APPENDIX 4-6

MOOR PRELIMINARY DESIGN REPORT

PRELIMINARY DESIGN REPORT

MAYNOOTH OUTER ORBITAL ROAD

Sky Castle Ltd
S665
29 August 2022

OCSC
O'CONNOR | SUTTON | CRONIN
Multidisciplinary
Consulting Engineers

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NOTICE

DOCUMENT CONTROL & HISTORY

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1 INTRODUCTION & DESCRIPTION

APPOINTMENT

O'Connor Sutton Cronin & Associates (OCSC) have been appointed by Sky Castle Ltd to carry out the design of the civil engineering services associated with the development of the proposed Maynooth Outer Orbital Road (MOOR) on lands at Moygaddy, Co. Meath, which is located northeast of the town of Maynooth, Co. Kildare.

SETTING

Maynooth environs is a large growth area, category II Town status located in south County Meath, and is an economically vibrant area with high-quality transport links to larger towns/cities. The Meath Development Plan 2021-2027 outlines the social, economic, and planning context for the Maynooth environ lands, setting the framework for the plan's policies and objectives. It has a core strategic vision that seeks to ensure that future growth is based on principles of sustainable development that meet the needs of residents per National and Regional guidelines. The environs of Maynooth is a Core Economic Area included in the Gateway Core Economic Area located on the M4 corridor. The wider Maynooth Environs Lands proposed land-use zoning includes A2 – New Residential, E1 – Strategic Employment Zones, G1 – Community Infrastructure, D1 – Tourism and H1 – High Amenity.

The delivery of the Maynooth Outer Orbital Route (MOOR) is critical to facilitating residential, high-end employment, tourist, and leisure development in the Maynooth environ lands and fulfilling the transport infrastructure needs in proximity to Maynooth University and Maynooth town.

ADMINISTRATIVE JURISDICTION

The proposed development is located primarily in the jurisdiction of Meath County Council (MCC), and therefore the Maynooth Outer Orbital Route design and the associated civil engineering services were carried out with reference to the following:

- Meath County Development Plan 2021-2027;
- Maynooth Environs Local Area Plan 2014 (incorporated into adopted MCDP);
- Regional Spatial and Economic Strategy for the Eastern and Midland Region (2019);

Even though Maynooth Environs is situated in the Meath County Council administrative area, the Maynooth Environs Local Area Plan contains an objective to liaise with Kildare County Council in the identification, design, reservation and delivery of the section of the Maynooth Outer Relief Road located within the administrative area of Meath County Council. The administrative area of Kildare County Council is located immediately adjacent to the LAP environs lands and some infrastructure improvements will be located within the Kildare County Council (KCC) administrative area. Therefore, the design will also be conducted with due regard to:

- Maynooth LAP
- Kildare County Development Plan
- Maynooth Traffic Management Plan

PURPOSE OF THE DESIGN REPORT

This report sets out to:

1. Coalate all of the work done to date and in particular the preliminary design of the Maynooth Outer Orbital Road
2. Validate the need for the scheme
3. Examine the implications and impacts of the scheme
4. Ensure that appropriate design standards will be applied.

STUDY AREA

The subject site is located on the southernmost extent of County Meath, as shown in Figure 1, aligning with the county boundary to Co. Kildare. It is approximately 1.5km north of the town of Maynooth, Co. Kildare, which forms part of a larger strategic landbank on zoned lands known as Maynooth Environs. The site is immediately bound by:

- R157 Maynooth – Dunboyne Road, to the east;
- Agricultural lands, to the north and west; and
- River Rye Water, to the south;

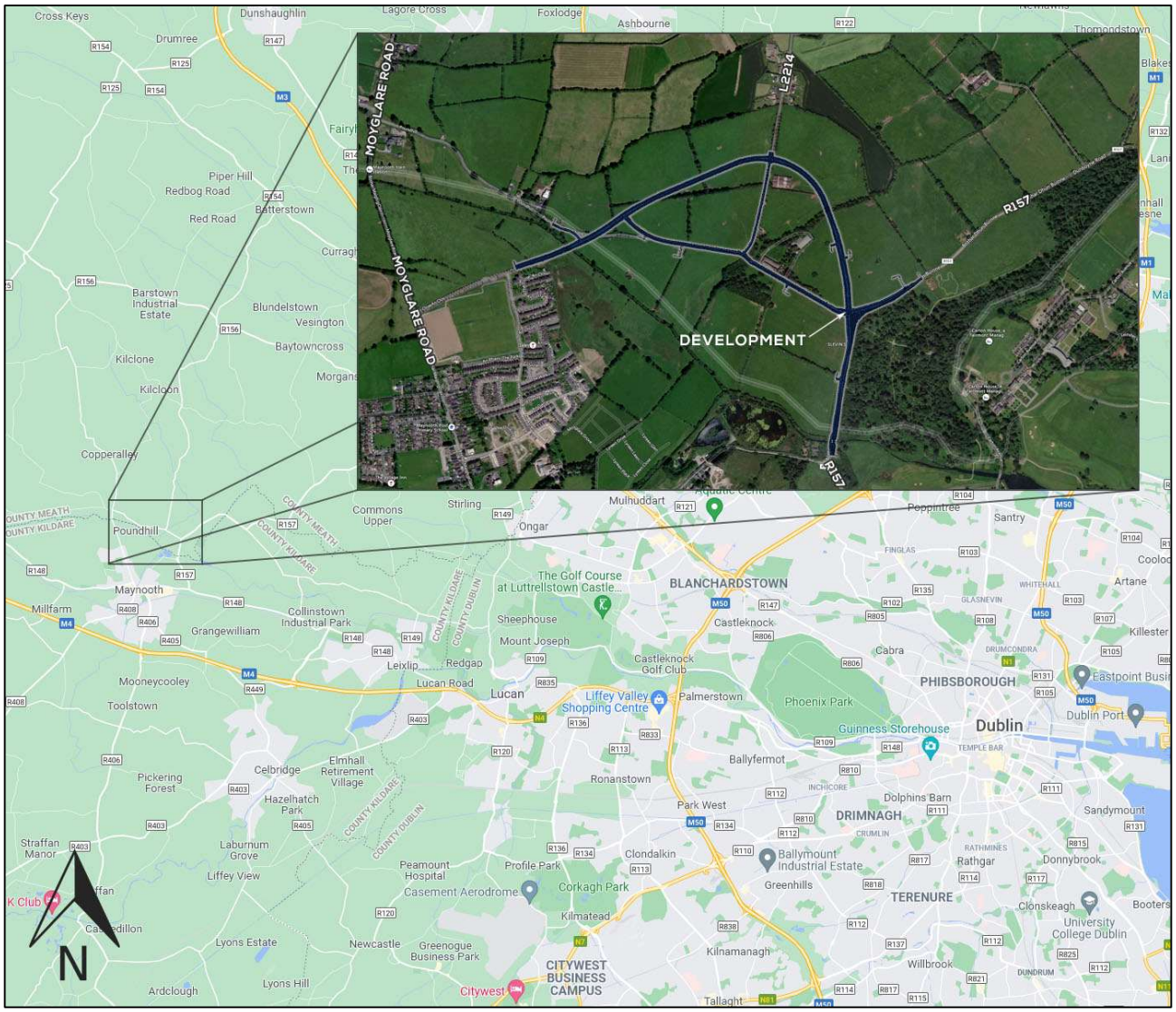


Figure 1: Development Locality Plan

The above image highlights the location of the overall road area and there are small areas of incidental works outside of that for elements such as attenuation facilities, demolition of existing roads, etc.

EXISTING SITE OVERVIEW

The overall total site area is **c.95.7-hectares** and is zoned by Meath County Council for various uses including employment and residential.

The site is currently greenfield and used for agricultural purposes, and can be accessed from the L6219, L2214 and R157 roads that bisect the site.

Ground levels across the site typically fall gently across the site, with a sharp decline at the southern boundary and in the centre of the site, both locations bound the River Rye Water and Blackhall Little Stream respectively.

DEVELOPMENT DESCRIPTION

Planning Permission is sought by Sky Castle Ltd. for the development of the Maynooth Outer Orbital Road (MOOR) in the townland of Moygaddy, Maynooth Environs, Co. Meath.

The proposed road development will consist of the following:

1. Provision of approximately 1,700m of new distributor road (MOOR Arc) comprising of 7.0m carriageway with turning lane where required, footpaths, cycle tracks and grass verges. All associated utilities and public lighting including storm water drainage with SuDS treatment and attenuation.
2. Proposed road improvement and realignment works including:
   (i) realignment of a section of the existing L6219 local road, which will entail the demolition of an existing section of the road which extends to circa 2,500 sqm.
   (ii) Provision of pedestrian and cycle improvement measures along the L6219 and L22143 which abuts the boundary of Moygaddy House which is a Protected Structure (RPS ref 91558).
   (iii) Provision of pedestrian and cycle improvement measures along the R157 which abuts the Carton Demense Wall which is a Protected Structure (RPS Ref 91556).
   (iv) Realignment of a section of the existing L22143 local road and R157, which will entail the demolition of an existing section of the road which extends to circa 3,200 sqm.

(v) Provision of a new signalised junction at the realigned junction between the L22143 and R157.

(vi) Provision of a new signalised junction between the L2214 local road and the MOOR with right-turn lanes on approaches.

(vii) Reconfiguration of the L2214 section within the MOOR arc to a one-way from north to south with right-turn lanes, where applicable.

(viii) Reconfiguration of the northbound lane of the L2214 within the arc to a shared facility for use by pedestrians and cyclists.

(ix) Addition of chicanes on the L6219 and L22143 local road to reduce traffic flow and encourage utilisation of the MOOR.

3. Provision of 4 no. bridge structures comprising:
   (i) an integral single span bridge at Moyglare Hall over the River Rye Water to connect with existing road infrastructure in County Kildare and associated floodplain works and embankments.
   (ii) a new pedestrian and cyclist bridge at Kildare Bridge which will link the proposed site with the existing road network in County Kildare.
   (iii) a new pedestrian and cycle bridge across Blackhall Little Stream on the L22143 adjacent to the existing unnamed bridge.
   (iv) an integral single span bridge on the north-eastern section of the MOOR arc, over the Blackhall Little Stream, and associated floodplain works and embankments.
4. Provision of site landscaping, public lighting, site services and all associated site development works.
5. A Natura Impact Statement (NIS) and Environmental Impact Assessment Report (EIAR) has been included with this application.

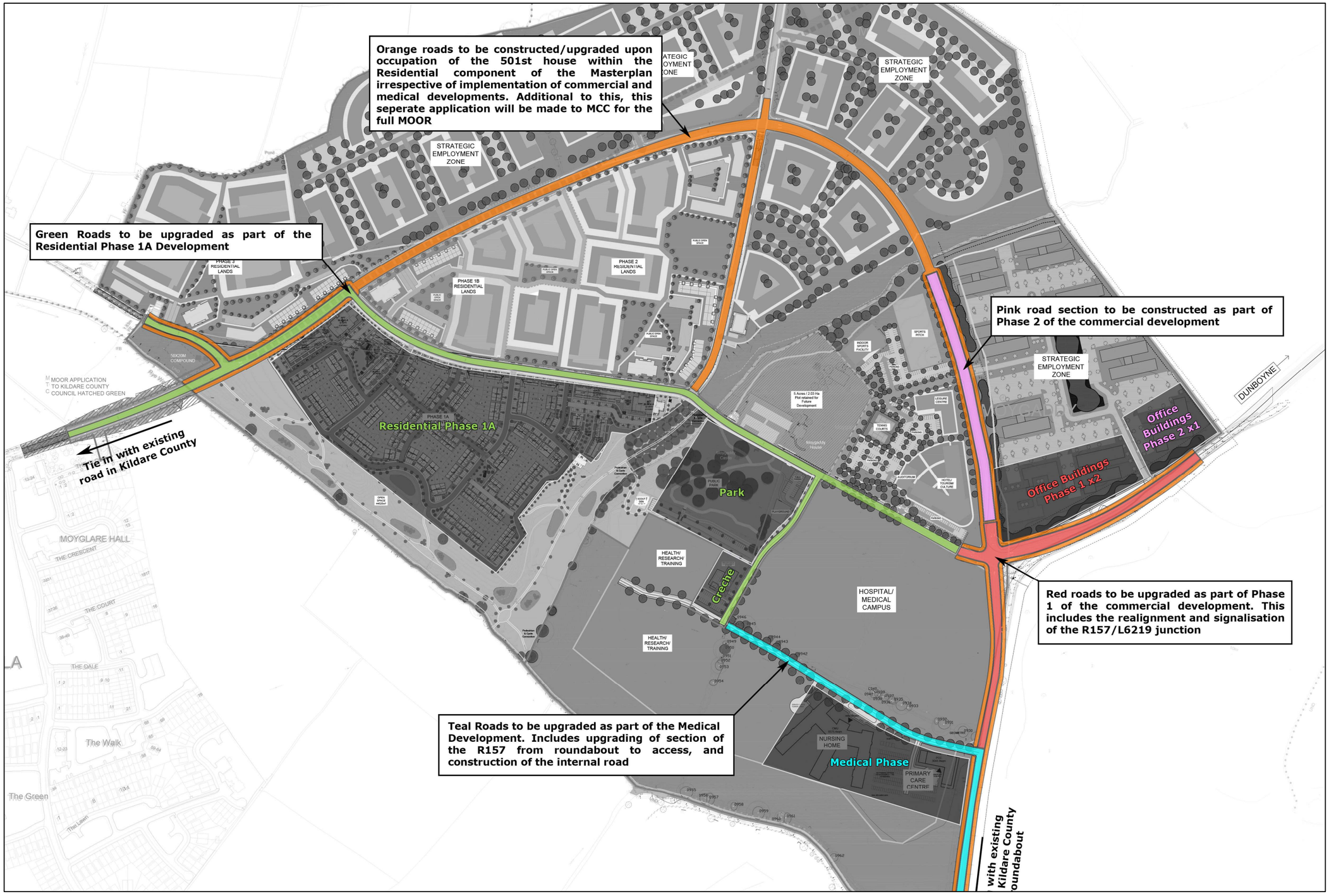
MASTERPLAN CONTEXT

The various masterplan development applications will be submitted on the basis that the MOOR will be delivered in phases, linked to individual planning applications which form part of the wider Masterplan for the Maynooth Environs/Moygaddy lands.

The colour of the first three columns links to the figure on the next page. Specific road infrastructure upgrades will be required depending on the timetable when each phase is constructed. The last column of the table indicates in which scenario year the trip generation of that section of the development will be relevant.

Item	Linked Road Infrastructure	Trip Generation Year
Medical Phase		
Primary Care Centre & Nursing Home	Upgrade the R157 from the roundabout in the south up to the access to medical facility	Opening Year (2025)
Medical Research Campus	Full MOOR already operational	Design Year (2040)
Public Hospital	Full MOOR already operational	Design Year (2040)
Office Phase		
Office Buildings Phase 1 x2	Upgrade the R157 north of medical facility access up to the junction between the R157 and the L6219	Opening Year (2025)
	Upgrade R157/L6219 junction to 3-leg signalised junction	Opening Year (2025)
	Upgrade R157 east of junction towards Dunboyne	Opening Year (2025)
Office Buildings Phase 2 x1	Construct the first section of the eastern leg of the MOOR (northern leg of junction) up to the stream	Opening Year (2025)
Office Buildings Phase 3 & 4 x6	Full MOOR already operational	Design Year (2040)
Residential Phases		
Residential Phase 1A, Park & Creche	Construct link road in the west and upgrade road up to junction with R157	Opening Year (2025)
Residential Phase 1B	Full MOOR already operational	Opening Year + 5 (2030)
Residential Phase 2	Full MOOR already operational	Design Year (2040)
Residential Phase 3	Full MOOR already operational	Design Year (2040)
Other Phases		
Tourism and Sports Campus	Full MOOR already operational	Opening Year + 5 (2030)
Hotel	Full MOOR already operational	Design Year (2040)

Table 1: Moygaddy Masterplan Phasing


Orange roads to be constructed/upgraded upon occupation of the 501st house within the Residential component of the Masterplan irrespective of implementation of commercial and medical developments. Additional to this, this seperate application will be made to MCC for the full MOOR
Green Roads to be upgraded as part of the Residential Phase 1A Development
Pink road section to be constructed as part of Phase 2 of the commercial development
Red roads to be upgraded as part of Phase 1 of the commercial development. This includes the realignment and signalisation of the R157/L6219 junction
Teal Roads to be upgraded as part of the Medical Development. Includes upgrading of section of the R157 from roundabout to access, and construction of the internal road
Tie in with existing road in Kildare County
Tie in with existing Kildare County roundabout
STRATEGIC EMPLOYMENT ZONE
PHASE 3 RESIDENTIAL LANDS
PHASE 1B RESIDENTIAL LANDS
PHASE 2 RESIDENTIAL LANDS
PHASE 1A RESIDENTIAL
Residential Phase 1A
Park
Creche
HEALTH/ RESEARCH/ TRAINING
HOSPITAL/ MEDICAL CAMPUS
NURSING HOME
Medical Phase
PRIMARY CARE CENTRE
Office Buildings Phase 2 x1
Office Buildings Phase 1 x2
DUNBOYNE
MOORE APPLICATION TO KILDARE COUNTY COUNCIL HATCHED GREEN
50X20M COMPOUND
MOYGLARE HALL
THE CRESCENT
THE COURT
THE DALE
The Walk
The Green
The Lawn

NEED FOR SCHEME

The provision of the Maynooth Outer Orbital Route (MOOR) is an objective of the Meath County Development Plan 2021-2027 within the Maynooth Environs Written Statement objective CER OBJ 1 that states:

"It is an objective of the Planning Authority to require the submission with any application for development of lands at Moygaddy a Master Plan for the written agreement of the Executive of the Planning Authority which shall address the following:

- *Proposals for accessing of lands which shall adhere to the permitted Part VIII realignment of the junction of the R157 Regional Road and Moygaddy Road.*
- *Proposals providing for the delivery of the Maynooth Outer Relief Road in tandem with development."*

It is an objective within the Maynooth Local Area Plan to provide the Outer Orbital Route to ease traffic congestion and to improve quality of life in Maynooth. This plan notes strategic transport improvements are required and the Maynooth Local Area Plan has a critical role in ensuring the needs of the future population are planned for, this includes the delivering of strategic transport improvements particularly the completion of the Maynooth Outer Orbital Route.

CONSULTATION

OCSC held discussions with Kildare County Council (KCC) and Meath County Council (MCC) on this scheme, as detailed below:

- OCSC met with MCC on 19 July 2021 to open preliminary discussions on the design of the MOOR. In attendance were Martin Murry (Director of Services for Infrastructure) and Nicholas Whyatt (Senior Engineer Transportation). Since this meeting, a Traffic Modelling Scoping Report has been issued to MCC. It should be

noted that KCC specifically requested a Dynamically Assigned traffic model for this scheme. The Developer opted to request OCSC to utilise the PTV Vissim micro-simulation software package to prepare the requested model, which could then be incorporated into the wider KCC transport study for Maynooth as a whole.

- As noted previously, although the scheme is planned within the MCC jurisdiction, a separate application will be made to KCC for infrastructure within the County. It is however noted that as the largest nearby urban centre is within KCC jurisdiction, they have been consulted as a stakeholder. OCSC met with KCC on 9 August 2021, and 23 September 2021. In attendance were Brigette Rea, Daragh Conlan, George Willoughby, Jonathan Hennessy, and Lisa Kirwan, all from KCC. The same Traffic Modelling Scoping Report has also been issued to KCC.
- OCSC met with MCC on 20 June 2022. In attendance were Michael Costelloe, Joe McGarvey and Paul McNulty. This meeting aimed to establish the outstanding design requirements of the MOOR. Several comments were received, which were included in the design.

In addition, the following submissions were made as part of the proposed development:

- A submission was made on the Maynooth Transport Strategy as part of public consultation no. 1 on the 12th of November 2021. This submission outlines the proposed plans for the area and noted that it should be considered as part of the future Transport Strategy (Appended as Annexure D).
- A submission was made to BusConnects on the 15th of November 2021 noting the upcoming proposals as part of the MOOR that noted the BusConnects project should take cognisance of the upcoming works.

2 CHARACTERISTICS OF THE DEVELOPMENT

DEVELOPMENT & SITE OVERVIEW

The MOOR will be a single carriageway road connecting the Maynooth environs between the east and west. A portion on the western side will be constructed in County Kildare and tie in with existing infrastructure by means of a new bridge and road section. This can be seen in the figure below.

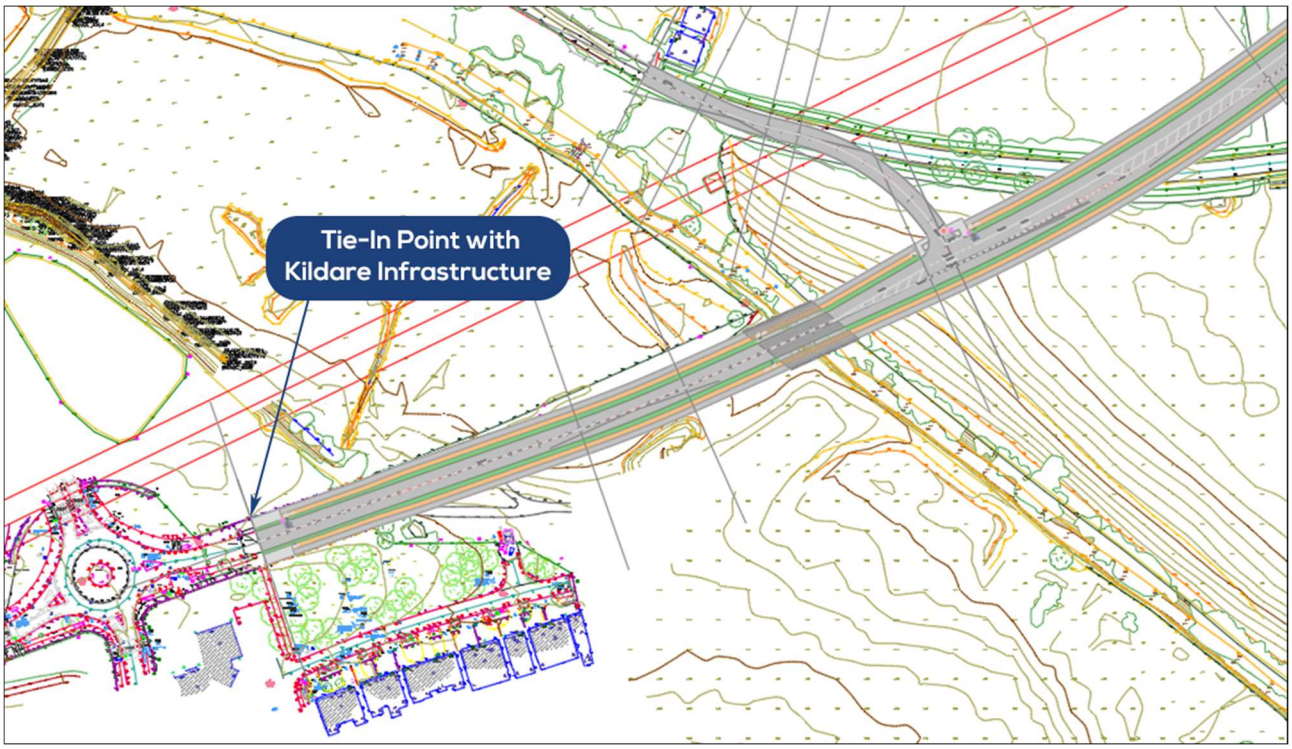


Figure 2: MOOR Western Kildare Tie-In

On the eastern side, the road will again tie in in County Kildare, just north of the roundabout on the R157. A separate cycle and pedestrian bridge will be constructed alongside the existing bridge to allow for continuation of this infrastructure, tying in with existing infrastructure in County Kildare. The tie-in location has been agreed with Kildare and on review of planning compliance submission made by Cairn Homes. This can be seen in the figure below.

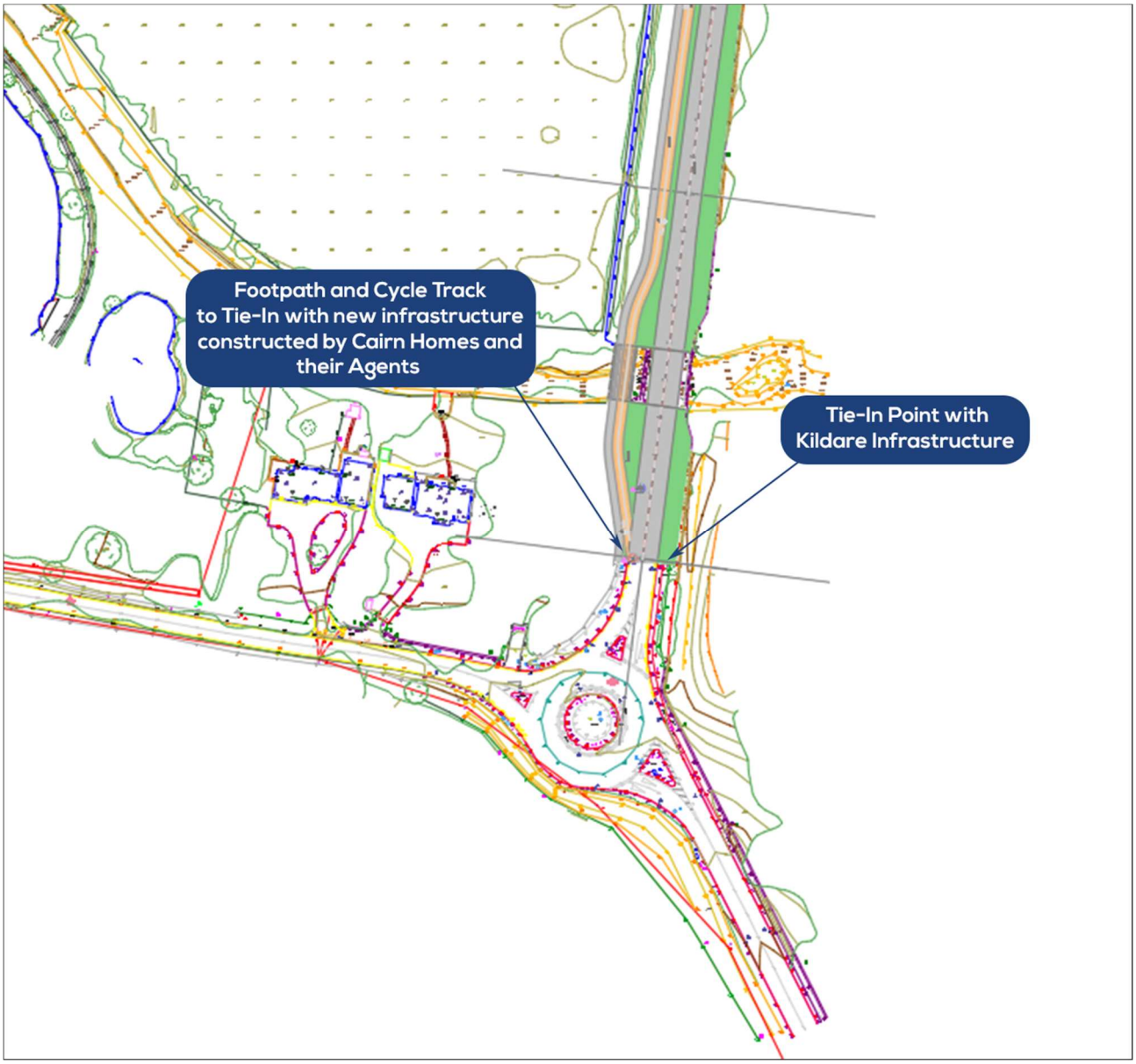


Figure 3: MOOR Eastern Kildare Tie-In

The rest of the MOOR will form an arc through the Maynooth Environs, connecting the western and eastern ends. A portion of the L6219 on the western side will be realigned to accommodate the arc. This section in the shown in the figure below.

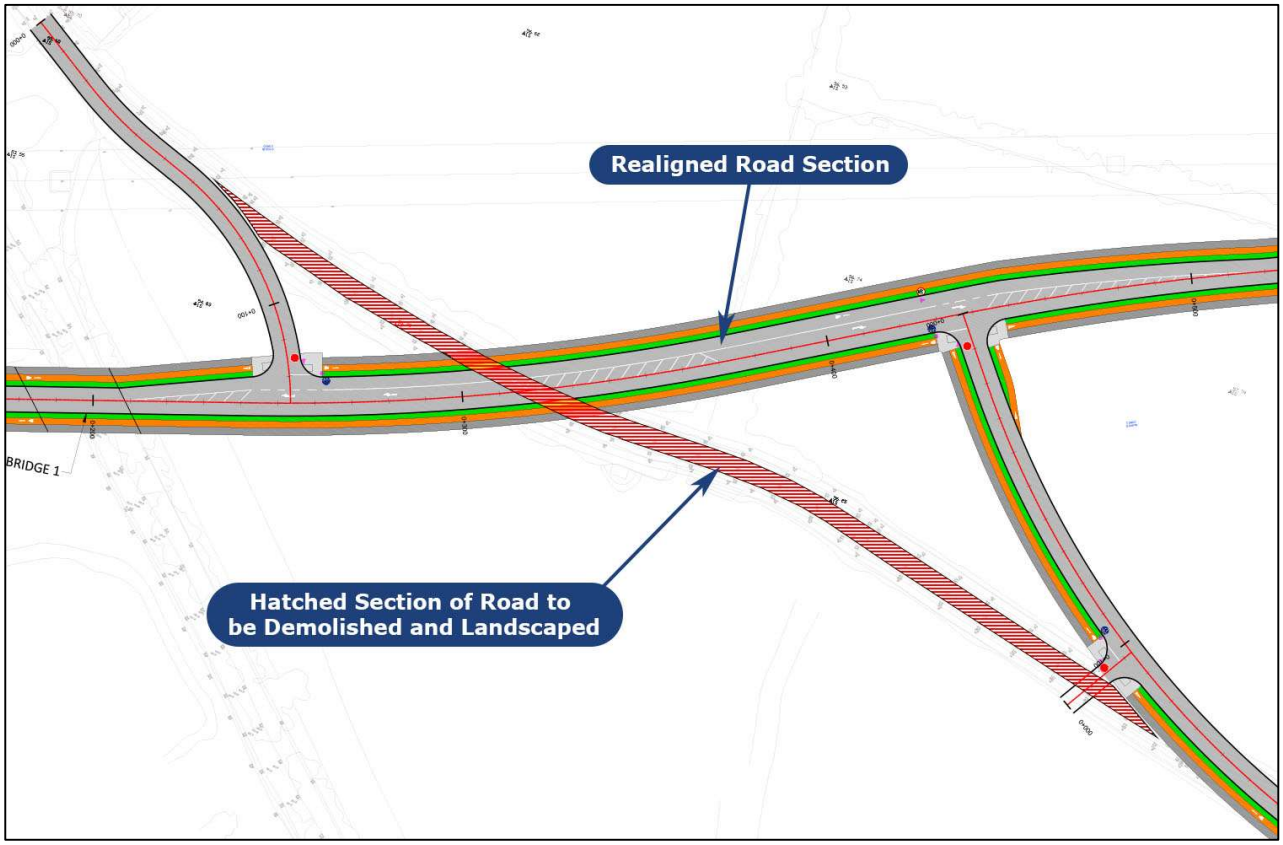


Figure 4: Road Section to be Realigned

The current L2214 (Kilcloon Road) will change to a north-to-south one-way road within the arc. The current south-to-north lane will be converted to a shared facility which can be used by pedestrians and cyclists. The new northern junction between the MOOR and the L2214 will be constructed as a signalised junction. The is shown in the figure below.

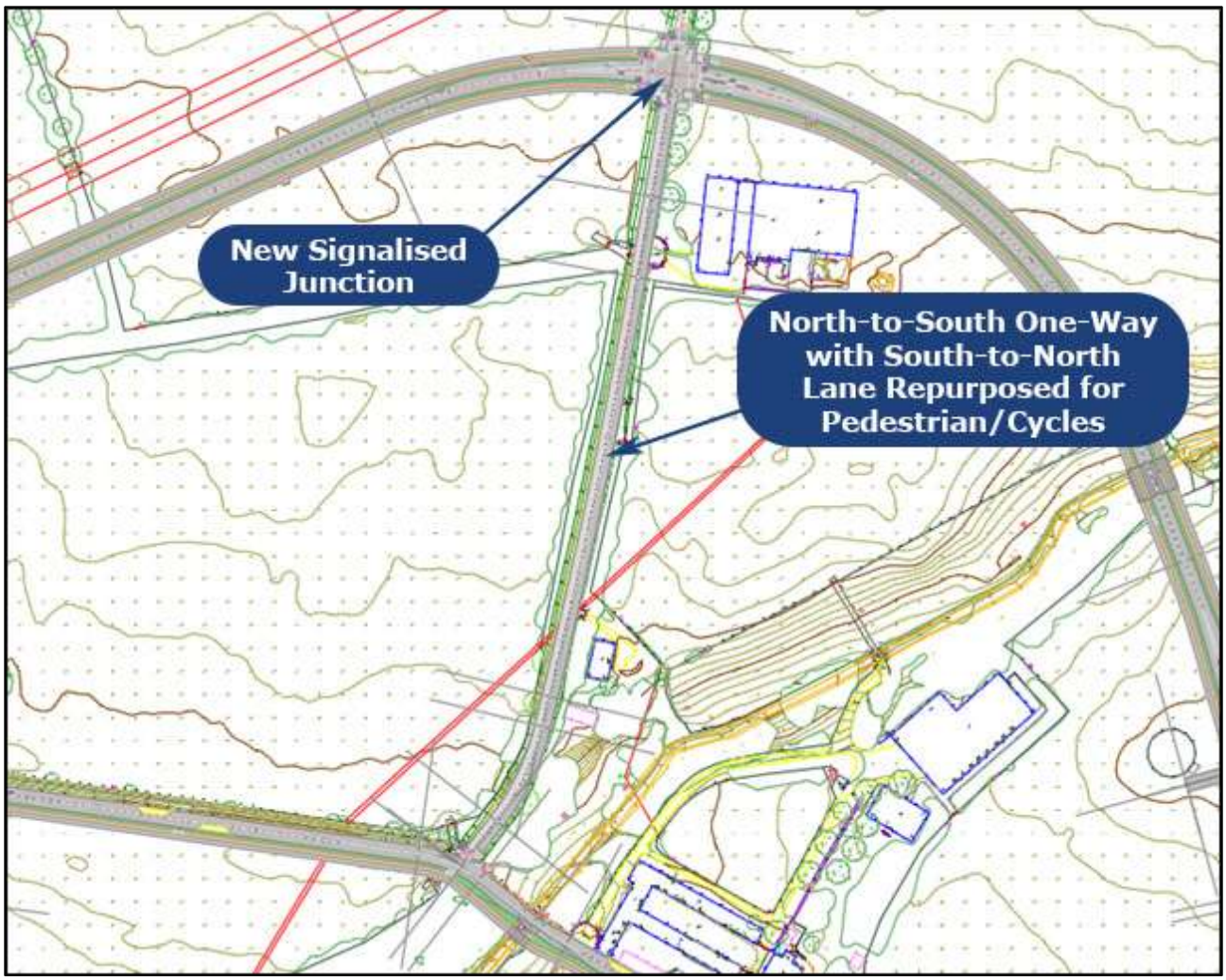


Figure 5: Center of Arc (L2214 - Kilcloon Road)

The junction between the R157, L6219, MOOR and Dunboyne Road on the eastern side of the arc will be realigned and constructed as 4-leg signalised junction, as shown below.

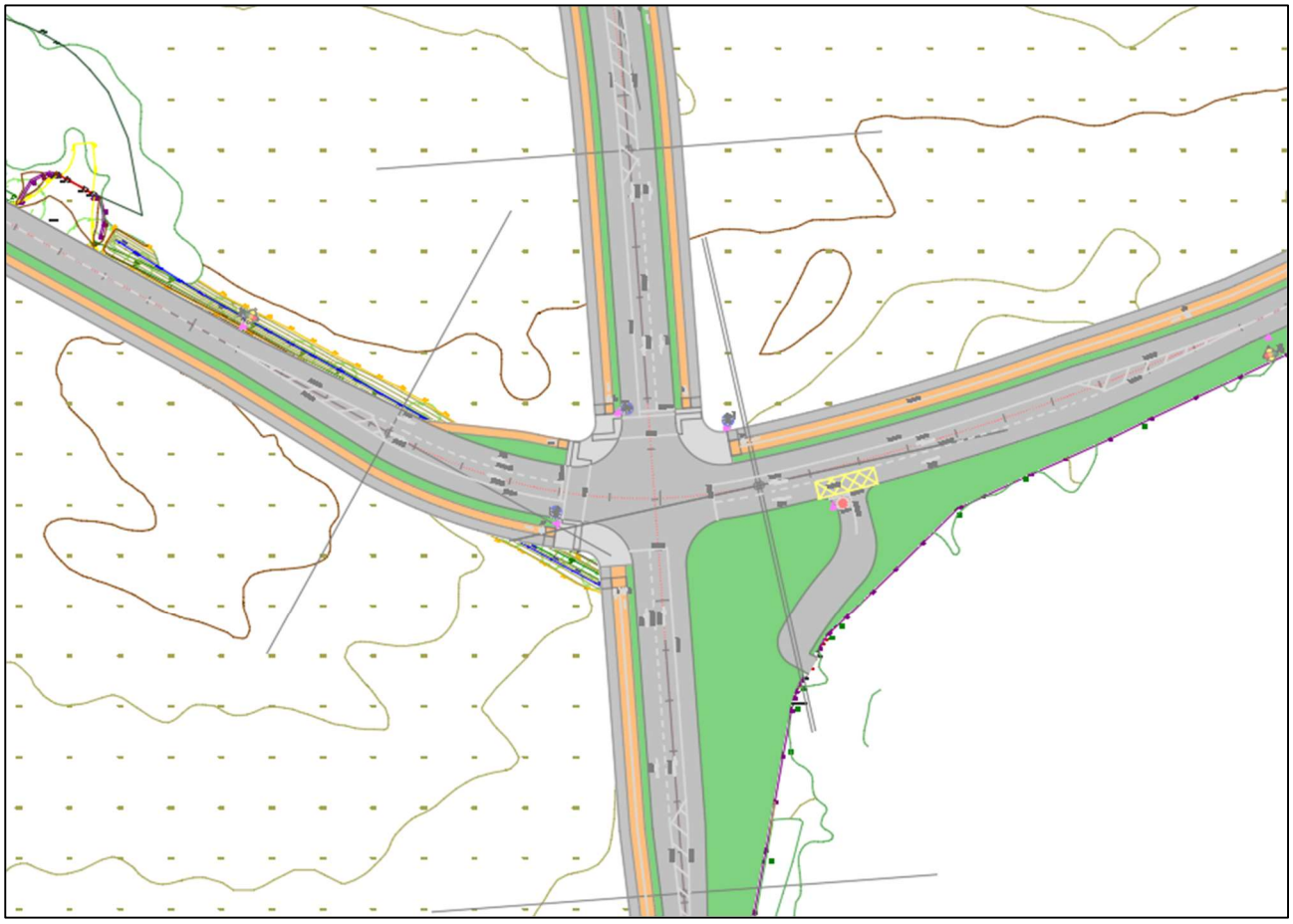


Figure 6: Realigned Signalised Junction on Eastern

For the construction of this junction, a portion of the existing R157 and Dunboyne Road will be realigned, as shown in the figure below.

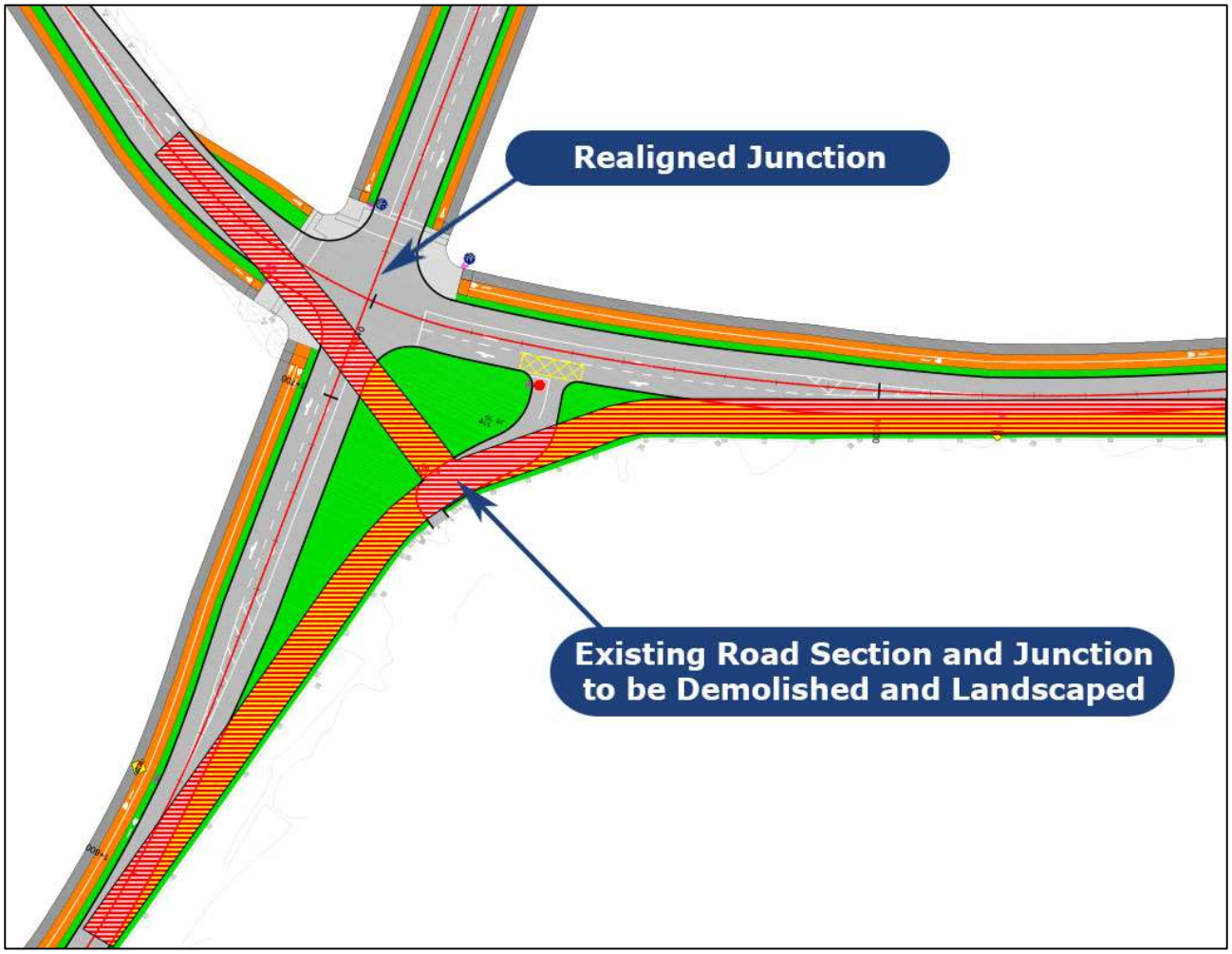


Figure 7: Existing R157/Dunboyne Road Realignment

Four different bridges will be constructed as part of the MOOR. These are highlighted in the figure below.

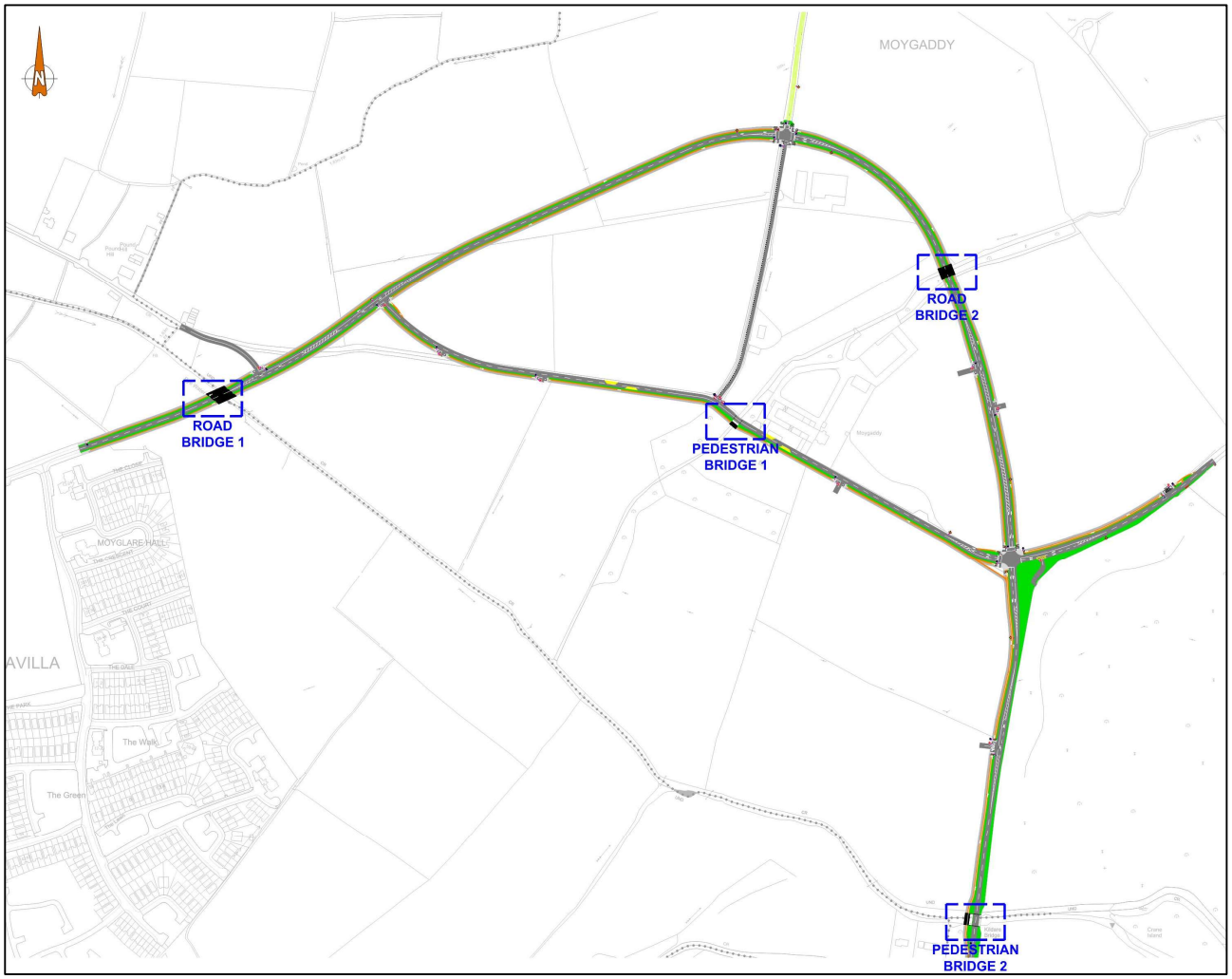


Figure 8: MOOR Bridges

Road bridges 1 and 2 will be new bridges which will be constructed as part of the MOOR. Pedestrian bridges 1 and 2 will be additional structures constructed adjacent to the existing bridge structures to accommodate pedestrian and cycle permeability. More information on these bridges is available in OCSC report "Bridge Options Report" submitted separately.

3 TRAFFIC IMPACT

A traffic assessment was carried out, paying due consideration to the following guidelines below, in order to ensure that the orbital route is designed accordingly to cater for all future development in the nearby lands.

- *Traffic & Transport Assessment Guidelines (2014)* as published by the former National Roads Authority (NRA) now Transport Infrastructure Ireland (TII);
- *Guidelines for Traffic Impact Assessment (1997)* as published by the Chartered Institute of Highways & Transportation;
- *Meath County Council Development Plan 2021-2027*.
- Project Appraisal Guidelines for National Roads Unit 5.3 - Travel Demand Projections, TII (October 2016)
- Project Appraisal Guidelines for National Roads Unit 16.1 - Expansion Factors for Short Period Traffic Counts, TII (October 2016)
- TA 79/99 "Traffic Capacity of Urban Roads" from the DMRB

The Traffic Impact Assessment was done by means of a Dynamically Assigned Vissim Micro-Simulation model, as requested by Kildare County Council, with the overall aim of defining each junction along the MOOR and detailing the required size of each junction including number of lanes, requirements of turning lanes etc. This document has been submitted as part of this application, under separate cover.

4 COLLISION HISTORY

OCSC interrogated the Road Safety Authority (RSA) website **https://www.rsa.ie/en/RSA/Road-Safety/RSA-Statistics/** in order to ascertain the number, location, date, and severity of collisions in the area in recent years. The site provides details of all accidents by year between 2005 and 2016 (latest available statistics). Collisions/accidents are categorised by severity i.e. fatal, serious, and minor. The statistics also identify what the collision type was i.e. vehicle only, pedestrian, cyclist/motorcyclist etc. In that regard the dataset provides a host of information that can be used to identify the requirements for, and potential benefits of, any road upgrade. The figure below shows an extract from the dataset for the MOOR environs.

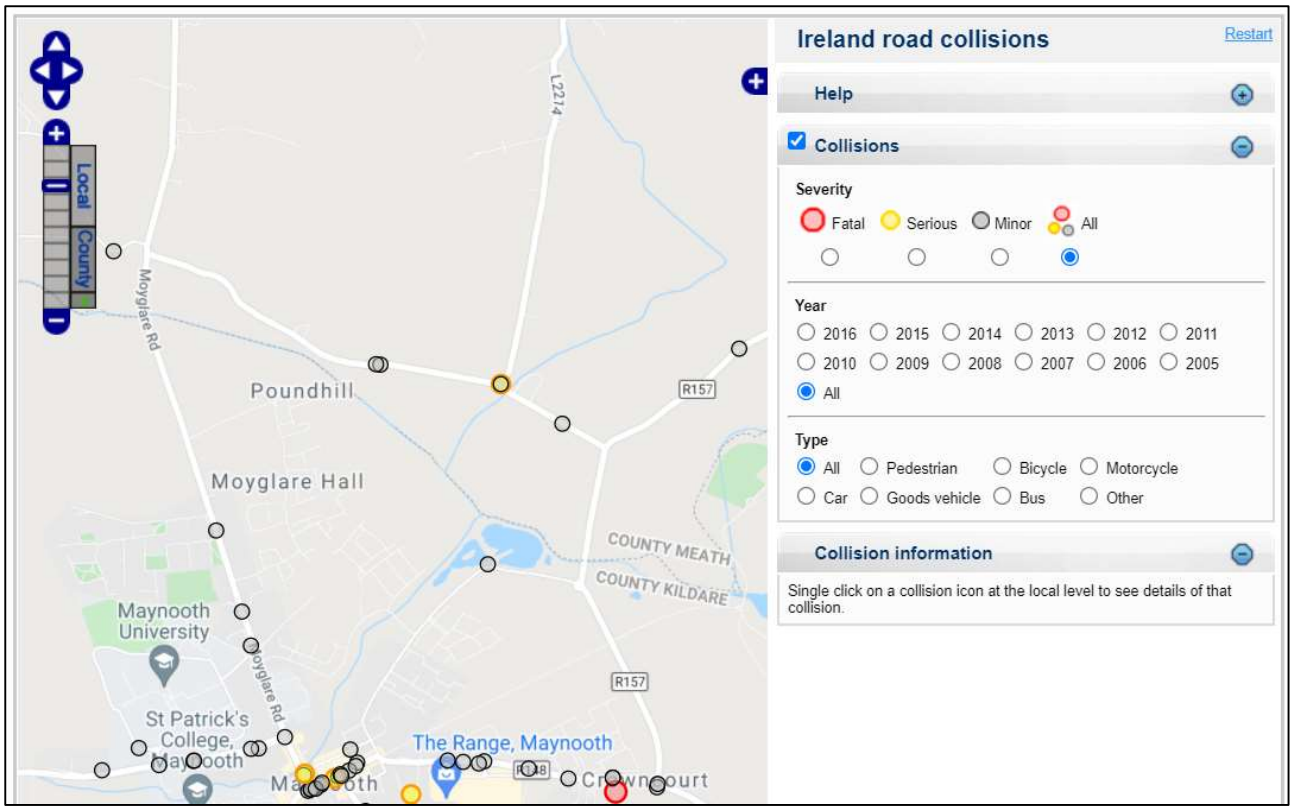


Figure 9: Collision History

OCSC collated the raw collision data into a table in order to assist in the assessment of same. This is shown in table below. The table summarises only those recorded accidents which took place along the L6219 & L2214 that directly relate to the provision of the Maynooth Outer Orbital Route.

RSA Collision History			
Year	**Fatal**	**Serious**	**Minor**
2005	0	0	0
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0
2011	0	1	2
2012	0	0	0
2013	0	0	0
2014	0	0	1
2015	0	0	0
2016	0	0	1
Total	**0**	**1**	**3**

Table 2: RSA Collision Data MOOR Study Area

While there were no fatal accidents over the period, 1 no. serious accidents, and 3 no. minor accidents occurred. There is, therefore, potential safety benefits accruing from completing the remaining section of the MOOR. The provision of the Maynooth Outer Orbital Route will also help alleviate traffic congestion with the centre of Maynooth itself.

5 GEOMETRY & DESIGN STANDARDS

APPLICABLE TECHNICAL STANDARDS

The scheme has been designed in accordance with the Design Manual for Urban Roads and Streets (DMURS) and the following standard documents:

- DMURS;
- National Cycle Manual;
- TD 36/93;
- Report of the Study Group on Dimensions of Agricultural Bridges and Underpasses (UK Dept. Transport; Oct 1985);
- NRA TD 19/13;
- Traffic Signs Manual 2010 with Amendments (July 2013);
- HD 26/06;
- Greater Dublin Strategic Drainage Study (GDSDS);
- Greater Dublin Code of Practice for Drainage Works;
- The SUDS Manual CIRIA 2007;
- The Flood Studies Report (1975) and Supplementary Reports;
- HD 19/12;
- NRA Design Manual for Roads and Bridges (NRA DMRB);
- NRA IAN 02/11 Interim Requirements for the Use of Eurocodes for the Design of Road Structures Amendment No. 1.

ROAD CLASSIFICATION

The movement function of a street is described on DMURS using a hierarchy system that classifies streets into the following categories, as shown in Figure 10:

- Arterial Streets
- Link Streets

- Local Streets

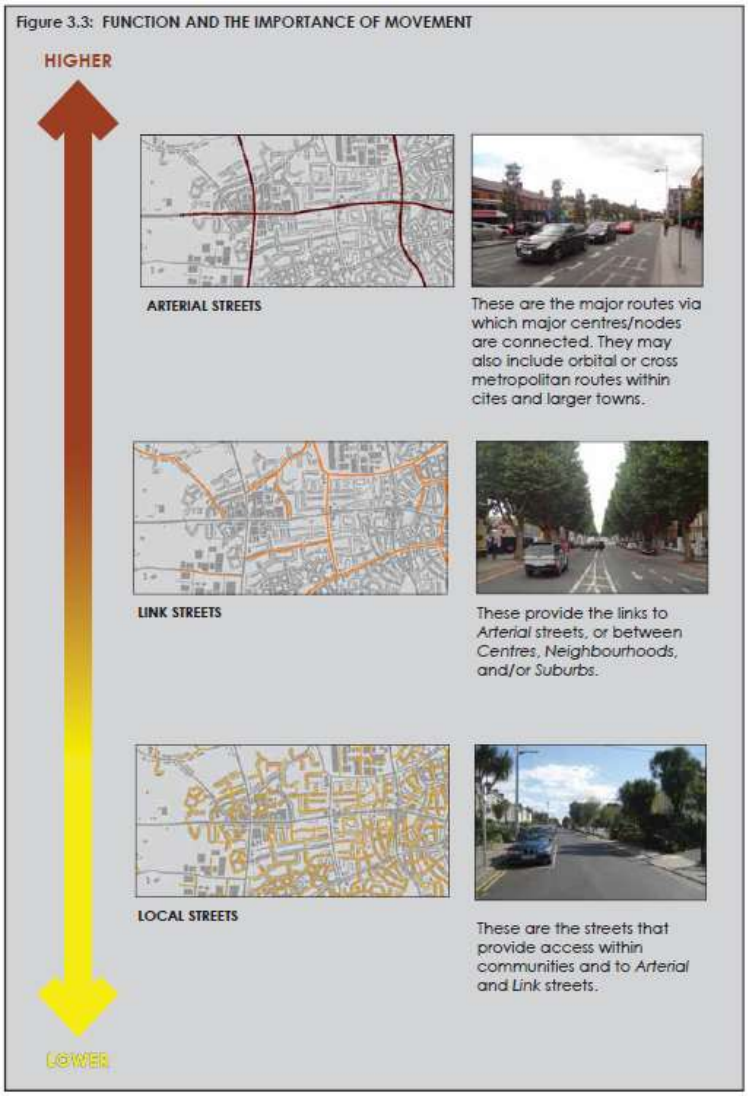


Figure 10: DMURS Hierarchy of Streets

The proposed MOOR will be classified as a **Link Road**. Table 3.1 of DMURS illustrates how this road hierarchy relates to other relevant documents, shown in the table below.

DMURS Description	Roads Act/NRA DMRB	Traffic Management Guidelines	National Cycle Manual
Arterial	National	Primary Distributor Roads	Distributor
Link	Regional (see note 1)	District Distributor Local Collector (see Notes 1 and 2)	Local Collector
Local	Local	Access	Access

Notes

Note 1: Larger Regional/District Distributors may fall into the category of *Arterial* where they are the main links between major centres (i.e. towns) or have an orbital function.

Note 2: Local Distributors may fall into the category of *Local* street where they are relatively short in length and simply link a neighbourhood to the broader street network.

Table 3.1: Terminology used within this Manual compared with other key publications.

Table 3: DMURS Road Terminology

This designation is appropriate as the nearby M4 serves as a primary distributor road. The proposed link road will provide high quality infrastructure to serve local traffic and cyclists and cater for the future development in the study area.

ROAD DESIGN SPEEDS

The design speed is the maximum speed at which it is envisaged/intended that the majority of vehicles will travel under normal conditions.

The current speed limits within the Study Area are as follows:

- Moyglare Road – Speed Limit 50 km/h;
- L6219 – Speed Limit 80 km/h;
- R157 North of Roundabout – Speed limit 80km/h;
- R157 South of Roundabout – Speed limit 50km/h;
- L2214 – Speed Limit 80 km/h.

The proposed speed limits, which have been workshopped with Meath County Council and ties in with existing speed limits, are shown in the figure below.

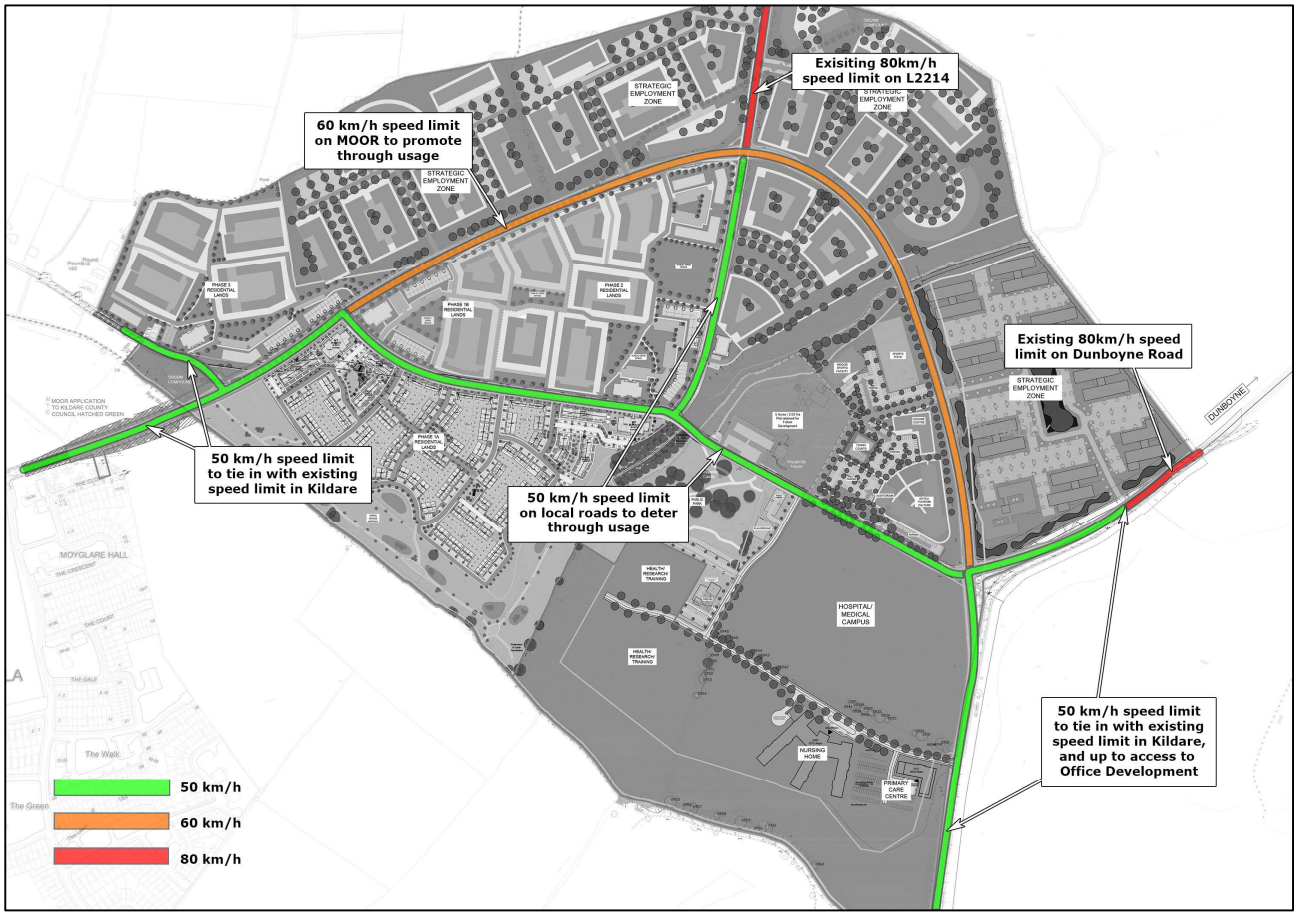


Figure 11: MOOR Proposed Speed Limits

ROAD CROSS SECTIONS

INTRODUCTION

The proposed MOOR is considered as consisting of four main elements. The carriageway, the verge, the footpath, and a cycle track. The proposed cross section is shown below.

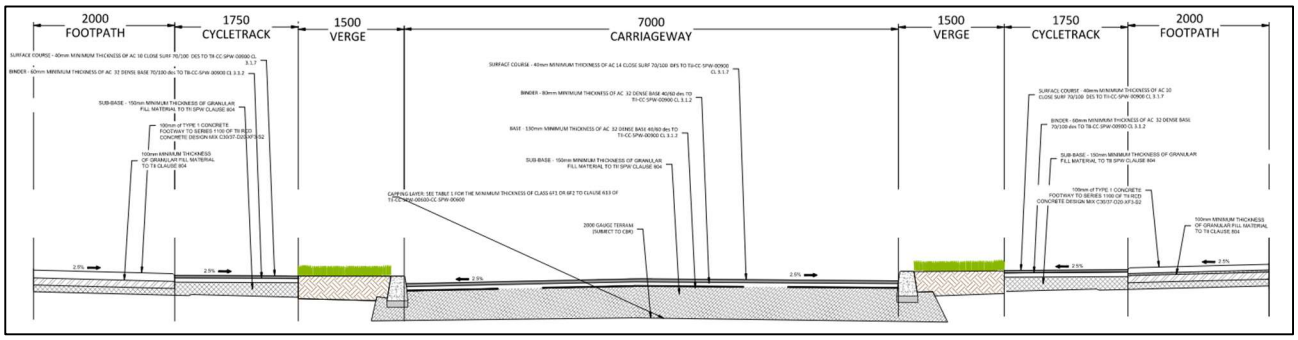


Figure 12: MOOR Cross Section

CARRIAGEWAY

The carriageway cross-section is 7.00m wide (DMURS 4.4.1) as the road will be classified as a Link Road with low to moderate Design Speeds (60 km/h), and will be frequently used by large vehicles, i.e. buses. This carriageway width is selected from Figure 4.55 of DMURS, which is shown overleaf.

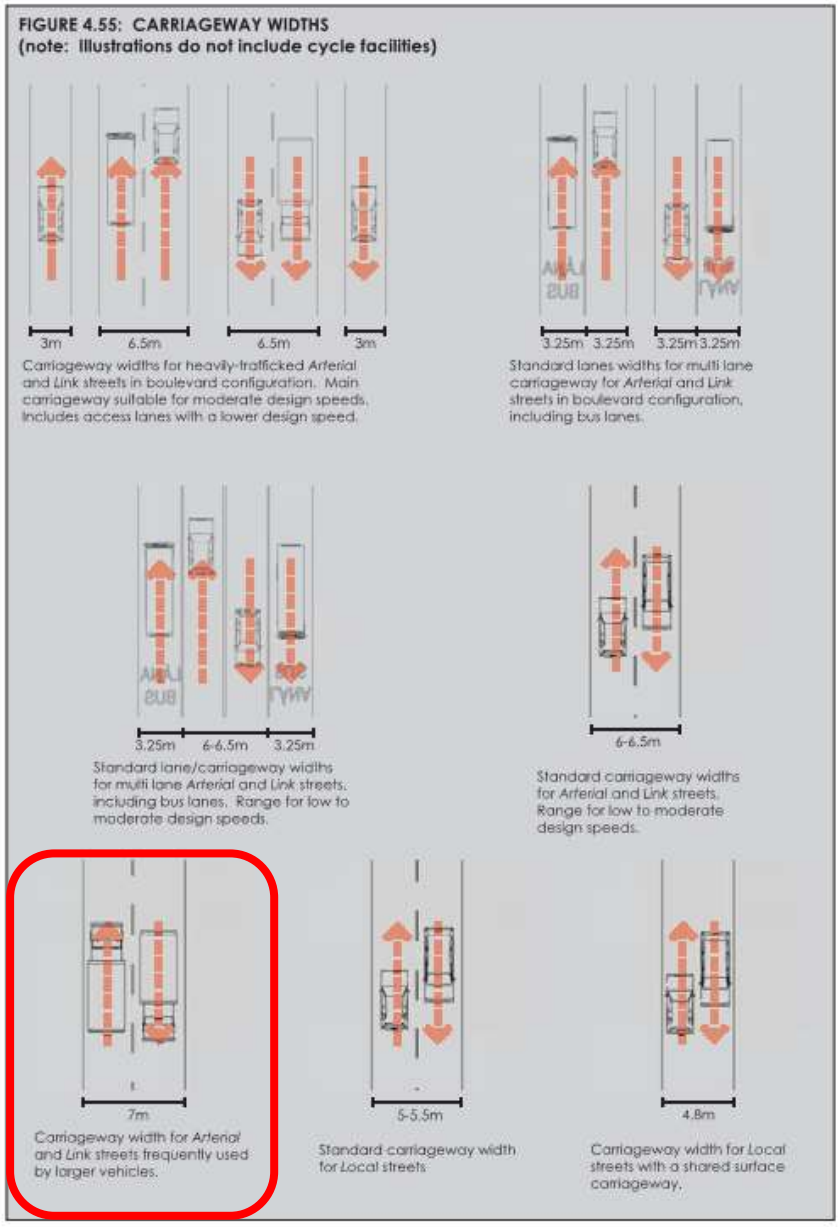


Figure 13: DMURS Carriageway Widths

The selection of this width of carriageway is considered appropriate by OCSC and is in line with the previous Part VIII for the MOOR and also in line with the recently approved Maynooth Eastern Ring Road.

Upgrade works to the R157 will also utilise a 7.0m carriageway width to comply with the MOOR and MERR design.

FOOTPATHS

The width of the footpaths is determined by reference to DMURS Section 4.3.1. with a minimum required width of 1.8m based on the space needed for two wheelchairs to pass each other.

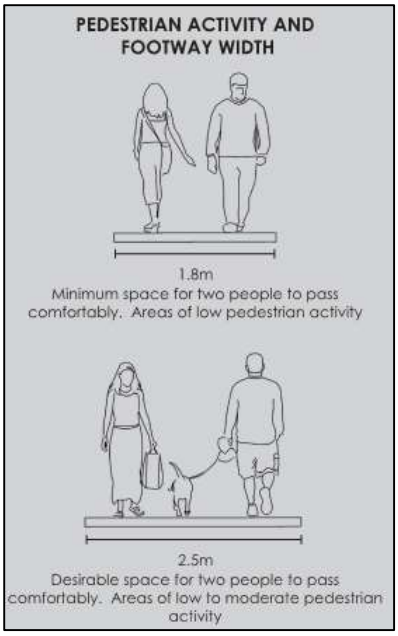


Figure 14: SMURS Figure 4.34 Width

It is determined that the Link Road is defined as suburban in character and as such OCSC regard 2.0m as an appropriate provision given the expected demand. This is in line with the previous Part VIII application.

A minimum of a 2.0m footpath will also be provided along the R157 including pedestrian infrastructure adjacent to the Kildare Bridge to the junction of the R157 & Dunboyne Road.

CYCLE TRACKS

The cycle lanes and crossings were designed in accordance with the National Cycle Manual (NCM). All cycle facilities along the MOOR are off-road and segregated facilities.

Based on the Cycle Width Calculator in the NCM, the estimated appropriate cycle path width is 1.75m, giving room for a single file lane with overtaking room. These cycle paths are one-way and will be located on both sides of the proposed road. The cycle paths are separated from traffic by a kerb and there will be a horizontal separation on the inside, between the cycle path and footpath.

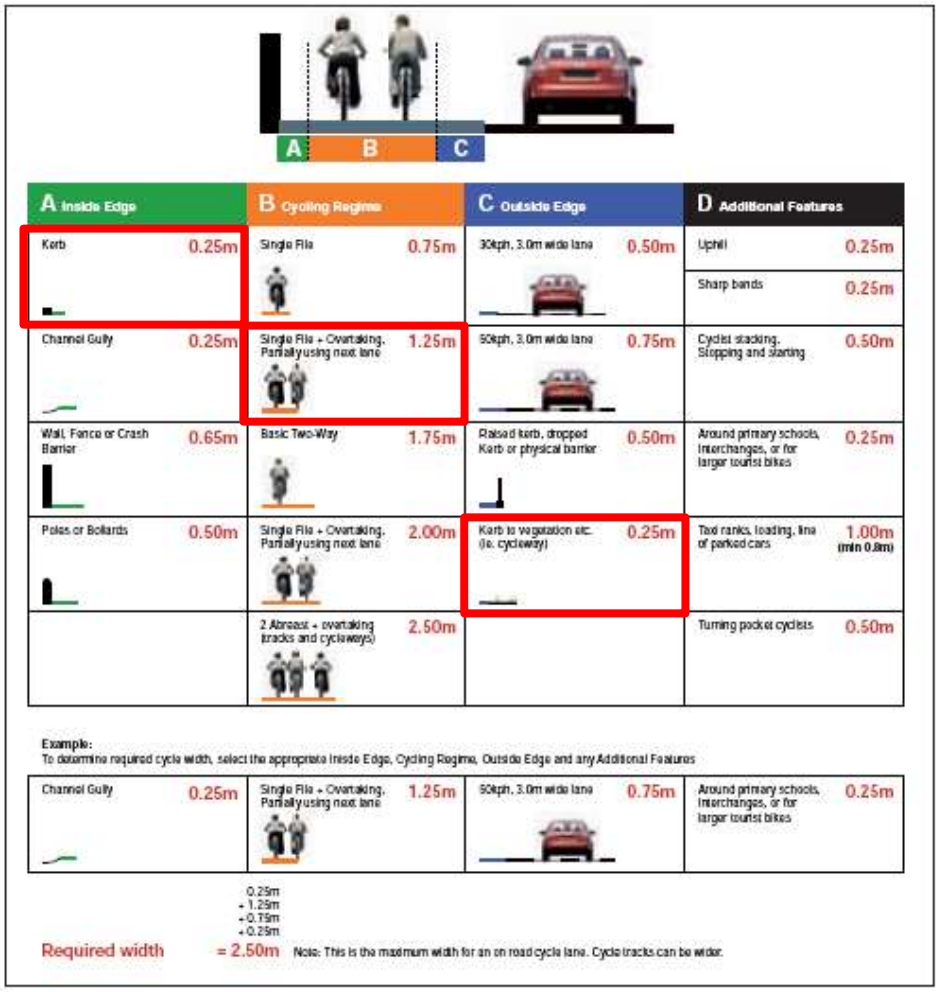


Figure 15: NCM Width Calculator

It should be noted that Meath County Council have indicated that they wish the design of the MOOR to be consistent and tie into the already completed section at Maria Villa, this may change the requirements set out above from 1.75m in line with the NCM to 2.0m. Further consultation will be required with Meath County Council to clarify this requirement.

Cycle facilities will also be provided along the R157 from the masterplan lands to the Junction of the R157 with the Dunboyne Road. Cycle facilities will also be provided adjacent to the Kildare Bridge. The design of cycle infrastructure along the R157 will be in line with the proposed MOOR design and will take cognisance of the current design of the Maynooth Eastern Ring Road (MEER).

All priority T-Junctions and signalised junctions have been designed in order to achieve the requirements of the National Cycle Manual.

PLANTED VERGE

OCSC have considered the requirements of the width of the planted verge as set out in section 4.3.1 of DMURS and have determined that a minimum of 1.5m is appropriate. Consideration was given to the use of space for a SUDS design that will complement the drainage design of the MOOR. Consideration has also been given to the requirements of the ESB HV wayleave so that the width of the footpath, cycle track and verge could potentially accommodate this service. In addition, the verge can accommodate road signage, lighting columns and other street furniture in order to reduce clutter in the footway.

HORIZONTAL AND VERTICAL GEOMETRY

The alignment of the MOOR was designed so that the geometric elements, including horizontal and vertical curvature, super elevation and sight distance are in line with DMURS, having values consistent with the design speed of 60 km/h.

The relevant horizontal and vertical geometric design values are highlighted in DMURS Table 4.3 overleaf for the 60 km/h Design Speed. A standard carriageway cross fall of 2.5% was adopted throughout with super elevation applied if necessary, noting that adverse camber is allowable under DMURS designs in accordance with Table 4.3. A cross fall of 2.5% was also used for footpaths and cycle facilities.

HORIZONTAL CURVATURE						
Design Speed (km/h)	**10**	**20**	**30**	**40**	**50**	**60**
Minimum Radius with adverse camber of 2.5%	-	11	26	56	104	178
Minimum Radius with superelevation of 2.5 %	-	-	-	46	82	136
VERTICAL CURVATURE						
Design Speed (km/h)	**10**	**20**	**30**	**40**	**50**	**60**
Crest Curve K Value	N/A	N/A	N/A	2.6	4.7	8.2
Sag Curve K Value	N/A	N/A	2.3	4.1	6.4	9.2

Table 4.3: Carriageway geometry parameters for horizontal and vertical curvature.

Figure 16: DMURS Carriageway Geometric Parameters

Upgrade works to the R157 also follows the horizontal and vertical geometry set out in DMURS, for the applicable speeds shown in Figure 11. A standard carriageway cross fall of 2.5% and a cross fall of 2.5% was also used for footpaths and cycle facilities.

BRIDGE STRUCTURES

All of the bridges to be constructed as part of the scheme share a number of key characteristics. They all have:

- Piled foundations;
- Cast in situ abutments;
- Precast deck elements;
- On deck cast in situ slabs or screeds;
- Post-fix parapets.

The bridges will be constructed both over and adjacent to the live water courses as shown in the figure overleaf.

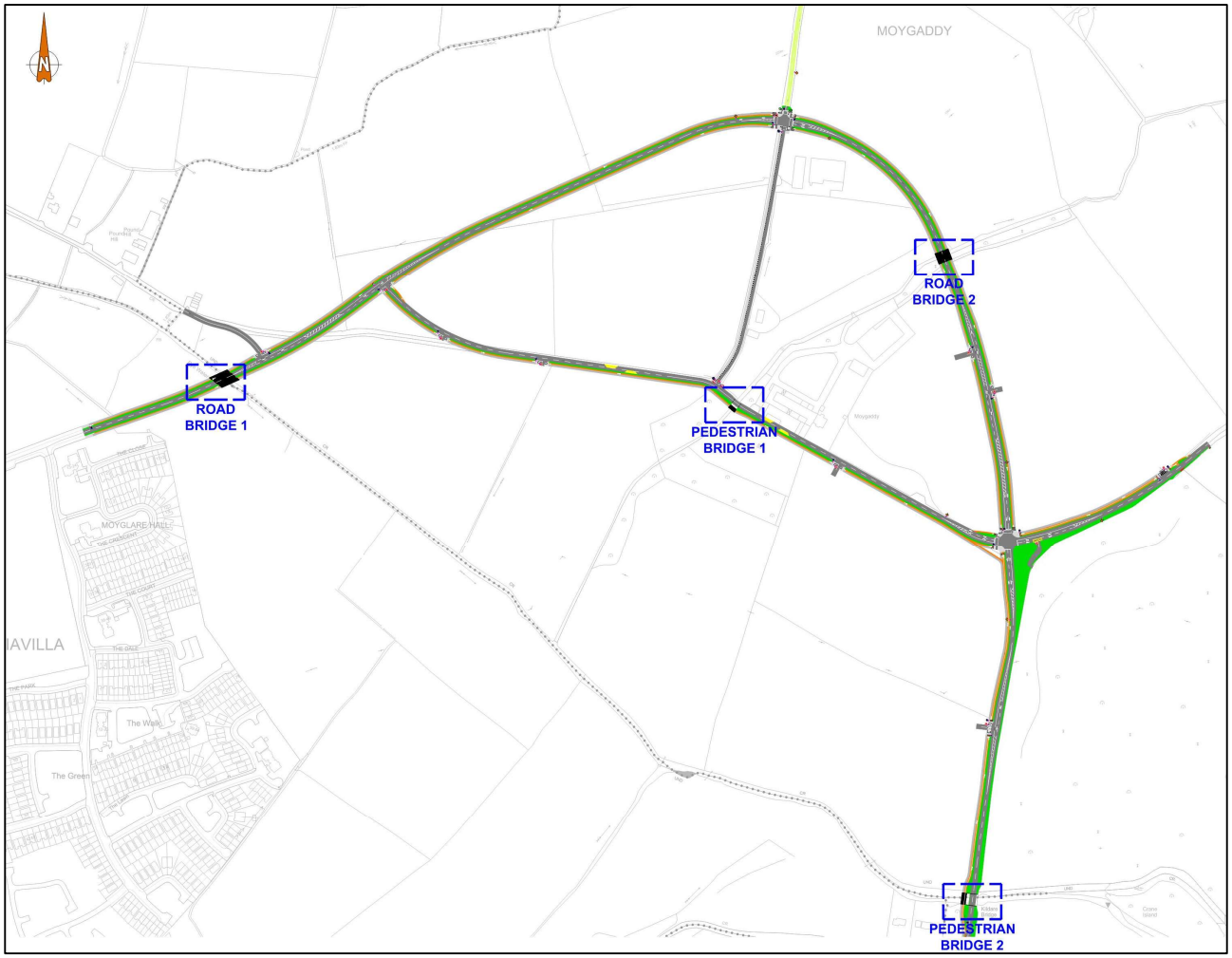


Figure 17: Location of Bridges on the MOOR

A separate "Bridge Options Report" has been prepared and submitted as part of this application under separate cover. More information on the design of the bridges are detailed therein.

6 JUNCTION STRATEGY

The primary principle in the design of junctions along the route was to provide junctions that are safe and consistent with existing layouts in order to present a uniformity of approach to drivers. In addition, junctions will have sufficient capacity to accommodate design year peak traffic flows thus optimising network capacity. The primary junction strategy objectives were:

- To optimise road safety by ensuring adequate visibility and consistency;
- To ensure capacity for the design year;
- To function as traffic calming measures;
- To provide safe crossing facilities for pedestrians and cyclists;
- To provide an economic solution, so that the cost of implementing the design will be, to the maximum possible extent, offset by the economic benefits derived;
- To optimise road construction costs;
- To minimise environmental impacts, such as air pollution and engine noise, by minimising fuel consumption through reductions in the number of speed changes and the number of stop/starts required.

Section 4.4.3 of DMURS Junction Design states that priority junctions should be applied where Local streets meet Link streets. In addition to the aforementioned, after discussions with Meath County Council it was decided that priority type T-Junctions should be applied throughout the scheme where possible as priority type T-Junctions are typically more cost effective and require less space than other solutions such as large roundabouts or signalised junctions.

The junction of the MOOR and the R157 under the approved R157 realignment under Meath County Council planning refence P8/10011 was shown as a roundabout. Meath County Council have indicated to OCSC that a signalised junction would be in line with their current preferences and this solution should be explored. The provisions of a signalised junction at this location would significantly reduce the current footprint required by the Part VIII roundabout. This junction has been designed as a signalised junction.

Furthermore, the junction between the L2214 and the MOOR has also been designed as a signalised junction, with the remainder of junctions operating as priority T-junctions. All junctions on the MOOR also includes right-turn lanes. This was not shown as a requirement as per the traffic analysis, however MCC have indicated that this is required for traffic management.

The following Figure 18 indicates the location and operations of junctions along the MOOR.

Figure 18: Junctions Along MOOR

JUNCTION 1

Realigned junction of the L6219 and the MOOR. This junction takes the form of a priority type junction with a right-turn lane from the MOOR into the L6219.

JUNCTION 2

Access to Phase 1 & 2 residential lands. This junction takes the form of a priority type junction with a right-turn lane from the MOOR into the L6219.

JUNCTION 3

Junction of the MOOR & L2214. This junction takes the form of a signalised junction. It should be noted that south-to-north lane on the L2214, within the arc, will be repurposed to a shared pedestrian and cyclist facility. This means that the portion of the L2214 within the arc will change to a one-way north-to-south lane. Right-turn movements on the western approach will be prohibited, which means that this road can only be accessed by a through movement on the L2214, or a left-turn movement on the eastern approach.

JUNCTION 4

Junction of the L6219 & L2214. This junction takes the form of a priority T-junction. It should be noted that south-to-north lane on the L2214, within the arc, will be repurposed to a shared pedestrian and cyclist facility. This means that the portion of the L2214 within the arc will change to a one-way north-to-south lane.

JUNCTION 5

Junction of the MOOR and R157. This junction takes the form of a four-legged signalised junction with accompanying right-turn lanes on all approaches.

7 GROUND INVESTIGATIONS, SOIL CLASSIFICATION & EARTHWORKS BALANCE OPTIMISATION

OCSC instructed Site Investigations Ltd (SIL) to complete a ground investigation at the site. The report presents the factual geotechnical data obtained from the field and laboratory testing with interpretation of the ground conditions.

The full Site Investigation report has been included as Appendix A of this report.

8 DRAINAGE, STRUCTURES & PAVEMENT

SURFACE WATER DRAINAGE OVERVIEW

The general principals behind the drainage design will be as follows:

- The proposed road will cross existing watercourses, namely the river Ryewater and the Blackhall Little stream. These crossings have been designed so as not to interfere with the surface water drainage regime of the area through which the road passes, nor cause any adverse flood impact;
- Existing overland flows which the proposed road crosses and may block, will be intercepted and discharged to a suitable outfall;
- The drainage of the proposed road will be designed such that surface water drainage and sub-grade drainage will be provided for the mainline carriageway and all new sections of minor roads. This discharge will be directed to the existing watercourses and discharged properly, following attenuation and treatment through fuel separators;
- The maintenance or improvement to the quality of the existing drainage network;
- The application of Sustainable Drainage Systems (SuDS) to the surface water drainage system where possible.

The road drainage for the scheme has been designed in accordance with the GDSDS. The elements of the drainage to be constructed will be constructed in accordance with the *Greater Dublin Region Code of Practice for Drainage Works,* and Traffic Infrastructure Ireland's (TII) *RCD 500 series* and *Drainage Design for National Road Schemes*. Any SuDS elements incorporated into the scheme will be designed in accordance with The SuDS Manual, C753 (published by CIRIA, 2007). All drainage designs have been carried out with regard to both Meath and Kildare County Council's respective Development Plans and Frameworks.

All rainfall runoff on the new MOOR is the be captured by adequately spaced trapped road gullies, which connect to a main carrier drain under the road. The rainfall runoff on the aligning footpath and cycle-track shall be intercepted by the dividing tree-lined grass verge, with excess runoff only being collected by the road's gully network.

Surface water attenuation will be used to control surface water runoff rates from all hard surfaces in accordance with the GDSDS, with these being restricted to a maximum flow rate of 5.5 l/s/ha, which is less than the calculated greenfield runoff equivalent.

The rate of discharge from the storage facility will be controlled by means of a flow restricting device at the outfall i.e., vortex Hydrobrake, or similar approved. The level of discharge will be restricted to that of the natural catchment and the remainder of the flow will be attenuated upstream of the flow restriction. The size and volume of storage facilities will in general be based on the 1 in 100-year storm event. For flows in excess of the 1-in-30-year storm event up to the 1-in-100-year storm event, attenuated runoff will be retained within the site of the road. Where feasible, this will be stored in areas such as landscaped areas and carriageway surfaces, and returned to the drainage system to be discharged through the flow control device following the storm event. Where storage of this volume in surface areas is not feasible, the attenuation facilities will be increased in size to accommodate the 1-in-100-year storm event. For larger events (i.e., in excess of the 1-in-100-year storm event), excess runoff will be directed overland to receiving watercourses via designated routes.

The attenuation systems are to largely comprise enclosed vegetated ponds, and shall be preceded by a Class 1 bypass fuel separator.

SURFACE WATER DESIGN CRITERIA

The proposed surface water network is to be designed in accordance with the GDSDS, using MicroDrainage Network Design package, by Innovyze Inc., which simulates the performance of the integrated drainage network for varying rainfall return periods and storm durations.

The MicroDrainage Network Design software applies the Flood Studies Report (FSR) methodology for analysis of the rainfall profiles. However, the input design parameters that were used, as part of this design, were based on the available Flood Studies Update (FSU) data, i.e., the return period rainfall depths for sliding durations, which determine

the M5-60 and R values, and the standard annual average rainfall (SAAR); as sourced from Met Éireann. The primary design parameters used in design are as follows:

Parameter		Value
Annual Average Rainfall (AAR) Value		799mm
Rainfall 'M5-60' Value		15.70mm
Ration R		0.281
Impermeability Factor for paved areas		1.0
Time of Entry		minutes
Smallest pipe diameter to use for carriageway drainage		225mm
Roughness Coefficient		0.6
Minimum permissible velocity (self-cleansing velocity)		1.0 m/s
Maximum velocity		2.99 m/s
Minimum cover to pipes (unprotected)		1200mm
Line up pipe soffits at connection		YES
Return Period for carriageway drainage		2 years
Return period for culvert design		100 years
Return period for bridge design		1000 years

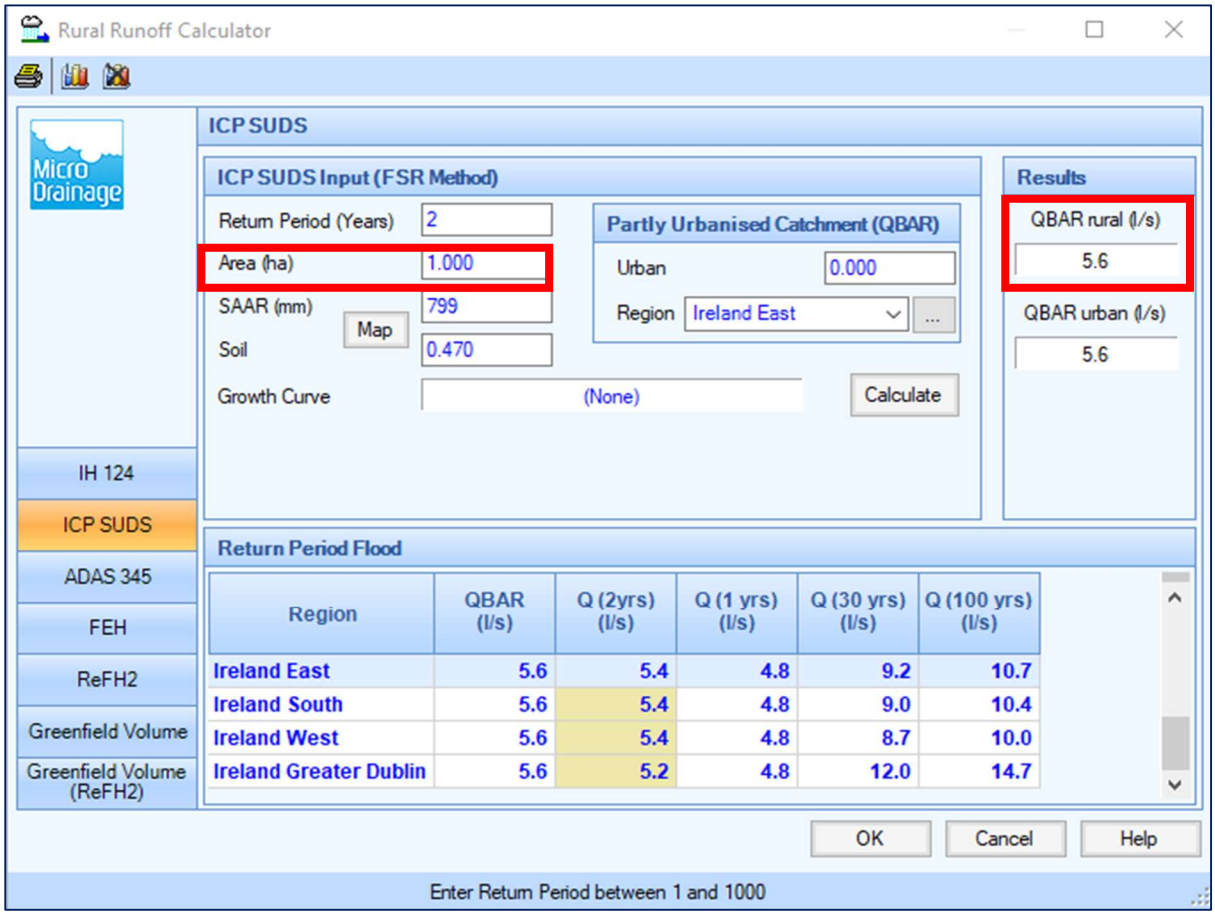
SURFACE WATER CATCHMENTS & ATTENUATION

The proposed surface water network is to be split into a 4nr. catchments, in order to optimise the network based on the natural topography of the site, and therefore replicating natural discharge rates and volumes.

The new road and associated footpath and cycle track is to discharge the treated and attenuated rainfall runoff from each catchment to the existing watercourse along its southern and eastern boundaries, namely the river Ryewater and the Blackhall Little stream.

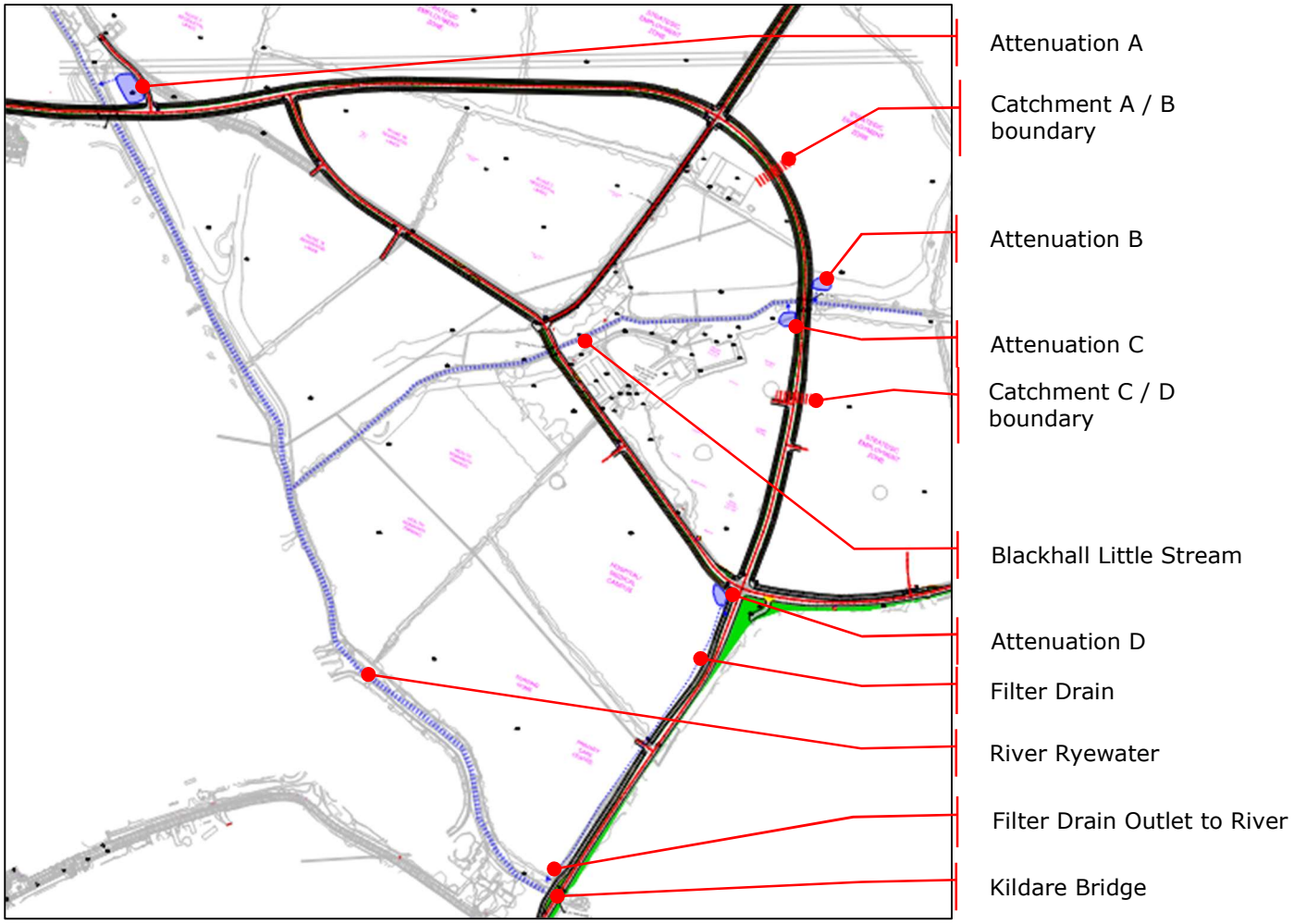
The discharge rates are to be restricted to a maximum flow rate from each catchment of **5.5 l/s/ha**, which is ***less than*** the current greenfield equivalent runoff rate. Refer

to the image below for details of the existing greenfield runoff rate, which has been calculated using the ICPSuDS Input, (Flood Studies Report, FSR).



Attenuation ponds are to be provided upstream of the outfall location from each catchment. Each of the attenuation systems have been designed to attenuate the design 1% AEP event, with an additional 20% factor for Climate Change projections, and shall comprise a grassed / vegetated pond, with protected headwalls.

An overview of the surface water catchment boundaries, along with the attenuation zones and outfall locations are illustrated on the following image.



A summary of the attenuation strategy is as follows:

Attenuation A: 765m^3 – discharge to River Ryewater;
Attenuation B: 125m^3 – discharge to Blackhall Little stream;
Attenuation C: 120m^3 – discharge to Blackhall Little stream;
Attenuation D: 140m^3 – discharge to new filter drain that discharges to river Ryewater.

As note previously, each drainage network is to discharge at a flow rate of 5.5 l/s/ha, which is less than the calculated greenfield equivalent rate.

While catchment areas A, B and C comprise all new road infrastructure, and are do discharge treated and attenuated runoff to the watercourse immediately adjacent, Catchment D is to discharge its attenuated and treated flows to a new filter dreain that

is to replace an existing open drain as part of the upgrade of the R157 road, which is to form part of the MOOR. This section of the proposed MOOR, on the eastern side of the Maynooth Environs, is to consist of realigned and upgrade of the existing R157road infrastructure, with rainfall runoff to be directed to the new filter drain via repositioned road gullies (along with some new ones).

A non-return valve is to be fixed to the headwall of each outfall to watercourse.

FLOOD RISK ASSESSMENT

JBA Consulting have carried out a detailed Flood Risk Assessment (FRA) on the masterplan area foe the Maynooth Environs. This FRA included a detailed update to the model of the river Ryewater and its local tributaries, based on a recent detailed topographic survey. The new model also included the new bridge structures that have been discussed elsewhere within this report.
The results of the FRA, and its associated output flood extent mapping, confirmed that there was no adverse impact on existing lands in the vicinity of the study area, with no additional nuisance flooding caused as a result of the proposed new road or associated developments.
Refer to JBA Consulting's Masterplan Flood Risk Assessment Report, submitted under separate cover for further details.

SECTION 50 APPLICATION

A Section 50 application to the Office of Public Works (OPW) is to be submitted following grant of planning permission, for each of the proposed bridge structures.

It is noted that an assessment on potential flood risk, in line with OPW's Section 50 specific requirements, have been assessed as part of JBA consulting's flood study and risk assessment for the Maynooth Environs, with no adverse impact noted.

WASTEWATER DRAINAGE OVERVIEW

OCSC and the applicant have had continued detailed discussions with Irish Water in relation to the delivery of a new strategic wastewater pumping station, which is to be sited on Applicant owned lands within Maynooth Environs, as part of a separate planning application. New wastewater drainage infrastructure is to be installed along the route of the proposed MOOR, which is to facilitate new development in the Maynooth Environs by allowing for a connection to the new WWPS. All new wastewater infrastructure shall be in accordance with Irish Water's requirements.

POTABLE WATER OVERVIEW

New watermain infrastructure is to be installed along the route of the proposed MOOR, which is to facilitate new development in the Maynooth Environs. These are to be routed along the footpath / cycle track on both sides of the carriageway, and shall be in accordance with Irish Water's requirements.

9 CONCLUSIONS & RECOMMENDATIONS

CONCLUSIONS

Having completed the preliminary design of the scheme, the following conclusions can now be made:

- The need for the scheme has been established.
- The scheme will also relieve pressure at certain key junctions within the existing road network.
- The new bridge on the western side will provide a second river crossing for traffic from Moyglare Road to Maynooth environs and eastwards.
- The scheme will bring a reduction in the frequency and severity of road collisions
- The design of the scheme has been carried out in accordance with DMURS.

RECOMMENDATIONS

It is recommended that the Maynooth Outer Orbital Road as described in this Preliminary Design Report be approved by Meath County Council so that it will form the basis for the detailed design and construction of the Road.

10 VERIFICATION

This report was compiled and verified by:

Wian Marais BE (US), BE (Hons) (UP), Professional Engineer (ECSA)
Civil Engineer
O'Connor Sutton Cronin & Associates

Appendix A **SITE INVESTIGATION REPORT**

S.I. Ltd Contract No: 5863

Client: Sky Castle Ltd
Engineer: OCSC
Contractor: Site Investigations Ltd

Moygaddy,
Maynooth, Co. Meath
Site Investigation Report

Prepared by:

.....
Stephen Letch

Issue Date:	12/08/2021
Status	Final
Revision	2

Contents:

Appendices:

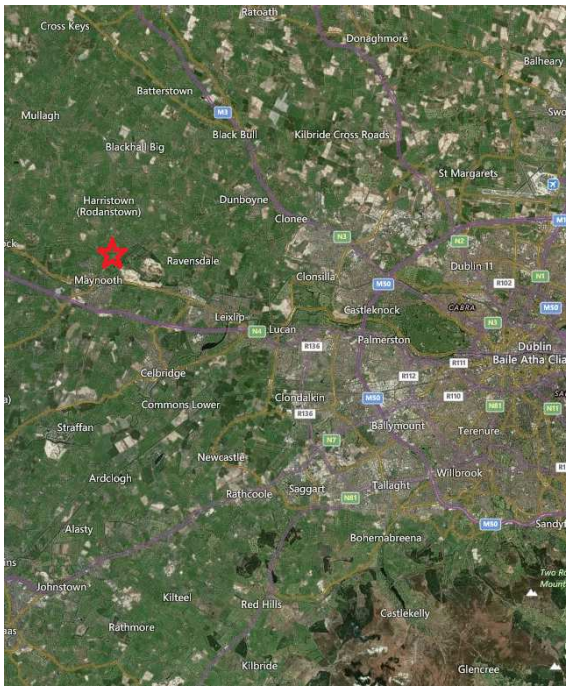
1. Introduction

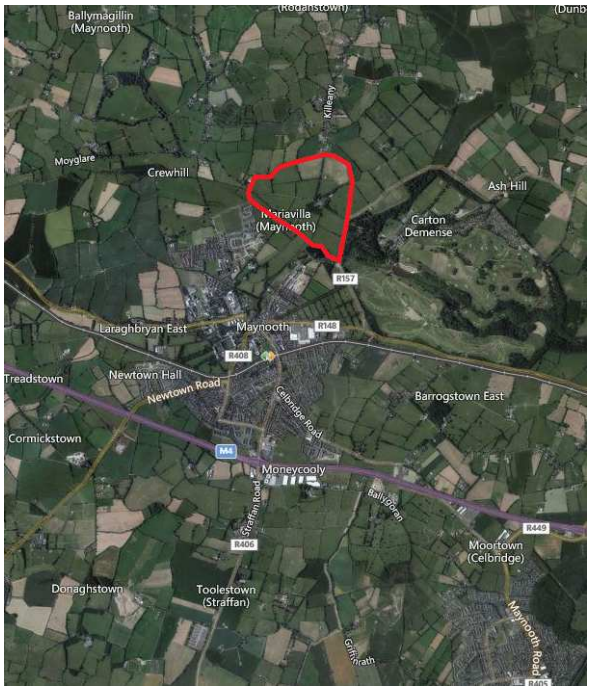
On the instructions of OCSC, Site Investigations Ltd (SIL) was appointed to complete a ground investigation at Moygaddy, Maynooth, Co. Meath. The investigation was completed for the residential development on the site and was completed on behalf of the Client, Sky Castle Ltd. The fieldworks were started in June and completed in July 2021.

This report presents the factual geotechnical data obtained from the field and laboratory testing with interpretation of the ground conditions discussed.

2. Site Location

The site is located to the north of Maynooth with the Kildare-Meath border running to the south of the site with Maynooth in Kildare and the site in Meath. Carton Demense is to the east of site with Dublin city further to the east. The first map below shows the location of the site to the east of Dublin and the second map shows the location of the site to the north of Maynooth town.





3. Fieldwork

The fieldworks comprised a programme of cable percussive boreholes, rotary coreholes, trial pits and dynamic probes. All fieldwork was carried out in accordance with BS 5930:2015, Engineers Ireland GI Specification and Related Document 2nd Edition 2016 and Eurocode 7: Geotechnical Design.

The fieldworks comprised of the following:

- 18 No. cable percussive boreholes
- 16 No. rotary coreholes
- 21 No. trial pits with soakaway tests
- 84 No. dynamic probes

3.1. Cable Percussive Boreholes with Rotary Coreholes

Cable percussion boring was undertaken at 18 No. locations using a Dando 150 rig and constructed 200mm diameter boreholes. The boreholes terminated at depths ranging from 3.00mbgl (BH10) to 6.80mbgl (BH15 and BH16) after 1.5hrs chiselling with no further progress. It was not possible to collect undisturbed samples due to the granular soils encountered so bulk disturbed samples were recovered at regular intervals.

To test the strength of the stratum, Standard Penetration Tests (SPT's) were performed at 1.00m intervals in accordance with BS 1377 (1990). In soils with high gravel and cobble content it is appropriate to use a solid cone (60°) (CPT) instead of the split spoon and this was used throughout the testing. The test is completed over 450mm and the cone is driven 150mm into the stratum to ensure that the test is conducted over an undisturbed zone. The cone is then driven the remaining 300mm and the blows recorded to report the N-Value. The report shows the N-Value with the 75mm incremental blows listed in brackets (e.g., BH01 at 2.00mbgl where N=16-(2,3/3,4,4,5)). Where refusal of 50 blows across the test zone was encountered was achieved during testing, the penetration depth is also reported (e.g., BH01 at 1.00mbgl where N=50-(3,4/50 for 85mm)).

The cable percussive borehole logs are presented in Appendix 1.

3.2. Rotary Coreholes

At 16 No. locations, rotary coreholes were completed to investigate the depth and type of bedrock. After the investigation started, RC01, RC02, RC03 and RC15 were cancelled but the numbering remained as scheduled so these numbers are missing in the sequence of rotary coreholes. The rotary drilling was carried out using a Sondeq SS71 top drive rig. Open hole drilling techniques were used to advance through the overburden where encountered and bedrock was recovered at 10 No. locations and the bedrock was then cored with the corehole terminated when 3m of core was recovered. At 6 No. locations, no bedrock was encountered when the corehole reached 8mbgl and the corehole was terminated and backfilled.

Once the coreholes were completed, the rock cores were returned to SIL, where they were logged and photographed by a SIL geotechnical engineer. Provided on the logs are engineering

geological descriptions of the rock cores with details of the bedding/discontinuities and mechanical indices for each core run, i.e., TCR, SCR, RQD and Fracture Index.

The rotary corehole logs and photographs are presented in Appendix 2.

3.3. Trial Pits with Soakaway Tests

21 No. trial pits were excavated using a wheeled excavator. The pits were logged and photographed by SIL geotechnical engineer and representative disturbed bulk samples were recovered as the pits were excavated, which were returned to the laboratory for geotechnical testing. Groundwater ingresses and pit wall stability were also recorded as the excavations progressed.

At the base of the trial pits, soakaway tests were completed and logged by SIL geotechnical engineer. BRE Special Digest 365 stipulates that the pit should be filled three times and that the final cycle is used to provide the infiltration rate. The time taken for the water level to fall from 75% volume to 25% volume is required to calculate the rate of infiltration. However, if the water level does not fall at a steady rate, then the test is deemed to have failed and the area is unsuitable for storm water drainage.

The trial pit logs and photographs are presented in Appendix 3 and soakaway test results are presented in Appendix 4.

3.4. Dynamic Probes

At 84 No. locations, dynamic probes were completed using a track mounted Competitor 130 machine. The testing complies with the requirements of BS1377: Part 9 (1990) and Eurocode 7: Part 3. The configuration utilised standard DPH (Heavy) probing method comprising a 50kg weight, 500mm drop height and a 50mm diameter (90°) cone. The number of blows required to drive the cone each 100mm increment into the sub soil is recorded in accordance with the standards. The dynamic probe provides no information regarding soil type or groundwater conditions.

The dynamic probe results can be used to analyse the strength of the soil strata encountered by the probe. 'Proceedings of the Trinity College Dublin Symposium of Field and Laboratory Testing of Soils for Foundations and Embankments' presents a paper by Foirbart that is most relevant to Irish soil conditions and within this paper the following equations were included:

Granular Soils: DPH N_{100} x 2.5 = SPT N value

Cohesive Soils: C_u = 15 x DPH N_{100} + 30 kN/m^2

These equations present a relationship between the probe N_{100} value and the SPT N value for granular soils and the undrained shear strength of cohesive soils.

The dynamic probe logs are presented in Appendix 5.

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3.5. Surveying

Following completion of all the fieldworks, a survey of the exploratory hole locations was completed using a GeoMax GPS Rover. The data is supplied on each individual log along with a site plan in Appendix 8.

4. Laboratory Testing

Geotechnical soil laboratory testing was completed on representative soil samples in accordance with BS 1377 (1990). Testing included:

- 10 No. moisture contents
- 10 No. Atterberg limits
- 10 No. particle size gradings
- 21 No. California Bearing Ratio tests
- 8 No. pH, sulphate and chloride content

Geotechnical rock testing was also completed on the core samples and consisted of the following:

- 20 No. point loads

The geotechnical soil laboratory test results are presented in Appendix 6 with the rock laboratory tests provided in Appendix 7.

5. Ground Conditions

5.1. Overburden

The natural ground conditions in the boreholes and trial pits are consistent with brown overlying black slightly sandy gravelly silty CLAY with cobbles and boulders. These natural soils are over-consolidated lodgment till which is encountered across the North Leinster region with several papers discussing the engineering characteristics of the soil. The brown and brown grey soils are the weathered surface of the underlying black clays and the gravel and cobbles are generally angular to subrounded and predominantly limestone in origin.

The SPT N-values range from 7 to 15 at 1.00mbgl and increase to between 12 and 21 at 2.00mbgl although BH14 did record a value of 7 at this depth. The values then continue to increase with depth as the very stiff black CLAY is encountered.

Laboratory tests of the shallow cohesive soils recorded CLAY soils with low and intermediate plasticity indices of 12% to 18% recorded. The particle size distribution curves were poorly sorted straight-line curves with 21 to 53% fines content.

5.2. Bedrock

Bedrock was recovered from depths ranging from 2.80mbgl (RC10) to 7.80mbgl (RC20) and was greater than 8m deep at 5 No. locations to the east of the site. The core recovered shows that bedrock is strong to very strong light grey fine grained argillaceous LIMESTONE interbedded with moderately strong dark grey calcareous MUDSTONE with pyrite crystals, occasional fossils and calcite veins. The core showed a fresh to slightly weathered state. The discontinuities are generally smooth to rough, planar to slightly undulating, tight to open, dip angles ranging from sub-horizontal to sub-vertical and the surfaces are clean with some grey stained, calcite crystals on the surface and some clay infill.

5.3. Groundwater

Groundwater details in the boreholes and trial pits during the fieldworks are noted on the logs in Appendices 1 and 2. Groundwater ingresses were recorded in five boreholes, at 1.90mbgl at BH07 and between 3.20mbgl and 3.60mbgl in BH05, BH14, BH16 and BH17. All ingresses were sealed off by the casing as the drilling advanced and therefore indicates perched water lenses. There were water ingresses into 10 No. trial pits across the site, at depths ranging from 1.50mbgl (TP12) to 2.60mbgl (TP21) with ingresses logged as seepages to medium rates

6. Recommendations and Conclusions

Please note the following caveats:

The recommendations given, and opinions expressed in this report are based on the findings as detailed in the exploratory hole records. Where an opinion is expressed on the material between the exploratory hole locations or below the final level of excavation, this is for guidance only and no liability can be accepted for its accuracy. No responsibility can be accepted for adjacent unexpected conditions that have not been revealed by the exploratory holes. It is further recommended that all bearing surfaces when excavated should be inspected by a suitably qualified Engineer to verify the information given in this report.

Excavated surfaces in clay strata should be kept dry to avoid softening prior to foundation placement. Foundations should always be taken to a minimum depth of 0.50mBGL to avoid the effects of frost action and possible seasonal shrinkage/swelling.

If it is intended that on-site materials are to be used as fill, then the necessary laboratory testing should be specified by the Client to confirm the suitability. Also, relevant lab testing should be specified where stability of side slopes to excavations is a concern, or where contamination may be an issue.

6.1. Shallow Foundations

Due to the unknown depth of foundation and no longer-term groundwater information, this analysis assumes the groundwater will not influence the construction or performance of these foundations.

The borehole encountered firm brown slightly sandy slightly gravelly silty CLAY at 1.00mbgl and the SPT N-value at this depth generally ranges from 9 to 15. Two holes, BH14 and BH17, recorded lower values of 7 and 8 respectively but the value of 9 has been chosen for analysis of the soils.

Using a correlation proposed by Stroud and Butler between SPT N-values and plasticity indices, the SPT N-value can be used to calculate the undrained shear strength. With the low to intermediate plasticity indexes recorded in the laboratory for the soils encountered on site, this correlation is C_u=6N. Therefore, using the lower value of 9, this indicates that the undrained shear strength of the CLAY is 54kN/m^2. This can be used to calculate the ultimate bearing capacity, and this has been calculated to be 295kN/m^2. Finally, a factor of safety is applied and with a factor of 3, an allowable bearing capacity of 100kN/m^2 would be anticipated using the lower SPT values.

The soils recorded values of 12 to 21 at 2.00mbgl. This SPT N-value of 12 indicates a C_u of 72kN/m^2, an ultimate bearing capacity of 405kN/m^2 and finally an allowable bearing capacity of 135kN/m^2.

The dynamic probes confirm that the soils are firm to stiff with values of 2 or greater recorded across the site and would correlate with the SPT N-values.

The following assumptions were made as part of these analyses. If any of these assumptions are not in accordance with detailed design or observations made during construction these recommendations should be re-evaluated.

- Foundations are to be constructed on a level formation of uniform material type (described above).
- The bulk unit weight of the material in this stratum has a minimum density of 19kN/m^3.
- All bearing capacity calculations allow for a settlement of 25mm.

The trial pits indicate that excavations in the cohesive soils should be stable for a short while at least although TP05 did record pit wall instability. Therefore, all slopes should be evaluated upon excavation and regular inspections should be completed during construction to ensure that all slopes are stable. Temporary support should be used on any excavation that will be left open for an extended period.

6.2. Groundwater

The caveats below relating to interpretation of groundwater levels should be noted:
There is always considerable uncertainty as to the likely rates of water ingress into excavations in clayey soil sites due to the possibility of localised unforeseen sand and gravel lenses acting as permeable conduits for unknown volumes of water.

Furthermore, water levels noted on the borehole and trial pit logs do not generally give an accurate indication of the actual groundwater conditions as the borehole or trial pit is rarely left open for sufficient time for the water level to reach equilibrium.

Also, during boring procedures, a permeable stratum may have been sealed off by the borehole casing, or water may have been added to aid drilling. Therefore, an extended period of groundwater monitoring using any constructed standpipes is required to provide more accurate information regarding groundwater conditions. Finally, groundwater levels vary with time of year, rainfall, nearby construction and tides.

Pumping tests would be required to determine likely seepage rates and persistence into excavations taken below the groundwater level. Deep trial pits also aid estimation of seepage rates.

As discussed previously, groundwater was encountered in five boreholes and ten trial pits at depths ranging from 1.50mbgl to 3.60mbgl.

There is always considerable uncertainty as to the likely rates of water ingress into excavations in cohesive soil sites due to the possibility of localised unforeseen sand and gravel lenses acting as permeable conduits for unknown volumes of water. Based on this information at the exploratory hole locations to date, it is considered likely that any shallow ingress (less than 2.00mbgl) into excavations of the CLAY will be slow to medium. If granular soils are encountered in shallow excavations, then the possibility of water ingressing into an excavation increase.

If groundwater is encountered during excavations then mechanical pumps will be required to remove the groundwater from sumps. Sumps should be carefully located and constructed to ensure that groundwater is efficiently removed from excavations and trenches.

6.3. Soakaway Tests

At 10 No. locations, the soakaway tests failed the specification as water ingressed into the pits. This indicates that the soils are already saturated and therefore, unsuitable for soakaway design.

At the remaining locations, the soakaway tests failed the specification as the water level did not fall sufficiently enough to complete the test. The BRE Digest stipulates that the pit should half empty within 24hrs, and extrapolation indicates this condition would not be satisfied. The tests were terminated at the end of the first (of a possible three) fill/empty cycle since further testing would give even slower fall rates due to increased soil saturation. The unsuitability of the soils for soakaways is further suggested by the soil descriptions of the materials in this area of the site where the soakaway was completed, i.e., well compacted clay soils.

6.4. Pavement Design

The CBR test results in Appendix 4 indicate CBR values ranging from 4.1% to 11.6%.

The CBR samples were recovered from 0.50mbgl and inspection of the formation strata should be completed prior to construction of the pavement. Once the exact formation levels are finalised then additional in-situ testing could be completed to assist with the detailed pavement design.

6.5. Aggressive Ground Conditions

The chemical test results in Appendix 4 indicate a general pH value between 8.59 and 8.80, which is close to neutral and below the level of 9, therefore no special precautions are required.

The maximum value obtained for water soluble sulphate was 127mg/l as SO_3. The BRE Special Digest 1:2005 – '*Concrete in Aggressive Ground*' guidelines require SO_4 values and after conversion ($SO_4 = SO_3 \times 1.2$), the maximum value of 152mg/l shows Class 1 conditions and no special precautions are required.

Appendix 1

Cable Percussive Borehole Logs

Contract No: 5863	**Cable Percussion Borehole Log**	Borehole No: **BH01**

Contract:	Moygaddy	Easting:	693986.514	Date Started:	30/06/2021
Location:	Maynooth, Co. Meath	Northing:	739217.399	Date Completed:	30/06/2021
Client:	Sky Castle Ltd	Elevation:	56.45	Drilled By:	G. Macken
Engineer:	OCSC	Borehole Diameter:	200mm	Status:	FINAL

Depth (m)		Stratum Description	Legend	Level (mOD)		Samples and Insitu Tests			Water Strike	Backfill
Scale	Depth			Scale	Depth	Depth	Type	Result		
	0.20	TOPSOIL.			56.25					
		Firm brown sandy slightly gravelly silty CLAY with low cobble content.		56.0						
0.5										
1.0				55.5		1.00	B	GM75		
						1.00	C	50 (3,4/50 for 85mm)		
1.5				55.0						
	1.60	Stiff brown sandy slightly gravelly silty CLAY with high cobble content.			54.85					
2.0				54.5		2.00	B	GM76		
						2.00	C	N=16 (2,3/3,4,4,5)		
2.5				54.0						
	2.80				53.65					
3.0		Very stiff black slightly sandy gravelly silty CLAY with low cobble content.		53.5		3.00	B	GM77		
						3.00	C	50 (8,11/50 for 200mm)		
3.5				53.0						
4.0				52.5		4.00	B	GM78		
						4.00	C	N=48 (12,13/11,14,12,11)		
4.5				52.0						
5.0				51.5		5.00	B	GM79		
						5.00	C	50 (25 for 135mm/50 for 125mm)		
	5.40				51.05					
5.5	5.50	Obstruction - possible boulders.		51.0	50.95	5.50	C	50 (25 for 5mm/50 for 0mm)		
		End of Borehole at 5.50m								
6.0				50.5						
6.5				50.0						
7.0				49.5						
7.5				49.0						
8.0				48.5						
8.5				48.0						
9.0				47.5						
9.5				47.0						

Chiselling:			Water Strikes:			Water Details:			Installation:			Backfill:			Remarks:
From:	To:	Time:	Strike:	Rose:	Depth Sealed	Date:	Hole Depth:	Water Depth:	From:	To:	Pipe:	From:	To:	Type:	
1.30	1.50	01:00				20/07	5.50	Dry				0.00	5.50	Arisings	Borehole terminated due to obstruction.
6.20	6.30	01:30													

Legend:
B: Bulk
D: Disturbed
U: Undisturbed
ES: Environmental
W: Water
C: Cone SPT
S: Split spoon SPT

Contract No: 5863	**Cable Percussion Borehole Log**			Borehole No: **BH02**
Contract:	Moygaddy	Easting:	693926.010	Date Started: 29/06/2021
Location:	Maynooth, Co. Meath	Northing:	739294.840	Date Completed: 29/06/2021
Client:	Sky Castle Ltd	Elevation:	56.95	Drilled By: G. Macken
Engineer:	OCSC	Borehole Diameter:	200mm	Status: FINAL

Depth (m) Scale	Depth	Stratum Description	Legend	Level (mOD) Scale	Depth	Samples and Insitu Tests Depth	Type	Result	Water Strike	Backfill
	0.20	TOPSOIL.			56.75					
0.5		Firm brown sandy slightly gravelly silty CLAY with low cobble content.		56.5						
1.0				56.0		1.00	B	GM70		
	1.20				55.75	1.00	C	N=9 (2,1/1,2,3,3)		
1.5		Stiff brown sandy slightly gravelly silty CLAY with high cobble content.		55.5						
2.0				55.0		2.00	B	GM71		
						2.00	C	N=21 (5,6/6,4,5,6)		
2.5	2.60			54.5	54.35					
3.0		Very stiff black slightly sandy gravelly silty CLAY with low cobble content.		54.0		3.00	B	GM72		
						3.00	C	N=47 (6,9/9,12,12,14)		
3.5				53.5						
4.0				53.0		4.00	B	GM73		
						4.00	C	N=50 (8,8/12,12,13,13)		
4.5				52.5						
5.0				52.0		5.00	B	GM74		
	5.20	Obstruction - possible boulders.			51.75	5.00	C	50 (25 for 95mm/50 for 10mm)		
5.5		End of Borehole at 5.20m		51.5		5.20	C	50 (25 for 5mm/50 for 5mm)		
6.0				51.0						
6.5				50.5						
7.0				50.0						
7.5				49.5						
8.0				49.0						
8.5				48.5						
9.0				48.0						
9.5				47.5						

Chiselling: From:	To:	Time:	Water Strikes: Strike:	Rose:	Depth Sealed	Water Details: Date:	Hole Depth:	Water Depth:	Installation: From:	To:	Pipe:	Backfill: From:	To:	Type:	Remarks:
3.70	3.80	00:45				19/07	5.20	Dry				0.00	5.20	Arisings	Borehole terminated due to obstruction.
5.20	5.20	01:30													

Legend:
B: Bulk
D: Disturbed
U: Undisturbed
ES: Environmental
W: Water
C: Cone SPT
S: Split spoon SPT

Contract No: 5863	**Cable Percussion Borehole Log**	Borehole No: **BH03**

Contract:	Moygaddy	Easting:	694117.023	Date Started:	22/07/2021
Location:	Maynooth, Co. Meath	Northing:	739155.527	Date Completed:	22/07/2021
Client:	Sky Castle Ltd	Elevation:	55.01	Drilled By:	G. Macken
Engineer:	OCSC	Borehole Diameter:	200mm	Status:	FINAL

Depth (m)		Stratum Description	Legend	Level (mOD)		Samples and Insitu Tests			Water Strike	Backfill
Scale	Depth			Scale	Depth	Depth	Type	Result		
	0.20	TOPSOIL.			54.81					
		Firm brown sandy slightly gravelly silty CLAY with low cobble content.		54.5						
0.5										
1.0				54.0		1.00 1.00	B C	GM66 N=10 (2,2/3,2,3,2)		
1.5	1.50			53.5	53.51					
		Firm brown sandy slightly gravelly silty CLAY with high cobble content.								
2.0				53.0		2.00 2.00	B C	GM67 N=12 (4,5/3,3,3,3)		
2.5				52.5						
	2.80				52.21					
3.0		Very stiff black slightly sandy gravelly silty CLAY with low cobble content.		52.0		3.00 3.00	B C	GM68 N=49 (6,6/11,12,13,13)		
3.5				51.5						
4.0				51.0		4.00 4.00	B C	GM69 N=50 (8,11/50 for 255mm)		
4.5				50.5						
	4.90				50.11					
5.0	5.00	Obstruction - possible boulders. End of Borehole at 5.00m		50.0	50.01	5.00	C	50 (25 for 5mm/50 for 5mm)		
5.5				49.5						
6.0				49.0						
6.5				48.5						
7.0				48.0						
7.5				47.5						
8.0				47.0						
8.5				46.5						
9.0				46.0						
9.5				45.5						

Chiselling:			Water Strikes:			Water Details:			Installation:			Backfill:			Remarks:	Legend:
From:	To:	Time:	Strike:	Rose:	Depth Sealed	Date:	Hole Depth:	Water Depth:	From:	To:	Pipe:	From:	To:	Type:		B: Bulk D: Disturbed U: Undisturbed ES: Environmental W: Water C: Cone SPT S: Split spoon SPT
4.90	4.80	01:30				16/07	5.00	Dry				0.00	5.00	Arisings	Borehole terminated due to obstruction.	

Contract No: 5863	**Cable Percussion Borehole Log**	Borehole No: **BH04**

Contract:	Moygaddy	Easting:	693732.812	Date Started:	02/07/2021
Location:	Maynooth, Co. Meath	Northing:	739457.539	Date Completed:	02/07/2021
Client:	Sky Castle Ltd	Elevation:	56.85	Drilled By:	G. Macken
Engineer:	OCSC	Borehole Diameter:	200mm	Status:	FINAL

Depth (m) Scale	Depth	Stratum Description	Legend	Level (mOD) Scale	Depth	Samples and Insitu Tests Depth	Type	Result	Water Strike	Backfill
	0.20	TOPSOIL.			56.65					
0.5		Firm brown sandy slightly gravelly silty CLAY with low cobble content.		56.5						
1.0				56.0		1.00	B	GM86		
						1.00	C	N=15 (3,4/4,5,3,3)		
1.5	1.50			55.5	55.35					
		Stiff brown sandy slightly gravelly silty CLAY with high cobble content.								
2.0				55.0		2.00	B	GM87		
						2.00	C	N=17 (4,4/3,5,5,4)		
2.5				54.5						
3.0				54.0		3.00	B	GM88		
	3.10				53.75	3.00	C	N=49 (5,8/8,12,14,15)		
		Very stiff black slightly sandy gravelly silty CLAY with low cobble content.		53.5						
3.5										
4.0				53.0		4.00	B	GM89		
						4.00	C	50 (9,12/50 for 200mm)		
4.5				52.5						
5.0				52.0		5.00	B	GM90		
						5.00	C	50 (12,13/50 for 110mm)		
5.5				51.5						
6.0				51.0		6.00	B	GM91		
	6.20				50.65	6.00	C	50 (15,10/50 for 100mm)		
	6.30	Obstruction - possible boulders.		50.5	50.55	6.30	C	50 (25 for 5mm/50 for 5mm)		
6.5		End of Borehole at 6.30m								
7.0				50.0						
7.5				49.5						
8.0				49.0						
8.5				48.5						
9.0				48.0						
9.5				47.5						
				47.0						

Chiselling: From:	To:	Time:	Water Strikes: Strike:	Rose:	Depth Sealed	Water Details: Date:	Hole Depth:	Water Depth:	Installation: From:	To:	Pipe:	Backfill: From:	To:	Type:	Remarks:
6.20	6.30	01:30				22/07	6.30	Dry				0.00	6.30	Arisings	Borehole terminated due to obstruction.

Legend:
B: Bulk
D: Disturbed
U: Undisturbed
ES: Environmental
W: Water
C: Cone SPT
S: Split spoon SPT

Contract No: 5863	**Cable Percussion Borehole Log**	Borehole No: **BH05**

Contract:	Moygaddy	Easting:	693928.844	Date Started:	21/07/2021
Location:	Maynooth, Co. Meath	Northing:	739604.500	Date Completed:	21/07/2021
Client:	Sky Castle Ltd	Elevation:	58.72	Drilled By:	G. Macken
Engineer:	OCSC	Borehole Diameter:	200mm	Status:	FINAL

Depth (m) Scale	Depth	Stratum Description	Legend	Level (mOD) Scale	Depth	Samples and Insitu Tests Depth	Type	Result	Water Strike	Backfill
0	0.20	TOPSOIL.		58.5	58.52					
0.5		Brown sandy slightly gravelly silty CLAY with low cobble content.		58.0						
1.0	1.10					1.00	B	GM61		
		Firm becoming stiff brown sandy slightly gravelly silty CLAY with high cobble content.		57.5	57.62	1.00	C	N=9 (1,1/2,2,3,2)		
1.5				57.0						
2.0						2.00	B	GM62		
				56.5		2.00	C	N=20 (3,5/5,6,4,5)		
2.5										
	2.80			56.0	55.92					
3.0		Very stiff black slightly sandy gravelly silty CLAY with low cobble content.				3.00	B	GM63		
				55.5		3.00	C	N=43 (5,8/8,9,12,14)		
3.5				55.0						
4.0						4.00	B	GM64		
				54.5		4.00	C	N=48 (8,10/10,11,13,14)		
4.5				54.0						
5.0						5.00	B	GM65		
	5.10				53.62	5.00	C	50 (25 for		
	5.20	Obstruction - possible boulders.		53.5	53.52	5.20	C	60mm/50 for 15mm)		
5.5		End of Borehole at 5.20m		53.0				50 (25 for 5mm/50 for 5mm)		
6.0										
6.5				52.5						
7.0				52.0						
7.5				51.5						
8.0				51.0						
8.5				50.5						
9.0				50.0						
9.5				49.5						
				49.0						

Chiselling: From:	To:	Time:	Water Strikes: Strike:	Rose:	Depth Sealed	Water Details: Date:	Hole Depth:	Water Depth:	Installation: From:	To:	Pipe:	Backfill: From:	To:	Type:	Remarks:
5.10	5.20	01:30	3.20	2.90	3.60	15/07	5.20	Dry				0.00	5.20	Arisings	Borehole terminated due to obstruction.

Legend:
B: Bulk
D: Disturbed
U: Undisturbed
ES: Environmental
W: Water
C: Cone SPT
S: Split spoon SPT

Contract No: 5863	**Cable Percussion Borehole Log**	Borehole No: **BH06**

Contract:	Moygaddy	Easting:	693927.326	Date Started:	20/07/2021
Location:	Maynooth, Co. Meath	Northing:	739421.930	Date Completed:	20/07/2021
Client:	Sky Castle Ltd	Elevation:	57.55	Drilled By:	G. Macken
Engineer:	OCSC	Borehole Diameter:	200mm	Status:	FINAL

Depth (m) Scale	Depth	Stratum Description	Legend	Level (mOD) Scale	Depth	Samples and Insitu Tests Depth	Type	Result	Water Strike	Backfill
0	0.20	TOPSOIL.		57.5	57.35					
0.5		Firm brown sandy slightly gravelly silty CLAY with low cobble content.		57.0						
1.0				56.5		1.00 1.00	B C	GM57 N=10 (1,2/2,2,3,3)		
1.5	1.40	Stiff brown sandy slightly gravelly silty CLAY with high cobble content.		56.0	56.15					
2.0				55.5		2.00 2.00	B C	GM58 N=20 (3,4/4,5,6,5)		
2.5				55.0						
3.0	2.90	Very stiff black slightly sandy gravelly silty CLAY with low cobble content.		54.5	54.65	3.00 3.00	B C	GM59 N=50 (6,8/9,12,14,15)		
3.5				54.0						
4.0				53.5		4.00 4.00	B C	GM60 50 (9,12/50 for 210mm)		
4.5				53.0						
	4.70	Obstruction - possible boulders.			52.85					
5.0	4.80	End of Borehole at 4.80m		52.5	52.75	4.80	C	50 (25 for 5mm/50 for 5mm)		
5.5				52.0						
6.0				51.5						
6.5				51.0						
7.0				50.5						
7.5				50.0						
8.0				49.5						
8.5				49.0						
9.0				48.5						
9.5				48.0						

Chiselling: From:	To:	Time:	Water Strikes: Strike:	Rose:	Depth Sealed	Water Details: Date:	Hole Depth:	Water Depth:	Installation: From:	To:	Pipe:	Backfill: From:	To:	Type:	Remarks:
4.70	4.80	01:30				14/07	4.80	Dry				0.00	4.80	Arisings	Borehole terminated due to obstruction.

Legend:
B: Bulk
D: Disturbed
U: Undisturbed
ES: Environmental
W: Water
C: Cone SPT
S: Split spoon SPT

Contract No: 5863	**Cable Percussion Borehole Log**	Borehole No: **BH07**

Contract:	Moygaddy	Easting:	694241.270	Date Started:	19/07/2021
Location:	Maynooth, Co. Meath	Northing:	739411.796	Date Completed:	19/07/2021
Client:	Sky Castle Ltd	Elevation:	58.99	Drilled By:	G. Macken
Engineer:	OCSC	Borehole Diameter:	200mm	Status:	FINAL

Depth (m)		Stratum Description	Legend	Level (mOD)		Samples and Insitu Tests			Water Strike	Backfill
Scale	Depth			Scale	Depth	Depth	Type	Result		
	0.20	TOPSOIL.			58.79					
		Firm brown sandy slightly gravelly silty CLAY with low cobble content.		58.5						
				58.0		1.00	B	GM53		
						1.00	C	N=11 (1,2/2,3,3,3)		
	1.60			57.5	57.39					
		Firm brown sandy slightly gravelly silty CLAY with high cobble content.		57.0		2.00	B	GM54		
						2.00	C	N=13 (2,3/3,4,3,3)		
	2.60			56.5	56.39					
		Very stiff black slightly sandy gravelly silty CLAY with low cobble content.		56.0		3.00	B	GM55		
						3.00	C	N=50 (8,8/50 for 255mm)		
				55.5						
				55.0		4.00	B	GM56		
						4.00	C	50 (11,11/50 for 200mm)		
	4.40				54.59					
	4.50	Obstruction - possible boulders.		54.5	54.49	4.50	C	50 (25 for 5mm/50 for 0mm)		
		End of Borehole at 4.50m								
				54.0						
				53.5						
				53.0						
				52.5						
				52.0						
				51.5						
				51.0						
				50.5						
				50.0						
				49.5						

Chiselling:			Water Strikes:			Water Details:			Installation:			Backfill:			Remarks:
From:	To:	Time:	Strike:	Rose:	Depth Sealed	Date:	Hole Depth:	Water Depth:	From:	To:	Pipe:	From:	To:	Type:	
1.70	1.90	00:45	1.90	1.70	2.10	13/07	4.50	Dry				0.00	4.50	Arisings	Borehole terminated due to obstruction.
4.40	4.50	01:30													

Legend:
B: Bulk
D: Disturbed
U: Undisturbed
ES: Environmental
W: Water
C: Cone SPT
S: Split spoon SPT

Contract No: 5863	**Cable Percussion Borehole Log**	Borehole No: **BH08**

Contract:	Moygaddy	Easting:	694331.307	Date Started:	16/07/2021
Location:	Maynooth, Co. Meath	Northing:	739691.333	Date Completed:	16/07/2021
Client:	Sky Castle Ltd	Elevation:	61.30	Drilled By:	G. Macken
Engineer:	OCSC	Borehole Diameter:	200mm	Status:	FINAL

Depth (m) Scale	Depth	Stratum Description	Legend	Level (mOD) Scale	Depth	Samples and Insitu Tests Depth	Type	Result	Water Strike	Backfill
0.5	0.40	TOPSOIL.		61.0	60.90					
1.0		Firm brown sandy slightly gravelly silty CLAY with low cobble content.		60.5		1.00 1.00	B C	GM48 N=11 (1,1/2,2,3,4)		
1.5	1.70			60.0	59.60					
2.0		Stiff brown sandy slightly gravelly silty CLAY with high cobble content.		59.5		2.00 2.00	B C	GM49 N=19 (3,3/4,6,5,4)		
2.5	2.90			59.0						
3.0		Very stiff black slightly sandy gravelly silty CLAY with low cobble content.		58.5	58.40	3.00 3.00	B C	GM50 N=35 (5,6/8,8,10,9)		
3.5				58.0						
4.0				57.5		4.00 4.00	B C	GM51 50 (10,11/50 for 225mm)		
4.5				57.0						
5.0				56.5		5.00 5.00	B C	GM52 50 (25 for 125mm/50 for 100mm)		
5.5	5.70			56.0	55.60					
6.0	5.80	Obstruction - possible boulders. End of Borehole at 5.80m		55.5	55.50	5.80	C	50 (25 for 5mm/50 for 5mm)		
6.5				55.0						
7.0				54.5						
7.5				54.0						
8.0				53.5						
8.5				53.0						
9.0				52.5						
9.5				52.0						
				51.5						

Chiselling:

From:	To:	Time:
2.80	3.00	00:45
5.70	5.80	01:30

Water Strikes:

Strike:	Rose:	Depth Sealed

Water Details:

Date:	Hole Depth:	Water Depth:
12/07	5.80	Dry

Installation:

From:	To:	Pipe:

Backfill:

From:	To:	Type:
0.00	5.80	Arisings

Remarks:

Borehole terminated due to obstruction.

Legend:
B: Bulk
D: Disturbed
U: Undisturbed
ES: Environmental
W: Water
C: Cone SPT
S: Split spoon SPT

Contract No: 5863	**Cable Percussion Borehole Log**	Borehole No: **BH09**

Contract:	Moygaddy	Easting:	694598.661	Date Started:	14/07/2021
Location:	Maynooth, Co. Meath	Northing:	739652.377	Date Completed:	14/07/2021
Client:	Sky Castle Ltd	Elevation:	61.68	Drilled By:	G. Macken
Engineer:	OCSC	Borehole Diameter:	200mm	Status:	FINAL

Depth (m) Scale	Depth	Stratum Description	Legend	Level (mOD) Scale	Depth	Samples and Insitu Tests Depth	Type	Result	Water Strike	Backfill
0	0.20	TOPSOIL.		61.5	61.48					
		Firm brown sandy slightly gravelly silty CLAY with low cobble content.		61.0		1.00	B	GM41		
0.5				60.5		1.00	C	N=10 (2,2/2,3,2,3)		
1.0				60.0						
1.5	1.80				59.88					
2.0		Stiff brown sandy slightly gravelly silty CLAY with high cobble content.		59.5		2.00	B	GM42		
2.5						2.00	C	N=21 (3,3/4,5,5,7)		
	2.70			59.0	58.98					
3.0		Very stiff black slightly sandy gravelly silty CLAY with low cobble content.		58.5		3.00	B	GM43		
3.5						3.00	C	N=39 (4,7/9,9,11,10)		
4.0				58.0						
4.5				57.5		4.00	B	GM44		
						4.00	C	50 (6,9/50 for 200mm)		
5.0				57.0						
				56.5		5.00	B	GM45		
	5.30				56.38	5.00	C	50 (9,12/50 for 100mm)		
5.5	5.40	Obstruction - possible boulders.			56.28	5.40	C	50 (25 for 5mm/50 for 5mm)		
		End of Borehole at 5.40m		56.0						
6.0				55.5						
6.5				55.0						
7.0				54.5						
7.5				54.0						
8.0				53.5						
8.5				53.0						
9.0				52.5						
9.5				52.0						

Chiselling: From:	To:	Time:	Water Strikes: Strike:	Rose:	Depth Sealed	Water Details: Date:	Hole Depth:	Water Depth:	Installation: From:	To:	Pipe:	Backfill: From:	To:	Type:	Remarks:
5.30	5.40	01:30				08/07	5.40	Dry				0.00	5.40	Arisings	Borehole terminated due to obstruction.

Legend:
B: Bulk
D: Disturbed
U: Undisturbed
ES: Environmental
W: Water
C: Cone SPT
S: Split spoon SPT

Contract No: 5863	**Cable Percussion Borehole Log**				Borehole No: **BH10**
Contract:	Moygaddy	Easting:	694446.855	Date Started:	15/07/2021
Location:	Maynooth, Co. Meath	Northing:	739466.694	Date Completed:	15/07/2021
Client:	Sky Castle Ltd	Elevation:	59.25	Drilled By:	G. Macken
Engineer:	OCSC	Borehole Diameter:	200mm	Status:	FINAL

Depth (m) Scale	Depth	Stratum Description	Legend	Level (mOD) Scale	Depth	Samples and Insitu Tests Depth	Type	Result	Water Strike	Backfill
		TOPSOIL.		59.0	58.95					
	0.30	Firm brown sandy slightly gravelly silty CLAY with low cobble content.		58.5		1.00	B	GM46		
0.5						1.00	C	N=11 (2,2/3,3,3,2)		
1.0				58.0						
1.5	1.50	Stiff brown sandy slightly gravelly silty CLAY with high cobble content.			57.75					
				57.5						
2.0						2.00	B	GM47		
				57.0		2.00	C	N=20 (5,4/5,5,4,6)		
2.5	2.40	Very stiff black slightly sandy gravelly silty CLAY with low cobble content.			56.85					
	2.80	Obstruction - possible boulders.		56.5	56.45					
3.0	3.00	End of Borehole at 3.00m			56.25	3.00	C	50 (25 for 5mm/50 for 0mm)		
3.5				56.0						
4.0				55.5						
4.5				55.0						
5.0				54.5						
5.5				54.0						
6.0				53.5						
6.5				53.0						
7.0				52.5						
7.5				52.0						
8.0				51.5						
8.5				51.0						
9.0				50.5						
9.5				50.0						
				49.5						

Chiselling: From:	To:	Time:	Water Strikes: Strike:	Rose:	Depth Sealed	Water Details: Date:	Hole Depth:	Water Depth:	Installation: From:	To:	Pipe:	Backfill: From:	To:	Type:	Remarks:
2.80	3.00	02:00				09/07	3.00	Dry				0.00	3.00	Arisings	Borehole terminated due to obstruction.

Legend:
B: Bulk
D: Disturbed
U: Undisturbed
ES: Environmental
W: Water
C: Cone SPT
S: Split spoon SPT

Contract No: 5863	**Cable Percussion Borehole Log**	Borehole No: **BH11**

Contract:	Moygaddy	Easting:	694790.229	Date Started:	13/07/2021
Location:	Maynooth, Co. Meath	Northing:	739307.430	Date Completed:	13/07/2021
Client:	Sky Castle Ltd	Elevation:	59.88	Drilled By:	G. Macken
Engineer:	OCSC	Borehole Diameter:	200mm	Status:	FINAL

Depth (m) Scale	Depth	Stratum Description	Legend	Level (mOD) Scale	Depth	Samples and Insitu Tests Depth	Type	Result	Water Strike	Backfill
0	0.20	TOPSOIL.		59.5	59.68					
0.5		Firm brown sandy slightly gravelly silty CLAY with low cobble content.		59.0		1.00 1.00	B C	GM36 N=13 (2,2/3,3,4,3)		
1.0				58.5						
1.5	1.70			58.0	58.18					
2.0		Stiff brown sandy slightly gravelly silty CLAY with high cobble content.				2.00 2.00	B C	GM37 N=21 (4,4/5,5,6,5)		
2.5				57.5						
3.0	2.90	Very stiff black slightly sandy gravelly silty CLAY with low cobble content.		57.0	56.98	3.00 3.00	B C	GM38 N=43 (5,5/9,10,11,13)		
3.5				56.5						
4.0				56.0		4.00 4.00	B C	GM39 N=50 (7,9/50 for 275mm)		
4.5				55.5						
5.0				55.0		5.00 5.00	B C	GM40 50 (10,12/50 for 175mm)		
5.5	5.70			54.5	54.18					
6.0	5.80	Obstruction - possible boulders. End of Borehole at 5.80m		54.0	54.08	5.80	C	50 (25 for 5mm/50 for 5mm)		
6.5				53.5						
7.0				53.0						
7.5				52.5						
8.0				52.0						
8.5				51.5						
9.0				51.0						
9.5				50.5						
				50.0						

Chiselling: From:	To:	Time:	Water Strikes: Strike:	Rose:	Depth Sealed	Water Details: Date:	Hole Depth:	Water Depth:	Installation: From:	To:	Pipe:	Backfill: From:	To:	Type:	Remarks:
3.60	3.80	01:00				07/07	5.80	Dry				0.00	5.80	Arisings	Borehole terminated due to obstruction.
5.70	5.80	01:30													

Legend:
B: Bulk
D: Disturbed
U: Undisturbed
ES: Environmental
W: Water
C: Cone SPT
S: Split spoon SPT

Contract No: 5863	**Cable Percussion Borehole Log**	Borehole No: **BH12**

Contract:	Moygaddy	Easting:	694615.966	Date Started:	12/07/2021
Location:	Maynooth, Co. Meath	Northing:	739002.198	Date Completed:	12/07/2021
Client:	Sky Castle Ltd	Elevation:	56.86	Drilled By:	G. Macken
Engineer:	OCSC	Borehole Diameter:	200mm	Status:	FINAL

Depth (m) Scale	Depth	Stratum Description	Legend	Level (mOD) Scale	Depth	Samples and Insitu Tests Depth	Type	Result	Water Strike	Backfill
0	0.20	TOPSOIL.		56.5	56.66					
0.5		Firm brown sandy slightly gravelly silty CLAY with low cobble content.		56.0		1.00	B	GM30		
1.0						1.00	C	N=10 (1,1/3,3,2,2)		
1.5	1.30	Stiff brown sandy slightly gravelly silty CLAY with high cobble content.		55.5	55.56					
2.0				55.0		2.00	B	GM31		
2.5						2.00	C	N=21 (3,5/5,6,5,5)		
3.0				54.5		3.00	B	GM32		
3.5	3.20	Very stiff black slightly sandy gravelly silty CLAY with low cobble content.		54.0	53.66	3.00	C	N=47 (5,4/9,9,14,15)		
4.0				53.5		4.00	B	GM33		
4.5				53.0		4.00	C	50 (9,13/50 for 175mm)		
5.0				52.5		5.00	B	GM34		
5.5				52.0		5.00	C	N=50 (7,9/50 for 250mm)		
6.0				51.5		6.00	B	GM35		
6.5	6.30	Obstruction - possible boulders.		51.0	50.56	6.00	C	50 (10,13/50 for 140mm)		
7.0	6.40	End of Borehole at 6.40m		50.5	50.46	6.40	C	50 (25 for 5mm/50 for 0mm)		
7.5				50.0						
8.0				49.5						
8.5				49.0						
9.0				48.5						
9.5				48.0						
				47.5						
				47.0						

Chiselling: From:	To:	Time:	Water Strikes: Strike:	Rose:	Depth Sealed	Water Details: Date:	Hole Depth:	Water Depth:	Installation: From:	To:	Pipe:	Backfill: From:	To:	Type:	Remarks:
6.30	6.40	01:30				06/07	6.40	Dry				0.00	6.40	Arisings	Borehole terminated due to obstruction.

Legend:
B: Bulk
D: Disturbed
U: Undisturbed
ES: Environmental
W: Water
C: Cone SPT
S: Split spoon SPT

Contract No: 5863	**Cable Percussion Borehole Log**	Borehole No: **BH13**

Contract:	Moygaddy	Easting:	694659.374	Date Started:	08/07/2021
Location:	Maynooth, Co. Meath	Northing:	738763.773	Date Completed:	08/07/2021
Client:	Sky Castle Ltd	Elevation:	52.09	Drilled By:	G. Macken
Engineer:	OCSC	Borehole Diameter:	200mm	Status:	FINAL

Depth (m) Scale	Depth	Stratum Description	Legend	Level (mOD) Scale	Depth	Samples and Insitu Tests Depth	Type	Result	Water Strike	Backfill
0	0.20	TOPSOIL.		52.0	51.89					
0.5		Firm brown sandy slightly gravelly silty CLAY with low cobble content.		51.5						
1.0				51.0		1.00 1.00	B C	GM18 N=9 (2,2/2,1,3,3)		
1.5	1.70			50.5	50.39					
2.0		Firm brown sandy slightly gravelly silty CLAY with high cobble content.		50.0		2.00 2.00	B C	GM19 N=14 (4,4/3,3,4,4)		
2.5	2.50			49.5	49.59					
3.0		Very stiff black slightly sandy gravelly silty CLAY with low cobble content.		49.0		3.00 3.00	B C	GM20 N=45 (8,8/11,11,10,13)		
3.5				48.5						
4.0				48.0		4.00 4.00	B C	GM21 N=41 (7,9/9,10,11,11)		
4.5				47.5						
5.0				47.0		5.00 5.00	B C	GM22 50 (8,10/50 for 210mm)		
5.5				46.5						
6.0	6.10			46.0	45.99	6.00 6.00	B C	GM23 50 (26 for 85mm/50 for 10mm)		
6.5	6.20	Obstruction - possible boulders. End of Borehole at 6.20m		45.5	45.89	6.20	C	50 (25 for 5mm/50 for 0mm)		
7.0				45.0						
7.5				44.5						
8.0				44.0						
8.5				43.5						
9.0				43.0						
9.5				42.5						

Chiselling:

From:	To:	Time:
3.70	3.80	01:00
6.10	6.20	01:30

Water Strikes:

Strike:	Rose:	Depth Sealed

Water Details:

Date:	Hole Depth:	Water Depth:
02/07	6.20	Dry

Installation:

From:	To:	Pipe:

Backfill:

From:	To:	Type:
0.00	6.20	Arisings

Remarks:

Borehole terminated due to obstruction.

Legend:
B: Bulk
D: Disturbed
U: Undisturbed
ES: Environmental
W: Water
C: Cone SPT
S: Split spoon SPT

Contract No: 5863	**Cable Percussion Borehole Log**				Borehole No: **BH14**
Contract:	Moygaddy	Easting:	694546.422	Date Started:	06/07/2021
Location:	Maynooth, Co. Meath	Northing:	738784.570	Date Completed:	06/07/2021
Client:	Sky Castle Ltd	Elevation:	53.46	Drilled By:	G. Macken
Engineer:	OCSC	Borehole Diameter:	200mm	Status:	FINAL

Depth (m) Scale	Depth	Stratum Description	Legend	Level (mOD) Scale	Depth	Samples and Insitu Tests Depth	Type	Result	Water Strike	Backfill
	0.20	TOPSOIL.			53.26					
0.5		Soft brown sandy slightly gravelly silty CLAY with low cobble content.		53.0						
1.0				52.5		1.00	B	GM07		
1.5				52.0		1.00	C	N=7 (1,1/2,1,3,1)		
2.0	2.10			51.5	51.36	2.00	B	GM08		
2.5		Soft brown sandy slightly gravelly silty CLAY with high cobble content.		51.0		2.00	C	N=7 (2,1/2,1,1,3)		
3.0				50.5		3.00	B	GM09	▼	
	3.20				50.26	3.00	C	N=48 (2,3/9,11,13,15)	▽	
3.5		Very stiff black slightly sandy gravelly silty CLAY with low cobble content.		50.0						
4.0				49.5		4.00	B	GM10		
4.5				49.0		4.00	C	50 (9,9/50 for 225mm)		
5.0				48.5		5.00	B	GM11		
5.5				48.0		5.00	C	50 (7,10/50 for 210mm)		
6.0				47.5		6.00	B	GM12		
	6.20	Obstruction - possible boulders.			47.26	6.00	C	50 (8,10/50 for 175mm)		
	6.30	End of Borehole at 6.30m			47.16	6.50	C	50 (25 for 5mm/50 for 5mm)		
6.5				47.0						
7.0				46.5						
7.5				46.0						
8.0				45.5						
8.5				45.0						
9.0				44.5						
9.5				44.0						

Chiselling:

From:	To:	Time:
1.70	1.80	00:45
6.20	6.30	01:30

Water Strikes:

Strike:	Rose:	Depth Sealed
3.40	3.10	3.70

Water Details:

Date:	Hole Depth:	Water Depth:
30/06	6.30	Dry

Installation:

From:	To:	Pipe:

Backfill:

From:	To:	Type:
0.00	6.30	Arisings

Remarks:

Borehole terminated due to obstruction.

Legend:
B: Bulk
D: Disturbed
U: Undisturbed
ES: Environmental
W: Water
C: Cone SPT
S: Split spoon SPT

Contract No: 5863	**Cable Percussion Borehole Log**	Borehole No: **BH15**

Contract:	Moygaddy	Easting:	694458.907	Date Started:	09/07/2021
Location:	Maynooth, Co. Meath	Northing:	738814.666	Date Completed:	09/07/2021
Client:	Sky Castle Ltd	Elevation:	54.44	Drilled By:	G. Macken
Engineer:	OCSC	Borehole Diameter:	200mm	Status:	FINAL

Depth (m) Scale	Depth (m) Depth	Stratum Description	Legend	Level (mOD) Scale	Level (mOD) Depth	Samples and Insitu Tests Depth	Type	Result	Water Strike	Backfill
0	0.20	TOPSOIL.		54.0	54.24					
0.5		Firm brown sandy slightly gravelly silty CLAY with low cobble content.								
1.0				53.5		1.00	B	GM24		
1.5				53.0		1.00	C	N=10 (2,2/3,2,2,3)		
2.0	1.80	Firm brown sandy slightly gravelly silty CLAY with high cobble content.		52.5	52.64	2.00	B	GM25		
2.5	2.30	Very stiff black slightly sandy gravelly silty CLAY with low cobble content.		52.0	52.14	2.00	C	N=14 (3,2/4,3,3,4)		
3.0				51.5		3.00	B	GM26		
3.5				51.0		3.00	C	N=50 (8,7/50 for 255mm)		
4.0				50.5		4.00	B	GM27		
4.5				50.0		4.00	C	50 (11,13/50 for 210mm)		
5.0				49.5		5.00	B	GM28		
5.5				49.0		5.00	C	50 (10,12/50 for 190mm)		
6.0				48.5		6.00	B	GM29		
6.5				48.0		6.00	C	50 (11,13/50 for 140mm)		
7.0	6.70 6.80	Obstruction - possible boulders. End of Borehole at 6.80m		47.5	47.74 47.64	6.80	C	50 (25 for 5mm/50 for 0mm)		
7.5				47.0						
8.0				46.5						
8.5				46.0						
9.0				45.5						
9.5				45.0						

Chiselling:

From:	To:	Time:
2.80	2.90	01:00
6.70	6.80	01:30

Water Strikes:

Strike:	Rose:	Depth Sealed

Water Details:

Date:	Hole Depth:	Water Depth:
05/07	6.80	Dry

Installation:

From:	To:	Pipe:

Backfill:

From:	To:	Type:
0.00	6.80	Arisings

Remarks:

Borehole terminated due to obstruction.

Legend:
B: Bulk
D: Disturbed
U: Undisturbed
ES: Environmental
W: Water
C: Cone SPT
S: Split spoon SPT

Contract No: 5863	**Cable Percussion Borehole Log**	Borehole No: **BH16**

Contract:	Moygaddy	Easting:	693655.329	Date Started:	01/07/2021
Location:	Maynooth, Co. Meath	Northing:	739258.288	Date Completed:	01/07/2021
Client:	Sky Castle Ltd	Elevation:	49.53	Drilled By:	G. Macken
Engineer:	OCSC	Borehole Diameter:	200mm	Status:	FINAL

Depth (m) Scale	Depth	Stratum Description	Legend	Level (mOD) Scale	Depth	Samples and Insitu Tests Depth	Type	Result	Water Strike	Backfill
0	0.20	TOPSOIL.		49.0	49.33					
0.5		Firm brown sandy slightly gravelly silty CLAY with low cobble content.				1.00	B	GM80		
1.0				48.5		1.00	C	N=9 (1,2/2,3,2,2)		
1.5				48.0						
2.0	1.80	Stiff brown sandy slightly gravelly silty CLAY with high cobble content.		47.5	47.73	2.00	B	GM81		
2.5	2.50					2.00	C	N=16 (2,3/3,5,4,4)		
3.0		Stiff becoming very stiff black slightly sandy gravelly silty CLAY with low cobble content.		47.0	47.03					
3.5				46.5		3.00	B	GM82		
4.0				46.0		3.00	C	N=24 (4,4/5,6,6,7)		
4.5				45.5		4.00	B	GM83		
5.0				45.0		4.00	C	N=34 (5,6/6,8,9,11)		
5.5				44.5		5.00	B	GM84		
6.0				44.0		5.00	C	N=48 (5,8/11,11,12,14)		
6.5				43.5		6.00	B	GM85		
7.0	6.70	Obstruction - possible boulders.		43.0	42.83	6.00	C	N=50 (7,8/50 for 275mm)		
7.5	6.80	End of Borehole at 6.80m		42.5	42.73	6.80	C	50 (25 for 5mm/50 for 5mm)		
8.0				42.0						
8.5				41.5						
9.0				41.0						
9.5				40.5						
				40.0						

Chiselling:

From:	To:	Time:
2.80	2.90	01:00
6.70	6.80	01:30

Water Strikes:

Strike:	Rose:	Depth Sealed
3.60	3.40	4.00

Water Details:

Date:	Hole Depth:	Water Depth:
21/07	6.80	Dry

Installation:

From:	To:	Pipe:

Backfill:

From:	To:	Type:
0.00	6.80	Arisings

Remarks:

Borehole terminated due to obstruction.

Legend:
B: Bulk
D: Disturbed
U: Undisturbed
ES: Environmental
W: Water
C: Cone SPT
S: Split spoon SPT

Contract No: 5863	**Cable Percussion Borehole Log**	Borehole No: **BH17**

Contract:	Moygaddy	Easting:	694518.865	Date Started:	05/07/2021
Location:	Maynooth, Co. Meath	Northing:	738836.591	Date Completed:	05/07/2021
Client:	Sky Castle Ltd	Elevation:	54.89	Drilled By:	G. Macken
Engineer:	OCSC	Borehole Diameter:	200mm	Status:	FINAL

Depth (m) Scale	Depth	Stratum Description	Legend	Level (mOD) Scale	Depth	Samples and Insitu Tests Depth	Type	Result	Water Strike	Backfill
	0.20	TOPSOIL.			54.69					
		Firm brown sandy slightly gravelly silty CLAY.		54.5						
0.5										
1.0				54.0		1.00	B	GM01		
						1.00	C	N=8 (1,2/2,1,2,3)		
1.5				53.5						
2.0				53.0		2.00	B	GM02		
	2.20				52.69	2.00	C	N=14 (2,5/3,3,4,4)		
2.5		Stiff brown sandy slightly gravelly silty CLAY with low cobble content.		52.5						
3.0				52.0		3.00	B	GM03		
						3.00	C	N=16 (3,3/3,4,5,4)		
3.5				51.5						
	3.80				51.09					
4.0		Very stiff black slightly sandy gravelly silty CLAY with low cobble content.		51.0		4.00	B	GM04		
						4.00	C	N=47 (8,6/9,10,13,15)		
4.5				50.5						
5.0				50.0		5.00	B	GM05		
						5.00	C	50 (7,13/18,32,,)		
5.5				49.5						
6.0				49.0		6.00	B	GM06		
						6.00	C	50 (25 for 100mm/50 for 20mm)		
6.5	6.50	Obstruction - possible boulders.		48.5	48.39	6.50	C	50 (25 for 5mm/50 for 5mm)		
		End of Borehole at 6.50m								
7.0				48.0						
7.5				47.5						
8.0				47.0						
8.5				46.5						
9.0				46.0						
9.5				45.5						
				45.0						

Chiselling: From:	To:	Time:	Water Strikes: Strike:	Rose:	Depth Sealed	Water Details: Date:	Hole Depth:	Water Depth:	Installation: From:	To:	Pipe:	Backfill: From:	To:	Type:	Remarks:
3.60	3.80	00:45	3.60	3.40	3.90	29/06	6.50	Dry				0.00	6.50	Arisings	Borehole terminated due to obstruction.
5.50	5.70	01:00													
6.50	6.50	01:30													

Legend:
B: Bulk
D: Disturbed
U: Undisturbed
ES: Environmental
W: Water
C: Cone SPT
S: Split spoon SPT

Contract No: 5863	**Cable Percussion Borehole Log**	Borehole No: **BH18**

Contract:	Moygaddy	Easting:	694562.423	Date Started:	07/07/2021
Location:	Maynooth, Co. Meath	Northing:	738770.148	Date Completed:	07/07/2021
Client:	Sky Castle Ltd	Elevation:	52.93	Drilled By:	G. Macken
Engineer:	OCSC	Borehole Diameter:	200mm	Status:	FINAL

Depth (m) Scale	Depth	Stratum Description	Legend	Level (mOD) Scale	Depth	Samples and Insitu Tests Depth	Type	Result	Water Strike	Backfill
0	0.20	TOPSOIL.		52.5	52.73					
0.5		Firm brown sandy slightly gravelly silty CLAY with low cobble content.		52.0		1.00	B	GM13		
1.0						1.00	C	N=9 (1,1/3,2,2,2)		
1.5				51.5						
2.0	1.80	Firm brown sandy slightly gravelly silty CLAY with high cobble content.		51.0	51.13	2.00	B	GM14		
2.5	2.50			50.5		2.00	C	N=13 (3,3/2,3,4,4)		
		Very stiff black slightly sandy gravelly silty CLAY with low cobble content.			50.43					
3.0				50.0		3.00	B	GM15		
3.5						3.00	C	N=50 (8,8/50 for 250mm)		
4.0				49.5						
4.5				49.0		4.00	B	GM16		
5.0						4.00	C	N=50 (8,9/50 for 230mm)		
5.5				48.5						
				48.0		5.00	B	GM17		
						5.00	C	50 (10,13/50 for 135mm)		
	5.70			47.5	47.23					
6.0	5.80	Obstruction - possible boulders.		47.0	47.13	5.80	C	50 (25 for 5mm/50 for 0mm)		
		End of Borehole at 5.80m								
6.5				46.5						
7.0				46.0						
7.5				45.5						
8.0				45.0						
8.5				44.5						
9.0				44.0						
9.5				43.5						
				43.0						

Chiselling:

From:	To:	Time:
4.70	4.80	01:00
5.70	5.80	01:30

Water Strikes:

Strike:	Rose:	Depth Sealed

Water Details:

Date:	Hole Depth:	Water Depth:
01/07	5.80	Dry

Installation:

From:	To:	Pipe:

Backfill:

From:	To:	Type:
0.00	5.80	Arisings

Remarks:

Borehole terminated due to obstruction.

Legend:
B: Bulk
D: Disturbed
U: Undisturbed
ES: Environmental
W: Water
C: Cone SPT
S: Split spoon SPT

Appendix 2

Rotary Corehole Logs and Photographs

Contract No: 5863	**Rotary Corehole Log**				Corehole No: **RC04**
Contract:	Moygaddy	Easting:	693637.963	Date Started:	19/07/2021
Location:	Maynooth, Co. Meath	Northing:	739436.766	Date Completed:	19/07/2021
Client:	Sky Castle Ltd	Elevation:	56.84	Drilled By:	MEDL
Engineer:	OCSC	Rig Type:	Sondeq	Status:	FINAL

Depth (m) Scale	Depth	Stratum Description	Legend	Level (mOD) Scale	Depth	Samples	Rock Indices TCR/%	SCR/%	RQD/%	FI/m	Backfill
0.5		Open hole drilling - driller reports returns of sandy gravelly silty CLAY with cobbles.		56.5							
1.0				56.0							
1.5				55.5							
2.0				55.0							
2.5				54.5							
3.0				54.0							
3.5				53.5							
4.0				53.0							
4.5				52.5							
5.0				52.0							
5.5				51.5							
6.0				51.0							
6.5				50.5							
	6.70	Strong to very strong light grey fine grained argillaceous LIMESTONE interbedded with moderately strong dark grey calcareous MUDSTONE with occasional fossils and calcite veins (2mm thick). Fresh to slightly weathered.		50.0	50.14	6.70 - 7.70	96	57	12	14	
7.0		*Discontinuities - smooth to rough, planar to slightly undulating, tight to open, sub-horizontal and 45° dip, clean with occasional grey staining and occasional clay infill.*		49.5							
7.5				49.0		7.70 - 8.70	97	77	36		
8.0				48.5							
8.5		*Discontinuities - smooth to rough, planar to undulating, tight to open, sub-horizontal and sub-vertical dip, clean with occasional grey staining and occasional clay infill.*		48.0		8.70 - 9.70	97	68	0	19	
9.0				47.5							
9.5				47.0							
	9.70	End of Corehole at 9.70m			47.14						

Installation: From:	To:	Pipe Type:	Backfill: From:	To:	Type:	Remarks:
			0.00	9.70	Bentonite	-

Contract No: 5863	**Rotary Corehole Log**				Corehole No: **RC05**
Contract:	Moygaddy	Easting:	693935.222	Date Started:	15/07/2021
Location:	Maynooth, Co. Meath	Northing:	739548.071	Date Completed:	15/07/2021
Client:	Sky Castle Ltd	Elevation:	58.60	Drilled By:	MEDL
Engineer:	OCSC	Rig Type:	Sondeq	Status:	FINAL

Depth (m) Scale	Depth	Stratum Description	Legend	Level (mOD) Scale	Depth	Samples	Rock Indices TCR/%	SCR/%	RQD/%	FI/m	Backfill
0.5		Open hole drilling - driller reports returns of sandy gravelly silty CLAY with cobbles.		58.5							
1.0				58.0							
1.5				57.5							
2.0				57.0							
2.5				56.5							
3.0				56.0							
3.5				55.5							
4.0				55.0							
4.5				54.5							
5.0				54.0							
5.5				53.5							
	5.70			53.0	52.90						
6.0		Strong to very strong light grey fine grained argillaceous LIMESTONE interbedded with moderately strong dark grey calcareous MUDSTONE with occasional fossils, pyrite crystals and calcite veins (2mm thick). Fresh to slightly weathered.		52.5		5.70 - 6.70	96	83	28	11	
6.5		*Discontinuities - smooth to rough, planar, tight to open, sub-horizontal dip, clean with occasional grey staining.*		52.0							
7.0		*Discontinuities - smooth to rough, planar to slightly undulating, tight to open, sub-horizontal and sub-vertical dip, clean with occasional grey staining.*		51.5		6.70 - 7.70	96	52	16	14	
7.5				51.0							
8.0		*Discontinuities - smooth to rough, planar, tight to open, sub-horizontal, occasional sub-vertical dip, clean with occasional grey staining.*		50.5		7.70 - 8.70	92	88	22	11	
8.5				50.0							
	8.70	End of Corehole at 8.70m			49.90						
9.0				49.5							
9.5				49.0							

Installation:			Backfill:			Remarks:
From:	To:	Pipe Type:	From:	To:	Type:	-
			0.00	8.70	Bentonite	

Contract No: 5863	**Rotary Corehole Log**				Corehole No: **RC06**
Contract:	Moygaddy	Easting:	694016.492	Date Started:	15/07/2021
Location:	Maynooth, Co. Meath	Northing:	739390.864	Date Completed:	15/07/2021
Client:	Sky Castle Ltd	Elevation:	57.65	Drilled By:	MEDL
Engineer:	OCSC	Rig Type:	Sondeq	Status:	FINAL

Depth (m)		Stratum Description	Legend	Level (mOD)		Samples	Rock Indices				Backfill
Scale	Depth			Scale	Depth		TCR/%	SCR/%	RQD/%	FI/m	
0.5		Open hole drilling - driller reports returns of sandy gravelly silty CLAY with cobbles.		57.5							
1.0				57.0							
1.5				56.5							
2.0				56.0							
2.5				55.5							
3.0				55.0							
3.5				54.5							
4.0				54.0							
4.5				53.5							
5.0				53.0							
	5.30			52.5	52.35						
5.5		Strong to very strong light grey fine grained argillaceous LIMESTONE interbedded with moderately strong dark grey calcareous MUDSTONE with occasional fossils and calcite veins (3mm thick). Fresh to slightly weathered.		52.0		5.30 - 6.30	93	70	47	10	
6.0		*Discontinuities - smooth to rough, planar to slightly undulating, tight to open, 10-20° and sub-vertical dip, clean with occasional grey staining and occasional clay infill.*		51.5							
6.5		*Discontinuities - smooth to rough, planar, tight to open, 10-20° and sub-horizontal dip, clean with occasional grey staining, calcite crystals and occasional clay infill.*		51.0		6.30 - 7.30	98	75	39	10	
7.0				50.5							
7.5	7.50			50.0	50.15	7.30 - 8.30	80	76	32		
8.0		Strong to very strong light grey fine grained argillaceous LIMESTONE interbedded with moderately strong dark grey calcareous MUDSTONE with frequent pyrite crystals, occasional fossils and calcite veins (3mm thick). Fresh to slightly weathered.		49.5							
	8.30	End of Corehole at 8.30m			49.35						
8.5				49.0							
9.0				48.5							
9.5				48.0							

Installation:			Backfill:			Remarks:
From:	To:	Pipe Type:	From:	To:	Type:	-
			0.00	8.30	Bentonite	

Contract No: 5863	**Rotary Corehole Log**				Corehole No: **RC07**
Contract:	Moygaddy	Easting:	694142.350	Date Started:	14/07/2021
Location:	Maynooth, Co. Meath	Northing:	739365.230	Date Completed:	14/07/2021
Client:	Sky Castle Ltd	Elevation:	57.84	Drilled By:	MEDL
Engineer:	OCSC	Rig Type:	Sondeq	Status:	FINAL

Depth (m)		Stratum Description	Legend	Level (mOD)		Samples	Rock Indices				Backfill
Scale	Depth			Scale	Depth		TCR/%	SCR/%	RQD/%	FI/m	
0.5		Open hole drilling - driller reports returns of sandy gravelly silty CLAY with cobbles.		57.5							
1.0				57.0							
1.5				56.5							
2.0				56.0							
2.5				55.5							
3.0				55.0							
3.5				54.5							
4.0				54.0							
4.5				53.5							
5.0				53.0							
5.5	5.60			52.5	52.24						
6.0		Strong to very strong light grey fine grained argillaceous LIMESTONE interbedded with moderately strong dark grey calcareous MUDSTONE with occasional fossils and calcite veins (1mm thick). Fresh to slightly weathered. *Discontinuities - smooth, occasionally rough, planar, tight to open, sub-horizontal, occasional sub-vertical dip, clean with occasional grey staining.*		52.0		5.60 - 6.60	97	97	66	12	
6.5				51.5							
7.0		*Discontinuities - smooth to rough, planar to slightly undulating, tight to open, sub-horizontal and sub-vertical dip, clean with occasional grey staining and occasional clay infill.*		51.0		6.60 - 7.60	99	65	41	11	
7.5				50.5							
8.0		*Discontinuities - smooth to rough, planar, tight to open, sub-horizontal and sub-vertical dip, clean with occasional grey staining.*		50.0		7.60 - 8.60	90	75	53	8	
8.5	8.60	End of Corehole at 8.60m		49.5	49.24						
9.0				49.0							
9.5				48.5							
				48.0							

Installation:			Backfill:			Remarks:
From:	To:	Pipe Type:	From:	To:	Type:	-
			0.00	8.60	Bentonite	

Contract No: 5863	**Rotary Corehole Log**				Corehole No: **RC08**
Contract:	Moygaddy	Easting:	694212.597	Date Started:	16/07/2021
Location:	Maynooth, Co. Meath	Northing:	739630.304	Date Completed:	16/07/2021
Client:	Sky Castle Ltd	Elevation:	60.48	Drilled By:	MEDL
Engineer:	OCSC	Rig Type:	Sondeq	Status:	FINAL

Depth (m) Scale	Depth	Stratum Description	Legend	Level (mOD) Scale	Depth	Samples	Rock Indices TCR/%	SCR/%	RQD/%	FI/m	Backfill
0.5		Open hole drilling - driller reports returns of sandy gravelly silty CLAY with cobbles.		60.0							
1.0				59.5							
1.5				59.0							
2.0				58.5							
2.5				58.0							
3.0				57.5							
3.5				57.0							
4.0				56.5							
4.5				56.0							
5.0				55.5							
5.5				55.0							
6.0				54.5							
6.5	6.60			54.0	53.88					Ni	
7.0		Strong to very strong light grey fine grained argillaceous LIMESTONE interbedded with moderately strong dark grey calcareous MUDSTONE with frequent calcite veins (3mm thick). Fresh to slightly weathered.		53.5		6.60 - 7.60	98	63	23	11	
7.5		*Discontinuities - non-intact.* *Discontinuities - smooth to rough, planar to undulating, tight to open, sub-horizontal and sub-vertical dip, clean with occasional grey staining, calcite crystals and occasional clay infill.*		53.0							
8.0		*Discontinuities - non-intact.*		52.5		7.60 - 8.60	100	69	32	Ni	
8.5		*Discontinuities - smooth to rough, planar to slightly undulating, tight to open, sub-horizontal and sub-vertical dip, clean with occasional grey staining, calcite crystals and occasional clay infill.* *Discontinuities - non-intact.*		52.0						13	
9.0		*Discontinuities - smooth to rough, planar to slightly undulating, tight to open, sub-horizontal and sub-vertical dip, clean with occasional grey staining, calcite crystals and occasional clay infill.*		51.5		8.60 - 9.60	98	75	21	Ni 17	
9.5	9.60	End of Corehole at 9.60m		51.0	50.88						

Installation: From:	To:	Pipe Type:	Backfill: From:	To:	Type:	Remarks:
			0.00	9.60	Bentonite	-

Contract No: 5863	**Rotary Corehole Log**				Corehole No: **RC09**
Contract:	Moygaddy	Easting:	694497.168	Date Started:	13/07/2021
Location:	Maynooth, Co. Meath	Northing:	739610.386	Date Completed:	13/07/2021
Client:	Sky Castle Ltd	Elevation:	61.10	Drilled By:	MEDL
Engineer:	OCSC	Rig Type:	Sondeq	Status:	FINAL

Depth (m)		Stratum Description	Legend	Level (mOD)		Samples	Rock Indices				Backfill
Scale	Depth			Scale	Depth		TCR/%	SCR/%	RQD/%	FI/m	
0.5		Open hole drilling - driller reports returns of sandy gravelly silty CLAY with cobbles.		61.0							
1.0				60.5							
1.5				60.0							
2.0				59.5							
2.5				59.0							
3.0				58.5							
3.5				58.0							
4.0				57.5							
4.5				57.0							
5.0				56.5							
5.5				56.0							
6.0				55.5							
	6.30			55.0	54.80						
6.5		Strong to very strong light grey fine grained argillaceous LIMESTONE interbedded with moderately strong dark grey calcareous MUDSTONE with some pyrite crystals and calcite veins (2mm thick). Fresh to slightly weathered.		54.5		6.30 - 7.30	94	85	50	9	
7.0		*Discontinuities - smooth, occasionally rough, planar to undulating, tight to open, sub-horizontal, occasional sub-vertical dip, clean with occasional grey staining.*		54.0							
7.5				53.5		7.30 - 8.30	95	69	33		
8.0		*Discontinuities - non-intact.*		53.0						Ni	
8.5		*Discontinuities - smooth to rough, planar to slightly undulating, tight to open, sub-horizontal and sub-vertical dip, clean with occasional grey staining and calcite crystals.*		52.5		8.30 - 9.30	99	75	12	14	
9.0				52.0							
	9.30	End of Corehole at 9.30m			51.80						
9.5				51.5							

Installation:			Backfill:			Remarks:
From:	To:	Pipe Type:	From:	To:	Type:	-
			0.00	9.30	Bentonite	

Contract No: 5863	**Rotary Corehole Log**				Corehole No: **RC10**
Contract:	Moygaddy	Easting:	694428.449	Date Started:	13/07/2021
Location:	Maynooth, Co. Meath	Northing:	739378.834	Date Completed:	13/07/2021
Client:	Sky Castle Ltd	Elevation:	57.86	Drilled By:	MEDL
Engineer:	OCSC	Rig Type:	Sondeq	Status:	FINAL

Depth (m)		Stratum Description	Legend	Level (mOD)		Samples	Rock Indices				Backfill
Scale	Depth			Scale	Depth		TCR/%	SCR/%	RQD/%	FI/m	
0.5		Open hole drilling - driller reports returns of sandy gravelly silty CLAY with cobbles.		57.5							
1.0				57.0							
1.5				56.5							
2.0				56.0							
2.5				55.5							
3.0	2.80	Strong to very strong light grey fine grained argillaceous LIMESTONE interbedded with moderately strong dark grey calcareous MUDSTONE with occasional calcite veins (1mm thick). Fresh to slightly weathered.		55.0	55.06	2.80 - 3.80	91	85	28	10	
3.5		*Discontinuities - smooth, planar, occasionally stepped, tight to open, 10-30° dip, clean with occasional grey staining and occasional clay infill.*		54.5							
4.0				54.0		3.80 - 4.80	95	70	55		
4.5		*Discontinuities - non-intact.*		53.5						Ni	
5.0		*Discontinuities - smooth, planar, occasionally stepped, tight to open, 10-20° dip, occasionally sub-vertical, clean with occasional grey staining and occasional clay infill.*		53.0		4.80 - 5.80	96	60	31	9	
5.5		*Discontinuities - non-intact.*		52.5						Ni	
6.0	5.80	End of Corehole at 5.80m		52.0	52.06						
6.5				51.5							
7.0				51.0							
7.5				50.5							
8.0				50.0							
8.5				49.5							
9.0				49.0							
9.5				48.5							
				48.0							

Installation:			Backfill:			Remarks:
From:	To:	Pipe Type:	From:	To:	Type:	-
			0.00	5.80	Bentonite	

Contract No: 5863	**Rotary Corehole Log**				Corehole No: **RC11**
Contract:	Moygaddy	Easting:	694711.726	Date Started:	12/07/2021
Location:	Maynooth, Co. Meath	Northing:	739248.236	Date Completed:	12/07/2021
Client:	Sky Castle Ltd	Elevation:	59.49	Drilled By:	MEDL
Engineer:	OCSC	Rig Type:	Sondeq	Status:	FINAL

Depth (m)		Stratum Description	Legend	Level (mOD)		Samples	Rock Indices				Backfill
Scale	Depth			Scale	Depth		TCR/%	SCR/%	RQD/%	FI/m	
0.5		Open hole drilling - driller reports returns of sandy gravelly silty CLAY with cobbles.		59.0							
1.0				58.5							
1.5				58.0							
2.0				57.5							
2.5				57.0							
3.0				56.5							
3.5				56.0							
4.0				55.5							
4.5				55.0							
5.0				54.5							
5.5				54.0							
6.0				53.5							
6.5	6.50	Strong to very strong light grey fine grained argillaceous LIMESTONE interbedded with moderately strong dark grey calcareous MUDSTONE with occasional calcite veins (2mm thick). Fresh to slightly weathered. *Discontinuities - smooth, planar to slightly undulating, tight to open, 40-50° dip, clean surfaces.*		53.0	52.99	6.50 - 7.50	97	83	43	9	
7.0				52.5							
7.5				52.0							
8.0	7.80	Strong to very strong light grey fine grained argillaceous LIMESTONE interbedded with moderately strong dark grey calcareous MUDSTONE with occasional calcite veins (1mm thick). Fresh to slightly weathered. *Discontinuities - smooth, planar to slightly undulating, tight to open, 30-50° dip, clean surfaces.*		51.5	51.69	7.50 - 8.50	97	89	50	7	
8.5				51.0							
9.0				50.5		8.50 - 9.50	95	91	71		
9.5	9.50	End of Corehole at 9.40m		50.0	49.99						

Installation:			Backfill:			Remarks:
From:	To:	Pipe Type:	From:	To:	Type:	-
			0.00	9.40	Bentonite	

Contract No: 5863	**Rotary Corehole Log**				Corehole No: **RC12**
Contract:	Moygaddy	Easting:	694562.423	Date Started:	08/07/2021
Location:	Maynooth, Co. Meath	Northing:	738770.148	Date Completed:	08/07/2021
Client:	Sky Castle Ltd	Elevation:	52.93	Drilled By:	MEDL
Engineer:	OCSC	Rig Type:	Sondeq	Status:	FINAL

Depth (m)		Stratum Description	Legend	Level (mOD)		Samples	Rock Indices				Backfill
Scale	Depth			Scale	Depth		TCR/%	SCR/%	RQD/%	FI/m	
0.5		Open hole drilling - driller reports returns of sandy gravelly silty CLAY with cobbles.		52.5							
1.0				52.0							
1.5				51.5							
2.0				51.0							
2.5				50.5							
3.0				50.0							
3.5				49.5							
4.0				49.0							
4.5				48.5							
5.0				48.0							
5.5				47.5							
6.0				47.0							
6.5				46.5		50 (4,5/50 for 30mm)					
7.0				46.0							
7.5				45.5							
8.0	8.00	End of Corehole at 8.00m		45.0	44.93	N=41 (3,6/8,9,10,14)					
8.5				44.5							
9.0				44.0							
9.5				43.5							
				43.0							

Installation:			Backfill:			Remarks:
From:	To:	Pipe Type:	From:	To:	Type:	-
			0.00	8.00	Bentonite	

Contract No: 5863	**Rotary Corehole Log**				Corehole No: **RC13**
Contract:	Moygaddy	Easting:	694473.806	Date Started:	07/07/2021
Location:	Maynooth, Co. Meath	Northing:	738837.204	Date Completed:	07/07/2021
Client:	Sky Castle Ltd	Elevation:	55.00	Drilled By:	MEDL
Engineer:	OCSC	Rig Type:	Sondeq	Status:	FINAL

Depth (m)		Stratum Description	Legend	Level (mOD)		Samples	Rock Indices				Backfill
Scale	Depth			Scale	Depth		TCR/%	SCR/%	RQD/%	FI/m	
0.5		Open hole drilling - driller reports returns of sandy gravelly silty CLAY with cobbles.		54.5							
1.0				54.0							
1.5				53.5							
2.0				53.0							
2.5				52.5							
3.0				52.0							
3.5				51.5							
4.0				51.0							
4.5				50.5							
5.0				50.0							
5.5				49.5							
6.0				49.0							
6.5				48.5		50 (4,5/50 for 95mm)					
7.0				48.0							
7.5				47.5							
8.0	8.00	End of Corehole at 8.00m		47.0	47.00	N=39 (5,5/7,9,10,13)					
8.5				46.5							
9.0				46.0							
9.5				45.5							

Installation:			Backfill:			Remarks:
From:	To:	Pipe Type:	From:	To:	Type:	-
			0.00	8.00	Bentonite	

Contract No: 5863	**Rotary Corehole Log**				Corehole No: **RC14**
Contract:	Moygaddy	Easting:	694269.076	Date Started:	07/07/2021
Location:	Maynooth, Co. Meath	Northing:	739051.513	Date Completed:	07/07/2021
Client:	Sky Castle Ltd	Elevation:	55.61	Drilled By:	MEDL
Engineer:	OCSC	Rig Type:	Sondeq	Status:	FINAL

Depth (m)		Stratum Description	Legend	Level (mOD)		Samples	Rock Indices				Backfill
Scale	Depth			Scale	Depth		TCR/%	SCR/%	RQD/%	FI/m	
0.5		Open hole drilling - driller reports returns of sandy gravelly silty CLAY with cobbles.		55.5							
1.0				55.0							
1.5				54.5							
2.0				54.0							
2.5				53.5							
3.0				53.0							
3.5				52.5							
4.0				52.0							
4.5				51.5							
5.0				51.0							
5.5				50.5							
6.0				50.0							
6.5				49.5		N=39 (3,5/7,9,10,13)					
7.0				49.0							
7.5				48.5							
8.0	8.00	End of Corehole at 8.00m		48.0	47.61	N=40 (3,4/6,10,10,14)					
8.5				47.5							
9.0				47.0							
9.5				46.5							
				46.0							

Installation:			Backfill:			Remarks:
From:	To:	Pipe Type:	From:	To:	Type:	-
			0.00	8.00	Bentonite	

Contract No: 5863	**Rotary Corehole Log**				Corehole No: **RC16**
Contract:	Moygaddy	Easting:	694648.959	Date Started:	08/07/2021
Location:	Maynooth, Co. Meath	Northing:	738608.023	Date Completed:	08/07/2021
Client:	Sky Castle Ltd	Elevation:	45.96	Drilled By:	MEDL
Engineer:	OCSC	Rig Type:	Sondeq	Status:	FINAL

Depth (m)		Stratum Description	Legend	Level (mOD)		Samples	Rock Indices				Backfill
Scale	Depth			Scale	Depth		TCR/%	SCR/%	RQD/%	FI/m	
0.5		Open hole drilling - driller reports returns of sandy gravelly silty CLAY with cobbles.		45.5							
1.0				45.0							
1.5				44.5							
2.0				44.0							
2.5				43.5							
3.0				43.0							
3.5				42.5							
4.0				42.0							
4.5				41.5							
5.0				41.0							
5.5				40.5							
6.0				40.0							
6.5				39.5		N=37 (3,3/5,8,11,13)					
7.0				39.0							
7.5				38.5							
8.0	8.00	End of Corehole at 8.00m		38.0	37.96	N=43 (3,6/8,9,12,14)					
8.5				37.5							
9.0				37.0							
9.5				36.5							

Installation:			Backfill:			Remarks:
From:	To:	Pipe Type:	From:	To:	Type:	-
			0.00	8.00	Bentonite	

Contract No: 5863	**Rotary Corehole Log**				Corehole No: **RC17**
Contract:	Moygaddy	Easting:	693707.911	Date Started:	19/07/2021
Location:	Maynooth, Co. Meath	Northing:	739303.990	Date Completed:	19/07/2021
Client:	Sky Castle Ltd	Elevation:	54.78	Drilled By:	MEDL
Engineer:	OCSC	Rig Type:	Sondeq	Status:	FINAL

Depth (m)		Stratum Description	Legend	Level (mOD)		Samples	Rock Indices				Backfill
Scale	Depth			Scale	Depth		TCR/%	SCR/%	RQD/%	FI/m	
0.5		Open hole drilling - driller reports returns of sandy gravelly silty CLAY with cobbles.		54.5							
1.0				54.0							
1.5				53.5							
2.0				53.0							
2.5				52.5							
3.0				52.0							
3.5				51.5							
4.0				51.0							
4.5				50.5							
5.0				50.0							
5.5				49.5							
6.0				49.0							
6.5				48.5							
7.0	6.80	Strong to very strong light grey fine grained argillaceous LIMESTONE interbedded with moderately strong dark grey calcareous MUDSTONE with occasional calcite veins (2mm thick). Fresh to slightly weathered.		48.0	47.98	6.80 - 7.80	98	57	45	Ni	
7.5		*Discontinuities - non-intact.* *Discontinuities - smooth to rough, planar to slightly undulating, tight to open, 30-50° dip, occasionally sub-horizontal and sub-vertical, clean with occasional clay infill.*		47.5							
8.0				47.0		7.80 - 8.80	98	66	43	9	
8.5				46.5							
9.0				46.0		8.80 - 9.80	97	69	59		
9.5				45.5							
	9.80	End of Corehole at 9.80m		45.0	44.98						

Installation:			Backfill:			Remarks:
From:	To:	Pipe Type:	From:	To:	Type:	-
			0.00	9.80	Bentonite	

Contract No: 5863	**Rotary Corehole Log**				Corehole No: **RC18**
Contract:	Moygaddy	Easting:	693667.400	Date Started:	20/07/2021
Location:	Maynooth, Co. Meath	Northing:	739242.451	Date Completed:	20/07/2021
Client:	Sky Castle Ltd	Elevation:	49.86	Drilled By:	MEDL
Engineer:	OCSC	Rig Type:	Sondeq	Status:	FINAL

Depth (m)		Stratum Description	Legend	Level (mOD)		Samples	Rock Indices				Backfill
Scale	Depth			Scale	Depth		TCR/%	SCR/%	RQD/%	FI/m	
0.5		Open hole drilling - driller reports returns of sandy gravelly silty CLAY with cobbles.		49.5							
1.0				49.0							
1.5				48.5							
2.0				48.0							
2.5				47.5							
3.0				47.0							
3.5				46.5							
4.0				46.0							
4.5				45.5							
5.0				45.0							
5.5				44.5							
6.0				44.0							
6.5				43.5		N=45 (5,7/9,11,12,13)					
7.0				43.0							
7.5				42.5							
8.0	8.00	End of Corehole at 8.00m		42.0	41.86	N=45 (6,6/9,10,12,14)					
8.5				41.5							
9.0				41.0							
9.5				40.5							
				40.0							

Installation:			Backfill:			Remarks:
From:	To:	Pipe Type:	From:	To:	Type:	-
			0.00	8.00	Bentonite	

Contract No: 5863	**Rotary Corehole Log**				Corehole No: **RC19**
Contract:	Moygaddy	Easting:	694613.822	Date Started:	12/07/2021
Location:	Maynooth, Co. Meath	Northing:	739485.171	Date Completed:	12/07/2021
Client:	Sky Castle Ltd	Elevation:	58.39	Drilled By:	MEDL
Engineer:	OCSC	Rig Type:	Sondeq	Status:	FINAL

Depth (m)		Stratum Description	Legend	Level (mOD)		Samples	Rock Indices				Backfill
Scale	Depth			Scale	Depth		TCR/%	SCR/%	RQD/%	FI/m	
0.5		Open hole drilling - driller reports returns of sandy gravelly silty CLAY with cobbles.		58.0							
1.0				57.5							
1.5				57.0							
2.0				56.5							
2.5				56.0							
3.0				55.5							
3.5				55.0							
4.0				54.5							
4.5				54.0							
5.0	5.10			53.5	53.29						
5.5		Strong to very strong light grey fine grained argillaceous LIMESTONE interbedded with moderately strong dark grey calcareous MUDSTONE with occasional pyrite crystals and calcite veins (5mm thick). Fresh to slightly weathered.		53.0		5.10 - 6.10	98	97	45	11	
6.0		*Discontinuities - smooth to rough, planar, occasionally stepped, tight to open, sub-horizontal dip, occasionally 60° dip and sub-vertical, clean.*		52.5							
6.5		*Discontinuities - smooth to rough, planar, occasionally stepped, tight to open, sub-horizontal and sub-vertical dip, clean with occasional grey staining.*		52.0		6.10 - 7.10	100	98	53	18	
7.0				51.5							
7.5				51.0		7.10 - 8.10	94	73	0		
8.0	8.10	End of Corehole at 8.10m		50.5	50.29						
8.5				50.0							
9.0				49.5							
9.5				49.0							
				48.5							

Installation:			Backfill:			Remarks:
From:	To:	Pipe Type:	From:	To:	Type:	-
			0.00	8.10	Bentonite	

Contract No: 5863	**Rotary Corehole Log**				Corehole No: **RC20**
Contract:	Moygaddy	Easting:	694717.266	Date Started:	09/07/2021
Location:	Maynooth, Co. Meath	Northing:	739392.581	Date Completed:	09/07/2021
Client:	Sky Castle Ltd	Elevation:	59.02	Drilled By:	MEDL
Engineer:	OCSC	Rig Type:	Sondeq	Status:	FINAL

Depth (m)		Stratum Description	Legend	Level (mOD)		Samples	Rock Indices				Backfill
Scale	Depth			Scale	Depth		TCR/%	SCR/%	RQD/%	FI/m	
		Open hole drilling - driller reports returns of sandy gravelly silty CLAY with cobbles.		58.5							
0.5				58.0							
1.0				57.5							
1.5				57.0							
2.0				56.5							
2.5				56.0							
3.0				55.5							
3.5				55.0							
4.0				54.5							
4.5				54.0							
5.0				53.5							
5.5				53.0							
6.0				52.5							
6.5				52.0							
7.0				51.5							
7.5				51.0							
	7.80	Open hole drilling - driller reports returns of limestone bedrock.			51.22						
8.0				50.5							
8.5				50.0							
9.0				49.5							
	9.30	End of Corehole at 9.30m			49.72						
9.5											

Installation:			Backfill:			Remarks:
From:	To:	Pipe Type:	From:	To:	Type:	-
			0.00	9.30	Bentonite	

RC04 Box 1 of 1

RC05 Box 1 of 1

RC06 Box 1 of 1

RC07 Box 1 of 1

RC08 Box 1 of 1

RC09 Box 1 of 1

RC10 Box 1 of 1

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Appendix 3

Trial Pit Logs and Photographs

Contract No: 5863	**Trial Pit Log**				Trial Pit No: **TP01**
Contract:	Moygaddy	Easting:	693958.608	Date:	16/06/2021
Location:	Maynooth, Co. Meath	Northing:	739151.571	Excavator:	JCB 3CX
Client:	Sky Castle Ltd	Elevation:	55.32	Logged By:	M. Kaliski
Engineer:	OCSC	Dimensions (LxWxD) (m):	4.30 x 0.60 x 2.10	Status:	FINAL

Level (mbgl) Scale:	Depth	Stratum Description	Legend	Level (mOD) Scale:	Depth:	Samples / Field Tests Depth	Type	Result	Water Strike
		TOPSOIL.			55.22				
	0.10	Soft becoming firm brown sandy slightly gravelly silty CLAY with medium cobble content. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone. Cobbles are angular to subrounded of limestone.		55.0					
0.5						0.50	ICBR	MK14	
				54.5					
1.0						1.00	B	MK15	
				54.0					
1.5									
	1.80	Stiff grey brown slightly sandy slightly gravelly silty CLAY with high cobble and low boulder content. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone. Cobbles and boulders are angular to subrounded of limestone (up to 400mm diameter).		53.5	53.52				
2.0						2.00	B	MK16	
	2.10	Obstruction - boulders.			53.22				
		Pit terminated at 2.10m		53.0					
2.5									
				52.5					
3.0									
				52.0					
3.5									
				51.5					

Termination:	Pit Wall Stability:	Groundwater Rate:	Remarks:	Key:
Obstruction - boulders.	Pit walls stable.	Dry	-	B = Bulk disturbed D = Small disturbed CBR = Undisturbed CBR ES = Environmental

Contract No: 5863	**Trial Pit Log**				Trial Pit No: **TP02**
Contract:	Moygaddy	Easting:	693988.420	Date:	16/06/2021
Location:	Maynooth, Co. Meath	Northing:	739286.118	Excavator:	JCB 3CX
Client:	Sky Castle Ltd	Elevation:	57.37	Logged By:	M. Kaliski
Engineer:	OCSC	Dimensions (LxWxD) (m):	4.00 x 0.60 x 3.00	Status:	FINAL

Level (mbgl) Scale:	Depth	Stratum Description	Legend	Level (mOD) Scale:	Depth:	Samples / Field Tests Depth	Type	Result	Water Strike
		TOPSOIL.							
	0.10	Soft brown slightly sandy slightly gravelly silty CLAY with low cobble content. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone. Cobbles are angular to subrounded of limestone.			57.27				
0.5				57.0		0.50	ICBR	MK07	
	0.60	Firm grey brown slightly sandy slightly gravelly silty CLAY with high cobble content. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone. Cobbles are angular to subrounded of limestone.			56.77				
1.0				56.5		1.00	B	MK08	
1.5	1.50	Firm becoming stiff grey brown slightly sandy slightly gravelly silty CLAY with high cobble and low boulder content. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone. Cobbles and boulders are angular to subrounded of limestone (up to 400mm diameter).		56.0	55.87				
2.0				55.5		2.00	B	MK09	
2.5				55.0					
3.0	3.00	**Pit terminated at 3.00m**		54.5	54.37	3.00	B	MK10	
3.5				54.0					
				53.5					

Termination:	Pit Wall Stability:	Groundwater Rate:	Remarks:	Key:
Scheduled depth.	Pit walls stable.	Dry	-	B = Bulk disturbed D = Small disturbed CBR = Undisturbed CBR ES = Environmental

Contract No: 5863	**Trial Pit Log**				Trial Pit No: **TP03**
Contract:	Moygaddy	Easting:	693767.173	Date:	16/06/2021
Location:	Maynooth, Co. Meath	Northing:	739286.781	Excavator:	JCB 3CX
Client:	Sky Castle Ltd	Elevation:	55.26	Logged By:	M. Kaliski
Engineer:	OCSC	Dimensions (LxWxD) (m):	4.20 x 0.60 x 1.40	Status:	FINAL

Level (mbgl) Scale:	Depth	Stratum Description	Legend	Level (mOD) Scale:	Depth:	Samples / Field Tests Depth	Type	Result	Water Strike
		TOPSOIL.							
	0.10	Firm brown slightly sandy slightly gravelly silty CLAY with low cobble and boulder content. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone. Cobbles and boulders are angular to subrounded of limestone (up to 300mm diameter).			55.16				
0.5				55.0		0.50	B	MK01	
						0.50	ICBR	MK02	
				54.5					
	0.90	Firm brown slightly sandy slightly gravelly silty CLAY with high cobble and medium boulder content. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone. Cobbles and boulders are angular to subrounded of limestone (up to 300mm diameter).			54.36				
1.0						1.00	B	MK03	
				54.0					
	1.40	Obstruction - boulders.			53.86				
1.5		**Pit terminated at 1.40m**							
				53.5					
2.0									
				53.0					
2.5									
				52.5					
3.0									
				52.0					
3.5									
				51.5					

Termination:	Pit Wall Stability:	Groundwater Rate:	Remarks:	Key:
Obstruction - boulders.	Pit walls stable.	Dry	-	B = Bulk disturbed D = Small disturbed CBR = Undisturbed CBR ES = Environmental

Contract No: 5863	**Trial Pit Log**				Trial Pit No: **TP04**
Contract:	Moygaddy	Easting:	693682.930	Date:	17/06/2021
Location:	Maynooth, Co. Meath	Northing:	739502.916	Excavator:	JCB 3CX
Client:	Sky Castle Ltd	Elevation:	56.95	Logged By:	M. Kaliski
Engineer:	OCSC	Dimensions (LxWxD) (m):	4.20 x 0.60 x 2.40	Status:	FINAL

Level (mbgl) Scale:	Depth	Stratum Description	Legend	Level (mOD) Scale:	Depth:	Samples / Field Tests Depth	Type	Result	Water Strike
	0.10	TOPSOIL.			56.85				
		Soft brown slightly sandy slightly gravelly silty CLAY with medium cobble content. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone. Cobbles are angular to subrounded of limestone.		56.5					
0.5	0.50	Firm grey brown slightly sandy slightly gravelly silty CLAY with high cobble and low boulder content. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone. Cobbles and boulders are angular to subrounded of limestone (up to 500mm diameter).			56.45	0.50	ICBR	MK43	
1.0				56.0		1.00	B	MK44	
1.5				55.5					
2.0				55.0					▼
	2.30				54.65				
	2.40	Stiff grey slightly sandy slightly gravelly silty CLAY with high cobble and medium boulder content. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone. Cobbles and boulders are angular to subrounded of limestone (up to 500mm diameter). Obstruction - boulders.		54.5	54.55	2.40	B	MK45	
2.5		**Pit terminated at 2.40m**							
3.0				54.0					
3.5				53.5					
				53.0					

Termination:	Pit Wall Stability:	Groundwater Rate:	Remarks:	Key:
Obstruction - boulders.	Pit walls stable.	2.00 Seepage	-	B = Bulk disturbed D = Small disturbed CBR = Undisturbed CBR ES = Environmental

Contract No: 5863	**Trial Pit Log**				Trial Pit No: **TP05**
Contract:	Moygaddy	Easting:	693971.792	Date:	17/06/2021
Location:	Maynooth, Co. Meath	Northing:	739656.168	Excavator:	JCB 3CX
Client:	Sky Castle Ltd	Elevation:	58.70	Logged By:	M. Kaliski
Engineer:	OCSC	Dimensions (LxWxD) (m):	3.90 x 0.60 x 2.60	Status:	FINAL

Level (mbgl) Scale:	Depth	Stratum Description	Legend	Level (mOD) Scale:	Depth:	Samples / Field Tests Depth	Type	Result	Water Strike
	0.10	TOPSOIL.		58.5	58.60				
0.5		Soft brown slightly sandy slightly gravelly silty CLAY with medium cobble content. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone. Cobbles are angular to subrounded of limestone.				0.50	ICBR	MK39	
	0.60	Firm brown slightly sandy slightly gravelly clayey SILT. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone.		58.0	58.10				
1.0						1.00	B	MK40	
				57.5					
1.5	1.50	Firm grey brown slightly sandy slightly gravelly silty CLAY with high cobble and low boulder content. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone. Cobbles and boulders are angular to subrounded of limestone (up to 500mm diameter).			57.20				▼
				57.0					
2.0						2.00	B	MK41	
				56.5					
	2.40				56.30				
2.5		Stiff black slightly sandy slightly gravelly silty CLAY with high cobble and medium boulder content. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone. Cobbles and boulders are angular to subrounded of limestone (up to 500mm diameter).				2.50	B	MK42	
	2.60	Obstruction - boulders.			56.10				
		Pit terminated at 2.60m		56.0					
3.0									
				55.5					
3.5									
				55.0					

Termination:	Pit Wall Stability:	Groundwater Rate:	Remarks:	Key:
Pit wall instability.	Walls collapsing between 1.50mbgl and 2.40mbgl.	1.70 Slow	-	B = Bulk disturbed D = Small disturbed CBR = Undisturbed CBR ES = Environmental

Contract No: 5863	**Trial Pit Log**				Trial Pit No: **TP06**
Contract:	Moygaddy	Easting:	693989.839	Date:	17/06/2021
Location:	Maynooth, Co. Meath	Northing:	739437.563	Excavator:	JCB 3CX
Client:	Sky Castle Ltd	Elevation:	57.88	Logged By:	M. Kaliski
Engineer:	OCSC	Dimensions (LxWxD) (m):	4.40 x 0.60 x 2.50	Status:	FINAL

Level (mbgl) Scale:	Depth	Stratum Description	Legend	Level (mOD) Scale:	Depth:	Samples / Field Tests Depth	Type	Result	Water Strike
	0.10	TOPSOIL.			57.78				
	0.30	Soft brown slightly sandy slightly gravelly silty CLAY. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone.			57.58				
0.5		Firm grey brown slightly sandy slightly gravelly silty CLAY with high cobble and low boulder content. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone. Cobbles and boulders are angular to subrounded of limestone (up to 500mm diameter).		57.5		0.50	ICBR	MK46	
1.0				57.0		1.00	B	MK47	
	1.30	Firm brown slightly sandy slightly gravelly clayey SILT with low cobble content. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone. Cobbles are angular to subrounded of limestone.			56.58				
1.5				56.5		1.50	B	MK48	
2.0	2.00	Firm grey brown slightly sandy slightly gravelly silty CLAY with high cobble and low boulder content. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone. Cobbles and boulders are angular to subrounded of limestone (up to 500mm diameter).		56.0	55.88				▼
	2.40			55.5	55.48	2.20	B	MK49	
2.5	2.50	Stiff black slightly sandy slightly gravelly silty CLAY with high cobble and medium boulder content. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone. Cobbles and boulders are angular to subrounded of limestone (up to 500mm diameter). Obstruction - boulders. **Pit terminated at 2.50m**			55.38	2.50	B	MK50	
3.0				55.0					
3.5				54.5					
				54.0					

Termination:	Pit Wall Stability:	Groundwater Rate:	Remarks:	Key:
Obstruction - boulders.	Pit walls stable.	2.00 Seepage	-	B = Bulk disturbed D = Small disturbed CBR = Undisturbed CBR ES = Environmental

Contract No: 5863	**Trial Pit Log**				Trial Pit No: **TP07**
Contract:	Moygaddy	Easting:	694176.647	Date:	17/06/2021
Location:	Maynooth, Co. Meath	Northing:	739446.736	Excavator:	JCB 3CX
Client:	Sky Castle Ltd	Elevation:	58.93	Logged By:	M. Kaliski
Engineer:	OCSC	Dimensions (LxWxD) (m):	4.20 x 0.60 x 2.50	Status:	FINAL

Level (mbgl) Scale:	Depth	Stratum Description	Legend	Level (mOD) Scale:	Depth:	Samples / Field Tests Depth	Type	Result	Water Strike
		TOPSOIL.							
	0.10				58.83				
	0.20	Soft brown slightly sandy slightly gravelly silty CLAY. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone.			58.73				
0.5		Firm becoming stiff grey brown slightly sandy slightly gravelly silty CLAY with high cobble and low boulder content. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone. Cobbles and boulders are angular to subrounded of limestone (up to 400mm diameter).		58.5		0.50	ICBR	MK51	
1.0				58.0		1.00	B	MK52	
1.5				57.5					
2.0				57.0					
	2.40				56.53				
2.5	2.50	Stiff black slightly sandy slightly gravelly silty CLAY with high cobble and medium boulder content. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone. Cobbles and boulders are angular to subrounded of limestone (up to 500mm diameter).		56.5	56.43	2.50	B	MK53	
		Obstruction - boulders.							
		Pit terminated at 2.50m		56.0					
3.0									
3.5				55.5					
				55.0					

Termination:	Pit Wall Stability:	Groundwater Rate:	Remarks:	Key:
Obstruction - boulders.	Pit walls stable.	Dry	-	B = Bulk disturbed D = Small disturbed CBR = Undisturbed CBR ES = Environmental

Contract No: 5863	**Trial Pit Log**				Trial Pit No: **TP08**
Contract:	Moygaddy	Easting:	694199.733	Date:	17/06/2021
Location:	Maynooth, Co. Meath	Northing:	739712.642	Excavator:	JCB 3CX
Client:	Sky Castle Ltd	Elevation:	61.26	Logged By:	M. Kaliski
Engineer:	OCSC	Dimensions (LxWxD) (m):	3.80 x 0.60 x 1.40	Status:	FINAL

Level (mbgl) Scale:	Depth	Stratum Description	Legend	Level (mOD) Scale:	Depth:	Samples / Field Tests Depth	Type	Result	Water Strike
	0.10	TOPSOIL.			61.16				
		Soft brown slightly sandy slightly gravelly silty CLAY with medium cobble content. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone. Cobbles are angular to subrounded of limestone.		61.0					
0.5						0.50	ICBR	MK37	
	0.80			60.5	60.46				
		Firm grey brown slightly sandy gravelly silty CLAY with high cobble and medium boulder content. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone. Cobbles and boulders are angular to subrounded of limestone (up to 400mm diameter).							
1.0						1.00	B	MK38	
				60.0					
	1.40	Obstruction - boulders.			59.86				
1.5		**Pit terminated at 1.40m**							
				59.5					
2.0									
				59.0					
2.5									
				58.5					
3.0									
				58.0					
3.5									
				57.5					

Termination:	Pit Wall Stability:	Groundwater Rate:	Remarks:	Key:
Obstruction - boulders.	Pit walls stable.	Dry	-	B = Bulk disturbed D = Small disturbed CBR = Undisturbed CBR ES = Environmental

Contract No: 5863	**Trial Pit Log**				Trial Pit No: **TP09**
Contract:	Moygaddy	Easting:	694508.798	Date:	17/06/2021
Location:	Maynooth, Co. Meath	Northing:	739701.821	Excavator:	JCB 3CX
Client:	Sky Castle Ltd	Elevation:	62.01	Logged By:	M. Kaliski
Engineer:	OCSC	Dimensions (LxWxD) (m):	4.00 x 0.60 x 1.60	Status:	FINAL

Level (mbgl) Scale:	Depth	Stratum Description	Legend	Level (mOD) Scale:	Depth:	Samples / Field Tests Depth	Type	Result	Water Strike
	0.10	TOPSOIL.			61.91				
0.5		Firm becoming stiff grey brown slightly sandy slightly gravelly silty CLAY with high cobble and low boulder content. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone. Cobbles and boulders are angular to subrounded of limestone (up to 400mm diameter).		61.5		0.50	ICBR	MK60	
1.0				61.0					
						1.20	B	MK61	
1.5				60.5					
	1.60	Obstruction - boulders.			60.41				
		Pit terminated at 1.60m							
2.0				60.0					
2.5				59.5					
3.0				59.0					
3.5				58.5					

Termination:	Pit Wall Stability:	Groundwater Rate:	Remarks:	Key:
Obstruction - boulders.	Pit walls stable.	Dry	-	B = Bulk disturbed D = Small disturbed CBR = Undisturbed CBR ES = Environmental

Contract No: 5863	**Trial Pit Log**				Trial Pit No: **TP10**
Contract:	Moygaddy	Easting:	694486.386	Date:	17/06/2021
Location:	Maynooth, Co. Meath	Northing:	739434.493	Excavator:	JCB 3CX
Client:	Sky Castle Ltd	Elevation:	58.96	Logged By:	M. Kaliski
Engineer:	OCSC	Dimensions (LxWxD) (m):	4.30 x 0.60 x 2.40	Status:	FINAL

Level (mbgl) Scale:	Depth	Stratum Description	Legend	Level (mOD) Scale:	Depth:	Samples / Field Tests Depth	Type	Result	Water Strike
	0.10	TOPSOIL.			58.86				
		Soft brown slightly sandy slightly gravelly silty CLAY with medium cobble content. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone. Cobbles are angular to subrounded of limestone.							
	0.40	Firm becoming stiff grey brown slightly sandy slightly gravelly silty CLAY with high cobble and medium boulder content. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone. Cobbles and boulders are angular to subrounded of limestone (up to 400mm diameter).			58.56				
0.5				58.5		0.50	ICBR	MK62	
1.0				58.0		1.00	B	MK63	
1.5				57.5					
2.0				57.0					▼
	2.40	Obstruction - boulders.			56.56	2.40	B	MK64	
2.5		**Pit terminated at 2.40m**		56.5					
3.0				56.0					
3.5				55.5					
				55.0					

Termination:	Pit Wall Stability:	Groundwater Rate:	Remarks:	Key:
Obstruction - boulders.	Pit walls stable.	2.10 Seepage	-	B = Bulk disturbed D = Small disturbed CBR = Undisturbed CBR ES = Environmental

Contract No: 5863	**Trial Pit Log**				Trial Pit No: **TP11**
Contract:	Moygaddy	Easting:	694739.889	Date:	17/06/2021
Location:	Maynooth, Co. Meath	Northing:	739363.529	Excavator:	JCB 3CX
Client:	Sky Castle Ltd	Elevation:	59.42	Logged By:	M. Kaliski
Engineer:	OCSC	Dimensions (LxWxD) (m):	4.10 x 0.60 x 2.30	Status:	FINAL

Level (mbgl) Scale:	Depth	Stratum Description	Legend	Level (mOD) Scale:	Depth:	Samples / Field Tests Depth	Type	Result	Water Strike
		TOPSOIL.							
	0.10	Soft brown slightly sandy slightly gravelly silty CLAY. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone.			59.32				
0.5	0.50	Firm becoming stiff grey brown slightly sandy slightly gravelly silty CLAY with high cobble and low boulder content. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone. Cobbles and boulders are angular to subrounded of limestone (up to 400mm diameter).		59.0	58.92	0.50	ICBR	MK57	
1.0				58.5					
1.5				58.0		1.50	B	MK58	▼
2.0				57.5					
	2.10	Stiff grey brown slightly sandy slightly gravelly silty CLAY with high cobble and boulder content. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone. Cobbles and boulders are angular to subrounded of limestone (up to 400mm diameter).			57.32				
2.5	2.30	Obstruction - boulders.		57.0	57.12	2.20	B	MK59	
		Pit terminated at 2.30m							
3.0				56.5					
3.5				56.0					
				55.5					

Termination:	Pit Wall Stability:	Groundwater Rate:	Remarks:	Key:
Obstruction - boulders.	Pit walls stable.	1.80 Seepage	-	B = Bulk disturbed D = Small disturbed CBR = Undisturbed CBR ES = Environmental

Contract No: 5863	**Trial Pit Log**				Trial Pit No: **TP12**
Contract:	Moygaddy	Easting:	694471.269	Date:	17/06/2021
Location:	Maynooth, Co. Meath	Northing:	739060.502	Excavator:	JCB 3CX
Client:	Sky Castle Ltd	Elevation:	56.97	Logged By:	M. Kaliski
Engineer:	OCSC	Dimensions (LxWxD) (m):	3.70 x 0.60 x 2.30	Status:	FINAL

Level (mbgl) Scale:	Depth	Stratum Description	Legend	Level (mOD) Scale:	Depth:	Samples / Field Tests Depth	Type	Result	Water Strike
	0.10	TOPSOIL.			56.87				
		Soft brown slightly sandy slightly gravelly silty CLAY with low cobble content. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone. Cobbles are angular to subrounded of limestone.							
0.5	0.50	Firm grey brown slightly sandy slightly gravelly silty CLAY with high cobble and low boulder content. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone. Cobbles and boulders are angular to subrounded of limestone (up to 400mm diameter).		56.5	56.47	0.50	ICBR	MK34	
1.0				56.0		1.00	B	MK35	
1.5	1.50			55.5	55.47				▼
	1.60	Grey brown silty sandy fine to coarse, angular to subrounded GRAVEL of limestone with high cobble and low boulder content. Sand is fine to coarse. Cobbles and boulders are angular to subrounded of limestone (up to 400mm diameter).			55.37				
		Firm grey brown slightly sandy slightly gravelly silty CLAY with high cobble and low boulder content. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone. Cobbles and boulders are angular to subrounded of limestone (up to 400mm diameter).							
2.0				55.0		2.00	B	MK36	
	2.20				54.77				
	2.30	Stiff black slightly sandy slightly gravelly silty CLAY with high cobble and medium boulder content. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone. Cobbles and boulders are angular to subrounded of limestone (up to 400mm diameter).			54.67				
2.5		Obstruction - boulders.		54.5					
		Pit terminated at 2.30m							
3.0				54.0					
3.5				53.5					
				53.0					

Termination:	Pit Wall Stability:	Groundwater Rate:	Remarks:	Key:
Obstruction - boulders.	Pit walls stable.	1.50 Seepage	-	B = Bulk disturbed D = Small disturbed CBR = Undisturbed CBR ES = Environmental

Contract No: 5863	**Trial Pit Log**				Trial Pit No: **TP13**
Contract:	Moygaddy	Easting:	694562.423	Date:	16/06/2021
Location:	Maynooth, Co. Meath	Northing:	738770.148	Excavator:	JCB 3CX
Client:	Sky Castle Ltd	Elevation:	52.93	Logged By:	M. Kaliski
Engineer:	OCSC	Dimensions (LxWxD) (m):	3.90 x 0.60 x 2.10	Status:	FINAL

Level (mbgl) Scale:	Depth	Stratum Description	Legend	Level (mOD) Scale:	Depth:	Samples / Field Tests Depth	Type	Result	Water Strike
	0.10	TOPSOIL.			52.83				
		Soft becoming firm brown slightly sandy slightly gravelly silty CLAY with high cobble content. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone. Cobbles are angular to subrounded of limestone.		52.5		0.50	ICBR	MK27	
0.5									
1.0				52.0		1.00	B	MK28	
	1.20	Grey brown silty sandy fine to coarse, angular to subrounded GRAVEL of limestone with high cobble and low boulder content. Sand is fine to coarse. Cobbles and boulders are angular to subrounded of limestone (up to 400mm diameter).			51.73				
1.5				51.5		1.50	B	MK29	
	1.60	Firm becoming stiff grey brown slightly sandy slightly gravelly silty CLAY with high cobble and low boulder content. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone. Cobbles and boulders are angular to subrounded of limestone (up to 400mm diameter).			51.33				▼
2.0				51.0		2.00	B	MK30	
	2.10	Obstruction - boulders.			50.83				
		Pit terminated at 2.10m							
2.5				50.5					
3.0				50.0					
3.5				49.5					
				49.0					

Termination:	Pit Wall Stability:	Groundwater Rate:	Remarks:	Key:
Obstruction - boulders.	Pit walls stable.	1.80 Seepage	-	B = Bulk disturbed D = Small disturbed CBR = Undisturbed CBR ES = Environmental

Contract No: 5863	**Trial Pit Log**				Trial Pit No: **TP14**
Contract:	Moygaddy	Easting:	694240.465	Date:	16/06/2021
Location:	Maynooth, Co. Meath	Northing:	739010.894	Excavator:	JCB 3CX
Client:	Sky Castle Ltd	Elevation:	55.01	Logged By:	M. Kaliski
Engineer:	OCSC	Dimensions (LxWxD) (m):	3.90 x 0.60 x 2.00	Status:	FINAL

Level (mbgl) Scale:	Depth	Stratum Description	Legend	Level (mOD) Scale:	Depth:	Samples / Field Tests Depth	Type	Result	Water Strike
	0.10	TOPSOIL.			54.91				
		Soft becoming firm brown slightly sandy slightly gravelly silty CLAY with low cobble content. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone. Cobbles are angular to subrounded of limestone.							
0.5				54.5		0.50	ICBR	MK24	
1.0				54.0		1.00	B	MK25	
1.5				53.5					
	1.60	Stiff grey brown slightly sandy slightly gravelly silty CLAY with high cobble and low boulder content. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone. Cobbles and boulders are angular to subrounded of limestone (up to 400mm diameter).			53.41	1.80	B	MK26	
2.0	2.00	Obstruction - boulders.		53.0	53.01				
		Pit terminated at 2.00m							
2.5				52.5					
3.0				52.0					
3.5				51.5					

Termination:	Pit Wall Stability:	Groundwater Rate:	Remarks:	Key:
Obstruction - boulders.	Pit walls stable.	Dry	-	B = Bulk disturbed D = Small disturbed CBR = Undisturbed CBR ES = Environmental

Contract No: 5863	**Trial Pit Log**				Trial Pit No: **TP15**
Contract:	Moygaddy	Easting:	694131.238	Date:	16/06/2021
Location:	Maynooth, Co. Meath	Northing:	739202.931	Excavator:	JCB 3CX
Client:	Sky Castle Ltd	Elevation:	55.37	Logged By:	M. Kaliski
Engineer:	OCSC	Dimensions (LxWxD) (m):	4.20 x 0.60 x 1.60	Status:	FINAL

Level (mbgl) Scale:	Depth	Stratum Description	Legend	Level (mOD) Scale:	Depth:	Samples / Field Tests Depth	Type	Result	Water Strike
	0.10	TOPSOIL.			55.27				
		Soft brown slightly sandy slightly gravelly silty CLAY with low cobble content. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone. Cobbles are angular to subrounded of limestone.		55.0					
0.5	0.50	Firm becoming stiff grey brown slightly sandy gravelly silty CLAY with high cobble and low boulder content. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone. Cobbles and boulders are angular to subrounded of limestone (up to 400mm diameter).			54.87	0.50	ICBR	MK22	
				54.5					
1.0						1.00	B	MK23	
				54.0					
1.5	1.60	Obstruction - boulders.			53.77				▼
		Pit terminated at 1.60m							
				53.5					
2.0									
				53.0					
2.5									
				52.5					
3.0									
				52.0					
3.5									
				51.5					

Termination:	Pit Wall Stability:	Groundwater Rate:	Remarks:	Key:
Obstruction - boulders.	Pit walls stable.	1.60 Medium	-	B = Bulk disturbed D = Small disturbed CBR = Undisturbed CBR ES = Environmental

Contract No: 5863	**Trial Pit Log**				Trial Pit No: **TP16**
Contract:	Moygaddy	Easting:	694580.524	Date:	17/06/2021
Location:	Maynooth, Co. Meath	Northing:	739205.916	Excavator:	JCB 3CX
Client:	Sky Castle Ltd	Elevation:	58.33	Logged By:	M. Kaliski
Engineer:	OCSC	Dimensions (LxWxD) (m):	4.10 x 0.60 x 2.20	Status:	FINAL

Level (mbgl) Scale:	Depth	Stratum Description	Legend	Level (mOD) Scale:	Depth:	Samples / Field Tests Depth	Type	Result	Water Strike
		TOPSOIL.			58.23				
	0.10	Firm becoming stiff grey brown slightly sandy slightly gravelly silty CLAY with high cobble and low boulder content. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone. Cobbles and boulders are angular to subrounded of limestone (up to 400mm diameter).		58.0					
0.5						0.50	ICBR	MK54	
				57.5					
1.0						1.00	B	MK55	
				57.0					
1.5									
				56.5					
2.0									
	2.10	Stiff black slightly sandy slightly gravelly silty CLAY with high cobble and medium boulder content. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone. Cobbles and boulders are angular to subrounded of limestone (up to 500mm diameter).			56.23				
	2.20	Obstruction - boulders.			56.13	2.20	B	MK56	
2.5		**Pit terminated at 2.20m**		56.0					
				55.5					
3.0									
				55.0					
3.5									
				54.5					

Termination:	Pit Wall Stability:	Groundwater Rate:	Remarks:	Key:
Obstruction - boulders.	Pit walls stable.	Dry	-	B = Bulk disturbed D = Small disturbed CBR = Undisturbed CBR ES = Environmental

Contract No: 5863	**Trial Pit Log**				Trial Pit No: **TP17**
Contract:	Moygaddy	Easting:	693968.747	Date:	16/06/2021
Location:	Maynooth, Co. Meath	Northing:	739114.742	Excavator:	JCB 3CX
Client:	Sky Castle Ltd	Elevation:	54.52	Logged By:	M. Kaliski
Engineer:	OCSC	Dimensions (LxWxD) (m):	4.20 x 0.60 x 1.70	Status:	FINAL

Level (mbgl) Scale:	Depth	Stratum Description	Legend	Level (mOD) Scale:	Depth:	Samples / Field Tests Depth	Type	Result	Water Strike
		TOPSOIL.			54.42				
	0.10	Soft becoming firm brown slightly sandy slightly gravelly silty CLAY with medium cobble content. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone. Cobbles are angular to subrounded of limestone.							
0.5				54.0		0.50	ICBR	MK17	
1.0				53.5		1.00	B	MK18	
1.5				53.0					
	1.70	Obstruction - boulders.			52.82				
		Pit terminated at 1.70m							
2.0				52.5					
2.5				52.0					
3.0				51.5					
3.5				51.0					

Termination:	Pit Wall Stability:	Groundwater Rate:	Remarks:	Key:
Obstruction - boulders.	Pit walls stable.	Dry	-	B = Bulk disturbed D = Small disturbed CBR = Undisturbed CBR ES = Environmental

Contract No: 5863	**Trial Pit Log**				Trial Pit No: **TP18**
Contract:	Moygaddy	Easting:	693940.121	Date:	16/06/2021
Location:	Maynooth, Co. Meath	Northing:	739224.755	Excavator:	JCB 3CX
Client:	Sky Castle Ltd	Elevation:	55.98	Logged By:	M. Kaliski
Engineer:	OCSC	Dimensions (LxWxD) (m):	4.10 x 0.60 x 2.50	Status:	FINAL

Level (mbgl) Scale:	Depth	Stratum Description	Legend	Level (mOD) Scale:	Depth:	Samples / Field Tests Depth	Type	Result	Water Strike
		TOPSOIL.							
	0.10	Soft brown slightly sandy slightly gravelly silty CLAY with low cobble content. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone. Cobbles are angular to subrounded of limestone.			55.88				
0.5				55.5		0.50	ICBR	MK11	
1.0	1.00	Firm becoming stiff grey brown slightly sandy slightly gravelly silty CLAY with high cobble and low boulder content. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone. Cobbles and boulders are angular to subrounded of limestone (up to 400mm diameter).		55.0	54.98	1.00	B	MK12	
1.5				54.5					
2.0				54.0					
2.5	2.50	Obstruction - boulders.		53.5	53.48	2.50	B	MK13	
		Pit terminated at 2.50m							
3.0				53.0					
3.5				52.5					

Termination:	Pit Wall Stability:	Groundwater Rate:	Remarks:	Key:
Strength of soil and boulders.	Pit walls stable.	Dry	-	B = Bulk disturbed D = Small disturbed CBR = Undisturbed CBR ES = Environmental

Contract No: 5863	**Trial Pit Log**				Trial Pit No: **TP19**
Contract:	Moygaddy	Easting:	693876.942	Date:	16/06/2021
Location:	Maynooth, Co. Meath	Northing:	739296.996	Excavator:	JCB 3CX
Client:	Sky Castle Ltd	Elevation:	55.71	Logged By:	M. Kaliski
Engineer:	OCSC	Dimensions (LxWxD) (m):	4.00 x 0.60 x 1.90	Status:	FINAL

Level (mbgl) Scale:	Depth	Stratum Description	Legend	Level (mOD) Scale:	Depth:	Samples / Field Tests Depth	Type	Result	Water Strike
		TOPSOIL.			55.61				
	0.10								
	0.20	Soft brown slightly sandy slightly gravelly silty CLAY with low cobble content. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone. Cobbles are angular to subrounded of limestone.		55.5	55.51				
0.5		Firm grey brown slightly sandy slightly gravelly silty CLAY with high cobble and medium boulder content. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone. Cobbles and boulders are angular to subrounded of limestone (up to 400mm diameter).		55.0		0.50	ICBR	MK04	
1.0						1.00	B	MK05	
1.5				54.5					
	1.70			54.0	54.01				
		Stiff grey slightly sandy slightly gravelly silty CLAY with high cobble and low boulder content. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone. Cobbles and boulders are angular to subrounded of limestone (up to 400mm diameter).				1.80	B	MK06	
	1.90				53.81				
2.0		Obstruction - boulders.							
		Pit terminated at 1.90m		53.5					
2.5									
				53.0					
3.0									
				52.5					
3.5									
				52.0					

Termination:	Pit Wall Stability:	Groundwater Rate:	Remarks:	Key:
Obstruction - boulders.	Pit walls stable.	1.70 Seepage	-	B = Bulk disturbed D = Small disturbed CBR = Undisturbed CBR ES = Environmental

Contract No: 5863	**Trial Pit Log**				Trial Pit No: **TP20**
Contract:	Moygaddy	Easting:	694084.588	Date:	16/06/2021
Location:	Maynooth, Co. Meath	Northing:	739079.517	Excavator:	JCB 3CX
Client:	Sky Castle Ltd	Elevation:	55.01	Logged By:	M. Kaliski
Engineer:	OCSC	Dimensions (LxWxD) (m):	3.90 x 0.60 x 1.90	Status:	FINAL

Level (mbgl) Scale:	Depth	Stratum Description	Legend	Level (mOD) Scale:	Depth:	Samples / Field Tests Depth	Type	Result	Water Strike
	0.10	TOPSOIL.			54.91				
	0.40	Soft brown slightly sandy slightly gravelly silty CLAY. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone.			54.61				
0.5		Firm grey brown slightly sandy slightly gravelly silty CLAY with medium cobble content. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone. Cobbles are angular to subrounded of limestone.		54.5		0.50	ICBR	MK19	
1.0				54.0		1.00	B	MK20	
	1.30	Firm becoming stiff grey brown slightly sandy slightly gravelly silty CLAY with high cobble and low boulder content. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone. Cobbles and boulders are angular to subrounded of limestone (up to 400mm diameter).			53.71				
1.5				53.5		1.50	B	MK21	
	1.90	Obstruction - boulders.			53.11				
2.0		**Pit terminated at 1.90m**		53.0					
2.5				52.5					
3.0				52.0					
3.5				51.5					

Termination:	Pit Wall Stability:	Groundwater Rate:	Remarks:	Key:
Obstruction - boulders.	Pit walls stable.	Dry	-	B = Bulk disturbed D = Small disturbed CBR = Undisturbed CBR ES = Environmental

Contract No: 5863	**Trial Pit Log**				Trial Pit No: **TP21**
Contract:	Moygaddy	Easting:	694518.865	Date:	16/06/2021
Location:	Maynooth, Co. Meath	Northing:	738836.591	Excavator:	JCB 3CX
Client:	Sky Castle Ltd	Elevation:	54.89	Logged By:	M. Kaliski
Engineer:	OCSC	Dimensions (LxWxD) (m):	4.00 x 0.60 x 2.90	Status:	FINAL

Level (mbgl) Scale:	Depth	Stratum Description	Legend	Level (mOD) Scale:	Depth:	Samples / Field Tests Depth	Type	Result	Water Strike
		TOPSOIL.							
	0.10	Soft becoming firm brown slightly sandy slightly gravelly silty CLAY with low cobble content. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone. Cobbles are angular to subrounded of limestone.			54.79				
0.5				54.5		0.50	ICBR	MK31	
1.0				54.0		1.00	B	MK32	
1.5				53.5					
	1.80	Stiff grey brown slightly sandy slightly gravelly silty CLAY with high cobble and low boulder content. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded of limestone. Cobbles and boulders are angular to subrounded of limestone (up to 400mm diameter).			53.09				
2.0				53.0		2.00	B	MK33	
2.5				52.5					▼
	2.90	Obstruction - boulders.		52.0	51.99				▼
3.0		**Pit terminated at 2.90m**							
3.5				51.5					
				51.0					

Termination:	Pit Wall Stability:	Groundwater Rate:	Remarks:	Key:
Obstruction - boulders.	Pit walls stable.	2.90 Medium	-	B = Bulk disturbed D = Small disturbed CBR = Undisturbed CBR ES = Environmental

TP01 Sidewall

TP01 Spoil

TP02 Sidewall

TP02 Spoil

TP03 Sidewall

TP03 Spoil

TP04 Sidewall

TP04 Spoil

TP05 Sidewall

TP05 Spoil

TP06 Sidewall

TP06 Spoil

TP07 Sidewall

TP07 Spoil

TP08 Sidewall

TP08 Spoil

TP09 Sidewall

TP09 Spoil

TP10 Sidewall

TP10 Spoil

TP11 Sidewall

TP11 Spoil

TP12 Sidewall

TP12 Spoil

TP13 Sidewall

TP13 Spoil

TP14 Sidewall

TP14 Spoil

TP15 Sidewall

TP15 Spoil

TP16 Sidewall

TP16 Spoil

TP17 Sidewall

TP17 Spoil

TP18 Sidewall

TP18 Spoil

TP19 Sidewall

TP19 Spoil

TP20 Sidewall

TP20 Spoil

TP21 Sidewall

TP21 Spoil

Appendix 4

Soakaway Test Results

SOAKAWAY TEST

Project Reference:	5863
Contract name:	Moygaddy
Location:	Maynooth, Co. Meath
Test No:	TP01
Date:	16/06/2021

Ground Conditions

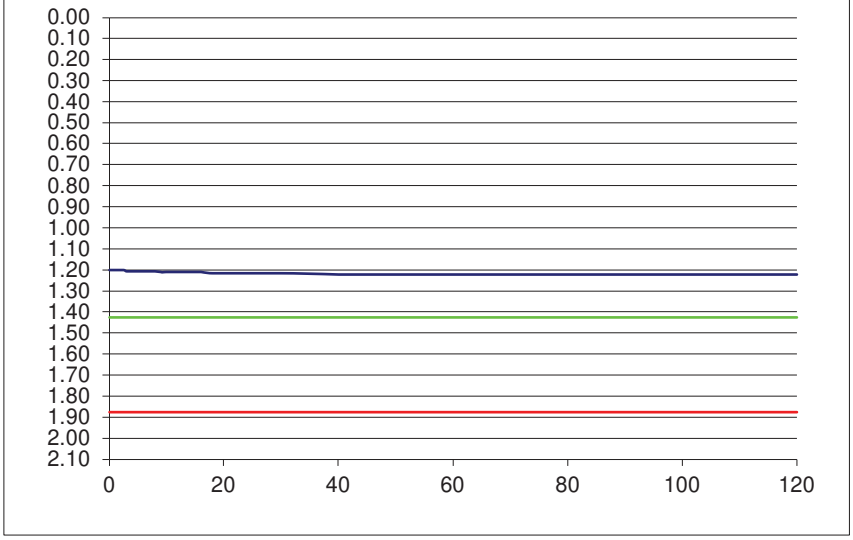
From	To	
0.00	0.10	TOPSOIL.
0.10	1.80	Soft becoming firm brown slightly sandy slightly gravelly silty CLAY with medium cobble content.
1.80	2.10	Stiff grey brown slightly sandy slightly gravelly silty CLAY with high cobble and low boulder content.

Remarks:

Obstruction at 2.10mbgl.

Elapsed Time (mins)	Fall of Water (m)
0	1.20
0.5	1.20
1	1.20
1.5	1.20
2	1.20
2.5	1.20
3	1.21
3.5	1.21
4	1.21
4.5	1.21
5	1.21
6	1.21
7	1.21
8	1.21
9	1.21
10	1.21
12	1.21
14	1.21
16	1.21
18	1.22
20	1.22
25	1.22
30	1.22
40	1.22
50	1.22
60	1.22
75	1.22
90	1.22
120	1.22

Pit Dimensions (m)		
Length (m)	4.30	m
Width (m)	0.60	m
Depth	2.10	m
Water		
Start Depth of Water	1.20	m
Depth of Water	0.90	m
75% Full	1.43	m
25% Full	1.88	m
75%-25%	0.45	m
Volume of water (75%-25%)	**1.16**	m3
Area of Drainage	**20.58**	m2
Area of Drainage (75%-25%)	**6.99**	m2
Time		
75% Full	N/A	min
25% Full	N/A	min
Time 75% to 25%	**N/A**	min
Time 75% to 25% (sec)	**N/A**	sec



f = **Fail** m/min or **Fail** m/s

SOAKAWAY TEST

Project Reference:	5863
Contract name:	Moygaddy
Location:	Maynooth, Co. Meath
Test No:	TP02
Date:	16/06/2021

Ground Conditions

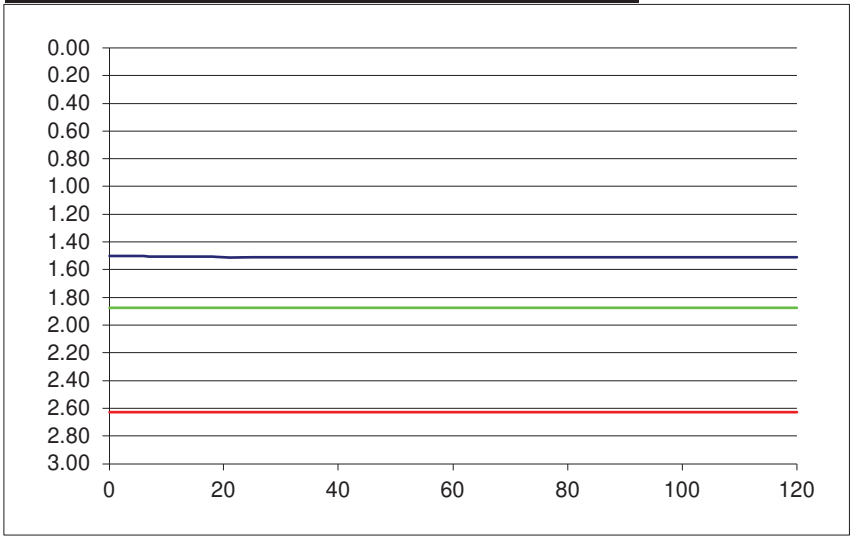
From	To	
0.00	0.10	TOPSOIL.
0.10	0.60	Soft brown slightly sandy slightly gravelly silty CLAY with low cobble content.
0.60	1.50	Firm grey brown slightly sandy slightly gravelly silty CLAY with high cobble content.
1.50	3.00	Firm becoming stiff grey brown slightly sandy slightly gravelly silty CLAY with high cobble and low boulder content.

Remarks:

Test completed at base of pit.

Elapsed Time (mins)	Fall of Water (m)
0	1.50
0.5	1.50
1	1.50
1.5	1.50
2	1.50
2.5	1.50
3	1.50
3.5	1.50
4	1.50
4.5	1.50
5	1.50
6	1.50
7	1.51
8	1.51
9	1.51
10	1.51
12	1.51
14	1.51
16	1.51
18	1.51
20	1.51
25	1.51
30	1.51
40	1.51
50	1.51
60	1.51
75	1.51
90	1.51
120	1.51

Pit Dimensions (m)		
Length (m)	4.00	m
Width (m)	0.60	m
Depth	3.00	m
Water		
Start Depth of Water	1.50	m
Depth of Water	1.50	m
75% Full	1.88	m
25% Full	2.63	m
75%-25%	0.75	m
Volume of water (75%-25%)	**1.80**	m3
Area of Drainage	**27.60**	m2
Area of Drainage (75%-25%)	**9.30**	m2
Time		
75% Full	N/A	min
25% Full	N/A	min
Time 75% to 25%	**N/A**	min
Time 75% to 25% (sec)	**N/A**	sec



f = **Fail** m/min or **Fail** m/s

SOAKAWAY TEST

Project Reference:	5863
Contract name:	Moygaddy
Location:	Maynooth, Co. Meath
Test No:	TP03
Date:	16/06/2021

Ground Conditions

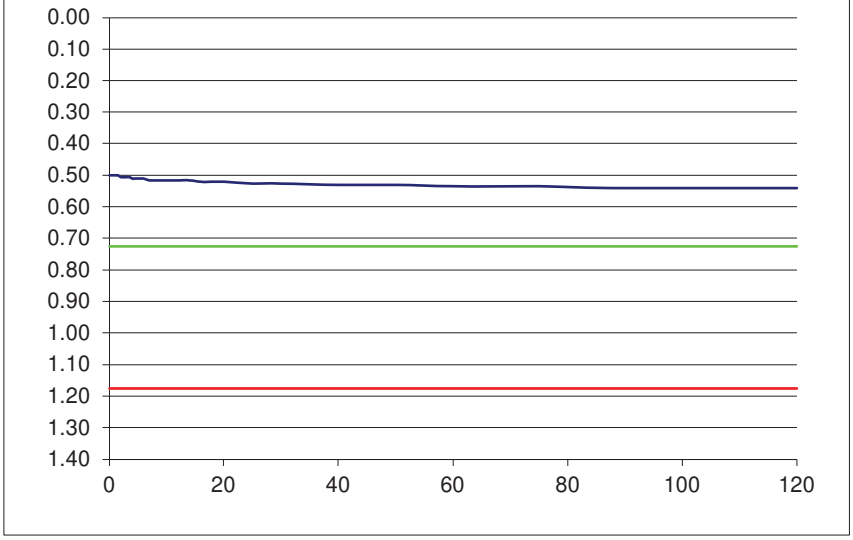
From	To	
0.00	0.10	TOPSOIL.
0.10	0.90	Firm brown slightly sandy slightly gravelly silty CLAY with low cobble and boulder content.
0.90	1.40	Firm brown slightly sandy slightly gravelly silty CLAY with high cobble and medium boulder content.

Remarks:

Obstructions at 1.40mbgl.

Elapsed Time (mins)	Fall of Water (m)
0	0.50
0.5	0.50
1	0.50
1.5	0.50
2	0.51
2.5	0.51
3	0.51
3.5	0.51
4	0.51
4.5	0.51
5	0.51
6	0.51
7	0.52
8	0.52
9	0.52
10	0.52
12	0.52
14	0.52
16	0.52
18	0.52
20	0.52
25	0.53
30	0.53
40	0.53
50	0.53
60	0.54
75	0.54
90	0.54
120	0.54

Pit Dimensions (m)		
Length (m)	4.20	m
Width (m)	0.60	m
Depth	1.40	m
Water		
Start Depth of Water	0.50	m
Depth of Water	0.90	m
75% Full	0.73	m
25% Full	1.18	m
75%-25%	0.45	m
Volume of water (75%-25%)	**1.13**	m3
Area of Drainage	**13.44**	m2
Area of Drainage (75%-25%)	**6.84**	m2
Time		
75% Full	N/A	min
25% Full	N/A	min
Time 75% to 25%	**N/A**	min
Time 75% to 25% (sec)	**N/A**	sec



f = **Fail** **m/min** or **Fail** **m/s**

SOAKAWAY TEST

Project Reference:	5863
Contract name:	Moygaddy
Location:	Maynooth, Co. Meath
Test No:	TP04
Date:	17/06/2021

Ground Conditions

From	To	
0.00	0.10	TOPSOIL.
0.10	0.50	Soft brown slightly sandy slightly gravelly silty CLAY with medium cobble content.
0.50	2.30	Firm grey brown slightly sandy slightly gravelly silty CLAY with high cobble and low boulder content.
2.30	2.40	Stiff grey slightly sandy slightly gravelly silty CLAY with high cobble and medium boulder content.

Remarks:

Obstruction at 2.40mbgl.
Water ingress at 2.00mbgl - soils saturated and unsuitable for soakaway design.

Elapsed Time (mins)	Fall of Water (m)
0	-
0.5	-
1	-
1.5	-
2	-
2.5	-
3	-
3.5	-
4	-
4.5	-
5	-
6	-
7	-
8	-
9	-
10	-
12	-
14	-
16	-
18	-
20	-
25	-
30	-
40	-
50	-
60	-
75	-
90	-
120	-

Pit Dimensions (m)		
Length (m)	4.20	m
Width (m)	0.60	m
Depth	2.40	m
Water		
Start Depth of Water	-	m
Depth of Water	-	m
75% Full	-	m
25% Full	-	m
75%-25%	-	m
Volume of water (75%-25%)	**-**	m3
Area of Drainage	**-**	m2
Area of Drainage (75%-25%)	**-**	m2
Time		
75% Full	N/A	min
25% Full	N/A	min
Time 75% to 25%	**N/A**	min
Time 75% to 25% (sec)	**N/A**	sec

f = Fail m/min or **Fail m/s**

SOAKAWAY TEST

Project Reference:	5863
Contract name:	Moygaddy
Location:	Maynooth, Co. Meath
Test No:	TP05
Date:	17/06/2021

Ground Conditions

From	To	
0.00	0.10	TOPSOIL.
0.10	0.60	Soft brown slightly sandy slightly gravelly silty CLAY with medium cobble content.
0.60	1.50	Firm brown slightly sandy slightly gravelly clayey SILT.
1.50	2.40	Firm grey brown slightly sandy slightly gravelly silty CLAY with high cobble and low boulder content.
2.40	2.60	Stiff black slightly sandy slightly gravelly silty CLAY with high cobble and medium boulder content.

Remarks:

Obstruction at 2.60mbgl.
Water ingress at 1.70mbgl - soils saturated and unsuitable for soakaway design.

Elapsed Time (mins)	Fall of Water (m)
0	-
0.5	-
1	-
1.5	-
2	-
2.5	-
3	-
3.5	-
4	-
4.5	-
5	-
6	-
7	-
8	-
9	-
10	-
12	-
14	-
16	-
18	-
20	-
25	-
30	-
40	-
50	-
60	-
75	-
90	-
120	-

Pit Dimensions (m)		
Length (m)	3.90	m
Width (m)	0.60	m
Depth	2.40	m
Water		
Start Depth of Water	-	m
Depth of Water	-	m
75% Full	-	m
25% Full	-	m
75%-25%	-	m
Volume of water (75%-25%)	**-**	m3
Area of Drainage	**-**	m2
Area of Drainage (75%-25%)	**-**	m2
Time		
75% Full	N/A	min
25% Full	N/A	min
Time 75% to 25%	**N/A**	min
Time 75% to 25% (sec)	**N/A**	sec

f = Fail m/min or **Fail** m/s

SOAKAWAY TEST

Project Reference:	5863
Contract name:	Moygaddy
Location:	Maynooth, Co. Meath
Test No:	TP06
Date:	17/06/2021

Ground Conditions

From	To	
0.00	0.10	TOPSOIL.
0.10	0.30	Soft brown slightly sandy slightly gravelly silty CLAY.
0.30	1.30	Firm grey brown slightly sandy slightly gravelly silty CLAY with high cobble and low boulder content.
1.30	2.00	Firm brown slightly sandy slightly gravelly clayey SILT with low cobble
2.00	2.40	Firm grey brown slightly sandy slightly gravelly silty CLAY with high cobble and low boulder content.
2.40	2.50	Stiff black slightly sandy slightly gravelly silty CLAY with high cobble and medium boulder content.

Remarks:

Obstruction at 2.50mbgl.
Water ingress at 2.00mbgl - soils saturated and unsuitable for soakaway design.

Elapsed Time (mins)	Fall of Water (m)
0	-
0.5	-
1	-
1.5	-
2	-
2.5	-
3	-
3.5	-
4	-
4.5	-
5	-
6	-
7	-
8	-
9	-
10	-
12	-
14	-
16	-
18	-
20	-
25	-
30	-
40	-
50	-
60	-
90	-
120	-

Pit Dimensions (m)		
Length (m)	4.40	m
Width (m)	0.60	m
Depth	2.50	m
Water		
Start Depth of Water	-	m
Depth of Water	-	m
75% Full	-	m
25% Full	-	m
75%-25%	-	m
Volume of water (75%-25%)	**-**	m3
Area of Drainage	**-**	m2
Area of Drainage (75%-25%)	**-**	m2
Time		
75% Full	N/A	min
25% Full	N/A	min
Time 75% to 25%	**N/A**	min
Time 75% to 25% (sec)	**N/A**	sec

f = Fail m/min or **Fail** m/s

SOAKAWAY TEST

Project Reference:	5863
Contract name:	Moygaddy
Location:	Maynooth, Co. Meath
Test No:	TP07
Date:	17/06/2021

Ground Conditions

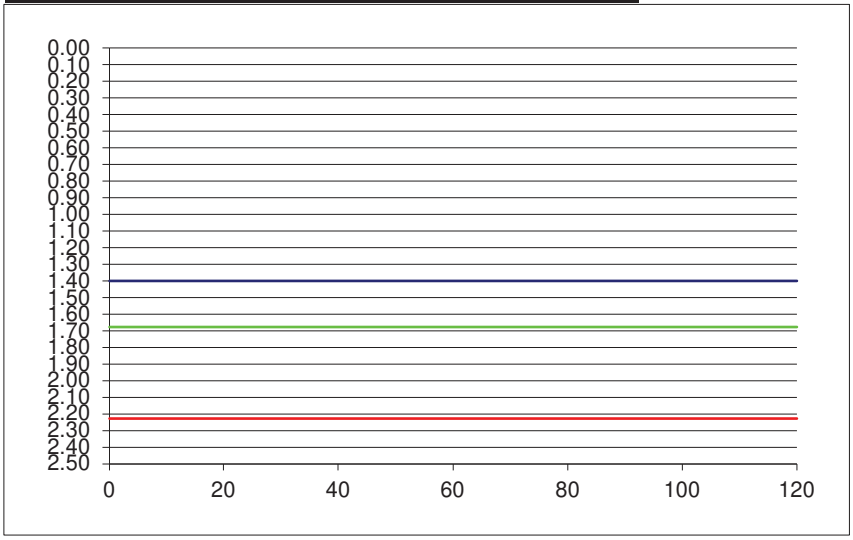
From	To	
0.00	0.10	TOPSOIL.
0.10	0.20	Soft brown slightly sandy slightly gravelly silty CLAY.
0.20	2.40	Firm becoming stiff grey brown slightly sandy slightly gravelly silty CLAY with high cobble and low boulder content.
2.40	2.50	Stiff black slightly sandy slightly gravelly silty CLAY with high cobble and medium boulder content.

Remarks:

Obstructions at 2.50mbgl.

Elapsed Time (mins)	Fall of Water (m)
0	1.40
0.5	1.40
1	1.40
1.5	1.40
2	1.40
2.5	1.40
3	1.40
3.5	1.40
4	1.40
4.5	1.40
5	1.40
6	1.40
7	1.40
8	1.40
9	1.40
10	1.40
12	1.40
14	1.40
16	1.40
18	1.40
20	1.40
25	1.40
30	1.40
40	1.40
50	1.40
60	1.40
75	1.40
90	1.40
120	1.40

Pit Dimensions (m)		
Length (m)	4.20	m
Width (m)	0.60	m
Depth	2.50	m
Water		
Start Depth of Water	1.40	m
Depth of Water	1.10	m
75% Full	1.68	m
25% Full	2.23	m
75%-25%	0.55	m
Volume of water (75%-25%)	**1.39**	m3
Area of Drainage	**24.00**	m2
Area of Drainage (75%-25%)	**7.80**	m2
Time		
75% Full	N/A	min
25% Full	N/A	min
Time 75% to 25%	**N/A**	min
Time 75% to 25% (sec)	**N/A**	sec



f = Fail m/min or **Fail** m/s

SOAKAWAY TEST

Project Reference:	5863
Contract name:	Moygaddy
Location:	Maynooth, Co. Meath
Test No:	TP08
Date:	17/06/2021

Ground Conditions

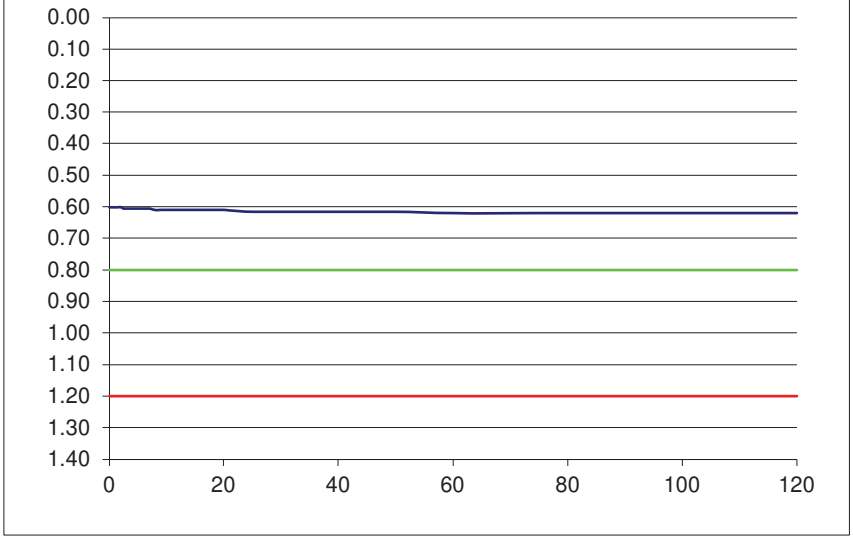
From	To	
0.00	0.10	TOPSOIL.
0.10	0.80	Soft brown slightly sandy slightly gravelly silty CLAY with medium cobble content.
0.80	1.40	Firm grey brown slightly sandy slightly gravelly silty CLAY with high cobble and medium boulder content.

Remarks:

Obstructions at 1.40mbgl.

Elapsed Time (mins)	Fall of Water (m)
0	0.60
0.5	0.60
1	0.60
1.5	0.60
2	0.60
2.5	0.61
3	0.61
3.5	0.61
4	0.61
4.5	0.61
5	0.61
6	0.61
7	0.61
8	0.61
9	0.61
10	0.61
12	0.61
14	0.61
16	0.61
18	0.61
20	0.61
25	0.62
30	0.62
40	0.62
50	0.62
60	0.62
75	0.62
90	0.62
120	0.62

Pit Dimensions (m)		
Length (m)	3.80	m
Width (m)	0.60	m
Depth	1.40	m
Water		
Start Depth of Water	0.60	m
Depth of Water	0.80	m
75% Full	0.80	m
25% Full	1.20	m
75%-25%	0.40	m
Volume of water (75%-25%)	**0.91**	m3
Area of Drainage	**12.32**	m2
Area of Drainage (75%-25%)	**5.80**	m2
Time		
75% Full	N/A	min
25% Full	N/A	min
Time 75% to 25%	**N/A**	min
Time 75% to 25% (sec)	**N/A**	sec



f = **Fail** **m/min** or **Fail** **m/s**

SOAKAWAY TEST

Project Reference:	5863
Contract name:	Moygaddy
Location:	Maynooth, Co. Meath
Test No:	TP09
Date:	17/06/2021

Ground Conditions

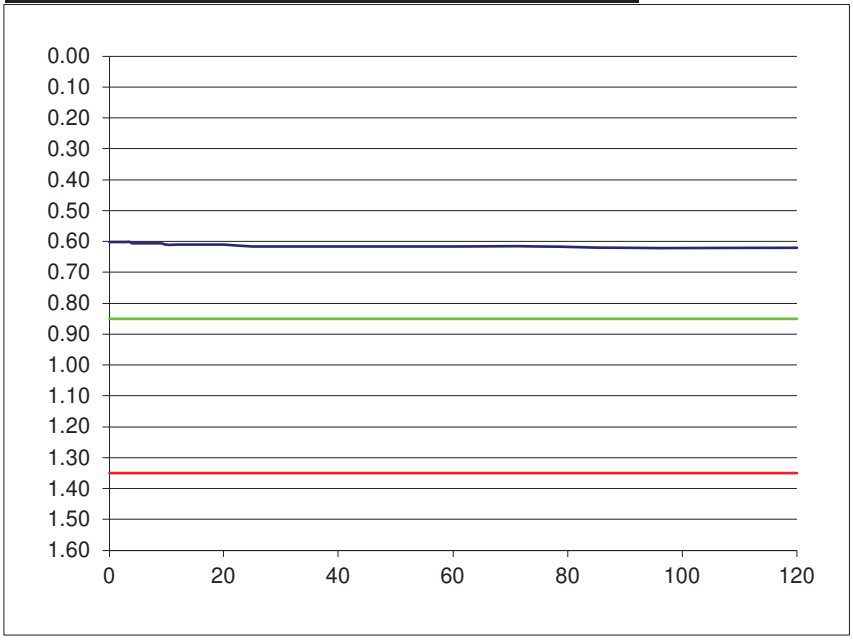
From	To	
0.00	0.10	TOPSOIL.
0.10	1.60	Firm becoming stiff grey brown slightly sandy slightly gravelly silty CLAY with high cobble and low boulder content.

Remarks:

Obstructions at 1.60mbgl.

Elapsed Time (mins)	Fall of Water (m)
0	0.60
0.5	0.60
1	0.60
1.5	0.60
2	0.60
2.5	0.60
3	0.60
3.5	0.60
4	0.61
4.5	0.61
5	0.61
6	0.61
7	0.61
8	0.61
9	0.61
10	0.61
12	0.61
14	0.61
16	0.61
18	0.61
20	0.61
25	0.62
30	0.62
40	0.62
50	0.62
60	0.62
75	0.62
90	0.62
120	0.62

Pit Dimensions (m)		
Length (m)	4.00	m
Width (m)	0.60	m
Depth	1.60	m
Water		
Start Depth of Water	0.60	m
Depth of Water	1.00	m
75% Full	0.85	m
25% Full	1.35	m
75%-25%	0.50	m
Volume of water (75%-25%)	**1.20**	m3
Area of Drainage	**14.72**	m2
Area of Drainage (75%-25%)	**7.00**	m2
Time		
75% Full	N/A	min
25% Full	N/A	min
Time 75% to 25%	**N/A**	min
Time 75% to 25% (sec)	**N/A**	sec



f = **Fail** m/min or **Fail** m/s

SOAKAWAY TEST

Project Reference:	5863
Contract name:	Moygaddy
Location:	Maynooth, Co. Meath
Test No:	TP10
Date:	17/06/2021

Ground Conditions

From	To	
0.00	0.10	TOPSOIL.
0.10	0.40	Soft brown slightly sandy slightly gravelly silty CLAY with medium cobble content.
0.40	2.40	Firm becoming stiff grey brown slightly sandy slightly gravelly silty CLAY with high cobble and medium boulder content.

Remarks:

Obstruction at 2.40mbgl.
Water ingress at 2.10mbgl - soils saturated and unsuitable for soakaway design.

Elapsed Time (mins)	Fall of Water (m)
0	-
0.5	-
1	-
1.5	-
2	-
2.5	-
3	-
3.5	-
4	-
4.5	-
5	-
6	-
7	-
8	-
9	-
10	-
12	-
14	-
16	-
18	-
20	-
25	-
30	-
40	-
50	-
60	-
90	-
120	-

Pit Dimensions (m)		
Length (m)	4.30	m
Width (m)	0.60	m
Depth	2.40	m
Water		
Start Depth of Water	-	m
Depth of Water	-	m
75% Full	-	m
25% Full	-	m
75%-25%	-	m
Volume of water (75%-25%)	**-**	m3
Area of Drainage	**-**	m2
Area of Drainage (75%-25%)	**-**	m2
Time		
75% Full	N/A	min
25% Full	N/A	min
Time 75% to 25%	**N/A**	min
Time 75% to 25% (sec)	**N/A**	sec

f = **Fail** **m/min** or **Fail** **m/s**

SOAKAWAY TEST

Project Reference:	5863
Contract name:	Moygaddy
Location:	Maynooth, Co. Meath
Test No:	TP11
Date:	17/06/2021

Ground Conditions

From	To	
0.00	0.10	TOPSOIL.
0.10	0.50	Soft brown slightly sandy slightly gravelly silty CLAY.
0.50	2.10	Firm becoming stiff grey brown slightly sandy slightly gravelly silty CLAY with high cobble and low boulder content.
2.10	2.30	Stiff grey brown slightly sandy slightly gravelly silty CLAY with high cobble and boulder content.

Remarks:

Obstruction at 2.30mbgl.
Water ingress at 1.80mbgl - soils saturated and unsuitable for soakaway design.

Elapsed Time (mins)	Fall of Water (m)
0	-
0.5	-
1	-
1.5	-
2	-
2.5	-
3	-
3.5	-
4	-
4.5	-
5	-
6	-
7	-
8	-
9	-
10	-
12	-
14	-
16	-
18	-
20	-
25	-
30	-
40	-
50	-
60	-
90	-
120	-

Pit Dimensions (m)		
Length (m)	4.10	m
Width (m)	0.60	m
Depth	2.30	m
Water		
Start Depth of Water	-	m
Depth of Water	-	m
75% Full	-	m
25% Full	-	m
75%-25%	-	m
Volume of water (75%-25%)	**-**	m3
Area of Drainage	**-**	m2
Area of Drainage (75%-25%)	**-**	m2
Time		
75% Full	N/A	min
25% Full	N/A	min
Time 75% to 25%	**N/A**	min
Time 75% to 25% (sec)	**N/A**	sec

f = **Fail** **m/min** or **Fail** **m/s**

SOAKAWAY TEST

Project Reference:	5863
Contract name:	Moygaddy
Location:	Maynooth, Co. Meath
Test No:	TP12
Date:	17/06/2021

Ground Conditions

From	To	
0.00	0.10	TOPSOIL.
0.10	0.50	Soft brown slightly sandy slightly gravelly silty CLAY with low cobble content.
0.50	1.50	Firm grey brown slightly sandy slightly gravelly silty CLAY with high cobble and low boulder content.
1.50	1.60	Grey brown silty sandy GRAVELwith high cobble and low boulder content.
1.60	2.20	Firm grey brown slightly sandy slightly gravelly silty CLAY with high cobble and low boulder content.
2.20	2.30	Stiff black slightly sandy slightly gravelly silty CLAY with high cobble and medium boulder content.

Remarks:

Obstruction at 2.30mbgl.
Water ingress at 1.50mbgl - soils saturated and unsuitable for soakaway design.

Elapsed Time (mins)	Fall of Water (m)
0	-
0.5	-
1	-
1.5	-
2	-
2.5	-
3	-
3.5	-
4	-
4.5	-
5	-
6	-
7	-
8	-
9	-
10	-
12	-
14	-
16	-
18	-
20	-
25	-
30	-
40	-
50	-
60	-
90	-
120	-

Pit Dimensions (m)		
Length (m)	3.70	m
Width (m)	0.60	m
Depth	2.30	m
Water		
Start Depth of Water	-	m
Depth of Water	-	m
75% Full	-	m
25% Full	-	m
75%-25%	-	m
Volume of water (75%-25%)	**-**	m3
Area of Drainage	**-**	m2
Area of Drainage (75%-25%)	**-**	m2
Time		
75% Full	N/A	min
25% Full	N/A	min
Time 75% to 25%	**N/A**	min
Time 75% to 25% (sec)	**N/A**	sec

f = Fail m/min or **Fail m/s**

SOAKAWAY TEST

Project Reference:	5863
Contract name:	Moygaddy
Location:	Maynooth, Co. Meath
Test No:	TP13
Date:	16/06/2021

Ground Conditions

From	To	
0.00	0.10	TOPSOIL.
0.10	1.20	Soft becoming firm brown slightly sandy slightly gravelly silty CLAY with high
1.20	1.60	Grey brown silty sandy GRAVEL with high cobble and low boulder content.
1.60	2.10	Firm becoming stiff grey brown slightly sandy slightly gravelly silty CLAY with high cobble and low boulder content.

Remarks:

Obstruction at 2.10mbgl.
Water ingress at 1.80mbgl - soils saturated and unsuitable for soakaway design.

Elapsed Time (mins)	Fall of Water (m)
0	-
0.5	-
1	-
1.5	-
2	-
2.5	-
3	-
3.5	-
4	-
4.5	-
5	-
6	-
7	-
8	-
9	-
10	-
12	-
14	-
16	-
18	-
20	-
25	-
30	-
40	-
50	-
60	-
90	-
120	-

Pit Dimensions (m)		
Length (m)	3.90	m
Width (m)	0.60	m
Depth	2.10	m
Water		
Start Depth of Water	-	m
Depth of Water	-	m
75% Full	-	m
25% Full	-	m
75%-25%	-	m
Volume of water (75%-25%)	**-**	m3
Area of Drainage	**-**	m2
Area of Drainage (75%-25%)	**-**	m2
Time		
75% Full	N/A	min
25% Full	N/A	min
Time 75% to 25%	**N/A**	min
Time 75% to 25% (sec)	**N/A**	sec

f = Fail m/min or **Fail** m/s

SOAKAWAY TEST

Project Reference:	5863
Contract name:	Moygaddy
Location:	Maynooth, Co. Meath
Test No:	TP14
Date:	17/06/2021

Ground Conditions

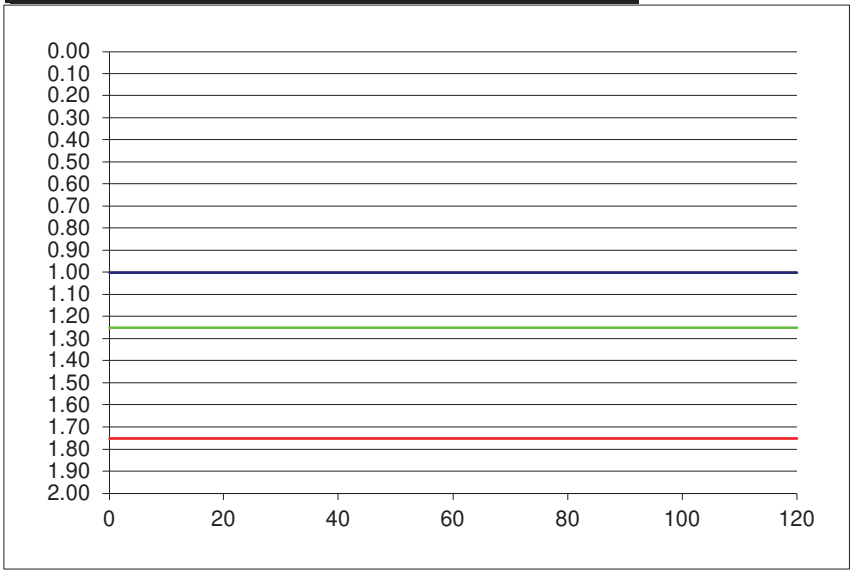
From	To	
0.00	0.10	TOPSOIL.
0.10	1.60	Soft becoming firm brown slightly sandy slightly gravelly silty CLAY with low cobble content.
1.60	2.00	Stiff grey brown slightly sandy slightly gravelly silty CLAY with high cobble and low boulder content.

Remarks:

Obstructions at 2.00mbgl.

Elapsed Time (mins)	Fall of Water (m)
0	1.00
0.5	1.00
1	1.00
1.5	1.00
2	1.00
2.5	1.00
3	1.00
3.5	1.00
4	1.00
4.5	1.00
5	1.00
6	1.00
7	1.00
8	1.00
9	1.00
10	1.00
12	1.00
14	1.00
16	1.00
18	1.00
20	1.00
25	1.00
30	1.00
40	1.00
50	1.00
60	1.00
75	1.00
90	1.00
120	1.00

Pit Dimensions (m)		
Length (m)	3.90	m
Width (m)	0.60	m
Depth	2.00	m
Water		
Start Depth of Water	1.00	m
Depth of Water	1.00	m
75% Full	1.25	m
25% Full	1.75	m
75%-25%	0.50	m
Volume of water (75%-25%)	**1.17**	m3
Area of Drainage	**18.00**	m2
Area of Drainage (75%-25%)	**6.84**	m2
Time		
75% Full	N/A	min
25% Full	N/A	min
Time 75% to 25%	**N/A**	min
Time 75% to 25% (sec)	**N/A**	sec



f = **Fail** m/min or **Fail** m/s

SOAKAWAY TEST

Project Reference:	5863
Contract name:	Moygaddy
Location:	Maynooth, Co. Meath
Test No:	TP15
Date:	16/06/2021

Ground Conditions

From	To	
0.00	0.10	TOPSOIL.
0.10	0.50	Soft brown slightly sandy slightly gravelly silty CLAY with low cobble content.
0.50	1.60	Firm becoming stiff grey brown slightly sandy slightly gravelly silty CLAY with high cobble and low boulder content.

Remarks:

Obstruction at 1.60mbgl.
Water ingress at 1.60mbgl - soils saturated and unsuitable for soakaway design.

Elapsed Time (mins)	Fall of Water (m)
0	-
0.5	-
1	-
1.5	-
2	-
2.5	-
3	-
3.5	-
4	-
4.5	-
5	-
6	-
7	-
8	-
9	-
10	-
12	-
14	-
16	-
18	-
20	-
25	-
30	-
40	-
50	-
60	-
90	-
120	-

Pit Dimensions (m)		
Length (m)	4.20	m
Width (m)	0.60	m
Depth	1.60	m
Water		
Start Depth of Water	-	m
Depth of Water	-	m
75% Full	-	m
25% Full	-	m
75%-25%	-	m
Volume of water (75%-25%)	**-**	m3
Area of Drainage	**-**	m2
Area of Drainage (75%-25%)	**-**	m2
Time		
75% Full	N/A	min
25% Full	N/A	min
Time 75% to 25%	**N/A**	min
Time 75% to 25% (sec)	**N/A**	sec

f = Fail m/min or **Fail** m/s

SOAKAWAY TEST

Project Reference:	5863
Contract name:	Moygaddy
Location:	Maynooth, Co. Meath
Test No:	TP16
Date:	17/06/2021

Ground Conditions

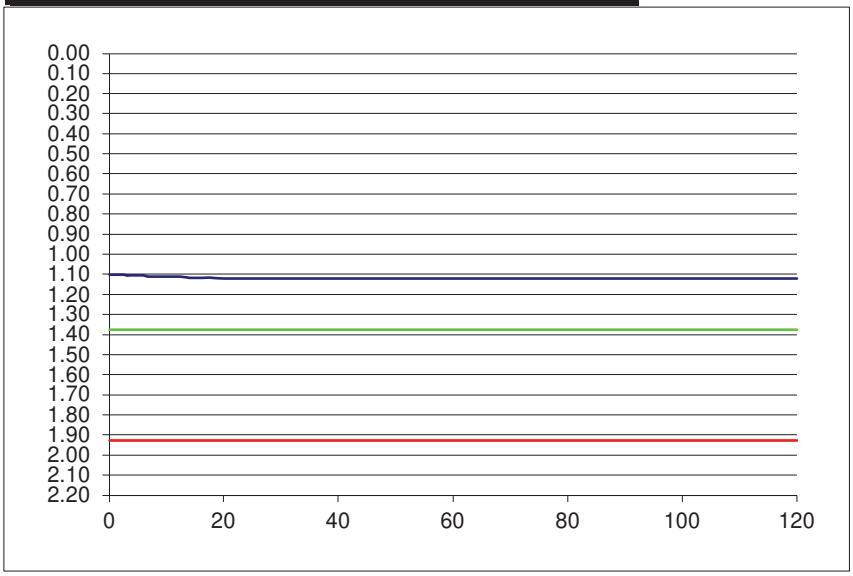
From	To	
0.00	0.10	TOPSOIL.
0.10	2.10	Firm becoming stiff grey brown slightly sandy slightly gravelly silty CLAY with high cobble and low boulder content.
2.10	2.20	Stiff black slightly sandy slightly gravelly silty CLAY with high cobble and medium boulder content.

Remarks:

Obstructions at 2.20mbgl.

Elapsed Time (mins)	Fall of Water (m)
0	1.10
0.5	1.10
1	1.10
1.5	1.10
2	1.10
2.5	1.10
3	1.11
3.5	1.11
4	1.11
4.5	1.11
5	1.11
6	1.11
7	1.11
8	1.11
9	1.11
10	1.11
12	1.11
14	1.12
16	1.12
18	1.12
20	1.12
25	1.12
30	1.12
40	1.12
50	1.12
60	1.12
75	1.12
90	1.12
120	1.12

Pit Dimensions (m)		
Length (m)	4.10	m
Width (m)	0.60	m
Depth	2.20	m
Water		
Start Depth of Water	1.10	m
Depth of Water	1.10	m
75% Full	1.38	m
25% Full	1.93	m
75%-25%	0.55	m
Volume of water (75%-25%)	**1.35**	m3
Area of Drainage	**20.68**	m2
Area of Drainage (75%-25%)	**7.63**	m2
Time		
75% Full	N/A	min
25% Full	N/A	min
Time 75% to 25%	**N/A**	min
Time 75% to 25% (sec)	**N/A**	sec



f = **Fail** m/min or **Fail** m/s

SOAKAWAY TEST

Project Reference:	5863
Contract name:	Moygaddy
Location:	Maynooth, Co. Meath
Test No:	TP17
Date:	16/06/2021

Ground Conditions

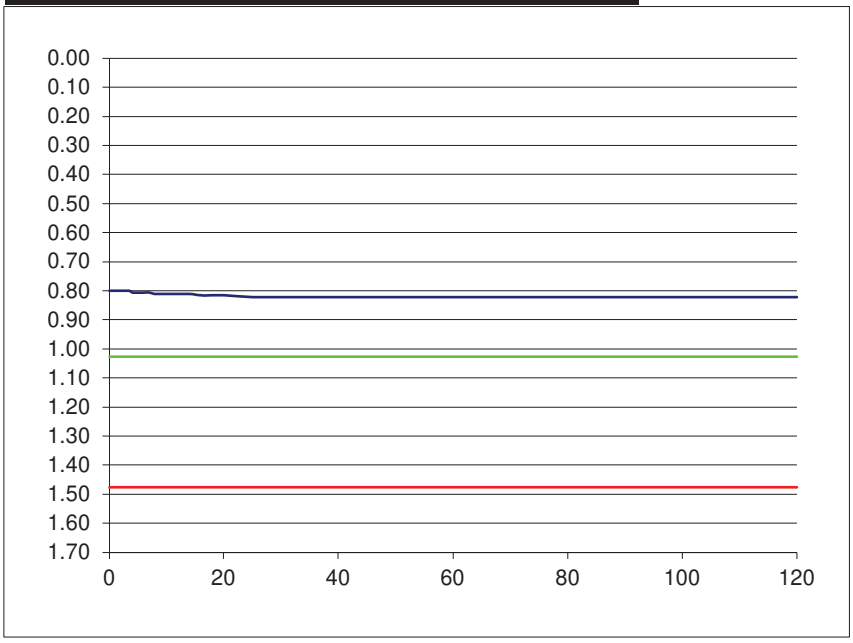
From	To	
0.00	0.10	TOPSOIL.
0.10	1.70	Soft becoming firm brown slightly sandy slightly gravelly silty CLAY with medium cobble content.

Remarks:

Obstructions at 1.70mbgl.

Elapsed Time (mins)	Fall of Water (m)
0	0.80
0.5	0.80
1	0.80
1.5	0.80
2	0.80
2.5	0.80
3	0.80
3.5	0.80
4	0.81
4.5	0.81
5	0.81
6	0.81
7	0.81
8	0.81
9	0.81
10	0.81
12	0.81
14	0.81
16	0.82
18	0.82
20	0.82
25	0.82
30	0.82
40	0.82
50	0.82
60	0.82
75	0.82
90	0.82
120	0.82

Pit Dimensions (m)		
Length (m)	4.20	m
Width (m)	0.60	m
Depth	1.70	m
Water		
Start Depth of Water	0.80	m
Depth of Water	0.90	m
75% Full	1.03	m
25% Full	1.48	m
75%-25%	0.45	m
Volume of water (75%-25%)	**1.13**	m3
Area of Drainage	**16.32**	m2
Area of Drainage (75%-25%)	**6.84**	m2
Time		
75% Full	N/A	min
25% Full	N/A	min
Time 75% to 25%	**N/A**	min
Time 75% to 25% (sec)	**N/A**	sec



f = **Fail** m/min or **Fail** m/s

SOAKAWAY TEST

Project Reference:	5863
Contract name:	Moygaddy
Location:	Maynooth, Co. Meath
Test No:	TP18
Date:	16/06/2021

Ground Conditions

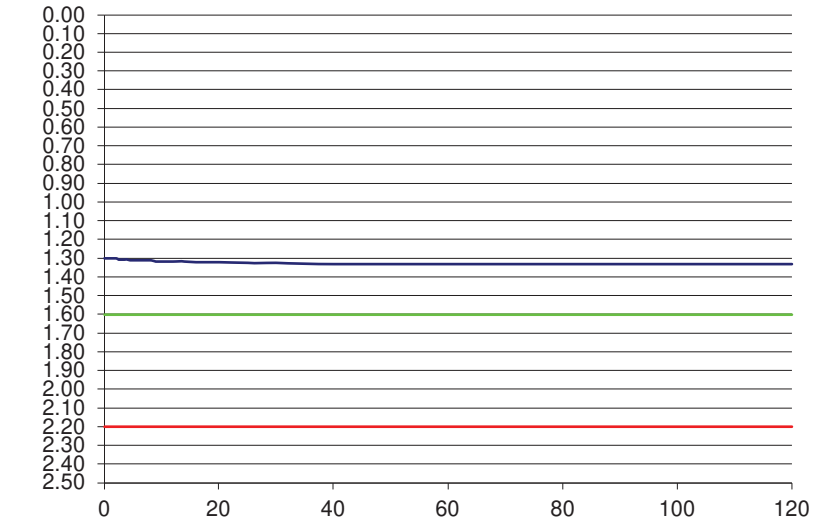
From	To	
0.00	0.10	TOPSOIL.
0.10	1.00	Soft brown slightly sandy slightly gravelly silty CLAY with low cobble content.
1.00	2.50	Firm becoming stiff grey brown slightly sandy slightly gravelly silty CLAY with high cobble and low boulder content.

Remarks:

Obstructions at 2.50mbgl.

Elapsed Time (mins)	Fall of Water (m)
0	1.30
0.5	1.30
1	1.30
1.5	1.30
2	1.30
2.5	1.31
3	1.31
3.5	1.31
4	1.31
4.5	1.31
5	1.31
6	1.31
7	1.31
8	1.31
9	1.32
10	1.32
12	1.32
14	1.32
16	1.32
18	1.32
20	1.32
25	1.33
30	1.33
40	1.33
50	1.33
60	1.33
75	1.33
90	1.33
120	1.33

Pit Dimensions (m)		
Length (m)	4.10	m
Width (m)	0.60	m
Depth	2.50	m
Water		
Start Depth of Water	1.30	m
Depth of Water	1.20	m
75% Full	1.60	m
25% Full	2.20	m
75%-25%	0.60	m
Volume of water (75%-25%)	**1.48**	m3
Area of Drainage	**23.50**	m2
Area of Drainage (75%-25%)	**8.10**	m2
Time		
75% Full	N/A	min
25% Full	N/A	min
Time 75% to 25%	**N/A**	min
Time 75% to 25% (sec)	**N/A**	sec



f = **Fail** m/min or **Fail** m/s

SOAKAWAY TEST

Project Reference:	5863
Contract name:	Moygaddy
Location:	Maynooth, Co. Meath
Test No:	TP19
Date:	16/06/2021

Ground Conditions

From	To	
0.00	0.10	TOPSOIL.
0.10	0.20	Soft brown slightly sandy slightly gravelly silty CLAY with low cobble content.
0.20	1.70	Firm grey brown slightly sandy slightly gravelly silty CLAY with high cobble and medium boulder content.
1.70	1.90	Stiff grey slightly sandy slightly gravelly silty CLAY with high cobble and low boulder content.

Remarks:

Obstruction at 1.90mbgl.
Water ingress at 1.70mbgl - soils saturated and unsuitable for soakaway design.

Elapsed Time (mins)	Fall of Water (m)
0	-
0.5	-
1	-
1.5	-
2	-
2.5	-
3	-
3.5	-
4	-
4.5	-
5	-
6	-
7	-
8	-
9	-
10	-
12	-
14	-
16	-
18	-
20	-
25	-
30	-
40	-
50	-
60	-
90	-
120	-

Pit Dimensions (m)		
Length (m)	4.00	m
Width (m)	0.60	m
Depth	1.90	m
Water		
Start Depth of Water	-	m
Depth of Water	-	m
75% Full	-	m
25% Full	-	m
75%-25%	-	m
Volume of water (75%-25%)	**-**	m3
Area of Drainage	**-**	m2
Area of Drainage (75%-25%)	**-**	m2
Time		
75% Full	N/A	min
25% Full	N/A	min
Time 75% to 25%	**N/A**	min
Time 75% to 25% (sec)	**N/A**	sec

f = Fail m/min or **Fail** m/s

SOAKAWAY TEST

Project Reference:	5863
Contract name:	Moygaddy
Location:	Maynooth, Co. Meath
Test No:	TP20
Date:	16/06/2021

Ground Conditions

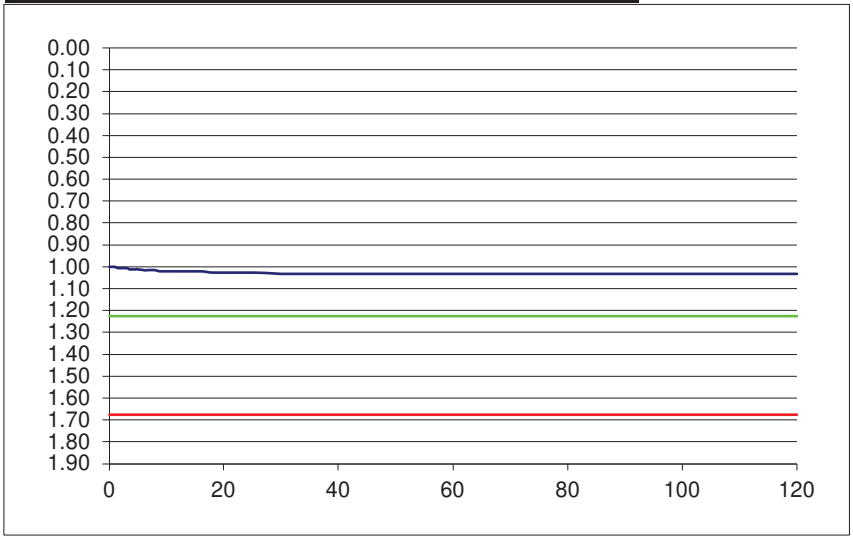
From	To	
0.00	0.10	TOPSOIL.
0.10	0.40	Soft brown slightly sandy slightly gravelly silty CLAY.
0.40	1.30	Firm grey brown slightly sandy slightly gravelly silty CLAY with medium cobble content.
1.30	1.90	Firm becoming stiff grey brown slightly sandy slightly gravelly silty CLAY with high cobble and low boulder content.

Remarks:

Obstructions at 1.90mbgl.

Elapsed Time (mins)	Fall of Water (m)
0	1.00
0.5	1.00
1	1.00
1.5	1.01
2	1.01
2.5	1.01
3	1.01
3.5	1.01
4	1.01
4.5	1.01
5	1.01
6	1.02
7	1.02
8	1.02
9	1.02
10	1.02
12	1.02
14	1.02
16	1.02
18	1.03
20	1.03
25	1.03
30	1.03
40	1.03
50	1.03
60	1.03
75	1.03
90	1.03
120	1.03

Pit Dimensions (m)		
Length (m)	3.90	m
Width (m)	0.60	m
Depth	1.90	m
Water		
Start Depth of Water	1.00	m
Depth of Water	0.90	m
75% Full	1.23	m
25% Full	1.68	m
75%-25%	0.45	m
Volume of water (75%-25%)	**1.05**	m3
Area of Drainage	**17.10**	m2
Area of Drainage (75%-25%)	**6.39**	m2
Time		
75% Full	N/A	min
25% Full	N/A	min
Time 75% to 25%	**N/A**	min
Time 75% to 25% (sec)	**N/A**	sec



f = **Fail** m/min or **Fail** m/s

SOAKAWAY TEST

Project Reference:	5863
Contract name:	Moygaddy
Location:	Maynooth, Co. Meath
Test No:	TP21
Date:	16/06/2021

Ground Conditions

From	To	
0.00	0.10	TOPSOIL.
0.10	1.80	Soft becoming firm brown slightly sandy slightly gravelly silty CLAY with low cobble content.
1.80	2.90	Stiff grey brown slightly sandy slightly gravelly silty CLAY with high cobble and low boulder content.

Remarks:

Obstruction at 2.90mbgl.
Water ingresses at 2.60mbgl and 2.90mbgl - soils saturated and unsuitable for soakaway design.

Elapsed Time (mins)	Fall of Water (m)
0	-
0.5	-
1	-
1.5	-
2	-
2.5	-
3	-
3.5	-
4	-
4.5	-
5	-
6	-
7	-
8	-
9	-
10	-
12	-
14	-
16	-
18	-
20	-
25	-
30	-
40	-
50	-
60	-
90	-
120	-

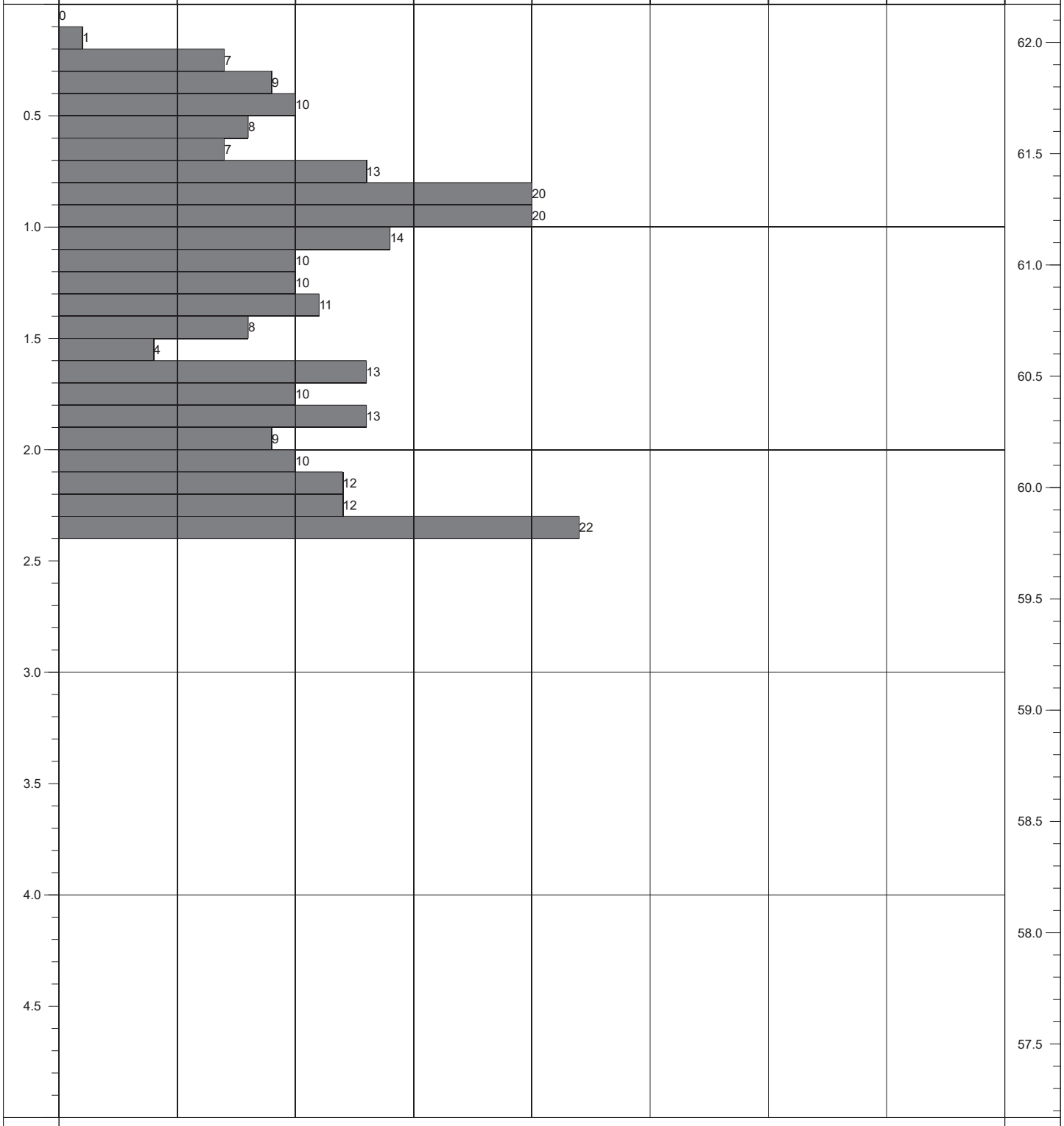
Pit Dimensions (m)		
Length (m)	4.00	m
Width (m)	0.60	m
Depth	2.90	m
Water		
Start Depth of Water	-	m
Depth of Water	-	m
75% Full	-	m
25% Full	-	m
75%-25%	-	m
Volume of water (75%-25%)	**-**	m3
Area of Drainage	**-**	m2
Area of Drainage (75%-25%)	**-**	m2
Time		
75% Full	N/A	min
25% Full	N/A	min
Time 75% to 25%	**N/A**	min
Time 75% to 25% (sec)	**N/A**	sec

f = **Fail** **m/min** or **Fail** **m/s**

Appendix 5

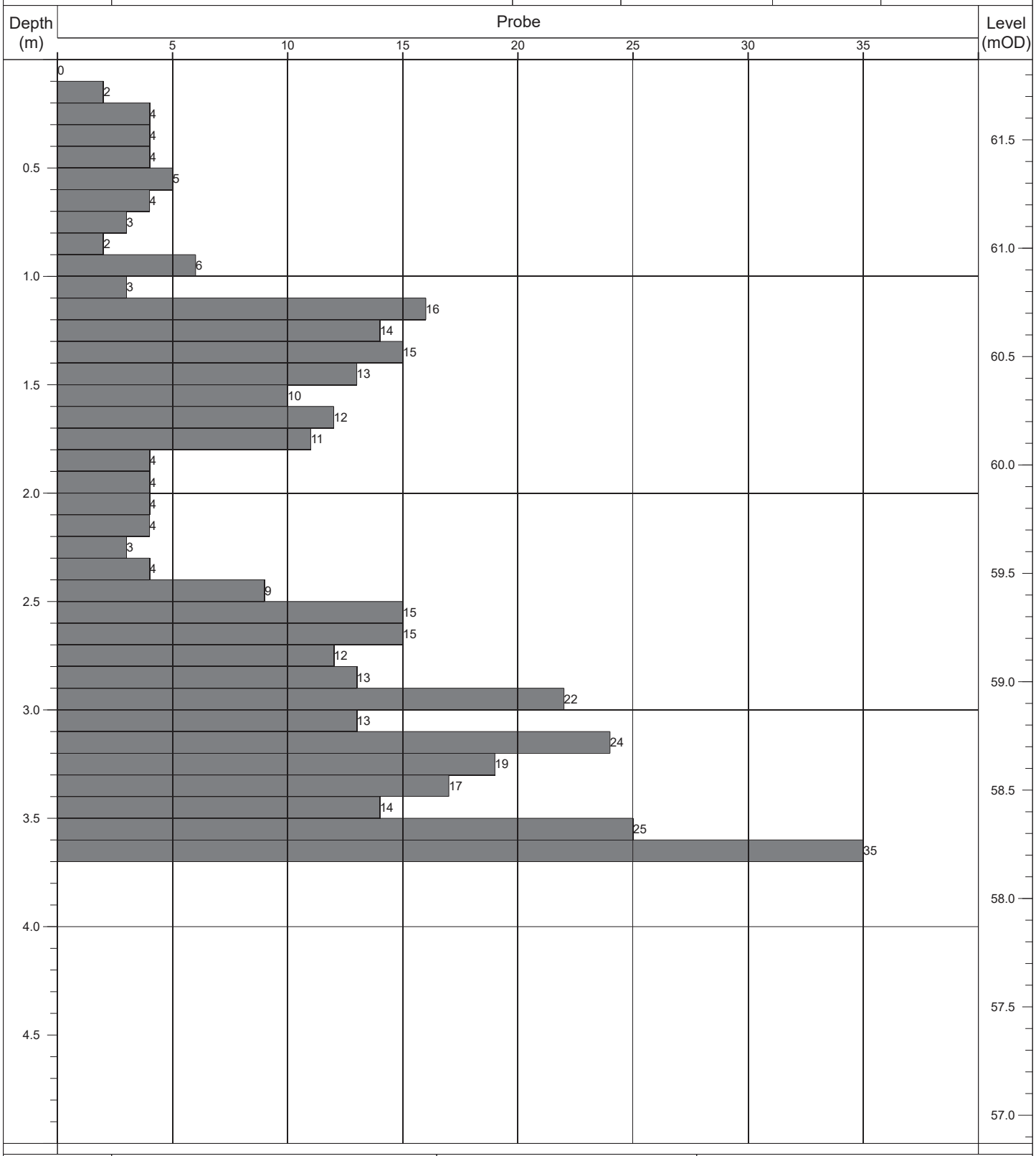
Dynamic Probe Logs

Contract No: 5863	Dynamic Probe Log				Probe No: DP01
Contract:	Moygaddy	Easting:	694395.693	Date Started:	21/06/2021
Location:	Maynooth, Co. Meath	Northing:	739790.416	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	62.17	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



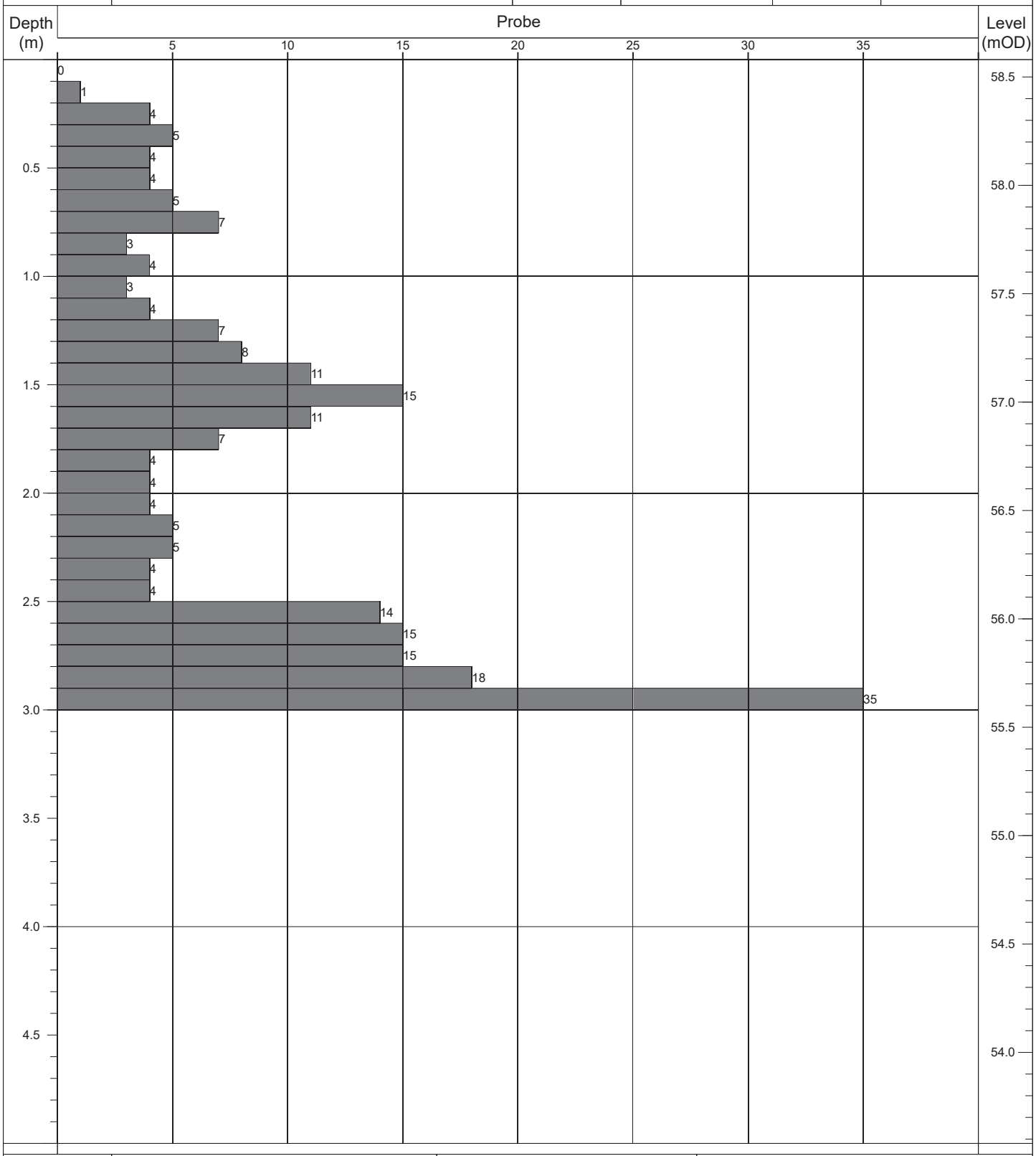
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
2.40m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	Dynamic Probe Log				Probe No: DP02
Contract:	Moygaddy	Easting:	694488.532	Date Started:	24/06/2021
Location:	Maynooth, Co. Meath	Northing:	739787.664	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	61.87	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



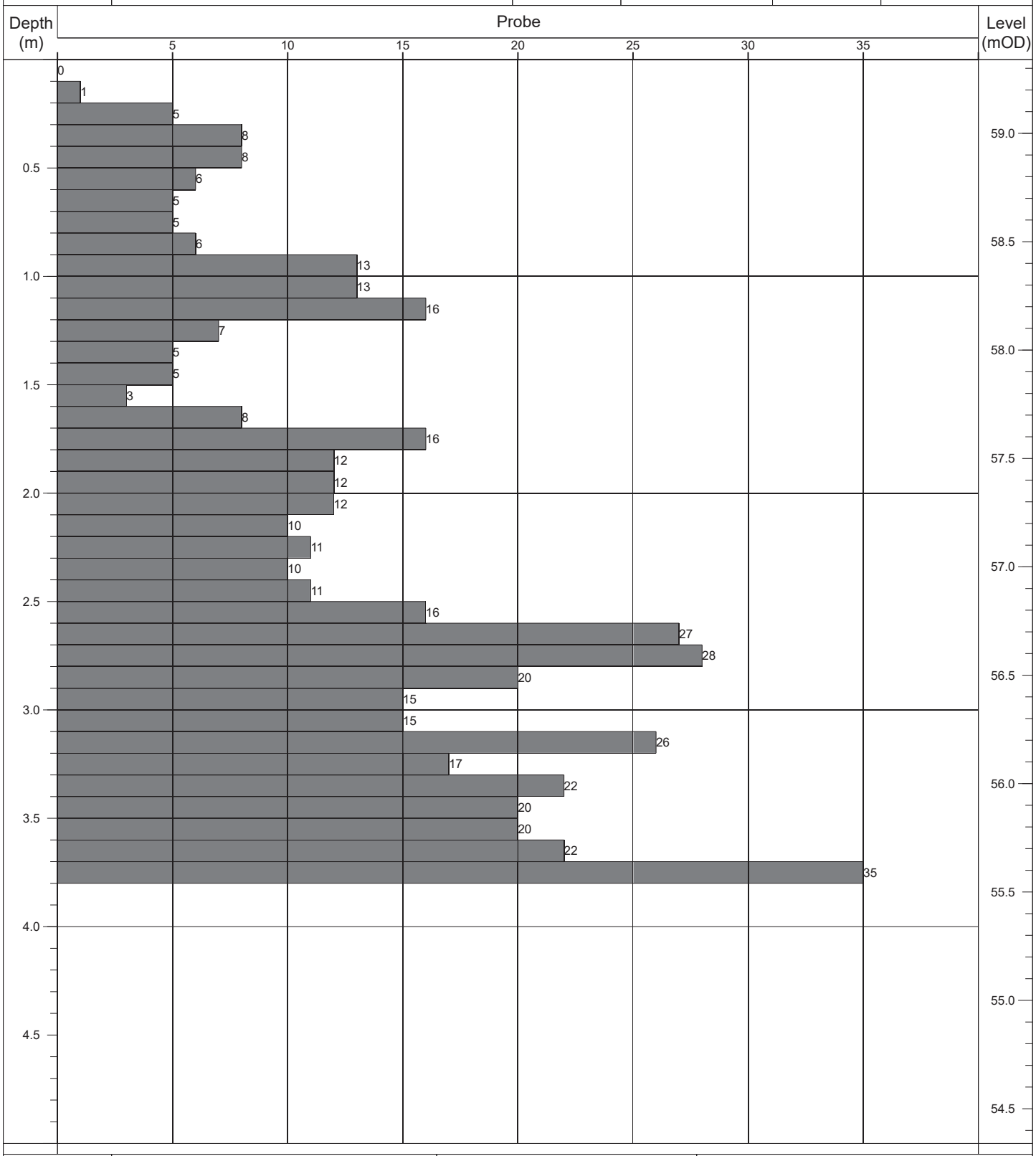
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
3.70m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	**Dynamic Probe Log**				Probe No: **DP03**
Contract:	Moygaddy	Easting:	693987.686	Date Started:	22/06/2021
Location:	Maynooth, Co. Meath	Northing:	739685.908	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	58.58	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



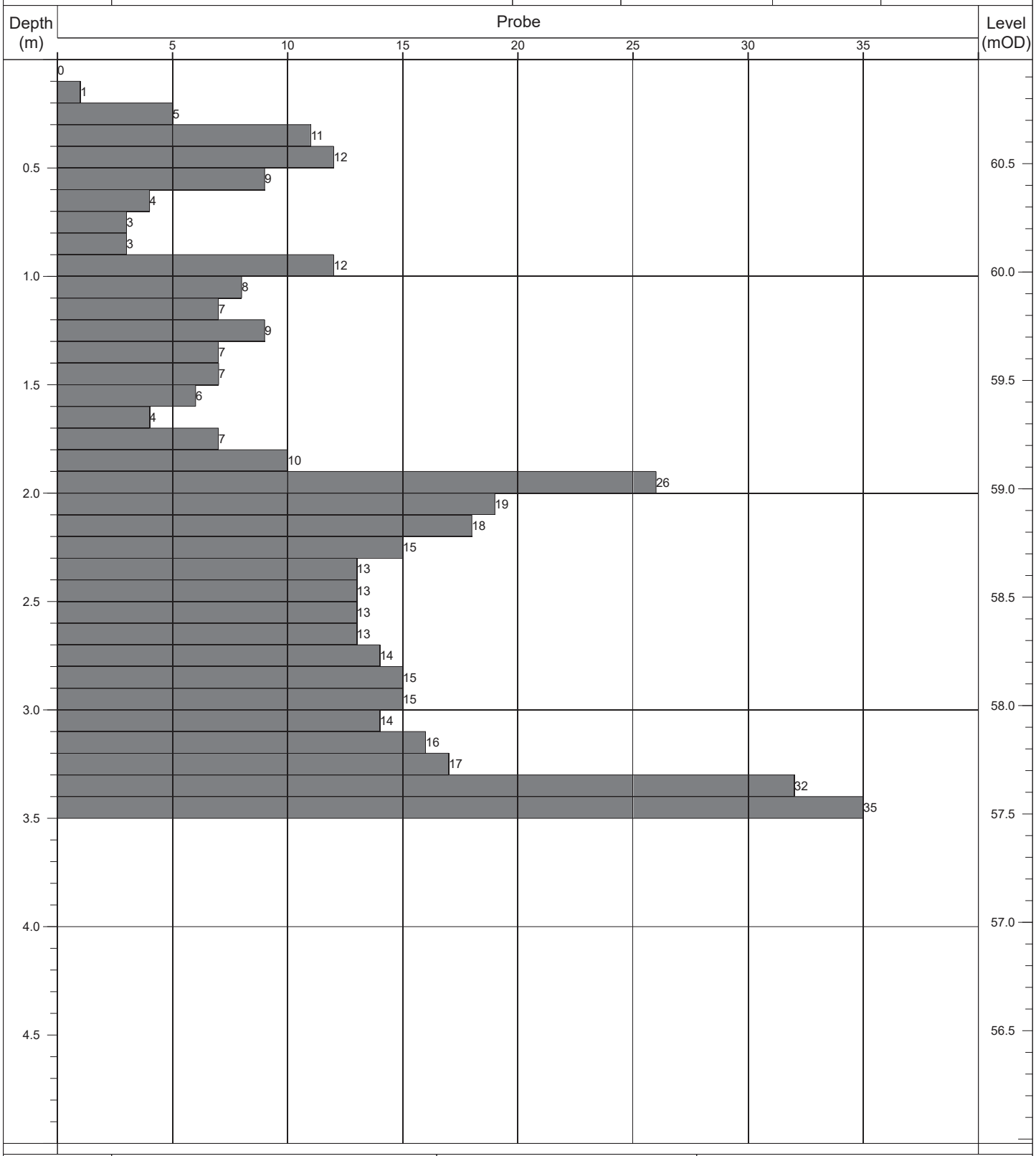
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
3.00m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	Dynamic Probe Log				Probe No: DP04
Contract:	Moygaddy	Easting:	694088.248	Date Started:	22/06/2021
Location:	Maynooth, Co. Meath	Northing:	739692.829	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	59.34	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



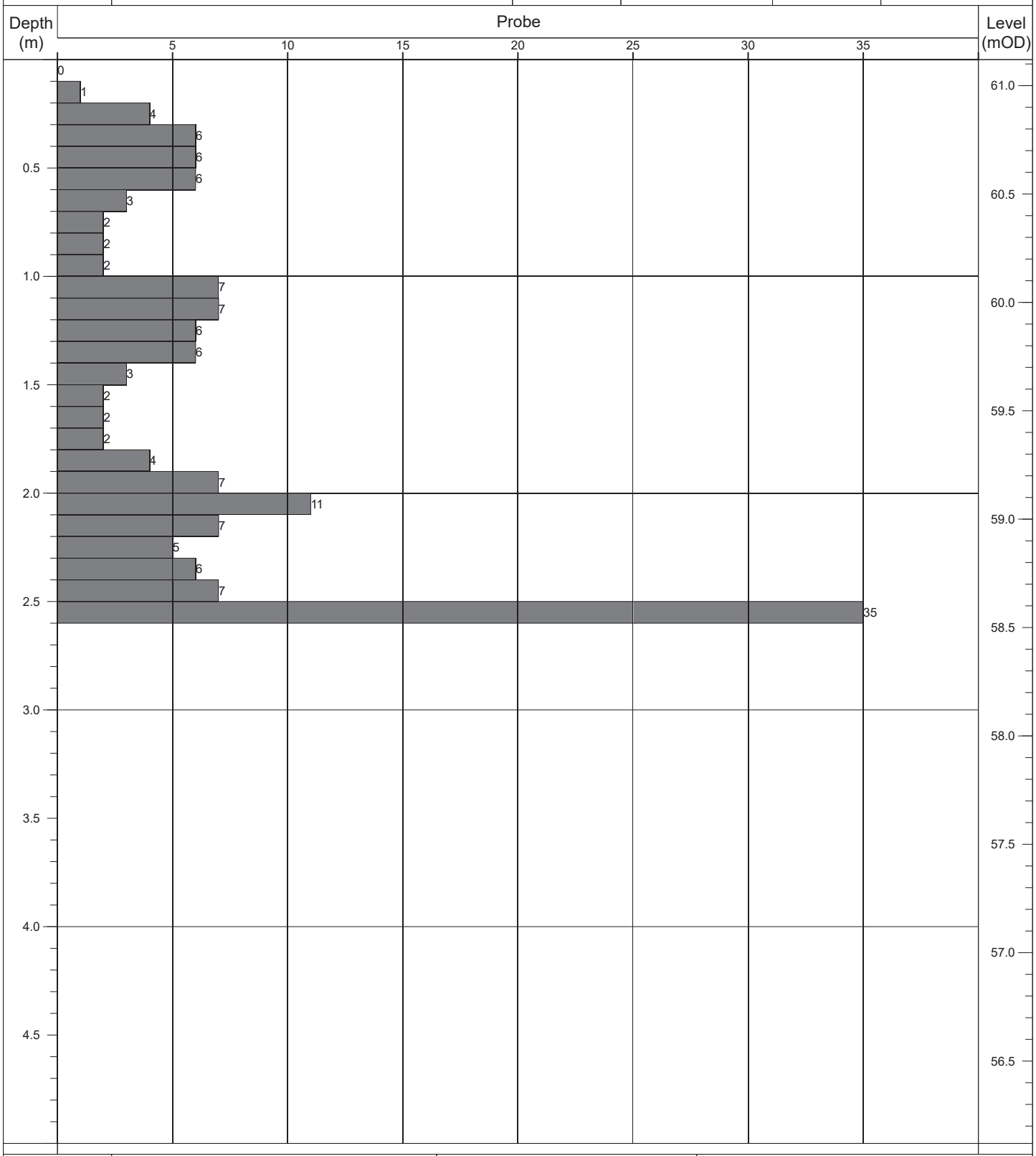
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
3.70m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	Dynamic Probe Log				Probe No: DP05
Contract:	Moygaddy	Easting:	694187.716	Date Started:	22/06/2021
Location:	Maynooth, Co. Meath	Northing:	739683.631	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	60.98	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



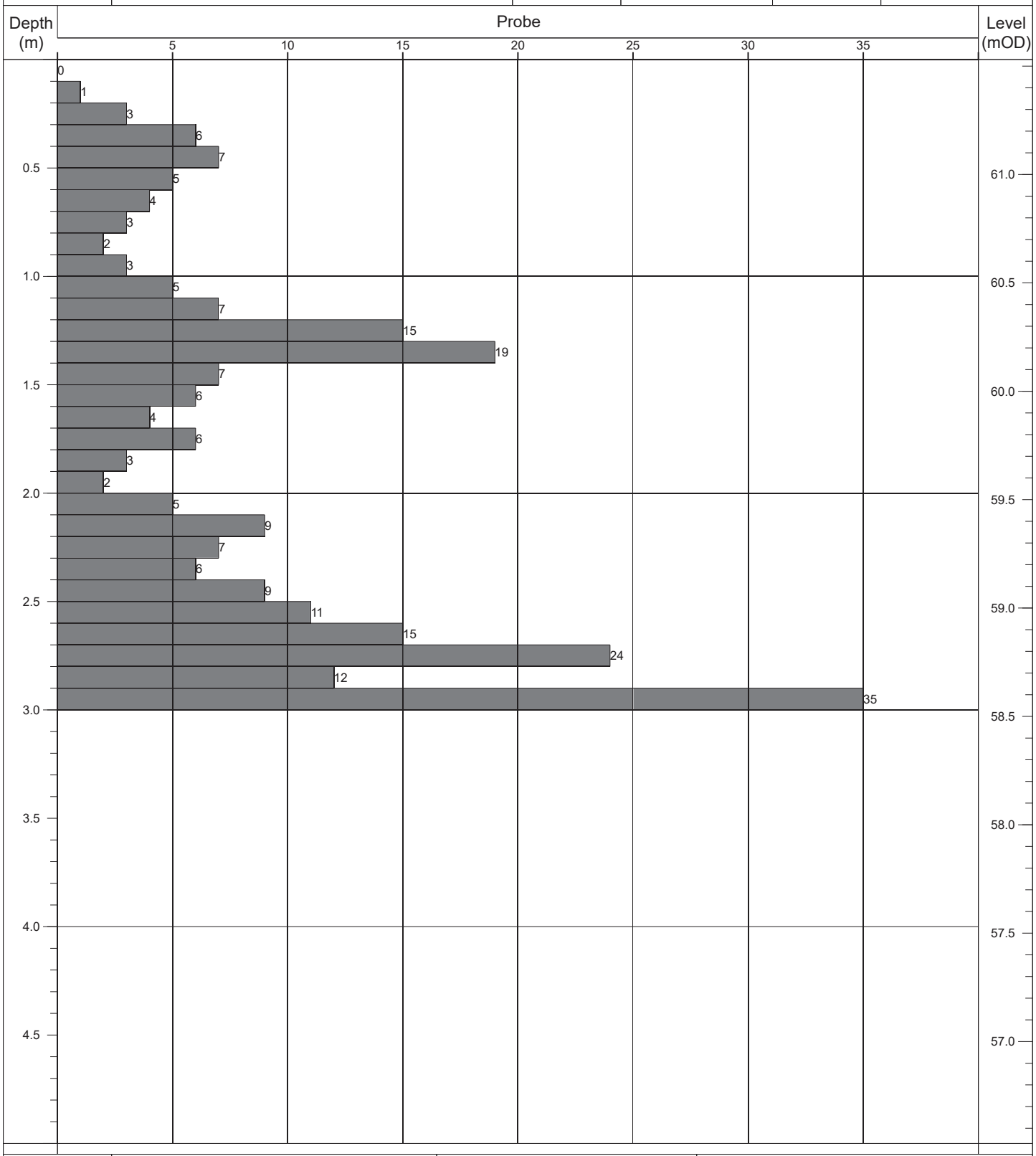
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
3.50m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	Dynamic Probe Log				Probe No: DP06
Contract:	Moygaddy	Easting:	694288.959	Date Started:	21/06/2021
Location:	Maynooth, Co. Meath	Northing:	739687.709	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	61.12	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



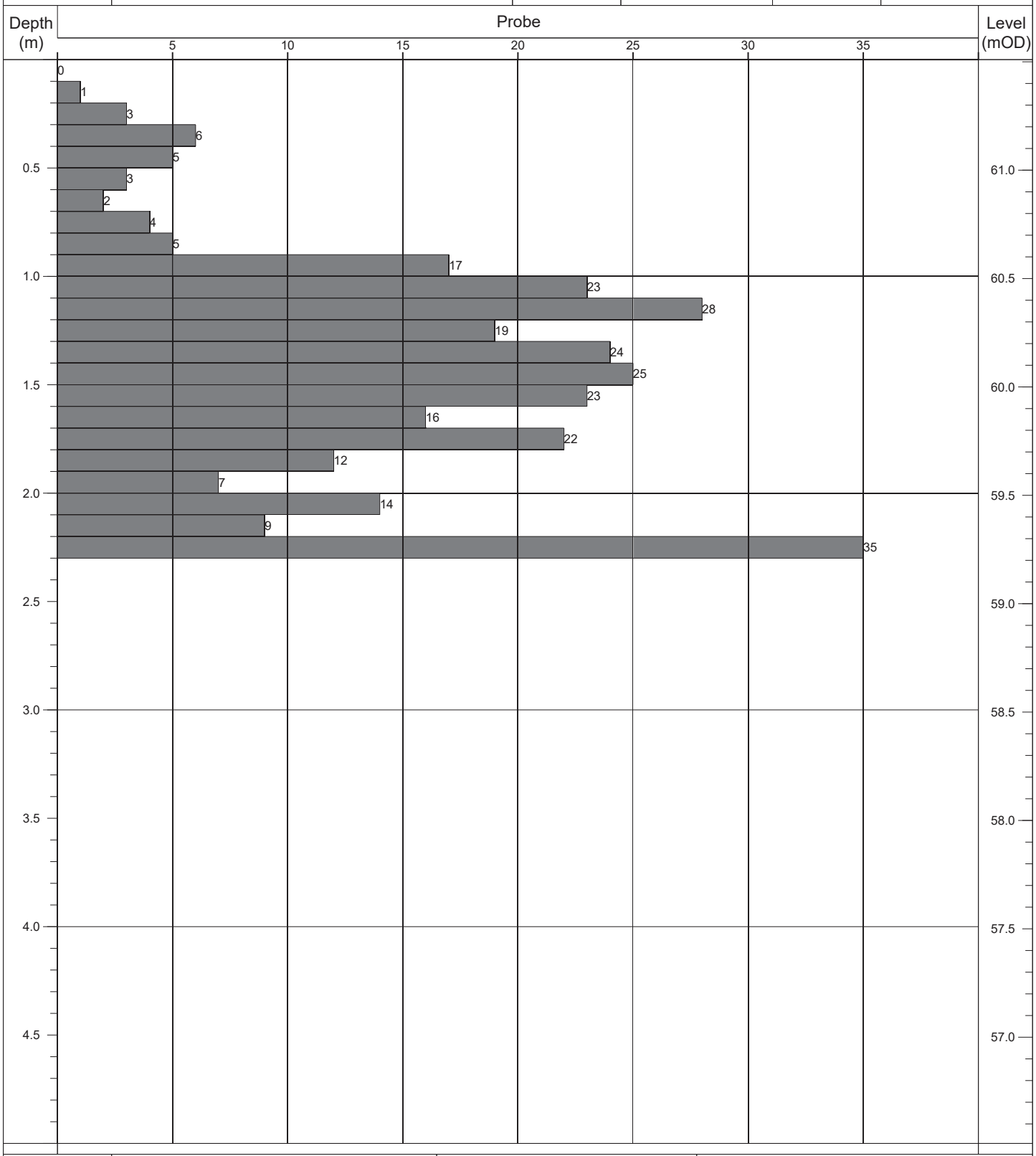
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
2.60m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	Dynamic Probe Log				Probe No: DP07
Contract:	Moygaddy	Easting:	694385.497	Date Started:	21/06/2021
Location:	Maynooth, Co. Meath	Northing:	739682.425	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	61.53	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



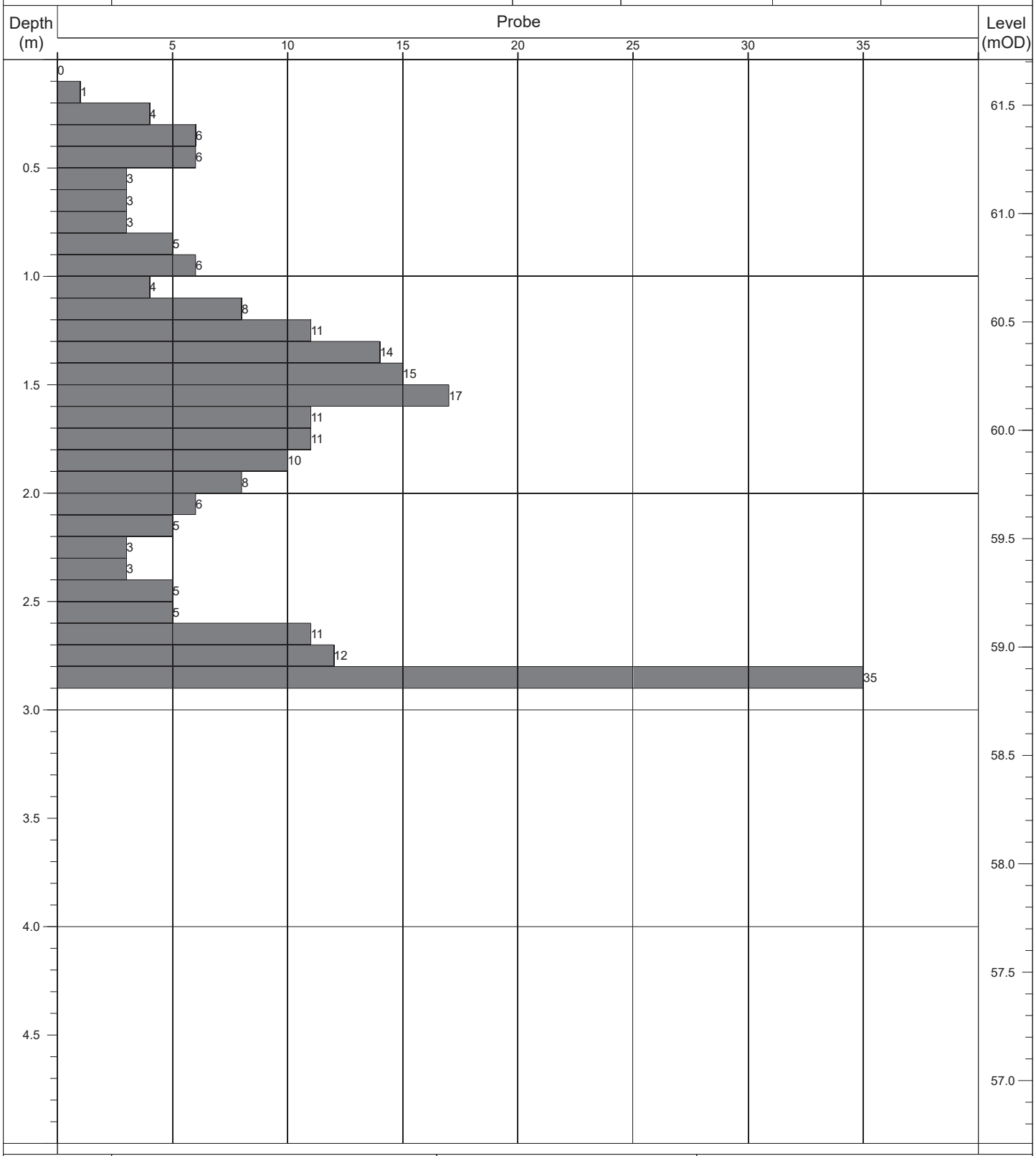
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
3.00m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	Dynamic Probe Log				Probe No: DP08
Contract:	Moygaddy	Easting:	694489.069	Date Started:	24/06/2021
Location:	Maynooth, Co. Meath	Northing:	739686.527	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	61.51	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



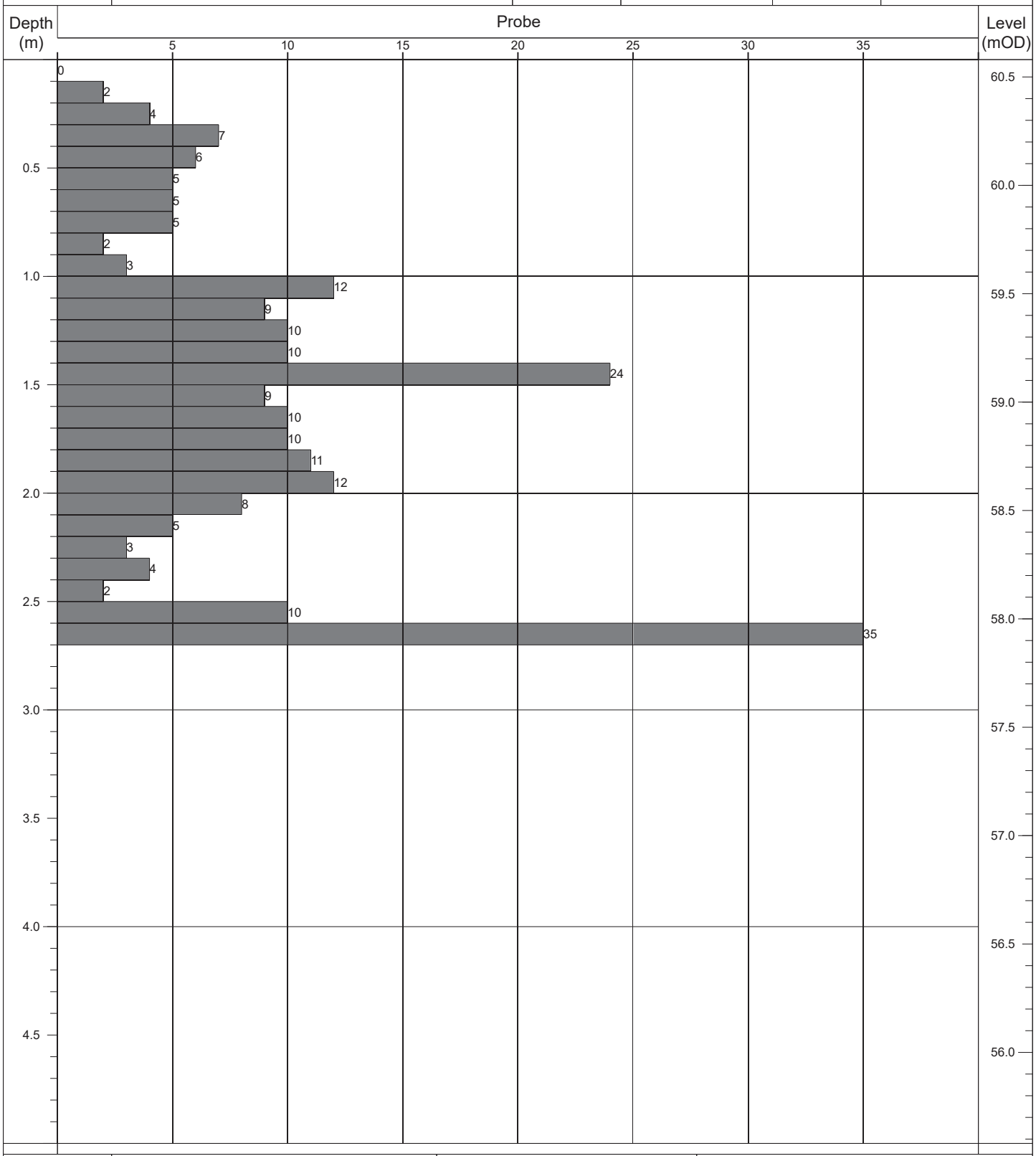
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
2.30m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	**Dynamic Probe Log**				Probe No: **DP09**
Contract:	Moygaddy	Easting:	694590.817	Date Started:	24/06/2021
Location:	Maynooth, Co. Meath	Northing:	739686.475	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	61.71	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



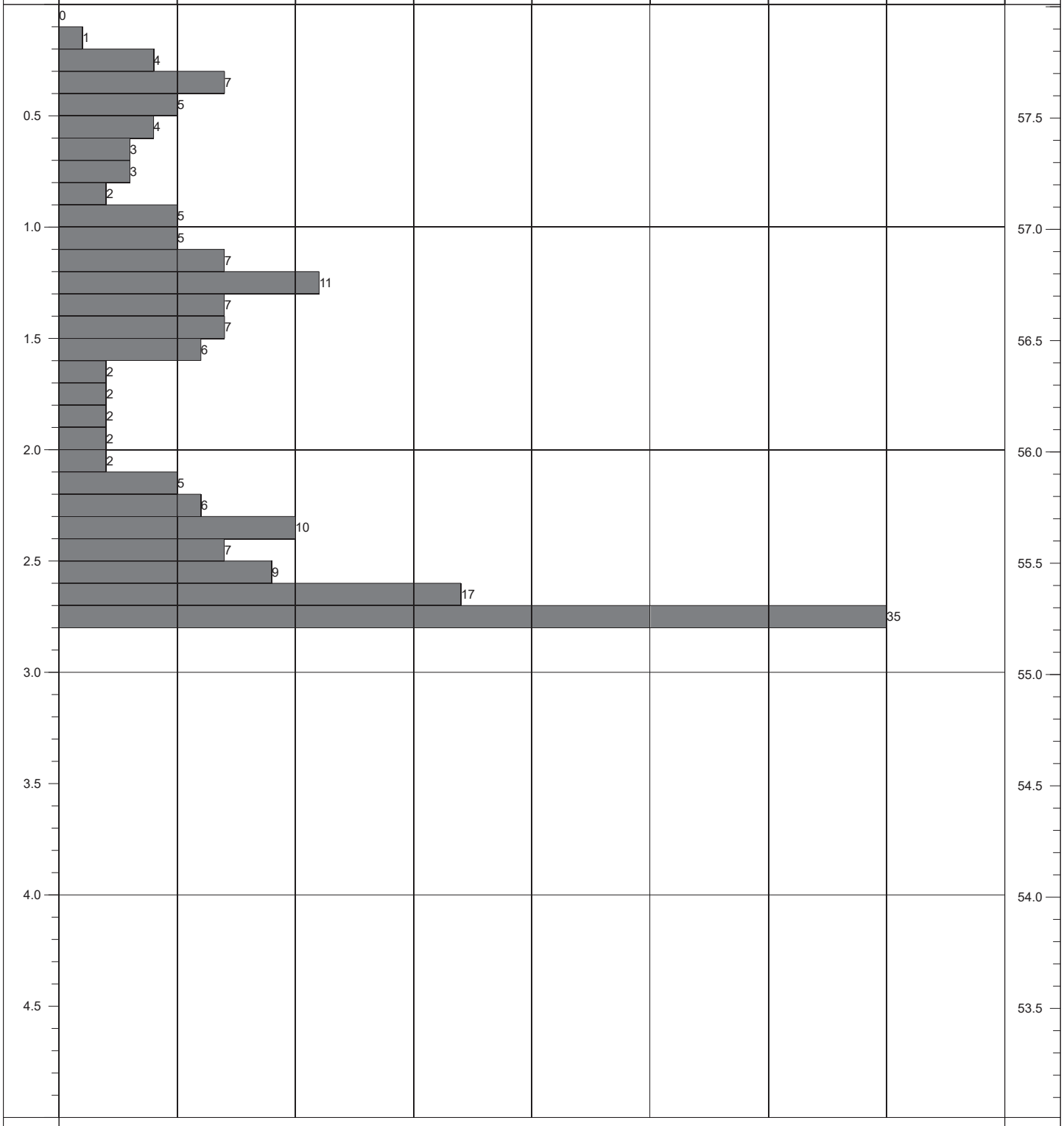
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
2.90m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	Dynamic Probe Log				Probe No: DP10
Contract:	Moygaddy	Easting:	694693.928	Date Started:	24/06/2021
Location:	Maynooth, Co. Meath	Northing:	739687.423	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	60.58	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



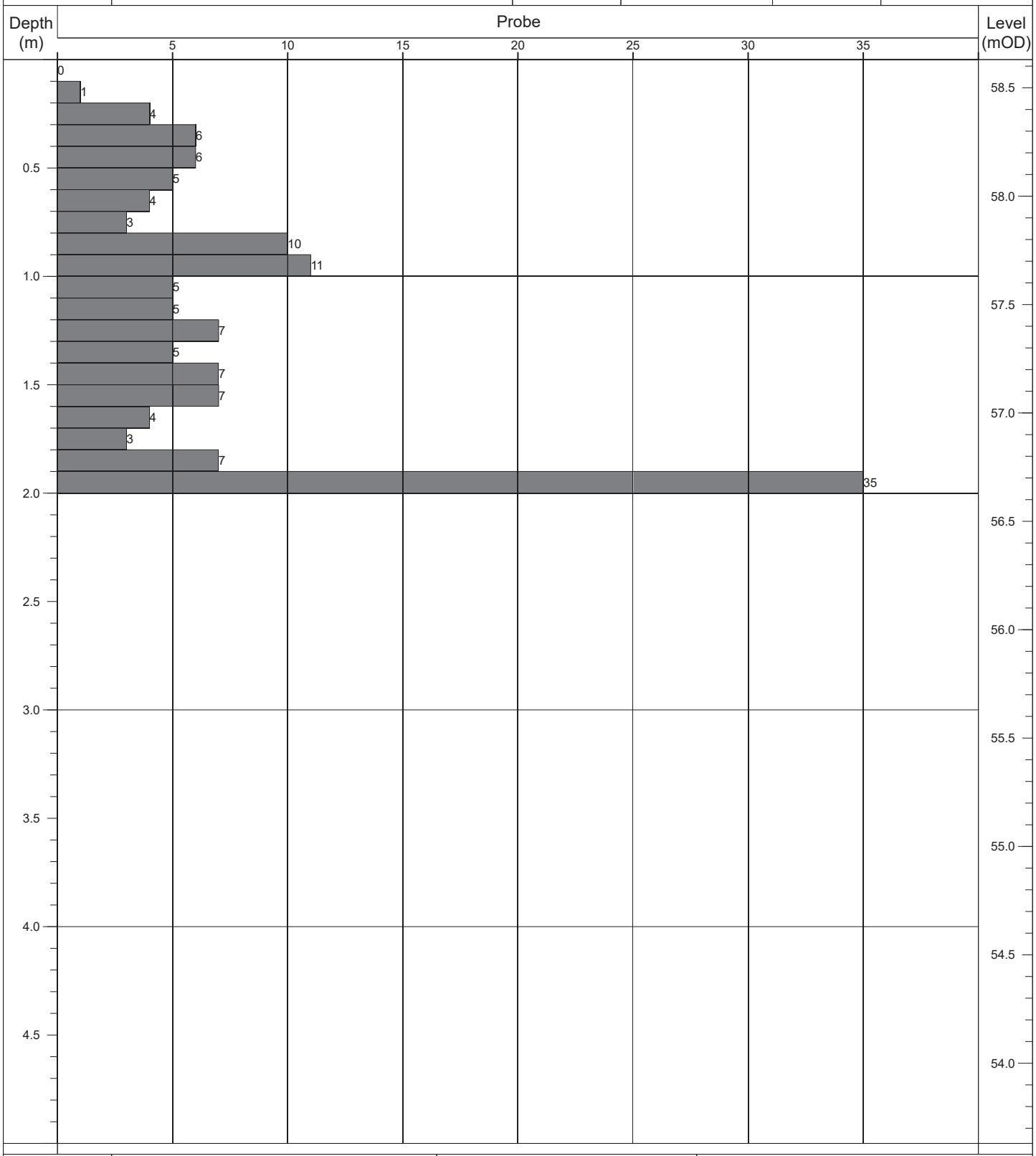
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
2.70m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	Dynamic Probe Log				Probe No: DP11
Contract:	Moygaddy	Easting:	693887.836	Date Started:	22/06/2021
Location:	Maynooth, Co. Meath	Northing:	739587.012	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	58.01	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



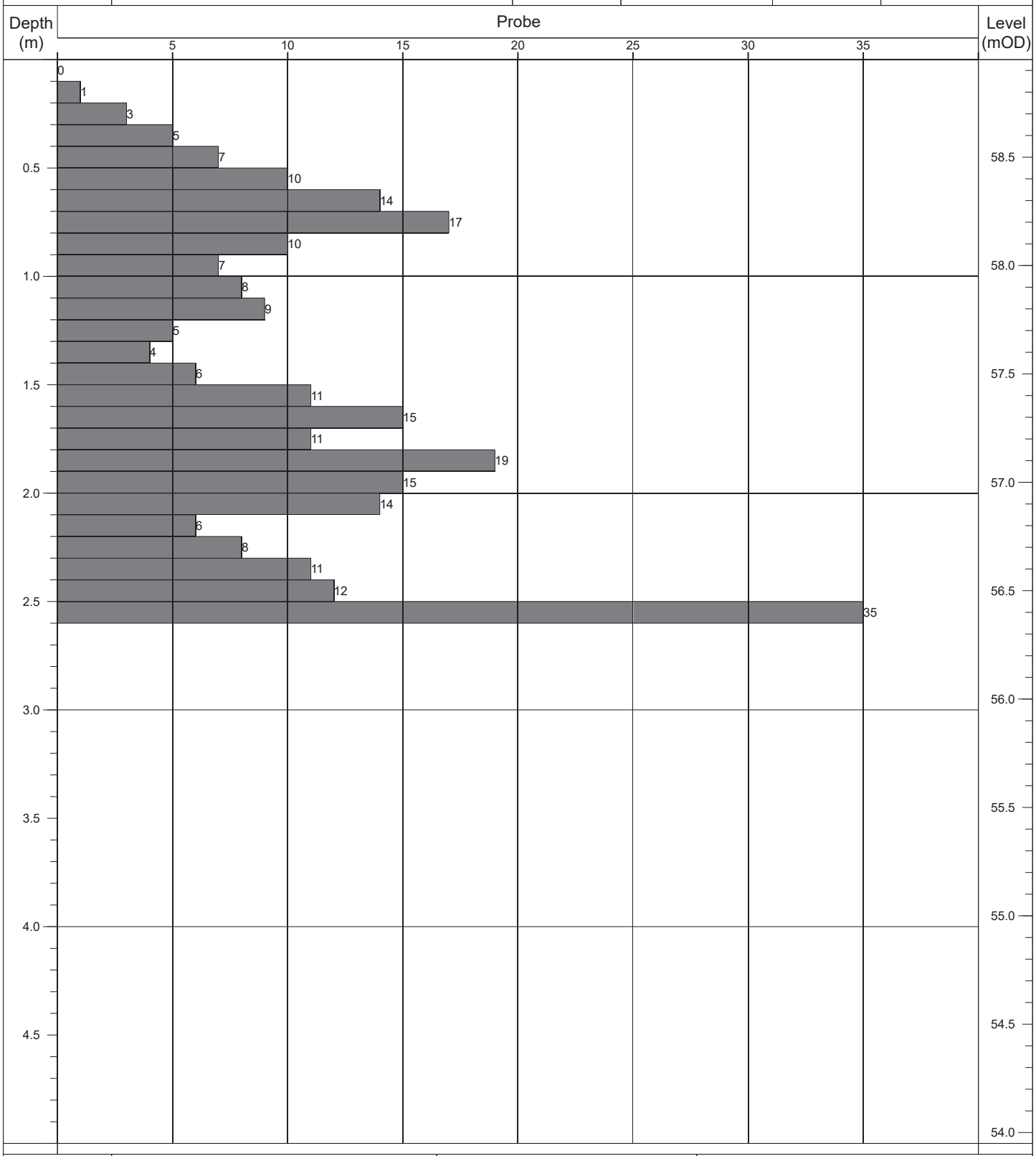
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
2.80m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	**Dynamic Probe Log**				Probe No: **DP12**
Contract:	Moygaddy	Easting:	693990.198	Date Started:	22/06/2021
Location:	Maynooth, Co. Meath	Northing:	739586.789	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	58.63	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



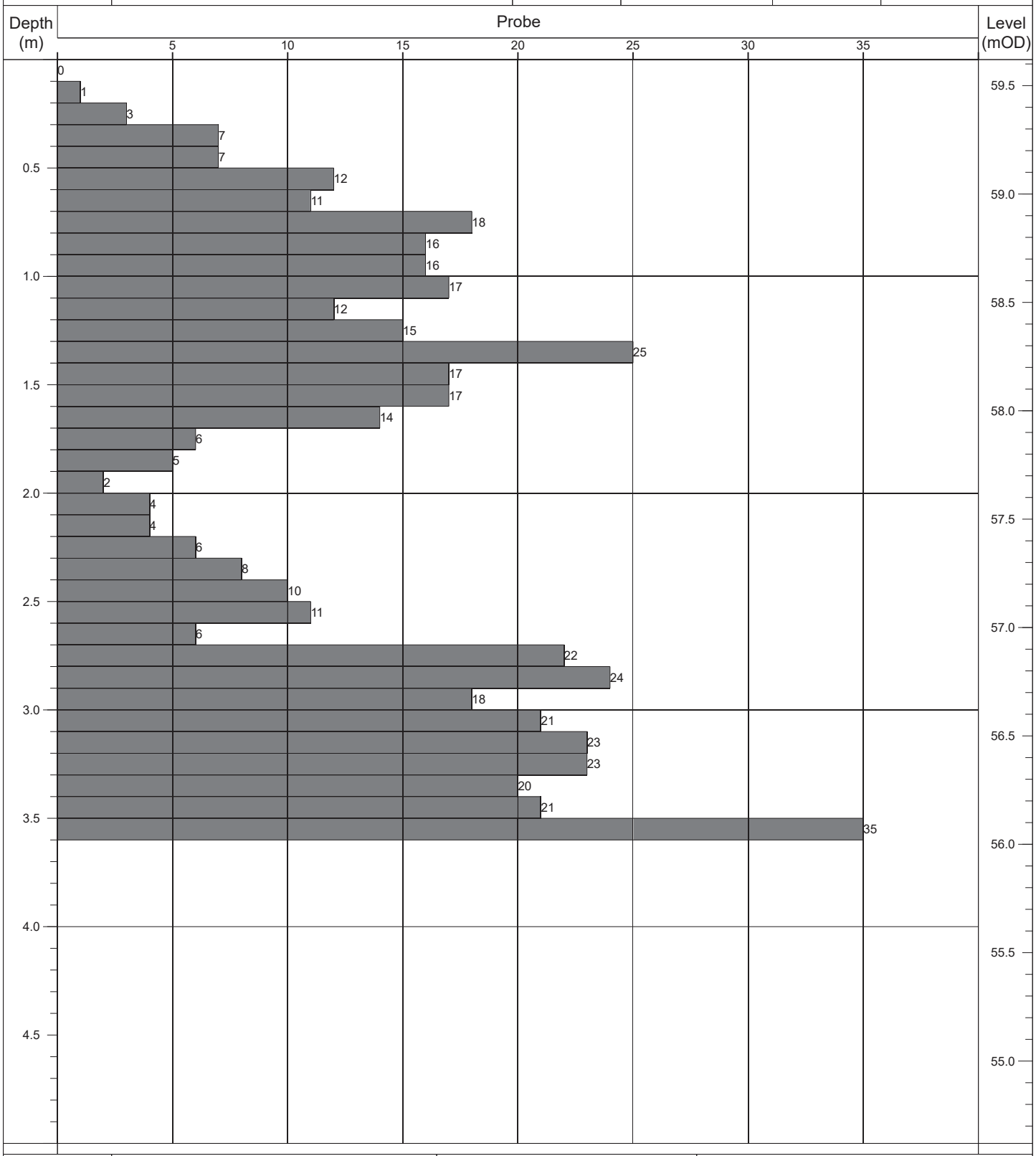
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
2.00m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	**Dynamic Probe Log**				Probe No: **DP13**
Contract:	Moygaddy	Easting:	694087.587	Date Started:	22/06/2021
Location:	Maynooth, Co. Meath	Northing:	739588.545	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	58.95	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



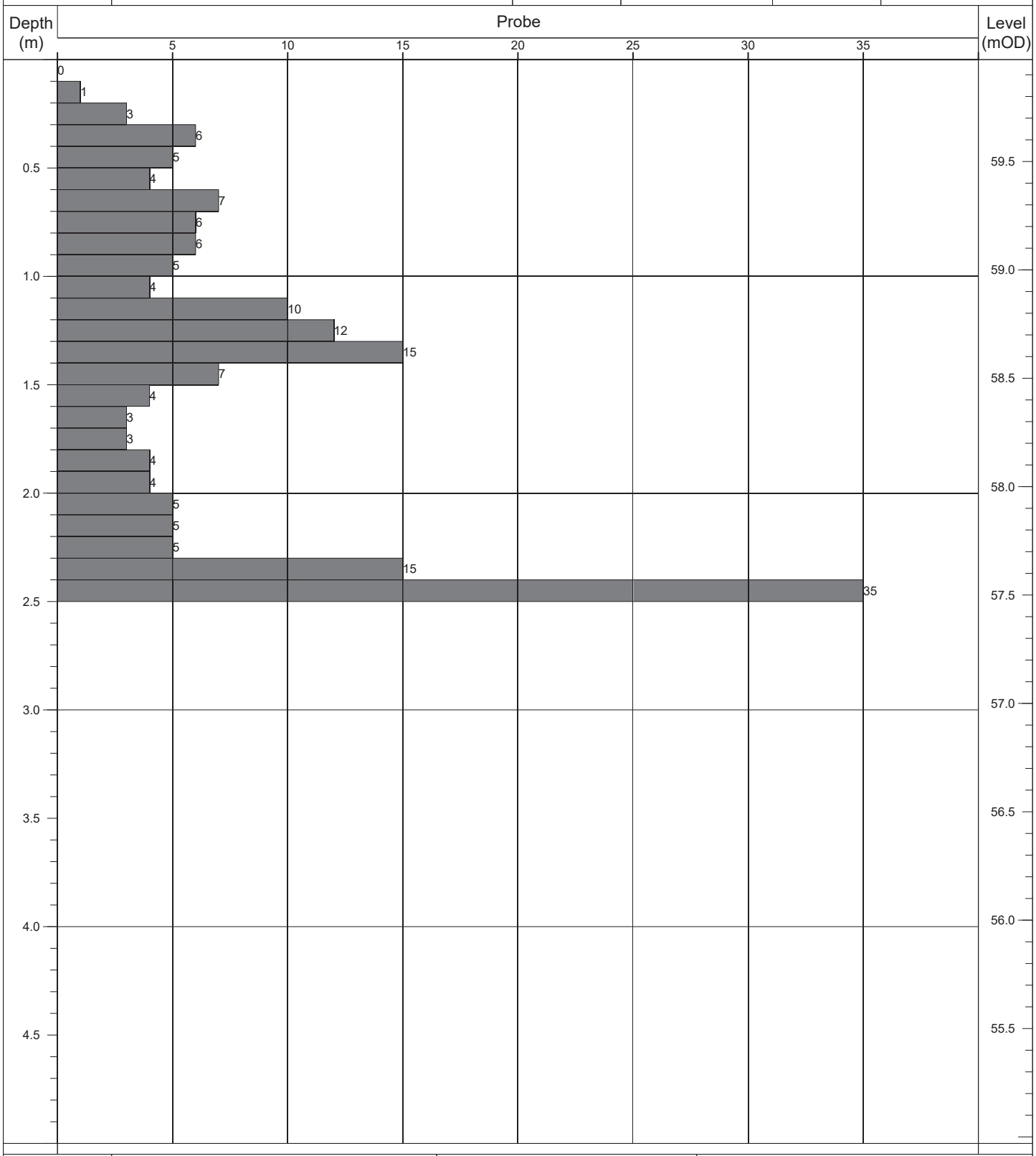
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
2.60m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	Dynamic Probe Log				Probe No: DP14
Contract:	Moygaddy	Easting:	694188.942	Date Started:	22/06/2021
Location:	Maynooth, Co. Meath	Northing:	739587.683	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	59.62	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



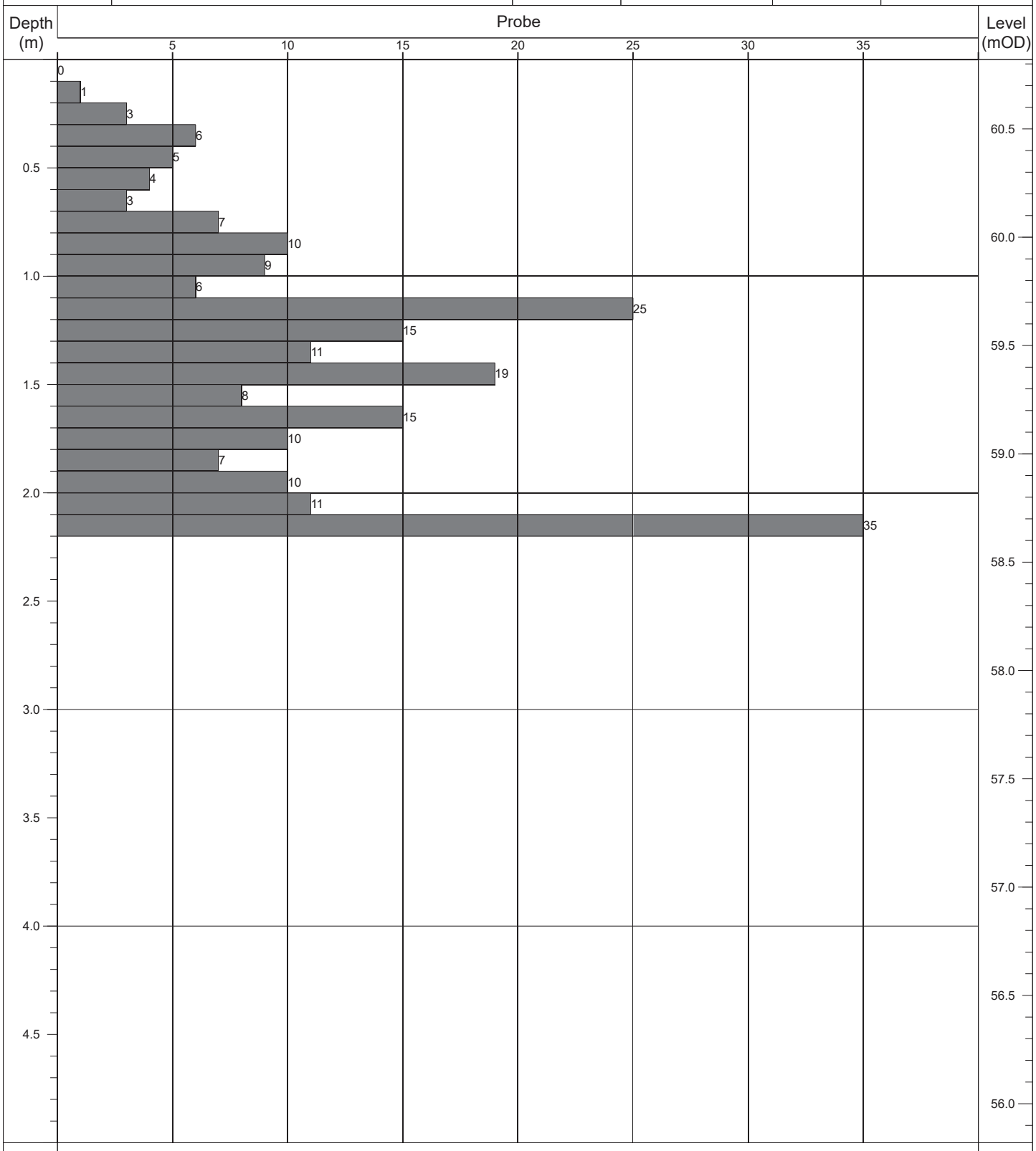
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
3.60m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	Dynamic Probe Log				Probe No: DP15
Contract:	Moygaddy	Easting:	694289.424	Date Started:	22/06/2021
Location:	Maynooth, Co. Meath	Northing:	739586.183	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	59.97	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



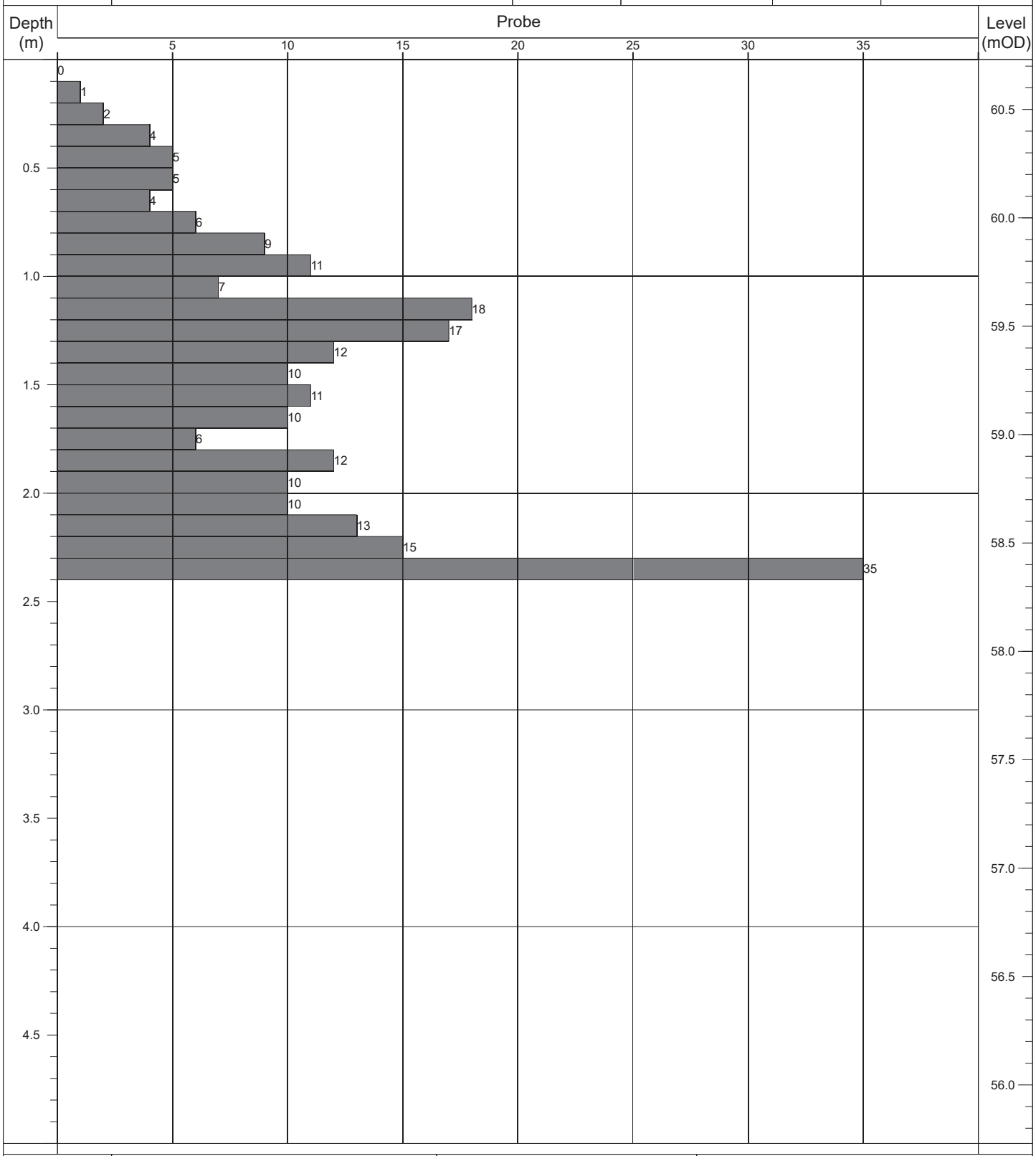
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
2.50m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	Dynamic Probe Log				Probe No: DP16
Contract:	Moygaddy	Easting:	694488.048	Date Started:	24/06/2021
Location:	Maynooth, Co. Meath	Northing:	739589.540	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	60.82	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



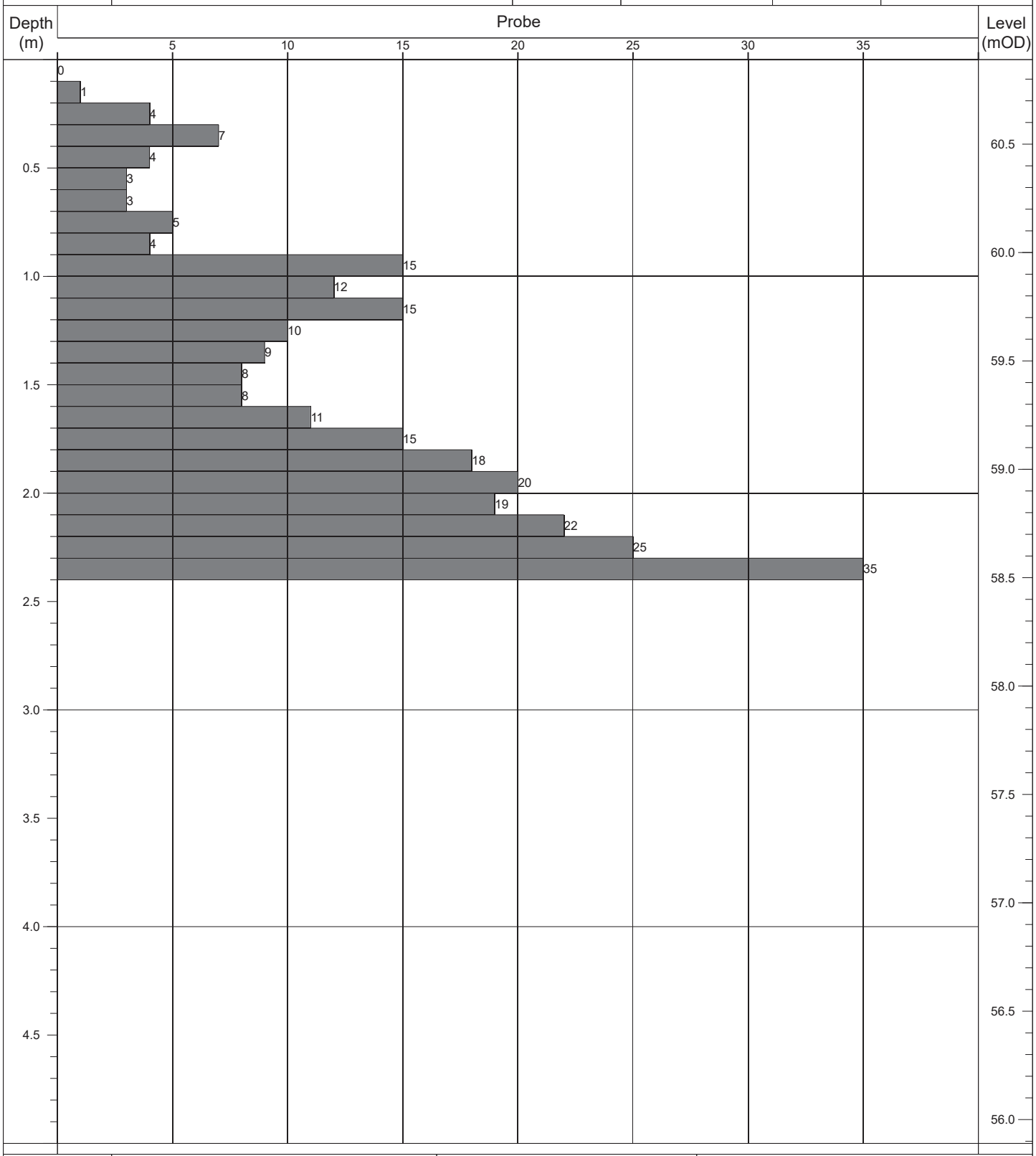
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
2.20m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	**Dynamic Probe Log**				Probe No: **DP17**
Contract:	Moygaddy	Easting:	694589.076	Date Started:	24/06/2021
Location:	Maynooth, Co. Meath	Northing:	739587.354	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	60.73	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



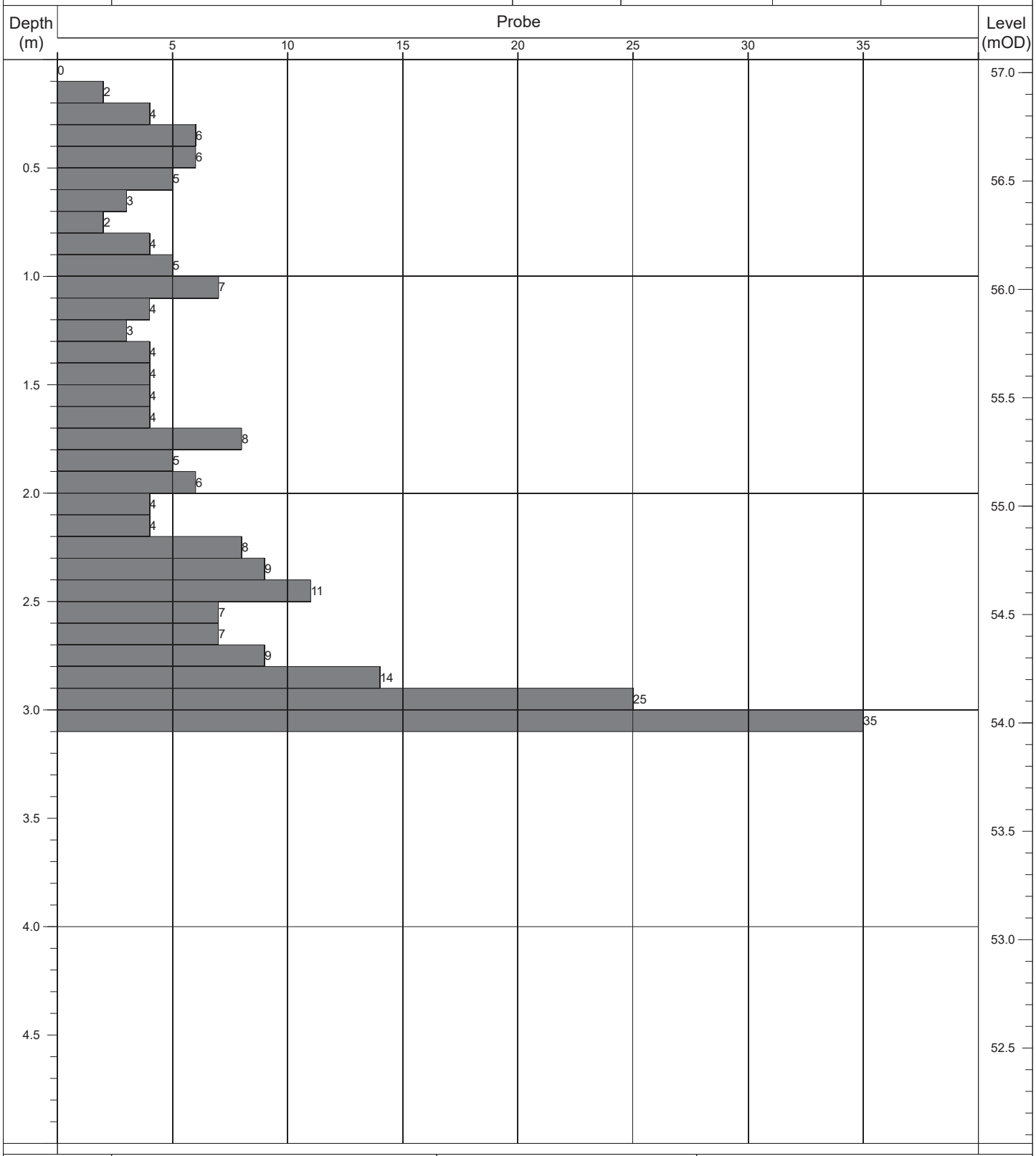
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
2.40m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	**Dynamic Probe Log**				Probe No: **DP18**
Contract:	Moygaddy	Easting:	694688.772	Date Started:	24/06/2021
Location:	Maynooth, Co. Meath	Northing:	739584.729	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	60.89	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



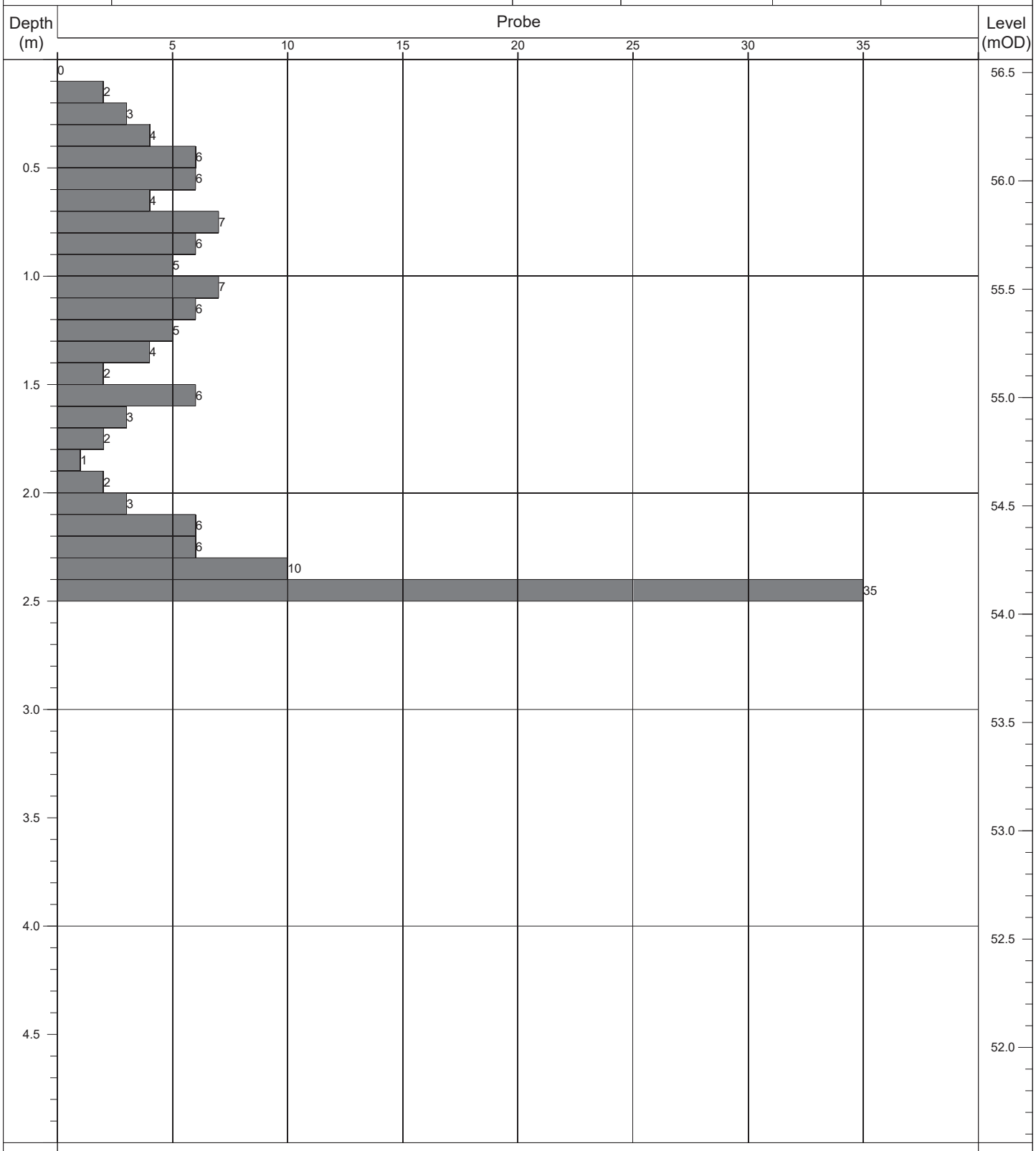
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
2.40m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	**Dynamic Probe Log**				Probe No: **DP19**
Contract:	Moygaddy	Easting:	693691.519	Date Started:	23/06/2021
Location:	Maynooth, Co. Meath	Northing:	739485.259	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	57.06	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



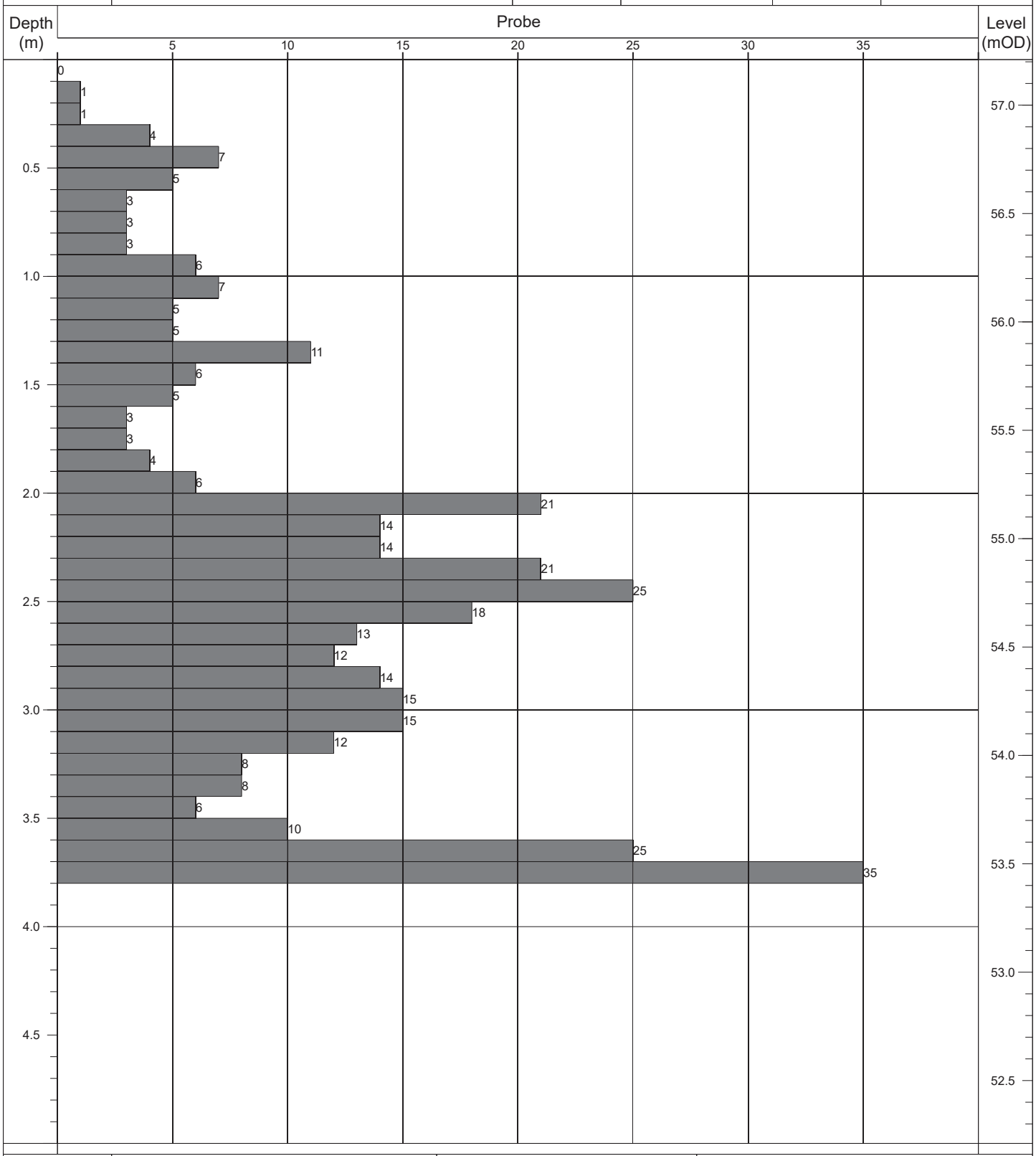
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
3.10m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	Dynamic Probe Log				Probe No: DP20
Contract:	Moygaddy	Easting:	693789.642	Date Started:	23/06/2021
Location:	Maynooth, Co. Meath	Northing:	739485.089	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	56.56	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



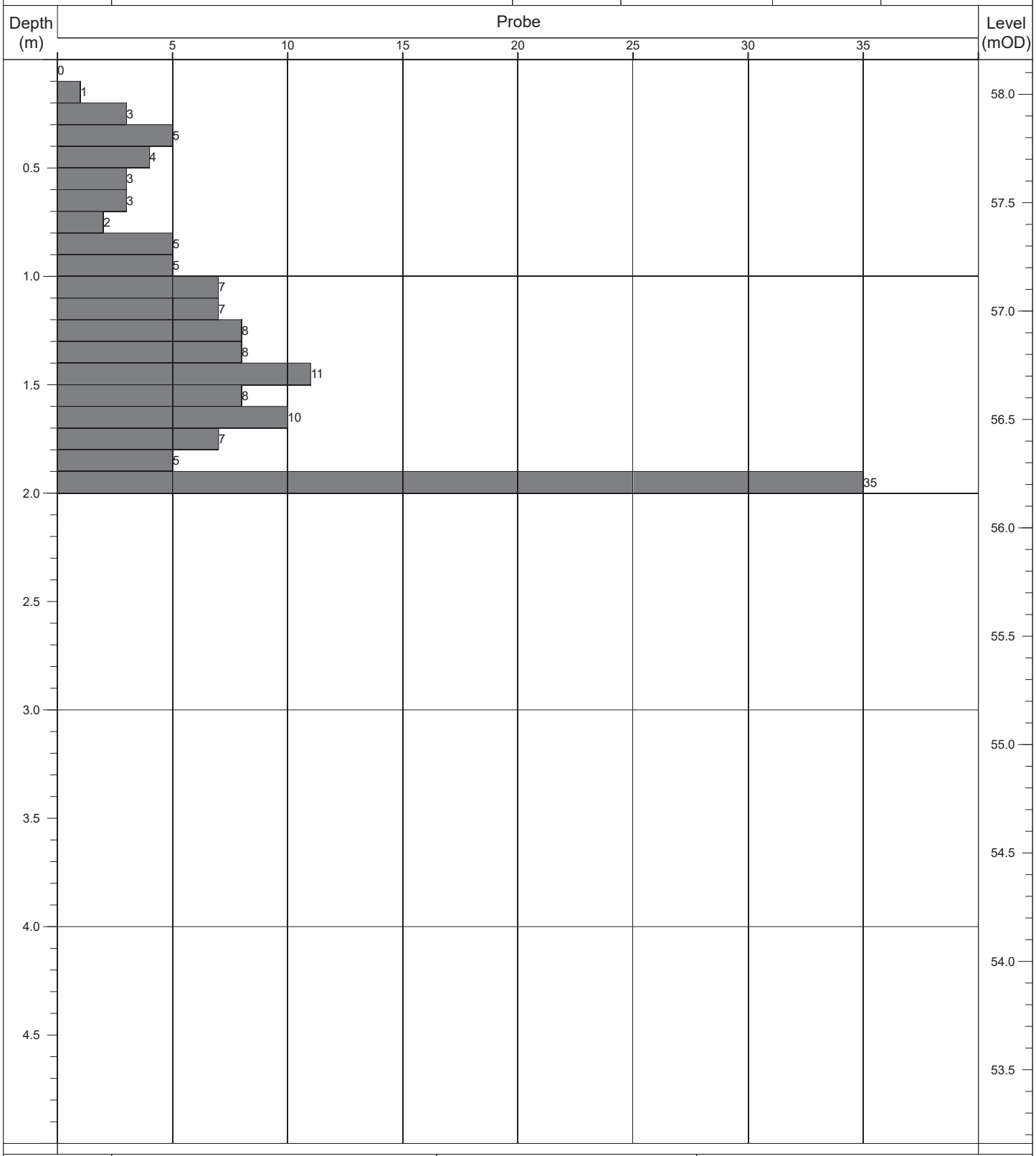
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
2.50m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	Dynamic Probe Log				Probe No: DP21
Contract:	Moygaddy	Easting:	693889.602	Date Started:	22/06/2021
Location:	Maynooth, Co. Meath	Northing:	739486.389	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	57.21	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



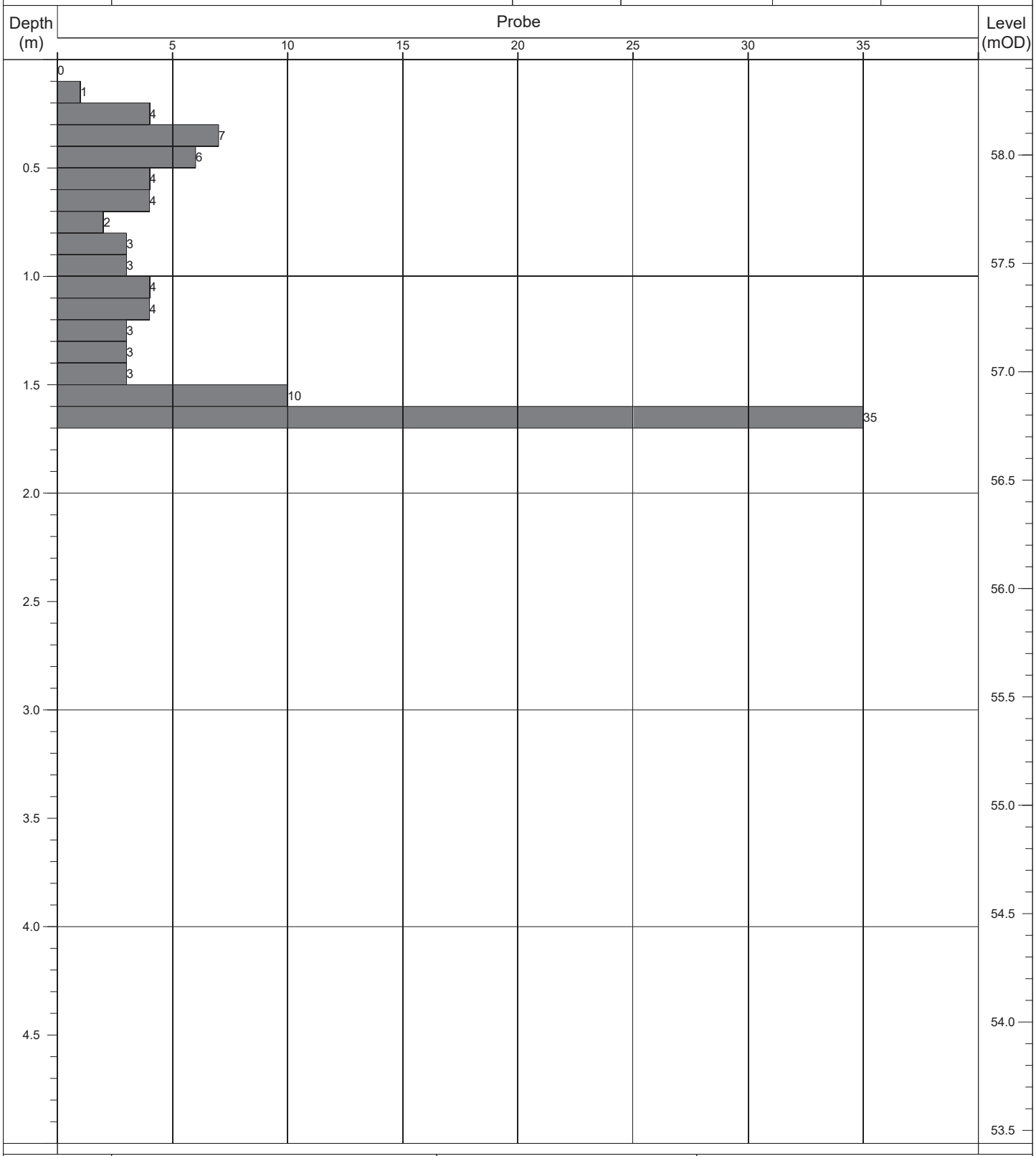
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
3.80m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	Dynamic Probe Log				Probe No: DP22
Contract:	Moygaddy	Easting:	693990.017	Date Started:	22/06/2021
Location:	Maynooth, Co. Meath	Northing:	739487.250	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	58.16	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



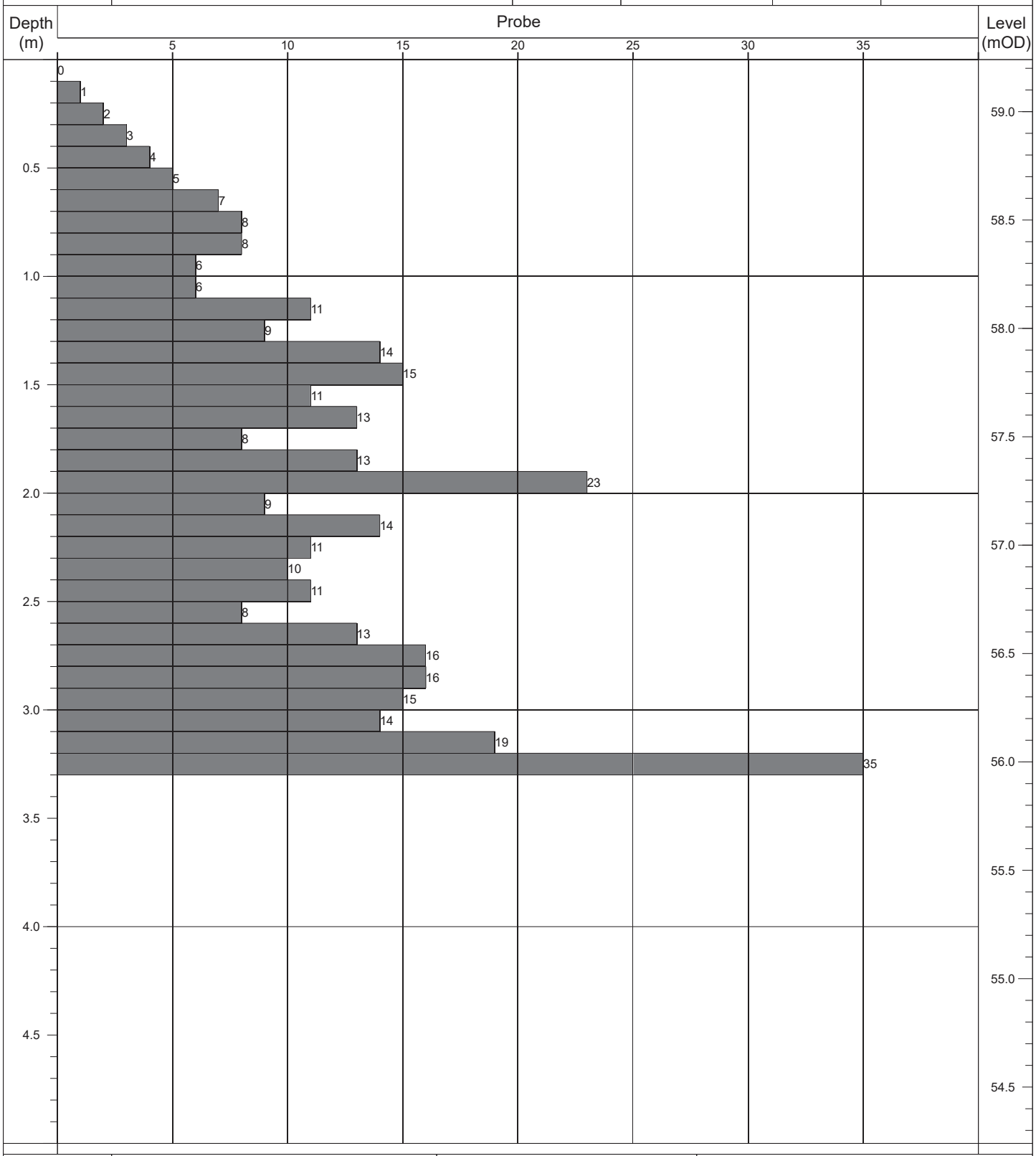
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
2.00m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	Dynamic Probe Log				Probe No: DP23
Contract:	Moygaddy	Easting:	694089.764	Date Started:	22/06/2021
Location:	Maynooth, Co. Meath	Northing:	739487.208	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	58.44	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



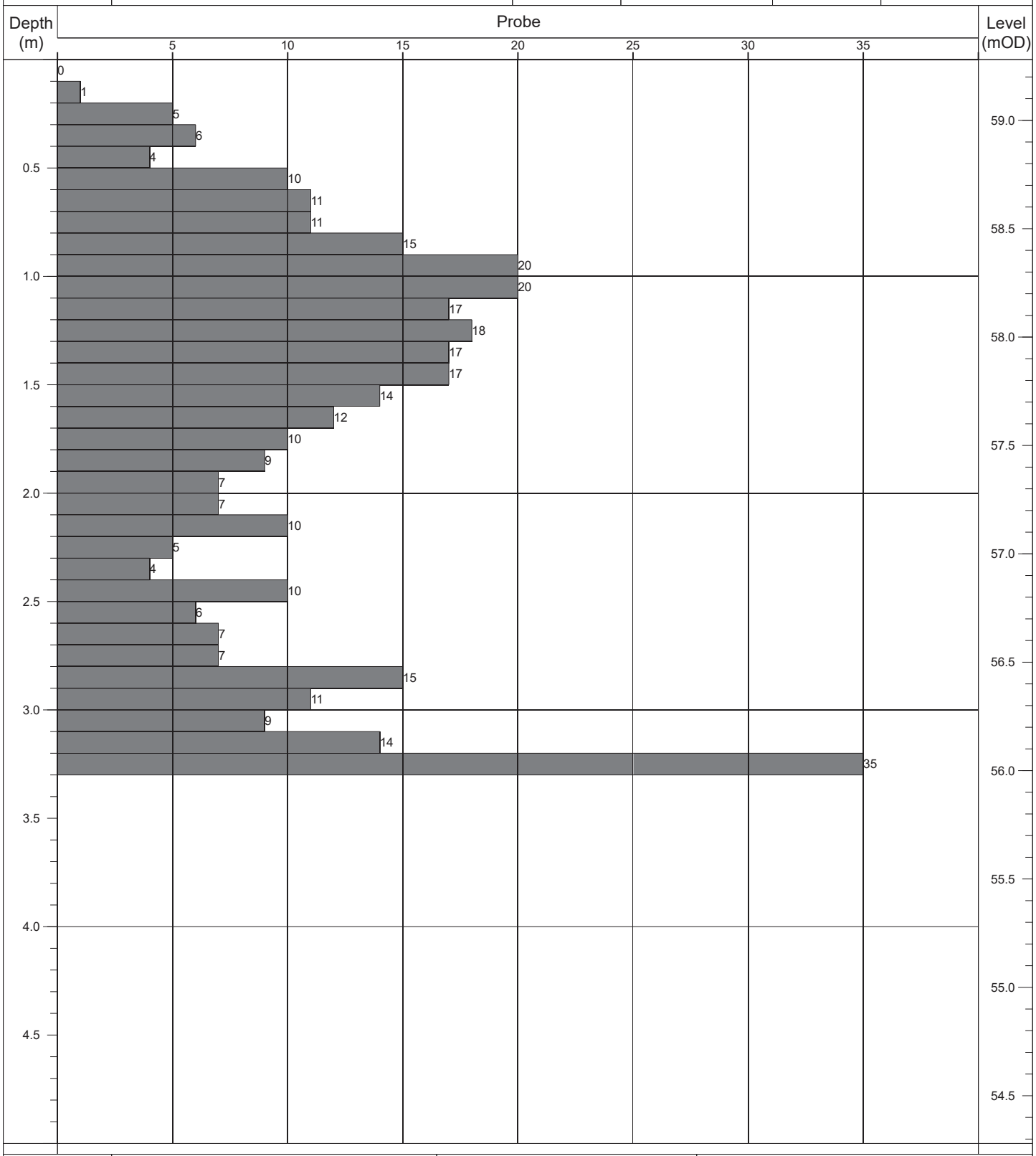
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
1.70m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	Dynamic Probe Log				Probe No: DP24
Contract:	Moygaddy	Easting:	694198.133	Date Started:	22/06/2021
Location:	Maynooth, Co. Meath	Northing:	739492.619	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	59.24	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



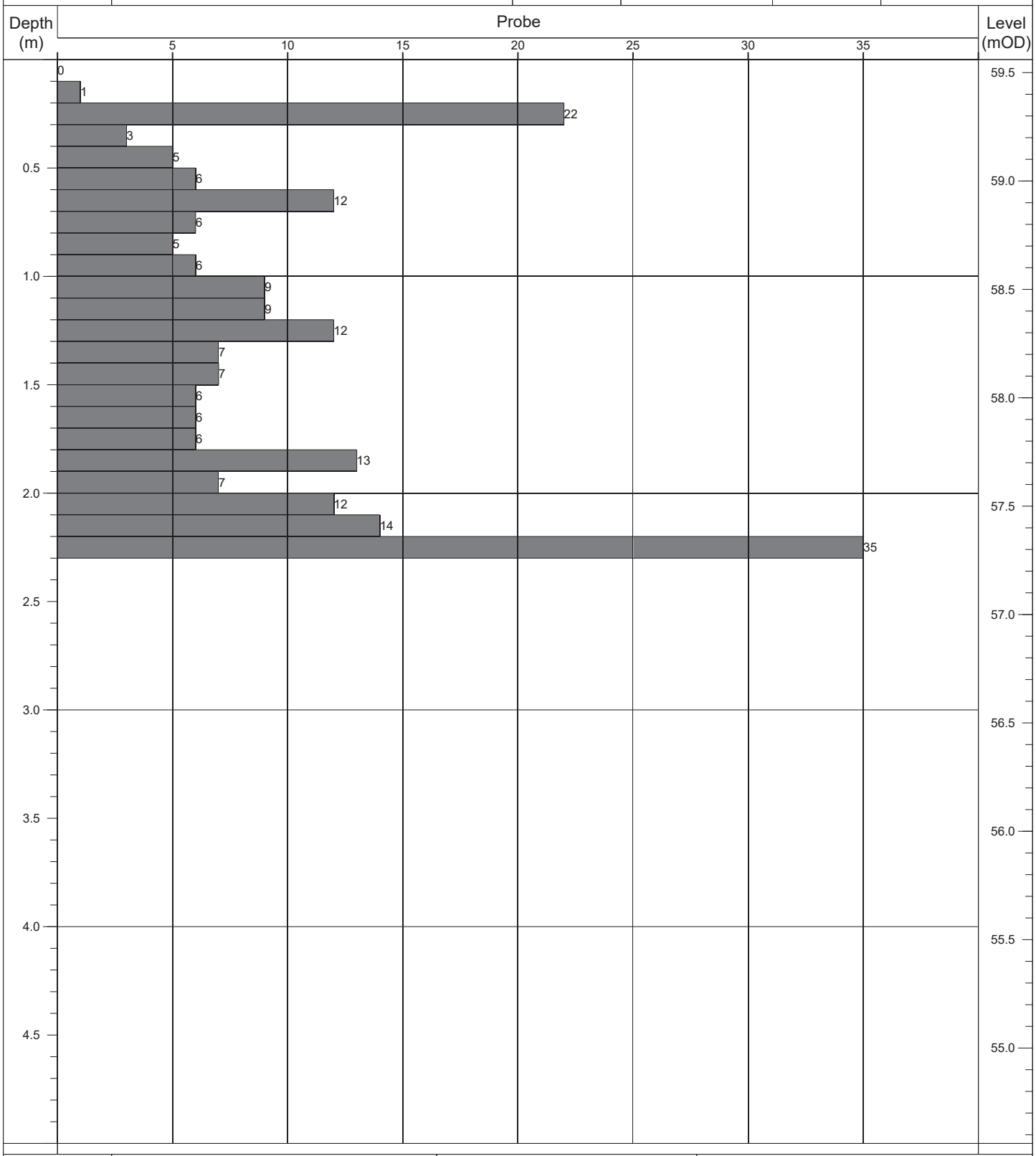
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
3.30m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	Dynamic Probe Log				Probe No: DP25
Contract:	Moygaddy	Easting:	694385.716	Date Started:	22/06/2021
Location:	Maynooth, Co. Meath	Northing:	739486.593	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	59.28	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



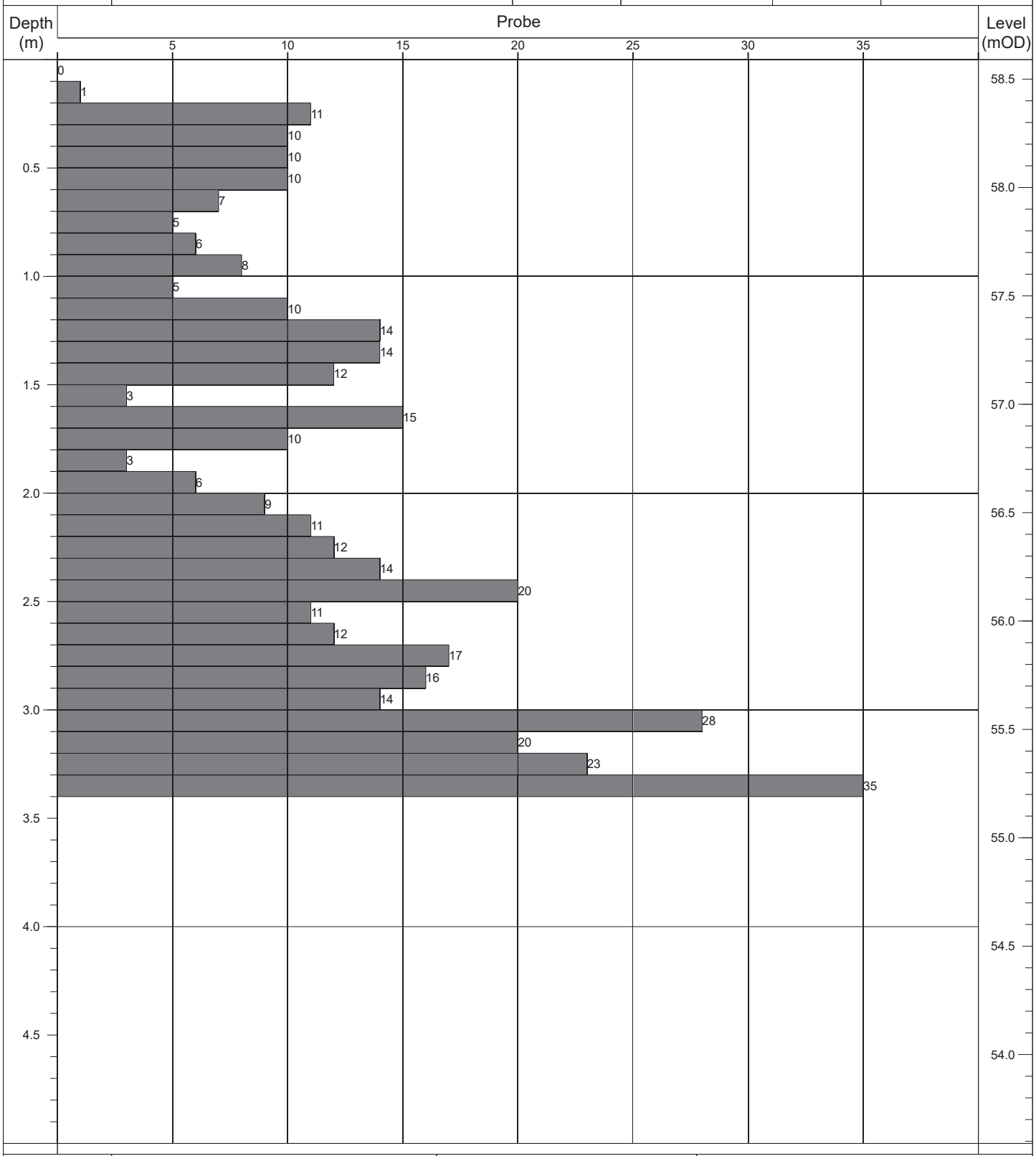
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
3.30m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	**Dynamic Probe Log**				Probe No: **DP26**
Contract:	Moygaddy	Easting:	694489.024	Date Started:	24/06/2021
Location:	Maynooth, Co. Meath	Northing:	739485.194	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	59.56	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



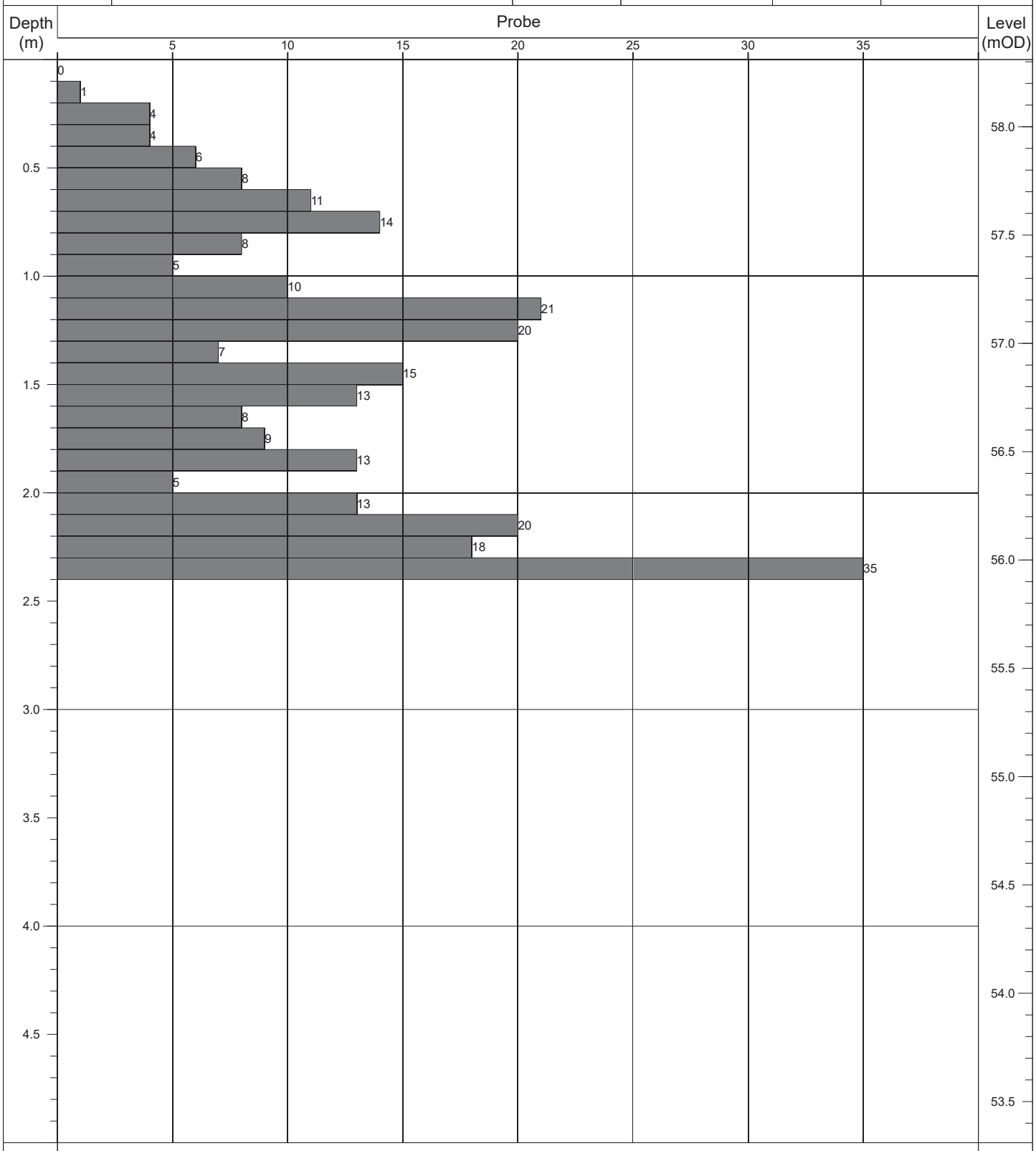
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
2.50m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	Dynamic Probe Log				Probe No: DP27
Contract:	Moygaddy	Easting:	694586.781	Date Started:	24/06/2021
Location:	Maynooth, Co. Meath	Northing:	739491.852	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	58.59	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



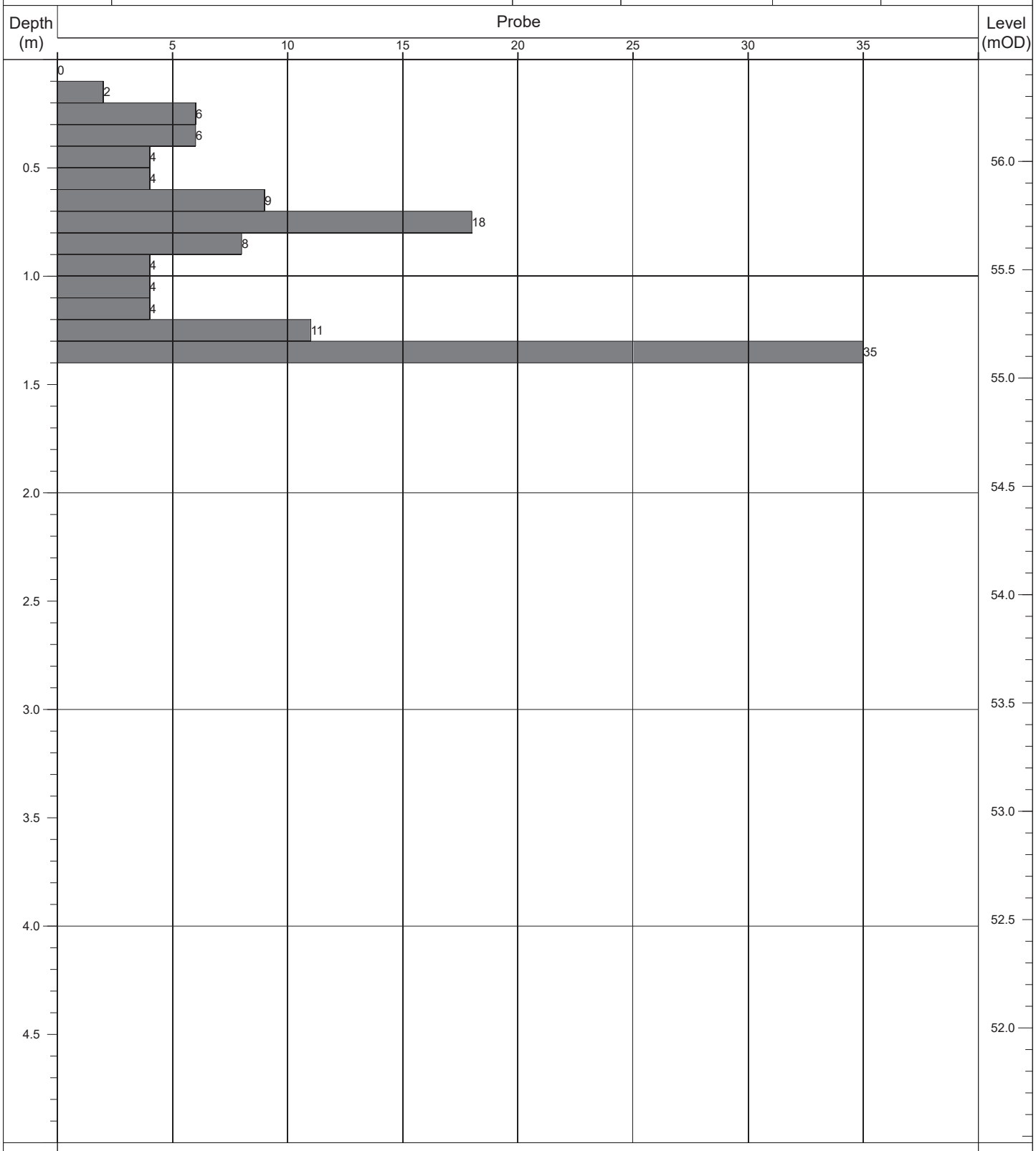
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
3.40m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	Dynamic Probe Log				Probe No: DP28
Contract:	Moygaddy	Easting:	694688.953	Date Started:	24/06/2021
Location:	Maynooth, Co. Meath	Northing:	739488.632	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	58.31	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



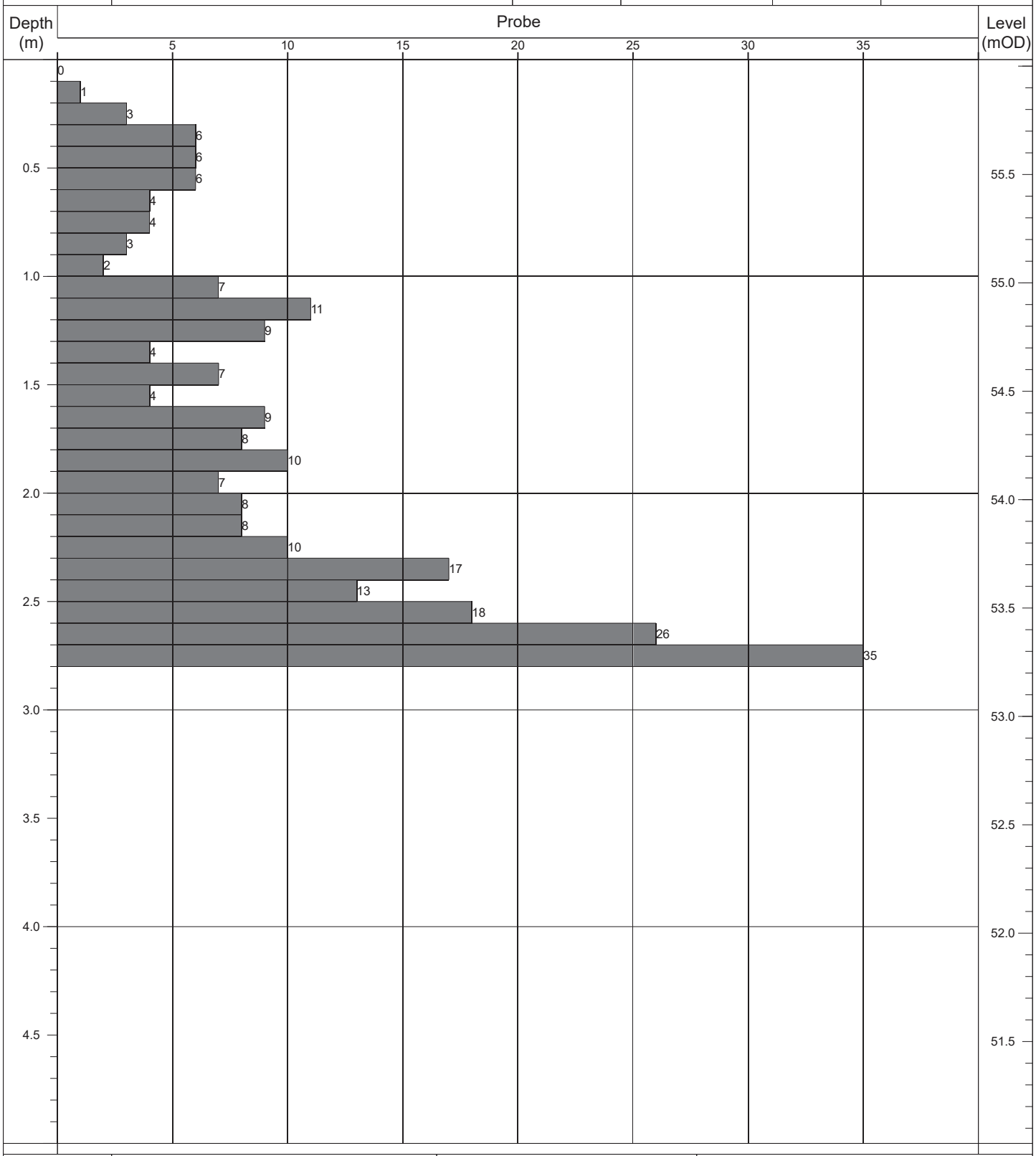
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
2.40m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	Dynamic Probe Log				Probe No: DP29
Contract:	Moygaddy	Easting:	694780.802	Date Started:	24/06/2021
Location:	Maynooth, Co. Meath	Northing:	739491.934	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	56.47	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



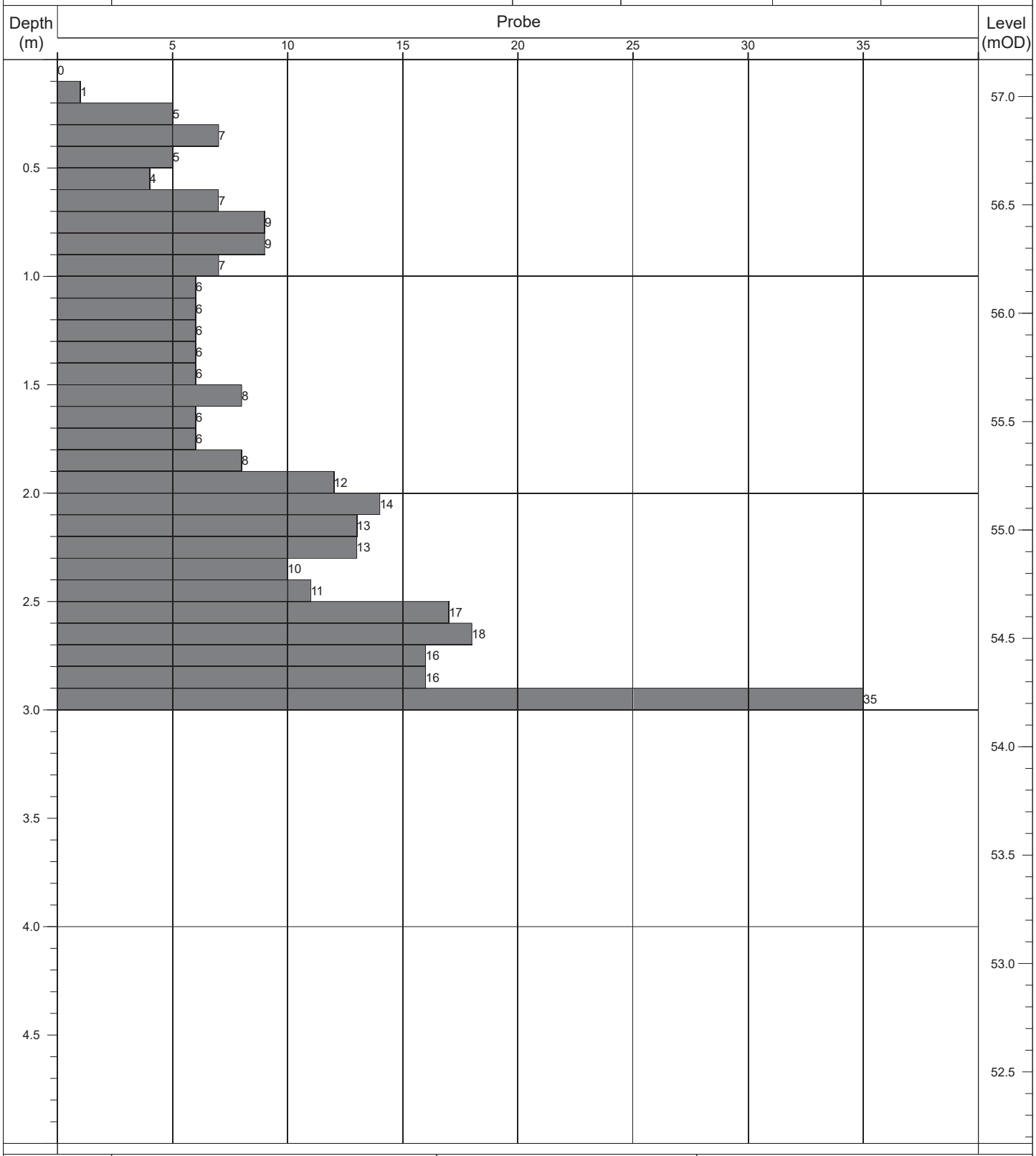
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
1.40m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	**Dynamic Probe Log**				Probe No: **DP30**
Contract:	Moygaddy	Easting:	693593.273	Date Started:	23/06/2021
Location:	Maynooth, Co. Meath	Northing:	739395.730	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	56.03	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



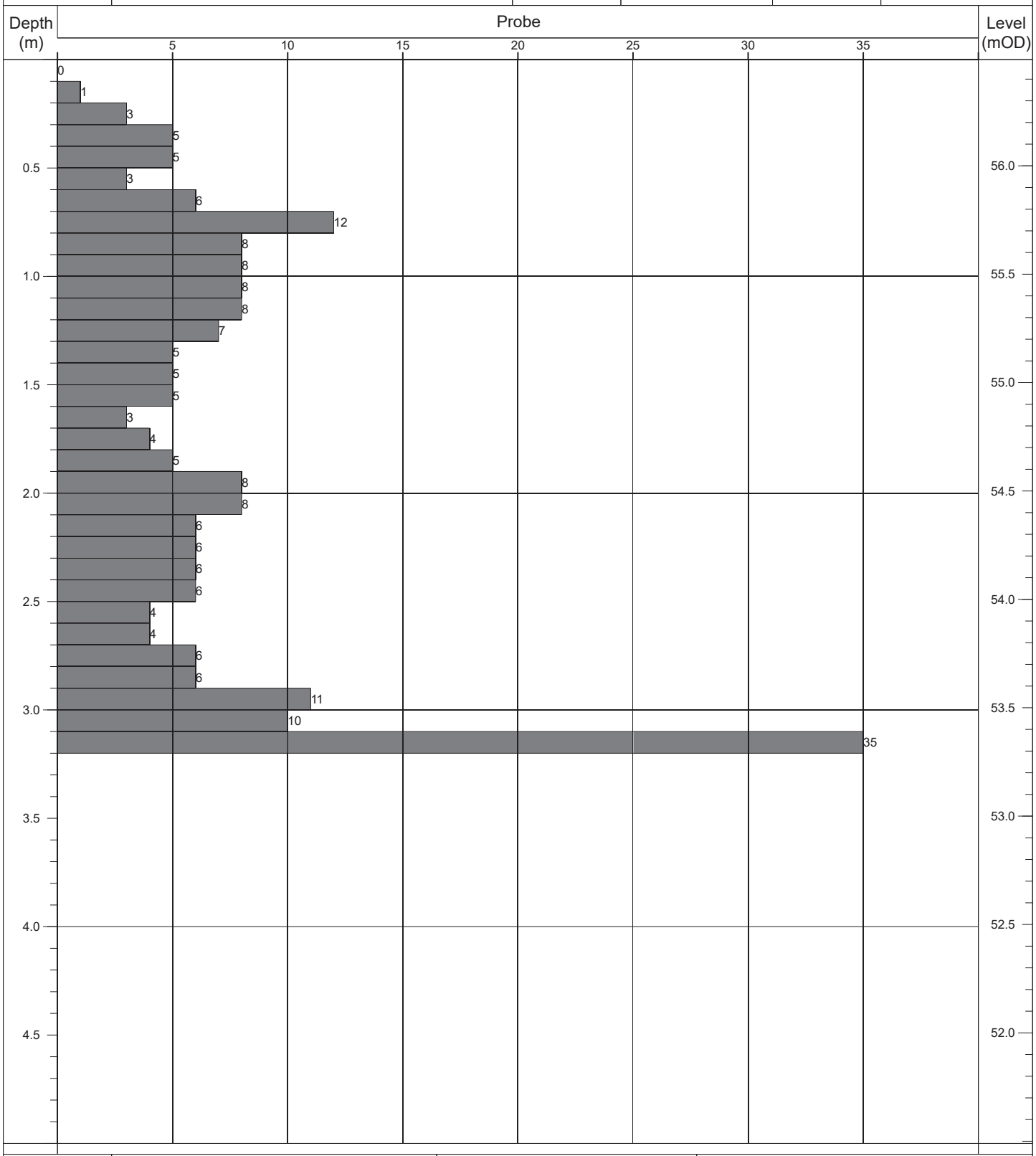
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
2.80m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	Dynamic Probe Log				Probe No: DP31
Contract:	Moygaddy	Easting:	693688.922	Date Started:	23/06/2021
Location:	Maynooth, Co. Meath	Northing:	739386.795	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	57.17	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



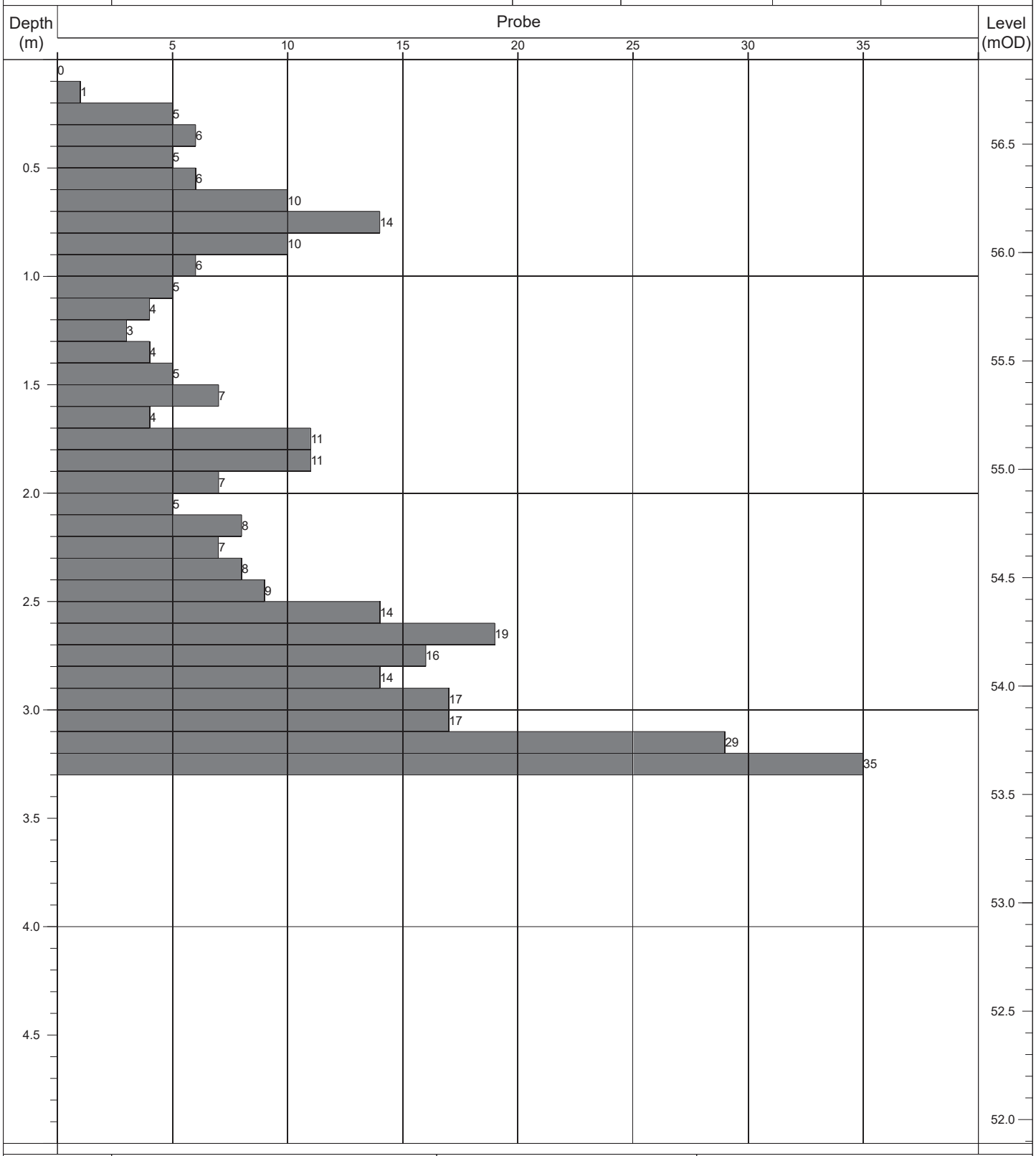
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
3.00m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	Dynamic Probe Log				Probe No: DP32
Contract:	Moygaddy	Easting:	693787.843	Date Started:	23/06/2021
Location:	Maynooth, Co. Meath	Northing:	739388.255	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	56.49	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



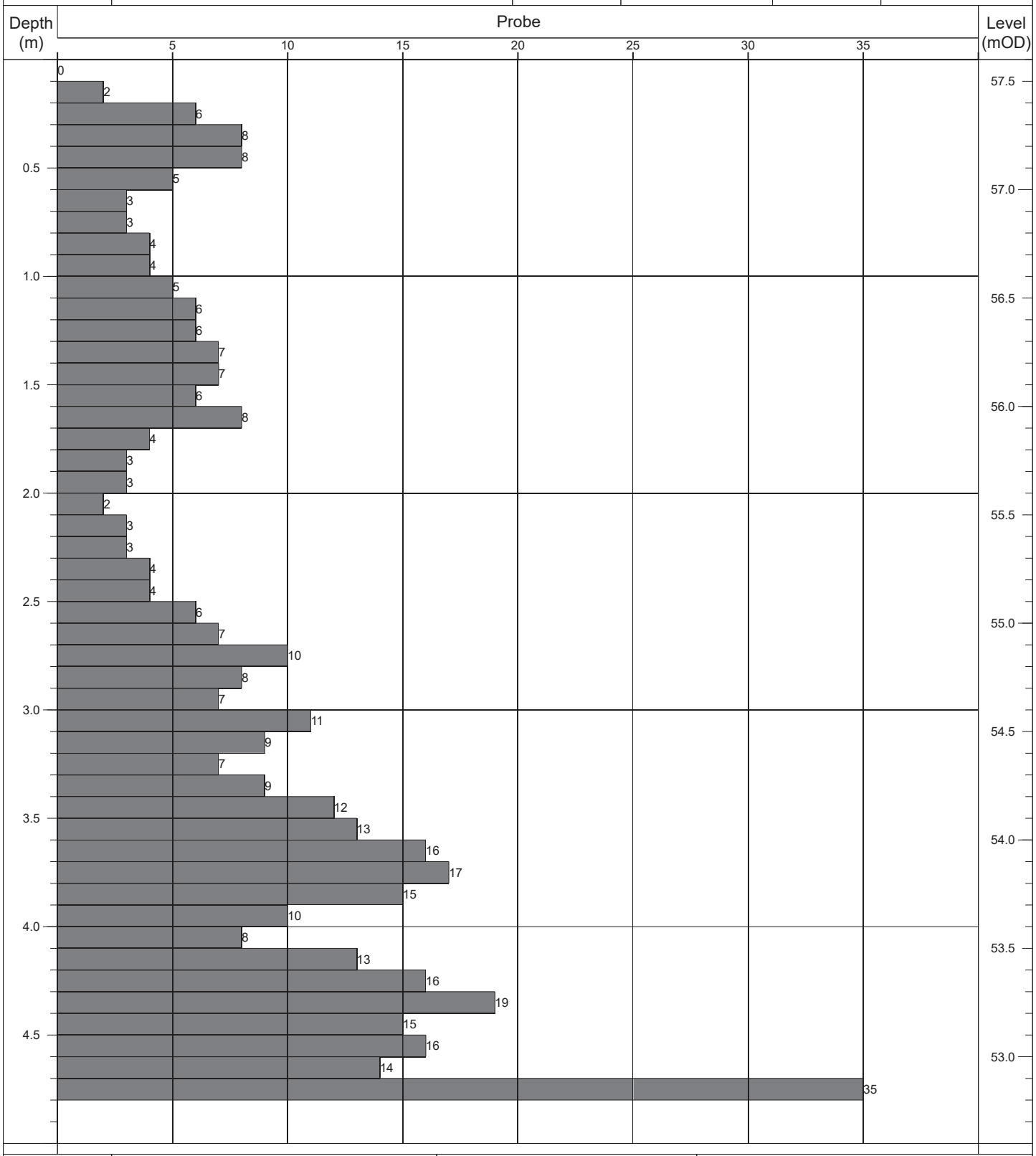
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
3.20m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	**Dynamic Probe Log**				Probe No: **DP33**
Contract:	Moygaddy	Easting:	693889.656	Date Started:	22/06/2021
Location:	Maynooth, Co. Meath	Northing:	739385.777	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	56.89	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



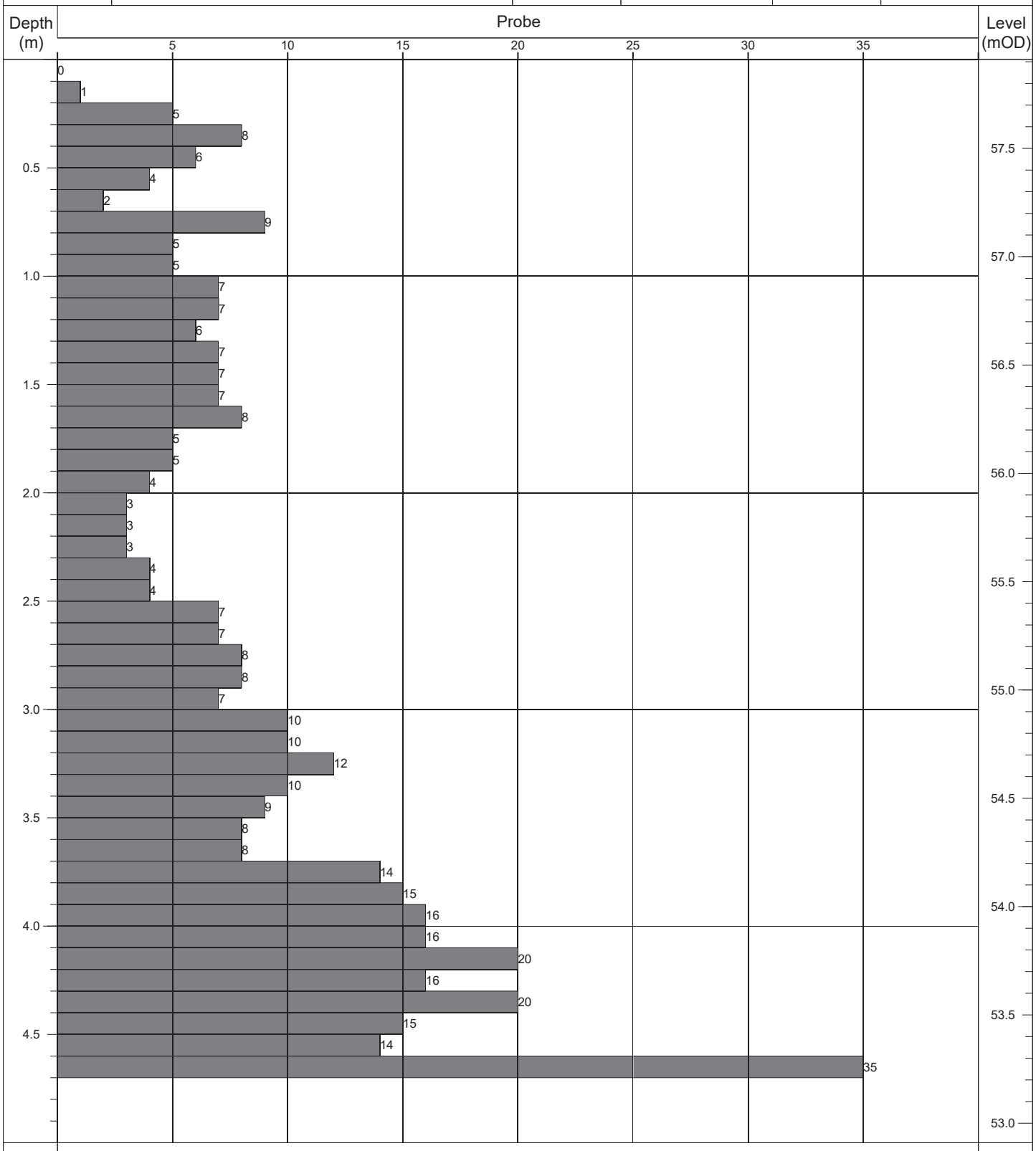
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
3.30m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	**Dynamic Probe Log**				Probe No: **DP34**
Contract:	Moygaddy	Easting:	693987.346	Date Started:	22/06/2021
Location:	Maynooth, Co. Meath	Northing:	739387.484	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	57.60	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



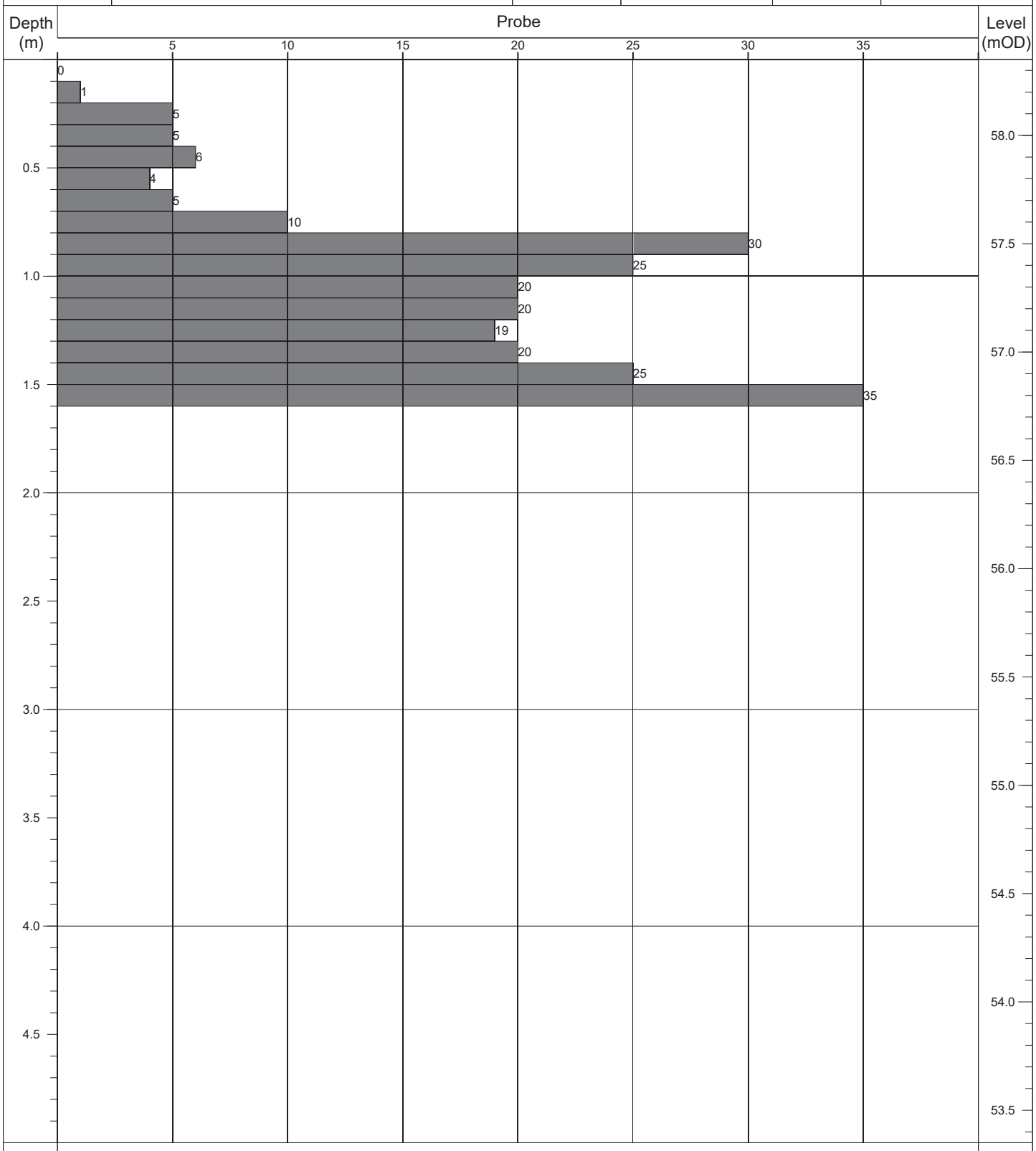
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
4.80m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	Dynamic Probe Log				Probe No: DP35
Contract:	Moygaddy	Easting:	694086.861	Date Started:	22/06/2021
Location:	Maynooth, Co. Meath	Northing:	739385.871	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	57.91	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



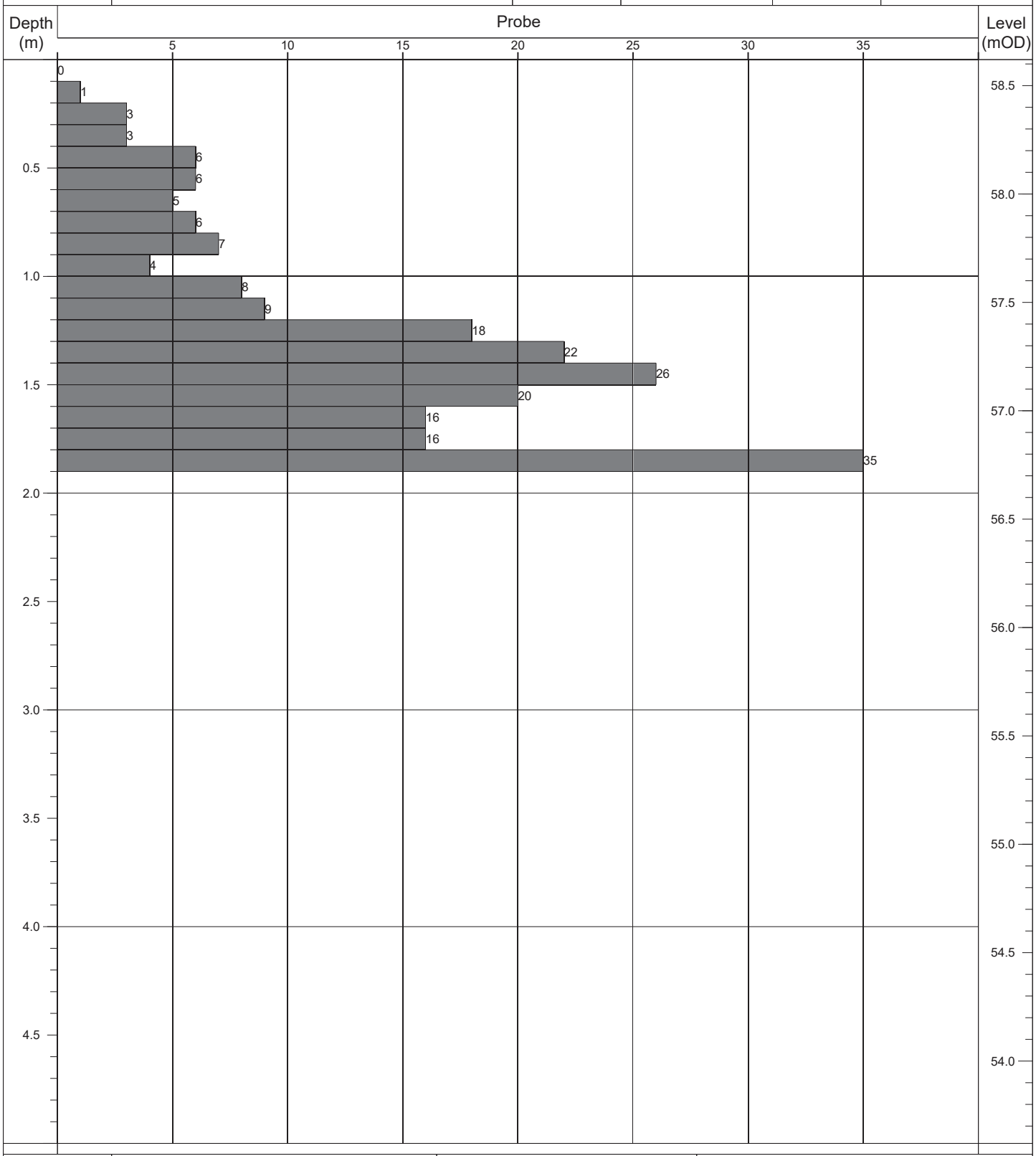
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
4.70m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	Dynamic Probe Log				Probe No: DP36
Contract:	Moygaddy	Easting:	694190.231	Date Started:	22/06/2021
Location:	Maynooth, Co. Meath	Northing:	739385.957	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	58.35	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



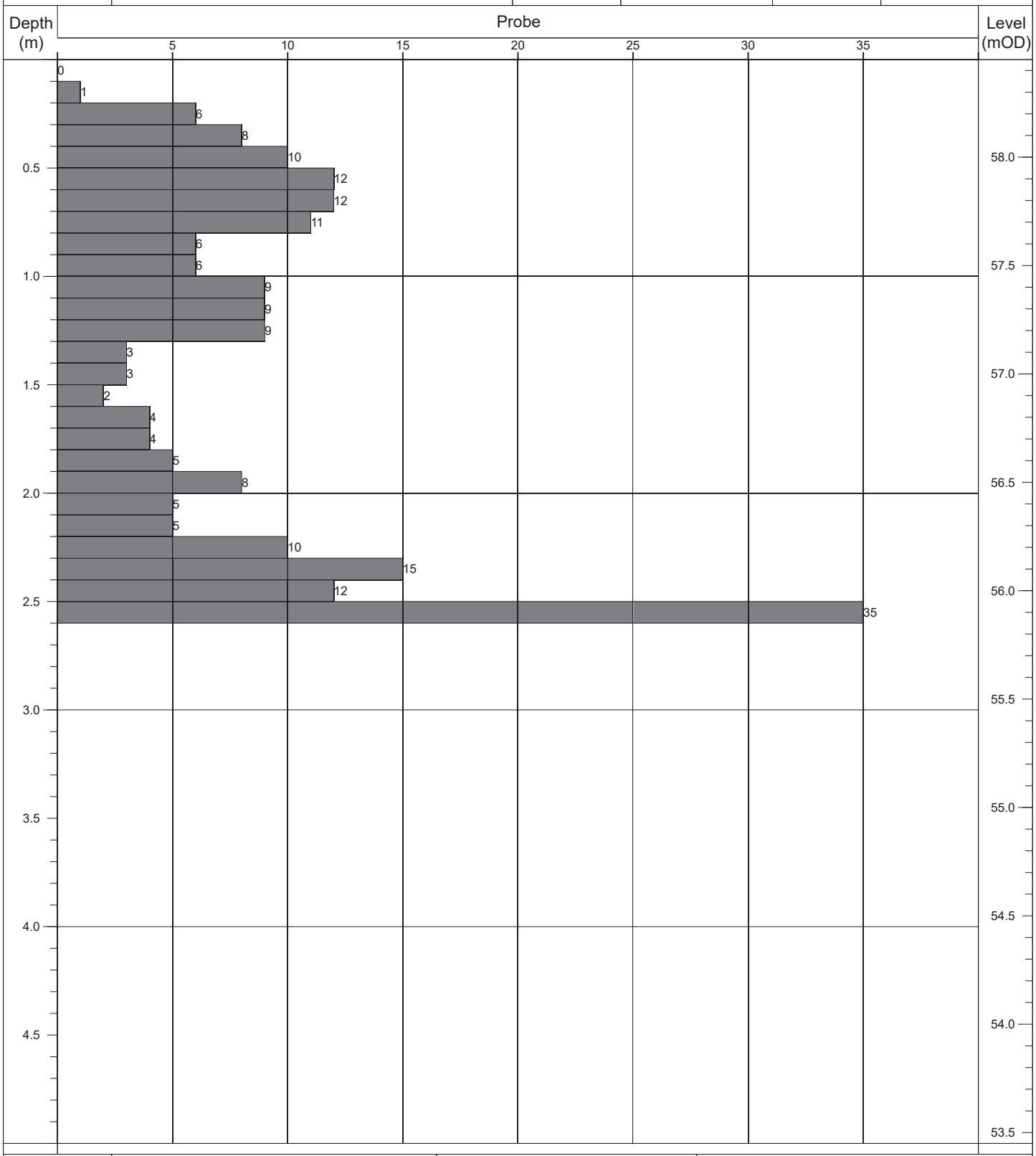
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
1.60m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	Dynamic Probe Log				Probe No: DP37
Contract:	Moygaddy	Easting:	694288.456	Date Started:	22/06/2021
Location:	Maynooth, Co. Meath	Northing:	739387.753	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	58.62	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



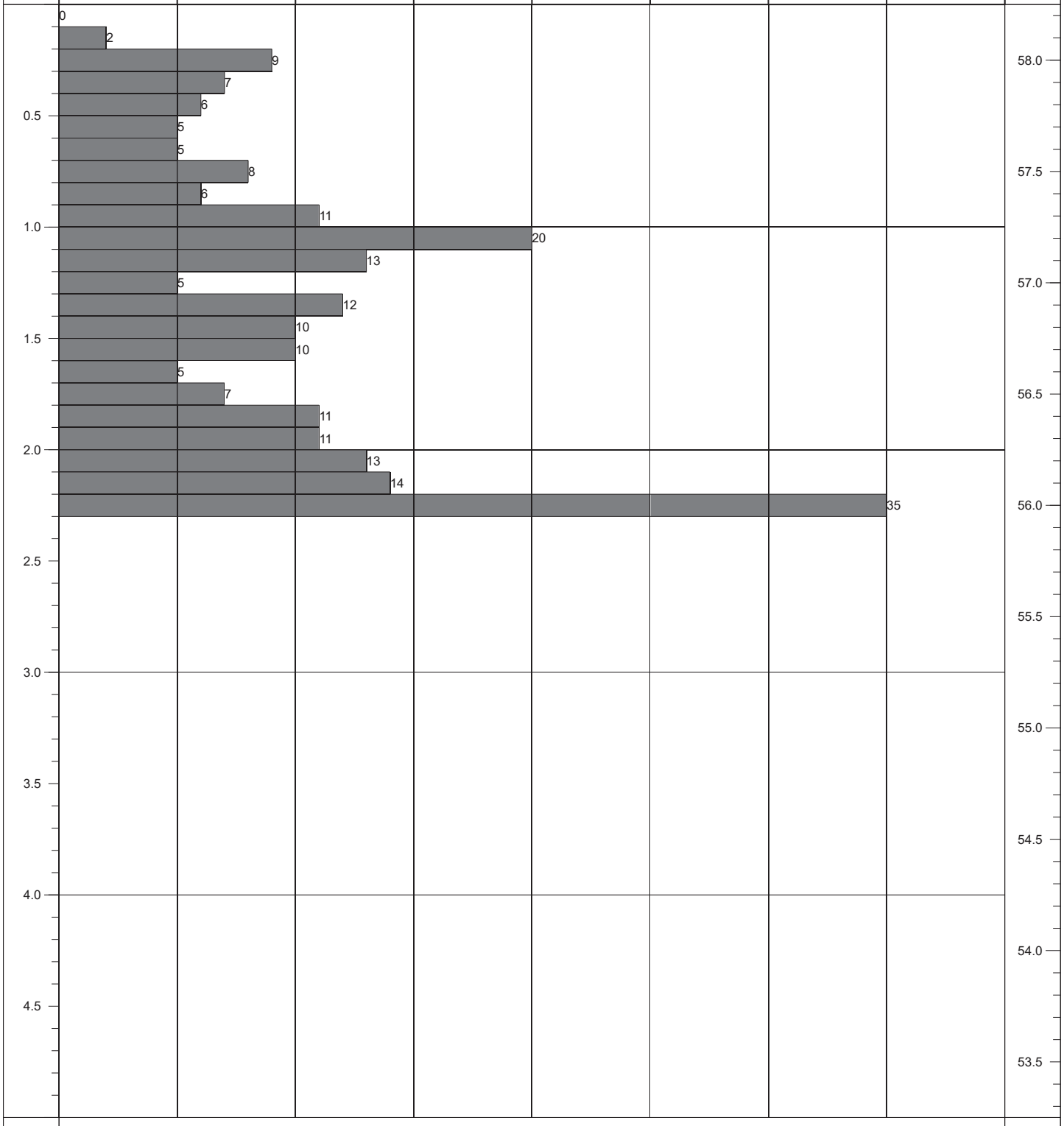
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
1.90m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	Dynamic Probe Log				Probe No: DP38
Contract:	Moygaddy	Easting:	694370.568	Date Started:	24/06/2021
Location:	Maynooth, Co. Meath	Northing:	739380.643	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	58.45	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



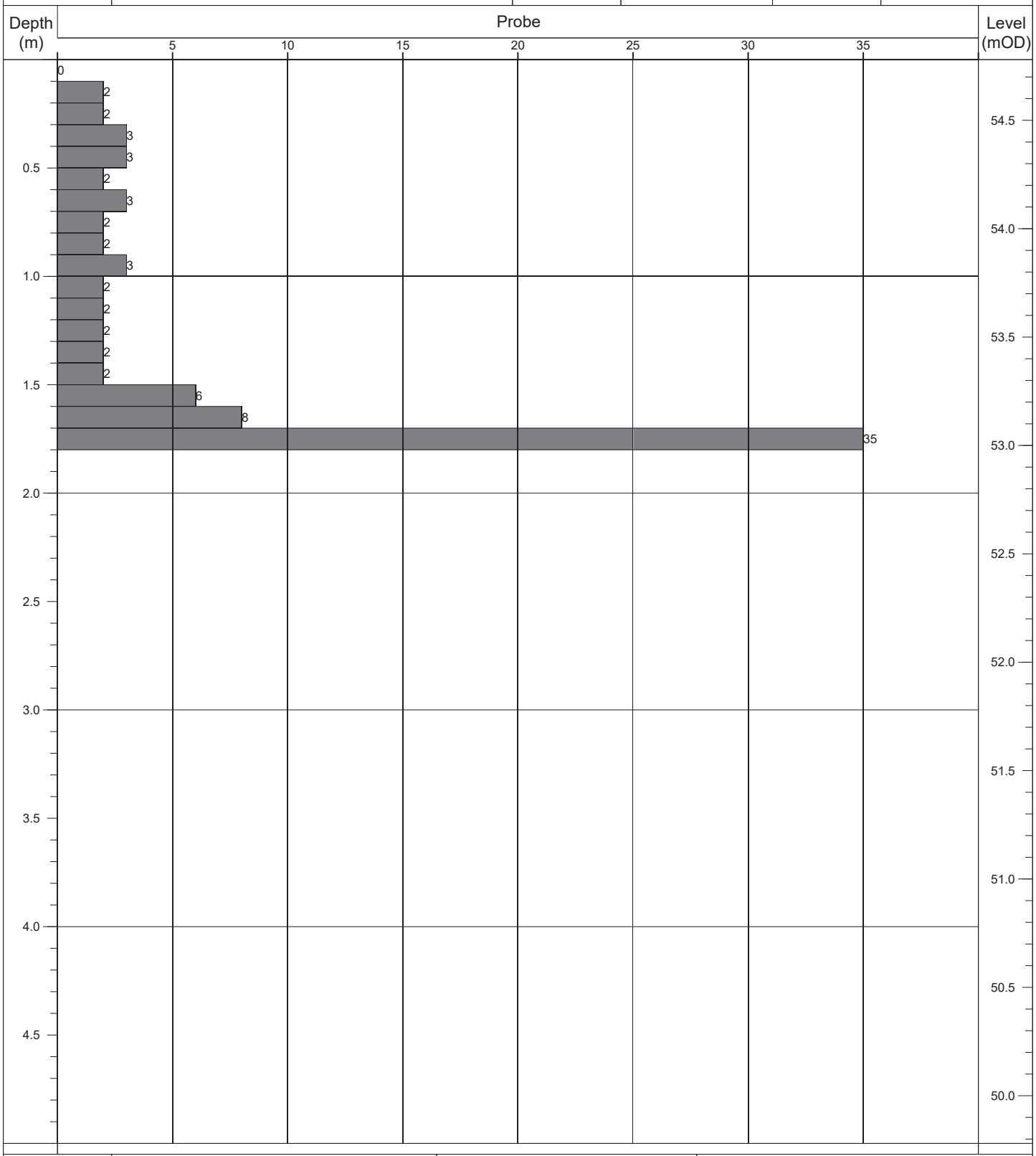
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
2.60m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	Dynamic Probe Log				Probe No: DP39
Contract:	Moygaddy	Easting:	694486.826	Date Started:	24/06/2021
Location:	Maynooth, Co. Meath	Northing:	739390.243	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	58.25	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



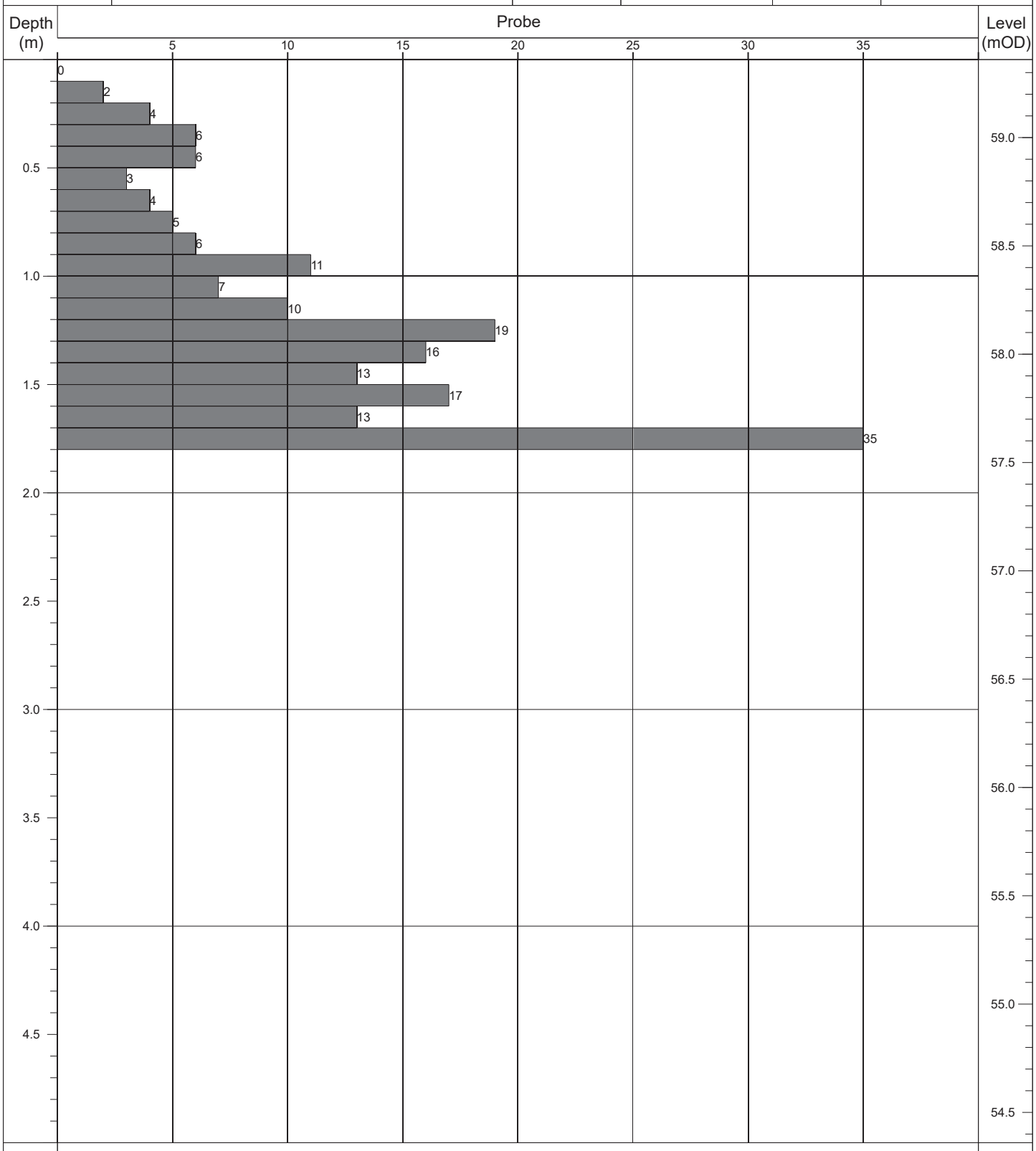
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
2.30m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	**Dynamic Probe Log**				Probe No: **DP40**
Contract:	Moygaddy	Easting:	694569.043	Date Started:	24/06/2021
Location:	Maynooth, Co. Meath	Northing:	739386.611	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	54.78	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



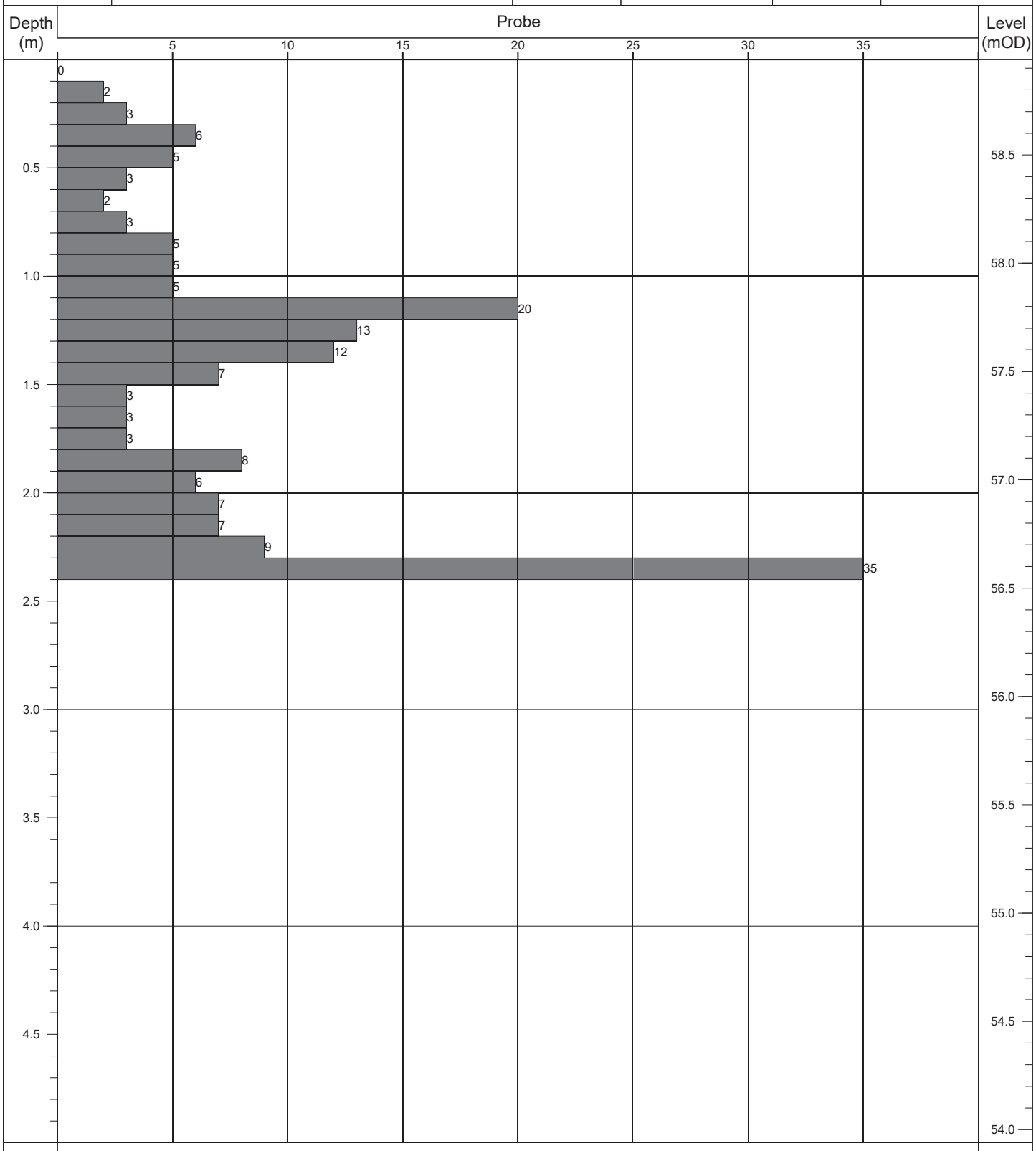
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
1.80m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	Dynamic Probe Log				Probe No: DP41
Contract:	Moygaddy	Easting:	694691.616	Date Started:	23/06/2021
Location:	Maynooth, Co. Meath	Northing:	739389.831	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	59.36	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



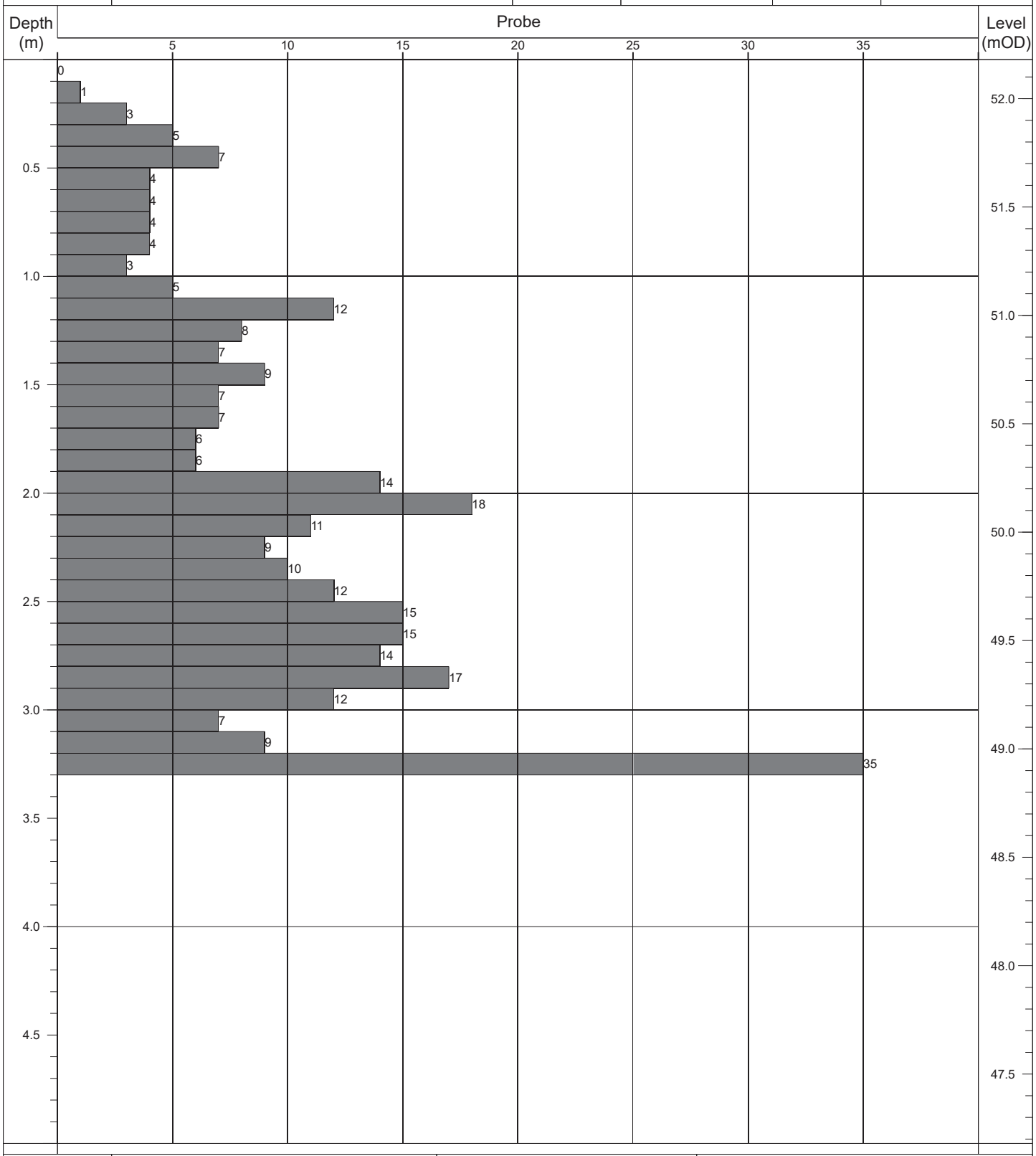
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
1.80m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	Dynamic Probe Log				Probe No: DP42
Contract:	Moygaddy	Easting:	694791.212	Date Started:	23/06/2021
Location:	Maynooth, Co. Meath	Northing:	739385.883	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	58.94	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



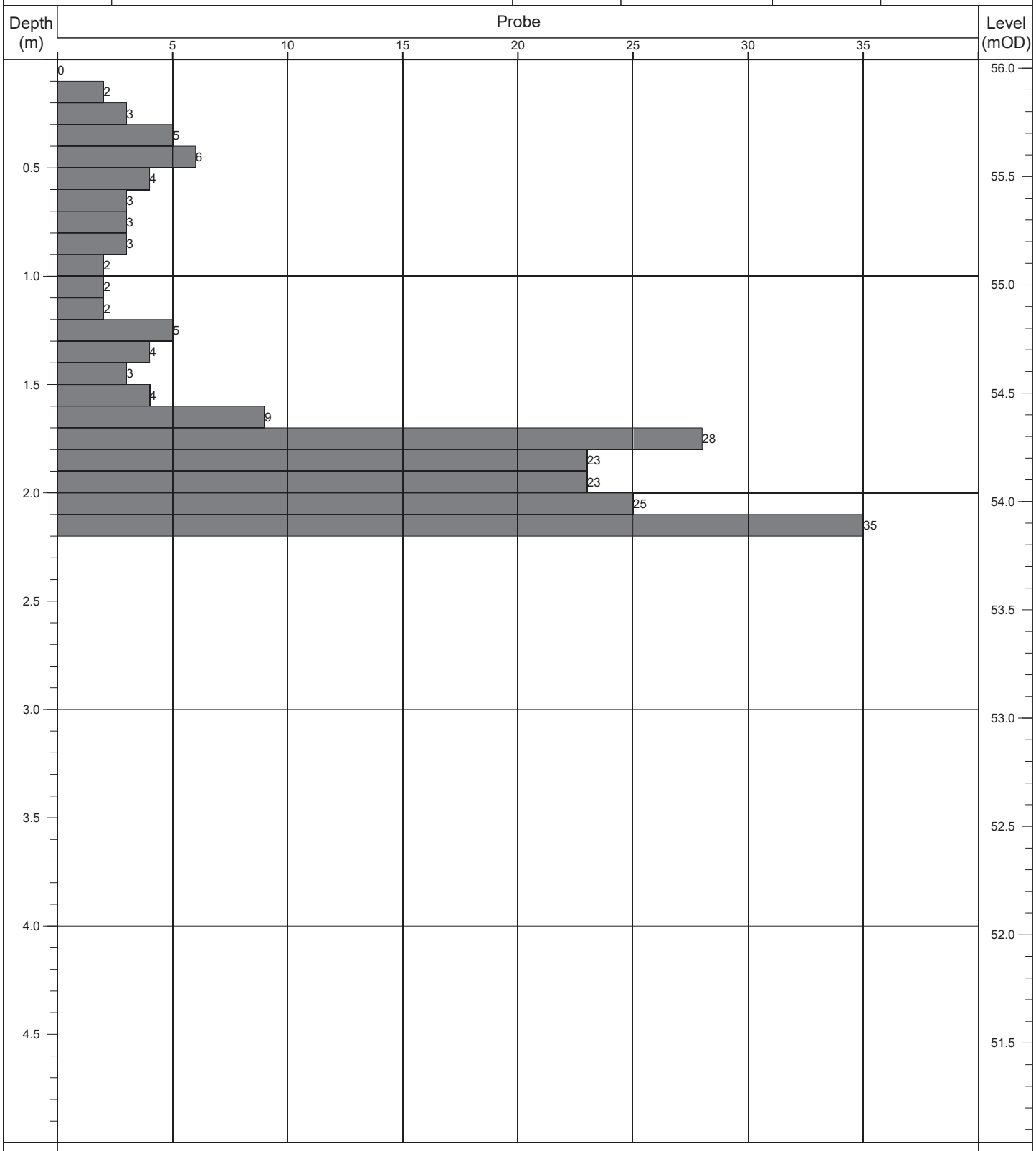
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
2.40m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	Dynamic Probe Log				Probe No: DP43
Contract:	Moygaddy	Easting:	693688.642	Date Started:	18/06/2021
Location:	Maynooth, Co. Meath	Northing:	739290.847	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	52.18	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



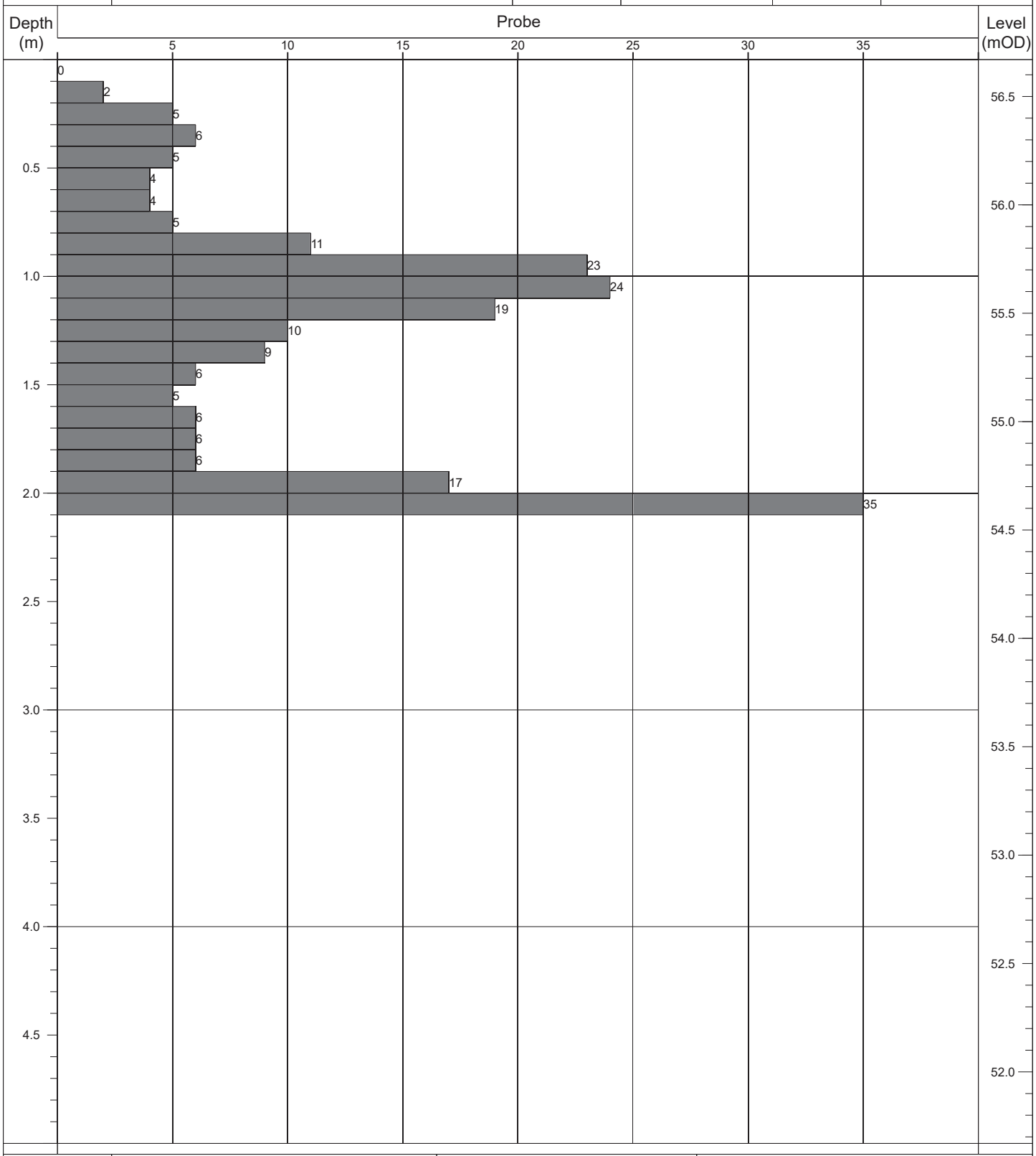
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
3.30m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	Dynamic Probe Log				Probe No: DP44
Contract:	Moygaddy	Easting:	693788.258	Date Started:	18/06/2021
Location:	Maynooth, Co. Meath	Northing:	739285.161	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	56.04	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



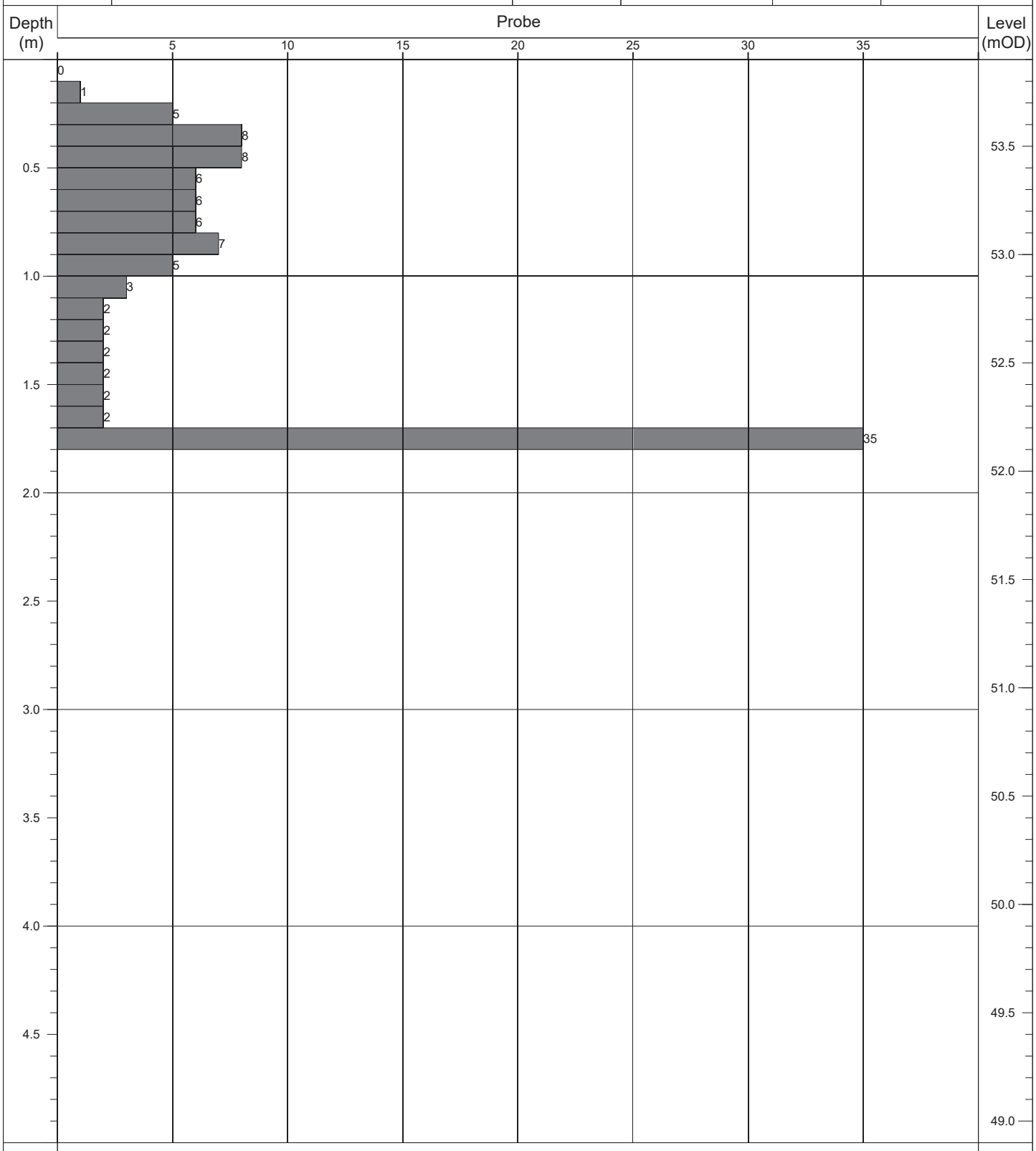
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
2.20m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	Dynamic Probe Log				Probe No: DP45
Contract:	Moygaddy	Easting:	694091.482	Date Started:	18/06/2021
Location:	Maynooth, Co. Meath	Northing:	739278.290	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	56.67	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



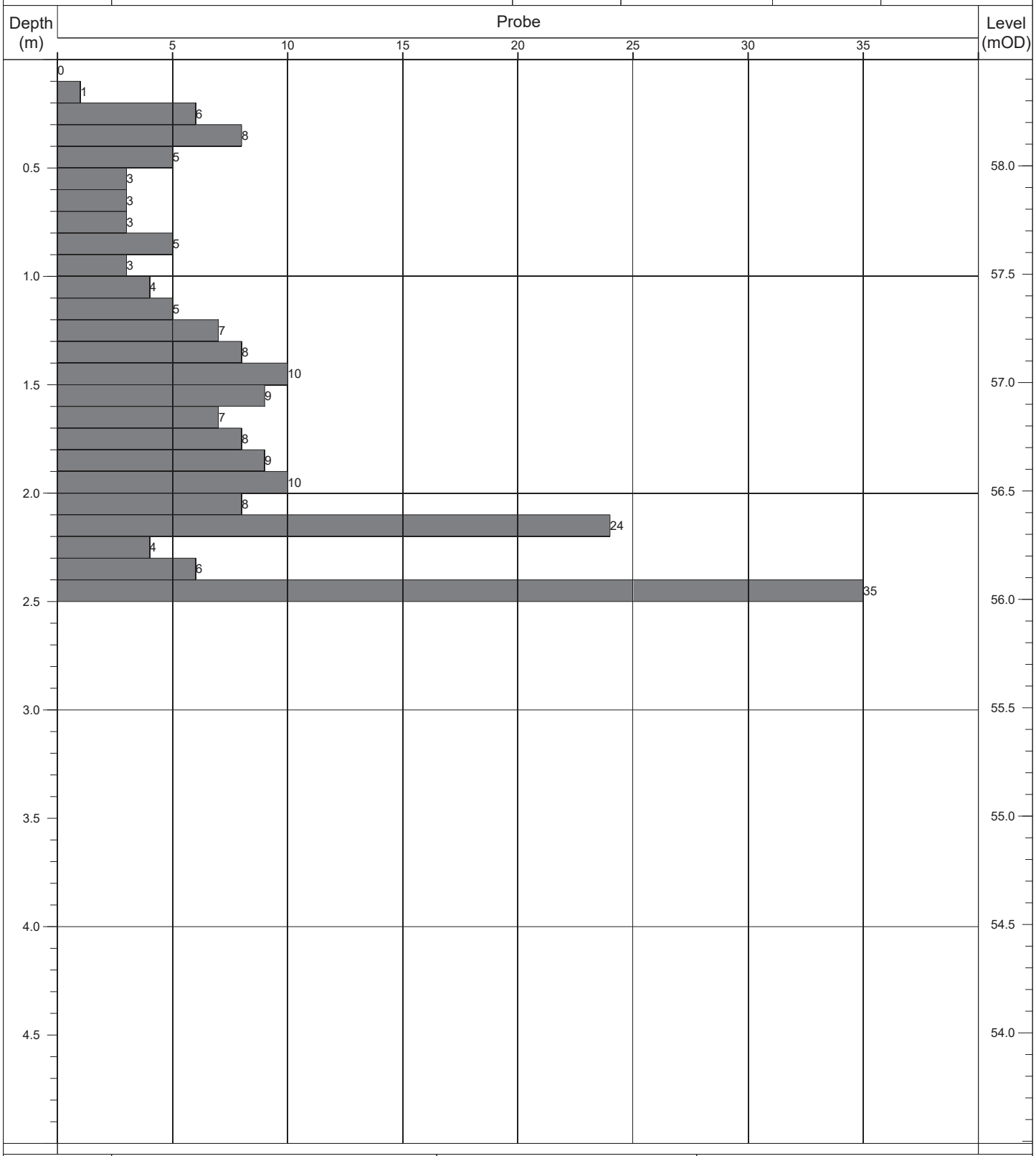
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
2.10m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	Dynamic Probe Log				Probe No: DP46
Contract:	Moygaddy	Easting:	694430.386	Date Started:	23/06/2021
Location:	Maynooth, Co. Meath	Northing:	739324.235	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	53.90	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



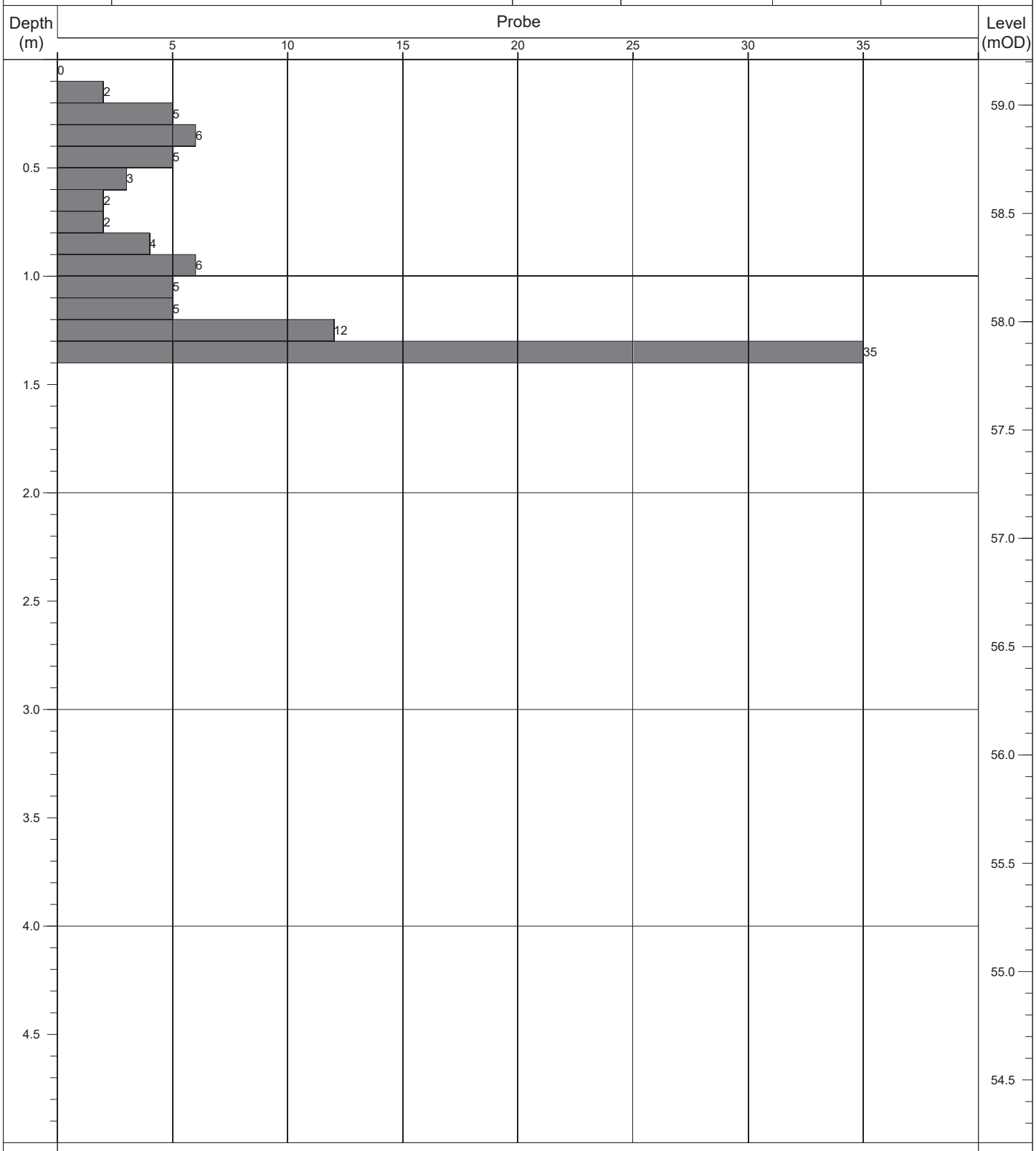
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
1.80m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	Dynamic Probe Log				Probe No: DP47
Contract:	Moygaddy	Easting:	694493.472	Date Started:	23/06/2021
Location:	Maynooth, Co. Meath	Northing:	739282.726	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	58.49	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



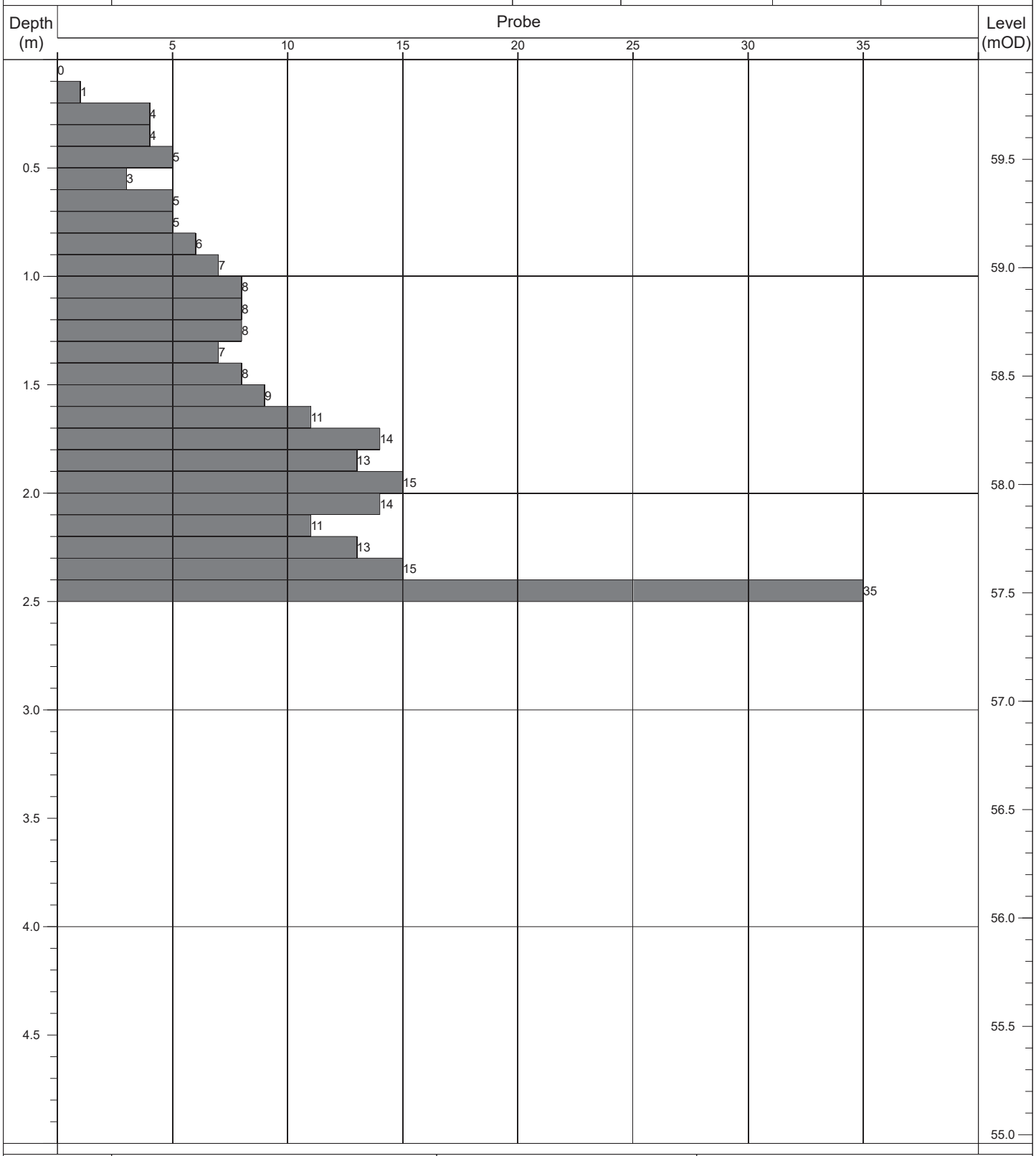
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
2.50m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	Dynamic Probe Log				Probe No: DP48
Contract:	Moygaddy	Easting:	694590.116	Date Started:	23/06/2021
Location:	Maynooth, Co. Meath	Northing:	739288.613	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	59.21	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



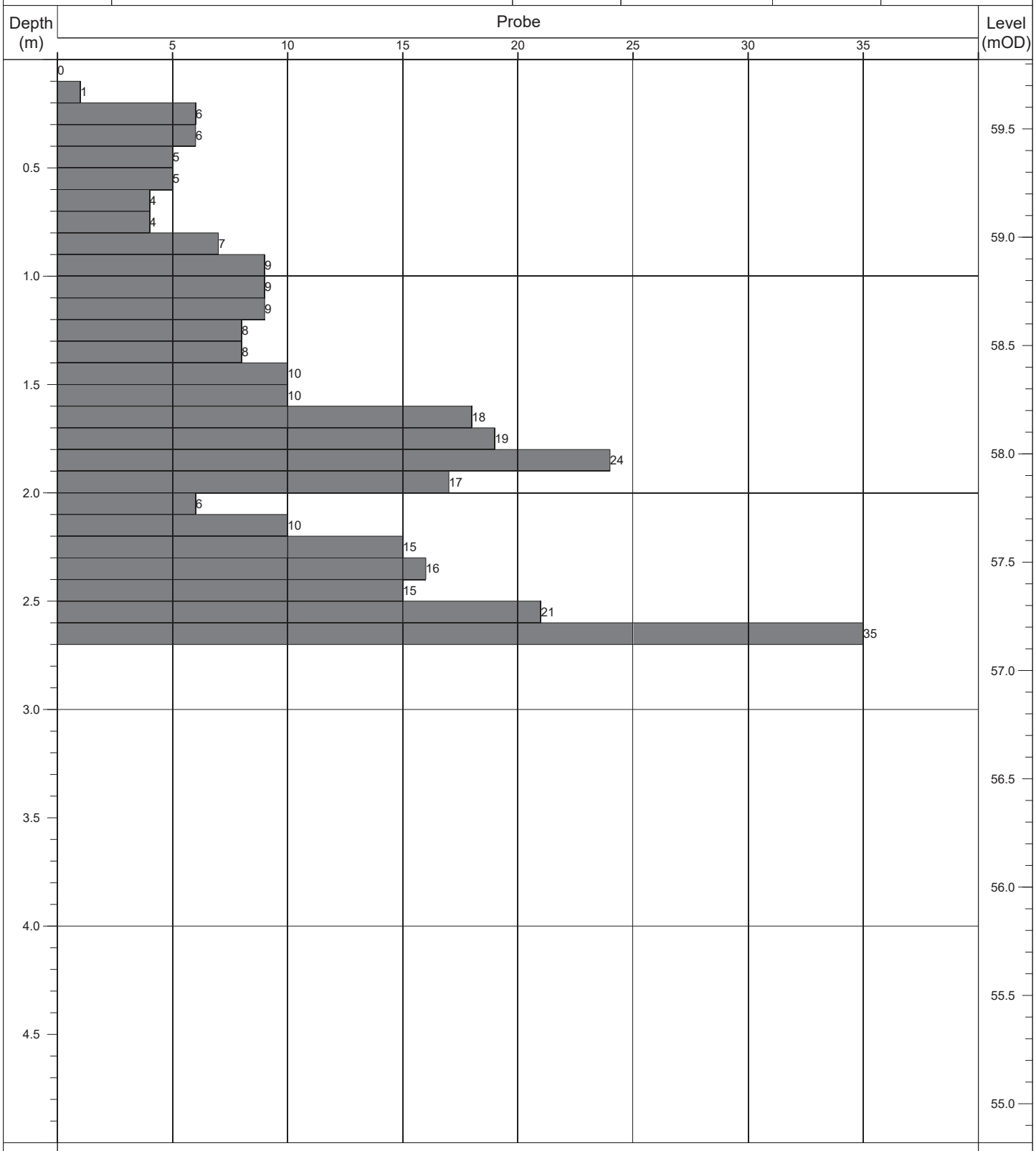
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
1.40m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	Dynamic Probe Log				Probe No: DP49
Contract:	Moygaddy	Easting:	694682.452	Date Started:	23/06/2021
Location:	Maynooth, Co. Meath	Northing:	739291.233	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	59.96	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



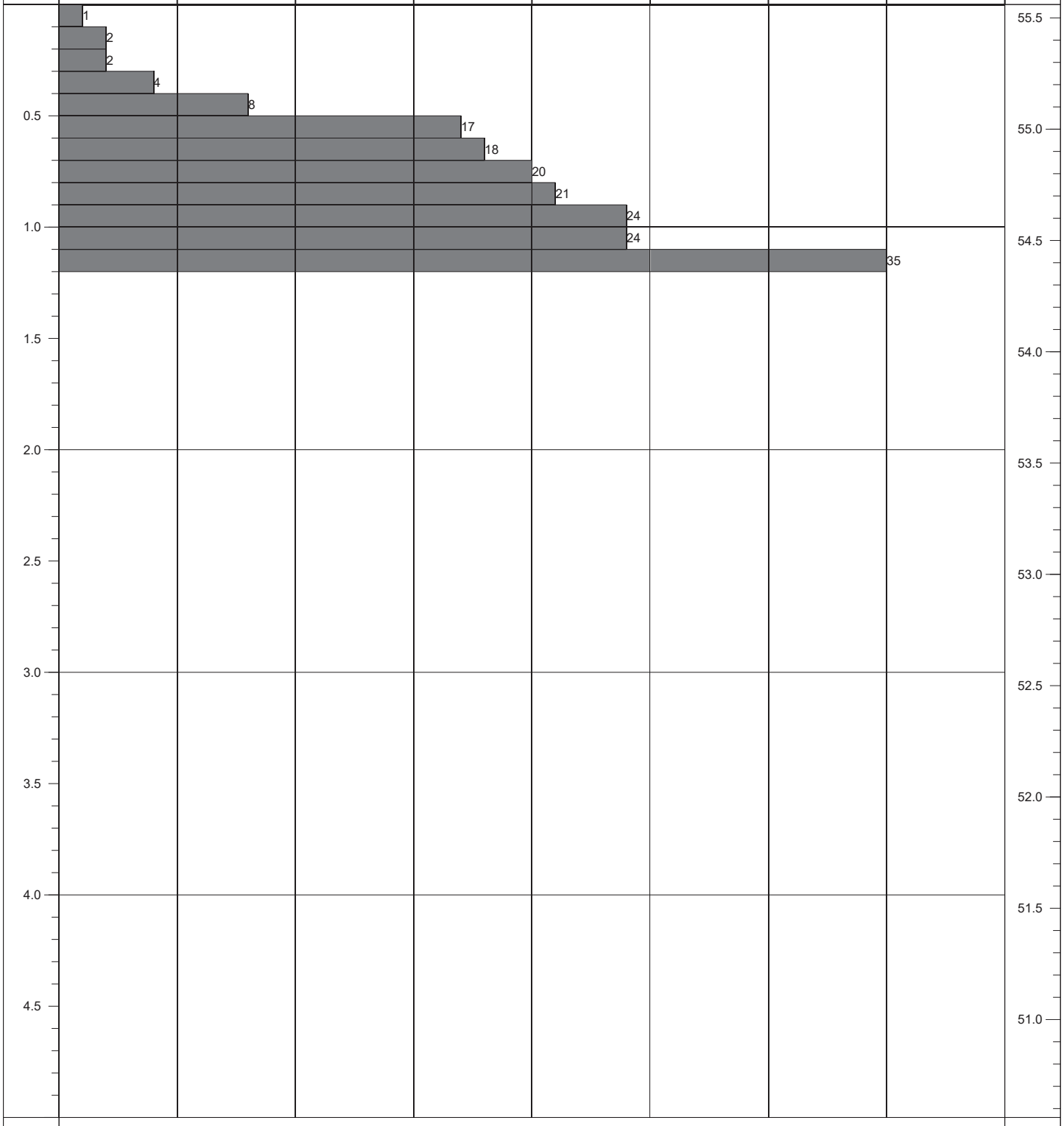
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
2.50m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	Dynamic Probe Log				Probe No: **DP50**
Contract:	Moygaddy	Easting:	694788.363	Date Started:	23/06/2021
Location:	Maynooth, Co. Meath	Northing:	739288.137	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	59.82	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



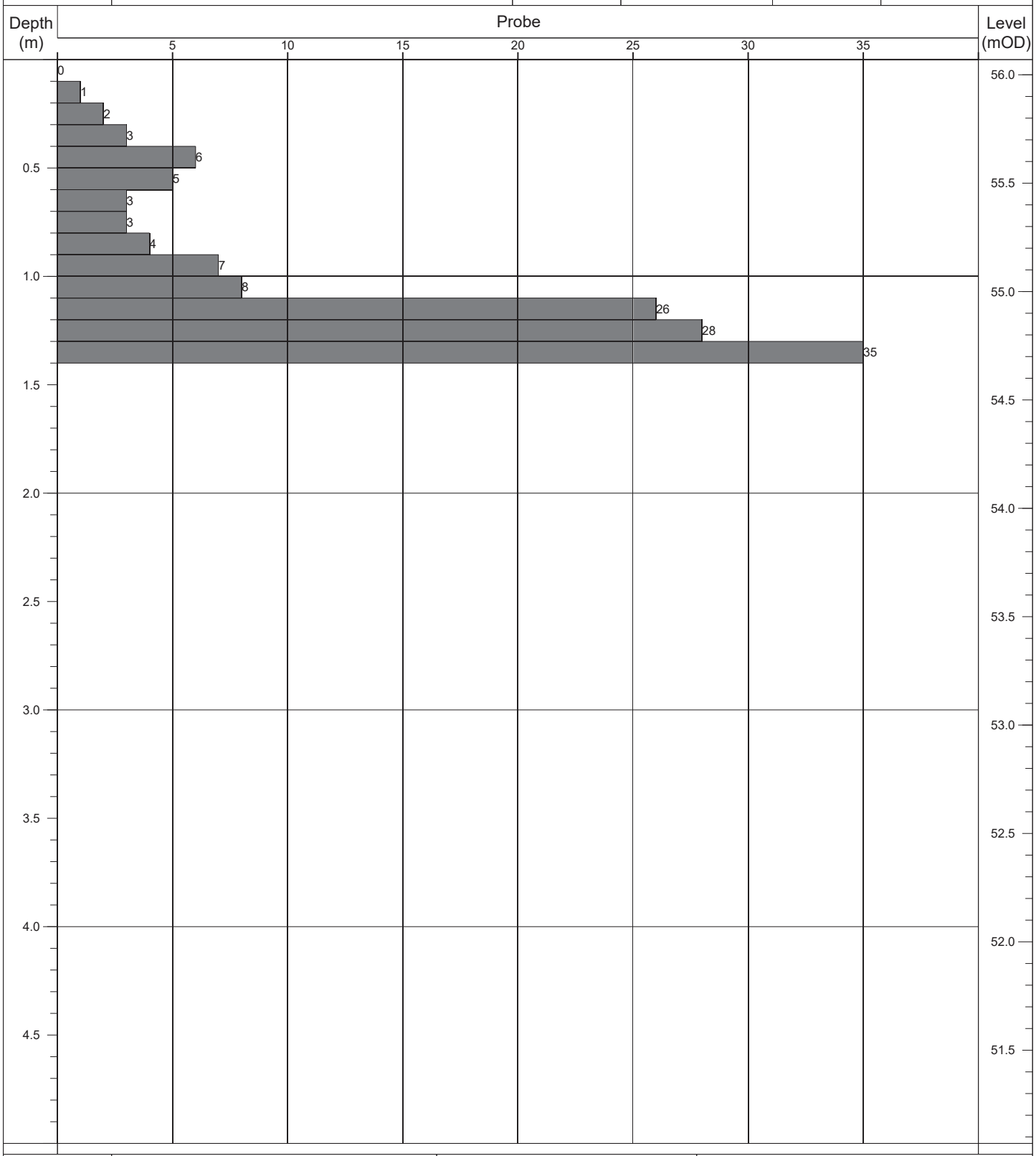
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
2.70m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	Dynamic Probe Log				Probe No: DP51
Contract:	Moygaddy	Easting:	693890.121	Date Started:	18/06/2021
Location:	Maynooth, Co. Meath	Northing:	739187.554	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	55.56	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



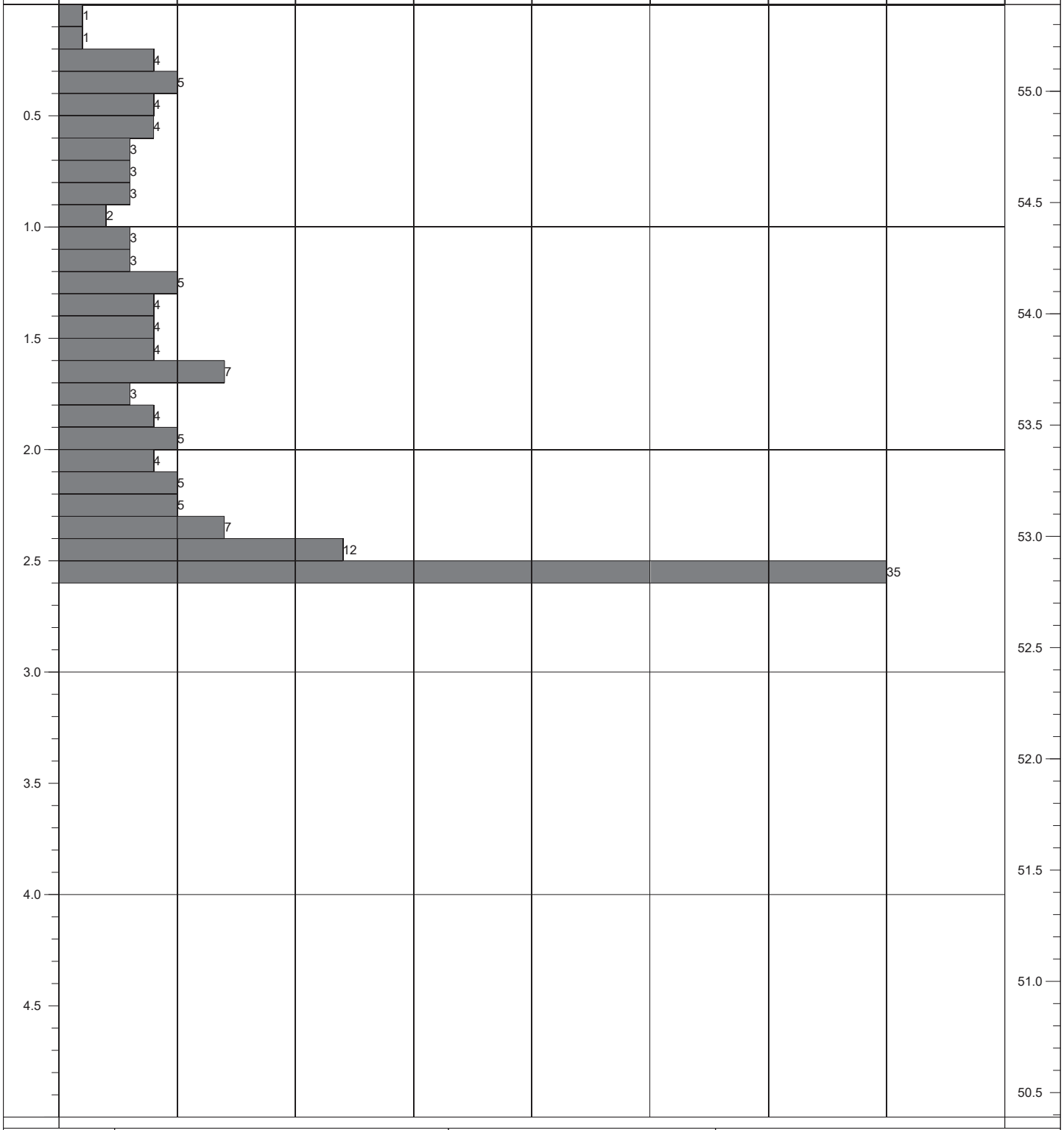
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
1.20m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	Dynamic Probe Log				Probe No: DP52
Contract:	Moygaddy	Easting:	693984.693	Date Started:	18/06/2021
Location:	Maynooth, Co. Meath	Northing:	739184.950	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	56.07	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



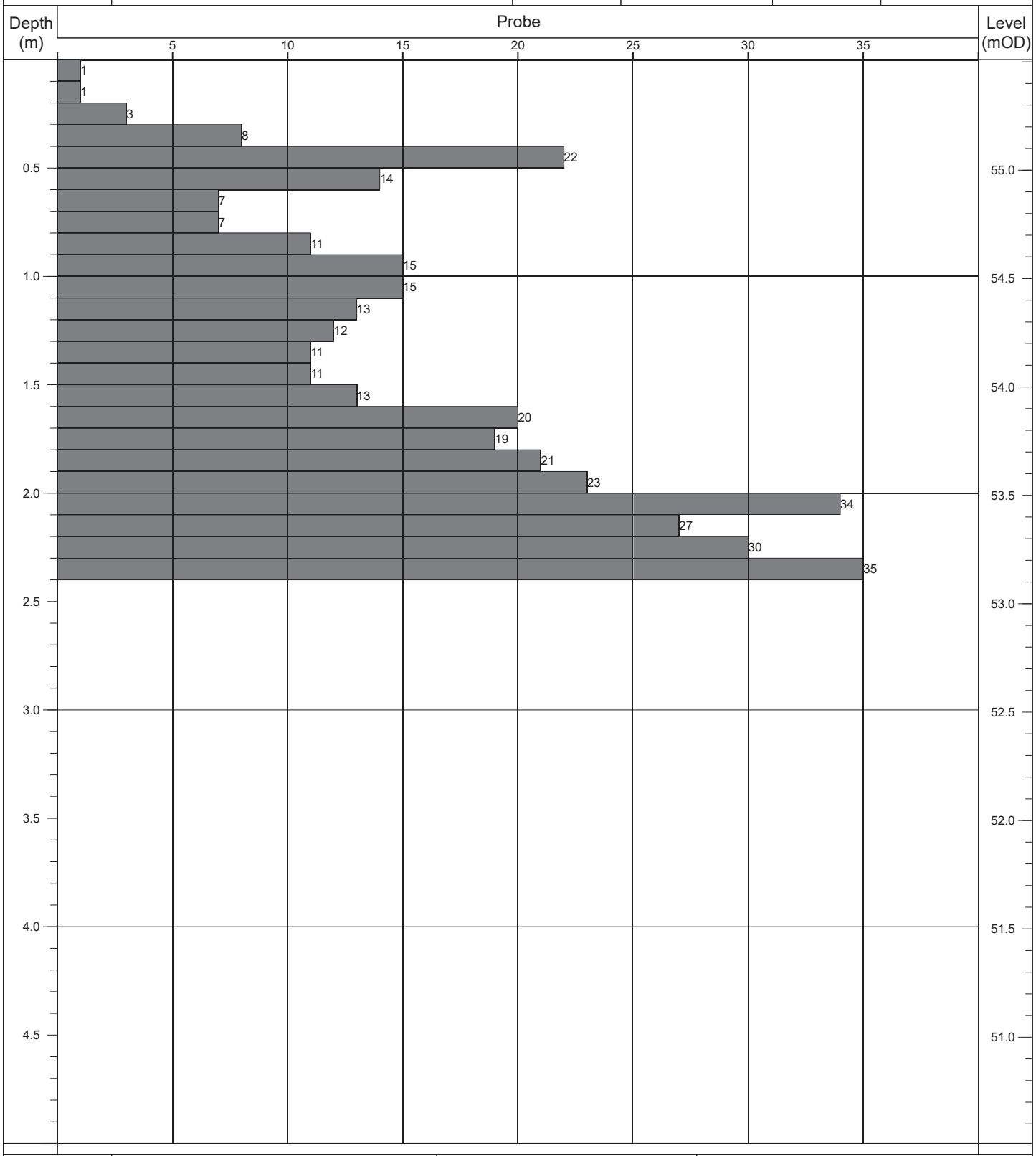
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
1.40m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	Dynamic Probe Log				Probe No: DP53
Contract:	Moygaddy	Easting:	694089.481	Date Started:	18/06/2021
Location:	Maynooth, Co. Meath	Northing:	739189.955	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	55.39	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



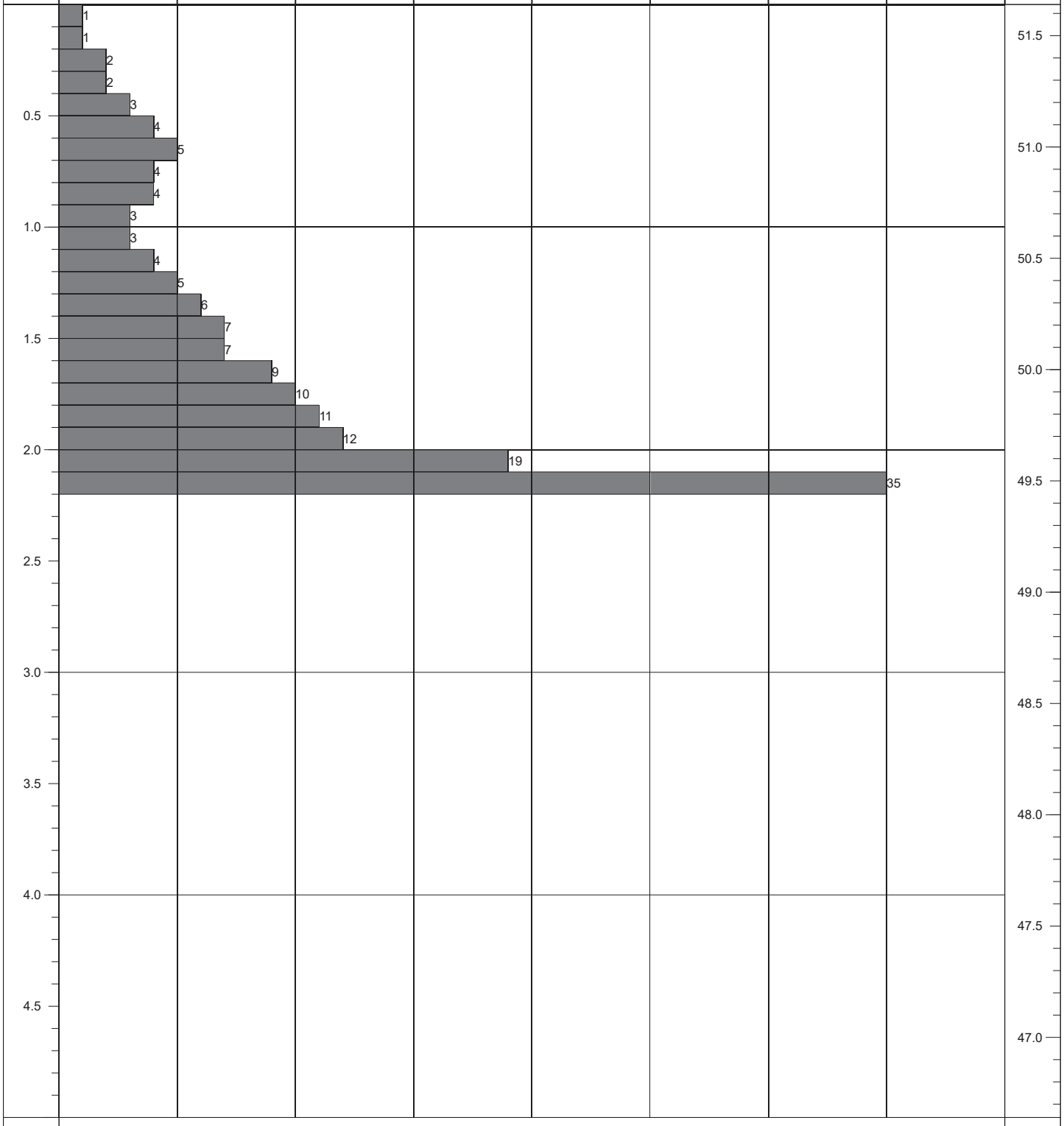
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
2.60m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	Dynamic Probe Log				Probe No: DP54
Contract:	Moygaddy	Easting:	694189.069	Date Started:	18/06/2021
Location:	Maynooth, Co. Meath	Northing:	739183.974	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	55.51	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



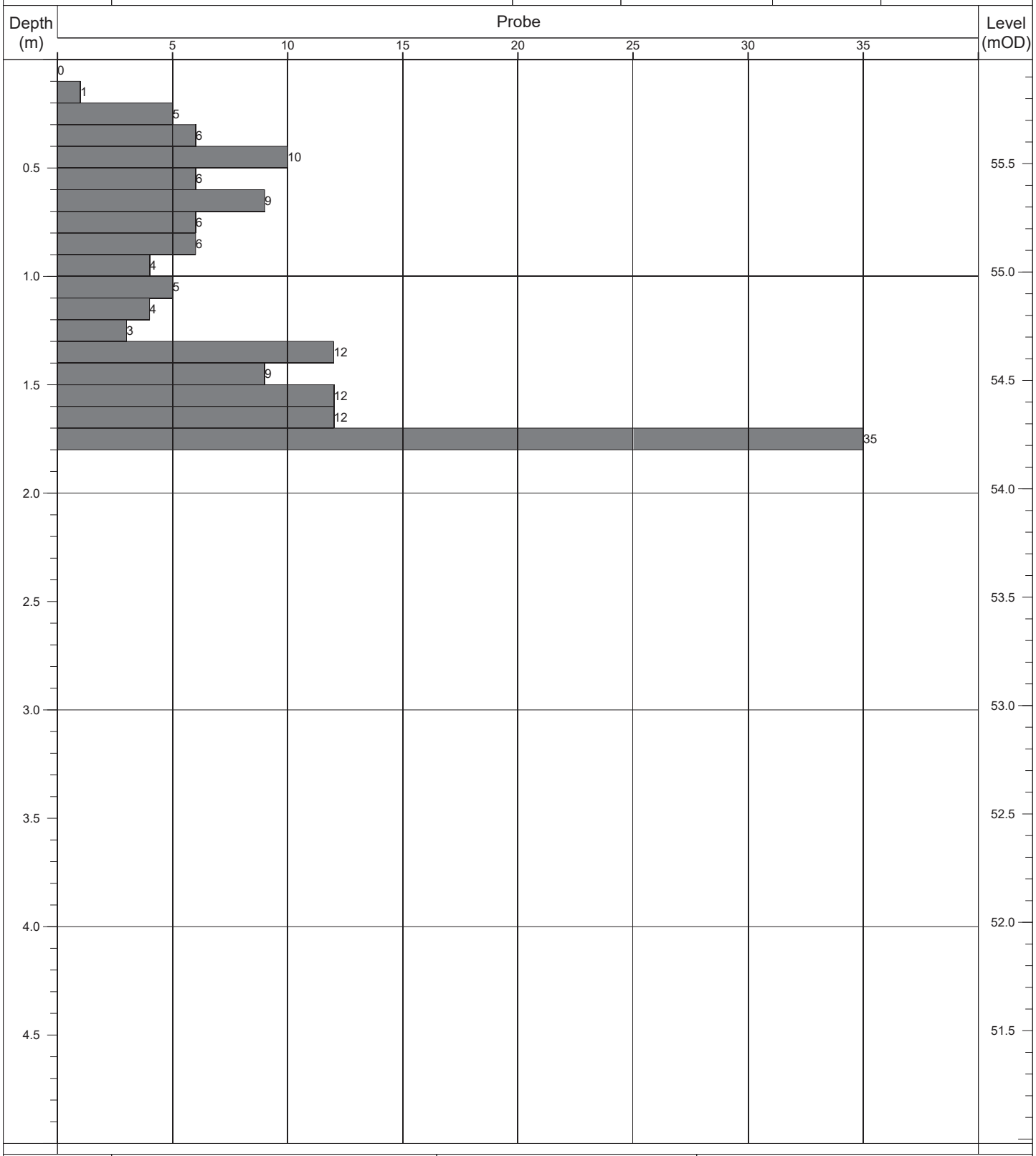
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
2.40m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	**Dynamic Probe Log**				Probe No: **DP55**
Contract:	Moygaddy	Easting:	694250.676	Date Started:	18/06/2021
Location:	Maynooth, Co. Meath	Northing:	739180.873	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	51.64	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



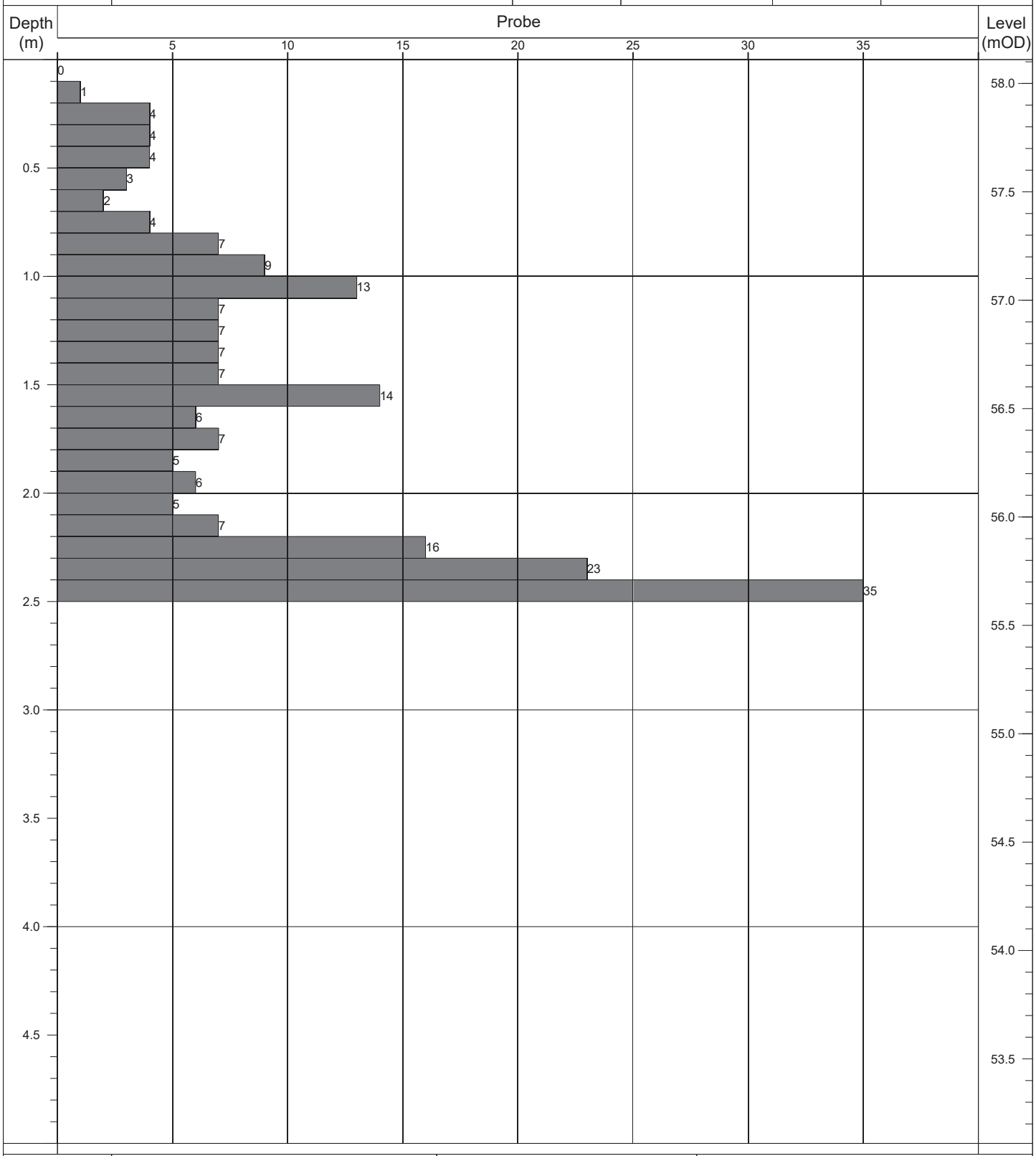
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
2.20m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	Dynamic Probe Log				Probe No: DP56
Contract:	Moygaddy	Easting:	694409.931	Date Started:	21/06/2021
Location:	Maynooth, Co. Meath	Northing:	739184.774	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	55.98	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



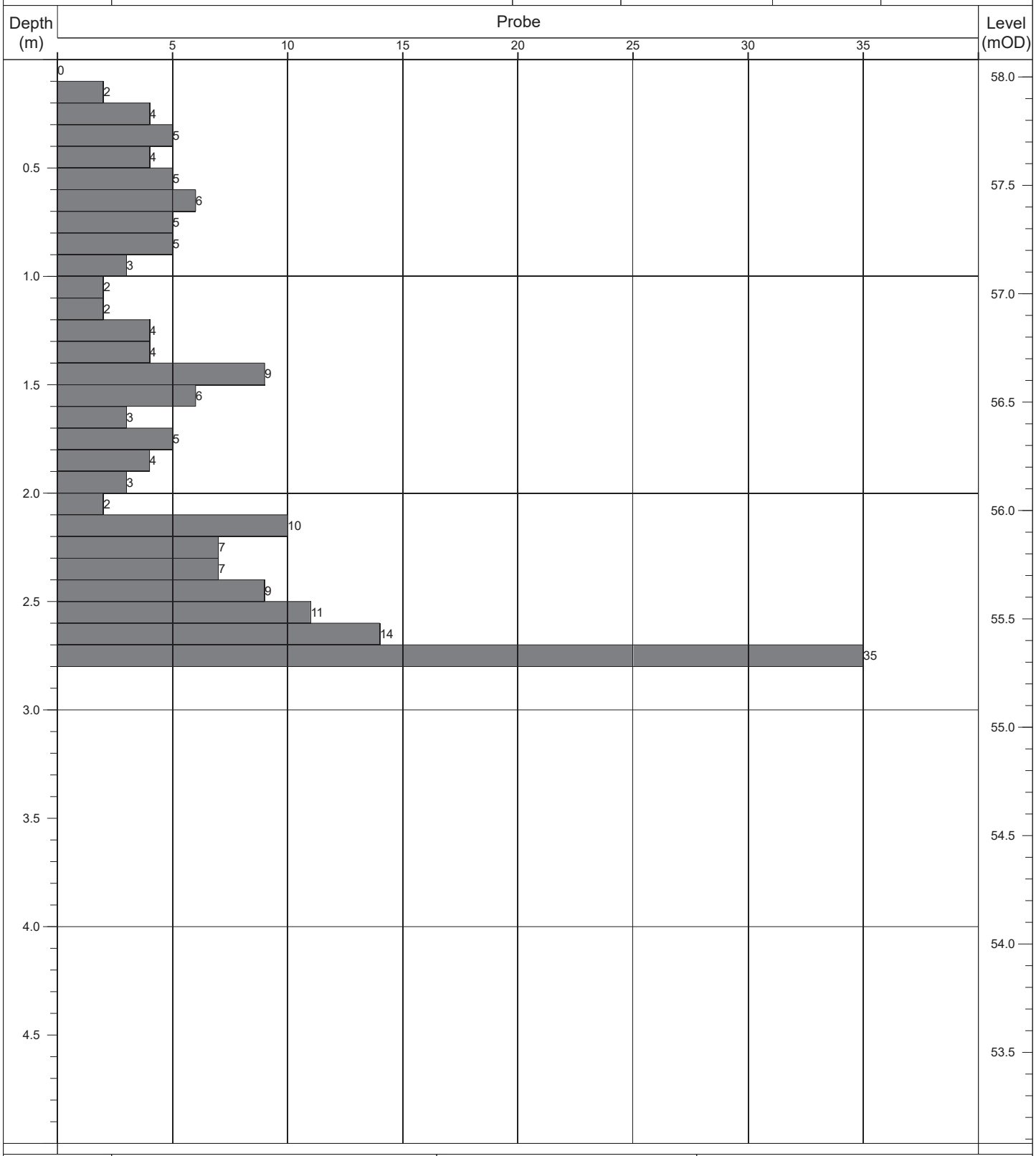
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
1.80m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	**Dynamic Probe Log**				Probe No: **DP57**
Contract:	Moygaddy	Easting:	694513.646	Date Started:	23/06/2021
Location:	Maynooth, Co. Meath	Northing:	739200.814	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	58.11	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



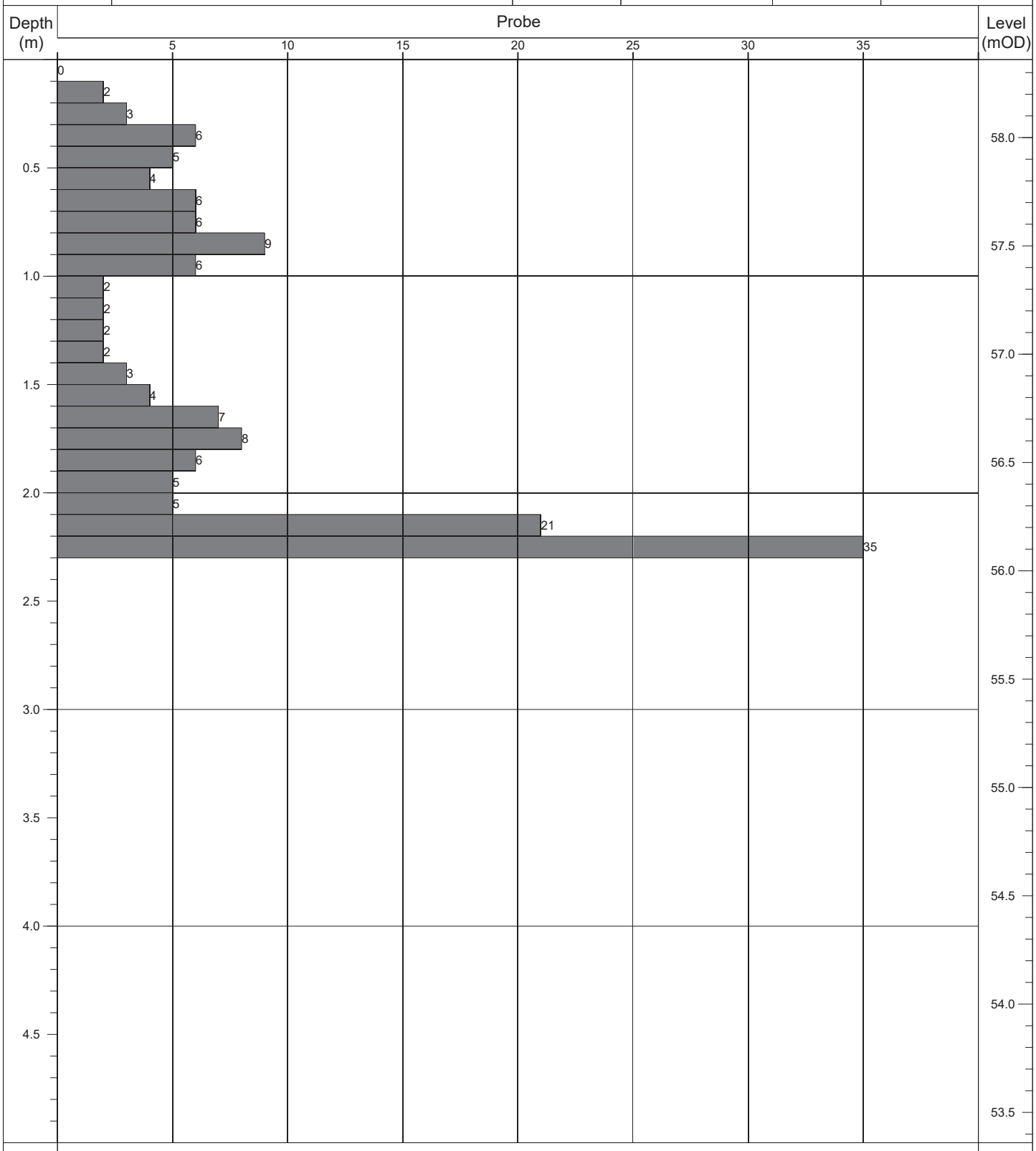
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
2.50m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	Dynamic Probe Log				Probe No: DP58
Contract:	Moygaddy	Easting:	694584.206	Date Started:	23/06/2021
Location:	Maynooth, Co. Meath	Northing:	739182.489	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	58.08	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



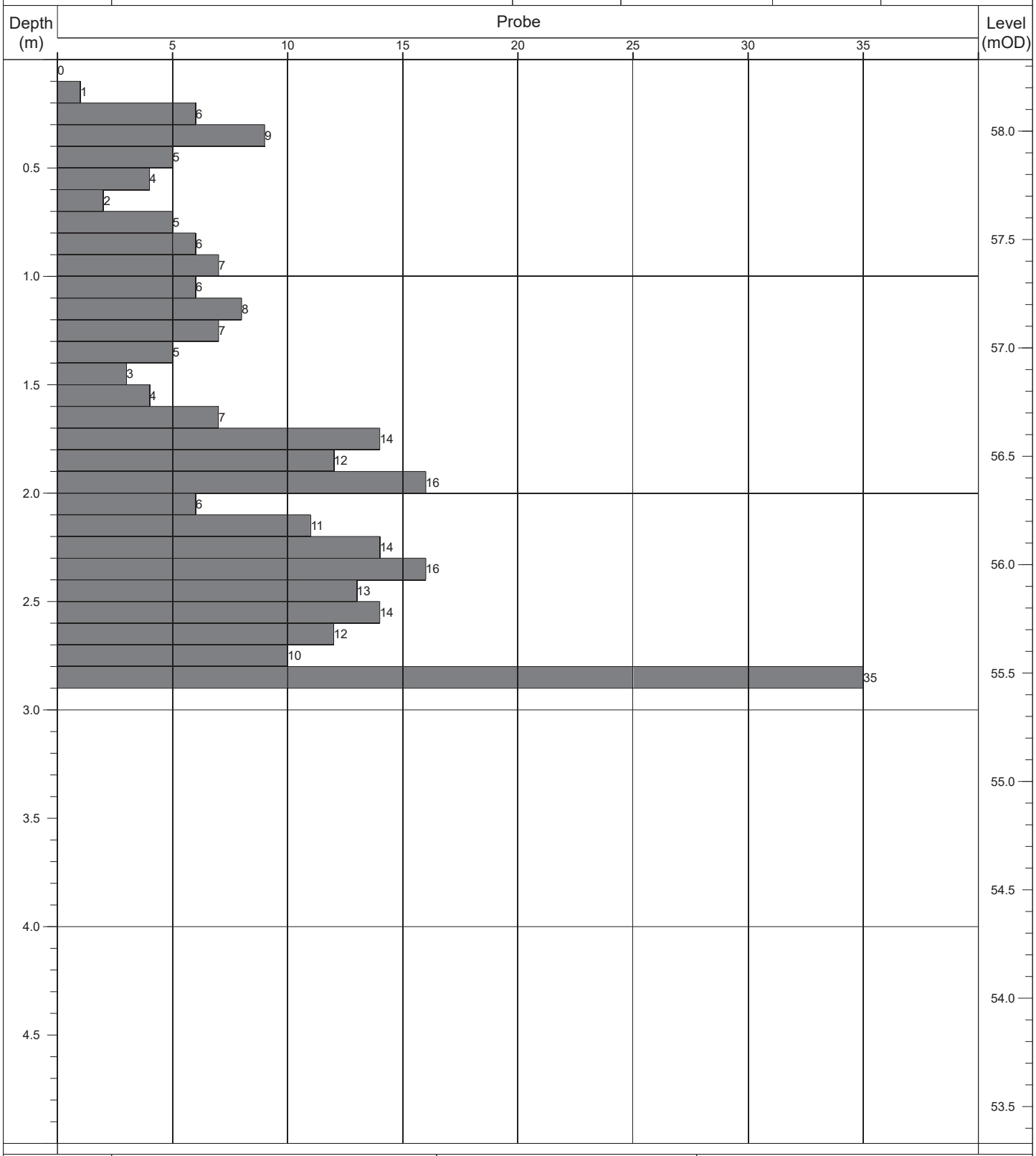
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
2.80m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	**Dynamic Probe Log**				Probe No: **DP59**
Contract:	Moygaddy	Easting:	694690.632	Date Started:	23/06/2021
Location:	Maynooth, Co. Meath	Northing:	739192.594	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	58.36	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



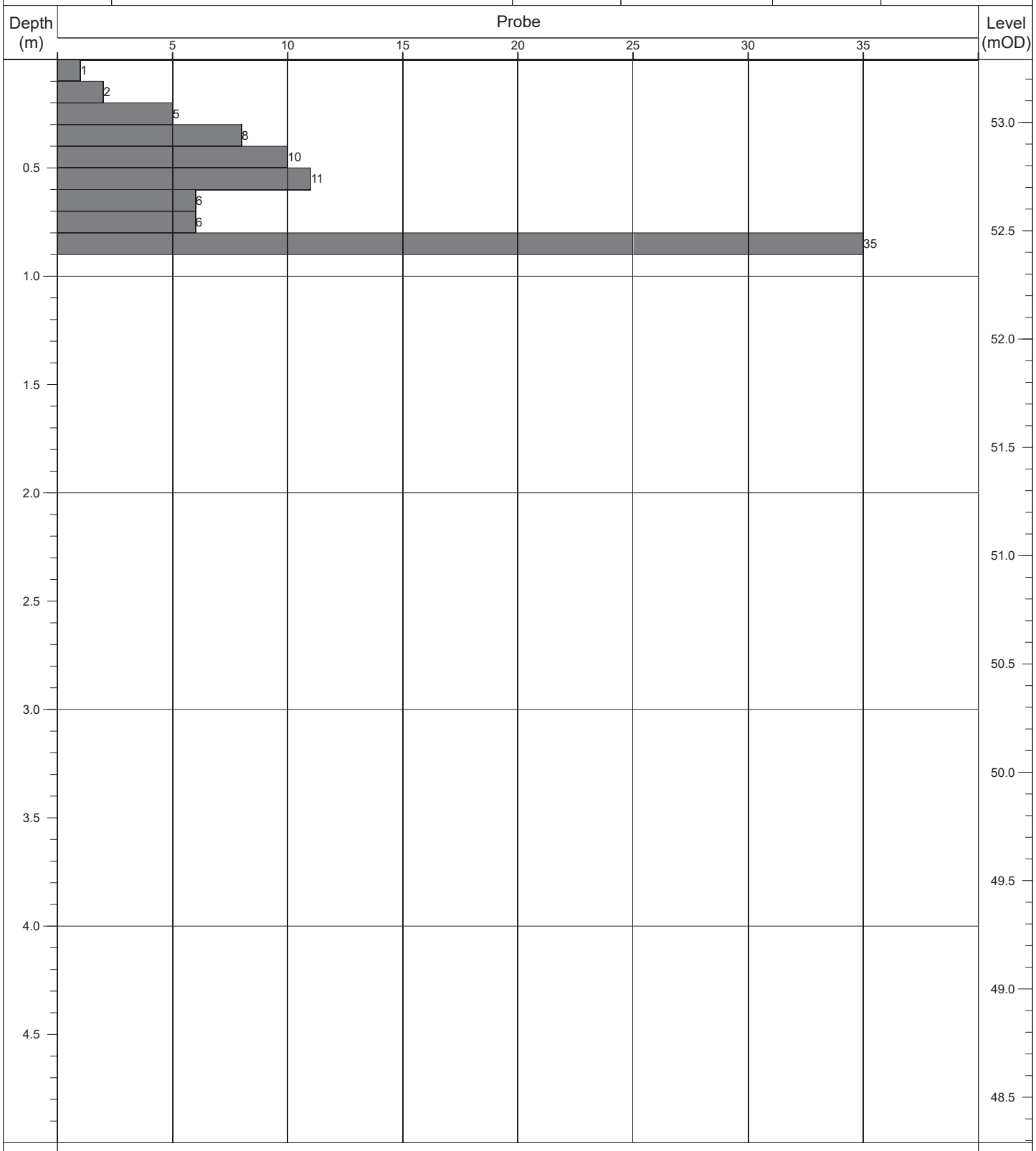
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
2.30m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	Dynamic Probe Log				Probe No: DP60
Contract:	Moygaddy	Easting:	694784.383	Date Started:	23/06/2021
Location:	Maynooth, Co. Meath	Northing:	739187.502	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	58.33	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



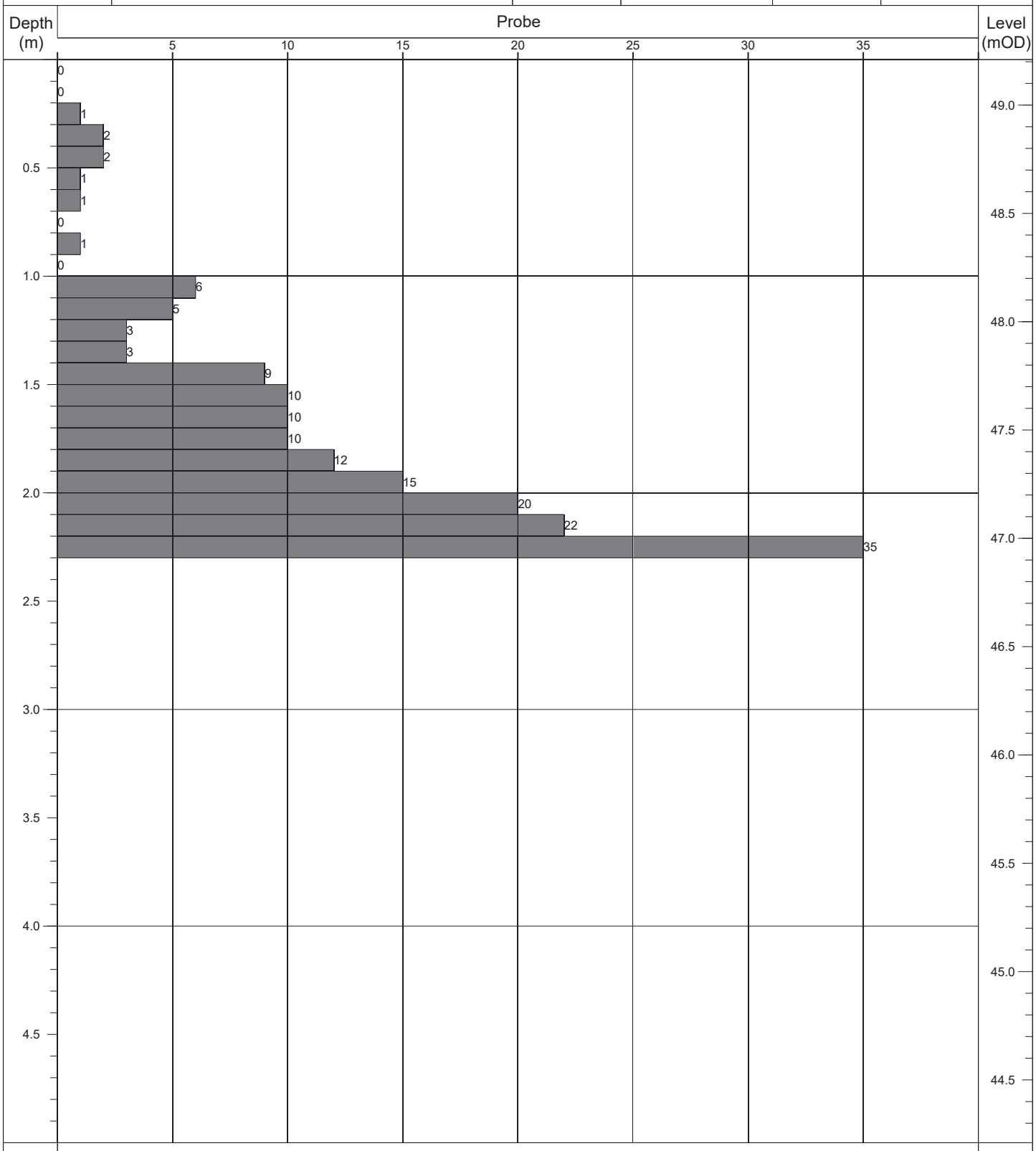
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
2.90m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	Dynamic Probe Log				Probe No: DP61
Contract:	Moygaddy	Easting:	693991.061	Date Started:	18/06/2021
Location:	Maynooth, Co. Meath	Northing:	739083.755	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	53.29	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



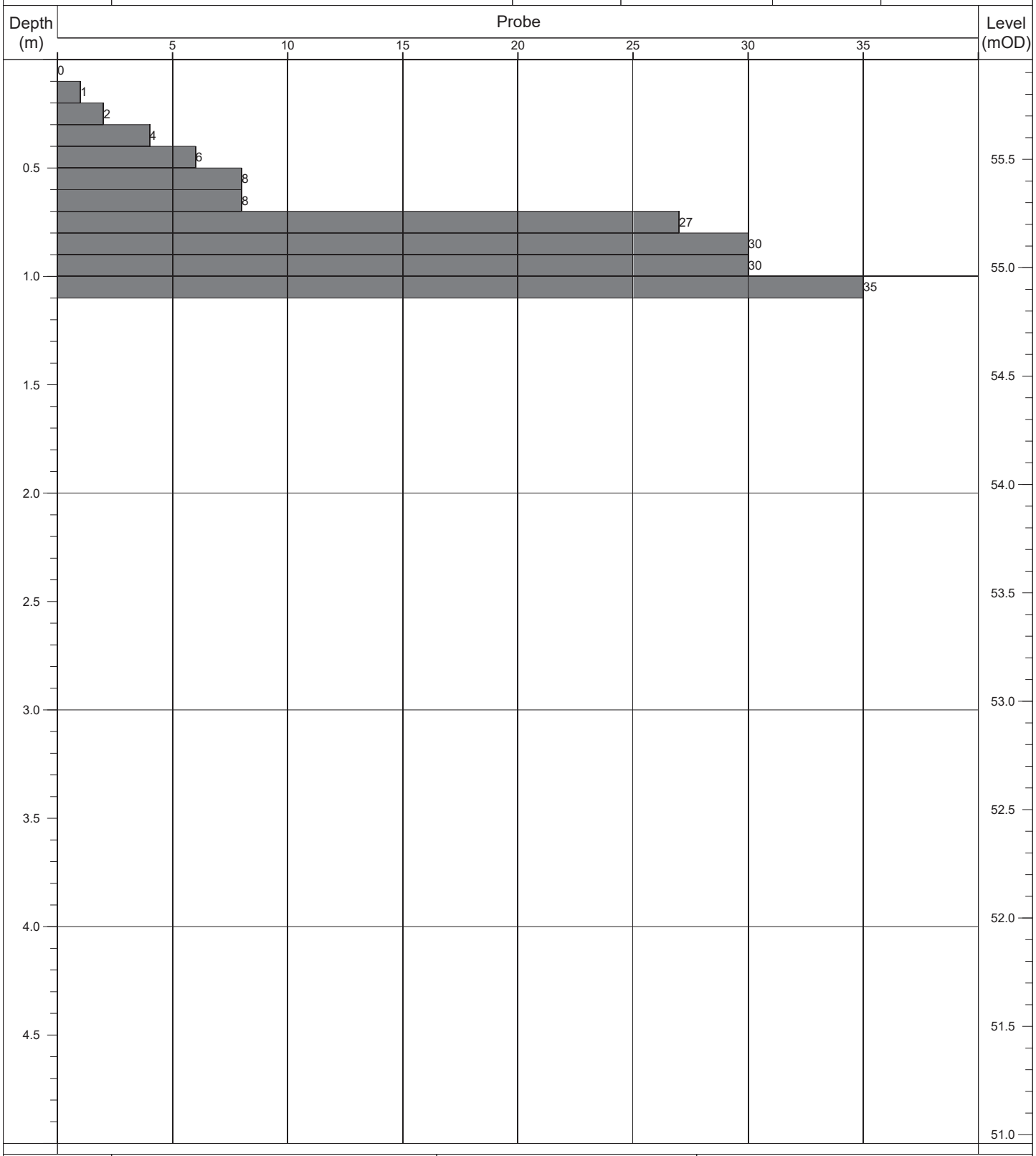
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
0.90m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	Dynamic Probe Log				Probe No: DP62
Contract:	Moygaddy	Easting:	694185.443	Date Started:	18/06/2021
Location:	Maynooth, Co. Meath	Northing:	739087.742	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	49.21	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



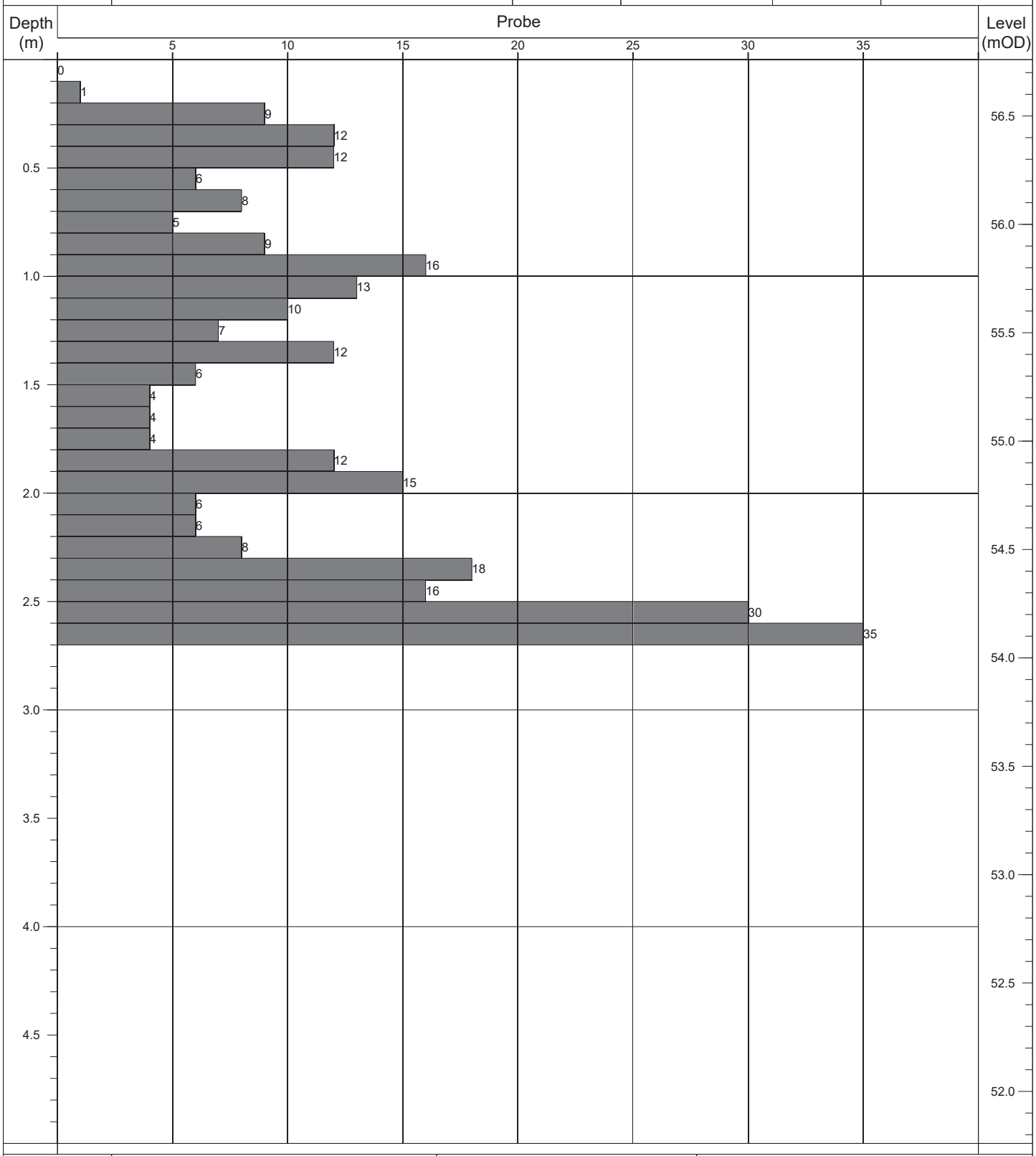
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
2.30m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	Dynamic Probe Log				Probe No: DP63
Contract:	Moygaddy	Easting:	694290.240	Date Started:	18/06/2021
Location:	Maynooth, Co. Meath	Northing:	739085.762	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	55.96	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



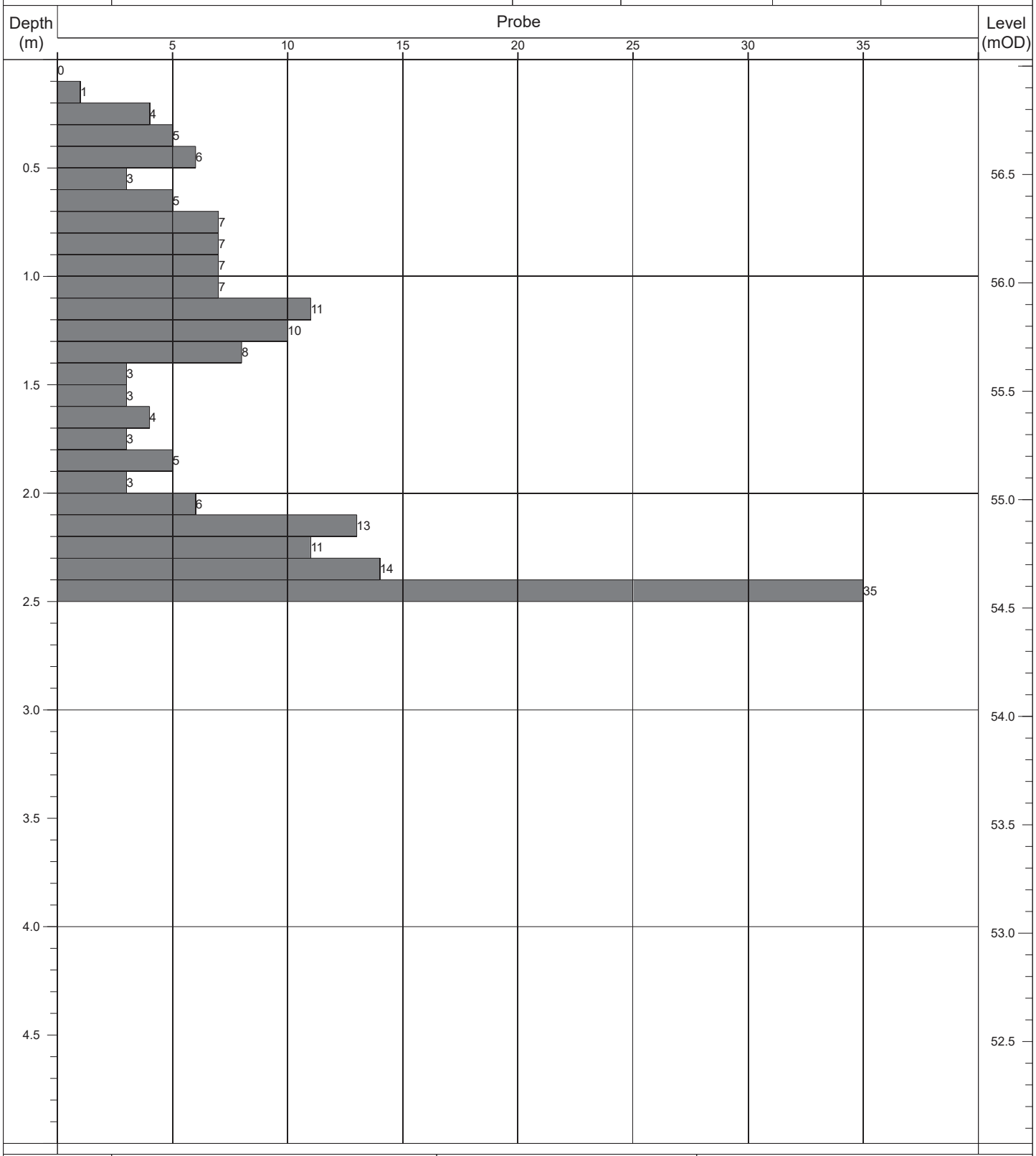
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
1.10m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	**Dynamic Probe Log**				Probe No: **DP64**
Contract:	Moygaddy	Easting:	694385.154	Date Started:	18/06/2021
Location:	Maynooth, Co. Meath	Northing:	739082.180	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	56.76	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



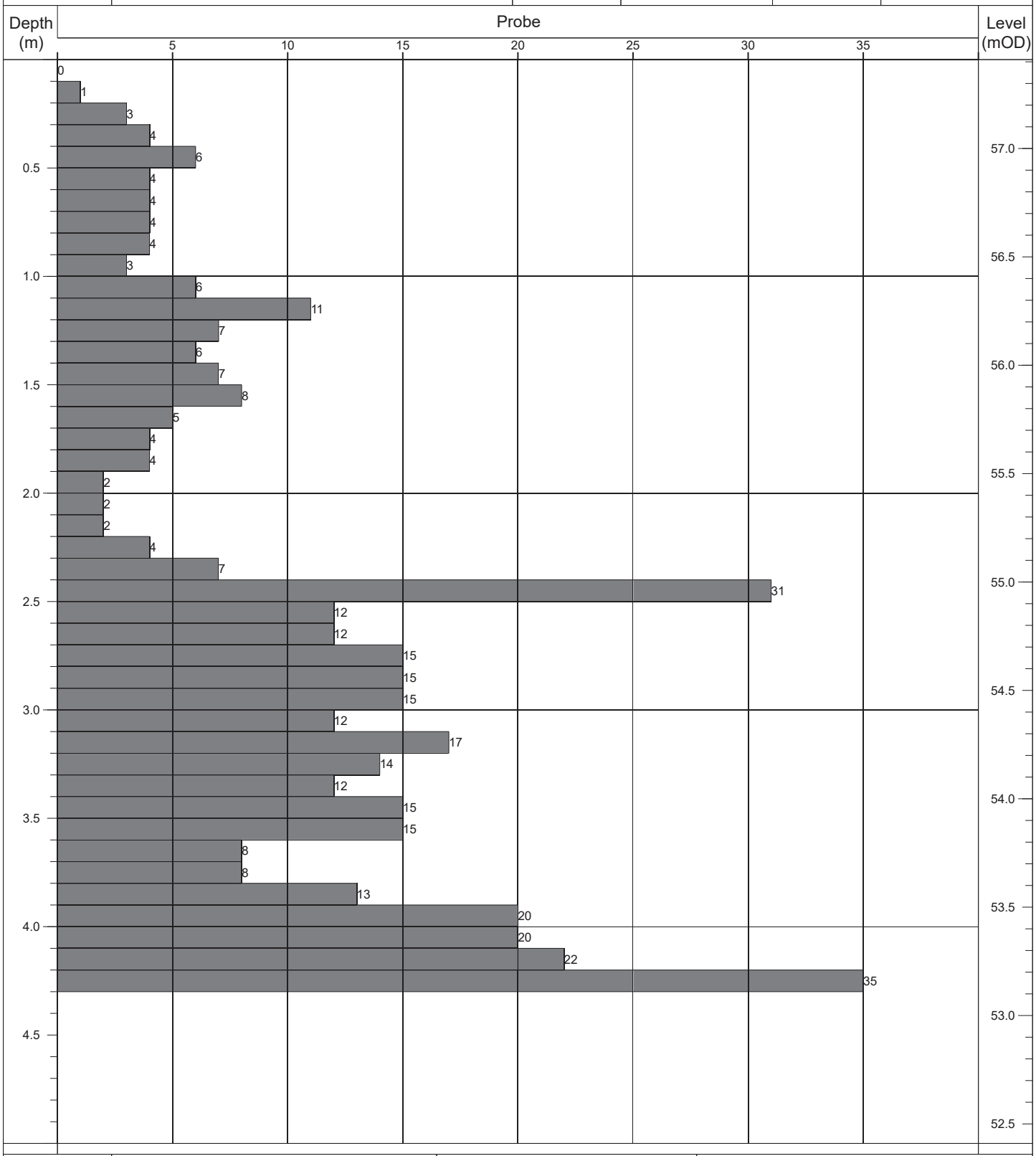
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
2.70m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	**Dynamic Probe Log**				Probe No: **DP65**
Contract:	Moygaddy	Easting:	694488.362	Date Started:	21/06/2021
Location:	Maynooth, Co. Meath	Northing:	739086.289	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	57.03	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



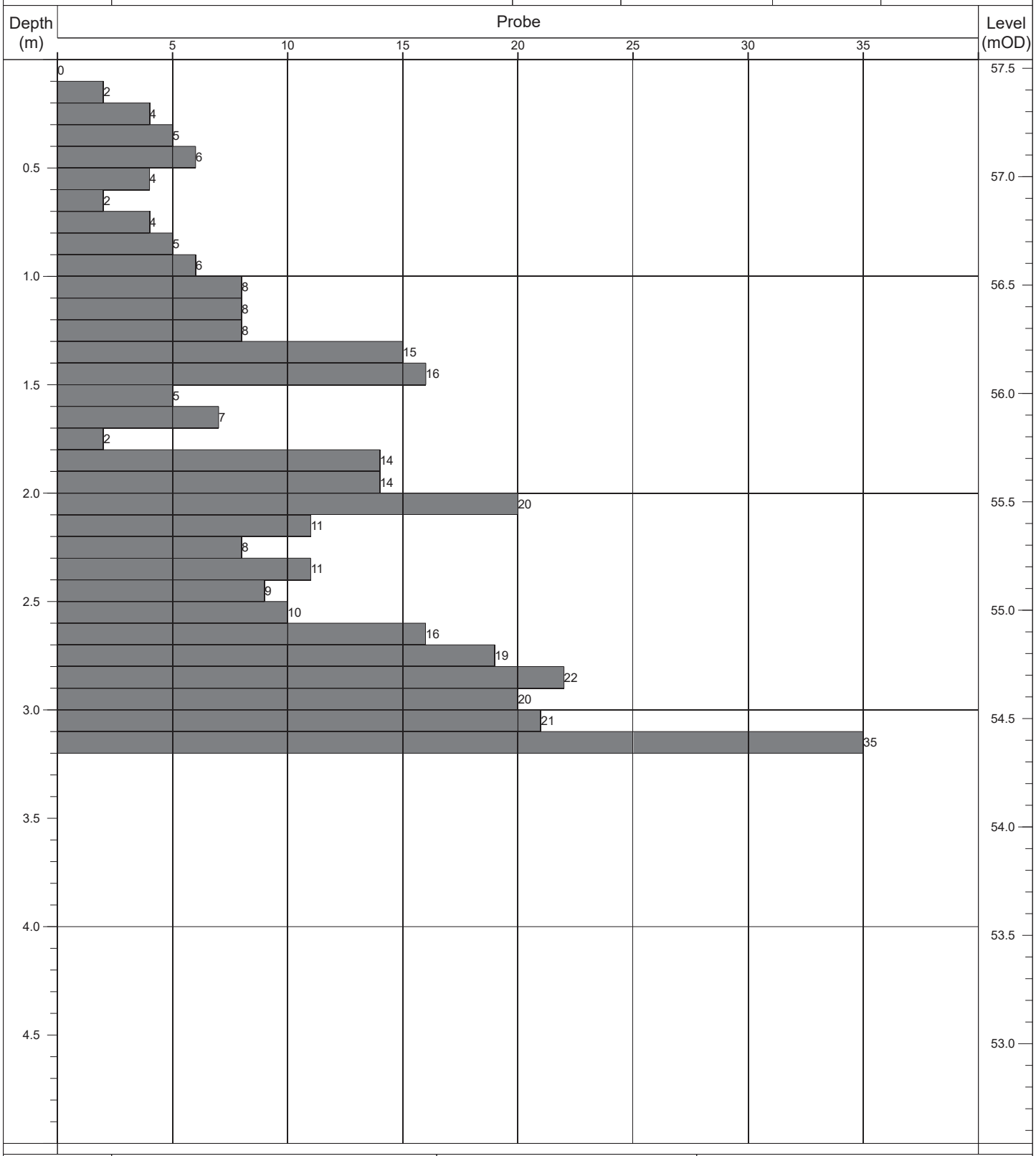
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
2.50m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	**Dynamic Probe Log**				Probe No: **DP66**
Contract:	Moygaddy	Easting:	694588.543	Date Started:	21/06/2021
Location:	Maynooth, Co. Meath	Northing:	739090.206	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	57.41	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



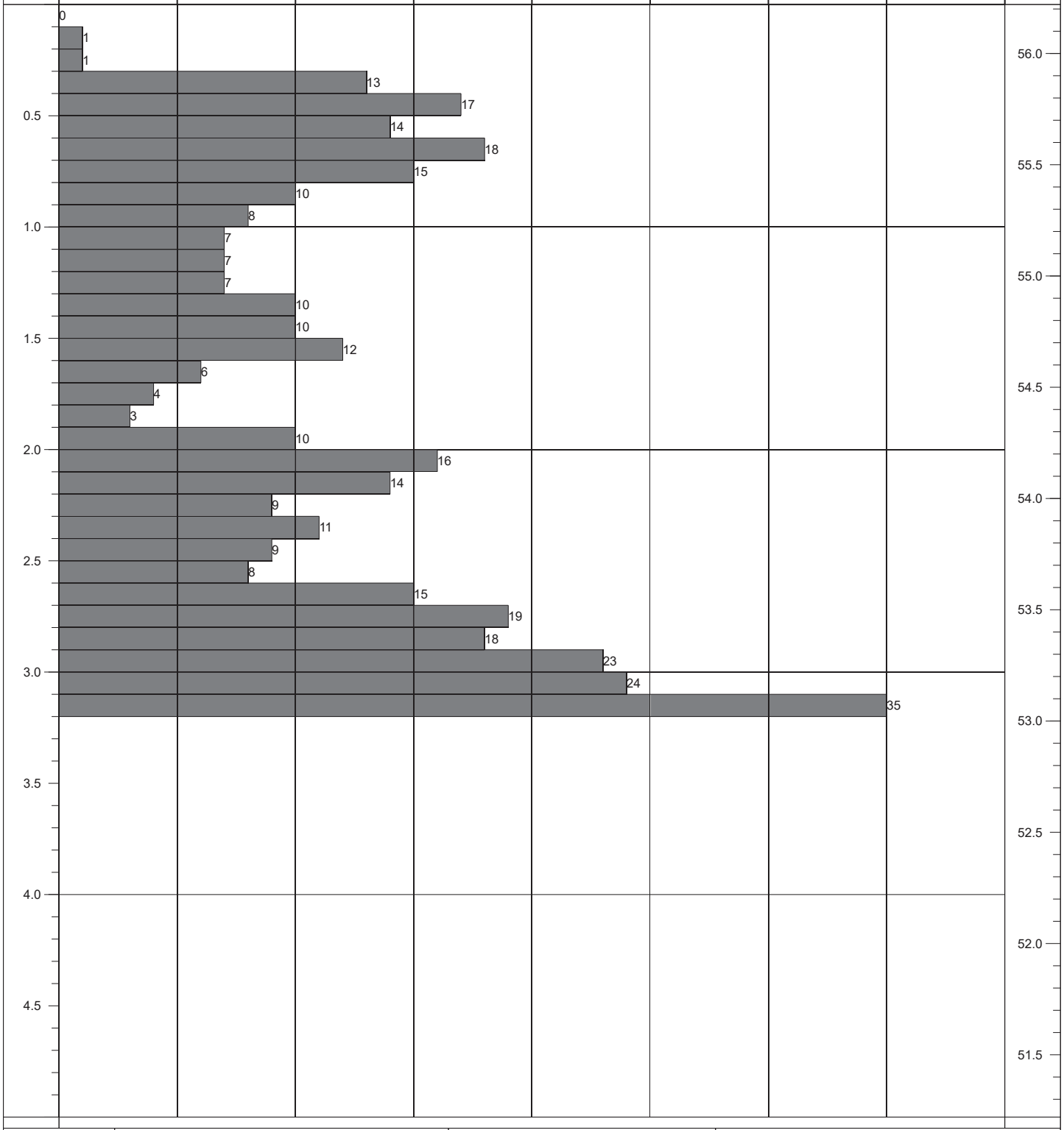
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
4.30m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	Dynamic Probe Log				Probe No: DP67
Contract:	Moygaddy	Easting:	694682.814	Date Started:	23/06/2021
Location:	Maynooth, Co. Meath	Northing:	739084.421	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	57.54	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



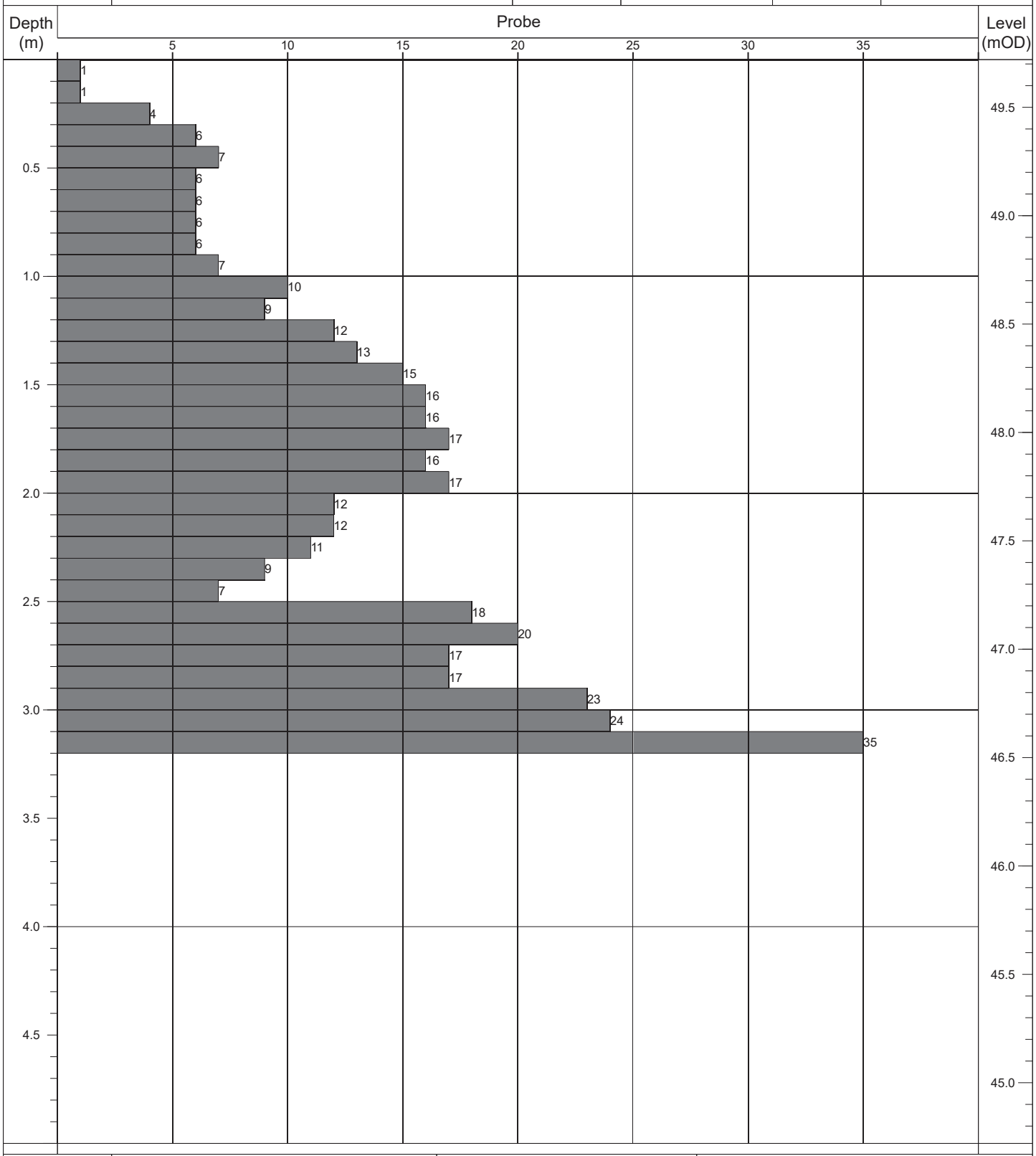
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
3.20m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	Dynamic Probe Log				Probe No: DP68
Contract:	Moygaddy	Easting:	694787.254	Date Started:	23/06/2021
Location:	Maynooth, Co. Meath	Northing:	739083.914	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	56.22	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



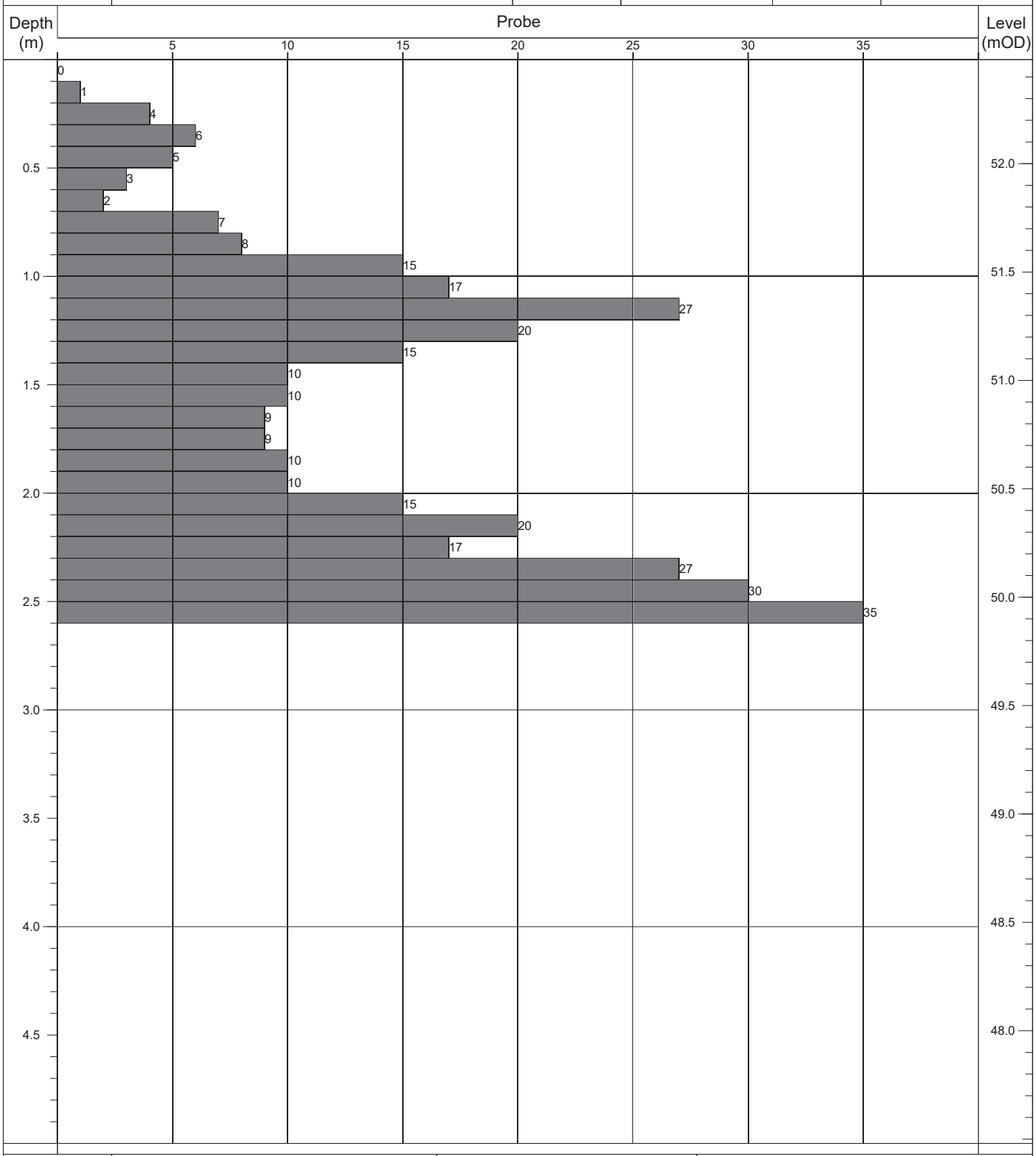
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
3.20m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	Dynamic Probe Log				Probe No: DP69
Contract:	Moygaddy	Easting:	694090.959	Date Started:	18/06/2021
Location:	Maynooth, Co. Meath	Northing:	738991.035	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	49.72	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



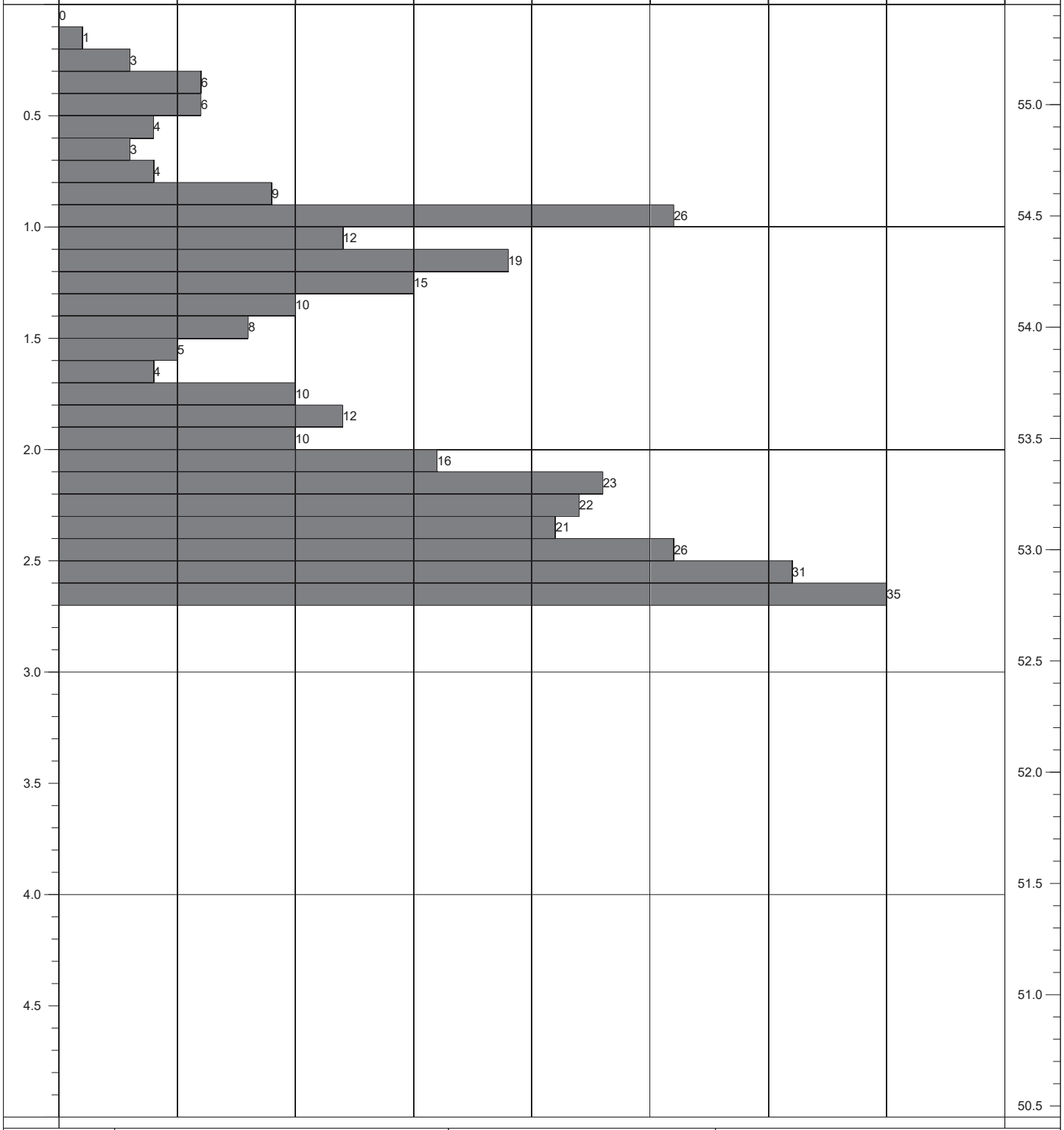
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
3.20m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	Dynamic Probe Log				Probe No: DP70
Contract:	Moygaddy	Easting:	694187.890	Date Started:	18/06/2021
Location:	Maynooth, Co. Meath	Northing:	738981.735	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	52.48	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



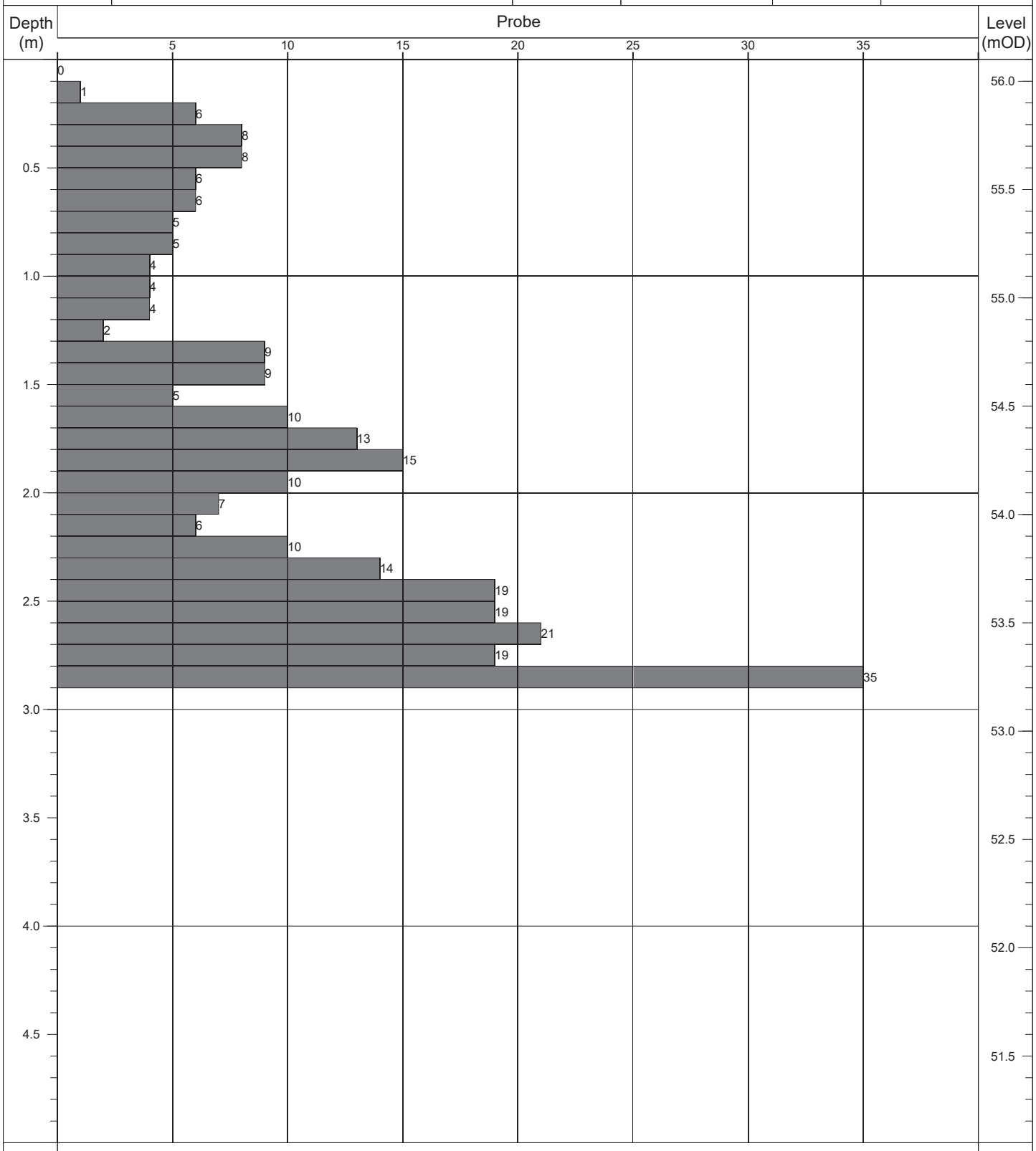
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
2.60m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	Dynamic Probe Log				Probe No: DP71
Contract:	Moygaddy	Easting:	694289.189	Date Started:	18/06/2021
Location:	Maynooth, Co. Meath	Northing:	738983.578	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	55.45	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



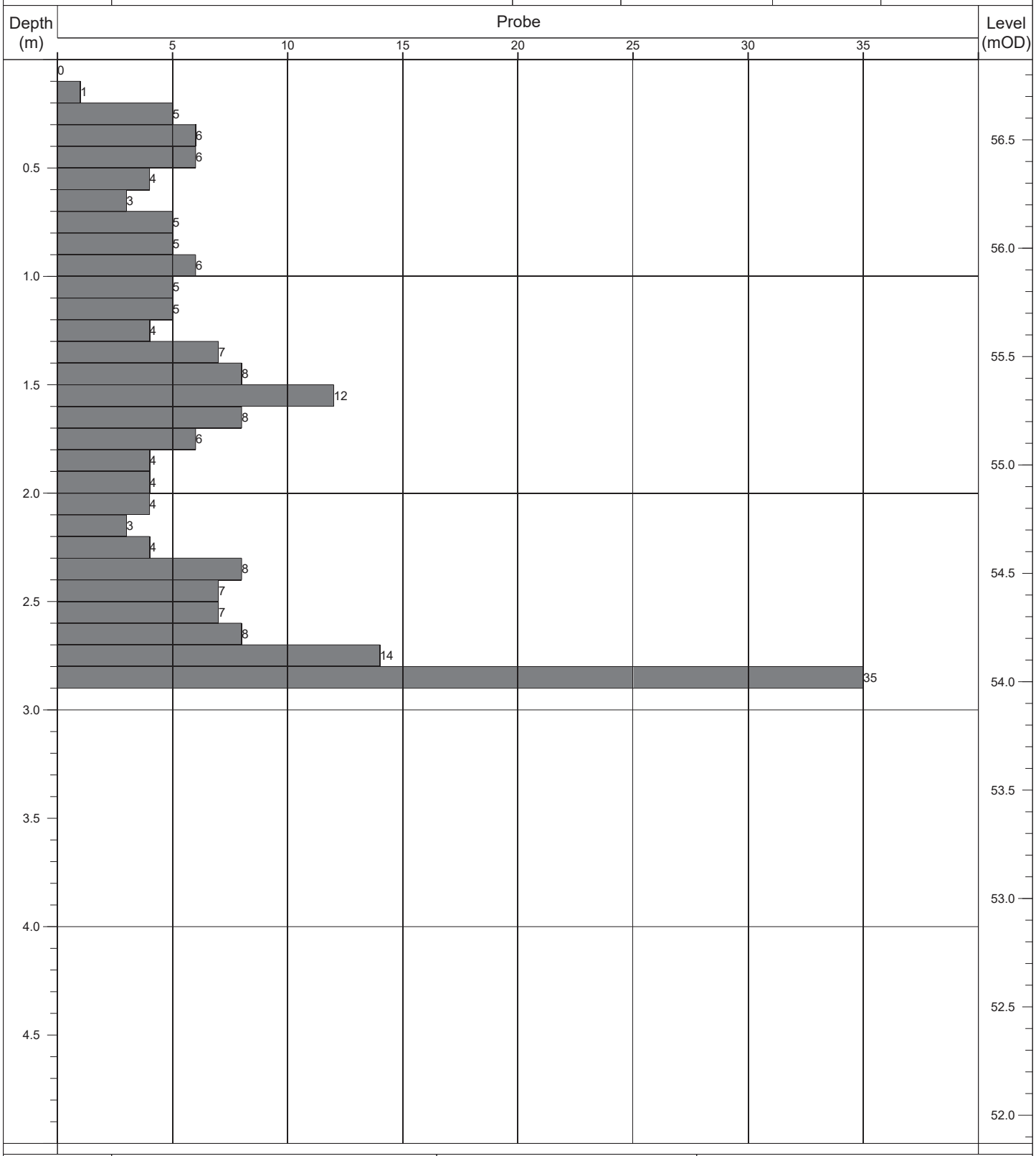
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
2.70m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	Dynamic Probe Log				Probe No: DP72
Contract:	Moygaddy	Easting:	694384.733	Date Started:	18/06/2021
Location:	Maynooth, Co. Meath	Northing:	738989.607	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	56.10	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



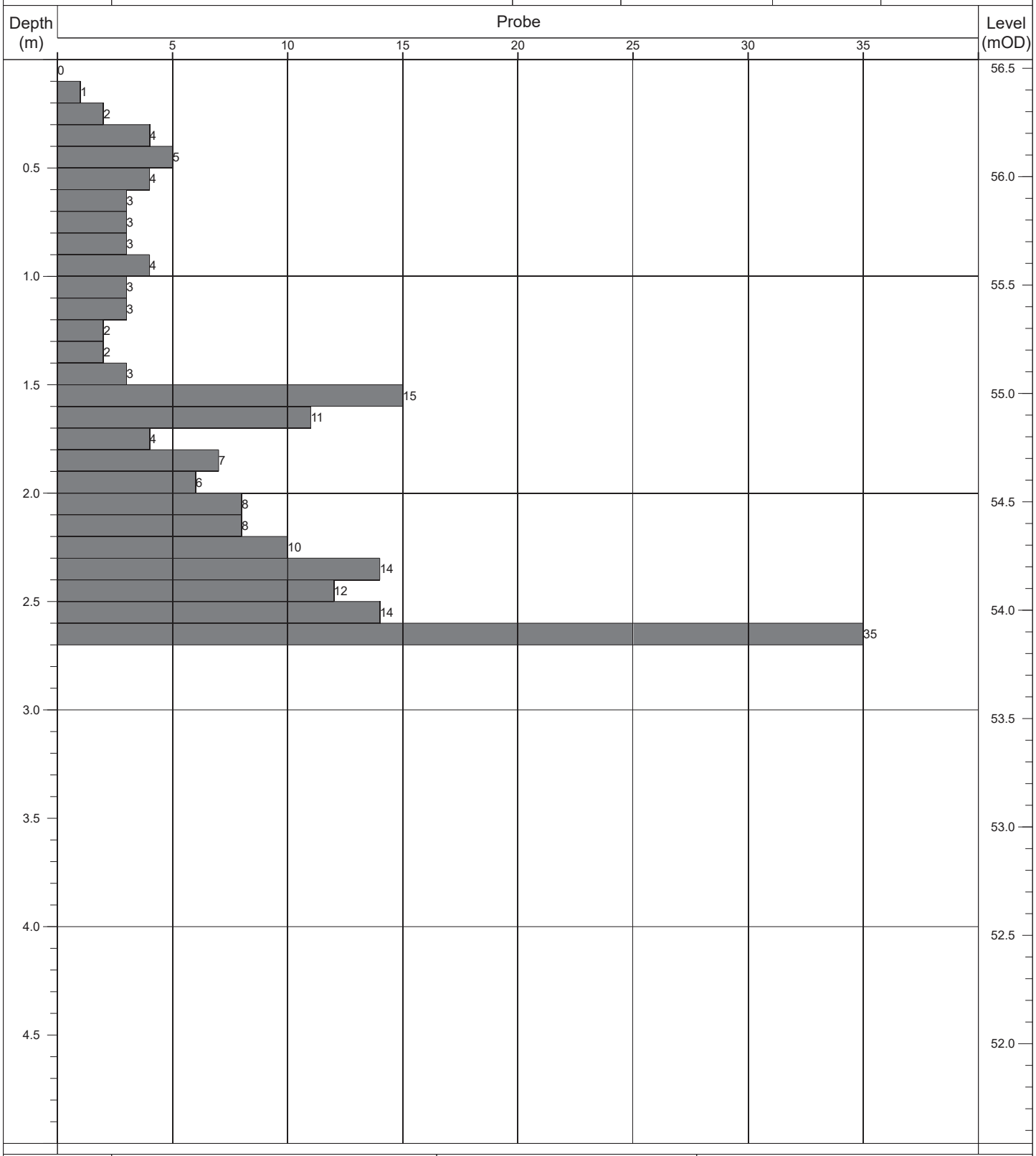
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
2.90m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	Dynamic Probe Log				Probe No: DP73
Contract:	Moygaddy	Easting:	694486.822	Date Started:	21/06/2021
Location:	Maynooth, Co. Meath	Northing:	738986.510	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	56.87	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



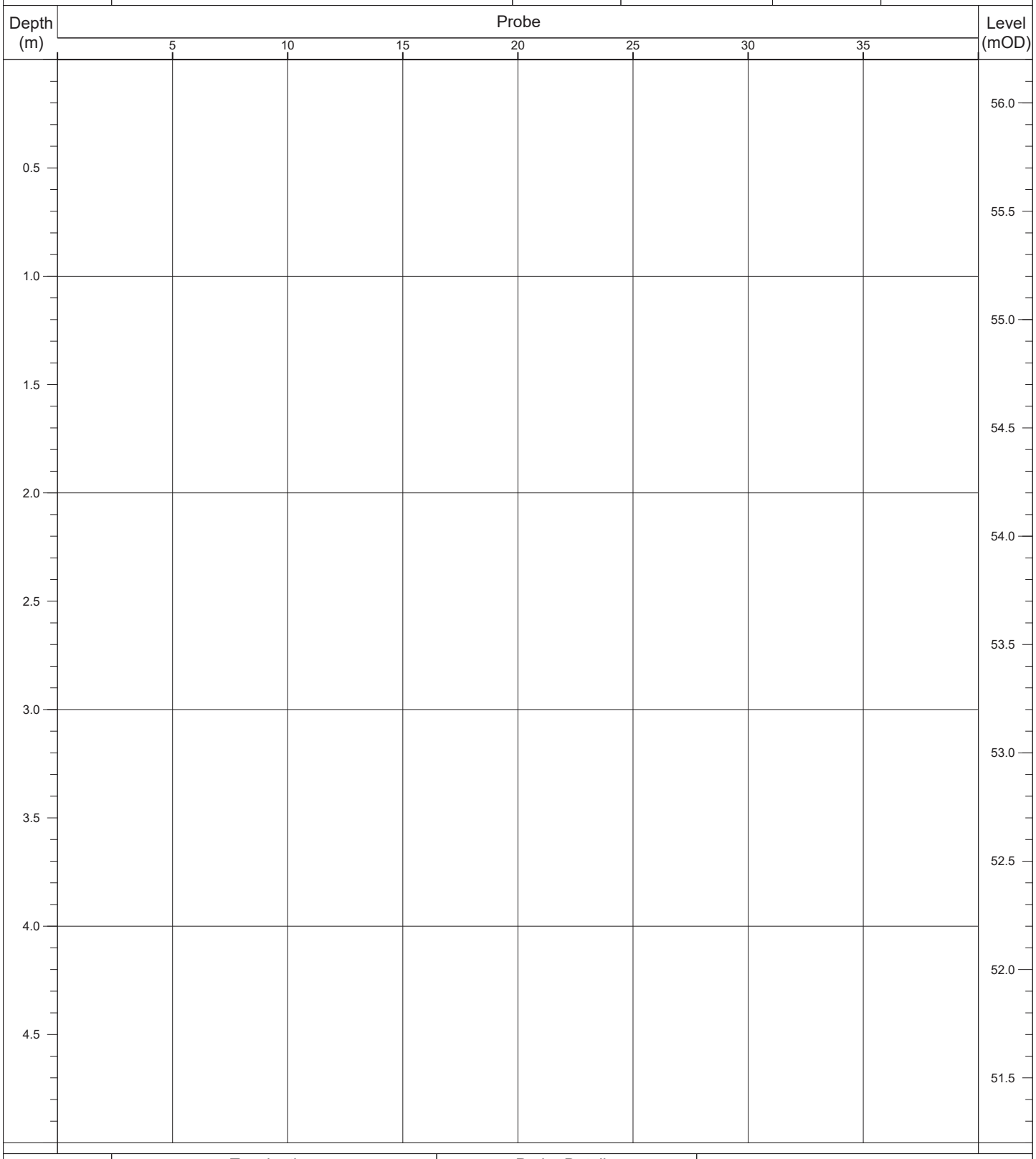
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
2.90m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	Dynamic Probe Log				Probe No: DP74
Contract:	Moygaddy	Easting:	694586.960	Date Started:	22/06/2021
Location:	Maynooth, Co. Meath	Northing:	738983.395	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	56.54	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



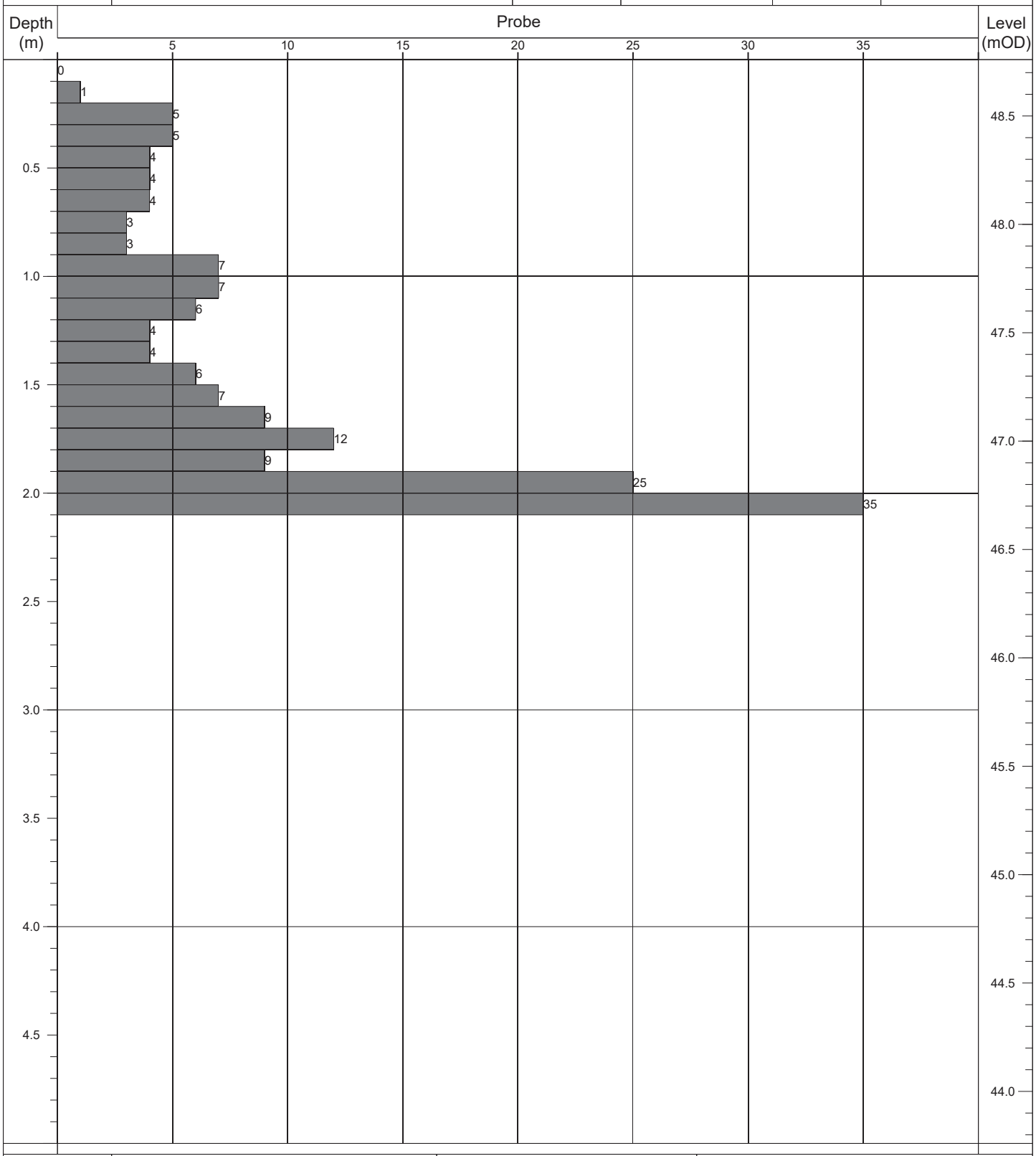
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
2.70m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	**Dynamic Probe Log**				Probe No: **DP75**
Contract:	Moygaddy	Easting:	694691.101	Date Started:	22/06/2021
Location:	Maynooth, Co. Meath	Northing:	738989.216	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	56.20	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



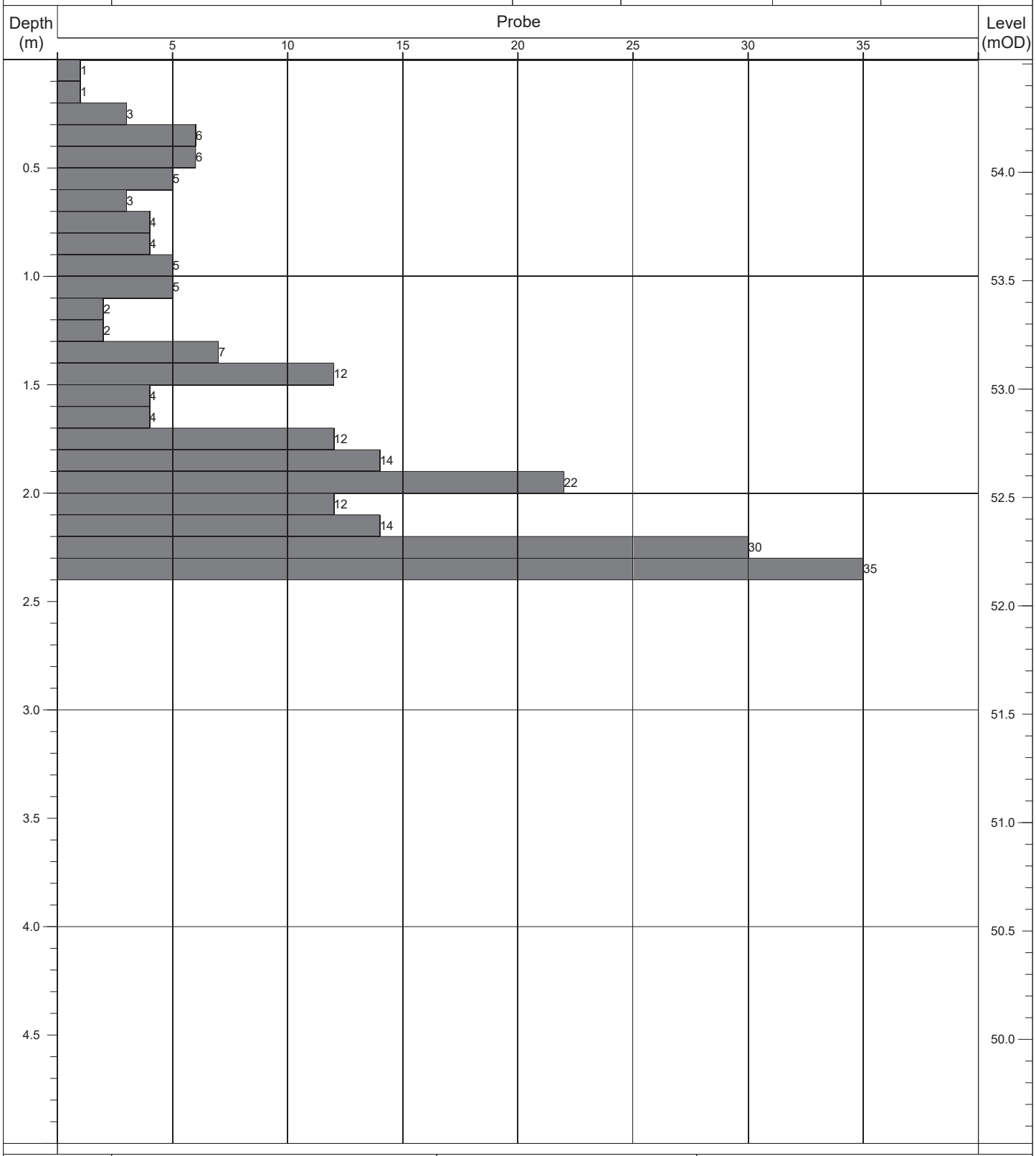
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
5.00m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	Dynamic Probe Log				Probe No: DP76
Contract:	Moygaddy	Easting:	694188.862	Date Started:	18/06/2021
Location:	Maynooth, Co. Meath	Northing:	738882.936	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	48.76	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



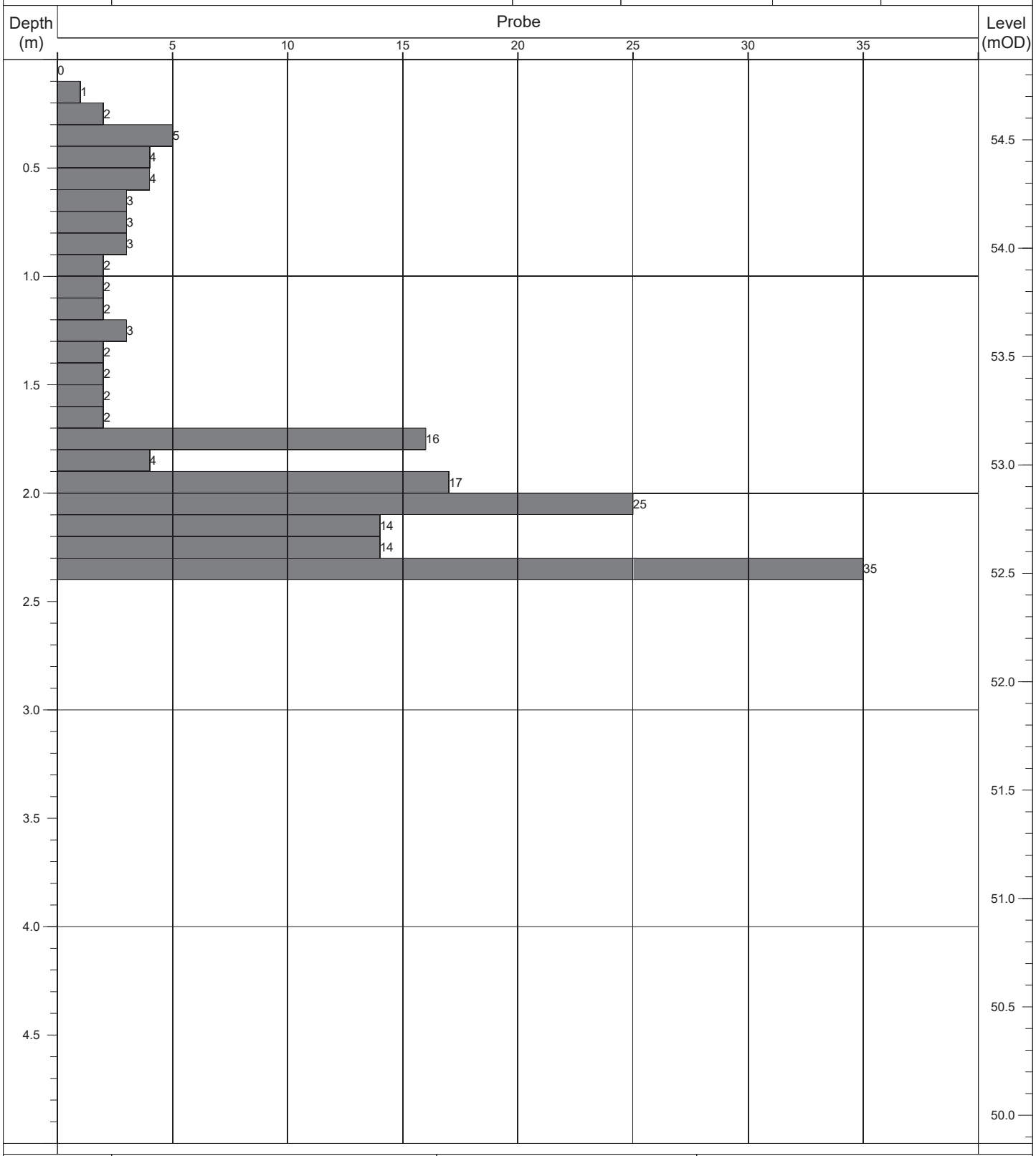
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
2.10m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	**Dynamic Probe Log**				Probe No: **DP77**
Contract:	Moygaddy	Easting:	694291.409	Date Started:	18/06/2021
Location:	Maynooth, Co. Meath	Northing:	738890.282	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	54.52	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



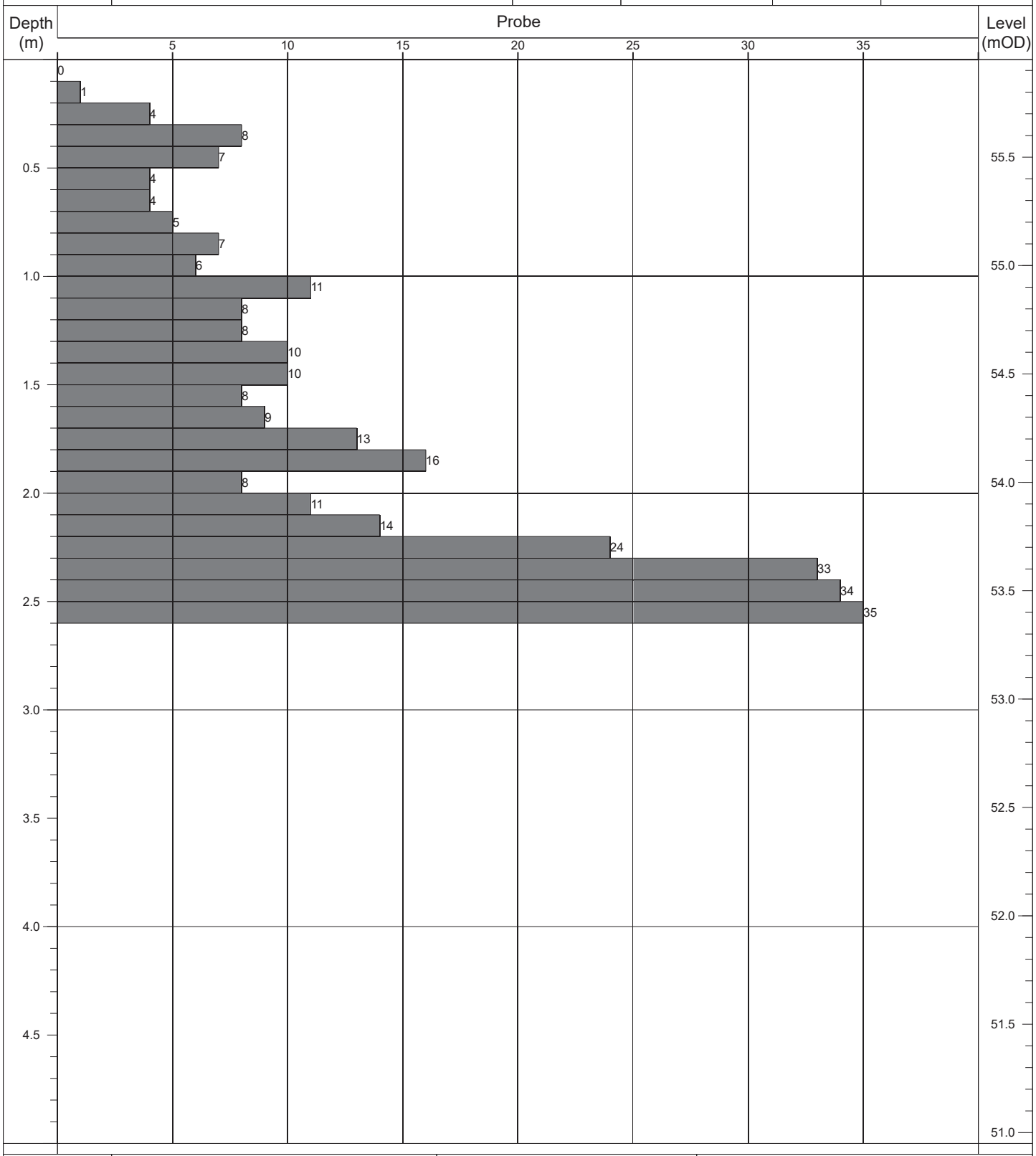
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
2.40m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	Dynamic Probe Log				Probe No: DP78
Contract:	Moygaddy	Easting:	694392.533	Date Started:	21/06/2021
Location:	Maynooth, Co. Meath	Northing:	738890.201	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	54.87	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



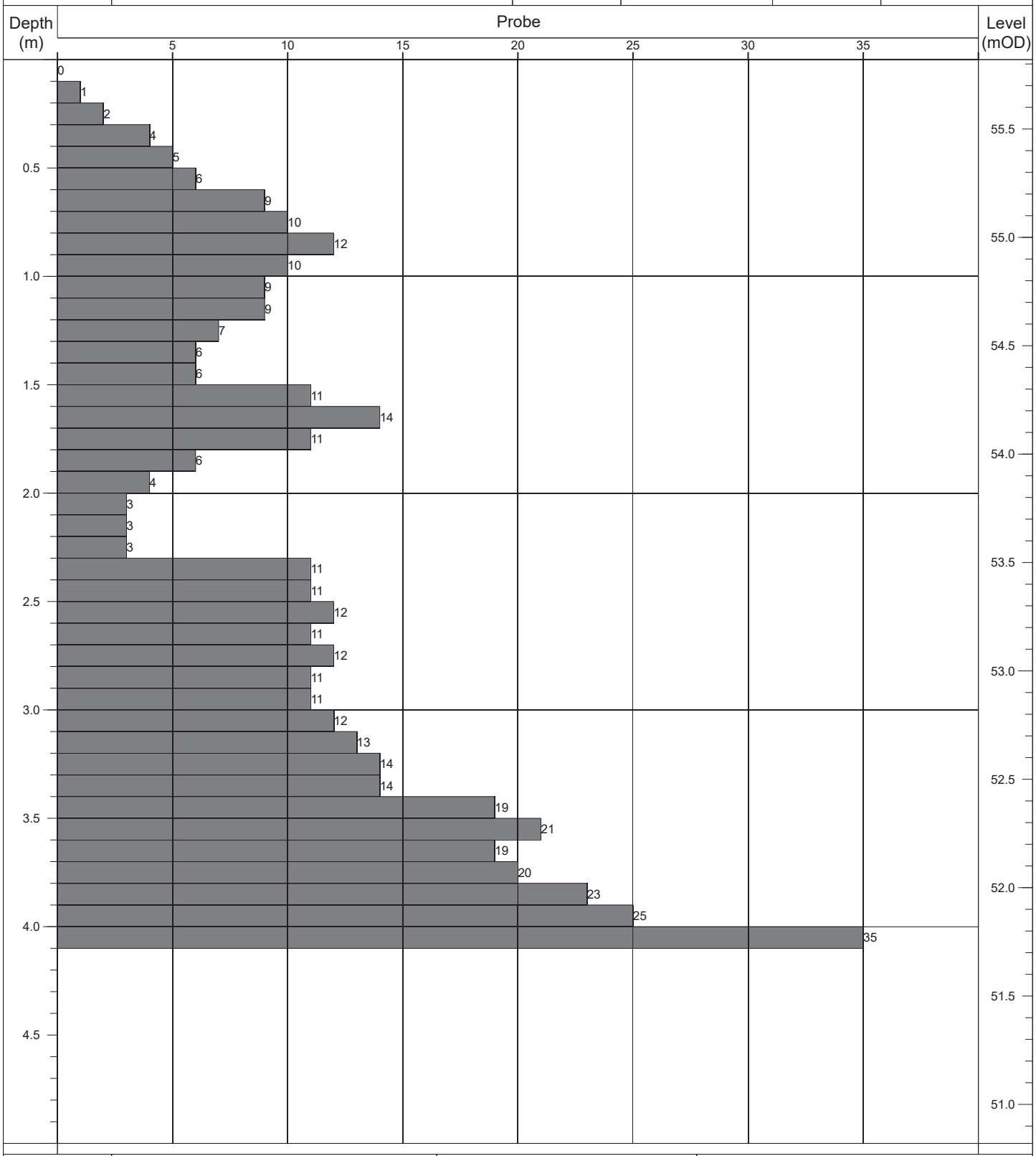
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
2.40m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	Dynamic Probe Log				Probe No: DP79
Contract:	Moygaddy	Easting:	694490.609	Date Started:	21/06/2021
Location:	Maynooth, Co. Meath	Northing:	738885.308	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	55.95	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



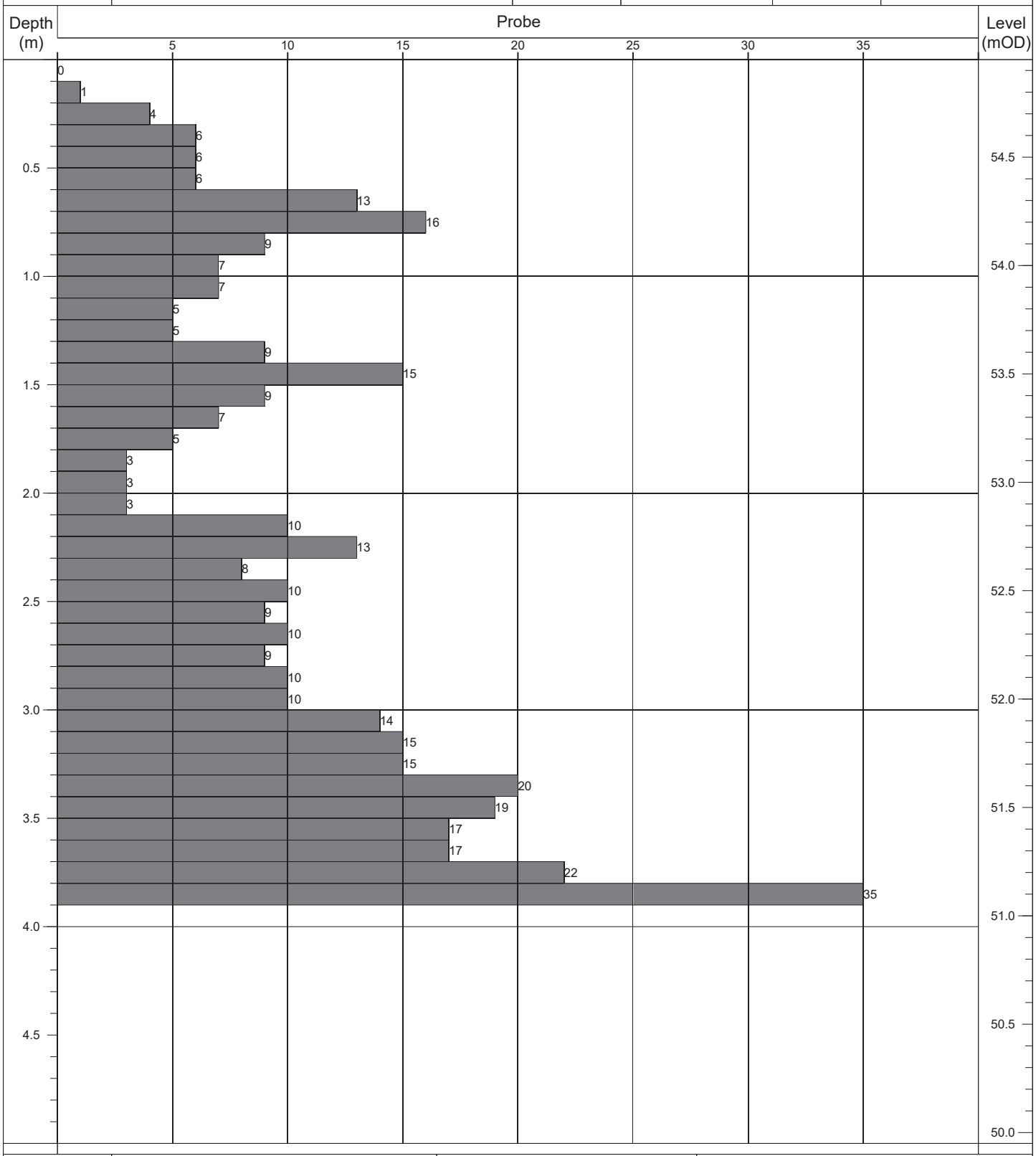
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
2.60m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	Dynamic Probe Log				Probe No: DP80
Contract:	Moygaddy	Easting:	694587.972	Date Started:	22/06/2021
Location:	Maynooth, Co. Meath	Northing:	738887.143	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	55.82	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



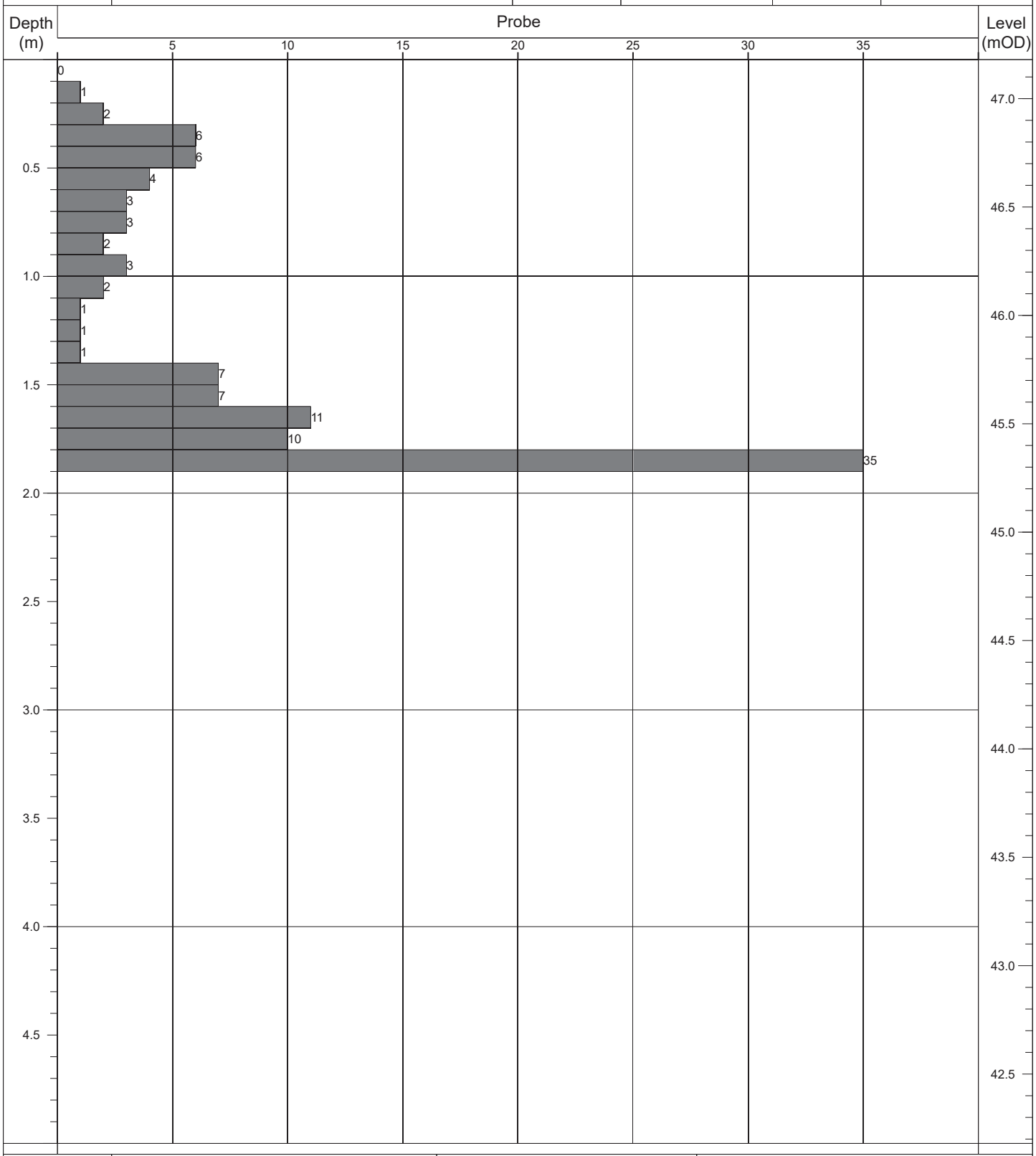
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
4.10m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	Dynamic Probe Log				Probe No: DP81
Contract:	Moygaddy	Easting:	694688.909	Date Started:	22/06/2021
Location:	Maynooth, Co. Meath	Northing:	738889.761	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	54.95	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



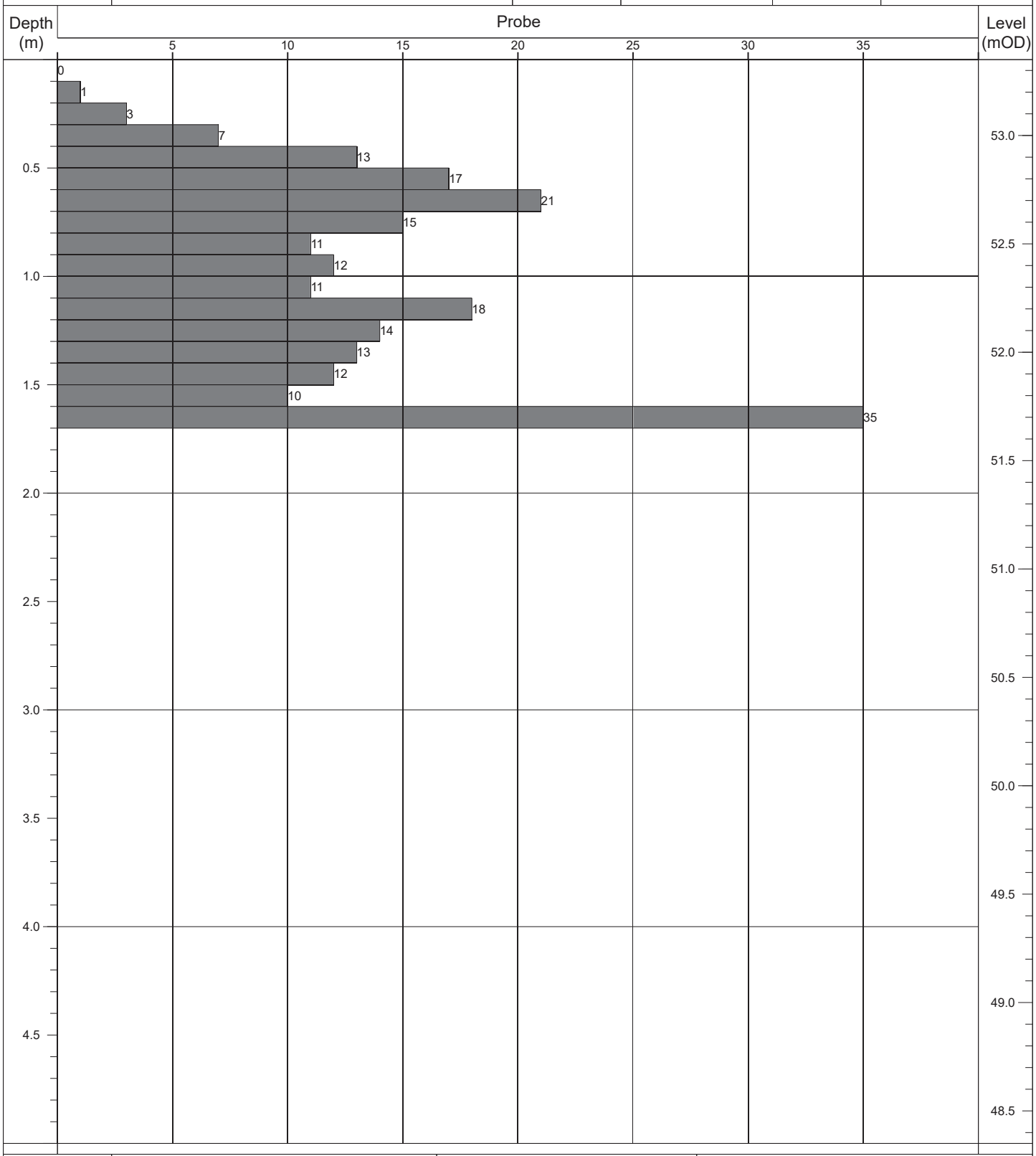
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
3.90m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	**Dynamic Probe Log**				Probe No: **DP82**
Contract:	Moygaddy	Easting:	694286.007	Date Started:	18/06/2021
Location:	Maynooth, Co. Meath	Northing:	738783.740	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	47.18	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



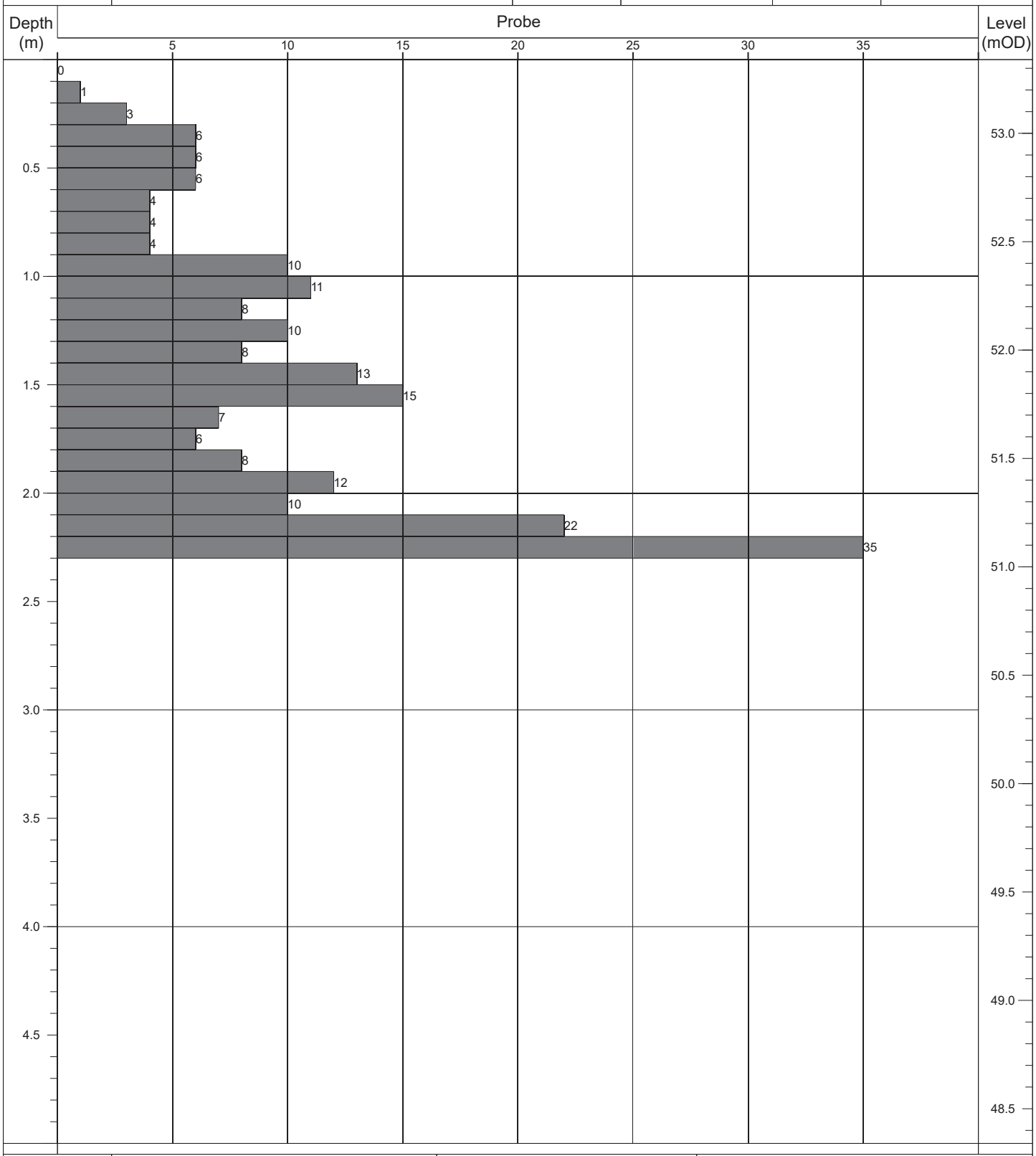
Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
1.90m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	**Dynamic Probe Log**				Probe No: **DP83**
Contract:	Moygaddy	Easting:	694396.549	Date Started:	21/06/2021
Location:	Maynooth, Co. Meath	Northing:	738786.809	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	53.35	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
1.70m	Obstruction - boulders.	DPH	50kg	500mm	

Contract No: 5863	Dynamic Probe Log				Probe No: DP84
Contract:	Moygaddy	Easting:	694589.396	Date Started:	21/06/2021
Location:	Maynooth, Co. Meath	Northing:	738787.697	Logged By:	E. Magee
Client:	Sky Castle Ltd	Elevation:	53.34	Scale:	1:25
Engineer:	OCSC	Rig Type:	Competitor 130	Sheet No:	Sheet 1 of 1



Termination:		Probe Details:			Remarks:
Depth:	Reason:	Type:	Mass	Drop:	
2.30m	Obstruction - boulders.	DPH	50kg	500mm	

Appendix 6

Geotechnical Soil Laboratory Test Results

Classification Tests in accordance with BS1377: Part 4

Client	Sky Castle Ltd.
Site	Moygaddy
S.I. File No	5863 / 21
Test Lab	Site Investigations Ltd., Carhugar The Grange, 12th Lock Rd., Lucan Co. Dublin. Tel (01) 6108768 Email info@siteinvestigations.ie
Report Date	12th July 2021

Hole ID	Depth	Sample No	Lab Ref No.	Sample Type	Natural Moisture Content %	Liquid Limit %	Plastic Limit %	Plastic Index %	Min. Dry Density Mg/m^3	Particle Density Mg/m^3	% passing 425um	Comments	**Remarks C**=Clay; **M**=Silt **Plasticity**: **L**=Low; **I**=Intermediate; **H**=High; **V**=Very High; **E**=Extremely High
TP01	1.00	MK15	21/856	B	17.6	32	18	14			47.3		CL
TP04	1.00	MK44	21/860	B	14.3	38	20	18			60.7		CI
TP06	1.00	MK47	21/863	B	15.6	37	20	17			63.5		CI
TP08	1.00	MK38	21/866	B	8.4	31	19	12			30.0		CL
TP10	1.00	MK63	21/869	B	14.6	35	18	17			55.7		CL/CI
TP11	1.00	MK58	21/871	B	18.0	34	18	16			62.3		CL
TP12	1.00	MK35	21/873	B	17.5	36	20	16			60.3		CI
TP13	1.50	MK29	21/875	B	11.5	32	18	14			37.9		CL
TP15	1.00	MK23	21/878	B	12.8	34	20	14			48.5		CL
TP19	1.00	MK05	21/883	B	12.2	34	19	15			51.9		CL

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BS 1377 Particle Size Analysis

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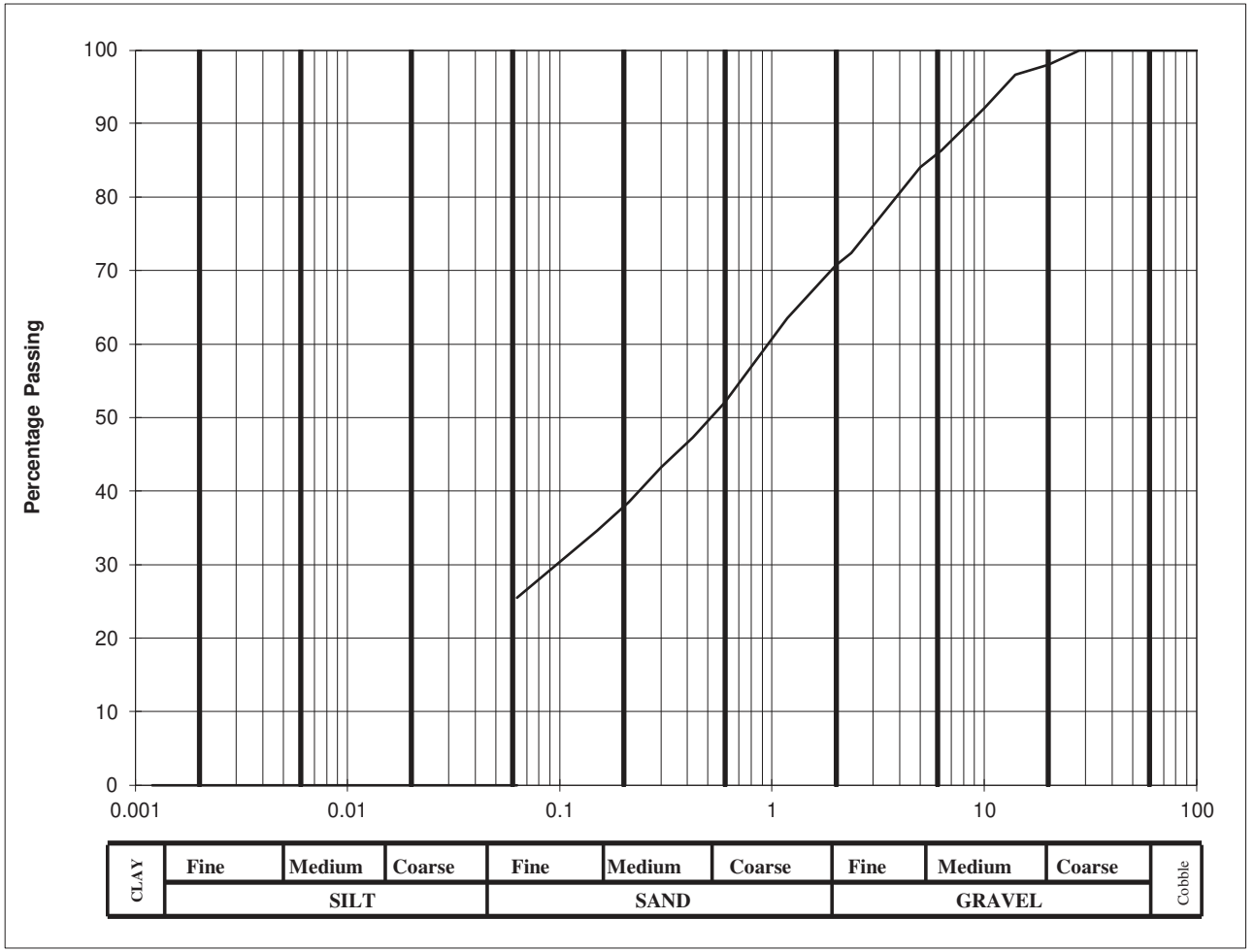
BS Sieve size, mm	Percent passing	Hydrometer analysis	
		Diameter, mm	% passing
100	100	**0.0630**	
90	100	**0.0200**	
75	100	**0.0060**	
63	100	**0.0020**	
50	100		
37.5	100		
28	100		
20	98		
14	96.6		
10	92.1		
6.3	86.3		
5.0	84		
2.36	72.4		
2.00	70.7		
1.18	63.5		
0.600	52		
0.425	47.3		
0.300	43.2		
0.212	38.5		
0.150	34.6		
0.063	26		

Cobbles, %	0
Gravel, %	29
Sand, %	45
Clay / Silt, %	26



Client :	Sky Castle Ltd.
Project :	Moygaddy

Lab. No :	21/856
Sample No :	MK15

Hole ID :	TP 01
Depth, m :	1.00

Material description :	sandy slightly gravelly silty CLAY
Remarks :	Soils with clay or silt content between 15% - 35% can be classified as clay or silt depending on the field Engineers assessment of in-situ behaviour. Where material is for re-use and therefore disturbed, only soils with clay or silt >35% are classified as clay or silt

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BS 1377 Particle Size Analysis

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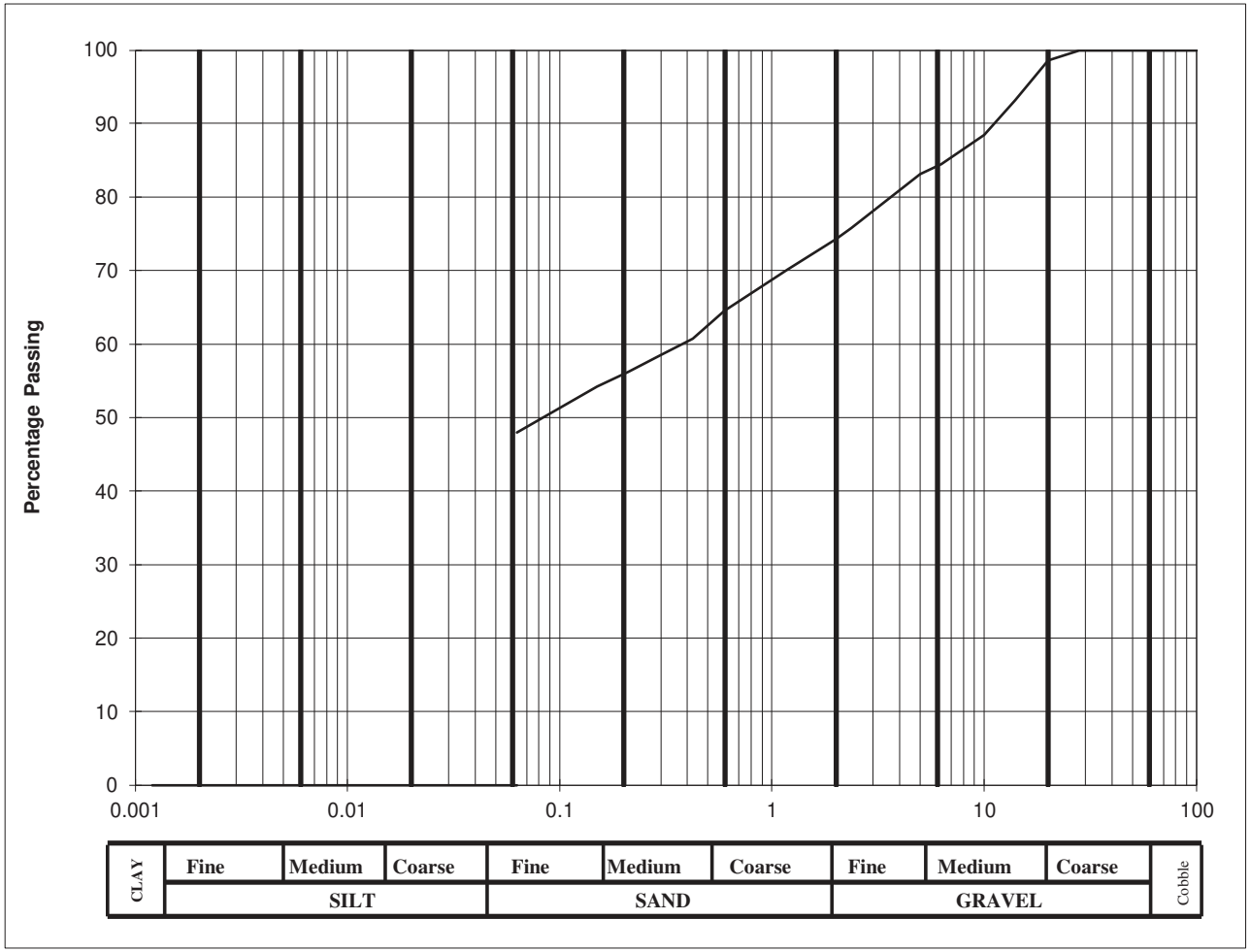
BS Sieve size, mm	Percent passing	Hydrometer analysis	
		Diameter, mm	% passing
100	100	**0.0630**	
90	100	**0.0200**	
75	100	**0.0060**	
63	100	**0.0020**	
50	100		
37.5	100		
28	100		
20	98.6		
14	93.2		
10	88.4		
6.3	84.5		
5.0	83.1		
2.36	75.8		
2.00	74.2		
1.18	70.1		
0.600	64.5		
0.425	60.7		
0.300	58.5		
0.212	56.2		
0.150	54.2		
0.063	48		

Cobbles, %	0
Gravel, %	26
Sand, %	26
Clay / Silt, %	48



Client :	Sky Castle Ltd.
Project :	Moygaddy

Lab. No :	21/860
Sample No :	MK44

Hole ID :	TP 04
Depth, m :	1.00

Material description :	slightly sandy slightly gravelly silty CLAY
Remarks :	Soils with clay or silt content between 15% - 35% can be classified as clay or silt depending on the field Engineers assessment of in-situ behaviour. Where material is for re-use and therefore disturbed, only soils with clay or silt >35% are classified as clay or silt

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BS 1377 Particle Size Analysis

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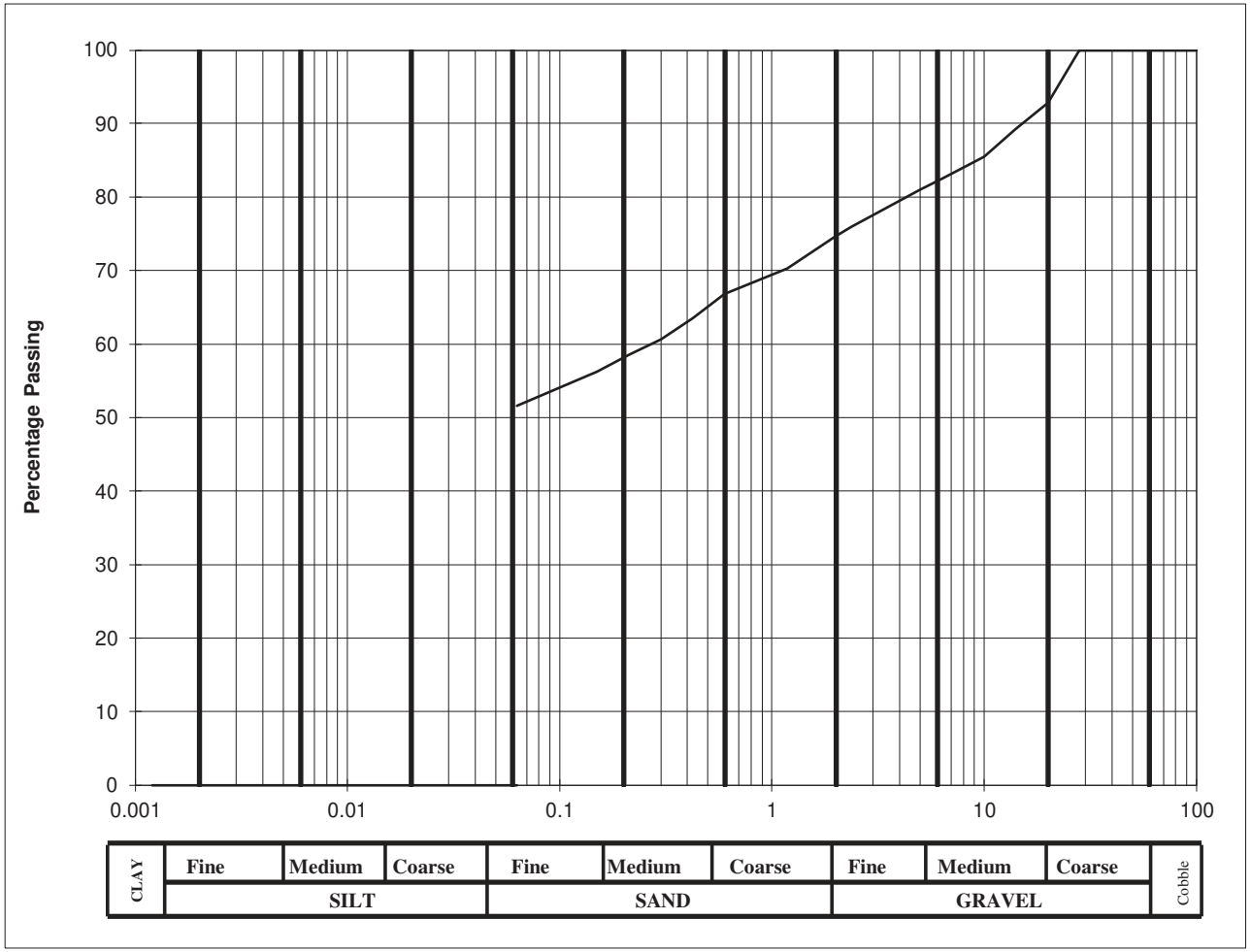
BS Sieve size, mm	Percent passing	Hydrometer analysis	
		Diameter, mm	% passing
100	100	**0.0630**	
90	100	**0.0200**	
75	100	**0.0060**	
63	100	**0.0020**	
50	100		
37.5	100		
28	100		
20	92.8		
14	89.2		
10	85.5		
6.3	82.4		
5.0	81		
2.36	75.9		
2.00	74.7		
1.18	70.3		
0.600	66.8		
0.425	63.5		
0.300	60.6		
0.212	58.5		
0.150	56.2		
0.063	52		

Cobbles, %	0
Gravel, %	25
Sand, %	23
Clay / Silt, %	52



Client :	Sky Castle Ltd.
Project :	Moygaddy

Lab. No :	21/863
Sample No :	MK47

Hole ID :	TP 06
Depth, m :	1.00

Material description :	slightly sandy slightly gravelly silty CLAY
Remarks :	Soils with clay or silt content between 15% - 35% can be classified as clay or silt depending on the field Engineers assessment of in-situ behaviour. Where material is for re-use and therefore disturbed, only soils with clay or silt >35% are classified as clay or silt

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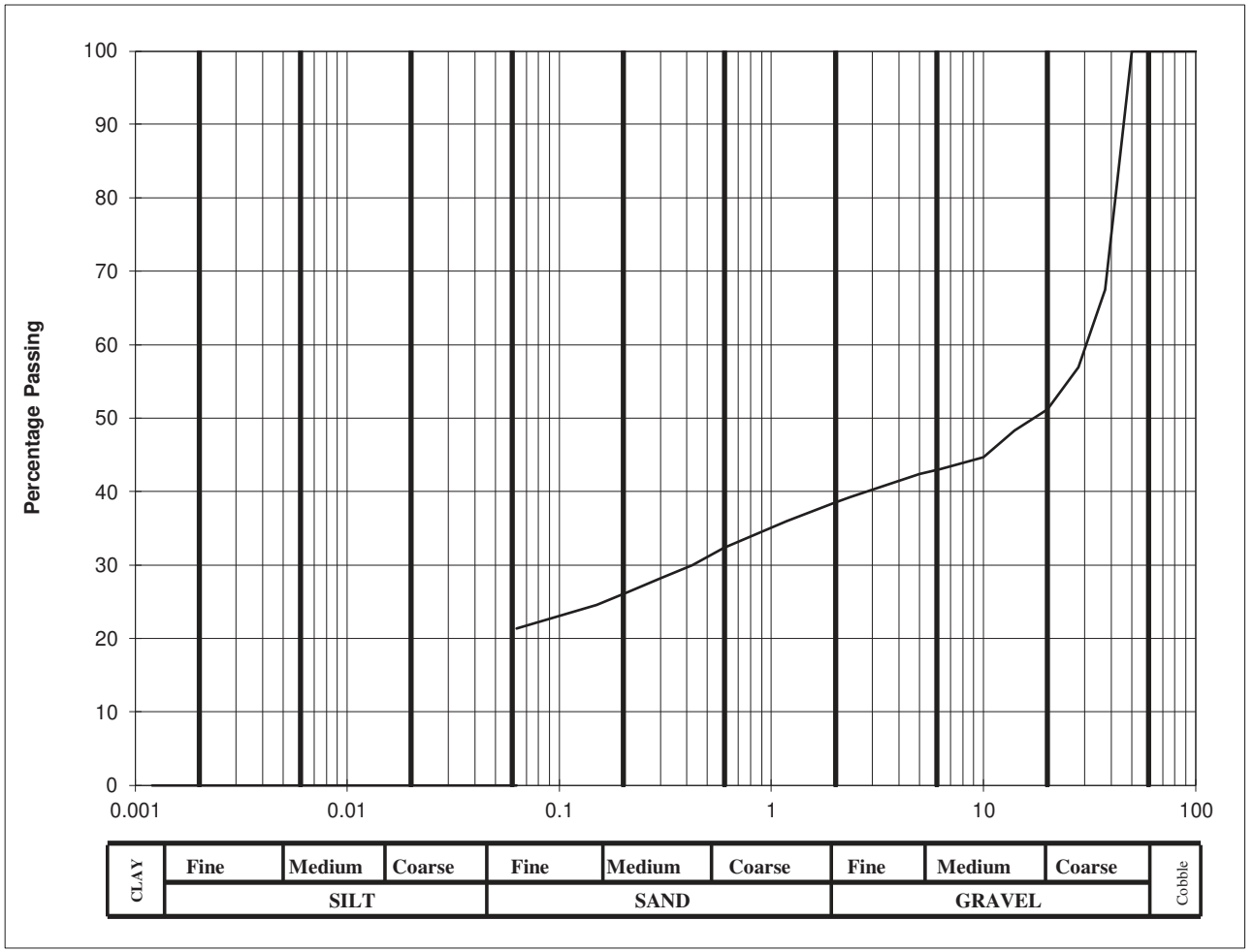
BS Sieve size, mm	Percent passing	Hydrometer analysis	
		Diameter, mm	% passing
100	100	**0.0630**	
90	100	**0.0200**	
75	100	**0.0060**	
63	100	**0.0020**	
50	100		
37.5	67.5		
28	56.9		
20	51.2		
14	48.3		
10	44.7		
6.3	43.1		
5.0	42.4		
2.36	39.3		
2.00	38.5		
1.18	36		
0.600	32.3		
0.425	30		
0.300	28.2		
0.212	26.3		
0.150	24.6		
0.063	21		

Cobbles, %	0
Gravel, %	62
Sand, %	18
Clay / Silt, %	21



Client :	Sky Castle Ltd.
Project :	Moygaddy

Lab. No :	21/866
Sample No :	MK38

Hole ID :	TP 08
Depth, m :	1.00

Material description :	slightly sandy gravelly silty CLAY
Remarks :	Soils with clay or silt content between 15% - 35% can be classified as clay or silt depending on the field Engineers assessment of in-situ behaviour. Where material is for re-use and therefore disturbed, only soils with clay or silt >35% are classified as clay or silt

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BS 1377 Particle Size Analysis

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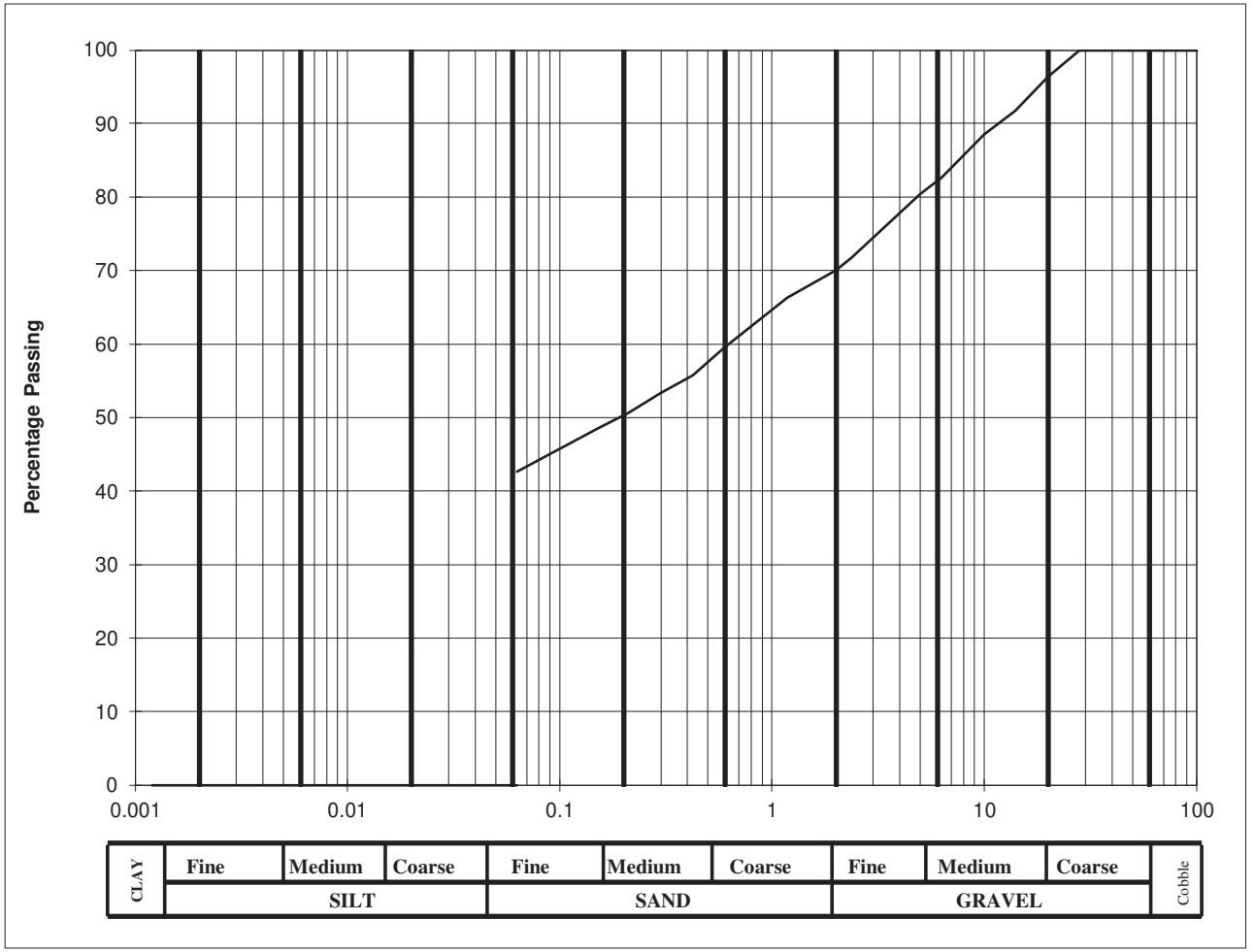
BS Sieve size, mm	Percent passing	Hydrometer analysis	
		Diameter, mm	% passing
100	100	**0.0630**	
90	100	**0.0200**	
75	100	**0.0060**	
63	100	**0.0020**	
50	100		
37.5	100		
28	100		
20	96.4		
14	91.7		
10	88.5		
6.3	82.6		
5.0	80.4		
2.36	71.7		
2.00	70		
1.18	66.3		
0.600	59.5		
0.425	55.7		
0.300	53.4		
0.212	50.7		
0.150	48.5		
0.063	43		

Cobbles, %	0
Gravel, %	30
Sand, %	27
Clay / Silt, %	43



Client :	Sky Castle Ltd.
Project :	Moygaddy

Lab. No :	21/869
Sample No :	MK63

Hole ID :	TP 10
Depth, m :	1.00

Material description :	slightly sandy slightly gravelly silty CLAY
Remarks :	Soils with clay or silt content between 15% - 35% can be classified as clay or silt depending on the field Engineers assessment of in-situ behaviour. Where material is for re-use and therefore disturbed, only soils with clay or silt >35% are classified as clay or silt

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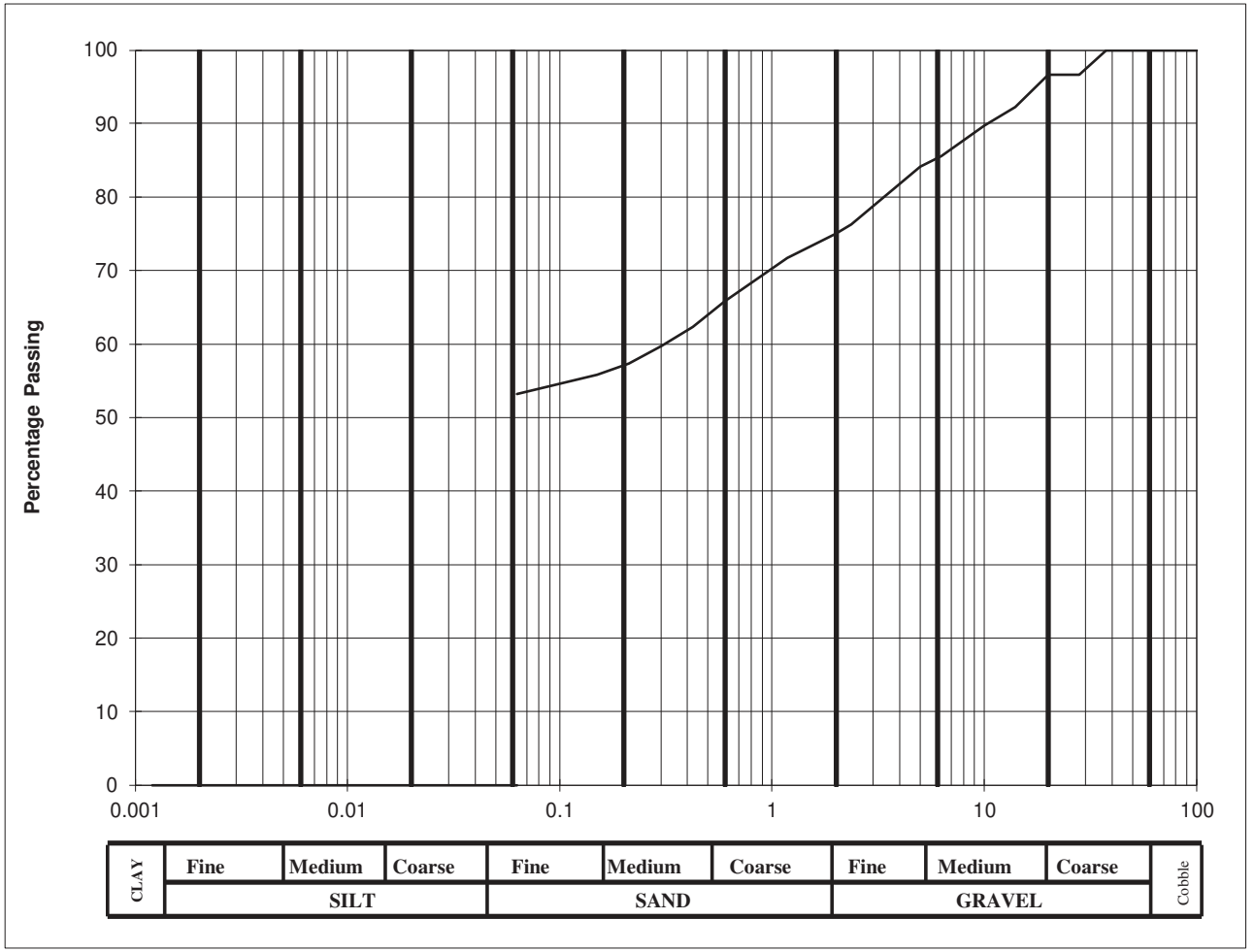
BS Sieve size, mm	Percent passing	Hydrometer analysis	
		Diameter, mm	% passing
100	100	**0.0630**	
90	100	**0.0200**	
75	100	**0.0060**	
63	100	**0.0020**	
50	100		
37.5	100		
28	96.6		
20	96.6		
14	92.2		
10	89.7		
6.3	85.6		
5.0	84.1		
2.36	76.3		
2.00	75		
1.18	71.7		
0.600	65.8		
0.425	62.3		
0.300	59.7		
0.212	57.3		
0.150	55.8		
0.063	53		

Cobbles, %	0
Gravel, %	25
Sand, %	22
Clay / Silt, %	53



Client :	Sky Castle Ltd.
Project :	Moygaddy

Lab. No :	21/871
Sample No :	MK58

Hole ID :	TP 11
Depth, m :	1.50

Material description :	slightly sandy slightly gravelly silty CLAY
Remarks :	Soils with clay or silt content between 15% - 35% can be classified as clay or silt depending on the field Engineers assessment of in-situ behaviour. Where material is for re-use and therefore disturbed, only soils with clay or silt >35% are classified as clay or silt

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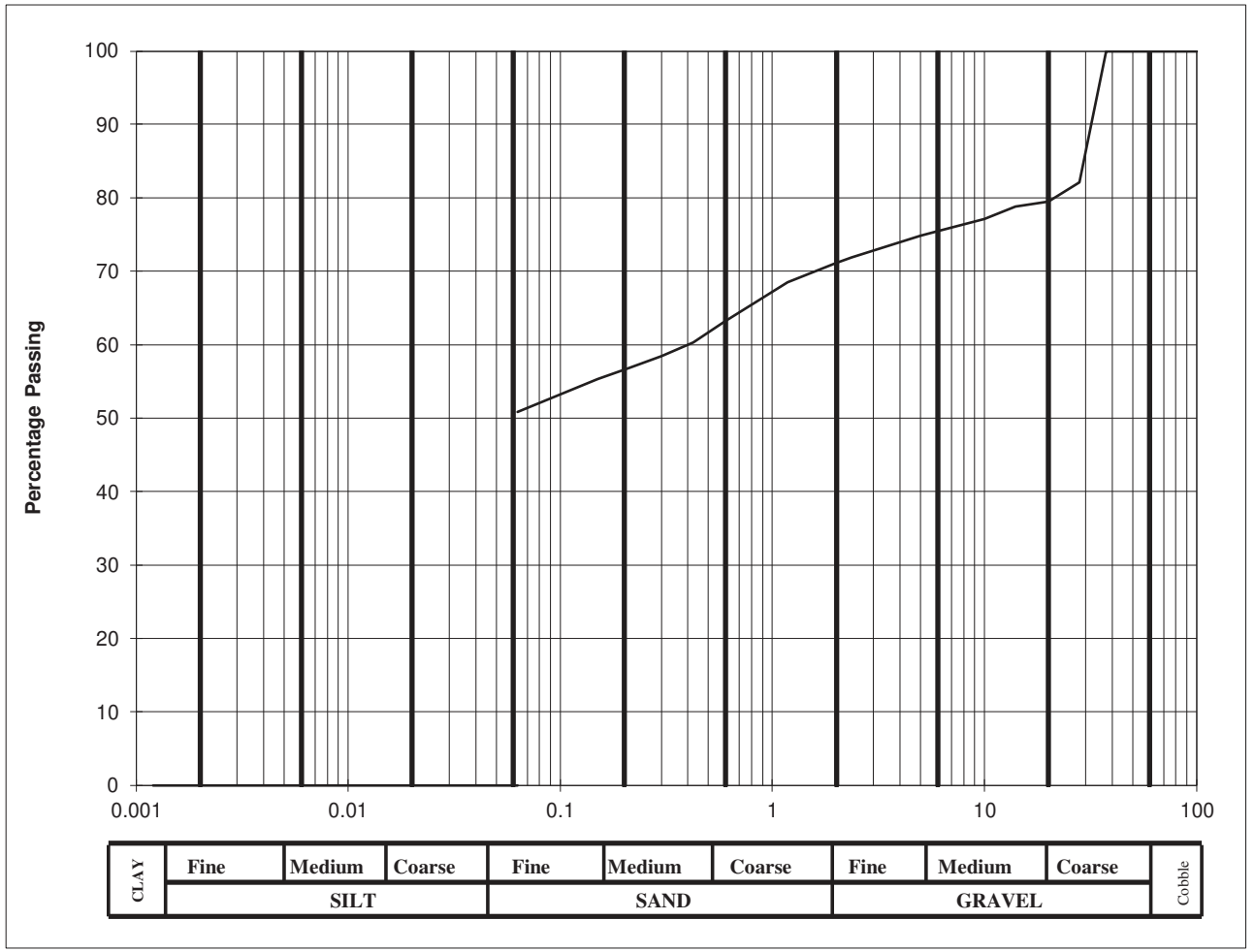
BS Sieve size, mm	Percent passing	Hydrometer analysis	
		Diameter, mm	% passing
100	100	**0.0630**	
90	100	**0.0200**	
75	100	**0.0060**	
63	100	**0.0020**	
50	100		
37.5	100		
28	82.1		
20	79.5		
14	78.8		
10	77.1		
6.3	75.6		
5.0	74.8		
2.36	71.9		
2.00	71.1		
1.18	68.5		
0.600	63.2		
0.425	60.3		
0.300	58.4		
0.212	56.8		
0.150	55.3		
0.063	51		



Cobbles, %	0
Gravel, %	29
Sand, %	20
Clay / Silt, %	51

Client :	Sky Castle Ltd.
Project :	Moygaddy

Lab. No :	21/873
Sample No :	MK35

Hole ID :	TP 12
Depth, m :	1.00

Material description :	slightly sandy slightly gravelly silty CLAY
Remarks :	Soils with clay or silt content between 15% - 35% can be classified as clay or silt depending on the field Engineers assessment of in-situ behaviour. Where material is for re-use and therefore disturbed, only soils with clay or silt >35% are classified as clay or silt

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BS 1377 Particle Size Analysis

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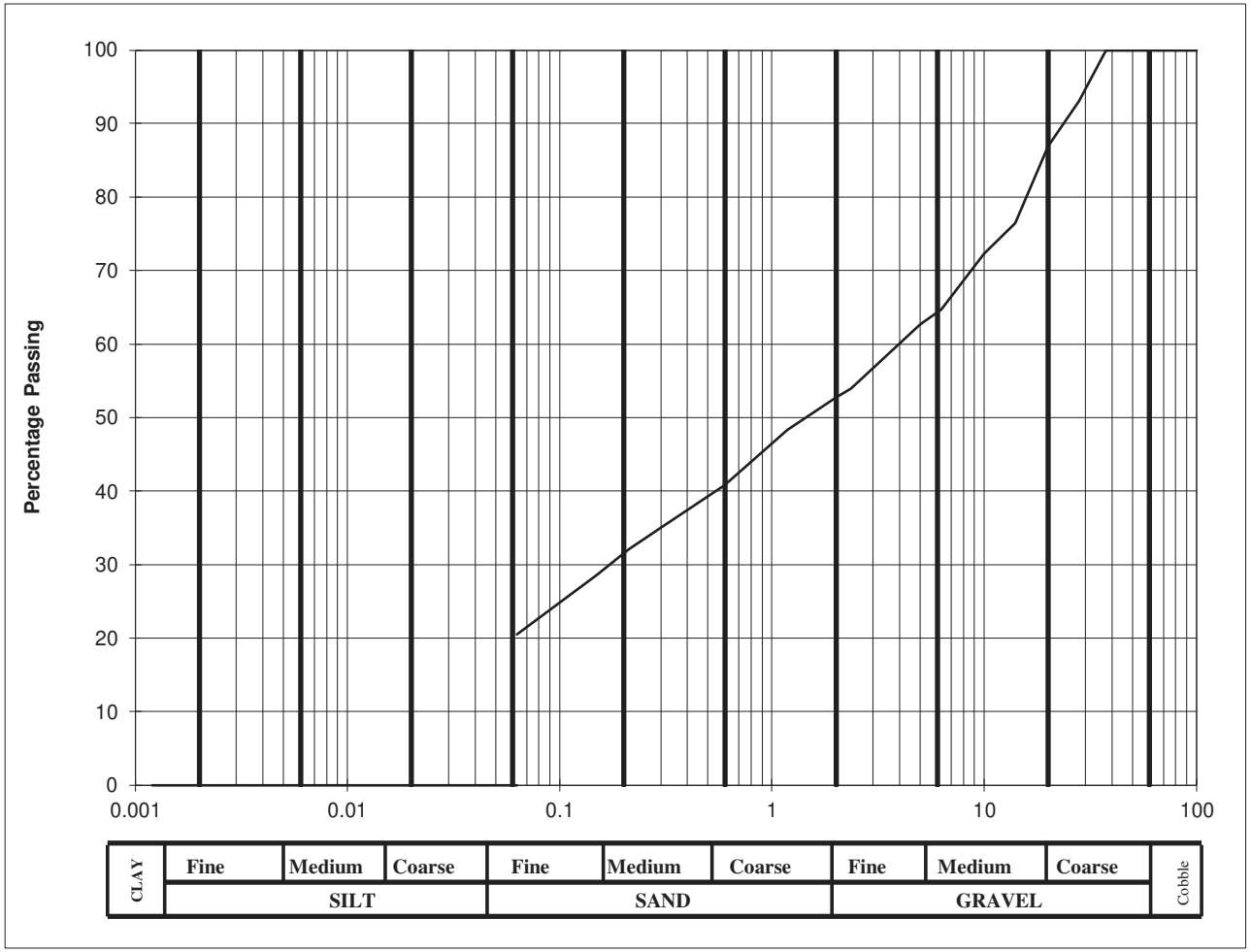
BS Sieve size, mm	Percent passing	Hydrometer analysis	
		Diameter, mm	% passing
100	100	**0.0630**	
90	100	**0.0200**	
75	100	**0.0060**	
63	100	**0.0020**	
50	100		
37.5	100		
28	93.1		
20	86.9		
14	76.4		
10	72.3		
6.3	64.7		
5.0	62.7		
2.36	54		
2.00	52.7		
1.18	48.3		
0.600	40.8		
0.425	37.9		
0.300	35		
0.212	32.1		
0.150	28.6		
0.063	21		



Cobbles, %	0
Gravel, %	47
Sand, %	32
Clay / Silt, %	21

Client :	Sky Castle Ltd.
Project :	Moygaddy

Lab. No :	21/875
Sample No :	MK29

Hole ID :	TP 13
Depth, m :	1.50

Material description :	slightly sandy gravelly silty CLAY
Remarks :	Soils with clay or silt content between 15% - 35% can be classified as clay or silt depending on the field Engineers assessment of in-situ behaviour. Where material is for re-use and therefore disturbed, only soils with clay or silt >35% are classified as clay or silt

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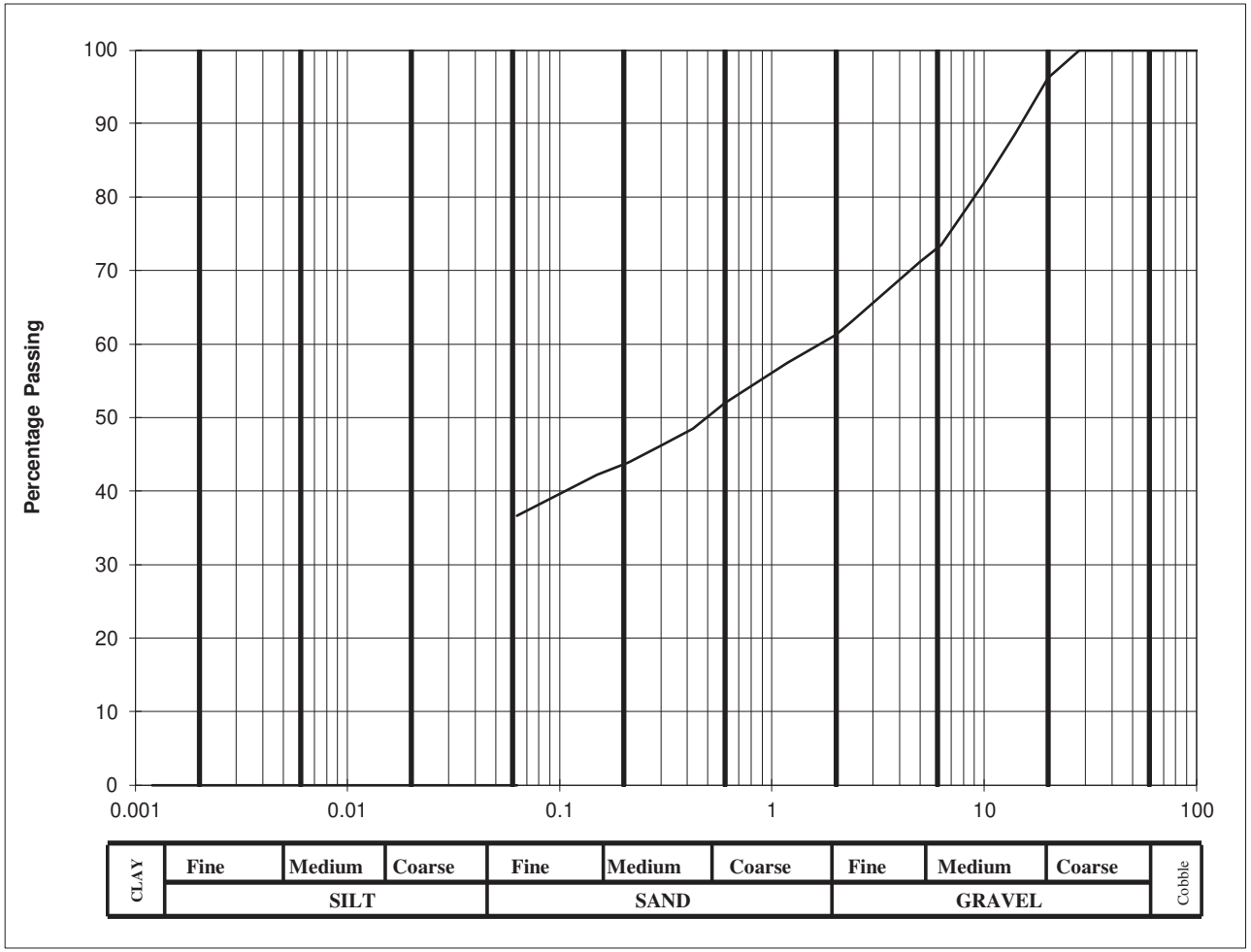
BS Sieve size, mm	Percent passing	Hydrometer analysis	
		Diameter, mm	% passing
100	100	**0.0630**	
90	100	**0.0200**	
75	100	**0.0060**	
63	100	**0.0020**	
50	100		
37.5	100		
28	100		
20	96.2		
14	88.6		
10	81.9		
6.3	73.5		
5.0	71.2		
2.36	63		
2.00	61.2		
1.18	57.4		
0.600	51.9		
0.425	48.5		
0.300	46.2		
0.212	43.9		
0.150	42.2		
0.063	37		

Cobbles, %	0
Gravel, %	39
Sand, %	24
Clay / Silt, %	37



Client :	Sky Castle Ltd.
Project :	Moygaddy

Lab. No :	21/878
Sample No :	MK23

Hole ID :	TP 15
Depth, m :	1.00

Material description :	slightly sandy gravelly silty CLAY
Remarks :	Soils with clay or silt content between 15% - 35% can be classified as clay or silt depending on the field Engineers assessment of in-situ behaviour. Where material is for re-use and therefore disturbed, only soils with clay or silt >35% are classified as clay or silt

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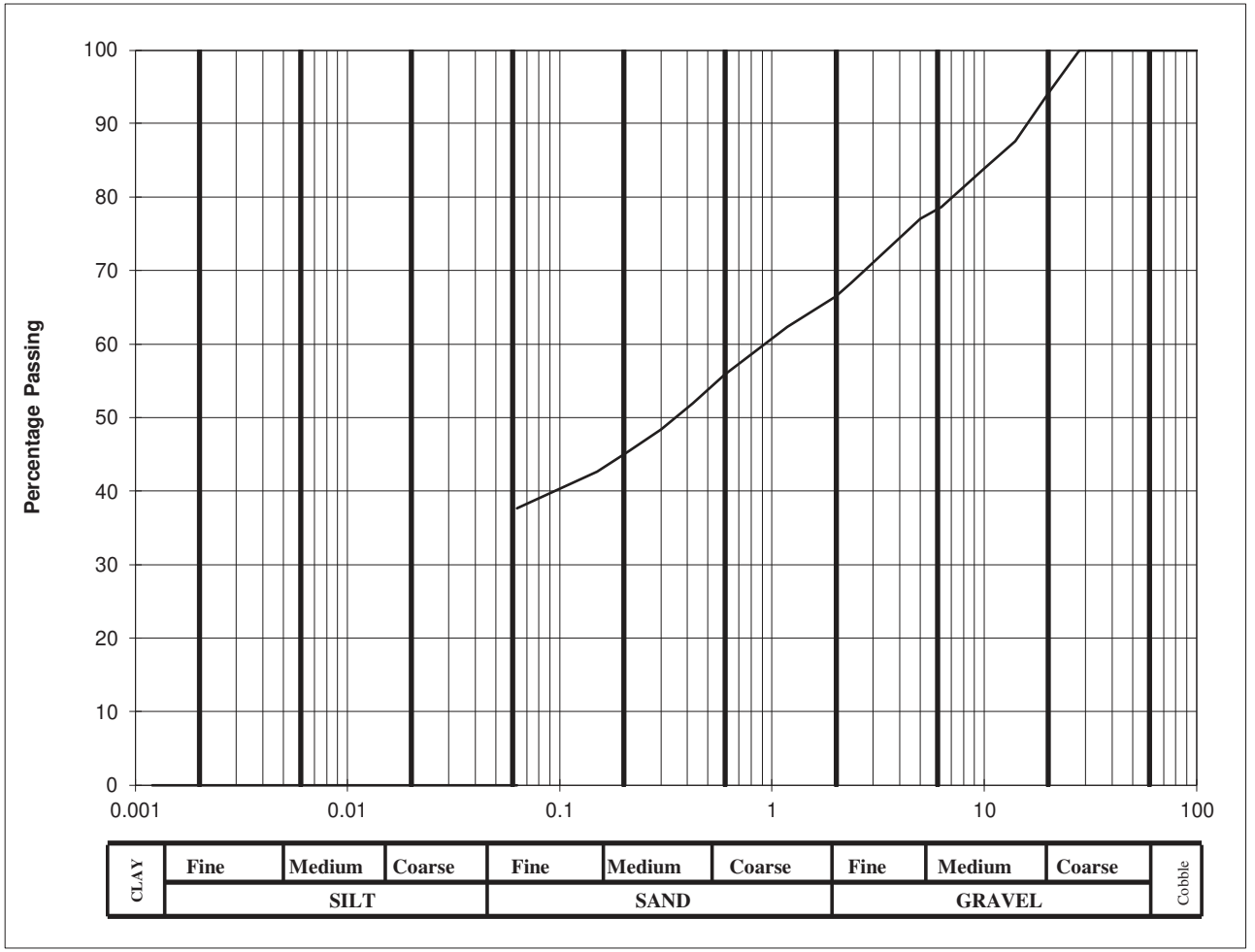
Site Investigations Ltd

BS 1377 Particle Size Analysis

Site Investigations Limited

BS Sieve size, mm	Percent passing	Hydrometer analysis	
		Diameter, mm	% passing
100	100	**0.0630**	
90	100	**0.0200**	
75	100	**0.0060**	
63	100	**0.0020**	
50	100		
37.5	100		
28	100		
20	94.1		
14	87.6		
10	83.9		
6.3	78.6		
5.0	77		
2.36	68.3		
2.00	66.5		
1.18	62.3		
0.600	55.8		
0.425	51.9		
0.300	48.4		
0.212	45.4		
0.150	42.6		
0.063	38		

Cobbles, %	0
Gravel, %	34
Sand, %	29
Clay / Silt, %	38



Client :	Sky Castle Ltd.
Project :	Moygaddy

Lab. No :	21/883
Sample No :	MK05

Hole ID :	TP 19
Depth, m :	1.00

Material description :	slightly sandy slightly gravelly silty CLAY
Remarks :	Soils with clay or silt content between 15% - 35% can be classified as clay or silt depending on the field Engineers assessment of in-situ behaviour. Where material is for re-use and therefore disturbed, only soils with clay or silt >35% are classified as clay or silt

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_____Paddy McGonagle
Site Investigations Ltd

California Bearing Ratio (CBR) In accordance with BS1377: Part 4: Method 7

Client	Sky Castle Ltd.
Site	Moygaddy
S.I. File No	5863 / 21
Test Lab	Site Investigations Ltd., Carhugar The Grange, 12th Lock Rd., Lucan Co. Dublin. Tel (01) 6108768 Email info@siteinvestigations.ie
Report Date	12th July 2021

CBR No	Depth (mBGL)	Sample No	Sample Type	Lab Ref	Moisture Content (%)	CBR Value (%)	Location / Remarks
TP01	0.50	MK14	CBR	21/855	10.3	7.5	
TP02	0.50	MK07	CBR	21/857	14.8	5.2	
TP03	0.50	MK02	CBR	21/858	16.5	5.2	
TP04	0.50	MK43	CBR	21/859	8.8	9.7	
TP05	0.50	MK39	CBR	21/861	12.3	8.2	
TP06	0.50	MK46	CBR	21/862	10.4	9.5	
TP07	0.50	MK51	CBR	21/864	12.9	8.8	
TP08	0.50	MK37	CBR	21/865	17.0	4.3	
TP09	0.50	MK60	CBR	21/867	15.3	7.4	
TP10	0.50	MK62	CBR	21/868	10.1	10.9	
TP11	0.50	MK57	CBR	21/870	17.5	5.0	
TP12	0.50	MK34	CBR	21/872	14.8	8.9	
TP13	0.50	MK27	CBR	21/874	12.1	11.2	
TP14	0.50	MK24	CBR	21/876	9.1	11.6	
TP15	0.50	MK22	CBR	21/877	17.9	4.1	
TP16	0.50	MK54	CBR	21/879	17.6	5.2	
TP17	0.50	MK17	CBR	21/880	12.7	6.8	
TP18	0.50	MK11	CBR	21/881	10.8	9.3	
TP19	0.50	MK04	CBR	21/882	15.7	5.3	
TP20	0.50	MK19	CBR	21/884	12.6	11.4	
TP21	0.50	MK31	CBR	21/885	10.8	10.3	

Printed 04/08/2021

_____Paddy McGonagle
Site Investigations Ltd

Chemical Testing
In accordance with BS 1377: Part 3

Client	Sky Castle Ltd.
Site	Moygaddy
S.I. File No	5863 / 21
Test Lab	Site Investigations Ltd., Carhugar The Grange, 12th Lock Rd., Lucan Co. Dublin. Tel (01) 6108768 Email:info@siteinvestigations.ie
Report Date	12th July 2021

Hole Id	Depth (mBGL)	Sample No	Lab Ref	pH Value	Water Soluble Sulphate Content (2:1 Water-soil extract) (SO_3) g/L	Water Soluble Sulphate Content (2:1 Water-soil extract) (SO_3) %	Loss on Ignition (Organic Content) %	Chloride ion Content (water:soil ratio 2:1) %	% passing 2mm	Remarks
TP01	1.00	MK15	21/856	8.59	0.120	0.085		0.26	70.7	
TP04	1.00	MK44	21/860	8.75	0.126	0.093		0.21	74.2	
TP06	1.00	MK47	21/863	8.80	0.126	0.094		0.23	74.7	
TP08	1.00	MK38	21/866	8.73	0.117	0.045		0.22	38.5	
TP10	1.00	MK63	21/869	8.66	0.122	0.085		0.24	70.0	
TP12	1.00	MK35	21/873	8.71	0.127	0.090		0.24	71.1	
TP15	1.00	MK23	21/878	8.73	0.123	0.075		0.24	61.2	
TP19	1.00	MK05	21/883	8.67	0.120	0.080		0.26	66.5	

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Site Investigations Ltd.

Appendix 7

Geotechnical Rock Laboratory Test Results

Point Load Test Broch,E. & Franklin,J.A.,IRSM Point Load Test Method

Uniaxial Compressive Strength in accordance with BS1881

Client	Sky Castle Ltd.
Site	Moygaddy
S.I. File No	5863 / 19
Test Lab	Site Investigations Ltd., Carhugar The Grange, 12th Lock Rd., Lucan Co. Dublin. Tel (01) 6108768 Email:info@siteinvestigations.ie
Report Date	22nd July 2021

Hole ID	Depth (m)	Lab Ref No.	Sample Type	Diameter / Height (mm)	Test Type	Is (MN/m^2)	Compressive Strength (MPa)	Strength Designation	Approx. Equivalent UCS Value (MPa)	Remarks
RC04	6.78	21/931	C	65	PL	4.73		Very Strong	119.5	Tested Diametrically
RC04	8.47	21/932	C	65	PL	3.79		Strong	96.0	Tested Diametrically
RC05	6.20	21/933	C	65	PL	4.50		Very Strong	114.0	Tested Diametrically
RC05	8.17	21/934	C	65	PL	2.13		Strong	54.0	Tested Diametrically
RC06	5.45	21/935	C	65	PL	3.43		Strong	87.0	Tested Diametrically
RC06	6.96	21/936	C	65	PL	4.50		Very Strong	114.0	Tested Diametrically
RC07	6.20	21/937	C	65	PL	4.50		Very Strong	114.0	Tested Diametrically
RC07	7.10	21/938	C	65	PL	4.26		Very Strong	108.0	Tested Diametrically
RC08	7.07	21/939	C	65	PL	1.70		Moderately Strong	43.0	Tested Diametrically
RC08	8.24	21/940	C	65	PL	2.96		Strong	75.0	Tested Diametrically
RC09	6.40	21/941	C	65	PL	5.21		Very Strong	132.0	Tested Diametrically
RC09	7.00	21/942	C	65	PL	1.23		Moderately Strong	31.0	Tested Diametrically
RC10	3.27	21/943	C	65	PL	4.38		Very Strong	111.0	Tested Diametrically
RC10	4.10	21/944	C	65	PL	2.60		Strong	66.0	Tested Diametrically
RC11	6.80	21/945	C	65	PL	4.38		Very Strong	111.0	Tested Diametrically
RC11	8.90	21/946	C	65	PL	3.79		Strong	96.0	Tested Diametrically
RC17	8.35	21/947	C	65	PL	3.55		Strong	90.0	Tested Diametrically
RC17	8.29	21/948	C	65	PL	4.50		Very Strong	114.0	Tested Diametrically
RC19	5.50	21/949	C	65	PL	4.14		Very Strong	104.5	Tested Diametrically
RC19	6.80	21/950	C	65	PL	4.62		Very Strong	108.0	Tested Diametrically

_____Paddy McGonagle
Site Investigations Ltd

Appendix 8

Survey Data

Survey Data

Location	Irish Transverse Mercator		Elevation	Irish National Grid	
	Easting	Northing		Easting	Northing
Boreholes					
BH01	693986.514	739217.399	56.45	294056.159	239192.090
BH02	693926.010	739294.840	56.95	293995.641	239269.547
BH03	694117.023	739155.527	55.01	294186.696	239130.205
BH04	693732.812	739457.539	56.85	293802.400	239432.280
BH05	693928.844	739604.500	58.72	293998.473	239579.274
BH06	693927.326	739421.930	57.55	293996.956	239396.665
BH07	694241.270	739411.796	58.99	294310.968	239386.531
BH08	694331.307	739691.333	61.30	294401.022	239666.129
BH09	694598.661	739652.377	61.68	294668.434	239627.166
BH10	694446.855	739466.694	59.25	294516.597	239441.442
BH11	694790.229	739307.430	59.88	294860.046	239282.145
BH12	694615.966	739002.198	56.86	294685.748	238976.846
BH13	694659.374	738763.773	52.09	294729.167	238738.369
BH14	694546.422	738784.570	53.46	294616.190	238759.170
BH15	694458.907	738814.666	54.44	294528.656	238789.272
BH16	693655.329	739258.288	49.53	293724.902	239232.986
BH17	694518.865	738836.591	54.89	294588.627	238811.202
BH18	694562.423	738770.148	52.93	294632.195	238744.745
Rotary Coreholes					
RC04	693637.963	739436.766	56.84	293707.531	239411.502
RC05	693935.222	739548.071	58.60	294004.853	239522.833
RC06	694016.492	739390.864	57.65	294086.142	239365.593
RC07	694142.350	739365.230	57.84	294212.027	239339.954
RC08	694212.597	739630.304	60.48	294282.287	239605.086
RC09	694497.168	739610.386	61.10	294566.919	239585.165
RC10	694428.449	739378.834	57.86	294498.187	239353.562
RC11	694711.726	739248.236	59.49	294781.526	239222.938
RC12	694562.423	738770.148	52.93	294632.195	238744.745
RC13	694473.806	738837.204	55.00	294543.558	238811.815
RC14	694269.076	739051.513	55.61	294338.783	239026.170
RC16	694648.959	738608.023	45.96	294718.751	238582.586
RC17	693707.911	739303.990	54.78	293777.495	239278.698
RC18	693667.400	739242.451	49.86	293736.976	239217.145
RC19	694613.822	739485.171	58.39	294683.599	239459.924
RC20	694717.266	739392.581	59.02	294787.066	239367.314
Trial Pits					
TP01	693958.608	739151.571	55.32	294028.247	239126.247
TP02	693988.420	739286.118	57.37	294058.064	239260.824
TP03	693767.173	739286.781	55.26	293836.770	239261.486
TP04	693682.930	739502.916	56.95	293752.507	239477.667

Survey Data

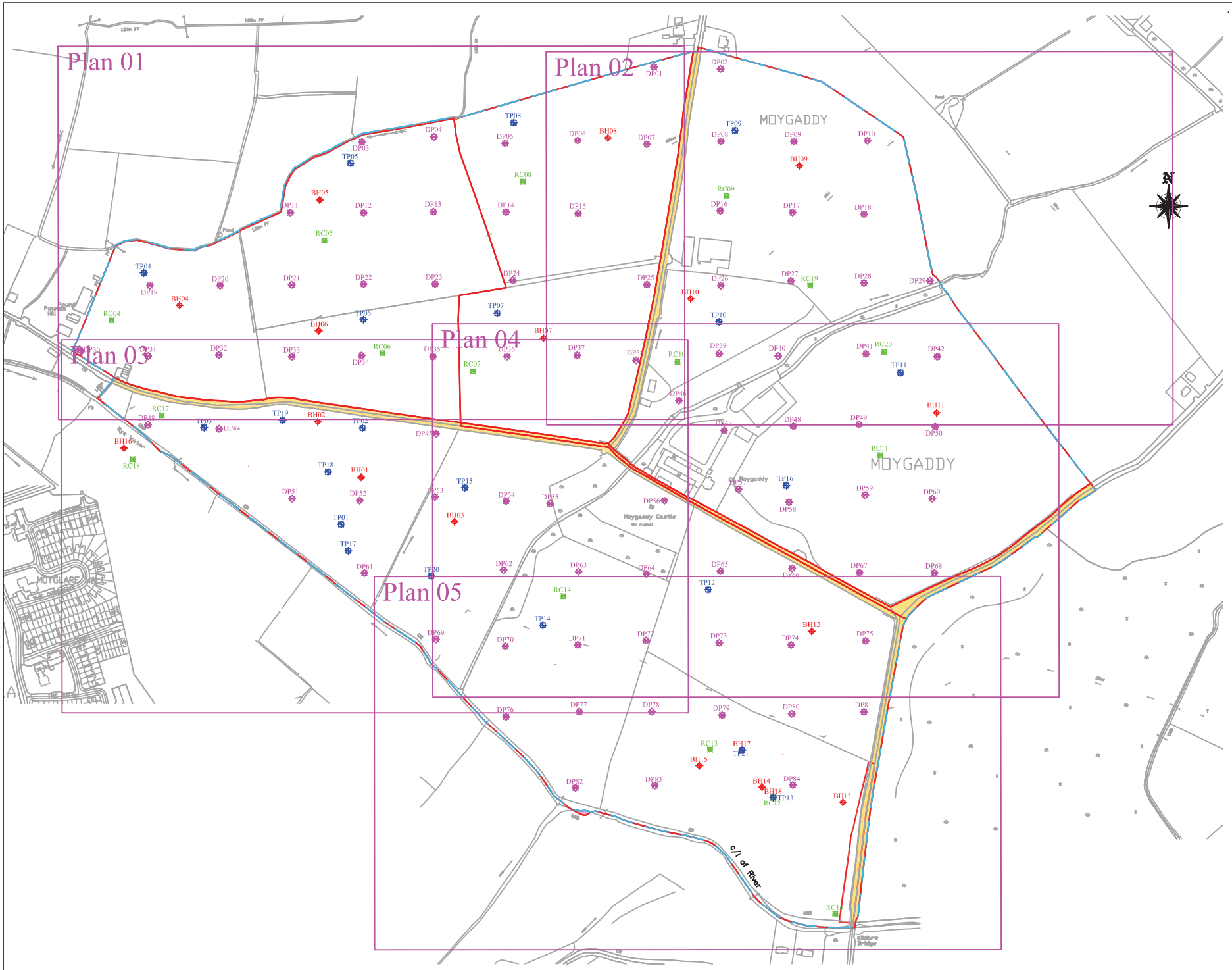
Location	Irish Transverse Mercator		Elevation	Irish National Grid	
	Easting	Northing		Easting	Northing
TP05	693971.792	739656.168	58.70	294041.430	239630.954
TP06	693989.839	739437.563	57.88	294059.483	239412.302
TP07	694176.647	739446.736	58.93	294246.331	239421.478
TP08	694199.733	739712.642	61.26	294269.420	239687.442
TP09	694508.798	739701.821	62.01	294578.551	239676.620
TP10	694486.386	739434.493	58.96	294556.136	239409.234
TP11	694739.889	739363.529	59.42	294809.695	239338.256
TP12	694471.269	739060.502	56.97	294541.019	239035.162
TP13	694562.423	738770.148	52.93	294632.195	238744.745
TP14	694240.465	739010.894	55.01	294310.166	238985.542
TP15	694131.238	739202.931	55.37	294200.914	239177.620
TP16	694580.524	739205.916	58.33	294650.296	239180.608
TP17	693968.747	739114.742	54.52	294038.389	239089.410
TP18	693940.121	739224.755	55.98	294009.756	239199.447
TP19	693876.942	739296.996	55.71	293946.562	239271.703
TP20	694084.588	739079.517	55.01	294154.255	239054.179
TP21	694518.865	738836.591	54.89	294588.627	238811.202
Dynamic Probes					
DP01	694395.693	739790.416	62.17	294465.421	239765.234
DP02	694488.532	739787.664	61.87	294558.280	239762.481
DP03	693987.686	739685.908	58.58	294057.327	239660.700
DP04	694088.248	739692.829	59.34	294157.911	239667.624
DP05	694187.716	739683.631	60.98	294257.400	239658.424
DP06	694288.959	739687.709	61.12	294358.665	239662.504
DP07	694385.497	739682.425	61.53	294455.224	239657.219
DP08	694489.069	739686.527	61.51	294558.818	239661.323
DP09	694590.817	739686.475	61.71	294660.588	239661.271
DP10	694693.928	739687.423	60.58	294763.721	239662.220
DP11	693887.836	739587.012	58.01	293957.456	239561.782
DP12	693990.198	739586.789	58.63	294059.841	239561.560
DP13	694087.587	739588.545	58.95	294157.250	239563.317
DP14	694188.942	739587.683	59.62	294258.627	239562.455
DP15	694289.424	739586.183	59.97	294359.131	239560.956
DP16	694488.048	739589.540	60.82	294557.798	239564.315
DP17	694589.076	739587.354	60.73	294658.847	239562.129
DP18	694688.772	739584.729	60.89	294758.565	239559.504
DP19	693691.519	739485.259	57.06	293761.098	239460.006
DP20	693789.642	739485.089	56.56	293859.242	239459.837
DP21	693889.602	739486.389	57.21	293959.224	239461.138
DP22	693990.017	739487.250	58.16	294059.660	239461.999
DP23	694089.764	739487.208	58.44	294159.429	239461.958

Survey Data

Location	Irish Transverse Mercator		Elevation	Irish National Grid	
	Easting	Northing		Easting	Northing
DP24	694198.133	739492.619	59.24	294267.821	239467.371
DP25	694385.716	739486.593	59.28	294455.444	239461.345
DP26	694489.024	739485.194	59.56	294558.775	239459.946
DP27	694586.781	739491.852	58.59	294656.553	239466.606
DP28	694688.953	739488.632	58.31	294758.747	239463.386
DP29	694780.802	739491.934	56.47	294850.615	239466.689
DP30	693593.273	739395.730	56.03	293662.832	239370.457
DP31	693688.922	739386.795	57.17	293758.501	239361.521
DP32	693787.843	739388.255	56.49	293857.444	239362.982
DP33	693889.656	739385.777	56.89	293959.278	239360.504
DP34	693987.346	739387.484	57.60	294056.989	239362.212
DP35	694086.861	739385.871	57.91	294156.526	239360.599
DP36	694190.231	739385.957	58.35	294259.918	239360.686
DP37	694288.456	739387.753	58.62	294358.164	239362.483
DP38	694370.568	739380.643	58.45	294440.294	239355.372
DP39	694486.826	739390.243	58.25	294556.577	239364.974
DP40	694569.043	739386.611	54.78	294638.812	239361.342
DP41	694691.616	739389.831	59.36	294761.411	239364.563
DP42	694791.212	739385.883	58.94	294861.028	239360.615
DP43	693688.642	739290.847	52.18	293758.222	239265.552
DP44	693788.258	739285.161	56.04	293857.859	239259.865
DP45	694091.482	739278.290	56.67	294161.149	239252.995
DP46	694430.386	739324.235	53.90	294500.125	239298.952
DP47	694493.472	739282.726	58.49	294563.225	239257.434
DP48	694590.116	739288.613	59.21	294659.890	239263.323
DP49	694682.452	739291.233	59.96	294752.246	239265.944
DP50	694788.363	739288.137	59.82	294858.180	239262.848
DP51	693890.121	739187.554	55.56	293959.745	239162.238
DP52	693984.693	739184.950	56.07	294054.337	239159.634
DP53	694089.481	739189.955	55.39	294159.148	239164.641
DP54	694189.069	739183.974	55.51	294258.757	239158.659
DP55	694250.676	739180.873	51.64	294320.378	239155.557
DP56	694409.931	739184.774	55.98	294479.667	239159.460
DP57	694513.646	739200.814	58.11	294583.404	239175.504
DP58	694584.206	739182.489	58.08	294653.979	239157.176
DP59	694690.632	739192.594	58.36	294760.428	239167.284
DP60	694784.383	739187.502	58.33	294854.199	239162.191
DP61	693991.061	739083.755	53.29	294060.708	239058.417
DP62	694185.443	739087.742	49.21	294255.131	239062.406
DP63	694290.240	739085.762	55.96	294359.951	239060.426
DP64	694385.154	739082.180	56.76	294454.885	239056.844

Survey Data

Location	Irish Transverse Mercator		Elevation	Irish National Grid	
	Easting	Northing		Easting	Northing
DP65	694488.362	739086.289	57.03	294558.116	239060.954
DP66	694588.543	739090.206	57.41	294658.318	239064.873
DP67	694682.814	739084.421	57.54	294752.609	239059.087
DP68	694787.254	739083.914	56.22	294857.072	239058.581
DP69	694090.959	738991.035	49.72	294160.628	238965.677
DP70	694187.890	738981.735	52.48	294257.580	238956.376
DP71	694289.189	738983.578	55.45	294358.901	238958.220
DP72	694384.733	738989.607	56.10	294454.465	238964.251
DP73	694486.822	738986.510	56.87	294556.576	238961.154
DP74	694586.960	738983.395	56.54	294656.736	238958.039
DP75	694691.101	738989.216	56.20	294760.899	238963.862
DP76	694188.862	738882.936	48.76	294258.553	238857.556
DP77	694291.409	738890.282	54.52	294361.122	238864.904
DP78	694392.533	738890.201	54.87	294462.268	238864.823
DP79	694490.609	738885.308	55.95	294560.365	238859.930
DP80	694587.972	738887.143	55.82	294657.749	238861.766
DP81	694688.909	738889.761	54.95	294758.707	238864.385
DP82	694286.007	738783.740	47.18	294355.719	238758.339
DP83	694396.549	738786.809	53.35	294466.285	238761.409
DP84	694589.396	738787.697	53.34	294659.174	238762.298



Legend:

- Cable Percussive Borehole
- Rotary Corehole
- Trial Pit
- Dynamic Probe

Client:	Sky Castle Ltd
Engineer:	OCSC
Project:	Moygaddy
Date:	04-08-2021
Description:	Site Investigation Plan
Drawing Number:	**SIL5863:Overall**
Scale:	NTS
Rev:	1
Drawn by:	SL

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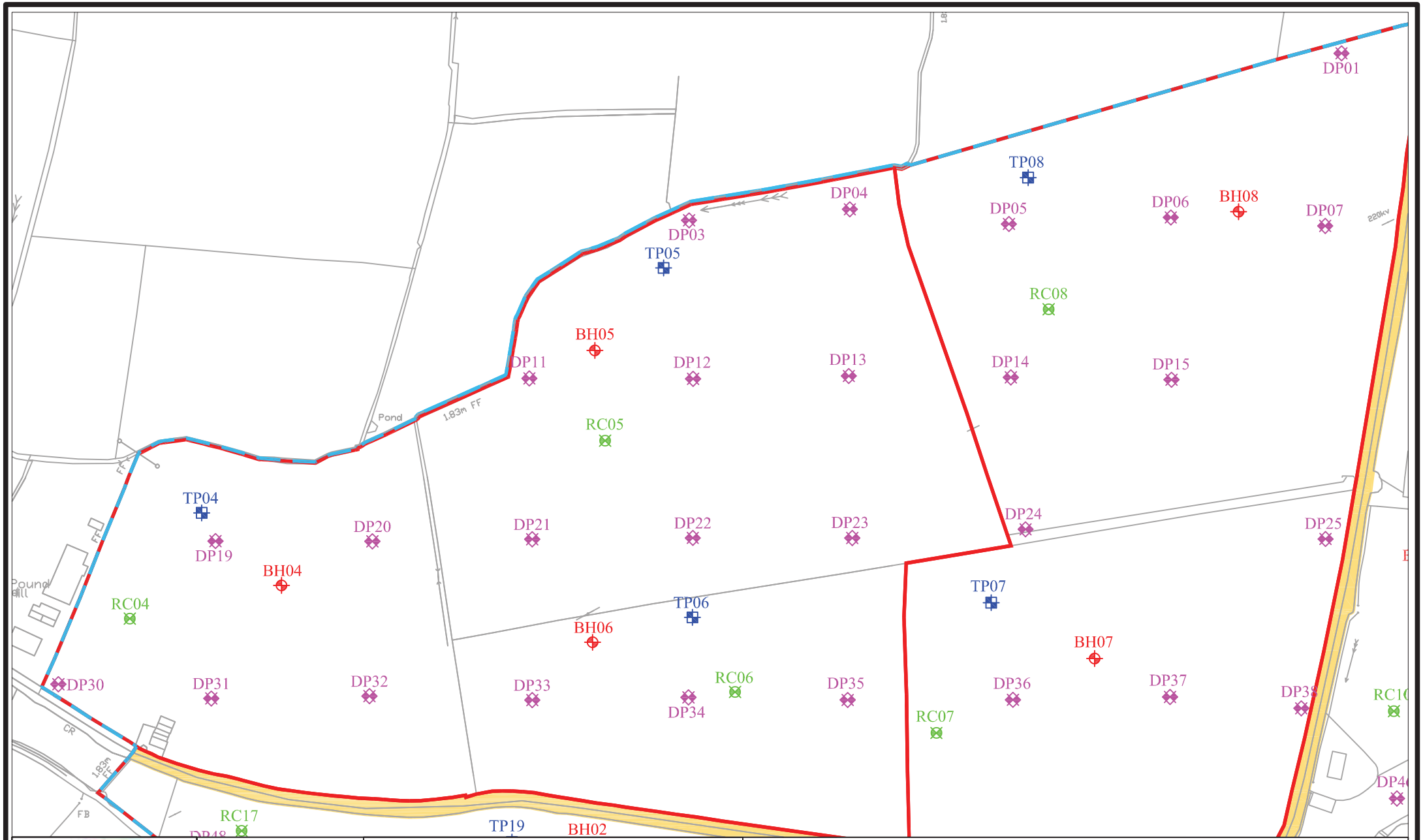

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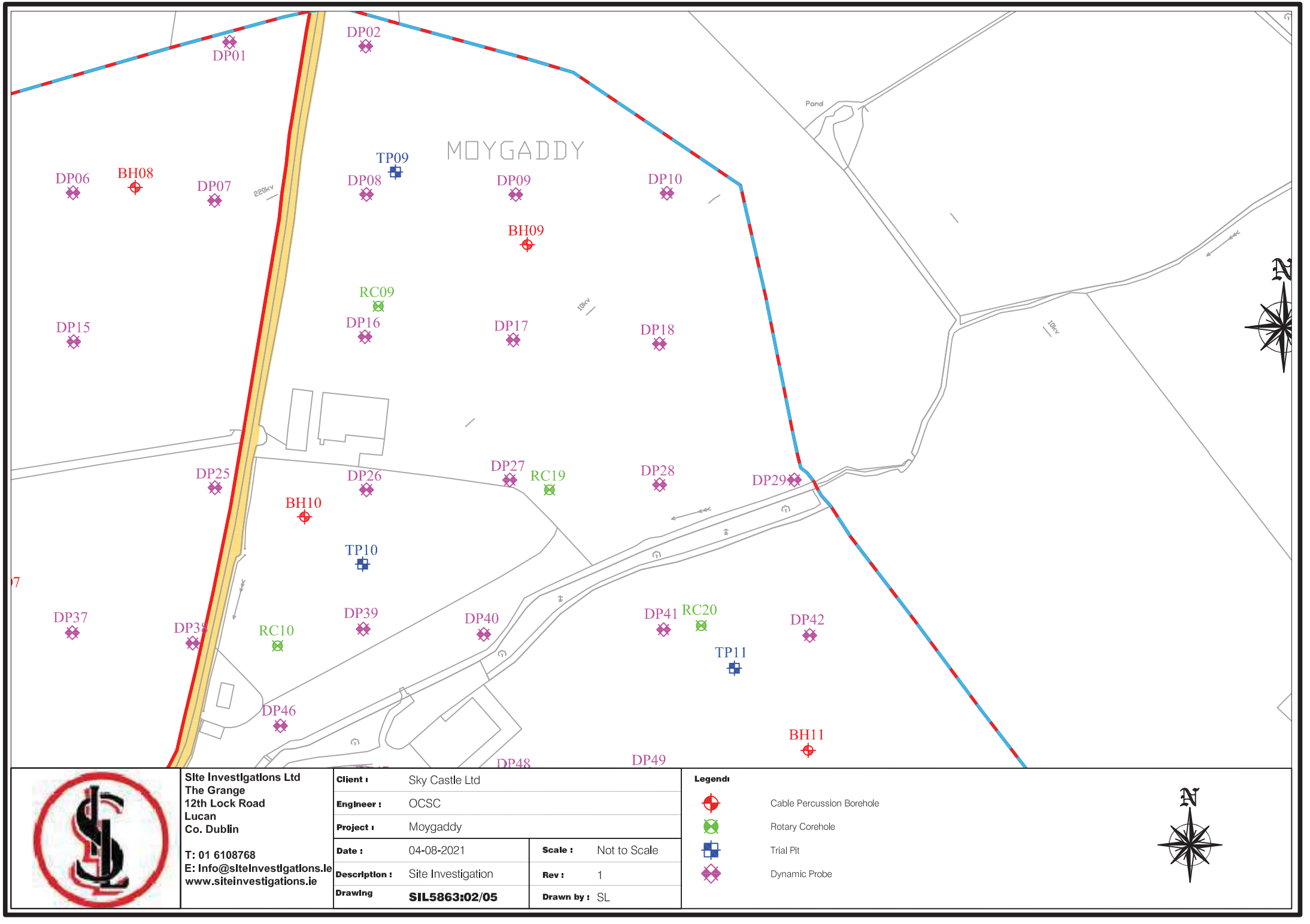
Client :	Sky Castle Ltd
Engineer :	OCSC
Project :	Moygaddy
Date :	04-08-2021
Scale :	Not to Scale
Description :	Site Investigation
Rev :	1
Drawing	**SIL5863:01/05**
Drawn by :	SL

Legend:

- Cable Percussion Borehole
- Rotary Corehole
- Trial Pit
- Dynamic Probe

N



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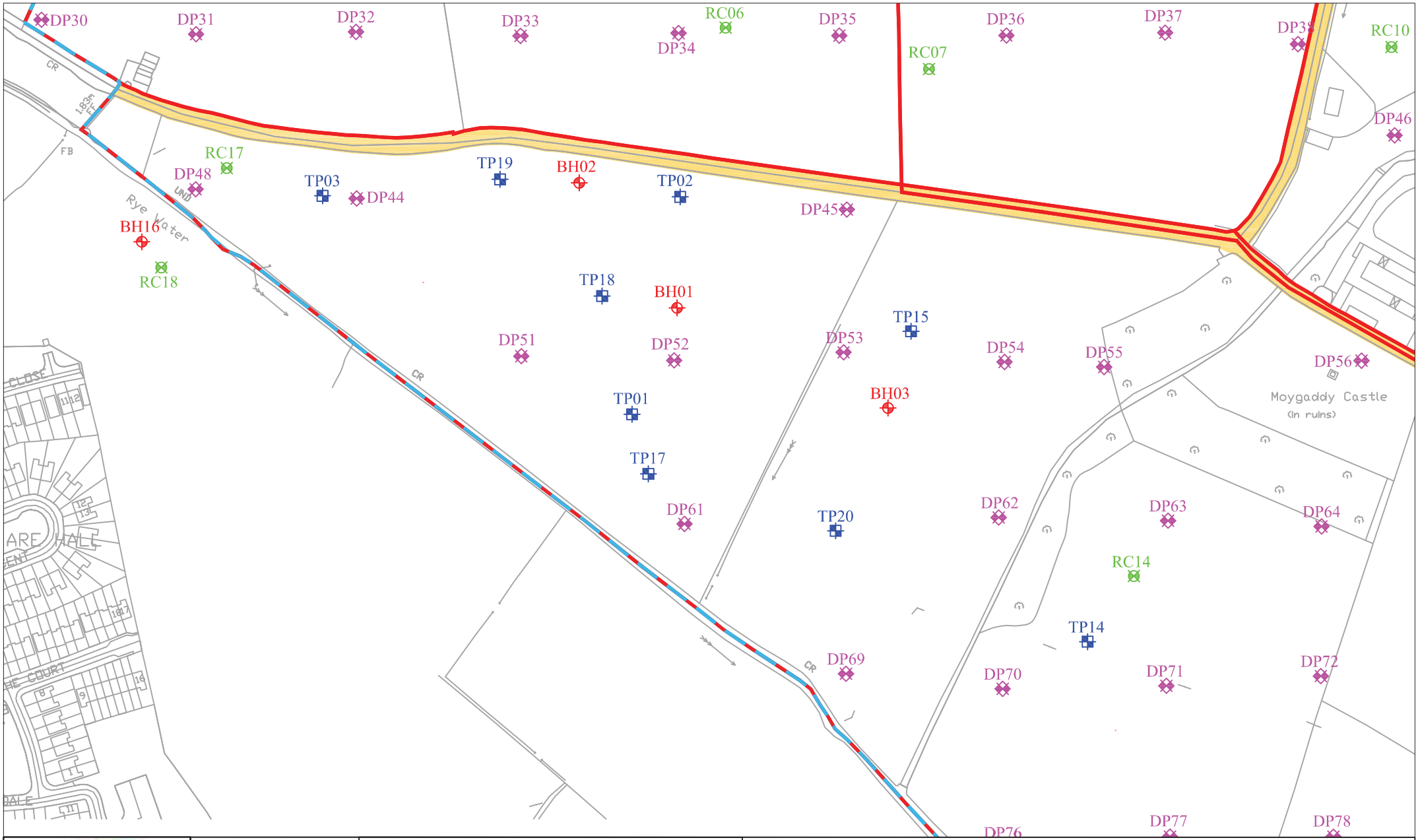
Client :	Sky Castle Ltd		
Engineer :	OCSC		
Project :	Moygaddy		
Date :	04-08-2021	**Scale :**	Not to Scale
Description :	Site Investigation	**Rev :**	1
Drawing	**SIL5863:02/05**	**Drawn by :**	SL

Legend:

- Cable Percussion Borehole
- Rotary Corehole
- Trial Pit
- Dynamic Probe



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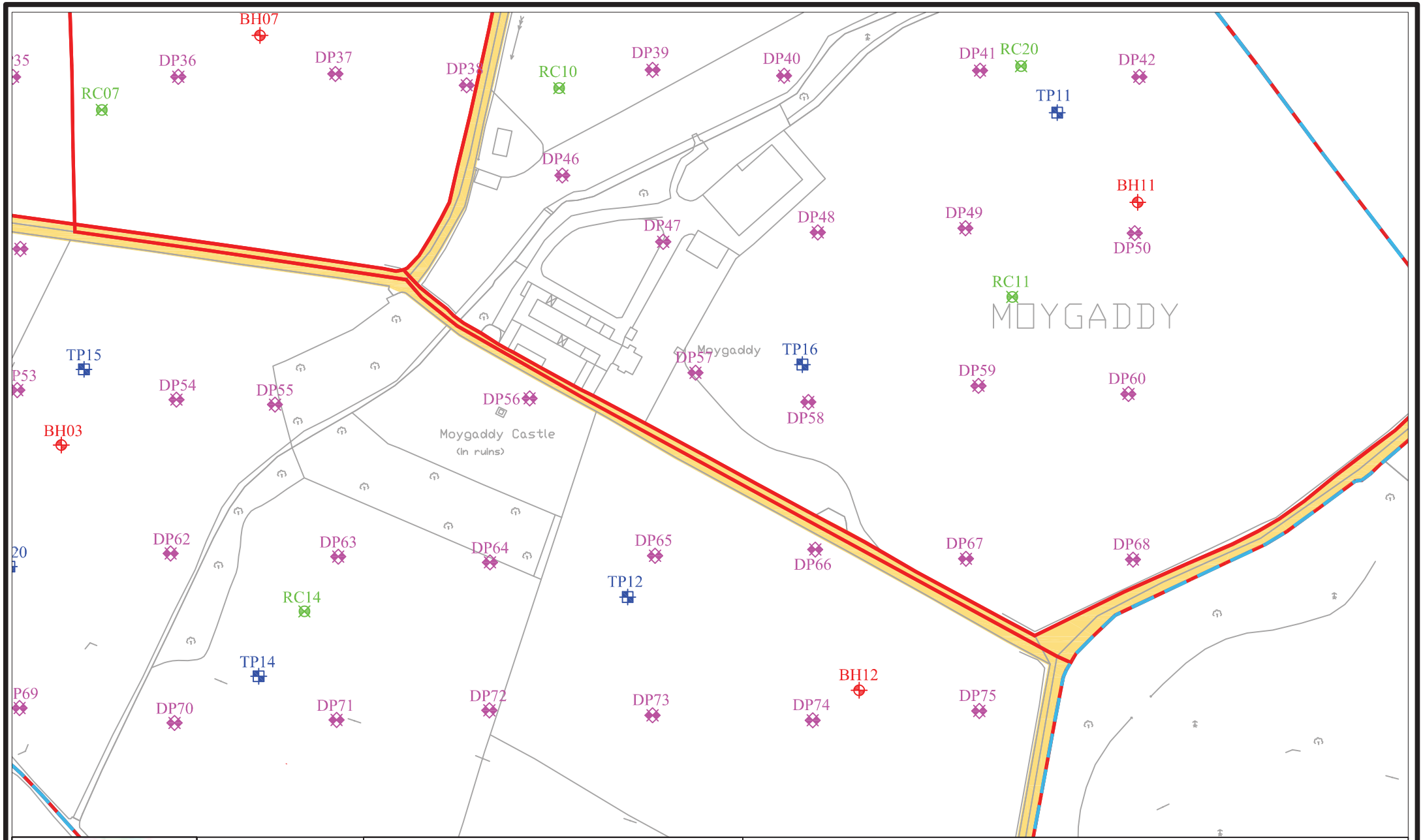
Client :	Sky Castle Ltd		
Engineer :	OCSC		
Project :	Moygaddy		
Date :	04-08-2021	**Scale :**	Not to Scale
Description :	Site Investigation	**Rev :**	1
Drawing	**SIL5863:03/05**	**Drawn by :**	SL

Legend:

- Cable Percussion Borehole
- Rotary Corehole
- Trial Pit
- Dynamic Probe

N



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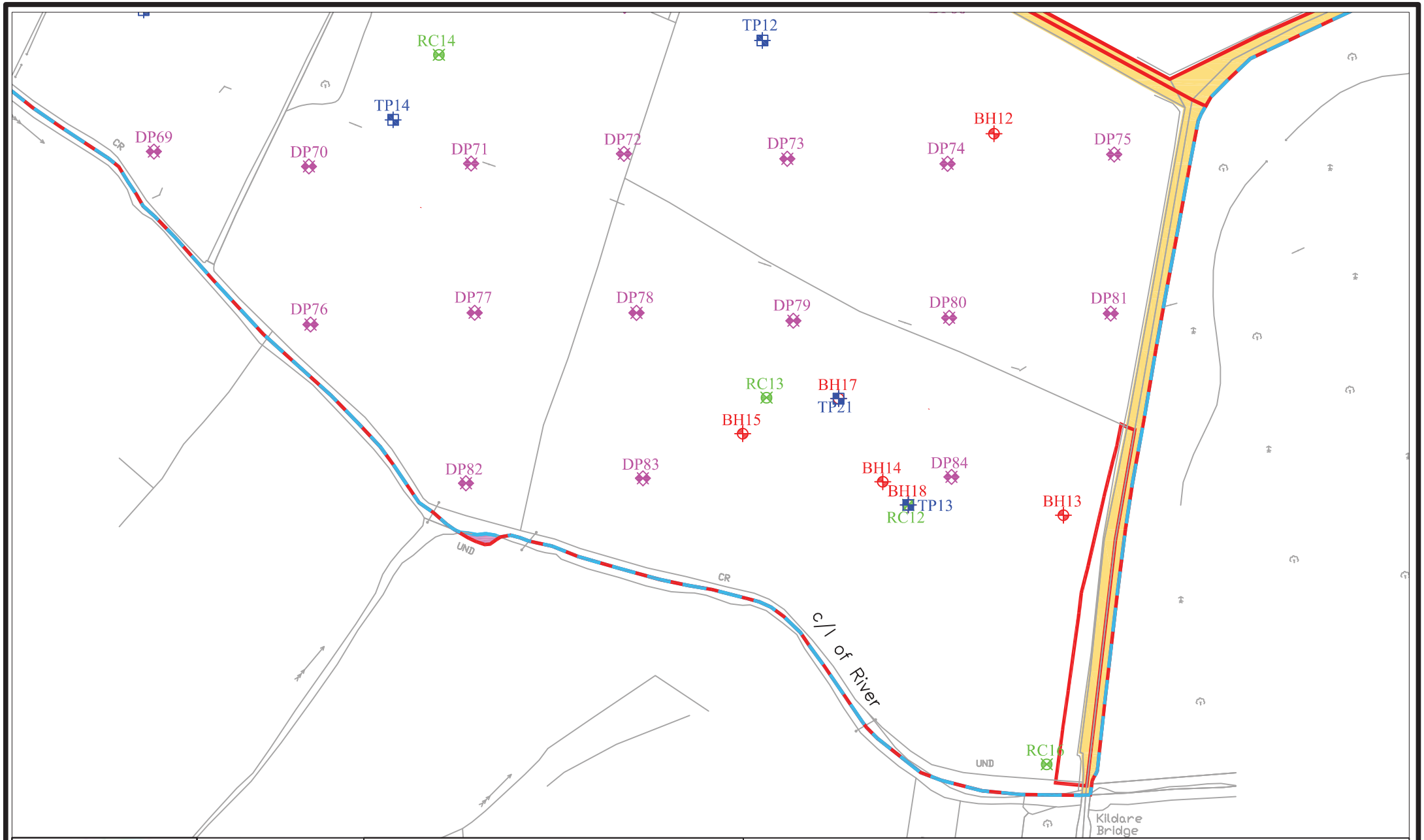
Client :	Sky Castle Ltd		
Engineer :	OCSC		
Project :	Moygaddy		
Date :	04-08-2021	**Scale :**	Not to Scale
Description :	Site Investigation	**Rev :**	1
Drawing	**SIL5863:04/05**	**Drawn by :**	SL

Legend:

- Cable Percussion Borehole
- Rotary Corehole
- Trial Pit
- Dynamic Probe

N



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N

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