BY-LAW NUMBER 2006/46

BY-LAW NO. 2006/46 is a by-law of the County of Wetaskiwin No. 10 in the Province of Alberta, to authorize the adoption of an Area Structure Plan for the purpose of providing a framework for subsequent subdivision and development of the area known as NW 11-46-01-W5M (Sappok) in accordance with Section 633 of the Municipal Government Act, Chapter M-26.1, Revised Statutes of Alberta 2000, and amendments thereto.

WHEREAS: at the requirements of County Council, an Area Structure Plan has been prepared for NW 11-46-01-W5M.

AND WHEREAS: the proposed Area Structure Plan has been widely circulated and discussed within the County pursuant to Section 230, 606(1), and 633(1) of the Municipal Government Act, 2000, Chapter M-26.1, and amendments thereto.

NOW THEREFORE: the County of Wetaskiwin No. 10, duly assembled, hereby enacts as follows:

(a) The document attached to this By-law as "Appendix A", together with accompanying maps, is hereby adopted as the NW 11-46-01-W5M *"Sappok"*.

2. This by-law comes into effect on the date of third reading.

READ: A First time this 5th day of September, A.D., 2006.

READ: A Second time this 5th day of September, A.D., 2006.

READ: A Third time and finally passed this 5th day of September , A.D., 2006.

REEVE

SECRETARY-TREASURER

AREA STRUCTURE PLAN

SUBMITTED

BY

RILLA SAPPOK

AREA STRUCTURE PLAN

LEGAL LAND DESCRIPTION:

NW ¼, Sec. 11, Twp. 46, Rge. 1, W 5.

PREVIOUS LAND USE:

The five acres in question are hay land and bush. There is pipeline parallel to the eastern boundary of the property.

ROAD CONSTRUCTION:

There is no need to build a road to this five acres I wish to sell because a road and turnaround have previously been built to this location.

SEWER:

This lot I wish to sell is large enough to have an on site sewage disposal. It will be the choice of the buyers to install their own system, subject to provincial plumbing regulations.

WATER SUPPLY:

In August 2000 test wells were dug less than 200 m. from this proposed lot. (A copy of the test wells report is attached). The potential owners should have no difficulty finding a plentiful supply of water when they drill their own well.

IMPACT ON THE ENVIRONMENT:

The people desiring to purchase this lot plan to build on the higher open field part of this acreage. The bush part is lower land where there may be spring run off but is otherwise usually dry the rest of the year. A power line and natural gas line are already in place in the road allowance parallel to the graveled road to this property.

FLOOD RISK:

Since there is some slope to this land, there should be no risk for flooding.

ROADWAY ACCESS:

Access to the property is from the graveled road previously constructed.(A culvert and approach will need to be installed either off the turnaround or the road west of the turnaround.)

RESERVES:

This lot would not have any impact on future development or use of the remaining land of this quarter section.

NEARBY MUNICIPALITIES:

Only the County of Wetaskiwin is affected by this proposal.

SURROUNDING NEIGHBORS:

The surrounding neighbors are being contacted about the proposed lot. To date, those contacted seemed to be in favor of this.

SABATINI EARTH TECHNOLOGIES INC.

6919 - 32nd AVENUE N.W.
CALGARY, ALBERTA T3B 0K6
TEL: (403) 247-1813
FAX: (403) 247-1814

9315 - 35th AVENUE N.W.
EDMONTON, ALBERTA T6E 5R5
TEL: (780) 438-0844
FAX: (780) 435-1812

August 23, 2000

File: 0008-3043

Robert Foster
Box 7, Site 1, RR3
Ponoka, AB T4J 1R3

Dear Sir:

RE: Aquifer Study - NW - 11 - 46 - 1W5

Two wells were installed on a proposed subdivision within the above mentioned quarter section and pump tests were conducted on the wells to determine whether the aquifer underlying the site is capable of supplying water for the proposed subdivision.

Water is produced from bedrock sandstones and shales at a depth of approximately 100 feet. The bedrock aquifer has a transmissivity of 0.455 m^2/day. Two existing users are currently on the quarter section and five new lots are proposed. Water supply of of 1250 m^3/year per lot is required or a total of 8750 m^3/year. The maximum drawdown on any well from these rates is calculated as 6.6 m (with a safety factor). Total available drawdown is over 16 m, which means that groundwater requirements from the proposed subdivision will not have any adverse affects on current groundwater users and the aquifer is capable of supplying all existing and proposed users within the quarter section.

Water quality is generally acceptable; however coliform bacteria was detected in the sample. No faecal bacteria was found, indicating that the bacteria is possibly indigenous to the aquifer and not a result of septic contamination. It is recommended that the surface casing around the well be cemented and that the well be chlorinated and re-tested before use.

Yours truly,
SABATINI EARTH TECHNOLOGIES INC.

Ken Hugo, P.Geol.

23/00

A) Introduction

At the request of Robert Foster an aquifer study was undertaken within the NW 1/4 of Section 11 - 46 - 1W5. The purpose of the study was to determine whether the aquifer or aquifers underlying the site are capable of supplying sufficient water to support the existing users and five additional lots of a proposed subdivision.

As part of the investigation, two water wells were installed on the easternmost lot and the lot immediately west of this lot within the proposed subdivision and pump tests were performed on these wells. Additional data from three existing wells, including an additional pump test on a well on the west side of the quarter section was also examined. The location of all wells on the quarter section is shown on Plate 1. A water sample was collected from one of the wells to determine the water quality of the well water with respect to drinking water limits.

B) Details of Field Work

Two wells were drilled on Lots 4 and 5 as part of the subdivision program. The wells were drilled with a cable tool rig by J.C. Drilling Ltd. of Lacombe, Alberta. The well on lot 5 was completed to a depth of 123 feet and produces water from a sandstone layer from 103 to 118 feet. The well on lot 4 was completed to a depth of 113 feet and produces water from a more shaley unit from 96 to 113 feet. The well drilling reports showing lithology encountered and details of well construction from the wells on Lots 5 and 4 are shown on Plates 2 and 3 respectively.

Pumping tests were performed on each well to determine various aquifer parameters such as transmissivity and available head. A 48 hour test was performed on the well on Lot 5 on August 15 to August 17 and a four hour test was performed on the well on Lot 4 on August 17. The pump tests were performed with equipment and personnel supplied by Sabatini

Pumping rates selected for the pump test on the well on Lot 5 were based on the well drillers initial pumping rate of 10 gallons per minute, which showed the water levels in the well approaching the bottom of the well after two hours of pumping, and an initial rate of 5 gallons per minute was selected. This rate also led to high drawdown, so the well was shut in, the water level was allowed to rebuild, and a pumping rate of 1.6 imperial gallons per minute was selected for the 24 hour pumping period.

The water levels showed a decline of over 6 m in the first fifteen minutes followed by gradual decline for the next five hours and very little decline over the last 12 hours. A graphical summary of the water level data during the test is shown on Plate 4, and tabular listing of the data is shown on Plates 5 - 7. Considerable silt was found in the water for much of the pump test, becoming clear only towards the last few hours of the test.

Flow rates were controlled with the aid of a Dole flow control valve and checked with a Master Meter analog water flow meter. Water samples were collected on an hourly basis and analysed in the field for pH, temperature and electrical conductivity. A water sample was collected towards the end of the pump test into appropriate containers and delivered to Enviro-Test Labs approximately 3 hours after sample collection for analysis of dissolved salts and coliform bacteria.

Water levels were also recorded within the well on Lot 4 during the pump test on the well in Lot 5. The levels were recorded with the aid of a Geokon pressure transducer. A total drawdown of 0.41 m was observed in this observation well during the test. Graphical and tabular listing of the data is shown on Plates 10 - 12.

The four hour pump test undertaken on the well on Lot 4 was undertaken at the same rate

utilizing the same equipment. Graphical listing of the water levels and tabular listing of the data is shown on Plates 10 - 12.

Additional well and pump test data was collected from the Alberta Environment water well database. The well drillers report from the two wells within the Lakedell Agricultural Society and the one well on the lot on the north-west corner of the quarter are shown on Plates 21 - 23.

Aquifer Interpretation

i Strata - The area is underlain by approximately 20 m of unconsolidated deposits consisting of sand and clay, clay till and gravel which have been mapped as ground moraine deposits by the Alberta Research Council (Surficial Geology Rocky Mountain House NTS 83B). Although it appears likely that the gravel could serve as an aquifer, it likely contains too much clay to obtain water without excessive turbidity.

The unconsolidated deposits are in turn underlain by sandstones and shales of the Tertiary aged Paskapoo Formation. This strata generally serves as a reasonably good aquifer within the area.

ii Pump Test Interpretation -

1. Lot 5 Well - The pump test data was interpreted with the aid of the AquiferTest computer program developed by Waterloo Hydrogeologic Inc. The Cooper-Jacob method was selected which assumes the aquifer is a confined aquifer without significant fracturing or leakage from overlying or underlying units, criteria which are roughly followed for the aquifer underlying Lot 5.

The Cooper-Jacob plot for the drawdown data is shown on Plate 8 and for the buildup data

on Plate 9. The drawdown data shows that a stable linear drawdown with time is obtained after 5 hours. The initial steep drawdown indicates considerable well losses. The observation of considerable silt in the water is also in accordance with a poorly developed well, although the pumping efforts seem to have developed the well. An aquifer transmissivity of 5.06×10^{-3} m^2/min (0.3036 m^2/hour) is calculated.

The buildup plot shown on Plate 9 shows that buildup had been mostly achieved within 30 minutes after pumping. This quick buildup is also characteristic of high well bore losses. An aquifer transmissivity of 2.28×10^{-3} m^2/min (0.1368 m^2/hour) is calculated, which is considerably less than the value calculated from the drawdown data. This value is not thought to be reliable due to the quick buildup.

The Cooper-Jacob plot for the drawdown data in the observation well is shown on Plate 13. A transmissivity of 2.05×10^{-2} m^2/min (0.1230 m^2/hour) is calculated. Plate 14 shows the Cooper-Jacob plot for the buildup data within the pumping well where a transmissivity of 1.96×10^{-2} m^2/min (0.1176 m^2/hour) is calculated. These values are similar, but slightly lower than the values obtained from the data within the pumping well.

2. Lot 4 Well - Plates 19 and 20 show the Cooper-Jacob plots for the four hour pump test conducted on the well on Lot 4. Transmissivity values for the drawdown portion are calculated at 9.58×10^{-4} m^2/min (0.0575 m^2/hour) and 1.39×10^{-3} m^2/min (0.0834 m^2/hour) for the buildup data.

No indications of poor development was noted. The lower transmissivities in this well are in line with the drillers log where the well was completed over a shale versus a sandstone in the other wells. As good drawdown was observed in this well when it was used as an observation well, it is expected that the shale has relatively finite extent.

3. North-west Well - A four hour test was undertaken on a well on the lot in the north-west corner of the quarter section in 1996. This well was completed over the same bedrock zone as the other wells. The graphical and tabular listing of the data is shown on Plates 24 - 27. The Cooper-Jacob plots of the data is shown on Plates 28 and 29 for the drawdown and buildup data respectively.

A transmissivity of 2.81 x 10^{-2} ft^2/min (0.1566 m^2/hour) is calculated for the drawdown data and a similar transmissivity of 8.88 x 10^{-2} ft^2/min (0.4950 m^2/hour). Considerable drawdown was observed in the first 10 minutes of the pump test of over 30 feet which again indicates insufficient well bore development.

4. Summary of Transmissivity Values - Transmissivity values from the various pump tests can be summarized as follows:

Well / Pump Test	Drawdown (m^2/hour)	Buildup (m^2/hour)
Lot 5 - Pumping Well	0.3036	0.1368
Lot 4 - Observation Well	0.1230	0.1176
Lot 4 Pumping Well	0.0575	0.0834
NW Lot Well	0.1566	0.4950

As the producing zone in on Lot 4 is a shale and the others produce from sandstone, a geometric average is used to calculate the transmissivity from the remaining six tests. An average transmissivity of 0.1897 m^2/hour is calculated. The most reliable test is the drawdown test on the data within lot 5, however this more conservative value will be used in following calculation as this lower value for the presence of shale lenses within the sandstone aquifer.

iii - Aquifer Potential

Calculations to determine whether the aquifer can supply the five proposed users without adversely affecting existing users is based on utilizing the Cooper-Jacob formulae and the principle of superposition to predict the drawdown in a well due to pumping from that well and from pumping in adjacent wells. The calculation is given by the following formulae:

$$\text{Drawdown} = \frac{0.183Q}{T}\left(\log\frac{2.25Tt}{r_w^2S} + \log\frac{2.25Tt}{r_1^2S} + \log\frac{2.25Tt}{r_2^2S} + \ldots\right)$$

where Q is the pumping rate defined by legislation (1250 m^3/year or 3.422 m^3/day), T is the transmissivity calculated from the pump tests (0.1897 m^2/hour or 4.55 m^2/day), t is time (20 years or 7305 days) and S is the Storativity calculated from the pump test (7.62×10^{-5}). The "r" terms in the denominator are distance terms; r_w is the radius of the pumping well, and r_1, r_2, r_3... are distances between wells.

The calculations show that the drawdown after 20 years in the well in the lot on the north-west corner will be 1.57 m due to pumping from that well itself (assuming no well bore losses). Drawdown due to pumping from this well and the Lakedell Agricultural Society well is calculated at 2.05 m. The drawdown in the north-west well due to all users on the quarter section, including the five proposed lots, is calculated as 4.61 m.

The available drawdown, based on the distance between the static water level (at 32 feet) to the top of the perforated interval (at 85 feet) is 53 feet or 16.15 m. The required drawdown is 4.61 m, and applying a 70% safety factor is 6.59 m. As the available drawdown is more than the required drawdown, no adverse affects will result on existing well users due to water withdrawal from users in the proposed subdivision.

D) Water Chemistry

Field values of the water pH, temperature and electrical conductivity (which is related to the water salinity) during the pump test is shown on Plate 29. The data shows an initial variation during the first 2 hours followed by stable values for the remainder of the pump test.

The water pH stabilizes around a pH of 7.8, showing that the acidity of the water is not excessive in terms of drinking water criteria. Electrical conductivity values stabilize around a value of approximately 1080 µS/cm. Electrical conductivity values in µS/cm are generally twice the total dissolved solids concentration in mg/L, which shows that the salinity should be around 500 mg/L. This value also shows that water should be acceptable for drinking water purposes based on total salinity.

Electrical conductivity values collected during the pump test on the well on Lot 4 show a value around 850 µS/cm. This is lower than the electrical conductivity of the water noted from the well in Lot 5 and reflects the different strata (shale versus sandstone) that the groundwater is supplied from in each well.

The complete chemical water analysis report from Enviro-Test Labs is shown on Plates 30 - 31. A summary of the results, with a comparison to drinking water limits as established by the Canadian Council of Ministers of the Environment (CCME) is as follows:

Parameter	Lot 5 Well Analysis	CCME Limits
Chloride	0.8	250
Nitrate	< 0.05	45
pH	8.1	6.5 - 8.5
Sodium	292	200

Sulphate	103	500
TDS	732	500
Total Coliforms	290	10
Faecal Coliforms	< 1	< 1

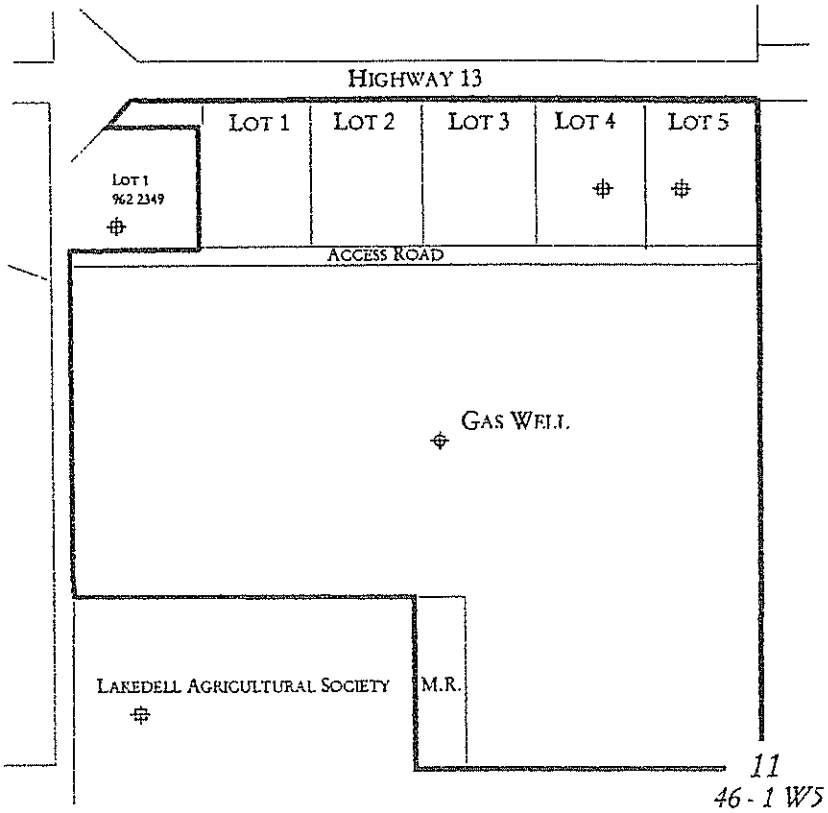
Note: All results in mg/L except pH in pH units and coliforms in organisms per 100 mL.

Of the dissolved salts, only TDS exceeds recommended limits. This limit is based on aesthetic, not health based criteria, and the high TDS is not thought to be significant to warrant water treatment.

The results show the presence of significant total coliform bacteria although none of them are faecal coliforms indicating that the bacteria are not from animal or human waste products. It is likely that the bacteria are naturally indigenous and were dislodged from the well and/or strata by pumping.

It is recommended that some procedures be undertaken to ensure that the bacteria are not due to introduction of surface water into the well bore. Cavities were noted in the ground around the well surface casing and these should be filled with grout or cement prior to the well being put on production. The well should also be chlorinated following Alberta Environment procedures prior to the well being put on production. These procedures are included on Plates 32 - 35. After cementation and chlorination the water should be resampled for coliforms to test whether the levels have gone down.

The presence of bacteria may also indicate that slime forming bacteria may be present in the well which could lead to well productivity problems in the future.



Sabatini Earth Technologies Inc.

Robert Foster

Lot and well location - NW - 11 -46 -1W5

Drawn By: KJH	Date: Aug 21/00	Plate No: 1

Alberta Water Well Drilling Report

ENVIRONMENTAL PROTECTION

The data contained in this report is supplied by the Driller. The province disclaims responsibility for its accuracy.

Well I.D.
Map verified
Date report received:

1 Contractor & Well Owner Information

Company Name: JC DRILLING — Licence No.: 81674

Mailing Address: BOX 5291 — City or Town: LACOMBE — Postal Code: T4L 1W9

Well Owner's Name: DOUG FOSTER — Well Owner has a copy of this report: ☐ Yes ☐ No

Mailing Address: BOX 7 SITE 1 RR 2 PENHOLD — City or Town: — Postal Code: T4J 1R3

2 Well Location

1/4 or LSD	Sec	Twp	Rge	West of Meridian
NW	11	41	1	W5

Location in Quarter: 3 0 0 m/ft from ☑ N ☐ S; 1 8 0 0 m/ft from ☑ E ☐ W

Lot: — Block: — Plan: —

3 Drilling Information

Type of Work: ☐ Testhole ☑ New Well ☐ Reconditioned ☐ Deepened ☐ Reclaimed well — Date reclaimed: Yr Mo Day

Materials Used: ☐ Cement ☐ Bentonite Product ☐ Other:

Proposed well use: ☑ Domestic ☐ Non-Domestic — Specify:

Method of Drilling: ☐ Auger ☐ Boring ☑ Cable tool ☐ Rotary ☐ Combination ☐ Backhoe ☐ Other:

Anticipated requirement per day: ☐ litres ☑ gallons 500

4 Formation Log

Depth from ground level: ☐ metres ☑ feet

Depth from ground level	Lithology Description
10	CLAY
17	ROCKS + BOULDERS
22	YELLOW SAND
66	TILL
71	GRAVEL
105	GREY SHALE
115	GREY SANDSTONE
123	GREY SHALE

Geophysical Log taken: ☐ Electric ☐ Gamma

Did you encounter: ☐ Mineralized water more than 4000 ppm TDS ☐ Gas

At what depth:

Remedial action taken:

5 Well Completion

Date Started: Yr Mo Day — Date Completed: Yr Mo Day

Are measurements in metric or imperial?

Well depth: 123	Borehole diameter: 6
Casing type: WELDED	Liner type: PVC
Size OD: 6 5/8	Size OD: 4 1/2
Wall thickness: .189	Wall thickness: .237
Bottom at: 78.96	Top: 63 Bottom: 123

Perforations: from: 105 to: 123

from: to:

Perforation size: 1/4 x 12

Perforated by: ☑ Saw ☐ Torch ☐ Machine ☐ Other:

Seal: ☐ Bentonite product ☑ Driven ☐ Cement / Grout ☐ Other:

Sealed interval: from: 0 to: 78.96

Screen type: — Size OD:

Intervals: from: to: slot size:

from: to: slot size:

Installation: ☐ Attached to casing ☐ Telescoped

Fittings: Top ☐ Packer ☐ Coupler — Bottom ☐ Wash-down ☐ Bail ☐ Plug

Pack: ☐ Artificial/Mechanical ☐ Natural

Grain size: — Amount:

6 Well Yield

Test Date: Yr Mo Day 05 06 22 — Start Time: 0800

Test method: ☐ Pump ☑ Bailer ☐ Air

Are measurements in metric or imperial?

Non pumping static water level: 24.40

Rate of water removal: 10 gpm

Depth of pump intake: 100 ft.

Water level at end of test: 89.38

Distance from top of casing to ground level: 5'

Depth to water level — Pumping: Elapsed Time minutes	Recovery
0	89.38
1	87.71
2	86.77
3	86.02
4	85.49
5	85.24
6	85.04
7	84.90
8	84.79
9	82.23
10	77.69
12	70.15
14	66.75
16	64.52
20	62.39
25	58.47
30	53.31
35	51.89
40	50.66
50	48.73
60	47.21
75	45.63
90	43.45
105	40.97
120	39.81

Total Drawdown: 49.58

If water removal was less than 2 hr duration, reason why:

Recommended pumping rate: 10 gpm

Recommended pump intake: 100 ft

Pump installed ☐ Yes Depth:

Type:

Any further pumptest information? ☐ Yes ☐ No

7 Contractor Certification

Driller's Name: RON BLACKETT

Certification No: 13217Q

This well was constructed in accordance with the Water Well Regulation of the Alberta Environmental Protection & Enhancement Act. All information in this report is true.

Signature: — Yr Mo Day 10 06 22

ENVIR 3/93)

Alberta Water Well Drilling Report

ENVIRONMENTAL PROTECTION

The data contained in this report is supplied by the Driller. The province disclaims responsibility for its accuracy.

Well I.D.
Map verified
Date report received:

Contractor & Well Owner Information

Company Name: J.C. DRILLING — Licence No.: 81674

Mailing Address: Box 5291 — City or Town: LACOMBE — Postal Code: T4L 1W9

Well Owner's Name: Bob FOSTER — Well Owner has a copy of this report: [x] Yes [ ] No

Mailing Address: Box 7 - SITE 1 RR 3 — City or Town: Ponoka — Postal Code: T4J 1R3

❷ Well Location

1/4 or LSD	Sec	Twp	Rge	West of Meridian
NW	11	46	1	W5

Location in Quarter: 1300 m/ft from [x] N [ ] S
900 m/ft from [x] E [ ] W

Lot — Block — Plan

Drilling Information

Type of Work: [ ] Testhole [x] New Well [ ] Reconditioned [ ] Deepened
[ ] Reclaimed well — Date reclaimed: Yr Mo Day

Materials Used: [ ] Cement [ ] Bentonite Product [ ] Other:

Proposed well use: [x] Domestic [ ] Non-Domestic
Specify:

Method of Drilling: [ ] Auger [ ] Rotary [ ] Boring [ ] Combination [x] Cable tool [ ] Backhoe [ ] Other:

Anticipated requirement per day: [ ] litres [ ] gallons

❻ Well Yield

Test Date: Yr Mo Day — Start Time:

Test method: [ ] Pump [x] Bailer [ ] Air

Are measurements in metric or imperial?

Non pumping static water level: 41.22

Rate of water removal: 10

Depth of pump intake: 113

Water level at end of test: 62.34

Distance from top of casing to ground level: 3'

❹ Formation Log

Depth from ground level ([ ] metres [ ] feet)	Lithology Description
10	YELLOW SANDY CLAY
35	GREY SANDY CLAY
49	TILL
61	GRAVEL
113	GREY SHALE

Geophysical Log taken: [ ] Electric [ ] Gamma

Did you encounter: [ ] Mineralized water more than 4000 ppm TDS [ ] Gas

At what depth:

Remedial action taken

❺ Well Completion

Date Started: Yr 00 Mo 8 Day 9 — Date Completed: Yr 00 Mo 8 Day 10

Are measurements in metric or imperial?

Well depth: 113 — Borehole diameter: 6"

Casing type: WELDED — Liner type: PVC

Size OD: 6 5/8 — Size OD: 4 1/2

Wall thickness: .188 — Wall thickness: .237

Bottom at: 95.50 — Top: 93 Bottom: 113

Perforations: from: 113 to: 96
from: to:

Perforation size: 8 x 1/8

Perforated by: [x] Saw [ ] Torch [ ] Machine [ ] Other:

Seal: [ ] Bentonite product [x] Driven [ ] Cement / Grout [ ] Other:

Sealed interval: from: 0 to: 95.50

Screen type: — Size OD:

Intervals: from: to: slot size:
from: to: slot size:

Installation: [ ] Attached to casing [ ] Telescoped

Fittings: Top [ ] Packer [ ] Coupler — Bottom [ ] Wash-down [ ] Bail [ ] Plug

Pack: [ ] Artificial/Mechanical [ ] Natural

Grain size: — Amount:

Depth to water level

Pumping	Elapsed Time minutes	Recovery
	0	
	1	
	2	
	3	TO BE
	4	
	5	SUPPLIED
	6	
	7	BY
	8	CUSTOMER
	9	
	10	
	12	
	14	
	16	
	20	
	25	
	30	
	35	
	40	
	50	
	60	
	75	
	90	
	105	
	120	

Total Drawdown:

If water removal was less than 2 hr duration, reason why:

Recommended pumping rate: 10GPM

Recommended pump intake: 80

Pump installed [ ] Yes Depth:

Type:

Any further pumptest information? [ ] Yes [ ] No

❼ Contractor Certification

Driller's Name: [signature]

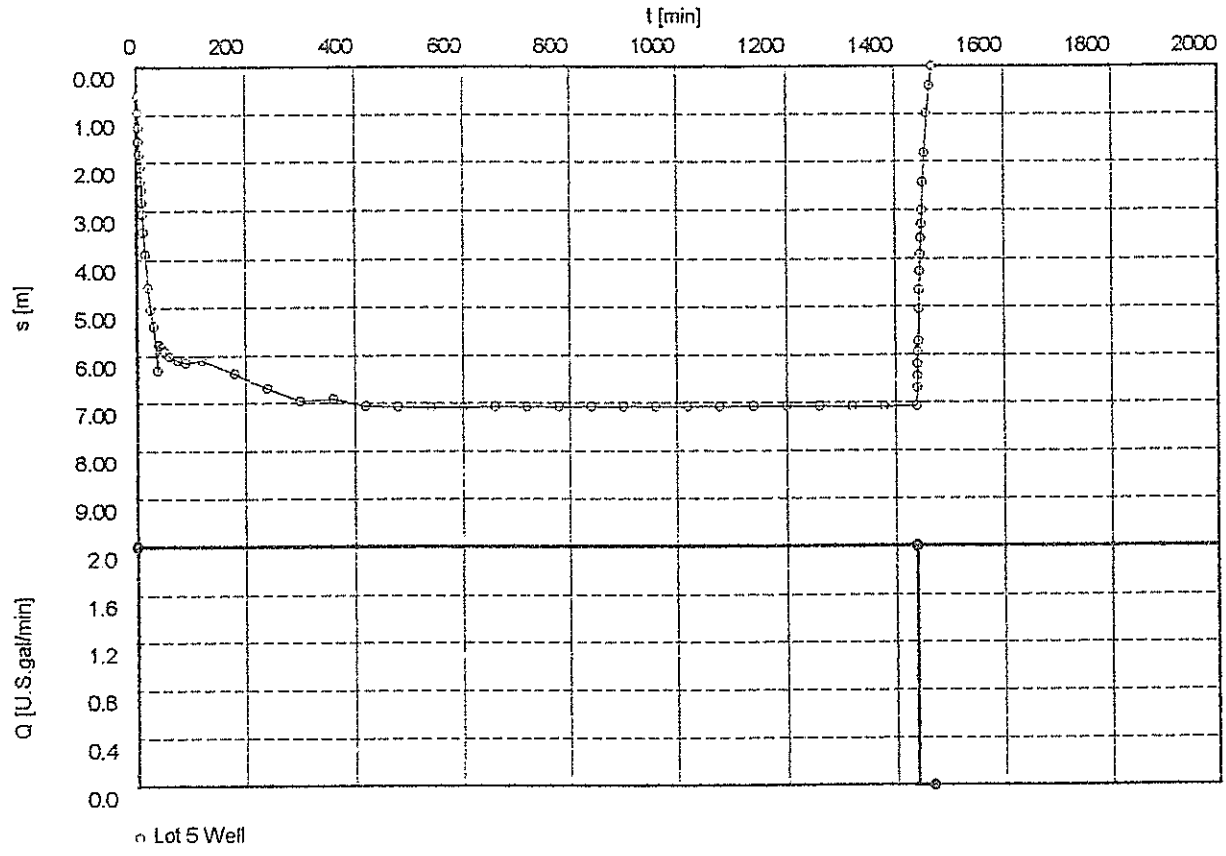
Certification No.: 15706

This well was constructed in accordance with the Water Well Regulation of the Alberta Environmental Protection & Enhancement Act. All information in this report is true.

Signature [signature] — Yr 00 Mo 8 Day 10

Sabatini Earth Technologies Inc. 6919 32 Avenue N.W. Calgary, AB ph.(403) 247-1813	Pumping test analysis Time-Drawdown plot with discharge	Page 4	
		Project: Robert Foster	
		Evaluated by: KJH	Date: 21.08.2000

Pumping Test No. 1	Test conducted on: Aug 15 - 17/2000
Lot 5	
Discharge 1.96 U.S.gal/min	



Sabatini Earth Technologies Inc. 6919 32 Avenue N.W. Calgary, AB ph (403) 247-1813	Pumping test analysis Time-Drawdown plot with discharge	Page 5	
		Project: Robert Foster	
		Evaluated by: KJH	Date: 21.08.2000

Pumping Test No. 1	Test conducted on: Aug 15 - 17/2000
Lot 5	Lot 5 Well
Discharge 1.96 U.S.gal/min	Distance from the pumping well 0.114 m
Static water level: 12.400 m below datum	

	Pumping test duration [min]	Water level [m]	Drawdown [m]
1	1.00	13.010	0.610
2	2.00	13.350	0.950
3	3.00	13.660	1.260
4	4.00	13.960	1.560
5	5.00	14.240	1.840
6	6.00	14.500	2.100
7	7.00	14.780	2.380
8	8.00	14.990	2.590
9	9.00	15.230	2.830
10	10.00	15.460	3.060
11	12.00	15.840	3.440
12	15.00	16.300	3.900
13	20.00	16.990	4.590
14	25.00	17.440	5.040
15	30.00	17.790	5.390
16	37.00	16.700	6.300
17	40.00	18.170	5.770
18	45.00	18.230	5.830
19	50.00	18.310	5.910
20	60.00	18.410	6.010
21	75.00	18.500	6.100
22	90.00	18.550	6.150
23	120.00	18.500	6.100
24	180.00	18.780	6.380
25	240.00	19.090	6.690
26	300.00	19.360	6.960
27	360.00	19.320	6.920
28	420.00	19.470	7.070
29	480.00	19.480	7.080
30	540.00	19.490	7.090
31	600.00	19.490	7.090
32	660.00	19.485	7.085
33	720.00	19.485	7.085
34	780.00	19.485	7.085
35	840.00	19.485	7.085
36	900.00	19.485	7.085
37	960.00	19.485	7.085
38	1020.00	19.485	7.085
39	1080.00	19.485	7.085
40	1140.00	19.485	7.085
41	1200.00	19.485	7.085
42	1260.00	19.475	7.075
43	1320.00	19.495	7.095
44	1380.00	19.495	7.095
45	1440.00	19.480	7.080
46	1440.50	19.110	6.710
47	1441.00	18.850	6.450
48	1441.50	18.600	6.200
49	1442.00	18.340	5.940
50	1443.00	18.120	5.720

Sabatini Earth Technologies Inc. 6919 32 Avenue N.W. Calgary, AB ph (403) 247-1813	Pumping test analysis Time-Drawdown plot with discharge	Page 6	
		Project: Robert Foster	
		Evaluated by: KJH	Date: 21.08.2000

Pumping Test No. 1	Test conducted on: Aug 15 - 17/2000
Lot 5	Lot 5 Well
Discharge 1.96 U.S.gal/min	Distance from the pumping well 0.114 m

Static water level: 12.400 m below datum

	Pumping test duration [min]	Water level [m]	Drawdown [m]
51	1444.00	17.460	5.060
52	1445.00	17.060	4.660
53	1446.00	16.670	4.270
54	1447.00	16.320	3.920
55	1448.00	15.990	3.590
56	1449.00	15.690	3.290
57	1450.00	15.410	3.010
58	1452.00	14.840	2.440
59	1455.00	14.230	1.830
60	1460.00	13.390	0.990
61	1465.00	12.810	0.410
62	1470.00	12.400	0.000

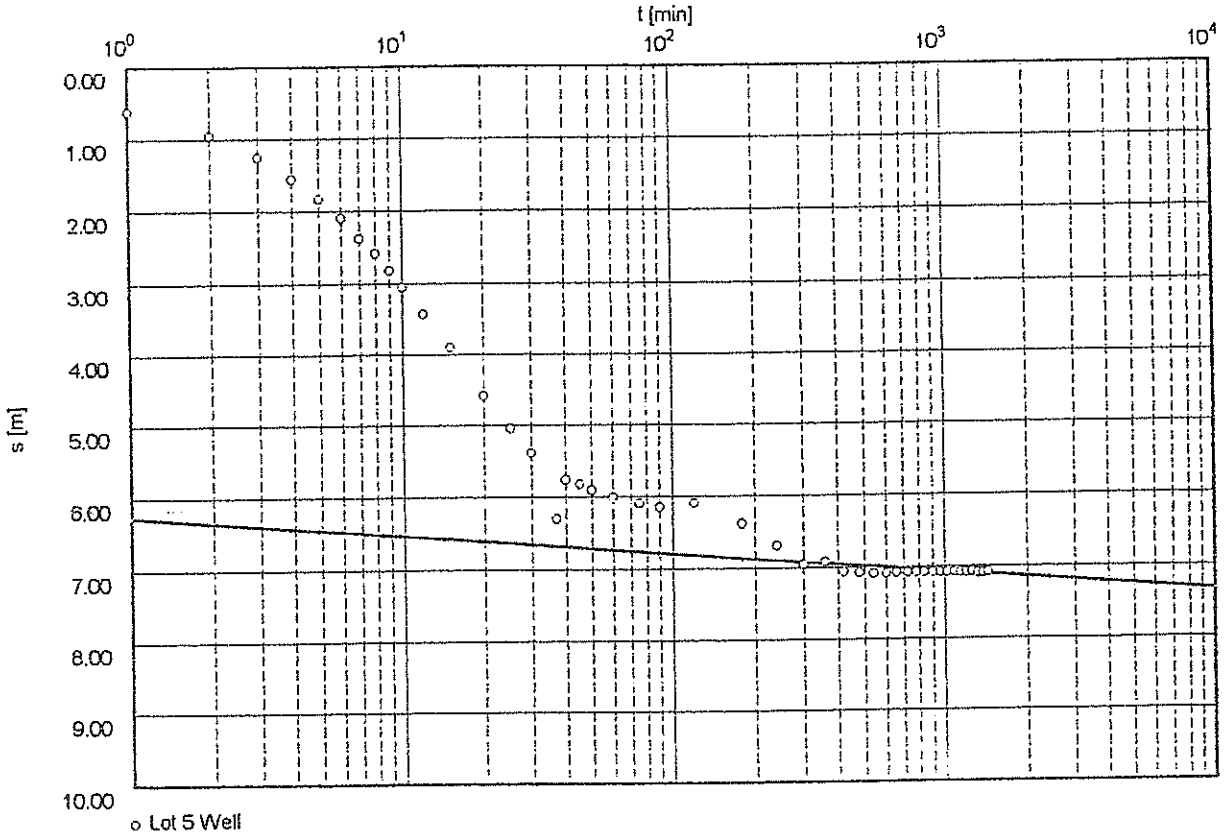
Sabatini Earth Technologies Inc. 6919 32 Avenue N.W. Calgary, AB ph.(403) 247-1813	Pumping test analysis Time-Drawdown plot with discharge	Page 7	
		Project: Robert Foster	
		Evaluated by: KJH	Date: 21.08.2000

Pumping Test No. 1	Test conducted on: Aug 15 - 17/2000
Lot 5	Lot 5
Discharge 1.96 U.S.gal/min	

	Pumping test duration [min]	Discharge [U.S.gal/min]		
1	0.00	2.00		
2	1440.00	2.00		
3	1470.00	0.00		

Sabatini Earth Technologies Inc. 6919 32 Avenue N.W. Calgary, AB ph.(403) 247-1813	Pumping test analysis Time-Drawdown-method after COOPER & JACOB Confined aquifer	Page 8 Project: Robert Foster Evaluated by: KJH | Date: 21.08.2000

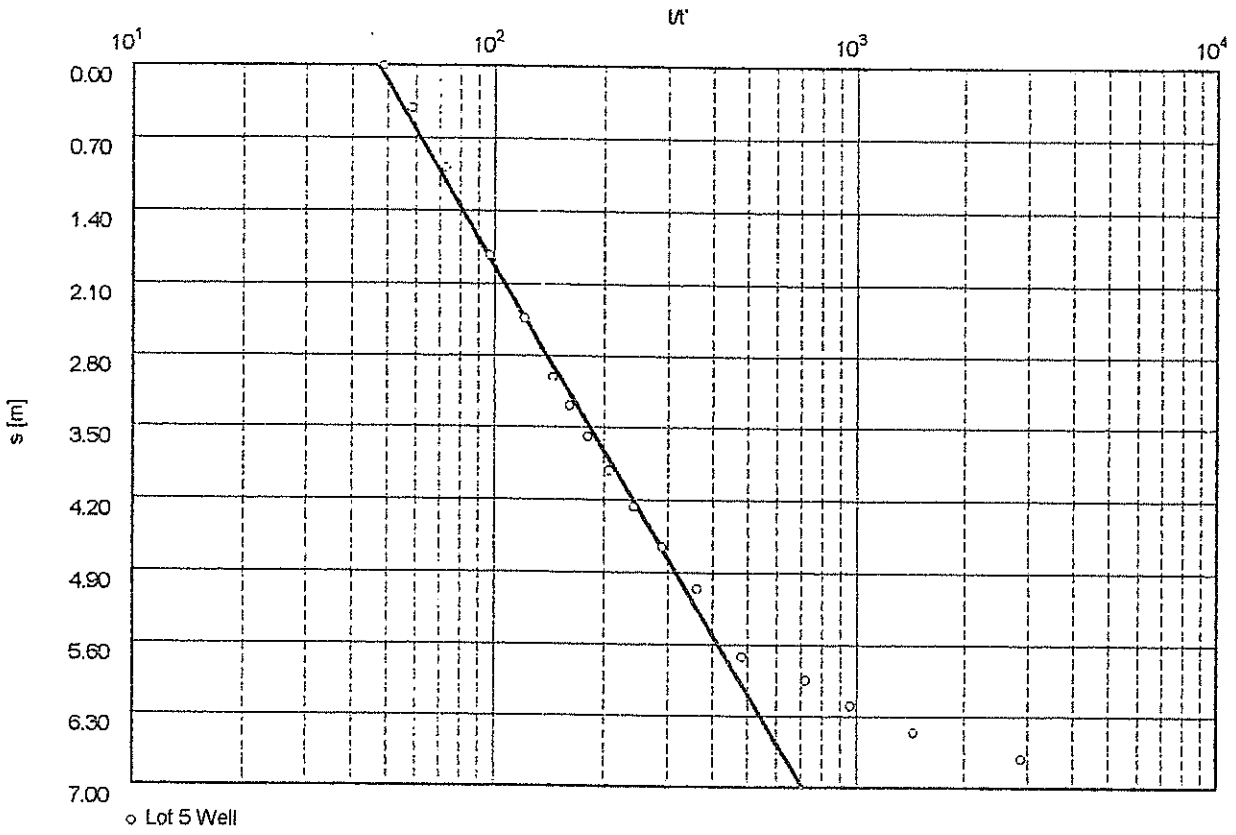
Pumping Test No. 1	Test conducted on: Aug 15 - 17/2000
Lot 5	
Discharge 1.96 U.S.gal/min	



Transmissivity [m²/min]: 5.06×10^{-3}

Sabatini Earth Technologies Inc. 6919 32 Avenue N.W. Calgary, AB ph.(403) 247-1613	Pumping test analysis Recovery method after THEIS & JACOB Confined aquifer	Page 9	
		Project: Robert Foster	
		Evaluated by: KJH	Date: 21.08.2000

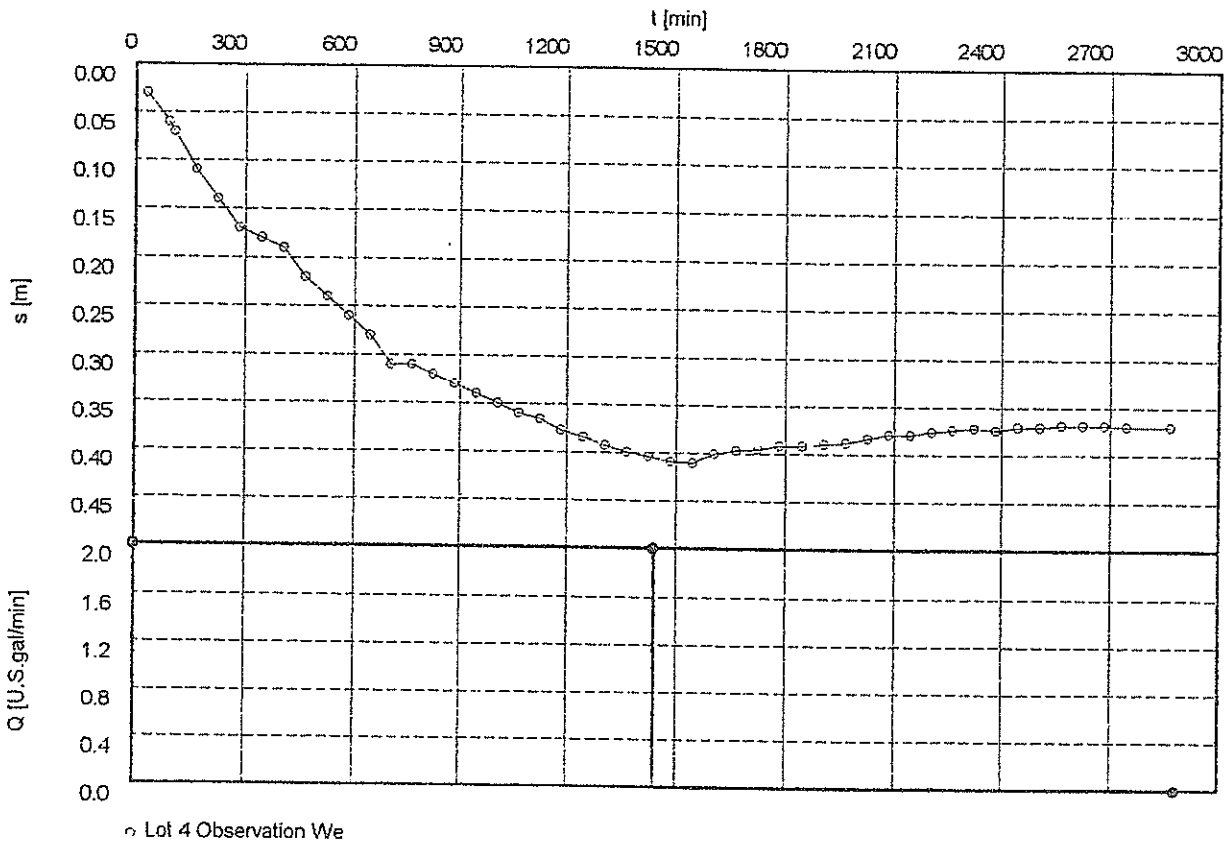
Pumping Test No. 1	Test conducted on: Aug 15 - 17/2000
Lot 5	
Discharge 1.96 U.S.gal/min	
	Pumping test duration: 1440.00 min



Transmissivity [m²/min]: 2.28×10^{-4}

Sabatini Earth Technologies Inc. 6919 32 Avenue N.W. Calgary, AB ph.(403) 247-1813	Pumping test analysis Time-Drawdown plot with discharge	Page 10	
		Project: Robert Foster	
		Evaluated by: KJH	Date: 21.08.2000

Pumping Test No. 1	Test conducted on: Aug 15 -17/2000
Lot 4 - Observation Well	
Discharge 1.00 U.S.gal/min	



Sabatini Earth Technologies Inc. 6919 32 Avenue N.W. Calgary, AB ph.(403) 247-1813	Pumping test analysis Time-Drawdown plot with discharge	Page 11 Project: Robert Foster Evaluated by: KJH | Date: 21.08.2000

Pumping Test No. 1	Test conducted on: Aug 15 -17/2000
Lot 4 - Observation Well	Lot 4 Observation Well
Discharge 1.00 U.S.gal/min	Distance from the pumping well 75.000 m

Static water level: 7.610 m below datum

	Pumping test duration [min]	Water level [m]	Drawdown [m]
1	30.00	7.640	0.030
2	90.00	7.670	0.060
3	105.00	7.680	0.070
4	165.00	7.720	0.110
5	225.00	7.750	0.140
6	285.00	7.780	0.170
7	345.00	7.790	0.180
8	405.00	7.800	0.190
9	465.00	7.830	0.220
10	525.00	7.850	0.240
11	585.00	7.870	0.260
12	645.00	7.890	0.280
13	705.00	7.920	0.310
14	765.00	7.920	0.310
15	825.00	7.930	0.320
16	885.00	7.940	0.330
17	945.00	7.950	0.340
18	1005.00	7.960	0.350
19	1065.00	7.970	0.360
20	1125.00	7.976	0.366
21	1185.00	7.987	0.377
22	1245.00	7.994	0.384
23	1305.00	8.003	0.393
24	1365.00	8.009	0.399
25	1425.00	8.014	0.404
26	1485.00	8.019	0.409
27	1545.00	8.021	0.411
28	1605.00	8.011	0.401
29	1665.00	8.007	0.397
30	1725.00	8.005	0.395
31	1785.00	8.001	0.391
32	1845.00	8.001	0.391
33	1905.00	7.999	0.389
34	1965.00	7.998	0.388
35	2025.00	7.993	0.383
36	2085.00	7.989	0.379
37	2145.00	7.989	0.379
38	2205.00	7.986	0.376
39	2265.00	7.984	0.374
40	2325.00	7.982	0.372
41	2385.00	7.984	0.374
42	2445.00	7.981	0.371
43	2505.00	7.981	0.371
44	2565.00	7.979	0.369
45	2625.00	7.979	0.369
46	2685.00	7.979	0.369
47	2745.00	7.980	0.370
48	2865.00	7.980	0.370

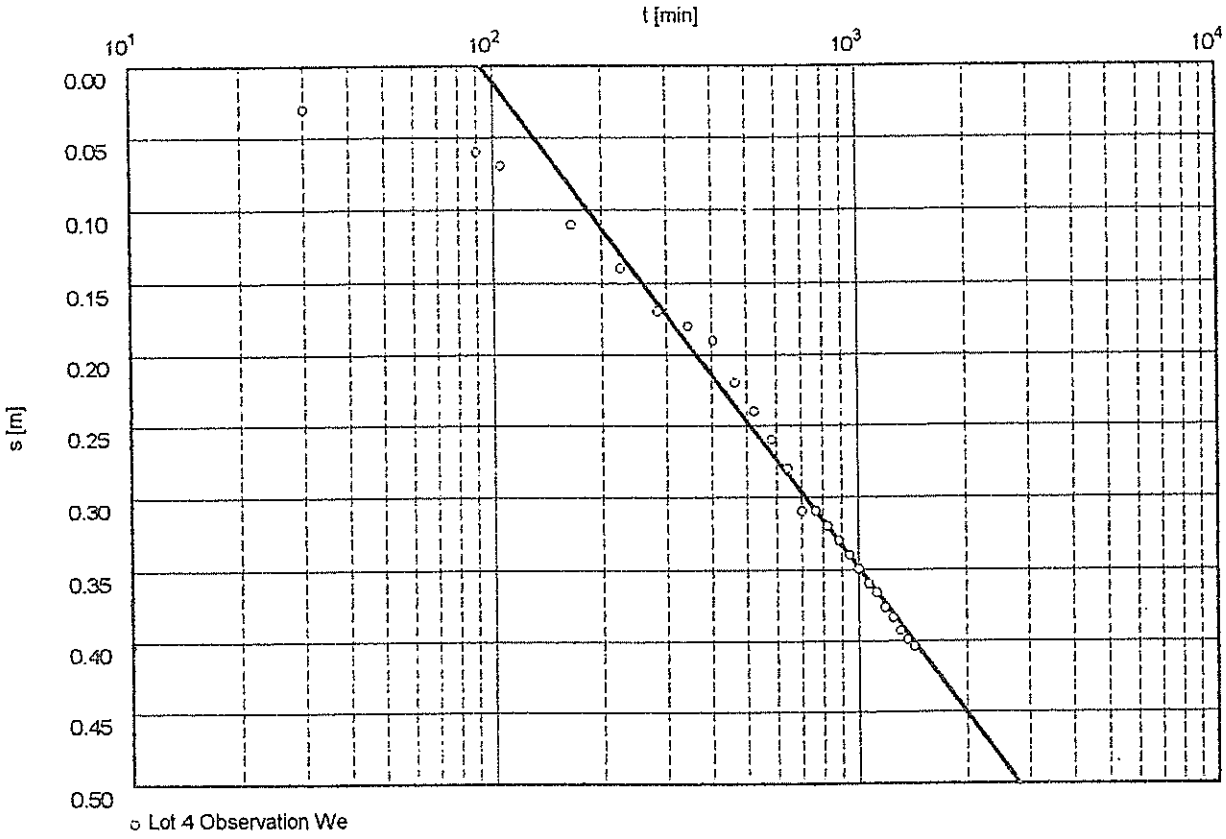
Sabatini Earth Technologies Inc. 6919 32 Avenue N.W. Calgary, AB ph.(403) 247-1813	Pumping test analysis Time-Drawdown plot with discharge	Page 12	
		Project: Robert Foster	
		Evaluated by: KJH	Date: 21.08.2000

Pumping Test No. 1	Test conducted on: Aug 15 -17/2000
Lot 4 - Observation Well	Lot 5 Observation Well
Discharge 1.00 U.S.gal/min	

	Pumping test duration [min]	Discharge [U.S.gal/min]
1	0.00	2.00
2	1440.00	2.00
3	2880.00	0.00

Sabatini Earth Technologies Inc. 6919 32 Avenue N.W. Calgary, AB ph.(403) 247-1813	Pumping test analysis Time-Drawdown-method after COOPER & JACOB Confined aquifer	Page 13	
		Project: Robert Foster	
		Evaluated by: KJH	Date: 21.08.2000

Pumping Test No. 1	Test conducted on: Aug 15 -17/2000
Lot 4 - Observation Well	
Discharge 1.00 U.S.gal/min	

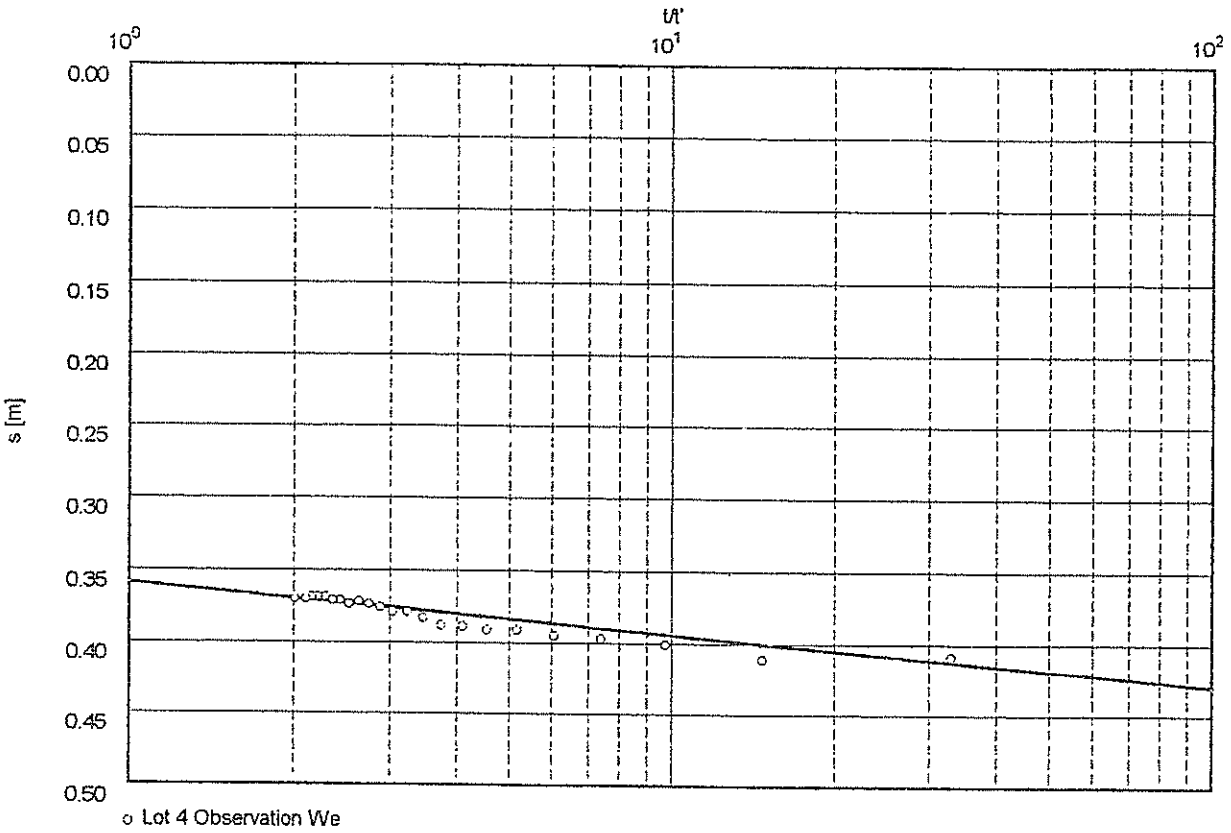


Transmissivity [m²/min]: 2.05×10^{-3}

Storativity: 7.62×10^{-5}

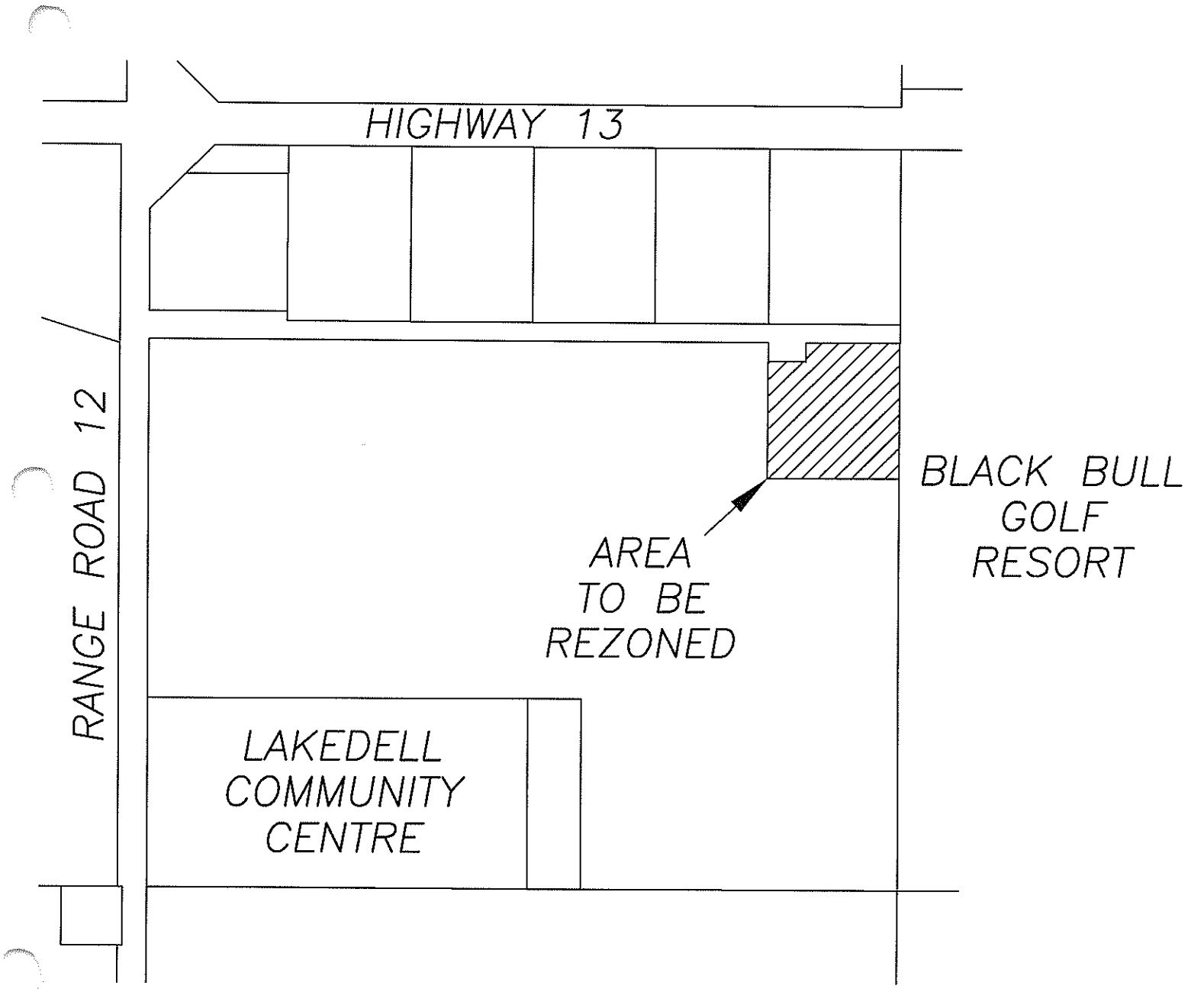
Sabatini Earth Technologies Inc. 6919 32 Avenue N.W. Calgary, AB ph (403) 247-1813	Pumping test analysis Recovery method after THEIS & JACOB Confined aquifer	Page 14	
		Project: Robert Foster	
		Evaluated by: KJH	Date: 21.08.2000

Pumping Test No. 1	Test conducted on: Aug 15 -17/2000
Lot 4 - Observation Well	
Discharge 1.00 U.S.gal/min	
	Pumping test duration: 1440.00 min



Transmissivity [m²/min]: 1.96×10^{-2}

By law # 2006/46
Attached Sketch



Amendments
To
Proposed Area Structure Plan
NW 11-46-01-W5M

Roadway Access: As the creation of lots and further development abutting Range Road 12 will add additional traffic onto the Range Road, the applicant for the Area Structure Plan agrees that further lot development beyond the one lot contemplated in this Area Structure Plan will require a financial contribution of $2000.00 per lot to be paid to the County of Wetaskiwin for improvements to Range Road 12.No contribution is required for the one lot proposed at this time.

Storm Water Management and Drainage: Natural drainage patterns will not be unnecessarily altered so that drainage continues as per current route(s).

NEARBY MUNICIPALITIES:

Only the County of Wetaskiwin is affected by this proposal.

SURROUNDING NEIGHBORS:

The surrounding neighbors are being contacted about the proposed lot. To date, those contacted seemed to be in favor of this.

Amendments
To
Proposed Area Structure Plan
NW 11-46-01-W5M

Roadway Access: As the creation of lots and further development abutting Range Road 12 will add additional traffic onto the Range Road, the applicant for the Area Structure Plan agrees that further lot development beyond the one lot contemplated in this Area Structure Plan will require a financial contribution of $2000.00 per lot to be paid to the County of Wetaskiwin for improvements to Range Road 12.No contribution is required for the one lot proposed at this time.

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