		Scenario	03	Units	_ F		Theis Drawdown and Recovery at r = 650 ft From Pumping Well Pump on = 525600 minutes = 365.00 days	650 ft From Pump s = 365.00 days	ing Well
Total pumping time	time			ţ				365			p	0.00				V
Radial distance from pumped well:	se from pur	mped we	:II:	L				650			H.	1.00			<u> </u> 	ļ
Pumping rate	469			O			0.0	0.0891			cfs	1991				
Hydraulic conductivity	ductivity			×		5		20	1	100	fl/day					}
Aquifer thickness	SSS			q				09			ft	00.00 Wdo	/			
Storativity				S_1				0.1				EIQ 6.90	/			- T3S2
				S_2				0.01				7.00	0			T282
Transmissivity Conversions	y Convers	ions		L_f2pd		300		3000	0009		ft2/day	8.00	0	+	/	1182
			–	ft2pm		0.208333	2.083333	3333	4.166667	2	ft2/min	9.00			1,8	
			'	gpdpff		2244		22440	44880		gpd/ft	_	Elapsed Tir	Elapsed Time Since Pumping Started, days	ping Started, day	400.000
			Tim	Time since st	art of pur	tart of pumping (days)	ys)									
		10000			10.00	0000			2000		_	Parameter	Scenario 1	Scenario 2	Scenario 3	Units
	!	HUNT 2003 ST	-		- HUNT 20 03 SZ	003 52			Hunt 2003 53	2		QW	0.0891	0.0891	0.0891	cfs
] -			2.00								1	T	300	3,000	6,000	ft*ft/day
Output for Stream Depletion, Scenerio 2 (s2):	am Depletio	on, Scene	rio 2 (s2		lime pu) uo du	pumping	g durati	Time pump on (pumping duration) = 365 days	days		T	2,244	22,440	44,880	1J/pdb
Days	30 60	06	120	150	180	210	240	270	300	330	360	spc	33.333333	33.333333	33.333333	ft/day
J SD	4.4% 15.3%	15.3% 24.4% 31.3%		36.7%	41.0%	44.5%	47.5%	50.1%	52.3%	54.3%	26.0%	sdf	2444.816667	244.481667	122.240833	days
H SD 1999 (3.	3.5% 13.5%	22.1%	28.9%	34.3%	38.6%	42.2%	45.2%	47.9%	50.1%	52.1%	53.9%	sbf	425.555556	42.555556	21.277778	
H SD 2003 -0.0	-0.03% 0.01%	0.55%	1.72%	3.35%	5.24%	7.26%	9.32% 1	1.35% 1	11.35% 13.32% 15.22%	5.22% 1	17.05%	t	0.000409	0.004090	0.008181	1/days
Qw, cfs 0.	0.089 0.089	0.089	0.089	0.089	0.089	0.089	0.089	0.089	0.089	0.089	0.089	,X	*********	1629.877778	814.938889	
H SD 99, cfs 0.	0.003 0.012	0.020	0.026	0.031	0.034	0.038	0.040	0.043	0.045	0.046	0.048	epsilon,	0.250000	0.250000	0.250000	
H SD 03, cfs 0.	0.000 0.000	0.000	0.002	0.003	0.005	900.0	0.008	0.010	0.012	0.014	0.015	lamda"	425.555556	42.555556	21.277778	