



Groundwater Monitoring Report



Project Name: BCMY Ltd, Littlehampton

Location: 1 Fort Road, Littlehampton, West
Sussex BN17 7QU

Client: Midbrook Enterprises Ltd.

Project ID: JT0649

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For and on behalf of Southern Testing Laboratories Limited

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A INTRODUCTION

1 Authority

Our authority for carrying out this work is contained in our ST Consult Project Order Form for quote referenced Q25-1152-2 completed by BCM Ltd and dated 2nd October 2025.

2 Location

The site is located on the western outskirts of the Littlehampton in West Sussex, approximately 1.0km north-west of the town centre. The approximate National Grid Reference of the site is TQ 02080 02680. The site location is indicated on Figure 1 within Appendix A.

3 Investigation Brief

In accordance with the Client's instructions, and our quotation, the following was included in our brief for this groundwater monitoring investigation:

- 1 no windowless sampling borehole advanced to 5m bgl with the installation of a 50mm PE groundwater monitoring well.
- 6 no post-fieldwork, spot monthly groundwater monitoring visits from Autumn 2025 to Spring 2026.
- Installation of a submersible groundwater data-logger including baro-logger for continuous monitoring.

4 Scope

This report presents our findings, exploratory hole logs and results of our continuous groundwater monitoring.

The investigation was conducted and this report has been prepared for the sole internal use and reliance of Midbrook Enterprises Ltd. and their appointed Engineers. This report shall not be relied upon or transferred to any other parties without the express written authorisation of Southern Testing Laboratories Ltd. If an unauthorised third party comes into possession of this report they rely on it at their peril and the authors owe them no duty of care and skill.

The recommendations contained in this report are made in respect of the particular context of the investigation as described in the report and may not be appropriate to alternative development schemes.

This report should be considered in its entirety and Southern Testing Laboratories Ltd. accepts no responsibility for and excludes liability in respect of any omission or alteration made by others, and any use of the report for any purpose other than that for which it was produced.

B SITE SETTING

5 Geology

The British Geological Survey Map covering the site indicates that the site geology consists of Raised Beach Deposits over the White Chalk Subgroup.

5.1 Raised Beach Deposits

The Raised Beach Deposits comprise fine uniform silty sands with some gravel, which rest on a platform that falls from about +15 m AOD, to present sea level, over a distance of up to 15 km. They lie beneath a superficial cover of brickearth or Coombe deposits. As the deposits are up to about 5 m thick, the ground level at the inland margin is about +20 m AOD, and a slight change in slope can sometimes be detected at this point. There is a former cliff at the margin, usually in soft Tertiary clays which have been highly degraded but which may have been up to 10 to 12 m high. Highly variable soil conditions must be anticipated in the region of the ancient cliffs.

The beaches were formed in a complex marine transgression which is traditionally considered to belong to the Ipswichian Interglacial (about 80,000 years ago) and there are also deep local cryoturbation and solution features.

5.2 White Chalk Subgroup (Undifferentiated)

The undifferentiated deposits of the White Chalk Subgroup typically comprise white blocky, or sponge-rich nodular chalk with flint seams and discrete marl seams.

The White Chalk outcrop in particular is frequently highly fractured and highly permeable, and usually has good infiltration characteristics. On the other hand, Chalk Head, highly weathered Chalk and Chalk under a low permeability superficial cover may have very poor infiltration characteristics.

Chalk is slightly soluble in water and, while it has excellent bearing properties when unweathered, this solubility can lead to deep weathering and softening, and the upper layers of chalk often have an irregular boundary with overlying strata.

The Chalk may be softened by solution to a depth of 5 to 15 metres and bearing capacities and engineering properties improve with depth. Where there is an outcrop of impermeable soil overlying the chalk there may be a dramatically increased solution effect due to concentrated surface water flow to the Chalk close to the outcrop boundary.

Solution features are common in the Chalk, and these can present significant difficulties to development on affected sites.

6 Site Description

The site is a broadly rectangular plot of land occupied by a factory building.

Construction works to extend the existing car park to the south-east is currently in progress.

The site is bound on all sides by adjacent commercial/industrial usage, with the exception of Fort Road to the north-east.

Access to the site is from the north-east, off Fort Road.

C FIELDWORK

7 Strategy and Method

The strategy adopted for the intrusive investigation comprised the following:

Activity / Method	Purpose	Max Depth Range (mbgl)	Installations / Notes
WLS01 Windowless Sampling	Borehole advanced to depth to characterise soil conditions and groundwater regime beneath the site.	5.45	Installed with 50mm monitoring pipework (response zone 1m-5m bgl)

Exploratory hole locations were specified by the Client and are shown in Figure 2 in Appendix A.

In-situ test and sampling methods descriptions employed are given in Appendix B together with the test results.

8 Weather Conditions

The fieldwork was carried out on 9th October 2025, at which time the weather was generally clear, dry and temperate.

9 Soils as Found

The soils encountered are described in detail in the attached exploratory hole logs (Appendix A), but in general comprised a covering of Made Ground over Raised Beach Deposits over the White Chalk Subgroup. A summary is given below.

Max Depth (m bgl)	Thickness (m)	Soil Type	Description
0.6	0.6	MADE GROUND	Loose (estimated) brown clayey gravelly fine to coarse SAND. Gravel consists of fine to coarse subrounded to angular concrete brick and flint.
2.05	1.45	RAISED BEACH DEPOSITS	Firm becoming very stiff light brown very sandy gravelly CLAY. Gravel consists of fine to coarse subrounded to angular flint.
>5.45+*	3.4+	WHITE CHALK SUBGROUP	Structureless CHALK composed of white and light orangish brown very gravelly clayey SILT. Gravel consists of fine to coarse subrounded to angular weak chalk.

(*) Depth of stratum not proven.

The soils encountered on site are generally in accordance with those anticipated.

10 Groundwater Observations

Groundwater was observed in exploratory hole WLS01 during the drilling of the borehole, as below.

Hole ID	Water Strike Depth (m bgl) ^[date]	Comment	Stratum
WLS01	3.32 [09/10/2025]	Water level at rose to 3.24m bgl upon completion of drilling.	White Chalk Subgroup

D GROUNDWATER MONITORING

11 Monitoring Results

Automatic dataloggers were installed in the borehole and programmed to monitor the groundwater level on an hourly basis for a period of six months (9th October 2025 to 5th March 2026). A monitoring visit was carried out on a monthly basis to download the data and to also manually obtain groundwater readings from the well using a dip meter.

A summary of the monitoring data is presented in the table below and a plot showing the variation in groundwater levels over the six months period is included in Figure 3 in Appendix C.

Borehole	Borehole Installation Depth (m bgl)	Date	Groundwater Level Range (m bgl)
WLS01	5.0	09 – 31 October 2025	3.326 to 2.978
		01 – 30 November 2025	3.11 to 2.939
		01 – 31 December 2025	3.017 to 2.609
		01 – 31 January 2026	2.999 to 2.428
		01 – 28 February 2026	2.648-2.247
		01 – 05 March 2026	2.725 to 2.648

Between early October 2025 to early to mid-February 2026 groundwater levels were found to be generally increasing (with some fluctuations noted during this period) and with a period of gentle regression during December 2025. During early spring 2026 groundwater levels were shown to be decreasing generally towards the end of the monitoring period

The highest groundwater level was recorded during the month of February 2026 at 2.247m bgl.

REFERENCES

- [1] BSI Standards, "BS 5930 Code of practice for ground investigations," 2015.
- [2] BSI Standards, "BS 3882:2015 Specification for Topsoil," 2015.
- [3] CIRIA, "C574 Engineering in Chalk," 2002.
- [4] R. N. Mortimore, Logging the Chalk, 2014.



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APPENDIX A

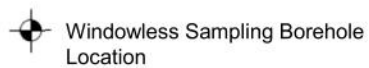
Site Plans and Exploratory Hole Logs





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Site:	BCMY Ltd, 1 Fort Road, Littlehampton, West Sussex BN17 7QU	Project ID	JT0649
Figure 1	Site Location Plan	Date:	16/03/2026



NB: Positions of exploratory holes / test positions are only indicative unless dimensioned.

Site:	BCMY Ltd, 1 Fort Road, Littlehampton, West Sussex BN17 7QU	Project ID	JT0649
Figure 2	Exploratory Hole Location Plan	Date:	16/03/2026

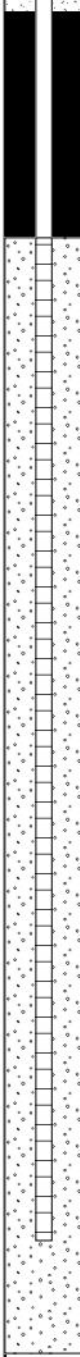
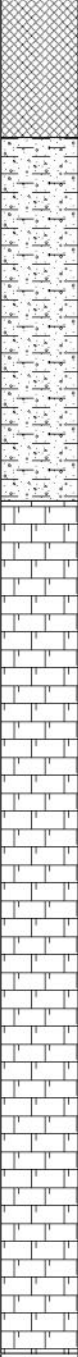
Key to Exploratory Hole Logs, Plans and Sections

Backfill Symbols	Pipe Symbols	Principal Soil Types	Principal Rock Types	Drilling Records
Arisings	Plain Pipe	Topsoil	Mudstone	Water Strike
Concrete	Slotted Pipe	Made Ground	Claystone	Depth Water Rose
Blacktop	Piezometer	Clay	Siltstone	Total Core Recovery (%) [TCR]
Bentonite	Piezometer Tip	Silt	Sandstone	Solid Core Recovery (%) [SCR]
Gravel Filter	Filter Tip	Sand	Limestone	Rock Quality Index (%) RQD]
Sand Filter	Extensometer	Gravel	Chalk	Fracture Index (fractures / m) [FI]
	Inclinometers	Peat		

All soil and rock descriptions are in general accordance with BS5930 2015, BS EN ISO 14688-1:2002+A1:2013 and BS EN ISO 14689-1:2003. Chalk descriptions are also based on CIRIA C574 and "Logging the Chalk – R.N. Mortimer 2015". The Geology Code is only provided where a positive identification of the sample strata has been made.

Location / Method Identifiers		In-situ Test Location / Method	
BH	Borehole (undefined)	DP	Dynamic Probe
CP	Cable Percussive	CPT	Cone Penetration Test
RC	Rotary Core	CBR	In-situ CBR Test
RO	Rotary Open Hole	DCP	CBR using Dynamic Cone Penetrometer
ODC	Rotary Odex/Symmetrix drilling cased	CBRT	CBR using TRL Probe
CP+RC	Cable Percussive to Rotary Core	PB	Plate Bearing Test
SNC	Sonic	SPT (S)	Standard Penetration Test (Split Barrel Sampler)
CFA	Continuous Flight Auger	SPT (C)	Standard Penetration Test (Solid Cone)
FA	Flight Auger	N	SPT Result
VC	Vibro Core	-/-	Blows/Penetration (mm) after seating drive
WLS+RC	Windowless (Dynamic) Sampler to Rotary Core	-*/-	Total Blows / Penetration (mm)
WLS	Windowless Sampler	()	Extrapolated Value
WS	Window Sampler	PPT	Perth Penetration (In-House Method - Equivalent N Value)
HA	Hand Auger	HP / UCS	Strength from Hand Penetrometer (kN/m ²)
C	Road / Pavement Core	IVN	Strength from Hand Vane ((kN/m ²) P = peak, R = residual
IP	Inspection Pit (Hand Excavation)	PID	Photo Ionisation Detector (ppm)
TP	Trial Pit (Machine Excavated)	MEXE	Mexi-Cone CBR (%)
OP	Observation Pit (Supported Excavation Hand or Machine)		

Samples / Test Type		Samples / Test Type	
B	Bulk Sample	SPTLS	Standard Penetration Test Split Barrel Sample
BLK	Block Sample	TW	Thin Wall Push In Sample (e.g. Shelby Sampler)
C	Core Sample	U	Undisturbed Open Drive Sample (blows to take)
CBRS	CBR Mould Sample	UT	Thin Wall Undisturbed Open Drive Sample (blows to take)
D	Small Disturbed Sample	W	Water Sample (Geotechnical)
ES	Environmental Sample (Soil)	SP	Sample from Stockpile
EW	Environmental Sample (Water)	P	Piston Sample
GS	Environmental Sample (Gas)	AMAL	Amalgamated Sample

 www.southerntesting.co.uk tel:01342 333100 www.stconsult.co.uk tel:01604 500020				Start - End Date		Project ID:		Hole Type:		WLS01			
				09/10/2025		JT0649		WLS		Sheet 1 of 1			
Project Name: Fort Road, Littlehampton				Remarks:		Co-ordinates: 502082E - 102682N		Level:		Logger: CJB			
Location: 1 Fort Road, Littlehampton, West Sussex, BN17 7QU				1) National Grid Reference inferred from Ordnance Survey mapping. 2) Elevation not stated. 3) Groundwater encountered at 3.32m bgl and remained constant after 20 minutes, rising to 3.24m bgl upon completion of drilling. 4) Groundwater not sealed out. 5) Exploratory hole installed with 50mm PE monitoring pipe upon completion.									
Client: Midbrook Enterprises Ltd.													
Well 	Water Strikes 	Samples and Insitu Testing			Level (m AOD)	Thickness (m) (0.60) (1.45) (3.40)	Legend 	Depth (m bgl) 0.60 2.05 5.45	Stratum Description			1 2 3 4 5 6	
		Depth (m bgl)	Type	Results					MADE GROUND comprising: Loose (estimated) brown clayey gravelly fine to coarse SAND. Gravel consists of fine to coarse subrounded to angular concrete brick and flint. [MADE GROUND] at 0.3m bgl rounded flint cobble encountered.				
		0.70	HP	UCS(kPa)=100					Firm becoming very stiff light brown very sandy gravelly CLAY. Gravel consists of fine to coarse subrounded to angular flint. [RAISED BEACH DEPOSITS]				
		1.00	D HP SPT(S)	UCS(kPa)=450 N=9 (1,2/2,2,2,3)					between 1.2m and 1.5m bgl rare subrounded flint cobble encountered.				
		1.90 2.00	HP D SPT(S)	UCS(kPa)=380 N=6 (1,1/2,2,1,1)					Structureless CHALK composed of: White and light orangish brown very gravelly clayey SILT. Gravel consists of fine to coarse subrounded to angular weak chalk. [WHITE CHALK SUBGROUP]				
		3.00	D SPT(S)	N=3 (1,1/0,1,1,1)					below 3.2m bgl tending toward greyish white with rare light orangish brown staining.				
		4.00	D SPT(S)	N=3 (1,1/0,1,1,1)					at 3.7m bgl subangular nodular flint cobble encountered.				
									below 4.0m bgl gravel is fine to medium.				
		5.00	D SPT(S)	N=9 (1,1/1,1,3,4)					below 4.7m bgl becoming greyish white.				
									End of Borehole at 5.45m				
Hole Details		Casing Details		Waterstrike (m bgl)					Standing/Chiselling (m bgl)				
Depth (m bgl)	Dia. (mm)	Depth (m bgl)	Dia. (mm)	Date	Depth Strike	Depth Casing	Depth Sealed	Rose to:	Time (mins)	From	To	Time	Remarks
5.00	86	5.00	101		3.32			3.24	146				



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APPENDIX B

Field Sampling and In-Situ
Test Methods and Results



B

Soil and Rock Descriptions

All soil and rock descriptions are in general accordance with BS5930 Ref [1].

Anthropogenic soils ('made ground' or 'fill') describe materials which have been placed by man and can be divided into those composed of reworked natural soils and those composed of or containing man-made materials. 'Fill' is used to describe material placed in a controlled manner and 'made ground' is used to describe materials placed without strict engineering control.

The classification of materials such as topsoil is based on visual description only and should not be interpreted to mean that the material complies with criteria used in BS 3882 Ref [2].

Chalk descriptions are based on CIRIA C574 Ref [3] and Mortimore Ref [4].

The geology code is only provided on logs where a positive identification of the sample strata has been made.

Inspection Pit

Inspection pits are hand excavated from the surface (maximum depth 1.2 – 1.5m) using appropriate tools to locate and avoid existing buried services at exploratory hole positions. They are also regularly used as part of investigations on existing structures to expose and determine foundation detail.

Monitoring Well

A groundwater and/or ground gas monitoring well consists of a perforated pipe, which is installed in the ground. The standpipe is typically 50mm nominal in diameter and is installed in a lined borehole. It is perforated from the base with a sand/gravel surround through the soil horizon of interest to an appropriate depth below ground level. Above this there is a bentonite seal with solid pipework and is provided with an end cap or a gas valve at the top as appropriate.

Gas monitoring is carried out via the gas tap. Water sampling/purging can be undertaken by removing the gas tap and bung.

The well is usually completed at the surface with a flush cast iron cover or raised lockable cover.

Groundwater Monitoring – Dip Meter

The dip meter is used to measure standing water levels within boreholes. The probe is lowered into the borehole until the meter detects the groundwater with an audible 'beep'. The level is then read from the tape.

Groundwater Monitoring – Digital Level Loggers

Digital loggers placed within borehole standpipes measuring water pressure, barometric pressure and temperature were used to record data over the monitoring period. The data was processed, using proprietary software, to determine temperature and barometric pressure compensated water levels.

The equipment can record parameters at pre-determined time intervals and has a capacity of many thousands of readings and is therefore suitable for monitoring over extended periods of time.

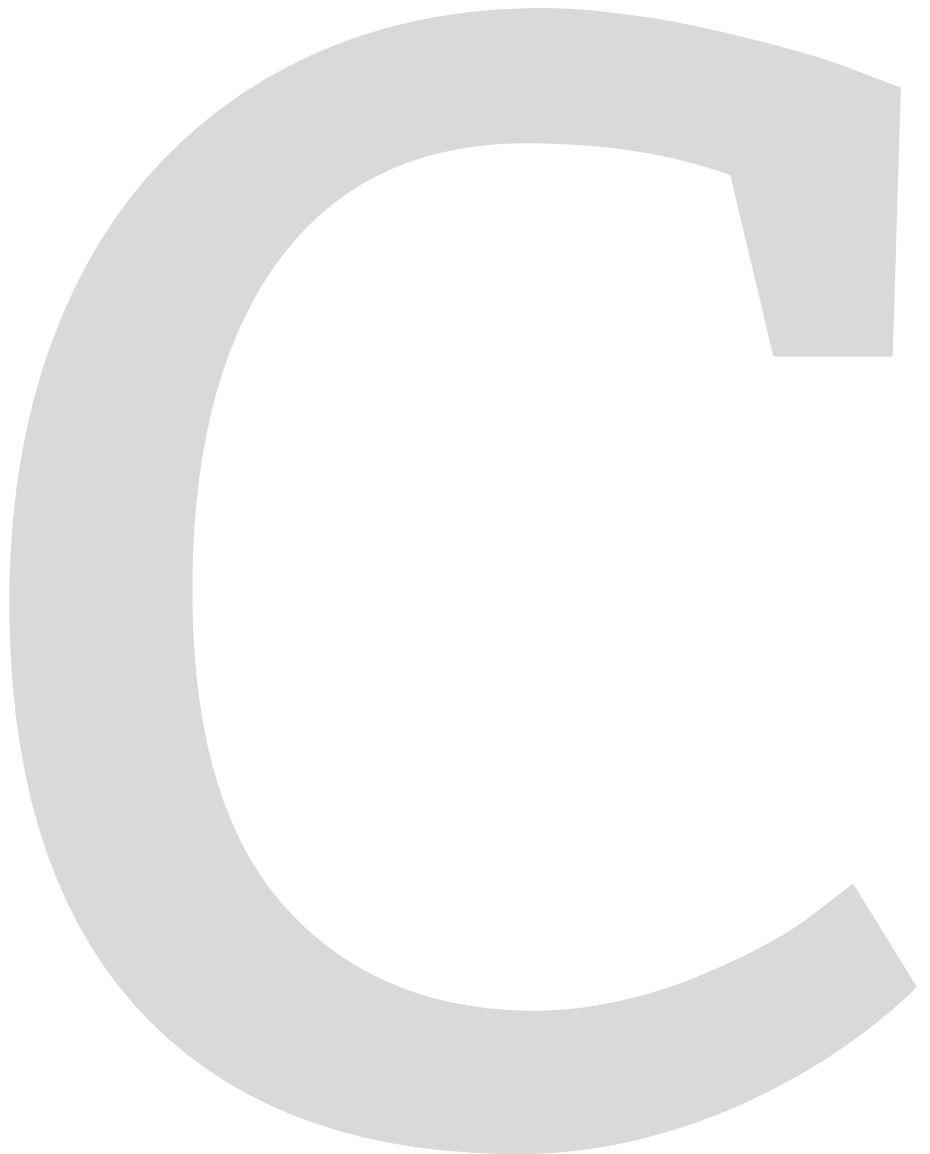


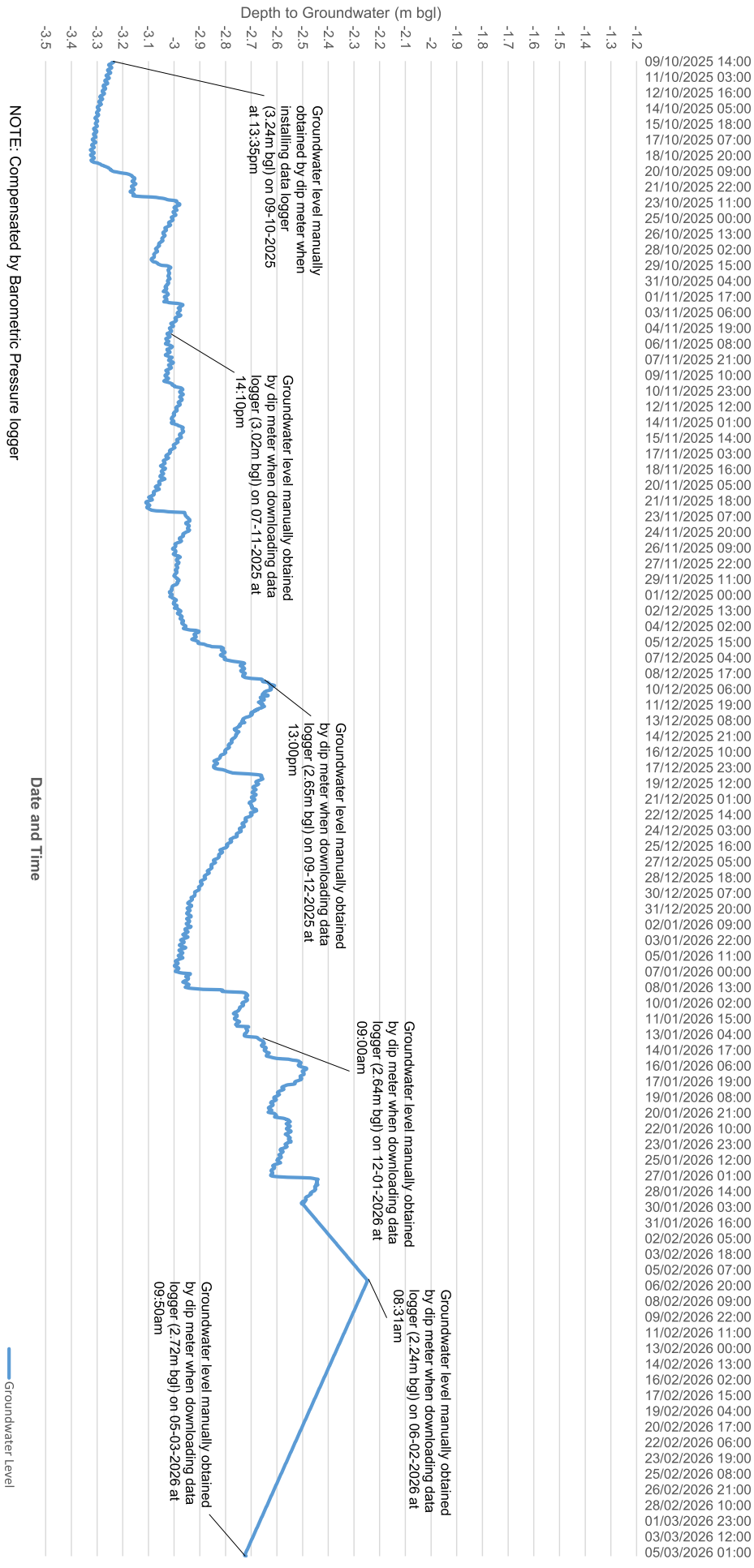
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APPENDIX C

Groundwater Monitoring Results







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