



Groundwater Resources Information Technologies 3.0 Ltd.

July 31, 2026

Attention: Reanne Pohl
Mountain View County Office
1408 Township Road 320
Didsbury, AB T0M 0W0

RE: Addendum Letter to Phase I Groundwater Supply Assessment Report dated September 30th, 2021 (File No. 2021-1776), for Appin Developments subdivision located in NE-24-29-01W5M

At the request of the client, Appin Developments Inc., Groundwater Resources Information Technologies 3.0 Ltd. (GRIT3) is providing this addendum letter to supply information regarding the safe yield rates of additional water wells located near the proposed subdivision Site that were not included in the original Phase I Groundwater Supply Assessment report dated September 30, 2021. Safe yield (Q_{20}) rates for GIC Well ID's 497741, 340368 and 2079105 were supplied in the original Phase I Groundwater report.

Details of one additional well, GIC ID 10141007, are included in this addendum letter. Well 10141007 is located approximately 345 metres west of the west side of NE-24-29-01W5, with the location of the well relative to the Site shown in Figure 1.

Figure 1. Location of Well ID 10141007 relative to subdivision Site

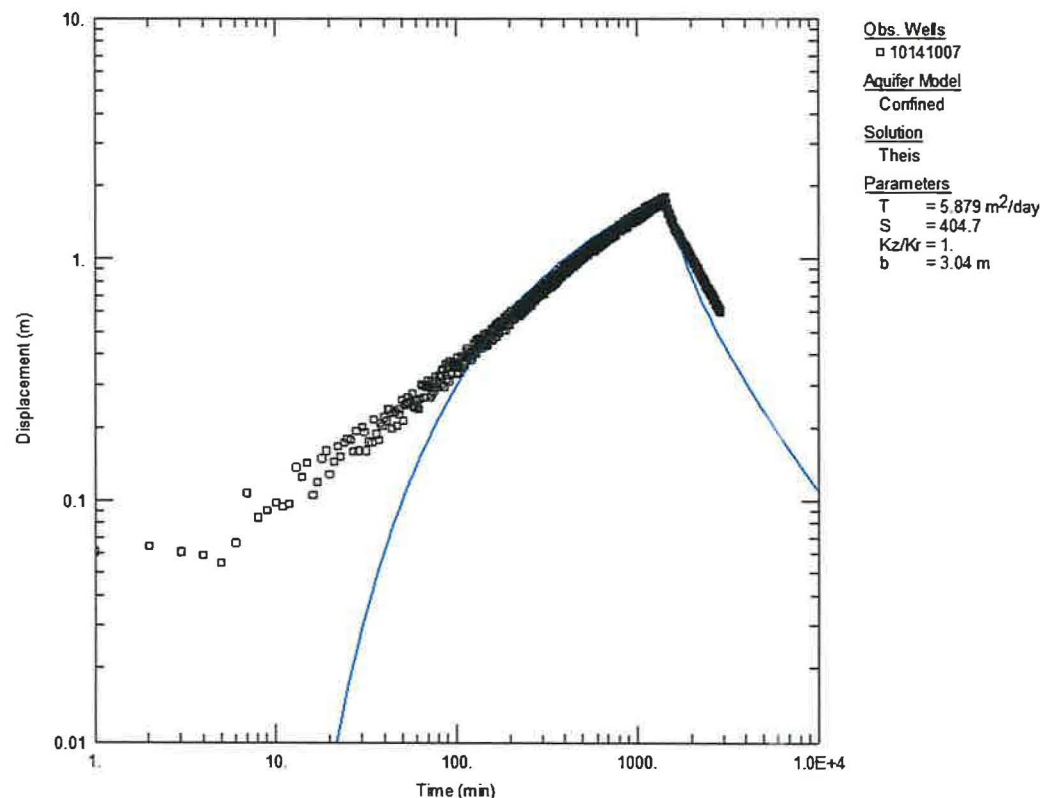




Well ID 10141007 was installed September 29, 2023 and has a proposed use of domestic and stock. The well was drilled to a total depth of 39.0 metres and produces from a sandstone aquifer found 28.4 – 31.4 metres below ground. Data for a 24-hour pumping test completed at a rate of 8 igpm was included on the wells Water Well Drilling Report and was available for analysis. A copy of the Water Well Drilling Report is attached to this letter.

The pumping test was analyzed to determine the long-term safe yield rate of the well and can be used to estimate the productivity of wells installed nearby to similar depths that are assumed to be completed within the same aquifer. The Theis solution curve was matched to the pumping test data in the program AQTESOLV as shown in Figure 2. An aquifer transmissivity, a measure of aquifer permeability, of 5.9 m²/day was determined from the Theis solution fit.

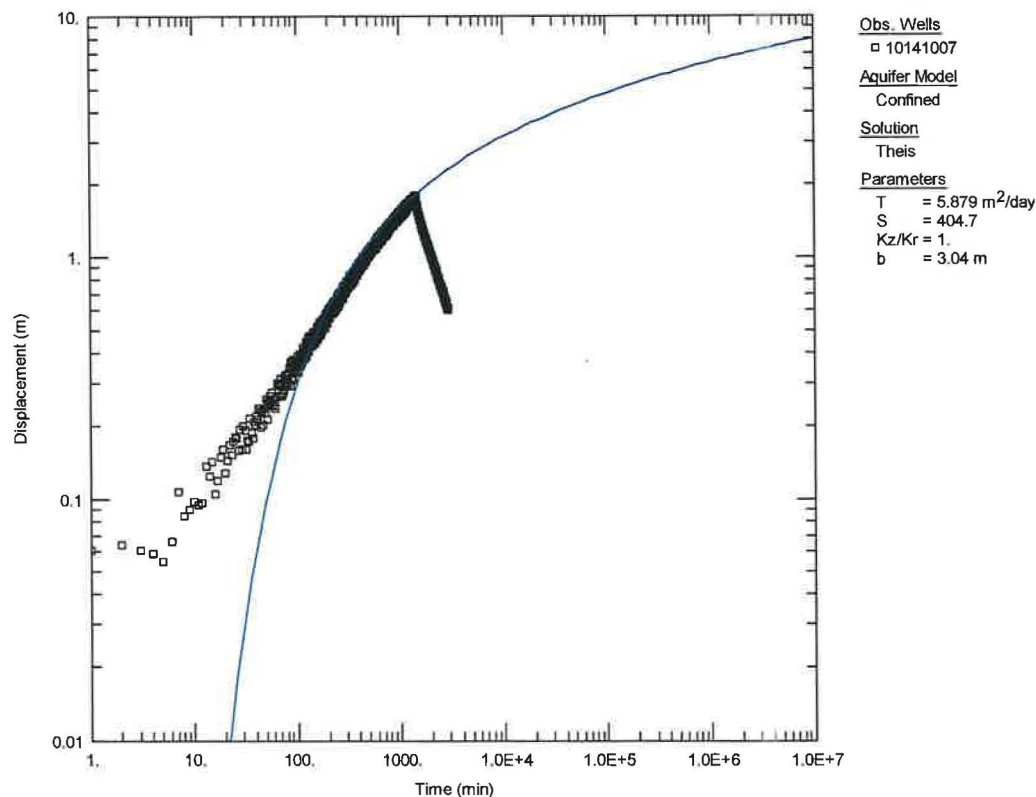
Figure 2. Theis solution curve matched to pumping test data for Well ID 10141007



The Theis solution curve was extrapolated to simulate drawdown in the well after 20 years of pumping at the tested rate of 8 igpm, as shown in Figure 3.



Figure 3. Theis solution extrapolated to 20 years of continuous pumping



The twenty-year safe yield of the supply well (Q_{20}) was calculated using the modified Moell method as suggested in Alberta Environments *Guide to Groundwater Authorization* (February 2023) as follows:

$$Q_{20} = \frac{(0.7 \times Q \times H_a)}{s_{100min} + (s_{20yrs} - s_{100th})}$$

Where:

- Q - Pump test flow rate (52.4 m³/day)
- H_a - Available Head (m) = (Top of Aquifer - (Static Water Level - Well Pickup)
= 28.4 m - (14.17 m - 0.76 m) = 15.0 m
- S_{100 min} - Observed drawdown at 100 minutes (0.39 m)
- (s_{20yrs} - s_{100th}) - Difference between theoretical drawdown at 20 years and 100 min (m)
= (8.08 m - 0.30 m) = 7.78 m
- 0.7 - Safety factor

Substituting the above values into the modified Moell equation results in a 20-year safe yield rate (Q_{20}) of 67.3 m³/day (24,581 m³/year).

Water supplied at this rate would far exceed the typical water needs for commercial/industrial Sites that need to supply water for staff kitchens and washrooms. According to the Alberta Private Sewage Systems Standards of Practice (2021), the listed peak daily wastewater volume per day for Industrial and Commercial Buildings is 0.045 m³/day per employee. An additional



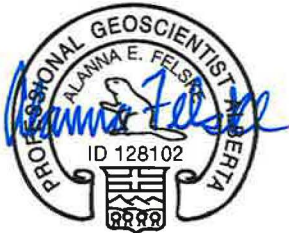
0.009 m³/day per employee is used for kitchen facilities, totaling 0.054 m³/day per employee. At a safe yield rate of 67.3 m³/day, a facility could supply water for 1,246 employees per day.

The lowest safe yield rate included in the existing Phase I Groundwater report is for on Site well GIC Well ID 340368, which has a safe yield rate of 1.1 m³/day. At this rate a facility could supply water for 20 employees per day.

On page 38 of the Mountain View County Municipal Development Plan Bylaw No. 20/20 the first sentence of Section 9.3.11 states in relation to water supply that *"the County may consider servicing solutions, including servicing via trucked in water and trucked out waste (from/to approved municipal facilities)."* As such, servicing the proposed subdivision Site via trucked in water should be considered by the County.

Should you have any questions, please do not hesitate to contact the undersigned.

Best Regards,



07/31/26

Alanna Felske, P.Geo
Hydrogeologist

//Water Well Drilling Report for GIC Well ID 10141007

References

Safety Codes Council. 2021. Alberta Private Sewage Systems Standard of Practice 2021.



Water Well Drilling Report

View in Imperial Export to Excel

The driller supplies the data contained in this report. The Province disclaims responsibility for its accuracy. The information on this report will be retained in a public database.

GIC Well ID 10141007
GoA Well Tag No. A8387
Drilling Company Well ID Kharrat, Fady (1)
Date Report Received 2023/10/16

GOWN ID

Well Identification and Location										Measurement in Metric	
Owner Name		Address			Town		Province		Country	Postal Code	
HOMES BY MARICEL LTD		9 EVANSCREST RISE NW			CALGARY		ALBERTA		CANADA	T3P 0R7	
Location	1/4 or LSD	SEC	TWP	RGE	W of MER	Lot	Block	Pian	Additional Description		
	11	24	29	1	5						
Measured from Boundary of					GPS Coordinates in Decimal Degrees (NAD 83)					Elevation	
_____ m from _____					Latitude 51.498716 Longitude -114.018454					1038.76 m	
_____ m from _____					How Location Obtained					How Elevation Obtained	
					Hand held autonomous GPS 20-30m					Hand held autonomous GPS 20-30m	

Drilling Information		Type of Work
Method of Drilling	Cable Tool	New Well
Proposed Well Use	Domestic & Stock	

Formation Log			Measurement in Metric	
Depth from ground level (m)	Water Bearing	Lithology Description		
0.91		Black Topsoil		
4.57		Brown Clay		
7.01		Brown Clay & Gravel		
25.91		Brown Sand		
26.82		Brown Clay & Gravel		
28.35		Gray Shale		
31.39	Yes	Dark Gray Sandstone		
39.01		Gray Shale		

Yield Test Summary			Measurement in Metric	
Recommended Pump Rate 68.19 L/min				
Test Date	Water Removal Rate (L/min)	Static Water Level (m)		
2023/10/11	36.37	14.17		

Well Completion				Measurement in Metric	
Total Depth Drilled	Finished Well Depth	Start Date	End Date		
39.01 m	39.01 m	2023/09/29	2023/10/13		
Borehole					
Diameter (cm)	From (m)	To (m)			
25.40	0.00	5.49			
20.32	5.49	28.13			
15.24	28.13	39.01			
Surface Casing (if applicable)			Well Casing/Liner		
Steel	Size OD : 17.78 cm	Wall Thickness : 0.650 cm	Plastic	Size OD : 11.43 cm	Wall Thickness : 0.635 cm
	Bottom at : 28.13 m			Top at : 20.73 m	Bottom at : 39.01 m
Perforations					
From (m)	To (m)	Diameter or Slot Width (cm)	Slot Length (cm)	Hole or Slot Interval (cm)	
28.35	31.70	0.953		15.24	
Perforated by Drill					
Annular Seal Bentonite Slurry					
Placed from 0.00 m to 28.13 m					
Amount 225.00 Gallons					
Other Seals					
Type					At (m)
Drive Shoe					28.13
K-Packer					28.29
Screen Type					
Size OD : _____ cm					
From (m)	To (m)	Slot Size (cm)			
Attachment _____					
Top Fittings _____			Bottom Fittings _____		
Pack					
Type _____	Grain Size _____				
Amount _____					

Contractor Certification		Certification No
Name of Journeyman responsible for drilling/construction of well		57644A
LYNDON STINSON		
Company Name		Copy of Well report provided to owner
EVOLUTION DRILLING LTD.		Yes
		Date approval holder signed
		2023/10/16



Water Well Drilling Report

View in Imperial Export to Excel

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Well Identification and Location										Measurement in Metric	
Owner Name		Address			Town		Province		Country	Postal Code	
HOMES BY MARICEL LTD		9 EVANSCREST RISE NW			CALGARY		ALBERTA		CANADA	T3P 0R7	
Location	1/4 or LSD	SEC	TWP	RGE	W of MER	Lot	Block	Plan	Additional Description		
	11	24	29	1	5						
Measured from Boundary of					GPS Coordinates in Decimal Degrees (NAD 83)						
m from					Latitude 51.498716 Longitude -114.018454					Elevation 1038.76 m	
m from					How Location Obtained					How Elevation Obtained	
					Hand held autonomous GPS 20-30m					Hand held autonomous GPS 20-30m	

Additional Information										Measurement in Metric
Distance From Top of Casing to Ground Level 76.20 cm										
Is Artesian Flow										Is Flow Control Installed
Rate L/min										Describe
Recommended Pump Rate 68.19 L/min										Pump Installed
Recommended Pump Intake Depth (From TOC) 27.43 m										Depth m
										Type Make H.P. Model (Output Rating)
Did you Encounter Saline Water (>4000 ppm TDS)										Depth m
Gas										Depth m
Remedial Action Taken										Well Disinfected Upon Completion Yes
										Geophysical Log Taken Submitted to ESRD
Additional Comments on Well										Sample Collected for Potability Yes Submitted to ESRD
TOP OF LINER FEMALE 8 ROUND THREAD. ADDED PROPOSED WELL USE AT REQUEST OF DRILLER 2023-11-14.										

Yield Test			Taken From Ground Level	Measurement in Metric
Test Date	Start Time	Static Water Level	Depth to water level	
2023/10/11	3:10 PM	14.17 m		
			Pumping (m)	Elapsed Time
				Minutes:Sec
			14.17	0:00
			14.57	120:00
			Recovery (m)	
			14.57	
			14.17	
Method of Water Removal				
Type Pump				
Removal Rate 36.37 L/min				
Depth Withdrawn From 27.43 m				
If water removal period was < 2 hours, explain why				
Q20 24X24 HOUR PUMP TEST UPLOADED				

Water Diverted for Drilling		
Water Source	Amount Taken	Diversion Date & Time
CARSTAIRS BULK WATER STATION	4546.09 L	2023/09/29 9:00 AM

Contractor Certification	
Name of Journeyman responsible for drilling/construction of well	Certification No
LYNDON STINSON	57644A
Company Name	Copy of Well report provided to owner
EVOLUTION DRILLING LTD.	Yes
	Date approval holder signed
	2023/10/16