BROWN, ERDMAN & TURNER LTD.

1409 BEWICKE AVENUE, NORTH VANCOUVER, BRITISH COLUMBIA V7M 3C7 TELEPHONE 988-1557

HYDROGEOLOGIC EVALUATION

FOR PHASE 1 OF

SUBDIVISION ADJOINING

238A STREET & 62ND AVENUE

LANGLEY, BRITISH COLUMBIA

FOR

J.G. NEUFELD

C/O GOODBRAND INTERNATIONAL INC.

Subdivision Application No. 87-111

Legal Description

Lot B of 2 and 3, Plan 13274 and Parcel A (Reference Plan 8562) of Lots 2, 3 and 4, Except Plan 17067, Plan 23779 and part of Lot 31, Plan 54464, all of North East 1/4 of Section 9, Township 11, N.W.D.

W.L. Brown, P.Eng

July, 1988



1.0 INTRODUCTION

- 1.1 This Hydrogeologic Evaluation of Phase 1 of the subject subdivision is based upon Analyses of:
 - 1.1.1 Two-hour constant rate pumping tests followed by two hours of recovery readings that were run on each of the domestic wells located on the 12 lots of Phase 1 of the subject Subdivision. A well was not drilled on Lot 9.
 - 1.1.2 Existing maps and reports of the general area.
 - 1.1.3 Available records of wells on adjacent properties.
 - 1.1.4 Chemical and bacteriological analyses of water samples collected near the end of the pumping period on each well. Analysis of water samples were conducted by ASL, Consulting Chemists and Analysts, of Vancouver, B.C.
- 1.2 As such this report is written to fulfill the requirements of Section 2.2.18 "Private Wells" of the Corporation of the Township of Langley subdivision guidelines dated 87.06.09. Corporation forms F-5, 6, 7 and 8 have been completed for each domestic well.
- 1.3 The wells were designed and constructed by Walsh Well Drilling of Aldergrove, B.C.

2.0 HYDROGEOLOGY

- 2.1 Location The subdivision is located in the central part of the Township on a terrace that lies above the north bank of the Salmon River Valley. Terrace elevations range between 50 and 60 metres above sea level which is approximately 20 m above the Salmon River Valley floor. Please see attached map Figure 1.
- 2.2 Geology The attached Surficial Geology Map, Figure 1a shows that the site is underlain by glacial and deltaic sediments of the Fort Langley Formation. These sediments are composed of deltaic sands and gravels

deposited by rivers flowing off the front of a glacier.

The details of this sedimentary deposit are shown on the geologic sections, Figures 3 and 4. These sections are based upon the driller's logs of the various domestic wells. The lower part of the deposits to a depth of approximately 45 metres is underlain by glacial tills with gravel, sand and clay interbeds. The lower sand and gravel beds that have been screened areally extensive beneath wells are subdivision and have static water levels that lie at an approximate elevation of 30 meters above sea level. Impermeable clay and till units overlie the screened A deltaic sand and gravel intervals across the site. unit caps the section from ground surface downwards to the top of the clay. As can be seen these near surface sands and gravels lie in old buried river channels cut into the clay.

2.3 Hydrology - The pump test data indicate that the aquifers screened in the wells are artesian, areally extensive and moderately productive. Well spacing ranges from 30 to 50 metres. Calculations based upon transmissivity values obtained from the pumping tests, an assumed storativity factor for this artesian system, the general recommended pumping rate of 10 lpm (2.5 U.S. gpm) for each well and an assumed drought of 100 days show that well interference should range from 0.09 to 0.61 metres.

Reference to from F-7 of each well will show that a 2 to 4 meter drop below the static water level measured when the pump tests were run has been assumed in rating the productive capacity (pumping rate) of each well. The pumping rate of each well on this basis will still allow for the 0.09 to 0.61 metres of interference between wells under the stringent 100-day drought conditions used in these calculations.

Precipitation records from the Abbotsford weather station (local Langley stations have been closed) show the following patterns:



Month 1988	Precipitation mm	% of 1951-80 Normal
January	110.8	53
February	107.5	67
March	154.7	110
April	161.8	158
May	165.6	211
June	49.7	77

The relatively deep depth of the screened aquifer of generally 30 m (100 feet) and the impervious caps of willthere that indicate clay and till considerable time lag between the fluctuation of the water level in the aquifer and the fluctuations of the weather. The pump tests were conducted in the latter part of the May and in the first half of June (Well 13 The effect of the was tested at the end of June). "dry" winter of 1987-88 would most probably havecaused low water levels in the wells when the pump tests were run.

Available information on neighbouring wells to the north and south-east of the subdivision indicates that the existing wells are either shallow (less than 10 m) or deep (over 50 m). As such these wells are most probably using aquifers that are not directly connected to the aquifer used by the subdivision wells.

Also, the closest neighbouring wells are over 80 m away from the subdivision wells so that even if the aquifers of the wells were interconnected interference would be negligible.

A well summary table is attached for convenience. It will be noted that 8 wells have a recommended pumping rate of 10 Lpm (2.5 U.S. gpm), 2 have a pumping rate of 5 Lpm and 2 have a recommended pumping rate of 2 Lpm. The recommended pumping rates are all above the minimum rate of 1.74 Lpm (2,500 litres per day) set by the Township of Langley Guidelines.

2.4 Water Quality - The laboratory results of the chemical and bacteriological analyses conducted on water samples collected near the end of each pump test are attached. It will be noted that the water meets the acceptable

WELL SUMMARY TABLE

13	12	1	10	9	&	7	<u></u>	ъ	4	ω	Ν.		Well No.
45.42 145	42.37 ^{[7} 5	25.30 4	22.86 🤸		29.57	36.88 /2/	24.08 7ਵ	34.11 112	36.58 (70	45.42 (49)	21.64 7	32.61 (0),	Depth Metres
20.86	21.23	16.65	18.22		15.89	15.61	17.97	20.88	20.10	19.07	15.54	14.4	Static Water M
43.98-45.42	40.94-41.30	23.87-25.45	21.43-22.86		27.83-29.26	35.46-36.88	22.66-24.08	32.61-34.14	35.15-36.58	43.99-45.42	20.24-21.64	30.94-31.85	Screened Interval M
23.12	19.71	7.22	3.21	NOT I	11.94	19.85	4.69	11.73	15.05	24.92	4.70	16.54	Available Drawdown M
40	40	23	21	DRILLED	27	35	22	30	30	30	20	30	Recommended Pump Setting M
10	10	ÚΊ	2		10	10	ហ	10	10	10	2	10	Recor Pump: Lpm
(2.6)	(2.6)	(1.3)	(1.3)		(2.6)	(2.6)	(2.6)	(2.6)	(2.6)	(2.6)	(0.5)	(2.6)	Recommended Pumping Rate pm U.S. gpm
OK	OK	OK	OK		OK	Chemical Bacteriologic							





SCHEDULE "A"

PRIVATE WELL CERTIFICATION

PURSUANT TO SCHEDULE "A" of the Sundivision and Development	ting lot forming
hereby certify that each lot to be created and/or each exi	Stind for forming
next of the proposed development can be serviced with I	Otable Mater ii
accordance with the requirements of the Bylaw for the developm	ient or:
LEGAL DESCRIPTION: Lot 1 (Phase 1)	
PROJECT NO.: 87-111	
	1 1 h
I certify that a quantity of not less than 2,500 litres p	per day has been
proven for each existing or proposed lot in the development.	
I certify that water quality tests have been conducted and	that the "B.C
Drinking Water Standards, 1982" can be met for each existing	g or proposed to
in the development.	
2 blown	
Certified By (Name of Professional Engineer)	
	DOCECCIONAL
1409 Bewiche Ove	PROFESSIONAL
Address	SEAL
model 1/aug B.C. Uzm 3CZ	

See attachments as required pursuant to clause 2.2.18 of Schedule "A".

Subdivision Application No. 87-111
Lot B of Lots 2 and 3, Plan 13274 and Parcel A
(Reference Plan 8562) of Lots 2, 3 and 4, Except
Plan 17067, Plan 23779 and part of Lot 31, Plan
54464, all of North East 1/4 of Section 9, Township 11, N.W.D.

WTN 108020

GOODBRAND DEVELOPMENT CORPORATION 62ND AVE., LANGLEY, BRITISH COLUMBIA

Well on Lot 1 (S.E. Corner) (Phase 1)

Depth (Below Metres			ace)	Description
0.00 - 0.6			2	Soil sandy loam
0.61 - 1.8			6	Sand, brown
1.83 - 3.6	6	_	12	Sand and gravel silty tight
3.66 - 5.7	9 12	-	19	Clay, sandy, pebbly
5.79 - 6.7	11 19	-	22	Sand, silty some water
6.71 - 7.6	22	-	25	Sand, brown, hard packed
7.62 - 8.8		_	29	Sand and gravel dry
8.84 - 11.2		_	37	Clay, sandy, pebbly
11.28 - 11.8		_	39	Sand, silty
11.89 - 14.0		_	46	Sand brown dry
14.02 - 15.8		_	52	Sand and gravel, water-bearing
15.85 - 29.8	=			Clay, silty, grey with sand and
, , , , ,				gravel interbeds
29.87 - 31.8	88 98	_	104.5	Sand and gravel, water-bearing
31.88 - 32.6				Clay, grey

Construction details - below ground surface

		_		ì	Me	cres		1	Peet
152	mm	(6-inch)	diameter casing telescopic diameter	+ 0.46	-	30.78	+ 1.5		101.0
134	HUU	(6-Inch)	screen	30.94	-	31.85	101.5	_	104.5

Screen - stainless steel, 20 slot with K-packer Thick Bentonite Slurrey seal around top 3m (10 feet) of casing



SCHEDULE "A"

							•
OWNER	'S NAME:	Goodbr	and De	WELL NO. 1 (Phase 1)			
APPLI	CATION N	10. <u>87-1</u>	11	DATE: 1988 06 16			
LOCAT	ION: 238	BA Stree	t & 62	Ave.	<u> </u>		SHEET 1 of 6
	TOT	wnship c	of Lang	ley		· ———	TEST NO. 2
X Dr	awdown	Reco	very				
		In	<u></u> .		Flow		
		Depth	Dwaw	Me			
180	g From	Water	Down		Data		
#	Beare	nacez	DOM				Comments
	(Min)	(M)	(M)	(Min)	L	LPM	
1	0	14.86	0			<u>.</u>	Static Water Level below MPT
1-2		16.29					Measuring Point - Top of
+-3		17.05	2.19				Casing 0.46 m above ground.
+-4			3.01			<u> </u>	00 5 5 5 7 7 11
+=	2.0	18.46	.60			<u> </u>	Discharge 30 m from well
16	2.5		4.24			 	
			.56				
<u> </u>			5.05		20	40	Water clear and clean
	4.0	20.18	.32		20	+ 40-	Hater crear and order
<u>]1(</u>			.56 .82	 			
11		21.00	6.14		} -		
T12			.29		 	1	
11			.53			1	
+1			6.60				
+17		.62	.76				
17		.76	.90				
11		.86	7.00			_	
11		.92	.06		ļ	_}	
12		22.01	.15		 		
$\frac{1}{2}$.01	.15		 		
<u> </u>		.03	.17		 		
$\frac{1}{2}$.18	.32		 		
$\frac{12}{2}$	4 35	.21	.35	 	 		



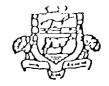
SCHEDULE "A"

OWNER'S	s name:	G G G G G G G G G G G G G G G G G G G	cand De	WELL NO. 1 (Phase 1)			
APPLIC	MOITA	10. <u>87-1</u>	111	DATE: 1988 06 16			
LOCATIO	ON: <u>238</u>	BA Stree	et & 62	SHEET 2 of 6			
	TOV	vnship (of Lang	gley			TEST NO. 2
X Dra	wdown	Reco	overy				
		Depth To Water			Flow easurem Data	nent	Comments
	(Min)	(M)	(M)	(Min)	L	LPM	
27	50 60	.35 .41	.49 .58				
29	70	.46	.60				
30	80	.48	.62				
31	90	.56	.70 .71	ļ			
32	100	.57	.80			<u></u>	Water Samples collected
34	120	.67	.81				
+==-	1.20						
1							
1							
		L					
<u> </u>	ļ					<u> </u>	
	ļ			ļ			
 	 			}			
1		 		}			
1	 		<u> </u>	 			
+							
1							
I	1		<u> </u>				
<u> </u>	ļ	<u> </u>	ļ <u> </u>	ļ			
 	 	<u> </u>	 	 			
1	 	 	1	 			
}	}	 	 	 		l	



SCHEDULE "A"

OWNER'S NAME: Goodbrand Development Corp.								WELL NO. 1 (Phase 1)
APPLICATION NO. 87-111							DATE: 1988 06 16	
LOCATION: 238A Street & 62 Ave.								SHEET 3 of 6
Township of Langley							TEST NO. 2	
	Drav	vdown	X Reco	very				
	Rdg #	From	1	Draw Down	M∈	Flow easurem Data		Comments
		(Min)	(M)	(M)	(Min)	L	LPM	
	1	0	22.67	7.81			,	Pump off
-	2	•5	21.48	6.62				
-	3	1.0	20.60	5.74				
-	4		19.80	4.94				
-	5	2.0	.16	.30				
-	6	2.5	18.71	3.85				
•	7	3.0	.29	.43				
-	8	3.5	17.93	.07			ļ	
•	9	4.0	•59	2.73				
_	10	4.5	.30	.44				
	11	5.0	.10	.24		ļ		
	12	6.0	16.82	1.96		ļ		
	13	2.0	.51	.65	L	ļ	<u> </u>	
	14	8.0	.37	.51	ļ	}		
	15	9.0	.22	.36	ļ	ļ	<u> </u>	
	16	10	.07	.21	ļ	 	ļ	
	17	12	15.92	.06		ļ.———	 -	
	18	14	.82	0.96			}	
	19	16	.75	.89		!	} -	
	20	18	.69	.83 .78	 	 	 	
	21	20 25	.58	.72	 	 	 	
	23	30	•50	.64	 	 	 	
	$\frac{23}{24}$	35	.44	.58		 	 	
	25	40	.41	•55	 	 	 	
	26	45	15.37	0.51	 	 	 	
	150_	1 3 3	1 3 1 3 7	1	L	↓	<u> </u>	



SCHEDULE "A"

OWNER'S NAME: Goodbrand Development Corp.								WELL NO. 1 (Phase 1)				
APPLICATION NO. 87-111							DATE: 1988 06 16					
IOCATION: 238A Street & 62 Ave.								SHEET 4 of 6				
		TOT	wnship d	of Lan	gley			TEST NO. 2				
	Dra	wdown	X Rec	overy								
	Rdg From To Draw # Start Water Down				Me	Flow easure Data		Comments				
		(Min)	(M)	(M)	(Min)	L	LPM	Commerces				
-	27 28 29 30	50 60 70 80	.34 .29 .24									
		90 100 110 120	.17 .15 .13	.31 .29 .27								
_						·			- L			
1.1.1.									•			
1-1-1-1												
1												
1									,			
1												



The Corporation of the Township of Langley schedule "A"

TIME - DRAWDOWN GRAPH FOR PUMP TEST

OWNER'S NAME: Goodbrand Development Corp. WELL NO. 1	Phase 1)
APPLICATION NO.: 87-111 DATE: 1988 06	16
LOCATION: 238A & 62nd Ave. SHEET 5 01	F <u>6</u>
DEPTH TO STATIC WATER LEVEL: 14.40 (m) TEST NO. 2	
Below existing ground 6.0	
6.5	-
7.0	WELL
7.5	OTM
	530
DRAWDOWN (metree)	7
9.0	
9.5	
10 30 100 300 1000	· ·
TIME SINCE PUMPING STARTED (minutes) 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	11111
10.110 2.11	
Pumping rate Lpm Drawdown at 30 days $(S_{30}) \frac{9.6 \times 10/40}{1000} = 2.4$ Estimated minimum adjustment for seasonal decline (0): Use following figures if other local data or hydrogeologist's opinion is not available.	
Tests run in summer time: 2 m Tests run in winter time: 6 m Tests run in fall and spring: use intermediate values 2 m to 6 m	
Depth to proposed pump suction (Dp) 30 m	
Calculate minimum available drawdown: $D_p = (D_{TW} + S_{30} + D) = 30 = (14.40 + 2.4 + 4) = 9.2$	
then either the pump has to be set	F-7
If answer to above calculation is negative, water for a house. lower or the well is not capable of supplying water for a house.	, ,



SCHEDULE "A"

PUMP TEST SUMMARY

OWNER'S HAME:	lbrand Development	WELL NO
APPLICATION NO.:	87-111	DATE: 1988 06 16
LOCATION: 238A &	62nd Ave.	6 6
Township	o of Langley	TEST NO. 2
Diameter 152 (mm)	Screen Grave	DESCRIPTION OF AQUIFER Sand & Grave el Pack 94 31.85
PUMP TEST 16 06 1988 Start: Date d/mo/ÿr Pump Type: X Electric submer	3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	ir Lift
Flow measured by:		r
TEST Constant rate of yield 40 Initial non-pumping level 14 Orawdown in well at end of test Recommended pumping rate 16	7.81 m	ion hours _
Chemical Analysis X Yes Bacterial Analysis X Yes Water Temperature 9 Any particular gas smells noted Comments on clarity of water 0	No No None Clear and Clean	



SCHEDULE "A"

PRIVATE WELL CERTIFICATION

PURSUANT TO SCHEDULE "A" of the Subdivision and Development Cohereby certify that each lot to be created and/or each exist part of the proposed development can be serviced with postacordance with the requirements of the Bylaw form the development accordance with the requirements of the Bylaw form the development.	table water in
Legal DESCRIPTION: Lot 2 (Phase 1)	
PROJECT NO.: 87-111	
I certify that a quantity of not less than 2,500 litres pe proven for each existing or proposed lot in the development.	r day has been
I certify that water quality tests have been conducted and Drinking Water Standards, 1982" can be met for each existing in the development.	that the "B.C. or proposed lot
Certified By (Name of Professional Engineer)	
140 9 Bewiche ave.	PROFESSIONAL SEAL
Both Vancouver, B.C. V7M 307	
See attachments as required pursuant to clause 2.2.18 of Schedule "A".	

Subdivision Application No. 87-111

Lot B of Lots 2 and 3, Plan 13274 and Parcel A (Reference Plan 8562) of Lots 2, 3 and 4, Except Plan 17067, Plan 23779 and part of Lot 31, Plan

54464, all of North East 1/4 of Section 9, Township 11, N.W.D.

GOODBRAND DEVELOPMENT CORPORATION 62ND AVE., LANGLEY, BRITISH COLUMBIA

Well on Lot 2 (S.E. Corner) (Phase 1)

Depth (Below G Metres	Feet	Description			
1.83 - 5.18 5.18 - 11.28	1 - 6 6 - 17 17 - 37 37 - 37.5 37.5 - 60	Soil sandy loam Sand and gravel, brown Sand, brown, silty Clay, sandy, pebbly Sand and gravel, water bearing Clay, sandy, pebbly Sand, silty, grey Sand and gravel, water bearing Till			

Construction details - below ground surface

	Metres	Feet
152 mm (6-inch) diameter casing 152 mm (6-inch) telescopic diameter	+ 0.46 - 20.57 + 1.5	5 - 67.5
screen	20.24 - 21.64 66.4	l - 71

Screen - stainless steel, 25 slot with K-packer Top 3 m (10 feet) sealed with thick bentonite slurrey outside of casing



SCHEDULE "A"

640tFT	LIC NAME	. Good	ibran	d Dev	elopm	ent Co	rp. WELL NO. 2 (Phase 1)					
OWNER	(.2 ueur	-•	07_1	11			DATE: 1988 05 24					
APPLI	APPLICATION NO.: 87-111 DATE: 19.88 05 24											
LOCATION: 238A St. & 62 Ave. SHEET 1 OF 6												
200	Township of Langley TEST NO											
Tow	nship	of La	ngrey									
Ď	Drawdo	wn_	☐ Re	covery								
		Depth	<u></u> 1		Flow							
P3~	From	nebru	Draw	Me	asure	IICIIC						
Rag	Start	Water	Down		Data		Comments					
"						1	COMMISS. 100					
	1,345	(M)	(M)	(Min)	L	LPM						
	(Min)	(14)	(11)	(12211)								
						 	Static Water Level below MPT					
1	0	16.00	0		 	 	Measuring Point-Top of casing					
2	.5	.60	0.60		20	20	0.46 m above ground					
3	1.0		0.95 1.20		20	 	 					
4	1.5		1.49		 		Discharge 40 m from well					
5	2.5		1.71									
7	3.0		1.82									
8	3.5	1	1.81		<u> </u>	_						
9	4.0	.89	1.89		<u> </u>							
10	4.5				 -							
11	5.0				 -							
12	6.0											
13	7.0				-							
14 15												
16			2.04	1								
17		.05	2.05		<u> </u>							
18	14	.07										
19		.07			20	20	Water clear and clean					
20		.08			- 20							
21		1										
22 23		 			1							
24												
147		1/										



SCHEDULE "A"

OWNER	'S NAM	Go	odbra	nd De	velop	ment (Corp. WELL NO. 2 (Phase 1) 1988 05 24
ADDI 1	CATION	но.:	87-1	T T			DATE:
LOCAT	10N:	_238_A	St.	& 62	Ave.		SHEET OF 6
Tow	nship	of La	пдтеу	<u></u>			130. 110.
X	Drawdo	wn_	☐ Re	covery			
Rdq	Time From Start	Depth To Water	Draw Down	Me	Flow asurem Data		Comments
	(Min)	(M)	(M)	(Min)	L	LPM	
27	50		2.16			<u> </u>	
28 29	60 70	.17 .18		 		 	
30	80	.19					
31	90	.18			20	20	Water clear, clean & tasteless
32 33	100	.20		<u> </u>	20_	20	Water samples collected
34	120	.21					
				Ĭ		 	
		<u> </u>	<u> </u>	╄	ļ		
\ <u></u>	 -	 	 	 			
						T	
			ļ		 		
		ļ				1	
	 						
					-	- 	
	-	<u></u>	 		 	 	
		+					
					<u> </u>		
		<u> </u>	 	 		 	
		-		-			
					1		
	Ι	1	1	1	1		



SCHEDULE "A"

OWNER	OWNER'S NAME: Goodbrand Development Corp. WELL NO. 2 (Phase 1)											
		но.:					+000 05 9/					
APPLI	CALION			5 62	Ave.	-	SHEET 3 OF 6					
LOCAT	LOCATION: 238 A St. & 62 Ave. SHEET 3 OF 6											
Tow	Township of Langley TEST NO. 1											
	Drawdown Recovery											
	Time Depth Flow Rdg From To Draw Measurement											
Rdg	From	To	Draw	M∈	asure	nent						
#	From Start	Water	Down		Data		Comments					
-	}					1	Commerces					
	(Min)	(M)	(M)	(Min)	L	LPM						
	(22)	\'	• •									
			2.21				Pump off					
1 2	.5	18.21 17.88	1.44			 						
3	1.0	.38	1.38									
4	1.5	•09	1.09			 	<u> </u>					
5	2.0	16.88	.88			 						
<u>6</u> 7	2.5 3.0	.72 .59	.72			 						
8	3.5	•50	.50	 								
9	4.0	.44	.44									
10	4.5	.38				 						
11	5.0	•35				 						
12 13	7.0	.28										
14	8.0	.22										
15	9.0	.20	.20									
16	10			 	 -							
17	12	.17	.17		 							
18 19	14	.14	.14		 	1						
20	18	.13	.13									
21	20	.12	.12		<u> </u>							
22	25	.10	.10		ļ							
23	30	.11	.08									
24 25	35 40	.08			1							
$\frac{25}{26}$	45	.08										



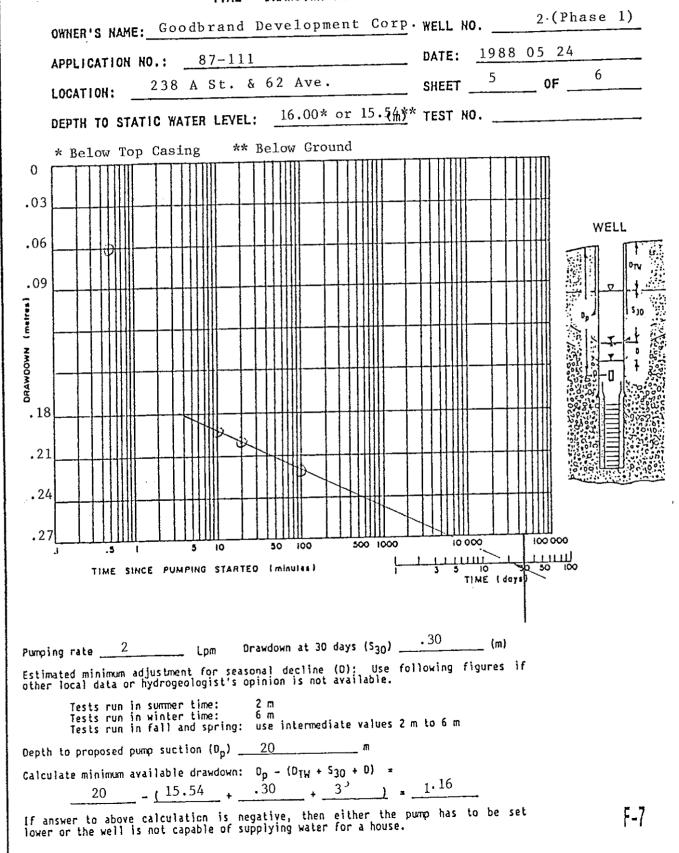
SCHEDULE "A"

OWN	IER'S NA	AME: Go	odbra	nd De	velop	ment (Corp.	WELL NO	o	2	(Ph	ase	1)
ДРР	LICATIO	ои ис	<u>:</u>	DATE:	1988	05	24						
LOC	ATION:	238		SHEET	4	0)F _	6					
		p of L			TEST NO								
] Draw	nwoi	(X) 8	lecover	у								 -
Rdg #	From	1 7	Draw Down	M∈	Flow easurer Data	ment		Comme	ents				
	(Min)	(M)	(M)	(Min)	L	LPM							
27	50	16.07	.07										
28	60	.07				<u> </u>	 						
29	70	•05			ļ	 	 		<u></u>				
30	80	.05				 	+						
31 32	90	.03			 	1	1						
33	110	.03			 								
34	120	.03					I						
				ļ		 	 						
		<u> </u>	 	 	 	 							_
\	 	 		 			+						
	 	 	 	†									
1							Ī						
			<u> </u>		ļ	 		·					
<u> </u>	<u> </u>	 	 	}	 	 							
	 	 		<u> </u>	}	 	+						
<u> </u>	 	 	 	 	 	†	1						
ļ	 	 		1	†								
	†						Ī						
			<u> </u>		ļ	 	ֈ						
		ļ		 	 	 							
]		 	 	 		 	-						
\	-	 	 	1	 	 	1						
		+	 	 	1	1							



The Corporation of the Township of Langley schedule "A"

TIME - DRAWDOWN GRAPH FOR PUMP TEST





SCHEDULE "A"

PUMP TEST SUMMARY

		ent Corp.	ELL HO.			ase 1)
APPLICATION NO.:	87-111	D	ATE: _	1988	05 2	4
LOCATION: 238A		S	HEET	6	0F	6
Township of Lar	1	Ţ				
				-		
WELL COMPLETION DATA Depth 21.64 (m) Diameter 152 (nm) Static Mater Level 15.54 (m)	Open Hole Screen	mark one) Slotted Co Gravel Pace	asing :k		RIPTION nd &	of Aquifer Gravel
Test Pump Set at 20 m be Water level sounded by: \overline{X}	3 131lime mersible	O In/min Air Lif Air bubbler	t	eel tap	e	
Flow measured by:	Container & watch Orifice & tube	Flow meter	N.			
TEST Constant rate of yield 20 Initial non-pumping level 15 Drawdown in well at end of test Recommended pumping rate	2.21	Test duration		2	hours	-
HATER SAMPLES TAKEN DURING TEST					- · · · ·	
Chemical Analysis X Yes Pacterial Analysis Yes Pater Temperature 9 Interperature 9	None Clear and c	_				



SCHEDULE "A"

PRIVATE WELL CERTIFICATION

PURSUANT TO SCHEDULE "A" of the Subdivision and Development hereby certify that each lot to be created and/or each exist part of the proposed development can be serviced with paccordance with the requirements of the Bylaw for the developm	otable water 1
LEGAL DESCRIPTION: Lot 3 (Phase 1)	
PROJECT NO.: 87-111	
I certify that a quantity of not less than 2,500 litres p proven for each existing or proposed lot in the development.	
I certify that water quality tests have been conducted and Drinking Water Standards, 1982" can be met for each existing in the development.	that the "B.C por proposed lo
Albronn Certified By (Name of Professional Engineer)	
1909 Bewile ave	PROFESSIONAL SEAL
Both Vanious BC V7m 3CZ	

See attachments as required pursuant to clause 2.2.18 of Schedule "A".

Subdivision Application No. 87-111
Lot B of Lots 2 and 3, Plan 13274 and Parcel A
(Reference Plan 8562) of Lots 2, 3 and 4, Except
Plan 17067, Plan 23779 and part of Lot 31, Plan
54464, all of North East 1/4 of Section 9, Township 11, N.W.D.

GOODBRAND DEVELOPMENT CORPORATION 62ND AVE., LANGLEY, BRITISH COLUMBIA

Well on Lot 3 (S.E. Corner) (Phase 1)

Depth (Below G	round Surface) Feet	Description			
0.00 - 0.61	0 - 2	Soil sandy loam			
	2 - 12	Sand and gravel, brown			
3.66 - 5.49	12 - 18	Sand and gravel, silty, grey little water			
5.49 - 11.89	18 - 39	Sand, silty, brown			
11.89 - 14.63	39 - 48	Clay, some pebbles, grey			
14.63 - 17.98	48 - 59	Sand, silty, some pebbles			
17.98 - 20.42	59 - 67	Sand, brown, "dry"			
20.42 - 38.40	67 - 126	Till, clayey, some water			
38.40 - 40.23	126 - 132	Sand, fine grained, silty, grey			
40.23 - 43.59	132 - 143	Clay, grey			
43.59 - 45.42	143 - 149	Sand and gravel, water-bearing			

Construction details - below ground surface

			Metres	Feet
	diameter casing telescopic diameter	+ 0.46	- 44.35	+ 1.5 - 145.5
	screen	43.99	- 45.42	144.33 - 149

Screen - stainless steel, 30 slot with K-packer Top 3 m (10 feet) sealed with thick bentonite slurrey outside of casing



SCHEDULE "A"

•							
APPLICA'	TION NO. 2381	street	1 & 62 Lang	WELL NO. 3 (Phase 1) DATE: 1988 05 25 SHEET 1 of 6 TEST NO. 1			
X Draw	down	Recov	ery				
Rdg #	From	Depth To Water	Draw		Flow easurer Data	nent	Comments
	(Min)	(M)	(M)	(Min)	L	LPM	
1	0	19.53	0				Static water level below MPt. S.W.L. Lot 4 20.52 m
2	•5	20.45	0.92	0.5	20	40	Measuring point - top of
$\frac{2}{3}$	1.0	.94	1.41		T		casing 0.46 m above ground
4	1.5		.90		T		casing 0.46 in above 925
5	2.0		2.03		T		Discharge 30 m away from Well
6	$\frac{2.0}{2.5}$.19				Discharge 30 in away From Monay
7	3.0				T		No. 3
8	3.5		.32		T		
	4.0		.85		<u> </u>		
10	4.5		.36				Water clean, clear good taste
11	5.0		.38				Water Citary of the same
12	6.0		.39				
13	7.0	.92				_	
14	8.0						
15	9.0						
16	10	.93			-\	 -	
17	12	.95					
18	14	.95					
19	16	.95					
20	18	.94	-+				
21	20	.94					
22		.96					Water level Lot 4 20.56 m
23		.96					
24		.96					
175	40	1 .98	3 4 #	- (١		



SCHEDULE "A"

	.=		0	and Do	WELL NO. 3 (Phase 1)			
OWN	ÆR'S	NAME:	Goodbr	and De	<u> </u>			
APF	PLICA	N NOIT.	0. <u>87-1</u>	11		····		DATE: 1988 05 25
L00	CATIO	N: 238	A Stree	t & 62	SHEET 3 of 6			
					TEST NO			
		Tow	nship o	f Lang	ico: no.			
	Draw	vdown	x Reco	very				
_	' 							
			Depth		M.	Flow	- a n t	
			То	Draw		asurem	ient	
	#	Start	Water	Down		Data		Comments
		(Min)	(M)	(M)	(Min)	L	LPM	
		(112.17)	\'''	(/				
								D 256
	1	0	21.96					Pump off
	2	.5	20.83					
	3	1.0	.37					
	4	1.5	.19	.66	ļ. ——		 -	
	5	2.0	19.99	.46	<u> </u>			
	6	2.5	.83	.30 .30	 			
	7	3.0	.83					
	8	3.5 4.0	.66	.13	 			
	10	4.5	.58	.05				
	111	5.0	.65	.12	 			
	12	6.0	.56	.03				
	13	7.0			1			
	14	8.0	<u> </u>					
	15	9.0						
	16	10	.51	02				
	17	12	.52					
	18	14	.53	.00			ļ	
	19	16	.53	.00			 	
	20	18	.53	.00		ļ	 	
	21	20	.53	0.00		 	 	
	22	25	.52	01		ļ	 	
	23	30	.54	.01		 		
	24	35	.53			 		



SCHEDULE "A"

OWNER'S NAME: Goodbrand Development Corp.				WELL NO. 3 (Phase 1)				
APPLICA	APPLICATION NO. 87-111					DATE: 1988 05 25		
LOCATION	ON: <u>23</u>	8A Stre	et & 6	2 Ave.			SHEET 4 of 6	
	To	wnship o	of Lan	gley			TEST NO1	
Dra	wdown	x Reco	overy					
Rdg #	From	Depth To Water	Draw Down	\$	Flow easure Data	ment	Comments	
	(Min)	(M)	(M)	(Min)	L	LPM		
27	50	19.50						
28	60	.49	04					
29	70	•50					Water Level Lot 4 20.44 m	
30	80	.49						
31	90	.50			<u> </u>			
32	100	.51			ļ	L		
33	110	.50						
34	120	•50	03					
					ļ	<u> </u>		
								
					<u> </u>			
								
1 1	•	ŀ	i	l l	_	_		



The Corporation of the Township of Langley schedule "a"

TIME - DRAWDOWN GRAPH FOR PUMP TEST

TIPLE MININGS CONT	3 (Phase 1)
OWNER'S NAME: Goodbrand Development Corp. WELL	NO
APPLICATION NO.: 87-111 DATE:	
238A Street & 62nd Ave. SHEET	
DEPTH TO STATIC WATER LEVEL: 19.07 (m) TEST	но
Below existing ground	
2.0	
2.1	
	WELL
2.2	
	DOWN
2.3	\$30
DRAWDOWN Imetres.	
0 NA NO	
2.6	
3 t 5 10 50 100 500 1000	10 000 100 000
TIME SINCE PUMPING STARTED [minutes]	11111 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	1100
2.44 x	19/40 = 0.61
Purpling rate 10 Lpm Drawdown at 30 days (\$30)	\m}
Estimated minimum adjustment for seasonal decline (D): Use following other local data or hydrogeologist's opinion is not available.	figures if
Tests run in summer time: 2 m	
Tests run in winter time: o m Tests run in fall and spring: use intermediate values 2 m to 6	m
Depth to proposed pump suction (D_p) 30 m	
calculate minimum available drawdown: Dp - (DTW + \$30 + D) =	2
$\frac{30 - (19.07 + 0.61 + 4) = 6.37}{\text{If answer to above calculation is negative, then either the pump half answer to above calculation of supplying water for a house.}$	s to be set F_7
If answer to above calculation is negative, water for a house. lower or the well is not capable of supplying water for a house.	, 1



SCHEDULE "A"

PUMP TEST SUMMARY

OWNER'S NAME: Goodbrand Development	WELL HO.	3 (]	Phase 1)
APPLICATION NO.: 87-111			
LOCATION: 238A Street & 62nd Ave. Township of Langley	SHEET	6 OF	
WELL COMPLETION DATA Depth 45.42 (m)	rasing Pack	DESCRIPTION Sand &	of Aquifer Grave1
PUMP TEST Start: Date 25 05 1988 1 ime 0810 d7mo/yr hr/min Pump Type: Electric submersible Jet Air L Other? Describe Test Pump Sot at 40 m below ground Water level sounded by: Electric tape Air bubbler Other? Describe Flow measured by: Container & watch Flow meter	□ Siee	l tape	
Orifice & tube Other1 Descri	ibe		
TEST Constant rate of yield 40 Lpm Test duration	2	hours	
Chemical Analysis			



SCHEDULE "A"

PRIVATE WELL CERTIFICATION

PURSUANT TO SCHEDULE "A" of the Subdivision and Development Control Bylaw, hereby certify that each lot to be created and/or each existing lot forming part of the proposed development can be serviced with potable water accordance with the requirements of the Bylaw for the development of:
LEGAL DESCRIPTION: Lot 4 (Phase 1)
PROJECT NO.: 87-111
I certify that a quantity of not less than 2,500 litres per day has bee proven for each existing or proposed lot in the development.
I certify that water quality tests have been conducted and that the "B.C Drinking Water Standards, 1982" can be met for each existing or proposed lo in the development.
Certified By (Name of Professional Engineer)
1409 Bewele Que PROFESSIONAL SEAL
Both Vancoure BC V7m 3CZ

See attachments as required pursuant to clause 2.2.18 of Schedule "A".

Subdivision Application No. 87-111
Lot B of Lots 2 and 3, Plan 13274 and Parcel A
(Reference Plan 8562) of Lots 2, 3 and 4, Except
Plan 17067, Plan 23779 and part of Lot 31, Plan
54464, all of North East 1/4 of Section 9, Township 11, N.W.D.

GOODBRAND DEVELOPMENT CORPORATION 62ND AVE., LANGLEY, BRITISH COLUMBIA

Well on Lot 4 (S.E. Corner) (Phase 1)

Depth (Below Gro Metres	ound Surface) Feet	Description
20.73 - 33.53 33.53 - 35.36 35.36 - 36.58	39 - 43 43 - 55 55 - 58 58 - 65 65 - 68 68 - 110 110 - 116 116 - 120	Sand and gravel, water-bearing
Construction de	tails - below gro	Metres Feet
	diameter casing telescopic diame screen	

Screen - stainless steel, 25 slot with K-packer Top 3 m (10 feet) sealed with thick bentonite slurrey outside of casing



SCHEDULE "A"

OWNER'S NAME: Goodbrand Development Corp.	WELL NO. 4 (Phase 1)
APPLICATION NO. 87-111	DATE: 1988 05 25
LOCATION: 238A Street & 62 Ave.	SHEET of 6
Township of Langley	TEST NO1
X Drawdown Recovery	

4		,—,					
Rdg #		Depth To Water	Draw Down	Мє	Flow easurem Data	nent	Comments
	(Min)	(M)	(M)	(Min)	L	LPM	
1	0	20.56	0				Static water level below MPT
2	•5	21.26	0.70	0.5	20	40	Measuring point - top of
3	1.0	.92	1.36				casing 0.46 m above ground
4	1.5	22.34	.78				
5	2.0	.60	2.04				Discharge 35 m away from Well
6	2.5	.75	.19				No. 4
7	3.0	.85	.29				
8	3.5	.98	.32				
9	4.0	.99	.43				
10	4.5	23.06	.50				
11	5.0	.07	.51				
12	6.0	.07	.51				
13	7.0	.10	.54				
14	8.0	.07	.51				
15	9.0	.06	.50				
16	10	.07	.51				
17	12	.09	.53	<u> </u>	<u> </u>		
18	14	.07	.51				
19	16	.07	.51				
20	18	.05	.49		ļ	<u> </u>	
21	20	.05	.49	<u> </u>	<u> </u>		
22	25	.07	.51		ļ		
23	30	.06	.50		<u> </u>		
24	35	.07	.51				W-t alam and alam
25	40	.08	.52		ļ <u>.</u>		Water clear and clean
26	45	.08	.52		<u> </u>	ļ	



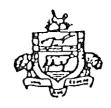
SCHEDULE "A"

OWNER'S	NAME:	Goodbr	and De	velopm	ent Co	rp.	WELL NO. 4 (Phase 1)
APPLICA	NOIT/	10. <u>87-1</u>	11				DATE: 1988 05 25
LOCATIO	N: <u>238</u>	A Stree	t & 62	Ave.			SHEET 2 of 6
	Tov	vnship o	of Lang	ley			TEST NO. 1
X Drav	wdown	Reco	overy				
Rdg #	Time From Start	Depth To Water	Draw Down		Flow easurem Data	ent	Comments
	(Min)	(M)	(M)	(Min)	L	LPM	
27	50	23.07	2.51				
28	60	.08					
29	70	.09					
30	80	.08	.52				
31	90	.08					
32	100	.09	.53	0.5	20	40	
33	110	.09	.53				Water samples collected
34	120	.09	.53				
			<u> </u>				
		<u> </u>					
<u> </u>				<u> </u>			
			 				
			 	 			
	<u> </u>	 _	 	 			
 	<u> </u>	ļ		 			
ļ			<u> </u>				
<u> </u>	 	<u> </u>	 	 			
	-	 	 	 			
<u> </u>	 	 	 	 		<u> </u>	
	 	1	<u> </u>	1	<u> </u>		
<u> </u>		1					



SCHEDULE "A"

OWNER'S	NAME:	Goodbra	and De	velopm	ent Co	rp.	WELL NO. 4 (Phase 1)		
APPLICATION NO. 87-111						DATE: 1988 05 25			
APPLICA	APPLICATION No. 07-171						2		
LOCATIO	OCATION: 238A Street & 62 Ave.						SHEET3 of6		
	Tow	nship o	f Lano	lev			TEST NO1		
	1011	Mantp o	Lang	<u> </u>		_ · <u></u> ·			
Dra	wdown	X Reco	very						
	Time	Depth			Flow				
Rdg			Draw	Ме	easuren	nent			
#	Start	Water	Down		Data				
						Γ	Comments		
		<i>(</i>),)	(14)	(14:5)	L	LPM			
	(Min)	(M)	(M)	(Min)	L	[EF11			
1	0	23.09	2.53				Pump off		
2	.5	22.11	1.55						
3	1.0	21.56	1.00						
4	1.5	.06				<u> </u>			
5	2.0	20.86	.30		<u> </u>	<u> </u>			
6	2.5	-			<u> </u>	 			
7	3.0	.75				<u> </u>			
8	3.5		.14		 	 			
9	4.0	.67	.06		<u> </u>	 			
10	4.5 5.0	.61	.05		<u> </u>				
11 12	6.0	.60	.04						
13	7.0		.01						
14	8.0		.04						
15	9.0					<u> </u>			
16	10	.60			<u> </u>	- -			
17	12	.57			ļ. <u> </u>	.			
18	14	.59							
19	16	.59			<u> </u>				
20	18	.58				 			
21 22	20 25	.58			1	+			
23	30	.57			+	1			
24	35	57			1				
127									



SCHEDULE "A"

OWNER'S NAME: Goodbrand Development Corp.						orp.	WELL NO. 4 (Phase 1)
APPLIC/	APPLICATION NO. 87-111						DATE: 1988 05 25
LOCATIO	ON: <u>238</u>	BA Stree	et & 62	Ave.			SHEET 4 of 6
	To	vnship o	of Lanç	gley			TEST NO. 1
Draw	wdo wn	X Reco	overy				
Rdg #	Time From Start		Draw Down	Ме	Flow easurer Data	nent	Comments
	(Min)	(M)	(M)	(Min)	L	LPM	
27	50	20.57	0.01				
28	60	.56					
29	70	.57					
30	80	.56	.00				
31	90	.56	.00				
32	100	.57	.01				
33	110	.58					
34	120	.58	.02	<u> </u>			
	<u> </u>						
	<u> </u>					<u> </u>	
	 						
				<u> </u>			
	<u> </u>						
	 			 -			
	 						
		 -		 			
		 					
				l			
1		 		1	I	I	I



The Corporation of the Township of Langley schedule "a"

NOTIFICATION OF THE PROPERTY O

Goodbrand Developm	VIII WARN IVN I ent Corp.	4	(Phase 1)
OWNER'S NAME:		WELL NO	
		DATE: 1988 05 SHEET 5	6
LOCATION: 238A Street & 62nd Av			
DEPTH TO STATIC WATER LEVEL: 20	.10 (m)	TEST NO.	-
Below existing ground			1111
2.0			
2.1			
2.2		<u> </u>	WELL
			Orx :
			1500
DRAWDOWN (metres			
б <u>р</u>	→		\$35.50-0
08			
2.6			
.5 1 5 10 50	500 1000	10 444	11111
TIME SINCE PUMPING STARTED Eminu	[aa]	1 1 1 1 1 1 1 1 3 5 10 30 TIME (days)	50 100 □ 111111
		,,,,,,	
	2	58 ~ 10/40 = 0.	65
Pumping rate 10 Lpm Drawdown	at 30 days (\$30) 2.	So x 10/19(m)	-
Estimated minimum adjustment for seasonal decother local data or hydrogeologist's opinion i		Howlud Lidnies II	
Tests run in summer time: 2 m Tests run in winter time: 6 m Tests run in fall and spring: use int	ermediate values 2 r	m to 6 m	
Depth to proposed pump suction (Dp)	m		
Calculate minimum available drawdown: $0_p - (0_p - 0.65)$	TW + 530 + D) =	5.25	
to see extendition is negative.	then either the p	ump has to be set	F-7
lower or the well is not capable of supplying	water for a house.		1 1



SCHEDULE "A"

PUMP TEST SUMMARY

	hall 1521 someon		(phage 1)
OWNER'S NAME: Goodbrand APPLICATION NO.: 87-1 LOCATION: 238A Stre	d Development Corp	DATE: 1988 0	0F6
Township of Lar	ngley	·····	
completion data $ \begin{array}{cccccccccccccccccccccccccccccccccc$	SCREEN DESIGN (mark one) open Noie S Screen G other Screen interval 35	DES lotted Casing Security Se	cription of Aquifer and & Gravel
est Pump Set at m bel ater level sounded by: &	rsible be	bubbler Stee	
TEST Constant rate of yield4 Initial non-pumping level2 Drawdown in well at end of tes Recommended pumping rate	20.10m	t duration2	hours
Chemical Analysis Bacterial Analysis Water Temperature Water Temperature	ST NO NO S OC	an	



SCHEDULE "A"

PRIVATE WELL CERTIFICATION

PURSUANT TO SCHEDULE "A" of the Subdivision and Development Control Bylhereby certify that each lot to be created and/or each existing lot for part of the proposed development can be serviced with potable water accordance with the requirements of the Bylaw for the development of:	
LEGAL DESCRIPTION: Lot 5 (Phase 1)	··········
PROJECT NO.: 87-111	
I certify that a quantity of not less than 2,500 litres per day has proven for each existing or proposed lot in the development.	
I certify that water quality tests have been conducted and that the Drinking Water Standards, 1982" can be met for each existing or propose in the development. Certified By (Name of Professional Engineer)	"B.C. ed lot
Address Address Berth Various BC 17m 30.7	NAL

See attachments as required pursuant to clause 2.2.18 of Schedule "A".

Subdivision Application No. 87-111
Lot B of Lots 2 and 3, Plan 13274 and Parcel A
(Reference Plan 8562) of Lots 2, 3 and 4, Except
Plan 17067, Plan 23779 and part of Lot 31, Plan
54464, all of North East 1/4 of Section 9, Township 11, N.W.D.

GOODBRAND DEVELOPMENT CORPORATION 62ND AVE., LANGLEY, BRITISH COLUMBIA

Well on Lot 5 (S.E. Corner) (Phase 1)

Depth (Below Gr Metres	ound Surface) Feet	Description	
*			
0.00 - 0.30	0 - 1	Soil sandy loam	
0.00 - 0.30 $0.30 - 3.05$	1 - 10	Sand and gravel, brown	
3.05 - 5.18		Sand and gravel, silty	
5.18 - 6.71		Sand and gravel, coarse	
6.71 - 8,53	22 - 28	Sand and gravel, silty	
8.53 - 11.89	28 - 39	Sand, brown	
11.89 - 17.37	39 - 57	Clay, sandy	
17.37 - 20.12	57 – 66	Sand, silty dry	
20.12 - 21.64	66 - 71	Sand and gravel, water bearing	
21.64 - 31.39		Till-like	
31.39 - 34.14	103 - 112	Sand and gravel, water bearing	
Construction de	etails - below g	round surface	
		Metres Feet	
152 mm (6-inch)	diameter casin	g + 0.46 - 33.07 + 1.5 - 108.5	5
152 mm (6-1ncn)	telescopic dia screen	32.61 - 34.14 107 - 112	
Screen - stainl Top 3 m (10 fee	ess steel, 15 set) sealed with	lot with K-packer thick bentonite slurrey outside of	Ē

casing



SCHEDULE "A"

OWNER'S NAME: Goodbrand Development Corp.	WELL NO. 5 (Phase 1)
APPLICATION NO. 87-111	DATE: 1988 06 16
LOCATION: 238A Street & 62 Ave.	SHEET 1 of 6
Township of Langley	TEST NO. 2
X Drawdown Recovery	
I Time Depth Flow	

_1		,—					
Rđg #	Time From Start	Depth To Water	Draw Down	Me	Flow Measurement Data		Comments
	(Min)	(M)	(M)	(Min)	L	LPM	
1	0	21.34	0				Static Water Level below MPT
12	•5	22.37	1.03	 †			Measuring Point - top of
13	1.0	23.27	.93			<u> </u>	Casing 0.46 m above ground
4	1.5	.91	2.57			<u> </u>	
5	2.0	24.38	3.04				Discharge 40 m away from well
16	2.5	.82	.48				
17	3.0	25.12	.78				
1-8-	3.5	.32	.98				
1 9	4.0	.58	4.24				
110	4.5	.72	.38	<u> </u>			
111	5.0	.86	•52				
112	6	26.03	.69	.05	20	40	
113	7	.15	.81	Ī			
114	8	.23	.89	T	[.	
115	9	.29	.95		Ĺ		
16	10	.31	.97		L	_	
117	12	.34	5.00		 		
18	14	.37	.03	<u> </u>	<u> </u>	<u>-</u>	
19	16	.38	.04		<u> </u>		
20	18	.38	.04		ļ		
21	20	.39	.05				<u> </u>
22	25	.39	.05		 		
- 23	30	.40	.06		<u> </u>		
24	35	.38	.04		 		
25	40	.40	.06		 		
26	45	26.40	5.06	<u> </u>	↓	<u> </u>	



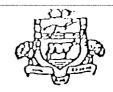
SCHEDULE "A"

OWNER'S NAME: Goodbrand Development Corp.								WELL NO. 5 (Phase 1)
			o. <u>87-1</u>				DATE: 1988 06 16	
LOC	ATIC	N: 238	A Stree	t & 62		SHEET 2 of 6		
-		Tow	nship o	f Lang	TEST NO. 2			
X	Drav	<u>vdown</u>	Reco	very			. <u> </u>	
	Rdq	From	Depth To Water	Draw		Flow asurem Data	ent	Comments
		(Min)	(M)	(M)	(Min)	L	LPM	
į	27	50	.41	.07			,	
-	28	60	.43	.09		<u>-</u>	,	
_	29	70	.44	.10				
_	30	80	.42	.08				
_	31	90	.42	.08				
	32	100	.43	.09		<u></u>		Water Samples collected
_	33	110	.40	.06		 		Mucci Bungass
_	34	120	.42	.08				
_	<u> </u>			}				
_	L	<u> </u>		 				
_	<u> </u>	 	<u> </u>	 				
	ļ	<u> </u>	 -	 	 			
	↓	ļ	 	}				
	 	-}	 	 	 			
	 	 	 	}	 			
•	┼─	-}	-	 	·			
	}	+	 	 	1			
			 	1				
	1			1		I		
	1	 	1			L	ļ	
	1	1			<u> </u>	ļ	<u> </u>	
	1			<u> </u>				
	I				<u> </u>	 	ļ	
			<u> </u>			 	<u> </u>	



SCHEDULE "A"

OWNER'S	NAME:	Goodbr	and De	WELL NO. 5 (Phase 1)			
APPLICA	M MOITA	10. <u>87-1</u>	11		DATE: 1988 06 16		
LOCATIO	N: <u>238</u>	BA Stree	t & 62	SHEET 3 of 6			
	Tov	vnship c	of Lang	ley			TEST NO. 2
Draw	vdown	X Reco	very				
Rdg #	Time Depth Flow Rdg From To Draw Measurement Data Data				Comments		
	(Min)	(M)	(M)	(Min)	L	LPM	
1	0	26.42	5.08				Pump off
1 2	.5						
1 3	1.0						
4		23.85	2.51				
5	2.0	.31	1.97				
6	2.5	22.86	.52		[
17	3.0	•53	.19				
8	3.5	.24	0.09				
9	4.0			<u> </u>	<u> </u>	L	` ` ` ` ` ` ` ` ` ` ` ` ` ` ` ` ` ` `
10	4.5				<u> </u>	L	
111	5.0			<u></u>		<u> </u>	
12	6.0	<u> </u>				ļ	
13	7.0	21.52	0.18	ļ	ļ		
14	8.0	.45	.11		 	ļ	
15	9.0	.38	.04	<u> </u>	<u> </u>		
16	10	.34	0.00		 	 	
17	12	ļ <u> </u>	ļ	 	}	}	
18	14	ļ	<u> </u>	<u> </u>	 -	}	
19	16	 		 	 -	 	
20	18	.34	.00		 		
21	20 25	•34	1 .00	 	 	 	
23	30	 	 	 	 	†	
21	35	 -	 	 	 	 	
25	40	.34	.00	 	†	1	
123	 	+=====	0 00	 	}	1	



SCHEDULE "A"

OWNER'S NAME: Goodbrand Development Corp.								WELL NO. 5 (Phase 1)
API	LIC	MOITA	NO. <u>87-</u> 1	111		DATE: 1988 06 16		
LOX	CATIC	ON: 238	BA Stree	et & 62	SHEET 4 of 6			
		TOV	mship o	of Lang	gley		<u>-</u>	TEST NO. 2
	Drav	wdown	X Reco	overy				•
	Rdg #	From	Depth To Water	Draw	M∈	Flow easurem Data	nent	Comments
		(Min)	(M)	(M)	(Min)	L	LPM	
	27	50					•	
-	28	60						
-	29	70						
_	30	80					 	
_	31	90	.34	.00				
	32	100	<u> </u>	<u> </u>	ļ			
_	[33	110	<u></u>					
_	34	120	.34	.00				
_		<u></u>						
_	<u> </u>							
-	<u> </u>	<u> </u>	Ĺ		ļ		ļ	
_	<u> </u>		L	<u> </u>	<u> </u>		ļ	
_	<u> </u>	<u> </u>		<u> </u>	L			
_	<u> </u>			<u> </u>	ļ		<u> </u>	
	<u> </u>		<u> </u>	ļ	<u> </u>			
_	L	L	<u> </u>		<u> </u>			
_				ļ	ļ	<u> </u>	ļ	
-	<u> </u>	<u> </u>		ļ			<u> </u>	
_		<u> </u>		ļ			ļ	
	<u> </u>	<u> </u>	<u> </u>	ļ	 		}	
_	ļ	 	ļ	<u> </u>	 		} -	
	<u> </u>	<u> </u>	ļ	<u> </u>	ļ	ļ		
	<u> </u>	<u> </u>		ļ	<u> </u>	<u> </u>	 	
	<u> </u>	 	ļ	ļ	ļ	ļ	ļ	
	İ	t	1	į.	l	Į.	ł	



The Corporation of the Township of Langley schedule "a"

TIME - DRAWDOWN GRAPH FOR PUMP TEST

	11110	5 (Phase 1)
	OWNER'S HAME: Goodbrand Development Corp.	WELL NO
	APPLICATION NO.: 87-111	DATE: 1988 00 17
	238A Street & 62nd Ave.	SHEET 5 0F 6
	DEPTH TO STATIC WATER LEVEL: 20.88 (m)	TEST NO2
	Below existing ground	
		WELL
_		OTV 3
DRAWDOWN (metres	5	
DRAW	6	
-	8	
		10 000 100 000
	TIME SINCE PUMPING STARTED I minutes 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	rping rate <u>10</u> Lpm Drawdown at 30 days (5 ₃₀) _ timated minimum adjustment for seasonal decline (D): Use f her local data or hydrogeologist's opinion is not available.	following figures if
	Tests run in summer time: 2 m Tests run in winter time: 6 m Tests run in fall and spring: use intermediate values 2	2 m to 6 m
De;	pth to proposed pump suction (up)	
	30 _ 1 20.88 + 1.4 _ + 1	3.72
If lo	answer to above calculation is negative, then either the wer or the well is not capable of supplying water for a house	pump has to be see



SCHEDULE "A"

PUMP TEST SUMMARY

APPLICATION NO.: 87-111 LOCATION: 238A Street & 62nd Ave. SHEET 6 of 6 TOWNShip of Langley TEST NO. 2 WELL COMPLETION DATA Depth 34.14 (m)	OWNER'S HAME: WELL NO.	
LOCATION: 238A Street & 62nd Ave. SHEET 6 of 6 Township of Langley TEST NO. 2 WELL COMPLETION DATA Depth 34.14 (m)	APPLICATION NO.: 87-111 DATE: 1988 06	17
WELL COMPLETION DATA COPPT 34.14	LOCATION: 238A Street & 62nd Ave. SHEET 6 OF	6
SCREEN DESIGN (mark one) Depth 34.14 (m)	Township of Langley 1851 No. 2	
Pump Type: Electric submersible	Oceph 34.14 (m) Open Hole Slotted Casing Sand &	Grave1
Hater level sounded by:	Pump Type: Electric submersible	
TEST Constant rate of yield 40 Lpm Test duration 2 hours Initial non-pumping level 20.88 m Drawdown in well at end of lest 5.08 m Recommended pumping rate 10 Lpm HATER SAMPLES TAKEN DURING TEST Chemical Analysis X Yes No	Hater level sounded by: Electric tape Air bubbler Steel tape Other? Describe Flow measured by: X Container & watch Flow meter	
Chemical Analysis X Yes No	TEST Constant rate of yield 40 Lpm Test duration 2 hour Initial non-pumping level 20.88 m Drawdown in well at end of lest 5.08 m	
Hater Temperature 9 oc Any particular gas smelts noted None Comments on clarity of water Clear and Clean Other	Chemical Analysis X Yes No Bacterial Analysis X Yes No Water Temperature 9 oc Any particular gas smells noted None Comments on clarity of water Clear and Clean	



SCHEDULE "A"

PRIVATE WELL CERTIFICATION

PURSUANT TO SCHEDULE "A" of the Subdivision and Development Cohereby certify that each lot to be created and/or each exist part of the proposed development can be serviced with pot accordance with the requirements of the Bylaw for the development	table water in
LEGAL DESCRIPTION: Lot 6 (Phase 1)	
PROJECT NO.: 87-111	
I certify that a quantity of not less than 2,500 litres per proven for each existing or proposed lot in the development.	
I certify that water quality tests have been conducted and Drinking Water Standards, 1982" can be met for each existing in the development.	that the "B.C. or proposed lot
Certified By (Name of Professional Engineer)	
1409 Bewicke ans	PROFESSIONAL SEAL
First Virenen GC	

See attachments as required pursuant to clause 2.2.18 of Schedule "A".

Subdivision Application No. 87-111
Lot B of Lots 2 and 3, Plan 13274 and Parcel A
(Reference Plan 8562) of Lots 2, 3 and 4, Except
Plan 17067, Plan 23779 and part of Lot 31, Plan
54464, all of North East 1/4 of Section 9, Township 11, N.W.D.

GOODBRAND DEVELOPMENT CORPORATION 62ND AVE., LANGLEY, BRITISH COLUMBIA

Well on Lot 6 (S.E. Curve) (Phase 1)

Depth (Below Gro	ound Surface) Feet	Description	
0.00 - 0.30 0.30 - 3.66 3.66 - 4.88 4.88 - 7.32 7.32 - 8.23 8.23 - 10.06 10.06 - 16.15 16.15 - 21.03 21.03 - 24.08	0 - 1 1 - 12 12 - 16 16 - 24 24 - 27 27 - 33 33 - 53 53 - 69 69 - 79	Soil sandy loam Sand and gravel, silty, Sand and gravel, grey Sand and gravel, brown Sand, brown Gravel Interbedded sand and cl Sand and gravel, sil packed Sand and gravel, water-	ay ty, hard
Construction de	tails - below gro	ound surface	
		Metres	Feet
152 mm (6-inch) 152 mm (6-inch)	diameter casing telescopic diame screen	+ 0.46 - 23.01 + 1. eter 22.66 - 24.08 74.	
Screen - stainl	ess steel, 18 slo	ot with K-packer	

Screen - stainless steel, 18 slot with K-packer Thick Bentonite Slurrey seal around top 3m (10 feet) of casing



SCHEDULE "A"

OWNER'S NAME: Goodbrand Development Corp.	WELL NO. 6 (Phase 1)
APPLICATION NO. 87-111	DATE: 1988 05 27
LOCATION: 238A Street & 62 Ave.	SHEET1 of6
Township of Langley	TEST NO1
x Drawdown Recovery	

Rdg #	From	Depth To Water	Draw Down	Flow Measurement Data			Comments		
	(Min)	(M)	(M)	(Min)	L.	LPM			
1	0	18.43	0				Static Water Level below MPt.		
1 2	.5	19.30	0.87				Measuring Point - top of		
3	1.0	.72	1.29				casing 0.46 above ground		
4	1.5	.91	.48				Water level Lot 10 18.62 m		
5	2.0	20.00	.57				Discharge 35 m away from Well		
6	2.5	.06	.63						
1-2	3.0	.08	.65						
8	3.5	.10	.67						
9	4.0	.11	.68		<u> </u>				
10	4.5	.13	.70						
11	5.0	.14	.71						
12	6.0	.13	.70	 					
13	7.0	.13	.70						
14	8.0	.14	.71						
15	9.0	.15	.72						
16	10	.15	.72	0.5	20	40			
17	12	.14	.71	<u> </u>	<u> </u>				
18	14	.14	.71		<u> </u>				
19	15	.16	.73		ļ				
20	18	.14	.71	<u> </u>	 	<u> </u>			
21	20	. 14	.71	<u> </u>	<u> </u>				
22	25	. 14	.71		 -	 	Water Level Lot 10 - 18.62 m		
23	30	.14	4		 		Hacer Fever Foo 10		
24	35	.15			ļ				
25	40	.14	.71		 				
26	45	.15	.72		 				



SCHEDULE "A"

OWNER 'S	5 NAME:	: Goodbi	rand De	WELL NO. 6 (Phase 1)					
APPLIC/	ATION I	NO. 87-1	111				DATE: 1988 05 26		
LOCATIO	ON: 238	BA Stree	et & 62	2 Ave.			SHEET 2 of 6		
	To	wnship o	of Lang	TEST NO1					
x Draw	vdown	Reco	overy						
Rdg #	From	1	Draw Down	Flow Measurement Data			Comments		
	(Min)	(M)	(M)	(Min)	L	LPM			
27	50	20.15							
28	60	.15					Water Level Lot 10 - 18.64 m		
29 30	70 80	.18	.75				Water Level Lot 10 - 18.64 m		
31	90	.19	.76				Hatel Ecoci for 10 - 10.07 m		
32	100	.19	.76				Water Level Lot 10 18.64 m		
33	110	.19	.76				Water Samples Collected		
34	120	.19	.76				Water Level Lot 10 - 18.64		
<u> </u>									
<u> </u>									
ļ									
<u> </u>									
						···· - -··-			
ļ									
1									



SCHEDULE "A"

OWNER 'S	NAME:	Goodbr	and De	WELL NO. 6 (Phase 1)			
APPLIC/	NTION N	10. <u>87-1</u>	11				DATE: 1988 05 27
LOCATIO	N: <u>238</u>	BA Stree	et & 62	Ave.			SHEET 3 of 6
	Tov	vnship c	of Lang	gley			TEST NO1
Draw	vdown	x Reco	overy				
	Time	Depth			Flow	,	1
Rdg			Draw	Me	easuren	nent	
#	Start		Down	i	Data	.,,_	
	00020	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,					Comments
	(Min)	(M)	(M)	(Min)	L	LPM	
		20.40	4 74				D 6 6
1	0	20.19				· · · · · · · · · · · · · · · · · · ·	Pump off
2	.5 1.0	19.31 18.90	0.88 .47				
4	1.5	.69	.26			 	
5	2.0	.59	.16				
6	2.5	.53	.10				
7	3.0	.50	.07				
8	3.5	.50	.07				
9	4.0	.49	.06				
10	4.5	.48	•05				
11	5.0	•48	.05				
12	6.0	.47	.04				
13	7.0	.47	.04				
14	8.0	.47	.04				
15	9.0	.47 .47	.04				
16 17	10 12	.47	.04				
18	14	.47	.04				
19	16	.47	.04				
20	18	.47	.04				
21	20	.47	•04				
22	25	47	.04			·	
23	30	.46	.03				
24	35	.46	.03				



SCHEDULE "A"

OWNER '	S NAME	: Goodb	rand D	evelop	WELL NO. 6 (Phase 1)			
APPLICA	ATION I	NO. <u>87-</u> 1	111		· · · · · · · · · · · · · · · · · · ·	·	DATE: 1988 05 27	
LOCATIO	ON: <u>23</u> (8A Stree	et & 61	2 Ave.	· · · · · · · · · · · · · · · · · · ·		SHEET 4 of 6	
		wnship o					TEST NO1	
x Dra	wdown	Reco	overy					
Rdg #	From	Depth To Water	Draw Down	1			- Comments	
	(Min)	(M)	(M)	(Min)	L	LPM		
27	50	18.46						
28	60	.45						
29	70	.45			'			
30	80	.44	.01		<u> </u>	<u> </u>		
31	90	.44	.01		<u> </u>	ļ <u> </u>		
32	100	.43	•00		<u>'</u>	<u> </u>		
33	110	.43		!				
34	120	.43	.00					
]			<u> </u>	<u> </u> !	<u> </u> !	ļ. <u> </u>		
			 !	لـــــا	ļ!			
				 		<u> </u>		
		 	 	 				
]		——		 		ļ 		
<u> </u>		 	 					
								
		 			 	 		
				 				
				 	j	<u> </u>		
					J			
			/ 			 		
				/ -	·	<u> </u>		
			·					



SCHEDULE "A"

PUMP TEST SUMMARY

OWNER'S NAME: Goodbrand Development Corp.	WELL NO. 6 (Phase 1)				
APPLICATION NO.: 87-111	DATE: 1988 05 27				
Township of Langley	SHEET 6 OF 6				
SCREEN DESIGN (mark one) Depth 24.08 (m) Deen Hole Slotted Diameter 152 (nm) Screen Gravel (Static Water Level 17.79m) Other Screen interval 22.66	Pack				
PUMP TEST Start: Date 27 05 1988 line 0830 Pump Type: Electric submersible Jet Air t Other? Describe	.ift				
Water level sounded by: Container & watch Flow meter					
TEST Constant rate of yield 40 Lpm Test duration Initial non-pumping level 17.79 m Drawdown in well at end of lest 1.76 m Recommended pumping rate 5 Lpm	2 hours				
Comments on clarity of water Clear and Clean					



SCHEDULE "A"

PRIVATE WELL CERTIFICATION

PURSUANT TO SCHEDULE "A" of the Subdivision and Development Control Bylaw, I hereby certify that each lot to be created and/or each existing lot forming part of the proposed development can be serviced with potable water in accordance with the requirements of the Bylaw for the development of:

LEGAL DESCRIPTION:	Lot 7 (Phase 1)	<u>.</u>
PROJECT NO.:	87-111	
I certify that a quaproven for each exist	antity of not less than 2,500 litres peing or proposed lot in the development.	r day has been
Drinking Water Standa in the development. Certified By (Name of	Professional Engineer)	that the "B.C. or proposed lot
Address Dorth Vancon	m. BC 117m 307	PROFESSIONAL SEAL

See attachments as required pursuant to clause 2.2.18 of Schedule "A".

Subdivision Application No. 87-111
Lot B of Lots 2 and 3, Plan 13274 and Parcel A
(Reference Plan 8562) of Lots 2, 3 and 4, Except
Plan 17067, Plan 23779 and part of Lot 31, Plan
54464, all of North East 1/4 of Section 9, Township 11, N.W.D.

GOODBRAND DEVELOPMENT CORPORATION 62ND AVE., LANGLEY, BRITISH COLUMBIA

Well on Lot 7 (South Central Area) (Phase 1)

Depth (Below Gr Metres	ound Surface) Feet	Description
0.00 - 0.31 0.31 - 2.13 2.13 - 12.80 12.80 - 17.37 17.37 - 18.59 18.59 - 19.81	$ \begin{array}{rrrr} 0 & - & 1 \\ 1 & - & 7 \\ 7 & - & 42 \\ 42 & - & 57 \\ 57 & - & 61 \\ 61 & - & 65 \end{array} $	Soil sandy loam Sand and gravel, silty Sand, silt, minor pebble Sand, brown, dry Gravel, coarse Sand, brown, water-bearing low static water level
19.81 - 22.86 22.86 - 32.00 32.00 - 33.53 33.53 - 35.36 35.36 - 35.66 35.66 - 36.88	65 - 75 75 - 105 105 - 110 110 - 116 116 - 117 117 - 121	Sand and gravel, water-bearing low static water level Clay, sandy some pebble, grey Sand and clay, interbedded Sand, silty, fine grained Clay, grey Sand and gravel, water-bearing

Construction details - below ground surface

			Me	etr	es		Fe	et
152 mm (6	-inch) diamete	z 000-1113	0.46	-	35.66	+ 1.5	-	117
152 mm (6	-inch) telesco screen	pic diameter	35.46	-	36.88	116.3		121

Screen - stainless steel, 20 slot with K-packer Top 3 m (10 feet) sealed with thick bentonite slurrey outside of casing.



SCHEDULE "A"

OW	VER'S	NAME:	Goodbi	cand De	orp.	WELL NO. 7 (Phase 1)		
API	PLICA	ATION 1	NO. <u>87-1</u>	111	DATE: 1988 06 07			
LO	CATIO	ON: 238	BA Stree	et & 62	SHEET1 of6			
		ET CY	mahin d	of Kand	TEST NO. 1			
_		101	wnship o	T Dair	1501 NO. 1			
х	Drav	wdown	Reco	overy	•			
. —	1							
		Time	Depth	· · · · · · · · · · · · · · · · · · ·				
	Rdq		To	Draw	M∈	Flow asurer	nent	
	#		Water	Down		Data		·
							l	Comments
:			4	45-53	, ₋ ,	_		
		(Min)	(M)	(M)	(Min)	L	LPM	
	1	0	16.07	0		· ·		Static Water Level below M Pt.
-	2	•5	17.11		-	····		Measuring Point - Top of
_	3	1.0	.91	1.84				casing 0.46 m above ground
	4		18.44					
_	5		.80					
.′ _	6		19.07					
_	7	3.0					ļ	
_	8	3.5						
_	9	4.0					ļ	
	10	4.5	.61					
_	11 12	5.0 6.0	.67	•60 •65				
-	13	7.0	.72 .74	.67		,		
-	14	8.0	.76					
-	15	9.0	.77				<u> </u>	
	16	10	.78					
-	17	12	.79					
_	18	14	.80	.73				
	19	_16	.81	.74				
•	20	18	.81	.74		· · · · · · · · · · · · · · · · · · ·	<u> </u>	
_	21	20	.81	.74				
_	22	25	.81	.74				
_	23	30	.81	.74	-			
_	24 25	35 40	.81	.74				
	26 26	45	.81 .81	.74				
£	~~	1.0	• • • • •	• / 1			i	



SCHEDULE "A"

WNEK.	5 NAME:	GOOGDI	and De	WELD NO. / (Phase I)					
PPLIC	ATION 1	NO. <u>87-1</u>	11	DATE: 1988 06 07					
OCATI	ON: 238	BA Stree	et & 62	2 Ave.			SHEET 2 of 6		
	OT	wnship o	of Lang	TEST NO. 1					
x Dra	awdown	Reco	overy						
Rđo	From	Depth To Water	Draw	M∈		nent	Comments		
	(Min)	(M)	(M)	(Min)	L	LPM			
27	50		3.71		20	40	Check Flow		
728	60	.80		0.5	20	40			
T 29	70	.81		0.5	20	40			
30	80	.80		0.5	20 20	40 40			
31	90	.83		0.5		40			
32	100	.82				 	Water clear and clean		
34	120	.81		<u> </u>			Water Samples Collected		
+34	120	•01	•	·			Pump off		
+	 								
1									
1	ļ					<u> </u>			
4-						 			
+-	 	<u> </u>				ļ			
+				 					
+	1	 							
+	1								
1									
1									
I									
1		<u> </u>	ļ						
 		-	<u> </u>			 	 		
+	. 					 			
1	4	1	E .	P .	i	1	1		



SCHEDULE "A"

OW	NER'S	S NAME:	: Goodbr	and De	WELL NO. 7 (Phase 1)			
AP	PLIC	I MOITA	vo. <u>87-1</u>	11	 			DATE: 1988 06 07
IO	CATIO	ON: <u>238</u>	BA Stree	et & 62	SHEET 3 of 6			
	<u>.</u>	TOT	wnship o	of Lang	TEST NO1			
	Drav	wdown	x Reco	very				
	Rdg #			Draw Down	Me	Flow easure Data	nent	Comments
		(Min)	(M)	(M)	(Min)	L	LPM	
	1	0	19.81	3.74				Pump off
	2	•5	18.90					
-	3	1.0	.14	.07				
-	4	1.5	17.56	1.49				
-	5	2.0	.13	.06				
, -	6	2.5	16.85	0.78				
<u> </u>	7	3.0	.68	.61				
_	8	3.5	.51	.44				
	9	4.0	.39	•32				
_	10	4.5	.32	.25				
_	11	5.0	.26	.19	,			
_	12	6.0	.19	.12				
_	13	7.0	.15	.08		,		
_	14	8.0	.13	.06			<u> </u>	
_	15	9.0	.11	.04			 	
-	16	10	.11	.04				
•	17	12	.09	.02			<u> </u>	
-		14	.09	.02		<u>,</u>	 	
-	19 20	16 18	.09	.02 .02			-	
-	21	20	.09 .08	.02			 	<u> </u>
-	22	25	.08	.01				
-	23	30	.08	.01				
-	24	35	.08	.01			· · · · · ·	
-	25	40	.07	.00			 	
-	26	45	.08	.01				
-					<u></u>		 	



SCHEDULE "A"

OWN	NER'S	NAME:	Goodbr	and De	orp.	WELL NO. 7 (Phase 1)			
API	PLICA	M MOITH	10. <u>87-1</u>	11				DATE: 1988 06 07	
LOX	CATIC	ON: 238	A Stree	t & 62	2 Ave.			SHEET 4 of 6	
		ΨOV	wnship c	of Land	alev			TEST NO. 1	
=									
	Dra	waown	x Reco	overy					
		Time	Depth			Flow			
		From	To	Draw	M∈	easuren Data	nent		
	#	Start	Water	DOWN		Data		Comments	
		(Min)	(M)	(M)	(Min)	т.	LPM		
		(MIII)	(14)	(11)	(11111)				
	27	50	16.08	0.01					
-	28	60	.07						
	29	70	.07						
-	30	80	.07						
-	31	90	.07	.00		<u>,</u>			
-	32	100	.06						
, -	33	110	.07			-			
· -	34	120	.07	.00					
-	12.4	120	• • •		·i				
-	 								
-	 	 							
-	 	 							
-	 	<u> </u>							
-	1	 		-					
•	T	1							
-	† —								
-	<u> </u>								
-		<u> </u>							
•									
-									
•		1							
•	1								
•									
-	1								



The Corporation of the Township of Langley schedule "A"

TIME - DRAWDOWN GRAPH FOR PUMP TEST

	fille Attribation and a				
	OWNER'S NAME: Goodbrand Development Corp.	WELL NO.	1000 06	(Phase_	1)
	APPLICATION NO.: 87-111		1988 06		
	LOCATION: 238A St. & 62nd Ave.			OF6_	
	DEPTH TO STATIC WATER LEVEL: 15.61 (m)	TEST NO	•	<u> </u>	
3.0	Below existing ground	11111111	-1-1-1111		
3.1				w	ELL
3.2					OTV
3.3					\$ 300
Z G Bet					
DRAWDOWN (metres)				\$ 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	.1
3.6				00 3 to	
3.7				7	
3.8					مستند من المادات
3.9	5 10 50 100 500 1000	10 00	<u> </u>	1∞∞	
	TIME SINCE PUMPING STARTED [minutes]	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	10 30 ME (days)	50 100	
Pu	mping rate Lpm Drawdown at 30 days (\$30) _	3.83 x 10	$\frac{1}{40} = 0$.96	
	timated minimum adjustment for seasonal decline (D): Use for her local data or hydrogeologist's opinion is not available.	ollowing fi	igures if		
	Tests run in summer time: 2 m Tests run in winter time: 6 m Tests run in fall and spring: use intermediate values 2	m to 6 m			
0e	pth to proposed pump suction (O _p)35m				
Ca	Iculate minimum available drawdown: $D_p = (D_{TW} + S_{30} + D) = 0.06$	14.43			
	35 - (15.61 + 0.96 + 4) =	pump has t	— .o be set		F-7
l f	answer to above calculation is negative, then either the over or the well is not capable of supplying water for a house.				1-1



SCHEDULE "A"

PUMP TEST SUMMARY

	WELL NO.			nase i
APPLICATION NO.: 87-111	DATE: _	1988	06 07	
LOCATION: 238A St. & 62nd Ave.	SHEET	6	_ OF _	6
Township of Langley				
SCREEN DESIGN (mark one) Depth 36.88 (m)	Casing Pack	oesce San	RIPTION (nd and	or Aquirer gravel
Screen interval 38.46 to	<u>36.8</u> 8			
PUMP TEST 07 06 1988 1400 Start: Date				
Test Pump Set at 35 m below ground Water level sounded by: Electric tape Air bubbler Other? Describe Flow measured by: Container & watch Flow meter Orifice & tube Other? Descr		· · · · · · · · · · · · · · · · · · ·	<u></u>	
constant rate of yield 40 tpm Test duration in the property of the property	2	. 8' 1 5 s'	hours	·
MATER SAMPLES TAKEN DURING TEST				
hemical Analysis				



SCHEDULE "A"

PRIVATE WELL CERTIFICATION

PURSUANT TO SCHEDULE "A" of the Subdivision and Development Conhereby certify that each lot to be created and/or each exist part of the proposed development can be serviced with poaccordance with the requirements of the Bylaw for the development	table water in
LEGAL DESCRIPTION: Lot 8 (Phase 1)	
PROJECT NO.: 87-111	
I certify that a quantity of not less than 2,500 litres pe proven for each existing or proposed lot in the development.	
I certify that water quality tests have been conducted and Drinking Water Standards, 1982" can be met for each existing in the development.	that the "B.C. or proposed lot
Certified By (Name of Professional Engineer)	
1109 Bewelle ave. Address	PROFESSIONAL SEAL
Dwith Vancour BC VIM 307	36776

Subdivision Application No. 87-111
Lot B of Lots 2 and 3, Plan 13274 and Parcel A
(Reference Plan 8562) of Lots 2, 3 and 4, Except
Plan 17067, Plan 23779 and part of Lot 31, Plan
54464, all of North East 1/4 of Section 9, Township 11, N.W.D.

See attachments as required pursuant to

clause 2.2.18 of Schedule "A".

GOODBRAND DEVELOPMENT CORPORATION 62ND AVE., LANGLEY, BRITISH COLUMBIA

Well on Lot 8 (N.E. Corner) (Phase 1)

Depth (Below Ground Surface) Metres Feet 0.00 - 0.31	62110	gerner) (Ph	ase
Metres Feet 0.00 - 0.31	well	on Lot 8 (N.E. Collect)	pescription
0.00 - 0.31 0 - 1 Sand and gravel Sand and gravel, silty brown sand and gravel, silty brown sand and gravel with clay sand sand packed, open hole soil, sand packed, open hole soil, sandy stoney, grey clay, sandy, stoney, grey tile-like sand and gravel water-bearing sand and gravel water-bearing clay, grey	month (Below Grou	nd Surface) Feet	
29.57 - Gonstruction details - below ground surface Metres Construction details - below ground surface Metres Metres 152 mm (6 inch) diameter casing + 0.46 - 28.50 + 1.5 - 93.5 diameter telescopic telescopic form (6 inch) (6 27.83 - 29.26 91.3 - 96.0 152 screen Screen - stainless steel, 20 slot with K-packer slurry outside of the stainless steel, 20 slot with thick bentonite slurry outside of the stainless steel sealed with thick bentonite slurry outside of the stainless steel sealed with thick bentonite slurry outside of the stainless steel sealed with thick bentonite slurry outside of the stainless steel sealed with thick bentonite slurry outside of the stainless steel sealed with thick bentonite slurry outside of the stainless steel sealed with thick bentonite slurry outside of the stainless steel sealed with thick bentonite slurry outside of the stainless steel sealed with thick bentonite slurry outside of the stainless steel sealed with thick bentonite slurry outside of the stainless steel sealed with thick bentonite slurry outside of the stainless steel sealed with thick bentonite slurry outside of the stainless steel sealed with thick bentonite slurry outside of the stainless steel sealed with thick bentonite slurry outside of the stainless steel sealed with thick bentonite slurry outside of the stainless steel sealed with thick bentonite slurry outside of the stainless steel sealed with thick bentonite slurry outside of the stainless steel sealed with thick bentonite slurry outside of the stainless steel sealed with thick bentonite slurry outside of the stainless steel sealed with thick bentonite slurry outside of the stainless steel sealed s	0.00 - 0.31 0.31 - 1.52 1.52 - 6.71 6.71 - 13.41 13.41 - 17.07 17.07 - 24.08 24.08 - 27.13 27.13 - 29.57 29.57 - Construction details mm Screen - stain: TOP 3 m (10 fee	0 - 1 Sand and sand and sand and sand and sand and sand and soil, Sand and sand s	and packed, open hole and packed, open hole andy, stoney, grey ke and gravel water-bearing grey Feet 28.50 + 1.5 - 93.5 diameter elescopic 91.3 - 96.0



SCHEDULE "A"

OWNER'	s name	: Goodb	rand D	WELL NO. 8 (Phase 1)					
APPLIC	ation	NO. <u>87-</u>	111	DATE: 1988 06 07					
LOCATI	ON: <u>23</u>	8A Stre	et & 6	SHEET 1 of 6					
	To	wnship	of Lan	TEST NO. 1					
x Dra	wdown	Reco	overy						
Rdg From To Draw Meas			Flow easure Data	ment	Comments				
	(Min)	(M)	(M)	(Min)	L	LPM	COMMETTES		
1	0	16.35	0				Static Water Level below M Pt.		
2	.5	17.22					Measuring Point - Top of casing 0.46 m above ground		
3	1.0	-							
4	1.5	17.60	1.25						
5	2.0	-							
6	2.5	17.86	1.51	0.5	20	40			
7	3.0	18.19	.84						
8	3.5	.20	.85						
9	4.0	.23	.88						
10	4.5	.23	.88						
11	5.0	.26	.91						
12	6.0	.29	.94						
13	7.0	.23	.88						
14	8.0	.31	.96						
15	9.0	.32	.97						
16	10	.32	.97						
17	12	.34	.99						
18	14	.40	2.05						
19	16	.43	.08						
20	18	.43	.08						
21	20	.43	.08						
22	25	.49	.14	0.5	20	40	Water clear and clean		
23	30	.48	.13						
24	35	.51	.16						



SCHEDULE "A"

COMEDIC NAME: Coodbrand Davidonment Corn											
OWNER'S NAME: Goodbrand Development Corp.								WELL NO. 8 (Phase 1)			
APPLICATION NO. 87-111								DATE: 1988 05 27			
LOCATION: 238A Street & 62 Ave.								SHEET	2	of	6
Township of Langley								TEST NO.	1		
X	Dra	wdown	Reco	overy							
	Time Depth Flow Rdg From To Draw Measurement Start Water Down Data				Comments						
		(Min)	(M)	(M)	(Min)	L	LPM				
	27	50	18.56	2,21							
	28	60	.58	.23							
	29	70	.60								
]	30	80	.64								
	31	90	.65					<u> </u>			
· .')	32	100	.65					_			
	33	110	.65				 	Mator Com	alog Co	llogtod	
ļ	34	120	.67	.32				Water Samples Collected			
	 										
	\vdash							- }			
1	1						<u> </u>	1			
•											
						L	<u> </u>	<u> </u>			
	ļ			·							
		<u> </u>						 			
	ļ			<u></u>				-			
•	 						<u> </u>	1			
•											
•	1			<u></u>				1			
•	Ì										
•	T							[



SCHEDULE "A"

OWNER'S NAME: Goodbrand Development Corp.							WELL NO. 8 (Phase 1)		
APPLICATION NO. 87-111							DATE: 1988 05 27		
LOCATION: 238A Street & 62 Ave.							SHEET 4 of 6		
	ТОТ	wnship o	of Lan	gley		 1 	TEST NO. 1		
Dra	wdown	x Reco	very						
	From	Depth To Water	Draw	Flow Measurement Data		nent	Comments		
	(Min)	(M)	(M)	(Min)	L	LPM			
27	50	16.47	0.12						
28	60	.45	.10						
29	70	.42	.08						
30	80	.42	.07						
31	90	.42	.07						
32	100	.40	.05				2277		
33	110	.39	.04		ļ				
34	120	.39	.04						
4									
-									
4	ļ			,					
1									
+	<u> </u>		-		-				
1									
1	 						·		
1									
1									
1	İ								
1	<u> </u>								



The Corporation of the Township of Langley schedule "A"

TIME - DRAWDOWN GRAPH FOR PUMP TEST

	OWNER'S NAME: Goodbrand Development Corp.	WELL NO. 8 (Phase 1)
	87–111	DATE: 1988 06 07
	APPLICATION NO.: 87-111	SHEET 5 OF 6
	LOCATION: 238A St. & 62 Ave.	
	DEPTH TO STATIC WATER LEVEL: 15.89 (m)	TEST NO1
	Below existing ground	
1.5	CITION CATOLING STORY	
1.6		WELL
1.7		41444
1.7		Oru.
1.8	<u> </u>	
:		0, \$10
DRAWDOWN (metres)	 	11111 3 x 4 8
3		
AWD		
5 2.1		
2.1		
2.2		
2.3	<u> </u>	
2.4	.5 1 5 10 50 100 500 1000	10 000 100 000
	TIME SINCE PUMPING STARTED [minutes]	3 5 10 30 50 100 TIME [days]
	2	23 x 10/40 = 0.81
Pierro	ing rate 10 Lpm Drawdown at 30 days (530)	
	decline (D): Use for	ollowing figures if
othe	of 10cal data of High pacondaine a chimin	
	Tests run in summer time: 2 m Tests run in winter time: 6 m Tests run in fall and spring: use intermediate values 2	m to 6 m
Dep	th to proposed pump suction (0_p) 27 m	
Cale	culate minimum available drawdown: Op - (DTW + \$30 + D) *	6.00
	27 _ (15.89 + 0.81 + 4) *	
If low	answer to above calculation is negative, then either the ser or the well is not capable of supplying water for a house.	pump has to be set [-7



SCHEDULE "A"

PUMP TEST SUMMARY

OWNER'S HAME: Goodbrand Development Corp.	WELL HO.		8 (P	hase I
APPLICATION NO.: 87-111	DATE:	988	06 07	
LOCATION: 238A St. & 62 Ave.	CHEET	6	0F	6
Township of Langley	TEST NO.		<u>T</u>	
WELL COMPLETION DATA SCREEN DESIGN (mark one) Depth 29.57 (m)	l Casing	oesc. San	RIPTION O	f Aquifer cavel
Diameter 152 (mm) X Screen C Gravel	Pack			
Static Water Level 15, 89m) Other				
Static Water Level <u>15.8</u> gm) □ Other Screen interval <u>27.</u> 8最t	o <u>29.2</u> 6			
PUMP TEST 07 06 1988 0840 Start: Date				
Pump Type: Electric submersible Jet Air	1 1 5 3			
Other? Describe				
Test Pump Set at 27 m below ground				
Water level sounded by: Electric tape Air bubbler	□ \$1	eel tap	e	
Other? Describe				
Flow measured by: Container & watch Flow meter				
Orifice & tube Other? Desc	ribe			
TEST	_			
Constant rate of yield 40 Lpm Test duration	2		hours	
initial non-pumping level 15.89 m				-
Drawdown in well at end of lest $\frac{2.32}{10}$ m				
Recommended pumping rate 10 Lpm	,		-	
WATER SAMPLES TAKEN DURING TEST				
Chemical Analysis 🖾 Yes 🗀 No				}
Bacterial Analysis X Yes No				
Water Temperature 9 oc				
Any particular gas smells noted <u>None</u>				
Comments on clarity of water <u>Clear and Clean</u>				
Other				

GOODBRAND DEVELOPMENT CORPORATION 62ND AVE., LANGLEY, BRITISH COLUMBIA

Well on Lot 9 (Phase 1)

Depth (Below Ground Surface)
Metres Feet

Description

No Well was drilled on Lot 9.



SCHEDULE "A"

PRIVATE WELL CERTIFICATION

PURSUANT TO SCHEDULE "A" of the Subdivision and Development Control Bylaw hereby certify that each lot to be created and/or each existing lot form part of the proposed development can be serviced with potable water accordance with the requirements of the Bylaw for the development of: Lot 10 (Phase 1) LEGAL DESCRIPTION:	
PROJECT NO.: 87-111	
I certify that a quantity of not less than 2,500 litres per day has t proven for each existing or proposed lot in the development.	
I certify that water quality tests have been conducted and that the "EDrinking Water Standards, 1982" can be met for each existing or proposed in the development.	3.C. lot
Certified By (Name of Professional Engineer)	
Certified By (Name of Professional Engineer)	
PROFESSIONAL Address PROFESSIONAL SEAL	L
3 11 11 11 11 11 11 11 11 11 11 11 11 11	
Fronth Ugreen BC VIM 300	
See attachments as required pursuant to clause 2.2.18 of Schedule "A".	

Subdivision Application No. 87-111

Lot B of Lots 2 and 3, Plan 13274 and Parcel A (Reference Plan 8562) of Lots 2, 3 and 4, Except Plan 17067, Plan 23779 and part of Lot 31, Plan 54464, all of North East 1/4 of Section 9, Township 11, N.W.D.

WIN 102029

GOODBRAND DEVELOPMENT CORPORATION 62ND AVE., LANGLEY, BRITISH COLUMBIA

Well on Lot 10 (N.W. Corner) (Phase 1)

Depth (Below G	round Surface) Feet	Description	_
0.00 - 0.61 0.61 - 3.66 3.66 - 12.80 12.80 - 13.72 13.72 - 16.15 16.15 - 19.81 19.81 - 22.86 22.86 -	0 - 2 2 - 12 12 - 42 42 - 45 45 - 53 53 - 65 65 - 78	Soil sandy loam Sand and gravel, silty Sand, hard packed, brown Clay, sandy Sand and gravel Sand, grey, dry Sand, grey, water bearing Clay, grey, sandy	

Construction details - below ground surface

					Metres	Feet
			diameter casing telescopic diameter	+ 0.46	- 21.64	+ 1.5 - 71
152 1	111111	m (0-Inch)	screen	21.43	- 22.86	70.3 - 75

Screen - stainless steel, 30 slot with K-packer Top 3 m (10 feet) sealed with thick bentonite slurrey outside of casing



SCHEDULE "A"

OWNER'S NAME: Goodbrand Development Corp.	WELL NO. 10 (Phase 1)
APPLICATION NO. 87-111	DATE: 1988 05 27
LOCATION: 238A Street & 62 Ave.	SHEET1 of6
Township of Langley	TEST NO1
x <u>Drawdown</u> Recovery	

							
Rdg #	Time From Start	To	Draw Down	Flow Measurement Data			Comments
	(Min)	(M)	(M)	(Min)	L	LPM	
1	0	18.68	0		,		Static Water Level below MPt.
2	.5	-	-				Measuring Point - top of
3	1.0	19.32	0.64	0.5	20	40	casing 0.46 above ground
4	1.5	.43	.75				
5	2.0	.43	.75				Discharge 40 m away from Well
6	2.5	.43	.75				
7	3.0	.44	.76				
8	3.0	.44	.76				
9	4.0	.44	.76				
10	4.5	.44	.76			<u> </u>	
11	5.0	.44	.76				
12	6.0	-					
13	7.0	.45	.77				
14	8.0						
15	9.0	.44	.76				
16	10	.45	.77				·
17	12	.46	.78				<u> </u>
18 19	14 15	.45	.77			·	
20	18	.46	.78 .79				
21	20	.47	.79				
22	25	.46	.78			·	
23	30	.47	.79				
24	35	.47	.79				
25	40	.49	.81				
26	45	.49	.81				
I .~~ →		• • • •	• • • • •	J.			



SCHEDULE "A"

OWNER!	S NAME	Goodb	rand D	WELL NO10 (Phase 1)			
		NO. <u>87-</u>		DATE: 1988 05 27			
		8A Stre		SHEET 2 of 6			
	То	wnship	of Lan				
x Dra	wdown	Rec	overy				
	Time Depth Flow Rdg From To Draw Measurement Start Water Down Data					- Comments	
	(Min)	(M)	(M)	(Min)	L	LPM	Commences
27	50	19.49	0.81				
28	60	.48	.80				
29	70	.48					
30	80	.48	.80	0.5	20	40	
31	90	.49	.81		·		
32	100	.50	.82				Water clear and clean
33 34	110	.50	.82				Water Samples Collected
24	120	•50	.82				
 							
						ļ	
						ļ	
					···		
		t					
					· · · · · · · · · i	· 	
<u> </u>							
, -							



SCHEDULE "A"

OWNER !	S NAME	: Goodb	rand D	WELL NO. 10 (Phase 1)			
APPLICATION NO. 87-111							DATE: 1988 05 27
LOCATION	ON: 23	8A Stree	et & 6	SHEET3 of6			
	To	wnship o	of Lan	TEST NO1			
Dra		x Reco					
Rdg #	From	Depth To Water	Draw Down	1			Comments
	(Min)	(M)	(M)	(Min)	Ĺ	LPM	
1	0	19.50	0.82				Pump off
2	.5	18.89	.21				
3	1.0	.77	.09				
4	1.5	.75	.07				
5	2.0	.74	.06				
6	2.5	.74	.06				
7	3.0	.74	.06				
8	3.5	.74	.06				
9	4.0	.74	.06				
10	4.5	.73	.05		**		
11 12	5.0	.73	.05			<u></u>	
13	6.0 7.0	.73	.05				
14	8.0	.73	.05		····		
15	9.0	.73	.05				
16	10	.73	.05		·		
17	12	.73	.05				
18	14	.72	.04				
19	16	.72	.04				
20	18	.72	.04				
21	20	.72	.04				
22	25	.72	.04				
23	30	.71	.03				
24	35	.71	.03				



d 0 .

The Corporation of the Township of Langley

SCHEDULE "A"

OWN	IER 'S	NAME:	Goodbr	and De	WELL NO10 (Phase 1)					
APP	LICA	A NOITA	10. <u>87-1</u>	11	DATE: 1988 05 27					
LOC	CATIO	N: <u>238</u>	A Stree	t & 62	SHEET 4 of 6					
		Tov	vnship o	of Lanç		TEST NO1				
	Drav	ydo wn	x Reco	overy						
	Rdg #	Time From Start	Depth To Water	Draw Down				Comments		
		(Min)	(M)	(M)	(Min)	L	LPM			
	27	50	18.71	.04						
	28	60	.71	.03						
	29	70	.70	.02						
	30	80	.70	.02						
	31	90	.70	.02	<u> </u>					
	32 33	100 110	.70	.02						
	34	120	.69	.02	 					
	24	120	.07	•01	 					
	 		<u> </u>							
		 			<u> </u>					
		 								
		 								
		l	<u> </u>							
					<u> </u>					
					<u> </u>					
					<u> </u>					
	<u> </u>		<u> </u>		ļ					
	<u> </u>		 	<u> </u>						
	 	 		<u> </u>	 					
	<u></u>	ļ	ļ	 	 					
	<u> </u>	 				 	 			
		 		 	 					
	 		1		<u> </u>					

OWNER'S NAME: Goodbrand Development Corp.	WELL NO. 11 (Phase 1)			
APPLICATION NO. 87-111	DATE: 1988 06 14			
LOCATION: 238A Street & 62 Ave.	SHEET 1 of 6			
Township of Langley	TEST NO. 1			
X Drawdown Recovery				

Time Depth From To Start Water		i i	Flow Draw Measurement Down Data			emer	nt 	Comments
(N	M)	(M)	(Min)	L	I	LPM	
7.	.11	0	-			_		Static Water Level below MP
8	.00	0.				\perp		Measuring Point - top of
	.61	1.	50					casing 0.46 m above ground
	.87		76					20
	.02		91					Discharge 30 m away from we
	.14	2.					_	
	.17		06					
	.21		10	ļ. ————————————————————————————————————				
	.21		10					
	.26		15					
	.26		15					
	.29 .30		18 19			-}-		
	•30 •30		19					
	.32	 :	$\frac{19}{21}$					
	.33		$\frac{21}{22}$					
	.35		22 24			+	······································	
	.39		23	0.45	20		44	
	.39		28	-51.25				
	.40		29		 -			
	.42		31		t	1		
	.46		35		1	_ _		
	.49		38		T			
	.51		40					
	.54		43			\Box		
	.60	2.	49					

OWNER'S	NAME:	Goodbr	and De	WELL NO. 11 (Phase 1)					
APPLICA	ATION N	o. <u>87-1</u>	11	DATE: 1988 06 14					
LOCATIO	ON: 238	A Stree	et & 62	SHEET 2 of 6					
	Том	nship c	of Lanç	TEST NO. 1					
X Draw	wdown	Reco	overy						
	From	Depth To Water	Draw	Flow Measurement Data			Comments		
	(Min)	(M)	(M)	(Min)	L	LPM			
27	50	.60	.49						
28	60	.65	.54						
29	70	.69	.54						
130	80	.74	.63						
131	90	.79	.68						
32	100	.81		0.45	20	44	0.33-1-2		
	110	.86	.75			L	Water Sample Collected		
34	120	.86	.75	<u> </u>			Temperature 9° C		
1			<u> </u>			ļ			
T			<u> </u>			ļ			
Ţ		<u></u>	<u> </u>						
I	<u> </u>		ļ <u>.</u>	ļ		ļ			
<u></u>	<u> </u>	<u> </u>	ļ	 		↓			
	<u> </u>	<u> </u>	<u> </u>	 		ļ			
 _	<u> </u>		 	 		 			
				 	<u> </u>				
<u> </u>		ļ	ļ	 		}			
<u></u>	1	<u> </u>	 	 	ļ	 			
		ļ	 	 		}			
 	 	 	 	 		├			
4	 	 	 	 	 	 			
<u> </u>		 	 	 	 	 			
<u> </u>		ļ		 	 	 			
_[1	<u> </u>	<u> </u>		 				

OW	NER'S	NAME:	Goodbr	and De	WELL NO. 11 (Phase 1)			
AP	PLIC	ATION N	70. <u>87-1</u>	11	DATE: 1988 06 14			
LO	CATIO)N: <u>238</u>	A Stree	et & 62	SHEET 4 of 6			
		Tov	wnship c	of Lanc	TEST NO. 1			
	Drav	wdown	X Reco	overy				
	Rdq	From	Depth To Water	Draw	Flow Measurement Data			Comments
		(Min)	(M)	(M)	(Min)	L	LPM	
	27	50	.56	.45				
-	28	60	.56	.45				
	29	70	•53	.42				
	30	80	.50	.39			_,	
	31	90	.47	.36				
	32 33	100 110	.47 .45	.36 .34				
•	34	120	.43	.32				
-	34	120	143	.52				
	 					-		
•	†							
•								
	 	 						<u> </u>
		 						
	ļ	}			 			-
	 	 						
	 	 	 	 	 			
•	 	 	 	 				
	†	1						
•	1							
		<u> </u>				·	ļ	
,	<u> </u>	<u> </u>	<u> </u>				ļ	
	 	 	}	 	 		 	



The Corporation of the Township of Langley schedule "A"

TIME - DRAWDOWN GRAPH FOR PUMP TEST

	OWNER'S NAME: Goodbrand De	evelopment Corp.	WELL NO.	11 e (P	hase 1)
	APPLICATION NO.: 87-111				14
	LOCATION: 238A & 62nd A	ve.	SHEET	5 OF	6
	DEPTH TO STATIC WATER LEVEL:				
	Below existing ground				
DRAWDOWN (matres)					WELL
- 4				1000	0
	J .5 1 5 10 TIME SINCE PUMPING STARTED			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	ய
Pum	oing rate <u>5</u> Lpm Dra	wdown at 30 days (\$30)		(m)	
	imated minimum adjustment for season er local data or hydrogeologist's opi	al decline (D): Use to	llowing tigu	ires II	
		m	n to 6 m		
Dep	th to proposed pump suction (\mathfrak{O}_{p})	m			
Cal	culate minimum available drawdown: D	b - {DIM + 230 + D} =	0.00		
	22 - (16.65 +	43 + 4) =	0.92	La	
If lox	answer to above calculation is nega er or the well is not capable of supp	tive, then either the p lying water for a house.	ump has to	pe set	F-7



The Corporation of the Township of Langley

SCHEDULE "A"

PUMP TEST SUMMARY

	релеторшент	WELL NO.	11 (Phase
APPLICATION NO.: 87-1			1988 06 14
LOCATION: 238A Street			
. Township of Langley			
WELL COMPLETION DATA Depth 25.30 (m) Diameter 152 (nm) Static Water Level 16.6 En)	pen Hole Slotted	f Casing Pack	DESCRIPTION OF AQUIFER Sand & Grave
PUMP TEST Start: Date 14 06 1988 lime	□ Jet □ Air		
Test Pump Set at 20 m below ground			
Water level sounded by: 🖾 Electric tape			
Flow measured by: X Container & w	cribe Flow meter De Other? Desc		
Constant rate of yield $\frac{44}{16.65}$ in third non-pumping level $\frac{16.65}{5}$ in Orandown in well at end of test $\frac{2.75}{5}$ in Recommended pumping rate $\frac{5}{5}$		2	hours .
WATER SAMPLES TAKEN DURING TEST			
ভি 📑	No		



The Corporation of the Township of Langley

SCHEDULE "A"

PRIVATE WELL CERTIFICATION

See attachments as required pursuant to clause 2.2.18 of Schedule "A".

Subdivision Application No. 87-111
Lot B of Lots 2 and 3, Plan 13274 and Parcel A
(Reference Plan 8562) of Lots 2, 3 and 4, Except
Plan 17067, Plan 23779 and part of Lot 31, Plan
54464, all of North East 1/4 of Section 9, Township 11, N.W.D.

GOODBRAND DEVELOPMENT CORPORATION 62ND AVE., LANGLEY, BRITISH COLUMBIA

Well on Lot 12 (S.W. Corner) (Phase 1)

Depth (Below (Ground Surface) Feet		Description
0.00 - 0.30 0.30 - 7.93 7.93 - 10.36 10.36 - 11.58 11.58 - 14.94 14.94 - 17.07 17.07 - 17.98 17.98 - 37.19 37.19 - 39.62 39.62 - 40.54 40.54 - 42.37		Soil, sandy lo Sand and grave Sand, fined gr Sand and grave Sand, silty Clay, sandy Till-like, cla Clay with sand Till-like, cla Sand, silty Sand and grave	el, silty cained, silty el syey l interbeds
Construction de	etails - below grou	nd surface Metres	Feet
152 mm (6 inch)	diameter casing telescopic diamet screen less steel, 20 slot et) sealed with th	er 40.94 - 41.30 with K-packer	134.3 - 135.5

OWNER'S NAME: Goodbrand Development Corp.	WELL NO. 12 (Phase I)
APPLICATION NO. 87-111	DATE: 1988 06 13
LOCATION: 238A Street & 62 Ave.	SHEET 1 of 6
Township of Langley	TEST NO. 1
X Drawdown Recovery	

	Time From Start		Draw Down	Flow Measurement Data		ment	Comments
	(Min)	(M)	(M)	(Min)	L	LPM	
1	0	21.69	0				Static Water Level below MPT
2	.5	22.81	1.12				Measuring Point - top of
3	1.0	23.94	2.25				casing 0.46 m above ground
4	1.5	25.06	3.37				
5	2.0	.89	4.20				Discharge 30 m away from well
6	2.5	26.67	.98			<u> </u>	
7	3.0	27.57	5.88				
8	3.5	28.16	6.47				
9	4.0	.78	7.09			<u> </u>	
10	4.5	29.46	.77			<u> </u>	
11	5.0	30.08	8.39	0.5	20	40	
12	6.0	31.00	9.31			<u> </u>	
13	7.0	.83	10.14	<u> </u>		<u> </u>	
14	8.0	32.58	.89			<u> </u>	
15	9.0	33.25	11.56				
16	10	.81	12.12				
17	12	34.71	13.02				
18	14	35.29	.60		<u> </u>		
19	16	.84	14.15			<u> </u>	
20	18	36.13	.44				
21	20	.40	.71	<u> </u>	<u> </u>	J	
22	25	.77	15.08		<u> </u>		
23	30	37.02	.33	<u> </u>		ļ	
24	35	.10	.41	ļ	<u> </u>	ļ	
25	40	.16	.47		<u> </u>	ļ <u>.</u>	
26	45	.22	.53	<u> </u>		ļ	

OWNER'S NAME: Goodbrand Development Corp.	WELL NO. 12 (Phase 1)
APPLICATION NO. 87-111	DATE: 1988 06 13
LOCATION: 238A Street & 62 Ave.	SHEET 2 of 6
Township of Langley	TEST NO. 1
X Drawdown Recovery	

Rđg #	From	ime Depth rom To art Water	To	σ_{Γ}	TO	TO	Draw Down	Flow Measurement Data			Comments
	(Min)	(M)	(M)	(Min)	L	LPM					
27	50	.24	•55								
28	60	.32	.63								
29	70	.34	.65	0.5	20	40					
30	80	•35	.66								
31	90	.34	.65								
32	100	.32	.63	0.5	20	40					
33	110	.32	.63				Water Sample Collected				
34	120	.32	.63								
						ļ					
						ļ					
				 	 	 -					
	ļ	ļ	ļ		ļ						
	 		 		ļ	<u> </u>					
	 				 -	 					
	 	 	 	 	 	 					
	 		 		 	 					
	}		 	 	 	 					
	 		 	 	 	╁					
	 	 	 	 		 					
	 	 	 	1	 	 					
	 	 	†	†	1	1					
			1	<u> </u>							
	1	†	1	1							
			1								
	 	1	1			I					

OWNER'S NAME: Goodbrand Development Corp.	WELL NO. 12 (Phase 1)
APPLICATION NO. 87-111	DATE: 1988 06 13
LOCATION: 238A Street & 62 Ave.	SHEET 3 of 6
Township of Langley	TEST NO1
Drawdown X Recovery	

Rdg #	From	Depth To Water	Draw Down	Me	Flow asure Data	ment	Comments
	(Min)	(M)	(M)	(Min)	L	LPM	
1	0	37.32	15.63				Pump Off
2	•5	36.18	14.49			 	
3	1.0	35.24	13.55			l	
4	1.5	34.36	12.67			†	
5	2.0	33.43	11.74				
6	2.5	32.60	10.91				
7	3.0	31.74	.05				
8	3.5	.15	9.46				
9	4.0	30.48	8.79				
10	4.5	29.87	.18				
11	5.0	.28	7.59				
12	6.0	28.28	6.59			<u> </u>	
13	7.0	27.37	5.68			<u> </u>	
14	8.0	26.61	4.92			<u> </u>	
15	9.0	25.93	.24			ļ	
16	10	.37	3.68			ļ	
17	12	24.41	2.72			ļ	
18	14	23.77	.08			<u> </u>	
19	16	.26	1.57			<u> </u>	
20	18	22.85	.16			Ļ 	
21	20	.51	0.82				
22	25	.02	.33		<u> </u>	 	
23	30	21.85	.16				
24	35	.72	.03			ļ	
25	40	.64	-0.05			 	
26	45	.60	-0.09			 	

OWN	ER'S	NAME:	: Goodb	rand De	WELL NO. 12 (Phase 1)			
APF	LIC	i MOITA	NO. <u>87-</u>	111	DATE: 1988 06 13			
100	ATI(ON: <u>238</u>	BA Stre	et & 62	SHEET 4 of 6			
		OT	wnship o	of Lang	TEST NO. 1			
	Drav	wdown	X Rec	overy				
		From	Depth To Water	Draw	Flow Measurement Data			Comments
		(Min)	(M)	(M)	(Min)	L	LPM	
	27	50	59	-0.10				
-	$\frac{2}{28}$	60		-0.10		<u> </u>		
7	$\frac{20}{29}$	70	.57	-0.12				
†	30	80	.56	-0.13				
-	31	90		-0.12				
+		100	.54	-0.15				
+	33	110		-0.13				
+	34	120	.56	-0.13				
7				1				
1			i	 				
1			<u> </u>					
1								
7								
1	·							
1								
1								
]								
]				<u></u>				
]								
]				<u> </u>				
				<u> </u>		<u></u>		<u> </u>
	,			ļ		,		
4	- 		L	ļ			<u> </u>	ļ
4		ļ.—	 	ļ			·	
-		 		 		,		



The Corporation of the Township of Langley schedule "A"

TIME - DRAWDOWN GRAPH FOR PUMP TEST

OWNER'S NAME: Goodbrand Development Corp.	WELL NO. 12 (Phase 1)
APPLICATION NO.: 87-111	DATE: 1988 06 13
LOCATION: 238A & 62nd Ave.	SHEET5 OF _6
21.23	TEST NO. 1
Below existing ground 2 4 6	WELL DE SION SION SION SION SION SION SION SION
TIME SINCE PUMPING STARTED I MINUTES I	10 000 100 000 TIME (days)
Stimated minimum adjustment for seasonal decline (D): Use foother local data or hydrogeologist's opinion is not available. Tests run in summer time: 2 m Tests run in winter time: 6 m Tests run in fall and spring: use intermediate values 2 m	llowing figures if
Depth to proposed pump suction (Dp)m	
Calculate minimum available drawdown: $D_p = (D_{TW} + S_{30} + D) = 40 = (21.23 + 4.5 + 4) = 40$	10.27_
If answer to above calculation is negative, then either the plower or the well is not capable of supplying water for a house.	outp has to be set F-7



The Corporation of the Township of Langley

SCHEDULE "A"

PUMP TEST SUMMARY

OWNER'S NAME: GOODDrand Development	
APPLICATION NO.: 87-111	DATE: 1988 06 13
LOCATION: 238A & 62nd Ave.	SHEET 6 OF 6
Township of Langley	TEST NO1
WELL COMPLETION DATA SCREEN DESIGN (mark one)	DESCRIPTION OF AQUIFER
Depth 42.37 (m) Open Hole Slotte	ed Casing Saird & Graves
Diameter 152 (nm) X Screen Gravel Static Water Level 21, 22n) Other	
Static water Level 21,24m) Uther Screen interval 40.94	
Streen suferant 40. Auch	110 41, 10
PURP TEST	
PURP TEST 13 06 1988 1 ine 0930 Start: Date d/mo/yr line	
d/mo/yr lir/min Pump Type: Electric submersible	1156
Other? Describe	
Test Pump Set at 40 m below ground	
Water level sounded by: Air bubbler	Steel tane
Other? Describe	
Flow measured by: X Container & watch Flow meter	
Orifice & tube Other? Desc	cribe
TEST	0
Constant rate of yield 40 Lpm Test duration	hours
Initial non-pumping level 21.23 m	•
Drawdown in well at end of test $\frac{15.63}{10}$ m	
Recommended pumping rate Lpm	
WATER SAMPLES TAKEN DURING TEST	
Chemical Analysis 🖾 Yes 🗆 No	
dacterial Analysis 🖾 Yes 🗀 No	
dater Temperature 9 oc	
Iny particular gas smells noted None	
Clear and Clean	
comments on clarity of water	
Other	
comments on clarity of water	

The Corporation of the Township of Langley



SCHEDULE "A"

PRIVATE WELL CERTIFICATION

	See attachments as required pursuant to clause 2.2.18 of Schedule "A".
PROFESSIONAL SEAL	Address Address Roth Wareum BC UTh 3C
(In the development. Certified By (Name of Professional Engineer)
.3.8" odf that the betouton	I certify that water quality tests have been co Drinking Water Standards, 1982" can be met for e
OO litres per day has been velopment.	I certify that a quantity of not less than 2,50 proven for each existing or proposed lot in the dev
	PROJECT NO.: 87-III
	LEGAL DESCRIPTION:
ced with potable water in	PURSUANT TO SCHEDULE "A" of the Subdivision and C hereby certify that each lot to be created and/o part of the proposed development can be servitable of the Bylaw for its secondance with the requirements of the Bylaw for

54464, all of North East 1/4 of Section 9, Township II, N.W.D.

Lot B of Lots 2 and 3, Plan 13274 and Parcel A (Reference Plan 8562) of Lots 2, 3 and 4, Except Plan 17067, Plan 23779 and part of Lot 31, Plan

Subdivision Application No. 87-111

WTN 108032

GOODBRAND DEVELOPMENT CORPORATION 62ND AVE., LANGLEY, BRITISH COLUMBIA

Well on Lot 13 (S.E. Corner) (Phase 1)

Depth (Below G Metres	round Su Fee	•	Description
16.46 - 17.68 17.68 - 23.47 23.47 - 27.43 27.43 - 28.65 28.65 - 35.05	2 15 54 58 77 90 94 115 121 125 135	- 2 - 15 - 54 - 58 - 77 - 90 - 94 - 115 - 118 - 121 - 125 - 135 - 142 - 149	Sandy loam Sand and gravel, silty Clay Till-like Gravel, very silty Till with gravel beds Sand, silty, fine grained Till Gravel, very silty Sand, silty Sand and gravel Till, sandy Till Sand and gravel, water-bearing Gravel, silty

Construction details - below ground surface

			ı	1et	tres			F	eet
		diameter casing telescopic diameter	+ 0.61	-	44.20	+	2	_	145
, , , , , , , , , , , , , , , , , , , ,	(0 2.1011)	screen	43.98	-	45.42	144.	. 3	-	149.0

Screen - stainless steel, 18 slot with K-packer Thick Bentonite Slurrey seal around top 3m (10 feet) of casing

SCHEDULE "A"

OW	NER'S	S NAME:	Goodbi	cand De	WELL NO. 13 (Phase 1)			
API	PLIC	ATION 1	NO. <u>87-</u> 1	111	DATE: 1988 06 30			
LO	CATI(ON: 238	BA Stree	et & 62	SHEET 1 of 6			
		Tot	vnship o	of Lang	TEST NO1			
x	Draw	wdown	Reco	overy	·			
	Rdg #	From	Depth To Water	Draw Down	Flow Measurement Data			Comments
		(Min)	(M)	(M)	(Min)	L	LPM	Commerces
	1	0	21.47	0				Static Water Level below MPT
-	2	•5	22.17	0.07				Measuring Point - top of
-	3	1.0						casing 0.61 m above ground
-	4	1.5	23.34					
-	5	2.0	.91					Discharge 30 m from well
-	6	2.5	24.33					
	7	3.0	•55					Shallow 22 foot well at house
	8	3.5	25.13				<u> </u>	
_	9	4.0	•48	4.01				
_	10	4.5	.86					
	11	5.0	26.16	.69				
_	12	6.0	.74				L	
_	13	7.0		-			ļ	
_	14	8.0	27.68				ļ	
_	15	9.0	28.07					
-	16	10	.17					
-	17 18	12 14	•95	7.48				·
-	19	16	29.95	8.48				<u> </u>
-	20	18	30.37	•90				<u> </u>
-	21	20	.60	9.13	0.83	20	24.1	<u> </u>
-	22	25	31.08	.61	V.03	- 20	~ * * * *	
-	23	30	-					Water turbid
-	24	35	_			 		
-	25	40	32.59	11.12				
_	20	1.0	22.22	1 2 4 1 2			ļ	

SCHEDULE "A"

OW	NER'S	NAME:	: Goodbi	cand De	WELL NO. 13 (Phase 1)			
API	PLICA	1 KOLTA	NO. <u>87-</u> 1	111	· - · · · · ·			DATE: 1988 06 30
LO	CATIC	ON: 238	BA Stree	et & 62	Ave.	· ·	<u> </u>	SHEET 2 of 6
		TOV	wnship o	of Lang	TEST NO1			
x	Drav	wdown	Reco	overy				
		From	5 i		Flow Measurement Data			Comments
		(Min)	(M)	(M)	(Min)	L	LPM	
	27	50		.74				Water clear and clean
	28	60		12.06				
_	29	79	<u> </u>	•55				
_	30	80	.04					<u> </u>
_	31	90	.28					
-	32	100		13.11				Water samples collected
_	33 34	110 120	36.21					Temp. 10° C
-	34	120	30.21	14.74				Temp. 10 C
-				}				
-			}	 			-	1
-	 -							
-	 			-				
-				l				
-								
-								
_								
-				ļ				
_	L			L				
_								
_								
_	 -		 	ļ				
-			}					
-				 				
-	 							

SCHEDULE "A"

OW	NER'S	S NAME	: Goodbi	cand De	WELL NO. 13 (Phase 1)				
ΆP	PLIC	ATION I	NO. <u>87-</u>	111	DATE: 1988 06 30				
LO	CATIC	ON: <u>238</u>	BA Stree	et & 62	SHEET 3 of 6				
		TO	wnship o	of Lang	TEST NO. 1				
	Dra		x Reco						
	Rdg #	Time From Start	Depth To Water	Draw Down	Me	Flow easurer Data	ment	Comments	
		(Min)	(M)	(M)	(Min)	L	LPM		
	1	0	36.21	14.74				Pump Off	
-	2	•5	34.10						ľ
_	3	1.0	33.53						ľ
-	4	1.5	•13	11.66					
-	5	2.0	32.67	.20					
_	6	2.5		10.78					L
-	7	3.0	31.90	.43					_
_	8	3.5	•56	.09					L
_	9	4.0	.17	9.70					L
_	10	4.5	30.90						L
_	11	5.0	•66						Ĺ
_	12	6.0	29.97						Ļ
	13	7.0	.72						ŀ
_	14 15	8.0 9.0	.32 28.92						ŀ
-	16	10	.62				 -	<u> </u>	ŀ
-	17	12	.08						F
-	1	14	27.56						۲
-	19	16	•20	5.73					-
	20	18	.15	.68					۲
_	21	20	26.51	.04			<u> </u>		٢
-	22	25	28.87	4.40					-
	23	30	.45	3.98					Ī
_	24	35	24.94	.47					Ī
Ī	25	40	•59	.12					-
_	26	45	.20	2.73				·	
_	 -								ı

SCHEDULE "A"

OW	NER'S	S NAME	: Goodbi	cand De	WELL NO. 13 (Phase 1)				
ΑPI	PLIC	ATION I	NO. <u>87-</u>	111	DATE: 1988 06 30				
ĽΩ	CATIO	ON: <u>238</u>	BA Stree	et & 62	2 Ave.	SHEET 4 of 6			
		OT	wnship o	of Lang	TEST NO. 1				
	Drav	wdown	x Reco	overy					
	Raig #	Time Depth Flow Rdg From To Draw Measurement Start Water Down Data			Comments				
		(Min)	(M)	(M)	(Min)	L	LPM		
	27	50	24.02	•55					
_	28	60	23.57	•10					ľ
_	29	70	.24	1.77					ľ
	30	80	•02	•55					ĺ
_	31	90	22.82	•35					Ī
		100	.61						
		110	•48						
	34	120	•38	0.91					Ĺ
						····			
_									L
_				L					L
_									-
_									ŀ
4									ŀ
_									ŀ
_									ŀ
4				<i>-</i>					ŀ
4							<u>. —</u>		۲
-									h
4					 		 		f
4	}		 				\ 		٢
4					 				r
4									Γ
1									-



The Corporation of the Township of Langley

SCHEDULE "A"

PUMP TEST SUMMARY

		WELL HO. <u>13 (Phase 1)</u>
AJ	PPLICATION NO.: 87-111	DATE: 1988 06 30
Lo	OCATION: 238A Street & 62nd Ave.	SHEET 6 OF 6
	Township of Langley	
i	SCREEN DESIGN (mark one) 45.42	DESCRIPTION OF AQUIFER Otted Casing Sand and Grave Ivel Pack 98 45.42
PUMP TES Start: D. Pump Type Test Pump Water lev		Air Lift ler
)rawdown	rate of yield 24.1 tpm Test durat non-pumping level 20.86 m in well at end of test 14.74 m ded pumping rate 10 tpm	
MIER SAM	PLES TAKEN DURING TEST	
	Analysis X Yes	·

CHEMICAL ANALYSIS REPORT

Date:

June 30, 1988

File No.

5675A AMENDED

Report On:

Water Analysis - Goodbrand Property, Langley, B.C.

Report To:

Brown Erdman & Turner Ltd.

1409 Bewicke Avenue North Vancouver, B. C.

V7M 2W0

DATE OF SUBMISSION:

May 27,1988

SAMPLE IDENTIFICATION

Labelled as shown in RESULTS section.

METHODOLOGY

Analysed in accordance with "Standard Methods for the Examination of Water and Wastewater" published by the American Public Health Association, 1985.

RESULTS OF ANALYSIS

Results are presented in the table(s) attached.



analytical service laboratories

CONSULTING CHEMISTS & ANALYSTS
1650 Pandora Street
Vancouver, B.C. • V5L 1L6
(604) 253-4188



REMARKS (Contd.)

File No. 5675A Page 2 of 5

Sample I.D. Lot 1

The water as represented by the sample submitted can be characterized as moderate with respect to dissolved mineralization. The water sample met drinking water guidelines for all parameters analysed.

Sample I.D. Lot 2

The water as represented by the sample submitted can be characterized as moderate with respect to dissolved mineralization. The water sample met drinking water guidelines for all parameters analyzed. Total coliform was detected in this sample which should be resampled and confirmed.

Sample I.D. Lot 3

The water as represented by the sample submitted can be characterized as moderately high with respect to dissolved mineralization. The water sample met drinking water guidelines for all parameters analysed except for color and Manganese. These parameters are limited for aesthetic purposes (i.e., appearance, taste, etc.) rather than health considerations.

Sample I.D. Lot 4

The water as represented by the sample submitted can be characterized as moderately high with respect to dissolved mineralization. The water sample met drinking water guidelines for all parameters analysed except for color and Manganese. These parameters are limited for aesthetic purposes (i.e., appearance, taste, etc.) rather than health considerations. This sample should be resampled and tested for Total Coliform.

Sample I.D. Lot 5

The water as represented by the sample submitted can be characterized as moderate with respect to dissolved mineralization. The water sample met drinking water guidelines for all parameters analysed. This sample should be resample and tested for Total Coliform.

REMARKS (Contd.)

File No. 5675A Page 3 of 5

Sample I.D. Lot 6 and Lot 10

The water as represented by the sample submitted can be characterized as moderate with respect to dissolved mineralization. The water sample met drinking water guidelines for all parameters analysed.

ASL ANALYTICAL SERVICE LABORATORIES LTD.

W. Deverall

Senior Partner

dusten M. Smith Christine M. Smith

Technologist

RWD/1c



RESULTS OF ANALYSIS

File No. 5675A Page 4 of 5

		Lot 1 May 27/88	Lot 2 May 27/88	Lot 3 May 27/88	Lot 4 May 27/88	Drinking*1 Water Guidelines
Physical Test	<u>.8</u>					
Suspended Sol Dissolved Sol		7.50 118. <5. <1.0 <1.0 99.3 54.1	8.05 177. <5. 1.6 <1.0 141. 75.4	8.20 252. 22. 5.2 3.3 234. 54.9	8.20 263. 28. 7.0 <1.0 238. 50.2	6.5-8.5 - 15. 5. - -*2
Anions						
Chloride Fluoride	CO3 SO4 C1 F iO2 N	54.5 3.5 2.6 0.05 14.6 1.80	81.7 5.4 4.3 0.04 12.5 2.80	139. 5.4 4.8 0.20 21.1 <0.005	141. 6.0 4.8 0.29 19.8 <0.005	500. 250. 1.5
Total Metals						
	Fe Mn	0.04 0.026	0.06 0.042	0.23 0.076	0.15 0.075	0.30 0.05
Dissolved Met	als					
Barium D Cadmium D	As Ba Cd Cr	0.0004 <0.005 <0.0002 <0.01	0.0014 0.007 <0.0002 <0.01	0.010 0.009 <0.0002 0.01	0.012 0.006 <0.0002 <0.01	0.05 1.0 0.005 0.05
Iron D Lead D Manganese D	Cu Fe Pb Mn Zn	0.005 <0.03 <0.001 <0.005 0.005	0.008 <0.03 <0.001 0.023 <0.005	0.011 <0.03 <0.001 0.059 <0.005	0.008 <0.03 <0.001 0.054 <0.005	1.0 0.05 5.0
Magnesium D Potassium D	Ca Mg K Na	12.7 5.44 0.85 5.15	19.4 6.56 2.07 9.50	13.2 5.34 4.77 40.3	12.2 4.79 4.86 44.5	- - -*3
Microbiologic	al Tes	<u>ts</u>				
Total Colifor Fecal Colifor		<2. <2.	6. <2.	<2 <2.	21. <2.	_

< = Less than</pre> Results are expressed as milligrams per litre except for pH, Conductivity (µmhos/cm), Turbidity (NTU), Colour, Coliform Bacteria (Colonies/100ml), NO₃/NO₂ = nitrate/ nitrite nitrogen.

*1 "Maximum acceptable concentration" as published by Health & Welfare Canada, 1985 and B.C. Ministry of Health, 1982

*2 Maximum level not established - water supplies with a hardness exceeding 200 mg/L are considered poor but will be tolerated. Not a health consideration

^{#3} Maximum level not established - of concern to consumers with sodium restricted diet. Levels exceeding 20 mg/L may be of concern in this circumstance.

RESULTS OF ANALYSIS

File No. 5675A Page 5 of 5

		Lot 5 May 2	5 27/88	Lot May	6 27/88	Lot May	10 27/88	Drinking*1 Water Guidelines
Physical Tests		-						
pH Conductivity Colour Turbidity Suspended Solid Dissolved Solid Hardness CaCC	ru Is Is	7.93 145. <5. <1.0 <1.0 109. 61.6		8.11 135. <5. <1.0 3.3 114.)	8.11 131. <5. <1.0 110. 37.7) 	6.5-8.5 - 15. 5. - -*2
Anions								
	04 Cl F O2	61.3 3.8 4. 0.05 12.0 2.70		65.8 4.7 3.3 0.07 10.4 0.01	, i	65.8 5.1 1.9 0.06 10.4 <0.0	• :	500. 250. 1.5
Total Metals								
Iron T H Manganese T M		0.04 0.008	3	0.06		0.05		0.30 0.05
Dissolved Metal	<u>Ls</u>							
Arsenic D A Barium D C Cadmium D C Chromium D C	Ba Cd	0.005 0.006 <0.00 0.01	•	0.00 <0.0 <0.0 <0.0	05 002	0.00 0.00 <0.0 <0.0	6 002	0.05 1.0 0.005 0.05
Copper D C Iron D I Lead D I Manganese D I Zinc D Z	e b in	0.007 <0.03 <0.00 <0.00	1 1 15	0.00 <0.0 <0.0 <0.0	13 101 105	0.00 <0.0 <0.0 0.01 <0.0	3 01 6	1.0 0.05 5.0
Calcium D C Magnesium D N Potassium D Sodium D N	ig K	15.9 5.31 1.62 5.47		8.56 3.08 2.39 16.0	} 	9.83 3.19 2.57 11.7		- - -*3
Microbiological	L Test	<u> </u>						
Total Coliform Fecal Coliform		17. <2.		<2. <2.		<2. <2.		_

< = Less than</pre> < = Less than
Results are expressed as milligrams per litre except for pH, Conductivity
(μmhos/cm), Turbidity (NTU), Colour, Coliform Bacteria (Colonies/100ml),
NO₃/NO₂ = nitrate/ nitrite nitrogen.
*1 "Maximum acceptable concentration" as published by Health & Welfare
Canada, 1985
*2 Maximum level not established - water supplies with a hardness exceeding
200 mg/L are considered poor but will be tolerated. Not a health
consideration
*3 Maximum level not established - of concern to consumers with sodium

^{*3} Maximum level not established - of concern to consumers with sodium restricted diet. Levels exceeding 20 mg/L may be of concern in this circumstance.



CHEMICAL ANALYSIS REPORT

Date:

June 30, 1988

File No.

5738A

Report On:

Goodbrand Property, Langley, B.C.

Report To:

Brown Erdman & Turner Ltd.

1409 Bewicke Avenue North Vancouver, B. C.

V7M 2W0

DATE OF SUBMISSION:

June 8, 1988

SAMPLE IDENTIFICATION

Labelled as shown in RESULTS section.

METHODOLOGY

Analysed in accordance with "Standard Methods for the Examination of Water and Wastewater" published by the American Public Health Association, 1985.

RESULTS OF ANALYSIS

Results are presented in the table(s) attached.

REMARKS

Lot #7 and Lot #8

The waters as represented by the samples submitted can be characterized as moderate with respect to dissolved mineralization.





REMARKS (Contd.)

File No. 5738A Page 2 of 3

Both water samples met Canadian and British Columbia drinking water guidelines for all parameters analysed with the exception of turbidity.

This parameter is limited for aesthetic purposes (i.e., appearance, taste, etc.) rather than health considerations and is often elevated in newly drilled wells. Continued pumping would result in lower values.

ASL ANALYTICAL SERVICE LABORATORIES LTD.

A. W. Maynard, M.Sc.

Senior Partner

Christine M. Smith

Technologist

CMS/AWM/mm

RESULTS OF ANALYSIS

File No. 5738A Page 3 of 3

		Goodbrand Lot 7 June 7/88	Goodbrand Lot 8 June 7/88	Drinking *1 Water Guidelines
Physical Tes	ts			
pH Conductivity Colour Turbidity Suspended So Dissolved So Hardness C	NTU lids	8.36 241. 14. 6.1 6.0 192. 17.7	8.21 141. 7.0 19. 24.0 100. 54.7	6.5-8.5 15. 5. - - *2
Anions and N	utrient	<u>s</u>		
Alkalinity C Sulphate Chloride Fluoride Silicate NO3/NO2	aCO3 SO4 Cl F SiO2 N	127. <1.0 5.4 0.33 22.8 <0.005	58.6 8.7 4.1 0.05 14.8 1.85	500. 250. 1.5 10.0
Total Metals				
	T Fe T Mn	0.18 0.039	0.30 0.019	0.30 0.05
Dissolved Me	tals		•	
Barium Cadmium Chromium	D As D Ba D Cd D Cr D Cu	0.011 0.008 0.0003 <0.02 0.011	0.0025 0.010 0.0004 <0.02 0.007	0.05 1.0 0.005 0.05 1.0
Manganese	D Fe D Pb D Mn D Zn	<0.03 <0.001 0.017 <0.005	<0.03 <0.001 0.015 <0.005	0.05 - 5.0
Magnesium Potassium	D Ca D Mg D K D Na	4.49 1.57 4.86 47.5	14.9 4.26 2.05 7.37	 - -*3
Microbiologi	cal Tes	<u>ts</u>		
Coliform Tot Fec		<2. <2.	<2 <2.	-

< = Less than
NO₃/NO₂ = Nitrate/nitrite nitrogen
Results expressed as milligrams per litre except for pH,
Conductivity (μmhos/cm), Colour (CU) Turbidity (NTU) and
Coliform Bacteria (colonies/100 ml)
*1 "Maximum acceptable concentration" as published by Health &
Welfare Canada, 1985
*2 Maximum level not established - water supplies with a hardness
exceeding 200 mg/L are considered poor but will be tolerated.
Not a health consideration
*3 Maximum level not established - of concern to consumers with

^{*3} Maximum level not established - of concern to consumers with sodium restricted diet. Levels exceeding 20 mg/L may be of concern in this circumstance.

CHEMICAL ANALYSIS REPORT

Date:

June 30, 1988

File No.

5781A AMENDED July 12, 1988

Report On:

Water Analysis - Goodbrand Property, Langley, B.C.

Report To:

Brown Erdman & Turner Ltd.

1409 Bewicke Avenue North Vancouver, B. C.

V7M 2W0

DATE OF SUBMISSION:

June 15, 1988

SAMPLE IDENTIFICATION

Labelled as shown in RESULTS section.

METHODOLOGY

Analysed in accordance with "Standard Methods for the Examination of Water and Wastewater" published by the American Public Health Association, 1985.

RESULTS OF ANALYSIS

Results are presented in the table(s) attached.

REMARKS



analytical service laboratories ltd.



File No. 5781A Page 2 of 3

Lot #11

The water as represented by the sample submitted can be characterized as moderate with respect to dissolved mineralization.

The water sample met Canadian and B. C. drinking water guidelines for all parameters analysed with the exception of colour, turbidity and iron.

These parameters are related and limited for aesthetic purposes (i.e., appearance, taste, etc.) rather than health considerations. They may be high due to the well being insufficiently pumped.

Lot #12

The water as represented by the sample submitted can be characterized as moderately high with respect to dissolved mineralization.

The water sample met Canadian and B.C. drinking water guidelines for all parameters analysed.

ASL ANALYTICAL SERVICE LABORATORIES LTD.

A. W. Maynard, M.Sc.

Senior Partner

Christine M. Smith Technologist

CMS/AWM/mm

RESULTS OF ANALYSIS

File No. 5781A Page 3 of 3

	·	Lot #11 June 14/88	Lot #12 June 14/88	Lot #4 June 14/88	Drinking*1 Water Guidelines
Physical Test	ts				•
pH Conductivity Colour Turbidity Suspended Sol Dissolved Sol Hardness Ca	NTU lids	8.28 138. 19. 28.0 12.0 120. 51.6	8.18 281. 9. <1.0 <1.0 240. 52.2	- - - - - - -	6.5-8.5 - 15. 5. - - -#2
Anions and Nu	ıtrient	<u>s</u>	•		·
Alkalinity Ca Sulphate Chloride Fluoride Silicate NO3/NO2	CO3 SO4 C1 F SiO2 N	66.0 4.79 3.2 0.05 12.1 0.40	148. 10.4 2.3 0.27 21.5 <0.005	-	500. 250. 1.5 -
Total Metals					
	r Fe r Mn	0.40 <0.005	<0.03 0.047	_	0.30 0.05
Dissolved Met	<u>tals</u>				
Barium I Cadmium I Chromium I	D As D Ba D Cd D Cr D Cu	0.0059 0.009 0.0004 <0.02 0.010	0.0007 0.027 0.0005 <0.02 <0.005	-	0.05 1.0 0.005 0.05 1.0
Lead I Manganese I	D Fe D Pb D Mn D Zn	0.03 <0.001 <0.005 <0.005	<0.03 <0.001 0.005 0.019		0.05 5.0
Magnesium I Potassium I	D Ca D Mg D K D Na	11.2 3.69 4.86 11.3	19.7 0.73 2.79 52.1	= -	- - -*3
Microbiologic	cal Tes	ts			
Total Colifor Fecal Colifor		<2. <2.	<2. <2.	<2. <2.	-

< = Less than</pre>

< = Less than
Results expressed as milligrams per litre except for pH,
Conductivity (µmhos/cm), Colour (CU) and Turbidity (NTU)
Coliform Bacteria (colonies/100 ml)
*1 "Maximum acceptable concentration" as published by Health &
Welfare Canada, 1985
*2 Maximum level not established - water supplies with a hardness exceeding 200
mg/L are considered poor but will be tolerated. Not a health consideration
*3 Maximum level not established - of concern to consumers with sodium
restricted diet. Levels exceeding 20 mg/L may be of concern in this
circumstance.</pre> circumstance.

CHEMICAL ANALYSIS REPORT

Date:

June 30, 1988

File No.

5800A

Report On:

Goodbrand Property, Langley, B.C.

Report To:

Brown Erdman & Turner Ltd.

1409 Bewicke Avenue North Vancouver, B. C.

V7M 2W0

DATE OF SUBMISSION:

June 17, 1988

SAMPLE IDENTIFICATION

Labelled as shown in RESULTS section.

METHODOLOGY

Analysed in accordance with "Standard Methods for the Examination of Water and Wastewater" published by the American Public Health Association, 1985.

RESULTS OF ANALYSIS

Results are presented in the table(s) attached.

REMARKS

Lot #1

The water as represented by the sample submitted can be characterized as high with respect to dissolved mineralization.

The water sample met Canadian and B.C. drinking water guidelines for all parameters analysed. The pH is slightly outside the guidelines but this would be of no concern.



analytical service laboratories



METHODOLOGY

File No. 5800A Page 2 of 3

Lot #5

The water as represented by the sample submitted can be characterized as moderately high with respect to dissolved mineralization.

The water sample met Canadian and B.C. drinking water guidelines for all parameters analysed except for manganese.

This parameter is limited for aesthetic purposes (i.e., appearance, taste, etc.) rather than health considerations.

ASL ANALYTICAL SERVICE LABORATORIES LTD.

A. W. Maynard, M.Sc.

Senior Partner

Christine M. Smith

Technologist

CMS/AWM/mm

RESULTS OF ANALYSIS

File No. 5800A Page 3 of 3

		Lot #1 June 16/88	Lot #5 June 17/88	Drinking* Water Guidelines
pH Conductivity Colour Turbidity N Suspended Soli Dissolved Soli Hardness CaC	ds	8.78 371. 12 4.6 2.0 324. 9.12	8.20 307. 10. 8.4 6.7 272. 47.7	6.5-8.5 - 15. 5. - -*2
Anions and Nut	rient	8		
Chloride Fluoride	03 04 C1 F 02 N	185. 7.49 8.48 0.37 16.9 <0.005	158. 8.68 8.18 0.40 26.8 <0.005	500. 250. 1.5
Total Metals				
	Fe Mn	0.12 0.011	0.18 0.067	0.30 0.05
Dissolved Meta	ls			
Barium D Cadmium D Chromium D	As Ba Cd Cr Cu	0.012 0.005 0.0002 <0.02 0.010	0.013 0.014 0.0002 <0.02 <0.005	0.05 1.0 0.005 0.05 1.0
Lead D Manganese D	Fe Pb Mn Zn	<0.03 <0.001 0.006 0.007	<0.03 <0.001 0.060 <0.005	0.05 5.0
Magnesium D Potassium D	Ca Mg K Na	1.92 1.05 4.11 99.1	11.2 4.79 5.21 48.7	- - - -*3
Microbiologica	l Tes	<u>ts</u>		
Coliform Total Fecal		<2. <2.	<2. <2.	-

<= Less than
NO₃/NO₂ = Nitrate/nitrite nitrogen
Results expressed as milligrams per litre except for pH,
Conductivity (μmhos/cm), Colour (CU) Turbidity (NTU) and
Coliform Bacteria (colonies/100 ml)
*1 "Maximum acceptable concentration" as published by Health &
Welfare Canada, 1985
*2 Maximum level not established - water supplies with a hardness
exceeding 200 mg/L are considered poor but will be tolerated.
Not a health consideration
*3 Maximum level not established - of concern to consumers with
sodium restricted diet. Levels exceeding 20 mg/L may be of
concern in this circumstance.

concern in this circumstance.

CHEMICAL ANALYSIS REPORT



Date:

July 14, 1988

File No.

5872A - Report 1

Report On:

Water Samples - Goodbrand Property, Langley, B.C.

Report To:

Brown Erdman & Turner Ltd.

1409 Bewicke Avenue North Vancouver, B. C.

V7M 2W0

DATE OF SUBMISSION:

June 30, 1988

SAMPLE IDENTIFICATION

Labelled as shown in RESULTS section.

METHODOLOGY

Analysed in accordance with "Standard Methods for the Examination of Water and Wastewater" published by the American Public Health Association, 1985.

RESULTS OF ANALYSIS

Results are presented in the table(s) attached.

REMARKS

Lot 13, Phase 1

The water as represented by the sample submitted can be characterized as moderate with respect to dissolved mineralization.

The water sample met B. C. and Canadian drinking water guidelines for all parameters analysed except for Colour and Iron.



analytical service laboratories ltd.

ASL

File No. 5872A Page 2 of 3

These parameters are limited for aesthetic purposes (i.e., appearance, taste, etc.) rather than health considerations.

ASL ANALYTICAL SERVICE LABORATORIES LTD.

A. W. Maynard, M.Sc.

Senior Partner

Christine M. Smith

Technologist

CMS/AWM/mm

RESULTS OF ANALYSIS

File No. 5872A Page 3 of 3

		Lot 13 Phase #1 Jun 30/88	Lot 2 Phase #1 Jun 30/88	Drinking*1 Water Guidelines
Physical Tes	sts			
pH Conductivity Colour Turbidity Suspended So Dissolved So Hardness	NTU olids	8.28 227. 30. 8.6 8.7 190. 44.8	-	6.5-8.5 15. 5. *2
Anions and h	Mutrient	<u>s</u>		
Alkalinity C Sulphate Chloride Fluoride Silicate NO3/NO2	CaCO3 SO4 C1 F SiO2 N	109. 13.1 7.43 0.37 23.3 0.005	-	500. 250. 1.5
Total Metals	<u> </u>			
Iron Manganese	T Fe T Mn	0.80 0.039	-	0.30 0.05
Dissolved Me	tals			
Arsenic Barium Cadmium Chromium Copper	D As D Ba D Cd D Cr D Cu	0.018 0.032 <0.001 <0.02 <0.005	- - - -	0.05 1.0 0.005 0.05 1.0
Iron Lead Manganese Zinc	D Fe D Pb D Mn D Zn	<0.03 <0.001 0.031 <0.005	<u>.</u>	0.05 5.0
Calcium Magnesium Potassium Sodium	D Ca D Mg D K D Na	9.47 5.15 8.10 30.6		- - - -*3
Microbiologi	cal Test	t <u>s</u>		
Coliform Tot		<2. <2.	<2. <2.	

< = Less than</pre>

^{#3} Maximum level not established - of concern to consumers with sodium restricted diet. Levels exceeding 20 mg/L may be of concern in this circumstance.



