0239013

October 3rd, 1967

Mr. A.H. Bamford
Forester 2/c
Reforestation Division
B.C. Forest Service
Department of Lands, Forests and Water Resources
Victoria, B.C.

Dear Mr. Bamford:

Re: Pumping Tests at Koksilah Nursery

Reference is made to your letter of August 28th, 1967 (file 0149080) concerning data on pumping tests carried out at the Koksilah Nursery.

I have tabulated the data on these pumping tests on the attached sheet. The Coefficient of Transmissibility (T) of the aquifer was calculated by the Theis Recovery Method for the three tests and the following results were obtained:

Test No. 1	7.59×10^4 gallons per day per foot width
Test No. 2	8.20×10^4 gallons per day per foot width
Test No. 3	9.47×10^4 gallons per day per foot width
and	5.06×10^4 gallons per day per foot width.

A conservative value of $T = 7.5 \times 10^4$ gallons per day per foot width was selected for the computations.

Using the above value for T in a graphical solution of the exponential integral method of Theis, theoretical values were obtained for the drawdown at the pump scoopout, in the scoopout 830 feet from the pump, and at the location of the wells that are going dry about 2300 feet away to the north. Using a theoretical model based on 10 days' continuous pumping at 330 gallons per minute, which produces a theoretical drawdown three times that observed during the test, and a theoretical drawdown of less than half a foot at the scoop out 830 feet away, the theoretical drawdown due to pumping interference at the wells that are going dry is found to be nil.

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From these results, and from your actual observations made in the field which show no interference due to pumping on your scoop out 830 feet away, I cannot see from the evidence you have given me, how pumping at these rates and from such a shallow depth can be the reason for the wells located almost half a mile to the north of your Nursery, going dry.

Yours very truly

J.C. Fowraker
Senior Geological Engineer
Groundwater Division

JCF/ls
att.

B.C. Forest Service
Pumping Tests - Koksilah Nursery

	Time in mins. since pumping started (t)	Time in mins. since pumping stopped (t')	t/t'	Amount of recovery in inches from max. drawdown of 10 ins.	Residual Drawdown in ins. from orig. static before test	Residual Drawdown in feet from orig. static before test
Pump Test No. 1	240					
Drawdown = 10 ins.	245	5	49	2	8	0.67
= 0.83 feet	250	10	25	3.75	6.25	0.52
Pumping time =	255	15	17	5.50	4.25	0.375
240 minutes	260	20	13	6.75	3.25	0.27
Pumping rate =	265	25	10.6	7.75	2.25	0.19
276 gpm	270	30	9.0	8.75	1.25	0.105
Date of Test						
Aug.17/67						
Pump Test No.2	180					
Drawdown=17 ins.	190	10	19	6	11	0.92
= 1.42 feet	200	20	10	9	8	0.67
Pumping time =	210	30	7	11.50	5.50	0.46
180 minutes	220	40	5.5	12.50	4.50	0.375
Pumping rate =	230	50	4.6	13.50	3.50	0.29
310 gpm	240	60	4	14.25	2.75	0.23
Date of Test	250	70	3.57	14.75	2.25	0.19
Aug.12/67	260	80	3.25	15.25	1.75	0.145
	270	90	3	15.75	1.25	0.105
	280	100	2.8	16.25	.75	0.065
Pump Test No.3	185	5	37	2	13	1.08
Drawdown=15 ins.	190	10	19	3.75	11.25	0.94
= 1.25 feet	195	15	13	5.50	9.50	0.79
Pumping time =	200	20	10	6.75	8.25	0.69
= 180 minutes	205	25	8.2	7.75	7.25	0.605
Pumping rate =	210	30	7	8.75	6.25	0.52
= 330 gpm	215	35	6.14	9.75	5.25	0.44
Date of Test	220	40	5.5	10.75	4.25	0.35
(?)	225	45	5	11.75	3.25	0.27
	230	50	4.6	12.50	2.50	0.21
	235	55	4.27	13.25	1.75	0.15
	240	60	4	14	1	0.08
	250	70	3.57	14.50	.50	0.04