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# Geotechnical Investigation Report 59-63 Trafalgar Avenue & 1A/B Valley Road, Lindfield NSW

**Prepared for: Castle Hill No.8 Pty Ltd**

**Reference: P3444_01 Rev1**

**Date: 17 April 2025**


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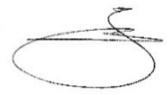
| Author | Mahmoud Jangidaryan<br>Geotechnical Engineer |  |
| Reviewer | Alan Morrow<br>Principal Geotechnical Engineer |  |

# 1. Project Background

Morrow Geotechnics Pty Ltd has undertaken a geotechnical investigation to provide geotechnical advice and recommendations for the proposed development at 59-63 Trafalgar Avenue & 1A/B Valley Road, Lindfield NSW (the site).

## 1.1 Proposed Development

Architectural plans were not provided at the time of preparing this report, however, based on advice from the client, Morrow Geotechnics understands that the proposed development will include basement excavation to RL 75.60 m. Site levels range from approximate RL 91.3 at the western corner of the site to approximate RL 81.3 at the eastern corner of the site, requiring excavation up to approximately 15.7 m below ground level (mBGL).

## 1.2 Investigation Intent

The intent of the investigation is to provide geotechnical advice and recommendations specific to the ground conditions observed at site for the proposed development. These recommendations include:

- Expected subsurface conditions;
- Lot classification in accordance with AS2870 and geotechnical parameters for foundation design;
- Excavation support options, including lateral earth pressures and pile design parameters;
- Advice on possible seepage water associated with construction;
- Earthquake site classification in accordance with AS1170.4; and
- Geotechnical construction considerations.

## 1.3 Published Geological Mapping

Information on regional sub-surface conditions, referenced from the Department of Mineral Resources Geological Map Sydney 1:100,000 (Geological Series Sheet 9130) indicate that the site is located on the boundary of (Rwa) Ashfield Shale of the Wianamatta Group, which is typically comprised of black to dark-grey shale and laminate, and (Rh) Hawkesbury Sandstone, which is typically comprised of medium to coarse-grained quartz sandstone, with very minor shale and laminite lenses.

## 1.4 Published Soil Landscapes

The Soil Conservation Service of NSW Sydney 1:100,000 Soil Landscapes Series Sheet 9130 (4th Edition) indicates that the erosional landscape at the site likely comprises Glenorie Landscape. Generally, comprises gently undulating to rolling low hills on Wianamatta Group shales with inclined slopes of typically 5-20%. Soils of Glenorie landscape generally comprises shallow to moderately deep (<1000cm) red and brown podzolic soil in the upper slopes. These soils are noted moderately reactive.

# 2. Observations

## 2.1 Investigation Methods

Fieldwork was undertaken by Morrow Geotechnics from 11, 12, 14, 26, 27 & 28 February, and 3 March 2025. Work carried out as part of this investigation includes:

- Review of publicly available information from previous reports in the project area, published geological and soil mapping and government agency websites;
- Site walkover inspection by an experienced Geotechnical Engineer to assess topographical features, condition of surrounding structures and site conditions;
- Drilling of five boreholes (BH1 to BH5) in total. BH1, BH2, BH4, and BH5 were drilled using a track-mounted drill rig with solid flight augers equipped with a tungsten-carbide (TC) bit. BH3 was drilled using a man-portable drilling rig. Boreholes were extended using NMLC coring techniques to depths ranging from 18.0 to 35.75 mBGL. Rock core was boxed and photographed and point load tests were undertaken on selected core samples to assess rock strength. Borehole locations are shown on **Figure 1**, and the borehole logs are attached to this report; and
- Groundwater observations within boreholes during drilling and installation of three groundwater monitoring wells within BH1, BH2, and BH5 immediately following drilling.

## 2.2 Subsurface Conditions

The stratigraphy at the site is characterised by fill/topsoil and residual soil overlying Sandstone bedrock. Observations taken during the investigation have been used to produce a stratigraphic model of the site. The observed stratigraphy has been divided into six geotechnical units.

A summary of the subsurface conditions across the site, interpreted from the investigation results, is presented in **Table 1** and **Table 2** below. More detailed descriptions of subsurface conditions at the test locations are available in the borehole logs presented in **Appendix A**. The details of the method of soil and rock classification, explanatory notes and abbreviations adopted in the borehole logs are also presented in **Appendix A**.

**Table 1 Summary of Inferred Subsurface Conditions**

| Unit | Material | Generalised Description |
|---|---|---|
| **1** | **Fill/Topsoil** | FILL: Silty to gravelly SAND, loose, fine grained, fine to coarse sized gravel. Unit 1 is inferred to be uncontrolled and poorly compacted. |
| **2** | **Residual Clay** | Residual Silty to gravelly CLAY, firm to stiff, medium to high plasticity, fine to coarse sized gravel, subangular to subrounded ironstone gravel, less than or equal to plastic limit. |
| **3** | **Class V Sandstone** | Extremely to highly weathered Sandstone, extremely low to very low strength, fine grained, with extremely weathered seams and ironstone bands, 5° laminations. |
| **4** | **Class IV Sandstone** | Moderately to Slightly weathered Sandstone, very low to low strength, fine grained. Defects consist of Extremely weathered and crushed seams as well as partings between 1° and 5° and Joints between 20° – 90°. |
| **5** | **Class III Sandstone** | Fresh Sandstone, medium strength, fine grained. Generally massive with some carbonaceous laminations. |
| **6** | **Class II Sandstone** | Fresh Sandstone, high strength, fine grained. Generally massive with some carbonaceous laminations. A medium strength shale band was encountered within Unit 6 in BH1 at between 34.65 and 35.43 mBGL. |

**Table 2 Summary of Inferred Subsurface Conditions**

| Unit | Material | Approx. Depth Range of Unit [1] mBGL (RL mAHD) | | | | |
|---|---|---|---|---|---|---|
| | | BH1 | BH2 | BH3 | BH4 | BH5 |
| 1 | Fill/Topsoil | 0.0 to 0.2 (91.3 to 91.1) | 0.0 to 0.7 (85.4 to 84.7) | 0.0 to 0.3 (87.5 to 87.2) | 0.0 to 0.5 (81.7 to 81.2) | 0.0 to 0.4 (83.8 to 83.4) |
| 2 | Residual Clay | 0.2 to 1.0 (90.9 to 90.1) | 0.7 to 1.0 (84.7 to 84.4) | 0.3 to 0.5 (87.2 to 87.0) | 0.5 to 2.5 (81.2 to 79.2) | 0.4 to 1.5 (83.4 to 82.3) |
| 3 | Class V Sandstone | 1.0 to 2.0 (90.1 to 89.1) | 1.0 to 4.8 (84.4 to 80.6) | 0.5 to 2.4 (87.0 to 85.1) | 2.5 to 3.0 (79.2 to 78.7) | 1.5 to 2.5 (82.3 to 81.3) |
| 4 | Class IV Sandstone | 2.0 to 6.4 (89.1 to 84.9) | 4.8 to 6.0 (80.6 to 79.4) | 2.4 to 4.7 (85.1 to 82.8) | 3.0 to 3.6 (78.7 to 78.1) | 2.5 to 3.6 (81.3 to 80.2) |
| 5 | Class III Sandstone | 6.4 to 7.7 (84.9 to 83.6) | 6.0 to 8.0 (79.4 to 77.4) | 4.7 to 9.3 (82.8 to 78.2) | 3.6 to 7.2 (78.1 to 74.5) | 3.6 to 6.6 (80.2 to 77.2) |
| 6 | Class II Sandstone | 7.7 to 35.7 (83.6 to 55.6) | 8.0 to 20.5 (77.4 to 64.9) | 9.3 to 20.4 (78.2 to 67.1) | 7.2 to 18.0 (74.5 to 63.7) | 6.6 to 18.0 (77.2 to 65.8) |

**Notes:**
1 Depth ranges shown are based on material observed within test locations and will vary across the site.

## 2.3 Groundwater Observations

Standpipe piezometers were installed within BH1, BH2, and BH5 as part of the geotechnical investigation with well details found in **Table 3** below. The monitoring well was constructed using 50mm diameter screw threaded PVC casing, sections of which were machine slotted. The annulus between the casing and borehole was backfilled using a 2 mm filter gravel pack to above the top of the screen. A bentonite plug with a minimum thickness of 0.5m was then installed above the gravel pack, the remaining annulus was backfilled with drill cuttings. The well was finished with a cement plug and a gatic cover.

**Table 3 Piezometer Details**

| Piezometer | BH1 | BH2 | BH5 |
|---|---|---|---|
| Top of Piezometer approx. RL (mAHD) | 91.3 | 85.4 | 83.8 |
| Piezometer Depth (m) | 35 | 20.4 | 18 |
| Bentonite Plug Depth (mBGL) | 0.0 to 1.5 | 2.5 to 5.0 | 1 to 3 |
| Screen Depth (mBGL) | 1.5 to 35 | 5.5 to 20.5 | 3 to 18 |
| Base of Piezometer RL (mAHD) | 56.3 | 64.9 | 65.8 |

Long term groundwater monitoring is underway at the time of preparation of this report and will be reported separately within the Site Hydrogeology Report for the project.

# 3. Discussions and Recommendations

## 3.1 Foundation Design

The parameters given in **Table 4** may be used for the design of pad footings and bored piles. Morrow Geotechnics recommends that a Preliminary Geotechnical Strength Reduction Factor (GSRF) of 0.4 is used for the design of piles in accordance with AS 2159:2009 if no allowance is made for pile testing during construction. Should pile testing be nominated, the GSRF may be reviewed and a value of 0.55 to 0.65 may be expected.

Selection of footing types and founding depth will need to consider the risk of adverse differential ground movements within the foundation footprint and between high level and deeper footings. Unless an allowance for such movement is included in the design of the proposed development, we recommend that all new structures found on natural materials with comparable end bearing capacities and elastic moduli.

Ultimate geotechnical strengths are provided for use in limit state design. Allowable bearing pressures are provided for serviceability checks. These values have been determined to limit settlements to an acceptable level for conventional building structures, typically less than 1% of the minimum footing dimension.

**Table 4 Pad Footing and Pile Design Parameters**

| Material | | Unit 1 Fill / TS | Unit 2 Residual Clay | Unit 3 Class V Sandstone | Unit 4 Class IV Sandstone | Unit 5 Class III Sandstone | Unit 6 Class II Sandstone |
|---|---|---|---|---|---|---|---|
| Allowable Bearing Pressure (kPa) | | N/A | 150 | 1000 | 1500 | 3500 | 6000 |
| Ultimate Vertical End Bearing Pressure (kPa) | | N/A | 450 | 3000 | 4500 | 10500 | 18000 |
| Elastic Modulus (MPa) | | 5 | 20 | 75 | 150 | 350 | 1000 |
| Allowable Shaft Adhesion (kPa) | In Compression | 0 | 25 | 100 | 150 | 350 | 600 |
| | In Tension | 0 | 12.5 | 50 | 75 | 175 | 200 |
| Susceptibility to Liquefaction during an Earthquake | | Medium | Low | Low | Low | Low | Low |

**Notes:**

1 Side adhesion values given assume there is intimate contact between the pile and foundation material. Design engineer to check both 'piston' pull-out and 'cone' pull-out mechanics in accordance with AS4678-2002 Earth Retaining Structures.

2 Susceptibility to liquefaction during an earthquake is based on the following definition:
Low - Medium to very dense sands, stiff to hard clays, and rock
Medium - Loose to medium dense sands, soft to firm clays, or uncontrolled fill below the water table
High - Very loose sands or very soft clays below the water table

3 If foundations are proposed on Class II Sandstone then spoon testing of a minimum of 50% of the foundations will be required in order to certify 6000 kPa allowable bearing pressure. Spoon testing must extend to a depth of two times the minimum footing width below the footing subgrade level.

To adopt these parameters we have assumed that the bases of all pile excavations are cleaned of loose debris and water and inspected by a suitably qualified Geotechnical Engineer prior to pile construction to verify that ground conditions meet design assumptions. Where groundwater ingress is encountered during pile excavation, concrete is to be placed as soon as possible upon

completion of pile excavation. Pile excavations should be pumped dry of water prior to pouring concrete, or alternatively a tremmie system could be used.

### 3.2 AS1170 Earthquake Site Risk Classification

Assessment of the material encountered during the investigation in accordance with the guidelines provided in AS1170.4-2007 indicates an earthquake subsoil class of Class $B_e$ – Rock for the site.

### 3.3 Excavation Retention

Where sufficient space for batters is not available a shoring system should be installed prior to excavation. Shoring systems in sandstone generally comprise anchored soldier pile walls with piles socketing below bulk excavation level (BEL). Unit 5 and Unit 6 Sandstone will be self-supporting and may be cut vertically provided that allowance is made for geotechnical inspections and spot bolting/shotcreting where required. Piles can be terminated within Class III Sandstone or better material above BEL provided that toe anchors are installed for lateral pile restraint. Geotechnical parameters for input to shoring design have been provided in **Table 5** below.

**Table 5 Shoring Design Parameters**

| Material | | Unit 1 Fill | Unit 2 Residual Clay | Unit 3 Class V Sandstone | Unit 4 Class IV Sandstone | Unit 5 Class III Sandstone | Unit 6 Class II Sandstone |
|---|---|---|---|---|---|---|---|
| Unit Weight (kN/m$^3$) | | 17 | 18 | 23 | 24 | 24 | 24 |
| Earth Pressure Coefficients | At Rest, $K_o$ | 0.53 | 0.56 | 0.53 | 0.47 | 0.43 | 0.38 |
| | Passive, $K_p$ | 2.77 | 2.56 | 2.77 | 3.25 | 3.69 | 4.20 |
| | Active, $K_a$ | 0.36 | 0.39 | 0.36 | 0.31 | 0.27 | 0.24 |
| Drained Cohesion, c' (kPa) | | 0 | 6 | 15 | 50 | 200 | 400 |
| Friction Angle, φ' (°) | | 28 | 26 | 28 | 32 | 35 | 38 |
| Elastic Modulus (MPa) | | 5 | 20 | 75 | 150 | 350 | 1000 |
| Poisson's Ratio | | 0.30 | 0.30 | 0.25 | 0.22 | 0.20 | 0.20 |

**Notes:**
1 Unit Weight is based on visual assessment only and may vary by ±10%.
2 Earth pressures are provided on the assumption that the ground behind the retaining wall is flat and drained.

In addition, design of retaining walls should consider the following:

- Appropriate surcharge loading from construction equipment, vehicular traffic and neighbouring structures at finished surface level should be considered in the retention design. Surcharge loads on retention structures may be calculated using a rectangular stress block with an earth pressure coefficient of 0.5 applied to surcharge loads at ground surface level.

- Anchor design should ignore the contribution of any bonded length within a wedge which extends upwards at 45$^0$ from the top of Unit 6 to account for a failure wedge forming behind the shoring system.

### 3.4 Excavation Vibration Considerations

As a guide, safe working distances for typical items of vibration intensive plant are listed in **Table 6**. The safe working distances are quoted for both "cosmetic" damage (refer British Standard BS 7385:1993) and human comfort (refer NSW Environmental Protection Agency Vibration Guideline). The safe working distances should be complied with at all times, unless otherwise mitigated to the satisfaction of the relevant stakeholders.

**Table 6 Recommended Safe Working Distances for Vibration Intensive Plant**

| Plant Item | Rating/Description | Safe Working Distance | |
|---|---|---|---|
| | | Cosmetic Damage (BS 7385:1993) [1] | Human Response (EPA Vibration Guideline) |
| Vibratory Roller | < 50 kN (typically 1-2 tonnes) | 5 m | 15 m to 20 m |
| | < 100 kN (typically 2-4 tonnes) | 6 m | 20 m |
| | < 200 kN (typically 4-6 tonnes) | 12 m | 40 m |
| | < 300 kN (typically 7-13 tonnes) | 15 m | 100 m |
| | < 300 kN (typically 13-18 tonnes) | 20 m | 100 m |
| | < 300 kN (typically >18 tonnes) | 25 m | 100 m |
| Small Hydraulic Hammer | 300 kg – 5 to 12 t excavator | 2 m | 7 m |
| Med Hydraulic Hammer | 900 kg – 12 to 18 t excavator | 7 m | 23 m |
| Large Hydraulic Hammer | 1600 kg – 18 to 34 t excavator | 22 m | 73 m |
| Vibratory Pile Driver | Sheet Piles | 2 m to 20 m | 20 m |
| Pile Boring | ≤ 800 mm | 2m (nominal) | N/A |
| Jackhammer | Handheld | 1 m (nominal) | Avoid contact with structure |

**Notes:**
1 More stringent conditions may apply to heritage buildings or other sensitive structures.

In relation to human comfort (response), the safe working distances in **Table 6** relate to continuous vibration and apply to residential receivers. For most construction activities, vibration emissions are intermittent in nature and for this reason, higher vibration levels, occurring over shorter periods are permitted, as discussed in British Standard BS 6472-1:2008.

The safe working distances provided in **Table 6** are given for guidance only. Monitoring of vibration levels may be required to ensure vibrations levels remain below threshold values during the construction period.

### 3.5 Soil and Rock Excavatability

The expected ability of equipment to excavate the soil and rock encountered at the site is summarised in **Table 7**. This assessment is based on available site investigation data and

guidance on the assessment of excavatability of rock by Pettifer and Fookes (1994). The presence of medium to high strength bands in lower strength rock and the discontinuity spacing may influence the excavatability of the rock mass.

**Table 7 Soil and Rock Excavatability**

| Unit | Material | Excavatability |
|---|---|---|
| **1** | **Fill/Topsoil** | Easy digging by 20t Excavator |
| **2** | **Residual Clay** | Easy digging by 20t Excavator, moderate to hard ripping by 20t Excavator required where ironstone is encountered within Unit 2 |
| **3** | **Class V Sandstone** | Moderate to hard ripping by 20t Excavator |
| **4** | **Class IV Sandstone** | Hard Ripping by 20t Excavator with hydraulic hammering required where medium strength sandstone is encountered in unit 4. |
| **5** | **Class III Sandstone** | Hydraulic hammering will be required within Units 5, 6, & 7. |
| **6** | **Class II Sandstone** | |

The excavation methodology may also be affected by the following factors:

- Scale and geometry of the excavation;
- Availability of suitable construction equipment;
- Potential reuse of material on site; and
- Acceptable excavation methods, noise, ground vibration and other environmental criteria.

## 4. ADDITIONAL GEOTECHNICAL INPUT

Further input from a geotechnical professional during design and construction is advised in order to ensure a cost-effective design which can be constructed safely and efficiently. Areas for geotechnical input should include:

- All excavated material transported off site should be classified in accordance with NSW EPA 2014 - Waste Classification Guideline Part 1; Classifying Waste.
- A suitably qualified geotechnical engineer is to assess the condition of exposed material at foundation or subgrade level to assess the ability of the prepared surface to act as a foundation or as a subgrade.
- Observation of the material within pile excavations should be undertaken at the start of piling works to confirm that material across the site is in accordance with the geotechnical model presented in this report.

- Regular inspections of battered and unsupported excavations, where proposed, to confirm geotechnical conditions and to assess the suitability of design assumptions and to provide further advice with regards to excavation retention/ support and proposed construction methodologies, if required.

## 5. STATEMENT OF LIMITATIONS

The adopted investigation scope was limited by the investigation intent and the presence of structures onsite at the time of the investigation. Further geotechnical inspections should be carried out during construction to confirm the geotechnical model provided in this report.

Your attention is drawn to the document "Important Information", which is included in **Appendix B** of thisreport. The statements presented in this document are intended to advise you of what your realistic expectations of this report should be. The document is not intended to reduce the level of responsibility accepted by Morrow Geotechnics, but rather to ensure that all parties who may rely on this report are aware of the responsibilities each assumes in so doing.

## 6. REFERENCES

AS1726:1993, *Geotechnical Site Investigations*, Standards Australia.

AS2159:2009, *Piling – Design and Installation*, Standards Australia.

AS2870:2011, *Residential Slabs and Footings*, Standards Australia.

Chapman, G.A. and Murphy, C.L. (1989), Soil Landscapes of the Sydney 1:100000 sheet. Soil ConservationServices of NSW, Sydney.

NSW Department of Mineral Resources (1985) Sydney 1:100,000 Geological Series Sheet 9130 (Edition 1). Geological Survey of New South Wales, Department of Mineral Resources.

Pells (2004) Substance and Mass Properties for the Design of Engineering Structures in the HawkesburySandstone, Australian Geomechanics Journal, Vol 39 No 3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|---|---|
| Sydney Gadigal Land: 2/5-7 Malta Steet, Fairfield East NSW 2155 | P: 02 8599 7579 |
| P3444 Borehole Location Plan | |
| Client No: | Job No: P3444 |
| Client: Landmark Group Construction Australia Pty Ltd | |
| Project: Lindfield | |
| Address: 59-63 Trafalgar Avenue & 1A/B Valley Road, Lindfield NSW | |

Legend:

- Borehole Locations
- Groundwater Monitoring Well Locations

| | | | |
|---|---|---|---|
| Image Source: NearMap | | Viewed: 2025-03-06 | |
| Drawn By: R. McKeon | Checked By: Ozzie Baskan | Date: 2025-03-06 | Figure: 1 |

# APPENDIX A
# BOREHOLE LOGS AND EXPLANATORY NOTES

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# Borehole No: BH1

| | | | | | |
|---|---|---|---|---|---|
| UTM | : 56S | Driller Rig | : GEO205 - Comacchio | Job Number | : P3444 |
| Easting | : 330797.48 | Driller Supplier | : GEOSENSE | Client | : Landmark Group Construction Australia Pty Ltd |
| Northing | : 6261245.34 | Logged By | : Ozzie Baskan | Project | : Lindfield |
| RL | : 91.30(m) | Reviewed By | : Mahmoud Jangidaryan | Location | : 59-63 Trafalgar Avenue & 1A/B Valley Road, Lindfield NSW |
| Total Depth | : 35.75 m | Date | : 26/02/2025 | Loc Comment | : Driveway of 63 Trafalgar Avenue , near the gate. |

| Drilling Method | Water | Well Diagram | Testing | Elevation / Depth (m) | Graphic Log | Material Type | Classification Code | Material Description | Depth (m) | Consistency | Weathering | Moisture |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ADT | 2, GWNE | B<br>50mm PVC Solid<br>50mm PVC Slotted | | 91.1<br>0.15 | | Non-Soil | PAV | Non-Soil - Pavers | 0.15 | | | |
| | | | | 90.3<br>1 | | Residual | CI-CH | Residual Silty CLAY stiff to very stiff, medium to high plasticity, pale brown brown pale grey, trace fine to medium sized gravel, w < pl. | 1 | St-VSt | | w < PL |
| | | | | 89.3<br>2 | | Rock | SLT | Extremely weathered Sandstone, Silty CLAY hard, low to medium plasticity, pale grey mottled brown, with ironstone and sandstone bands. | 2 | H | XW | |
| | | | | | | Rock | SST | Rock SANDSTONE: highly weathered, very low to low strength, pale brown pale grey mottled red, fine to medium grained, with ironstone bands. | 3 | VLS-LS | HW | |

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# Borehole No: BH1

| | | | | | |
|---|---|---|---|---|---|
| UTM | : 56S | Driller Rig | : GEO205 - Comacchio | Job Number | : P3444 |
| Easting | : 330797.48 | Driller Supplier | : GEOSENSE | Client | : Landmark Group Construction Australia Pty Ltd |
| Northing | : 6261245.34 | Logged By | : Ozzie Baskan | Project | : Lindfield |
| RL | : 91.30(m) | Reviewed By | : Mahmoud Jangidaryan | Location | : 59-63 Trafalgar Avenue & 1A/B Valley Road, Lindfield NSW |
| Total Depth | : 35.75 m | Date | : 26/02/2025 | Loc Comment | : Driveway of 63 Trafalgar Avenue , near the gate. |

| Drilling Method | Water | Well Diagram | Testing | Elevation / Depth (m) | Graphic Log | Material Type | Classification Code | Material Description | Depth (m) | Consistency | Weathering | Moisture |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ADT | | 50mm PVC Slotted | | 86.6 / 4.7 | | Rock | SST | Rock SANDSTONE: highly weathered, very low to low strength, pale brown pale grey mottled red, fine to medium grained, with ironstone bands. | 4.7 | VLS-LS | HW | |
| | | | | | | | | **Commenced Coring at 4.7m** | | | | |

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# Borehole No: BH1

| | | | | | |
|---|---|---|---|---|---|
| UTM | : 56S | Driller Rig | : GEO205 - Comacchio | Job Number | : P3444 |
| Easting | : 330797.48 | Driller Supplier | : GEOSENSE | Client | : Landmark Group Construction Australia Pty Ltd |
| Northing | : 6261245.34 | Logged By | : Ozzie Baskan | Project | : Lindfield |
| RL | : 91.30(m) | Reviewed By | : Mahmoud Jangidaryan | Location | : 59-63 Trafalgar Avenue & 1A/B Valley Road, Lindfield NSW |
| Total Depth | : 35.75 m | Date | : 26/02/2025 | Loc Comment | : Driveway of 63 Trafalgar Avenue , near the gate. |

| Drilling Method | Water | Well Diagram | Elevation / Depth (m) | Graphic Log | Classification Code | Material Description | Depth (m) | Weathering | Testing: Is(50) | Estimated Strength (VLS, LS, MS, HS, VHS, EHS; 0.1, 0.3, 1.0, 3, 10) | RQD% and TCR% | Defect Spacing (mm) (30, 100, 300, 1000, 3000) | Defect Description |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | **Commenced Coring at 4.7m** | | | | | | | |
| NMLC Coring | Loss - 10% Water Loss | 50mm PVC Slotted | 86.2<br>5.06<br>86.1 | | SST | Rock SANDSTONE: highly to moderately weathered, medium strength, red pale grey, fine grained, .. | 5<br>5.06 | HW-MW | d:0.10 ; a:0.40 | | RQD = 27.78%<br>TCR = 100% | | 4.73, P, 5°, UN, RO, STN, OP,<br>4.75, P, 10°, UN, RO, STN, C,<br>4.79, P, 5°, IR, RO, CL, OP, (X2),<br>4.87, P, 5°, UN, RO, STN, OP, (X2),<br>4.95, P, 5°, PL, RO, STN, OP, (X2), |
| | | | | | CRL | Coreloss | | | | | | | 5.05, P, 5°, UN, RO, CL, OP, (X2),<br>5.06-5.24, CORELOSS, |
| | | | 5.24<br>85.8 | | SST | Rock SANDSTONE: highly to moderately weathered, low strength, pale grey pale brown, fine to medium grained, with ironstone beddings. | 5.24 | HW-MW | | | | | 5.24-5.45, CRF, 5°, IR, RO, STN, OP,<br>5.43-5.52, XWS, |
| | | | 5.53<br>85.5 | | SST | Rock SANDSTONE: moderately weathered, medium strength, pale grey, fine to medium grained, carbonaceous beddings. | 5.53 | MW | d:0.24 ; a:0.98 | | RQD = 63.16%<br>TCR = 100% | | 5.61, P, 5°, IR, RO, CL, OP,<br>5.64, P, 5°, IR, RO, CL, OP, |
| | | | 5.85<br>85.1 | | SST | As above, but pale grey pale brown. | 5.85<br>6 | MW | | | | | 5.81, XWS, 5mm,<br>5.83-5.84, XWS, 10mm,<br>6.03, P, 5°, UN, RO, CL, OP, (X2), |
| | | | 6.2<br>84.9 | | CRL | Coreloss | 6.2 | | | | | | 6.2-6.37, CORELOSS, |
| | | | 6.37<br>84.5 | | SST | Rock SANDSTONE: moderately to slightly weathered, medium to high strength, pale grey, fine to medium grained, .. | 6.37 | MW-SW | d:0.25 ; a:1.36 | | | | 6.46, P, 5°, UN, RO, CL, OP,<br>6.61, P, 5°, UN, RO, CL, OP, |
| | | | 6.8<br>84.3 | | SST | As above, but moderately weathered, low to medium strength, pale grey, with siltstone bands. | 6.8 | MW | d:0.09 ; a:0.38 | | | | 6.81, P, 5°, PL, RO, CL, OP, (X2), |
| | Loss - 10% Water Loss | | 7 | | SST | Rock SANDSTONE: slightly weathered, high strength, pale grey, fine grained, .. | 7 | SW | d:0.1.42 ; a:1.30 | | RQD = 94.38%<br>TCR = 100% | | 7.02, P, 5°, UN, RO, CL, OP, (X2),<br>7.16, P, 5°, PL, RO, CL, OP,<br>7.25, P, PL, RO, CL, OP, (X2),<br>7.43, P, 5°, UN, RO, CL, OP, (2X),<br>7.61-7.67, CRF, 5°,<br>7.7, P, 5°, PL, RO, CL, OP, |

morrow

# Borehole No: BH1

| | | | | | |
|---|---|---|---|---|---|
| UTM | : 56S | Driller Rig | : GEO205 - Comacchio | Job Number | : P3444 |
| Easting | : 330797.48 | Driller Supplier | : GEOSENSE | Client | : Landmark Group Construction Australia Pty Ltd |
| Northing | : 6261245.34 | Logged By | : Ozzie Baskan | Project | : Lindfield |
| RL | : 91.30(m) | Reviewed By | : Mahmoud Jangidaryan | Location | : 59-63 Trafalgar Avenue & 1A/B Valley Road, Lindfield NSW |
| Total Depth | : 35.75 m | Date | : 26/02/2025 | Loc Comment | : Driveway of 63 Trafalgar Avenue , near the gate. |

| Drilling Method | Water | Well Diagram | Elevation / Depth (m) | Graphic Log | Classification Code | Material Description | Depth (m) | Weathering | Testing Is(50) | Estimated Strength (VLS 0.1, LS 0.3, MS 1.0, HS 3, VHS 10, EHS) | RQD% and TCR% | Defect Spacing (mm) (30, 100, 300, 1000, 3000) | Defect Description |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NMLC Coring | Loss - 0% Water Loss | 50mm PVC Slotted | 83.3 / 8 | | SST | Rock SANDSTONE: slightly weathered, high strength, pale grey, fine to medium grained, with siltstone bands. | 8 | SW | d:1.07 ; a:1.68 | | RQD = 94.38% TCR = 100% | | 8.27, P, 5°, PL, RO, CL, OP, |
| | | | | | | | | | | | | | 8.61, P, 10°, UN, RO, CL, OP, |
| | | | 82.3 / 9 | | | As above, but pale grey. | 9 | | d:1.46 ; a:2.17 | | | | |
| | | | | | SST | | 10 | SW | d:1.69 ; a:2.03 | | | | 9.81, P, 5°, UN, RO, CL, OP, |
| | Loss - 0% Water Loss | | | | | | 11 | | | | RQD = 100% TCR = 100% | | 10.64, P, 30°, PL, RO, CL, OP, |
| | | | 80.1 / 11.2 | | | As above, but moderately weathered, medium to high strength. | 11.2 | | d:0.79 ; a:1.75 | | | | |
| | | | | | SST | | | MW | | | | | 11.64, P, 5°, PL, RO, CL, OP, |
| | Loss - 0% Water Loss | | | | | | | | | | | | |

morrow

# Borehole No: BH1

| | | | | | |
|---|---|---|---|---|---|
| UTM | : 56S | Driller Rig | : GEO205 - Comacchio | Job Number | : P3444 |
| Easting | : 330797.48 | Driller Supplier | : GEOSENSE | Client | : Landmark Group Construction Australia Pty Ltd |
| Northing | : 6261245.34 | Logged By | : Ozzie Baskan | Project | : Lindfield |
| RL | : 91.30(m) | Reviewed By | : Mahmoud Jangidaryan | Location | : 59-63 Trafalgar Avenue & 1A/B Valley Road, Lindfield NSW |
| Total Depth | : 35.75 m | Date | : 26/02/2025 | Loc Comment | : Driveway of 63 Trafalgar Avenue , near the gate. |

| Drilling Method | Water | Well Diagram | Elevation / Depth (m) | Graphic Log | Classification Code | Material Description | Depth (m) | Weathering | Testing: Is(50) | Estimated Strength (VLS 0.1, LS 0.3, MS 1.0, HS 3, VHS 10, EHS) | RQD% and TCR% | Defect Spacing (mm) (30, 100, 300, 1000, 3000) | Defect Description |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NMLC Coring | Loss - 0% Water Loss | 50mm PVC Slotted | | | SST | As above, but moderately weathered, medium to high strength. | | MW | d:1.44 ; a:1.71 | | RQD = 100% TCR = 100% | | 12.27, P, 10°, PL, RO, CL, OP, |
| | | | 78.7 / 12.6 | | SST | As above, but slightly weathered, high strength. | 12.6 | SW | d:1.07 ; a:1.26 | | | | 13.54, P, 5°, PL, RO, CL, OP, (X2), |
| | | | 77.6 / 13.7 | | SST | As above, but fine to coarse grained. | 13.7 | SW | d:1.23 ; a:1.45 | | RQD = 100% TCR = 100% | | 13.7, P, 5°, UN, RO, CL, OP, |
| | | | | | | | | | | | | | 14.52, P, 5°, PL, RO, VN, OP, |
| | Loss - 0% Water Loss | | | | | | | | d:1.47 ; a:1.49 | | RQD = 100% TCR = 100% | | |

morrow

# Borehole No: BH1

| | | | | | |
|---|---|---|---|---|---|
| UTM | : 56S | Driller Rig | : GEO205 - Comacchio | Job Number | : P3444 |
| Easting | : 330797.48 | Driller Supplier | : GEOSENSE | Client | : Landmark Group Construction Australia Pty Ltd |
| Northing | : 6261245.34 | Logged By | : Ozzie Baskan | Project | : Lindfield |
| RL | : 91.30(m) | Reviewed By | : Mahmoud Jangidaryan | Location | : 59-63 Trafalgar Avenue & 1A/B Valley Road, Lindfield NSW |
| Total Depth | : 35.75 m | Date | : 26/02/2025 | Loc Comment | : Driveway of 63 Trafalgar Avenue , near the gate. |

| Drilling Method | Water | Well Diagram | Elevation / Depth (m) | Graphic Log | Classification Code | Material Description | Depth (m) | Weathering | Testing: Is(50) | Estimated Strength (VLS 0.1, LS 0.3, MS 1.0, HS 3, VHS 10, EHS) | RQD% and TCR% | Defect Spacing (mm) (30, 100, 300, 1000, 3000) | Defect Description |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NMLC Coring | Loss - 0% Water Loss | 50mm PVC Slotted | | | SST | As above, but fine to coarse grained. | 17 | SW | d:1.23 ; a:1.31 | | RQD = 100% TCR = 100% | | 17.17, P, 30°, PL, RO, VN, OP, |
| | | | | | | | 18 | | d:1.36 ; a:1.23 | | | | |
| | | | 72.6 / 18.7 | | CRL | Coreloss | 18.7 | | | | | | |
| | | | 72.5 / 18.8 | | SST | Rock SANDSTONE: slightly weathered, high strength, pale grey, fine to coarse grained. | 18.8 / 19 | SW | d:1.28 ; a:1.09 | | RQD = 96.67% TCR = 96.67% | | |
| | Loss - 0% Water Loss | | | | | | | | d:1.18 ; a:1.10 | | | | |

morrow

# Borehole No: BH1

| | | | | | |
|---|---|---|---|---|---|
| UTM | : 56S | Driller Rig | : GEO205 - Comacchio | Job Number | : P3444 |
| Easting | : 330797.48 | Driller Supplier | : GEOSENSE | Client | : Landmark Group Construction Australia Pty Ltd |
| Northing | : 6261245.34 | Logged By | : Ozzie Baskan | Project | : Lindfield |
| RL | : 91.30(m) | Reviewed By | : Mahmoud Jangidaryan | Location | : 59-63 Trafalgar Avenue & 1A/B Valley Road, Lindfield NSW |
| Total Depth | : 35.75 m | Date | : 26/02/2025 | Loc Comment | : Driveway of 63 Trafalgar Avenue , near the gate. |

| Drilling Method | Water | Well Diagram | Elevation / Depth (m) | Graphic Log | Classification Code | Material Description | Depth (m) | Weathering | Testing: Is(50) | Estimated Strength (VLS 0.1, LS 0.3, MS 1.0, HS 3, VHS 10, EHS) | RQD% and TCR% | Defect Spacing (mm) (30, 100, 300, 1000, 3000) | Defect Description |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NMLC Coring | Loss - 0% Water Loss | 50mm PVC Slotted | | | SST | Rock SANDSTONE: slightly weathered, high strength, pale grey, fine to coarse grained. | 21<br>22<br>23 | SW | d:1.68 ; a:1.03<br>d:1.23 ; a:1.28<br>d:0.75 ; a:1.53<br>d:1.03 ; a:1.09 | | RQD = 96.67% TCR = 96.67%<br>RQD = 100% TCR = 100% | | 20.03, J, 30°, PL, RO, CT, OP, (X2),<br>20.35, P, 5°, PL, RO, CT, OP,<br>20.68, P, 5°, PL, RO, CL, OP, (X2),<br>21.62, P, 20°, PL, RO, VN, OP,<br>22.75, J, 70°, UN, RO, CL, OP,<br>23.13, P, 5°, PL, RO, CL, OP, (X2),<br>23.45, P, 5°, PL, RO, CT, OP, |

morrow

# Borehole No: BH1

| | | | | | |
|---|---|---|---|---|---|
| UTM | : 56S | Driller Rig | : GEO205 - Comacchio | Job Number | : P3444 |
| Easting | : 330797.48 | Driller Supplier | : GEOSENSE | Client | : Landmark Group Construction Australia Pty Ltd |
| Northing | : 6261245.34 | Logged By | : Ozzie Baskan | Project | : Lindfield |
| RL | : 91.30(m) | Reviewed By | : Mahmoud Jangidaryan | Location | : 59-63 Trafalgar Avenue & 1A/B Valley Road, Lindfield NSW |
| Total Depth | : 35.75 m | Date | : 26/02/2025 | Loc Comment | : Driveway of 63 Trafalgar Avenue , near the gate. |

| Drilling Method | Water | Well Diagram | Elevation / Depth (m) | Graphic Log | Classification Code | Material Description | Depth (m) | Weathering | Testing: Is(50) | Estimated Strength (VLS 0.1, LS 0.3, MS 1.0, HS 3, VHS 10, EHS) | RQD% and TCR% | Defect Spacing (mm) (30, 100, 300, 1000, 3000) | Defect Description |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NMLC Coring | Loss - 0% Water Loss | 50mm PVC Slotted | | | SST | Rock SANDSTONE: slightly weathered, high strength, pale grey, fine to coarse grained. | 25 | SW | d:1.28 ; a:1.50 | | RQD = 100% TCR = 100% | | 24.6, P, 5°, UN, RO, CL, OP, |
| | | | | | | | | | d:1.45 ; a:1.30 | | | | |
| | | | | | | | 26 | | d:0.72 ; a:1.15 | | RQD = 100% TCR = 100% | | |
| | | | 64.7 / 26.6 | | | Rock SANDSTONE: slightly weathered, high strength, grey mottled dark grey, fine to coarse grained, laminations at 0° to 5°. | 26.6 | | | | | | |
| | | | | | | | 27 | | d:0.71 ; a:1.82 | | | | 27.33, P, 5°, PL, RO, CL, OP, |
| | | | | | SST | | | SW | | | | | |
| | Loss - 0% Water Loss | | | | | | | | d:0.43 ; a:1.32 | | RQD = 100% TCR = 100% | | 27.98, P, 5°, PL, RO, CL, OP, |

morrow

# Borehole No: BH1

| | | | | | |
|---|---|---|---|---|---|
| UTM | : 56S | Driller Rig | : GEO205 - Comacchio | Job Number | : P3444 |
| Easting | : 330797.48 | Driller Supplier | : GEOSENSE | Client | : Landmark Group Construction Australia Pty Ltd |
| Northing | : 6261245.34 | Logged By | : Ozzie Baskan | Project | : Lindfield |
| RL | : 91.30(m) | Reviewed By | : Mahmoud Jangidaryan | Location | : 59-63 Trafalgar Avenue & 1A/B Valley Road, Lindfield NSW |
| Total Depth | : 35.75 m | Date | : 26/02/2025 | Loc Comment | : Driveway of 63 Trafalgar Avenue , near the gate. |

| Drilling Method | Water | Well Diagram | Elevation / Depth (m) | Graphic Log | Classification Code | Material Description | Depth (m) | Weathering | Testing: Is(50) | Estimated Strength | RQD% and TCR% | Defect Spacing (mm) | Defect Description |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NMLC Coring | Loss - 0% Water Loss | 50mm PVC Slotted | 63.3 / 28 | | SST | Rock SANDSTONE: slightly weathered, high strength, grey dark grey, fine to coarse grained, laminations at 5° to 10°. | 28 | SW | d:0.90 ; a:1.05 | VLS 0.1 LS 0.3 MS 1.0 HS 3 VHS 10 EHS | | 30 100 300 1000 3000 | 28.62, P, 5°, UN, RO, VN, OP, |
| | | | 62.7 / 28.64 | | | As above, but pale grey. | 28.64 | | | | | | |
| | | | | | | | 29 | | d:0.72 ; a:1.30 | | RQD = 100% TCR = 100% | | |
| | | | | | | | | | d:1.19 ; a:1.37 | | | | |
| | | | | | SST | | 30 | SW | | | | | |
| | | | | | | | | | d:1.13 ; a:1.22 | | | | |
| | | | | | | | 31 | | | | RQD = 100% TCR = 100% | | |
| | Loss - 0% Water Loss | | | | | | | | d:1.90 ; a:2.39 | | | | |

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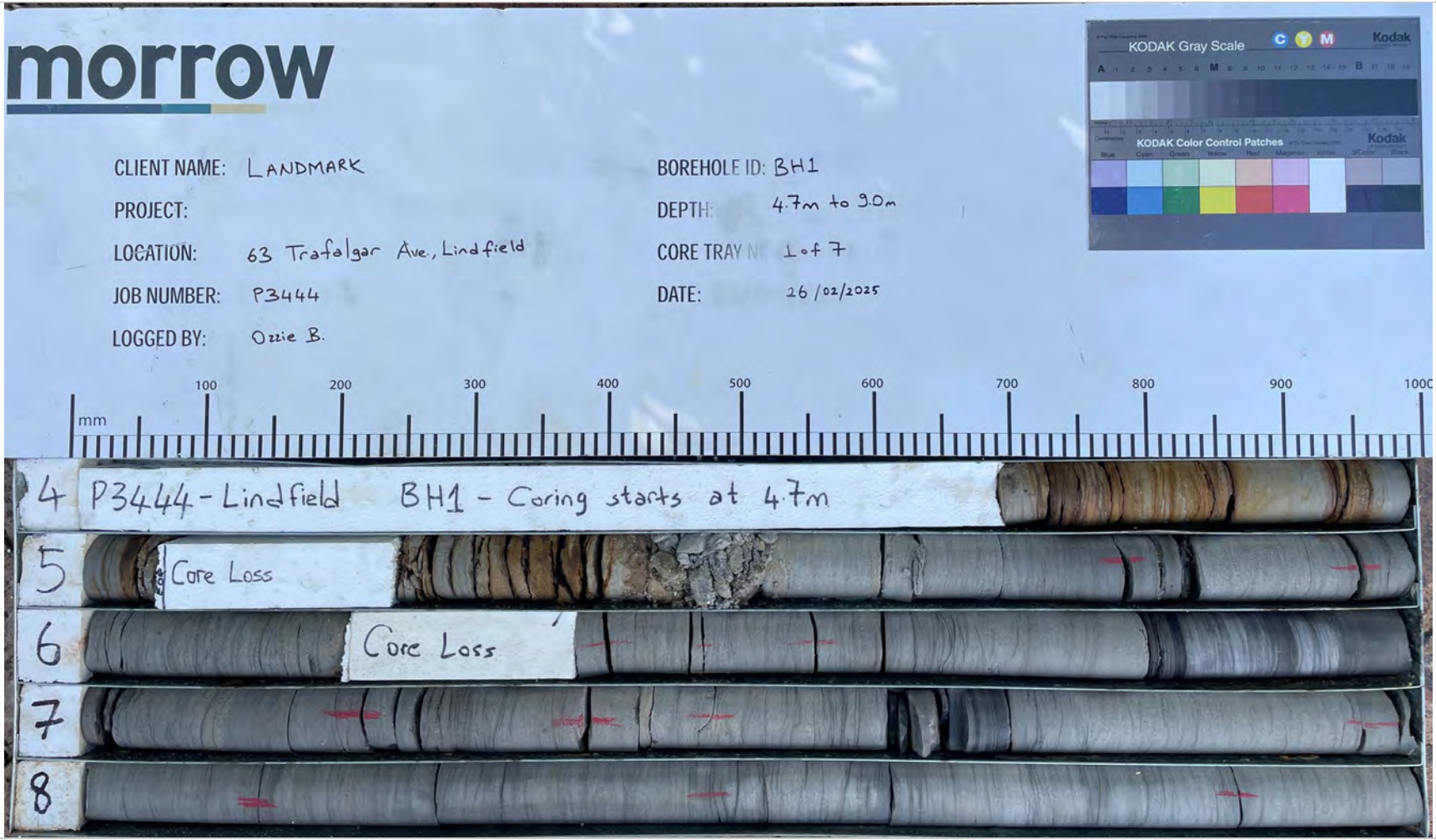
# Borehole No: BH1

| | | | | | |
|---|---|---|---|---|---|
| UTM | : 56S | Driller Rig | : GEO205 - Comacchio | Job Number | : P3444 |
| Easting | : 330797.48 | Driller Supplier | : GEOSENSE | Client | : Landmark Group Construction Australia Pty Ltd |
| Northing | : 6261245.34 | Logged By | : Ozzie Baskan | Project | : Lindfield |
| RL | : 91.30(m) | Reviewed By | : Mahmoud Jangidaryan | Location | : 59-63 Trafalgar Avenue & 1A/B Valley Road, Lindfield NSW |
| Total Depth | : 35.75 m | Date | : 26/02/2025 | Loc Comment | : Driveway of 63 Trafalgar Avenue , near the gate. |

| Drilling Method | Water | Well Diagram | Elevation / Depth (m) | Graphic Log | Classification Code | Material Description | Depth (m) | Weathering | Testing: Is(50) | Estimated Strength (VLS, LS, MS, HS, VHS, EHS; 0.1, 0.3, 1.0, 3, 10) | RQD% and TCR% | Defect Spacing (mm) (30, 100, 300, 1000, 3000) | Defect Description |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NMLC Coring | Loss - 0% Water Loss | 50mm PVC Slotted | | | SST | As above, but pale grey. | 33 | SW | d:1.14 ; a:1.87 | | RQD = 100% TCR = 100% | | 33.34, P, 10°, UN, RO, CL, OP, |
| | | | | | | | 34 | | d:0.82 ; a:1.17 | | | | 34.29-34.32, CRF, 5°, |
| | | | 56.6 | | | | 34.65 | | d:0.97 ; a:0.89 | | | | |
| | | | 34.65 | | SHA | Rock SHALE: moderately weathered, medium strength, dark grey, fine grained. | 35 | MW | d:0.50 ; a:0.37 | | RQD = 96.84% TCR = 100% | | 34.77-34.8, CRF, 5°, |
| | | | | | | | | | | | | | 34.91, J, 40°, UN, SO, CL, OP, |
| | | | | | | | | | d:0.45 ; a:0.31 | | | | 35.2, P, 30°, PL, SO, CL, OP, |
| | | | 55.9 | | | | 35.43 | | | | | | 35.43, P, 10°, PL, RO, CL, OP, |
| | | | 35.43 | | SST | Rock SANDSTONE: slightly weathered, high strength, pale grey, fine to coarse grained. | | SW | d:2.06 ; a:1.92 | | | | 35.49, P, 20°, PL, RO, CL, OP, |
| | | | | | | **BH1 Reached Target Depth at 35.75m** | | | | | | | |

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Sydney Gadigal Land
2/5-7 Malta Steet, Fairfield
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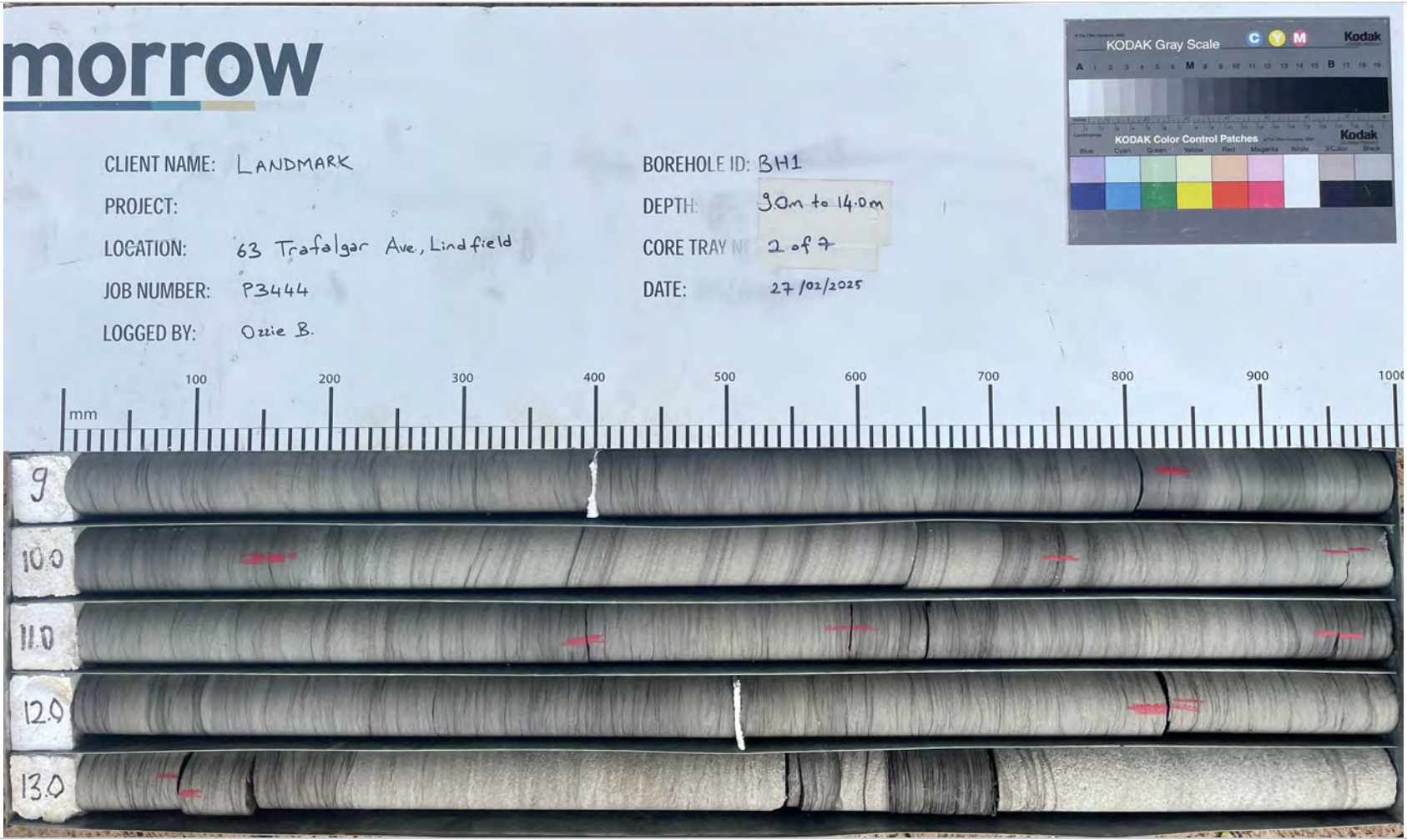
| | | | |
|---|---|---|---|
| **Photo description** | Box 1 of 7 | | |
| **Client** | Landmark Group Construction Australia Pty Ltd | | |
| **Location** | 59-63 Trafalgar Avenue & 1A/B Valley Road, Lindfield NSW | | |
| **Project name** | Lindfield | | |
| **Project No** | P3444 | **Scale** | Not to Scale |
| **BH No** | BH1 | **BH Depth** | CorePhoto |

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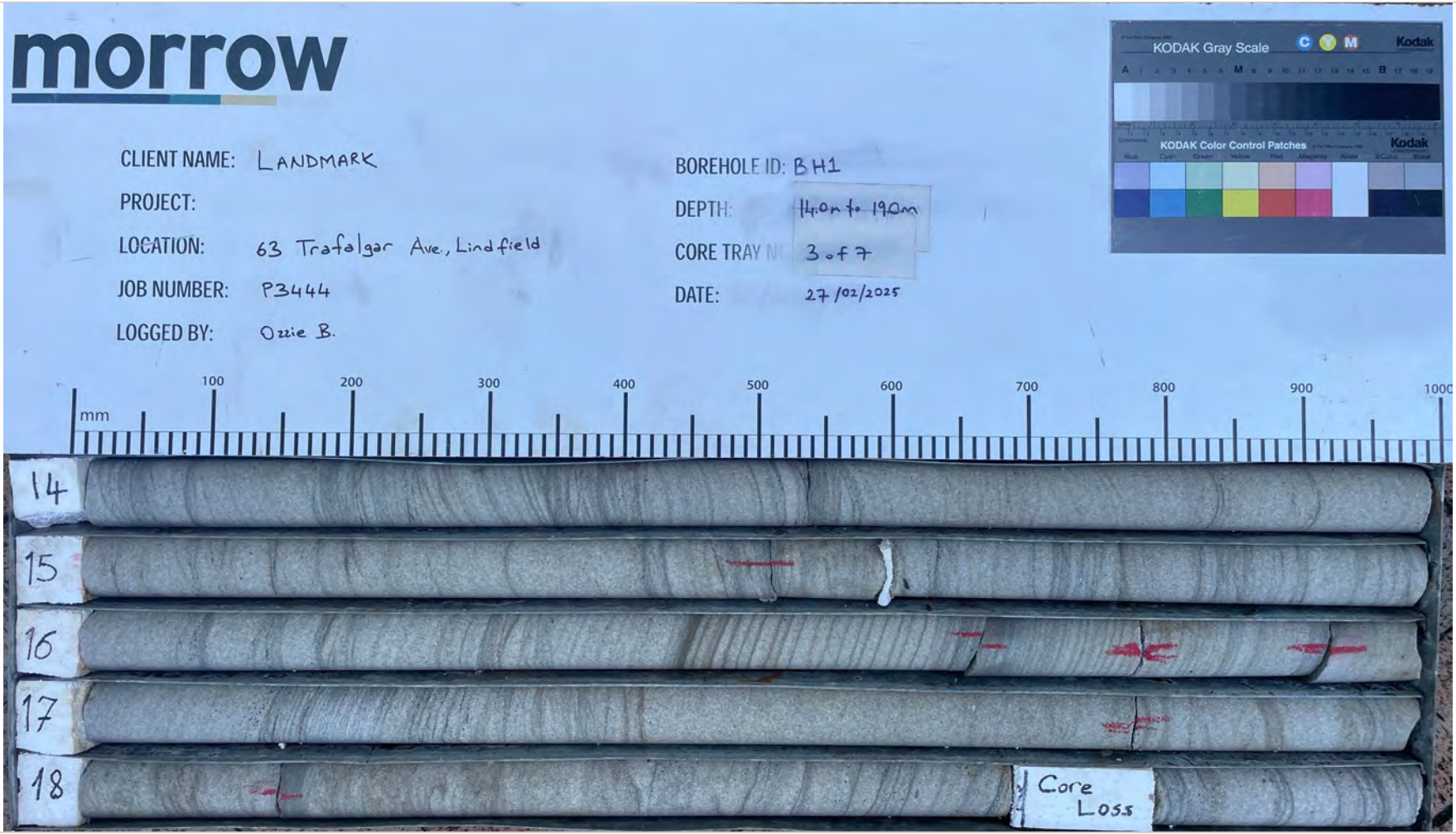
|---|---|---|---|
| **Photo description** | Box 2 of 7 | | |
| **Client** | Landmark Group Construction Australia Pty Ltd | | |
| **Location** | 59-63 Trafalgar Avenue & 1A/B Valley Road, Lindfield NSW | | |
| **Project name** | Lindfield | | |
| **Project No** | P3444 | **Scale** | Not to Scale |
| **BH No** | BH1 | **BH Depth** | CorePhoto |

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|---|---|---|---|
| **Photo description** | Box 3 of 7 | | |
| **Client** | Landmark Group Construction Australia Pty Ltd | | |
| **Location** | 59-63 Trafalgar Avenue & 1A/B Valley Road, Lindfield NSW | | |
| **Project name** | Lindfield | | |
| **Project No** | P3444 | **Scale** | Not to Scale |
| **BH No** | BH1 | **BH Depth** | CorePhoto |


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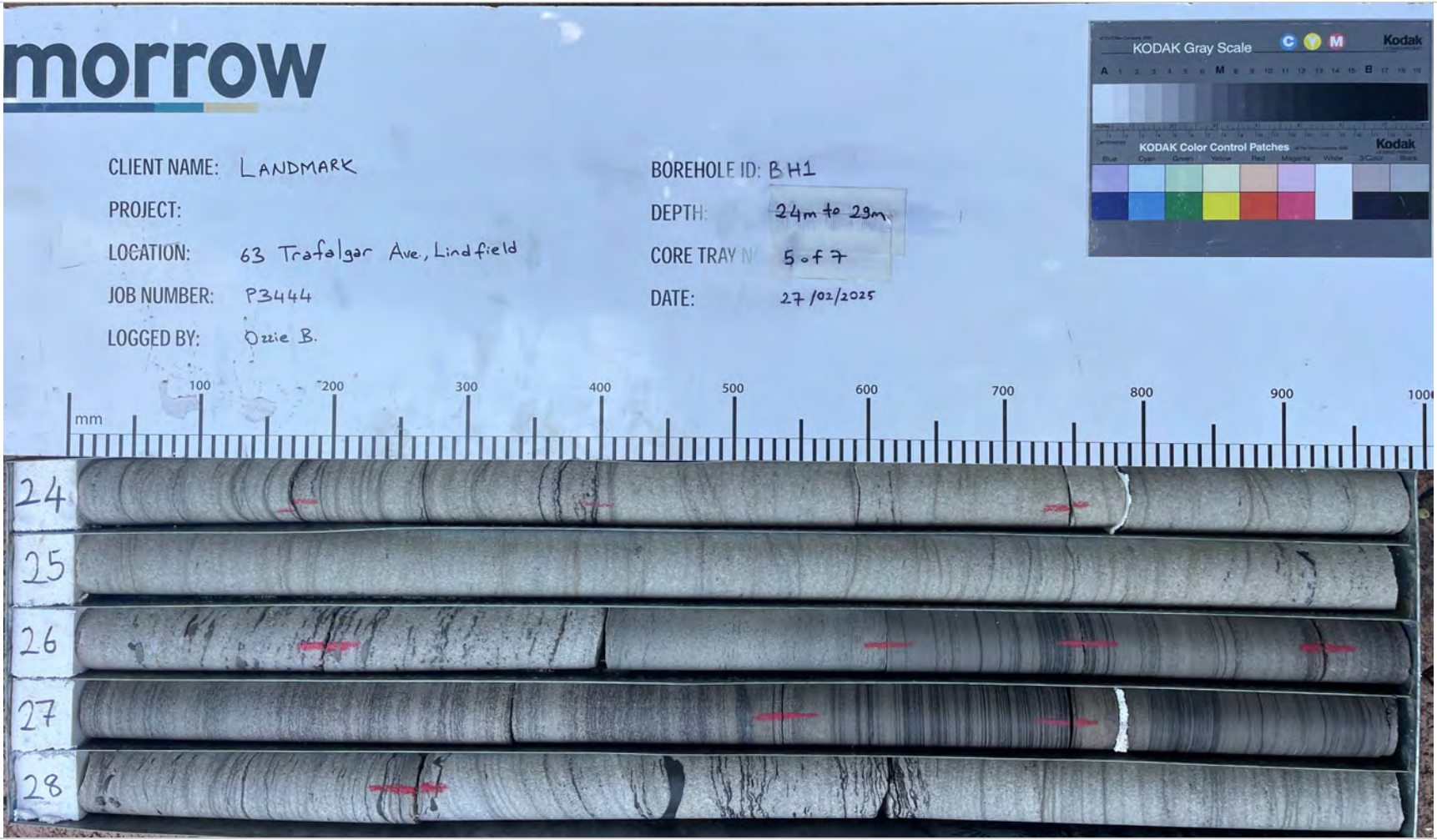
|---|---|---|---|
| **Photo description** | Box 4 of 7 | | |
| **Client** | Landmark Group Construction Australia Pty Ltd | | |
| **Location** | 59-63 Trafalgar Avenue & 1A/B Valley Road, Lindfield NSW | | |
| **Project name** | Lindfield | | |
| **Project No** | P3444 | **Scale** | Not to Scale |
| **BH No** | BH1 | **BH Depth** | CorePhoto |

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| | | | |
|---|---|---|---|
| **Photo description** | Box 5 of 7 | | |
| **Client** | Landmark Group Construction Australia Pty Ltd | | |
| **Location** | 59-63 Trafalgar Avenue & 1A/B Valley Road, Lindfield NSW | | |
| **Project name** | Lindfield | | |
| **Project No** | P3444 | **Scale** | Not to Scale |
| **BH No** | BH1 | **BH Depth** | CorePhoto |


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| | | | |
|---|---|---|---|
| **Photo description** | Box 6 of 7 | | |
| **Client** | Landmark Group Construction Australia Pty Ltd | | |
| **Location** | 59-63 Trafalgar Avenue & 1A/B Valley Road, Lindfield NSW | | |
| **Project name** | Lindfield | | |
| **Project No** | P3444 | **Scale** | Not to Scale |
| **BH No** | BH1 | **BH Depth** | CorePhoto |


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| | | | |
|---|---|---|---|
| **Photo description** | Box 7 of 7 | | |
| **Client** | Landmark Group Construction Australia Pty Ltd | | |
| **Location** | 59-63 Trafalgar Avenue & 1A/B Valley Road, Lindfield NSW | | |
| **Project name** | Lindfield | | |
| **Project No** | P3444 | **Scale** | Not to Scale |
| **BH No** | BH1 | **BH Depth** | CorePhoto |

morrow

# Borehole No: BH2

| | | | | | |
|---|---|---|---|---|---|
| UTM | : 56S | Driller Rig | : GEO205 - Comacchio | Job Number | : P3444 |
| Easting | : 330881.21 | Driller Supplier | : GEOSENSE | Client | : Landmark Group Construction Australia Pty Ltd |
| Northing | : 6261255.66 | Logged By | : Mahmoud Jangidaryan | Project | : Lindfield |
| RL | : 85.40(m) | Reviewed By | : Ozzie Baskan | Location | : 59-63 Trafalgar Avenue & 1A/B Valley Road, Lindfield NSW |
| Total Depth | : 20.5 m | Date | : 14/02/2025 | Loc Comment | : Driveway of 1A Valley Road, across from the pool. |

| Drilling Method | Water | Well Diagram | Testing (SPT) | Elevation / Depth (m) | Graphic Log | Material Type | Classification Code | Material Description | Depth (m) | Consistency | Weathering | Moisture |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Diatube | | | | 85.3 | | Non-Soil | CCT | Concrete | 0.13 | | | |
| ADT | 1, GWNE | 50mm PVC Solid | 3,3,3 (N=6) | 0.13 / 84.7 | | FILL | SP | FILL Gravelly SAND loose, dark grey, fine grained, fine to medium sized gravel, moist. | 0.7 | L | | M |
| | | | | 0.7 / 84.4 | | Residual | CI | Residual Gravelly to sandy CLAY firm to stiff, medium plasticity, fine sized gravel, inorganic, ironstone gravels. | 1 | F-St | | |
| | | | 0mm,0/mm (N=23) | 1 / 83.7 | | Rock | SST | Extremely weathered Sandstone, Gravelly SAND very dense, pale grey with orange, fine grained, fine to medium sized gravel, trace low plasticity clay, trace low plasticity silt. | 1.75 | VD-WC | XW | D |
| | | | | 1.75 | | | | **Commenced Coring at 1.75m** | | | | |

morrow

# Borehole No: BH2

| | | | | | |
|---|---|---|---|---|---|
| UTM | : 56S | Driller Rig | : GEO205 - Comacchio | Job Number | : P3444 |
| Easting | : 330881.21 | Driller Supplier | : GEOSENSE | Client | : Landmark Group Construction Australia Pty Ltd |
| Northing | : 6261255.66 | Logged By | : Mahmoud Jangidaryan | Project | : Lindfield |
| RL | : 85.40(m) | Reviewed By | : Ozzie Baskan | Location | : 59-63 Trafalgar Avenue & 1A/B Valley Road, Lindfield NSW |
| Total Depth | : 20.5 m | Date | : 14/02/2025 | Loc Comment | : Driveway of 1A Valley Road, across from the pool. |

| Drilling Method | Water | Well Diagram | Elevation / Depth (m) | Graphic Log | Classification Code | Material Description | Depth (m) | Weathering | Testing: Is(50) | Estimated Strength (VLS 0.03, LS 0.1, MS 0.3, HS 1, VHS 3, EHS) | RQD% and TCR% | Defect Spacing (mm) (30, 100, 300, 1000, 3000) | Defect Description |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | **Commenced Coring at 1.75m** | | | | | | | |
| NMLC Coring | Loss - 20% Water Loss | 50mm PVC Solid | 83.0 / 2.4 | | CRL | Coreloss | 2 | | | | | | 1.75-2.38, CORELOSS, |
| | | | 2.4 | | SST | Rock SANDSTONE: highly weathered, very low strength, pale grey orange red, fine grained, ironstone bands. | 2.4 | HW | d:0.04; a:0.06 | | RQD = 0% TCR = 53.33% | | 2.38-3.1, XWS, |
| | | | | | | | 3 | | | | | | 3.13, P, 5°, PL, RO,<br>3.16, P, 5°, PL, RO,<br>3.24, P, 5°, PL, RO,<br>3.42, P, 5°, PL, SO,<br>3.51, P, 25°, PL, SO, |
| | | | 81.6 / 3.77 | | CRL | Coreloss | 3.77 | | d:0.02; a:0.01 | | RQD = 15% TCR = 59.17% | | 3.77-4.45, CORELOSS, |

morrow

# Borehole No: BH2

| | | | | | |
|---|---|---|---|---|---|
| UTM | : 56S | Driller Rig | : GEO205 - Comacchio | Job Number | : P3444 |
| Easting | : 330881.21 | Driller Supplier | : GEOSENSE | Client | : Landmark Group Construction Australia Pty Ltd |
| Northing | : 6261255.66 | Logged By | : Mahmoud Jangidaryan | Project | : Lindfield |
| RL | : 85.40(m) | Reviewed By | : Ozzie Baskan | Location | : 59-63 Trafalgar Avenue & 1A/B Valley Road, Lindfield NSW |
| Total Depth | : 20.5 m | Date | : 14/02/2025 | Loc Comment | : Driveway of 1A Valley Road, across from the pool. |

| Drilling Method | Water | Well Diagram | Elevation / Depth (m) | Graphic Log | Classification Code | Material Description | Depth (m) | Weathering | Testing: Is(50) | Estimated Strength | RQD% and TCR% | Defect Spacing (mm) | Defect Description |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NMLC Coring | Loss - 20% Water Loss | 50mm PVC Solid | 81.0 / 4.45 | | CRL | Coreloss | 4.45 | | | | | | 4.45-4.8, XWS, |
| | | | 80.3 / 5.1 | | SST | Rock SANDSTONE: highly weathered, very low strength, pale grey orange red, fine grained. | 5 | HW | d:0.06 ; a:0.04 | | RQD = 15% TCR = 59.17% | | 5.05-5.15, J, 80°, PL, RO, |
| | | | 79.4 / 6 | | SST | Rock SANDSTONE: highly weathered, very low to low strength, pale grey with red, very fine grained. | 5.1 | HW | d:0.27 ; a:1.12 | | | | 5.28, P, 10°, CV, RO, 5.32-5.63, CRF, RO, |
| | | | | | | | 6 | | d:0.04 ; a:0.47 | | | | 5.86, P, 10°, RO, 5.91-5.95, CS, |
| | | 50mm PVC Slotted | | | SST | Rock SANDSTONE: moderately to slightly weathered, medium strength, pale grey with grey and brown, very fine grained, carbonaceous beddings. | | | d:0.64 ; a:1.41 | | | | 6.15, P, 15°, IR, VR, 6.26, P, 20°, PL, RO, CL, , 6.3, P, 20°, PL, RO, CL, , |
| | Loss - 20% Water Loss | | | | | | 7 | MW-SW | d:0.81 ; a:0.93 | | RQD = 74% TCR = 100% | | 6.66, J, 50°, PL, RO, 6.73, J, 50°, PL, RO, 6.77, J, 50°, PL, RO, |
| | | | | | | | | | d:1.39 ; a:1.09 | | | | 7.72, P, 20°, IR, RO, CL, , 7.77, P, 5°, PL, RO, |
| | | | | | | | | | | | | | 7.93, P, 5°, PL, RO, |

morrow

# Borehole No: BH2

| | | | | | |
|---|---|---|---|---|---|
| UTM | : 56S | Driller Rig | : GEO205 - Comacchio | Job Number | : P3444 |
| Easting | : 330881.21 | Driller Supplier | : GEOSENSE | Client | : Landmark Group Construction Australia Pty Ltd |
| Northing | : 6261255.66 | Logged By | : Mahmoud Jangidaryan | Project | : Lindfield |
| RL | : 85.40(m) | Reviewed By | : Ozzie Baskan | Location | : 59-63 Trafalgar Avenue & 1A/B Valley Road, Lindfield NSW |
| Total Depth | : 20.5 m | Date | : 14/02/2025 | Loc Comment | : Driveway of 1A Valley Road, across from the pool. |

| Drilling Method | Water | Well Diagram | Elevation / Depth (m) | Graphic Log | Classification Code | Material Description | Depth (m) | Weathering | Testing: Is(50) | Estimated Strength (VLS 0.03, LS 0.1, MS 0.3, HS 1, VHS 3, EHS) | RQD% and TCR% | Defect Spacing (mm) (30, 100, 300, 1000, 3000) | Defect Description |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NMLC Coring | Loss - 10% Water Loss | 50mm PVC Slotted | 76.4 / 9 | | SST | Rock SANDSTONE: moderately to slightly weathered, medium strength, pale grey with grey and brown, very fine grained, carbonaceous beddings. | 9 | MW-SW | d:0.60 ; a:0.85 | | RQD = 74% TCR = 100% | | |
| | | | | | | | | | | | RQD = 100% TCR = 100% | | |
| | | | 76.4 / 9 | | SST | Rock SANDSTONE: fresh weathered, high strength, pale grey grey, fine grained, with carbonaceous beddings.. | 9 | F | | | | | 9.53, P, 10°, PL, RO, |
| | | | | | | | | | d:1.26 ; a:1.47 | | | | 9.76, P, 10°, PL, RO, |
| | | | | | | | 10 | | | | | | 9.89, P, 10°, PL, RO, |
| | | | | | | | | | d:1.12 ; a:0.90 | | | | |
| | | | | | | | 11 | | | | | | 11.07, P, 10°, PL, RO, |
| | | | | | | | | | d:1.10 ; a:1.04 | | | | |
| | | | | | | | | | | | RQD = 100% TCR = 100% | | |

morrow

# Borehole No: BH2

| | | | | | |
|---|---|---|---|---|---|
| UTM | : 56S | Driller Rig | : GEO205 - Comacchio | Job Number | : P3444 |
| Easting | : 330881.21 | Driller Supplier | : GEOSENSE | Client | : Landmark Group Construction Australia Pty Ltd |
| Northing | : 6261255.66 | Logged By | : Mahmoud Jangidaryan | Project | : Lindfield |
| RL | : 85.40(m) | Reviewed By | : Ozzie Baskan | Location | : 59-63 Trafalgar Avenue & 1A/B Valley Road, Lindfield NSW |
| Total Depth | : 20.5 m | Date | : 14/02/2025 | Loc Comment | : Driveway of 1A Valley Road, across from the pool. |

| Drilling Method | Water | Well Diagram | Elevation / Depth (m) | Graphic Log | Classification Code | Material Description | Depth (m) | Weathering | Testing: Is(50) | Estimated Strength (VLS 0.03, LS 0.1, MS 0.3, HS 1, VHS 3, EHS) | RQD% and TCR% | Defect Spacing (mm) (30, 100, 300, 1000, 3000) | Defect Description |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NMLC Coring | Loss - 10% Water Loss | 50mm PVC Slotted | | | SST | Rock SANDSTONE: fresh weathered, high strength, pale grey grey, fine grained, with carbonaceous beddings.. | 13<br>14<br>15 | F | d:0.92; a:1.60<br>d:1.47 ; a:1.50<br>d:1.99 ; a:1.72<br>d:1.54 ; a:1.80<br>d:1.93 ; a:2.38 | | RQD = 100%<br>TCR = 100% | | 12.63, P, 20°, PL, RO,<br>15.62, P, 10°, UN, RO,<br>15.67, P, 5°, PL, RO,<br>15.71, P, 5°, PL, RO,<br>15.81, P, 5°, PL, RO, |

morrow

# Borehole No: BH2

| | | | | | |
|---|---|---|---|---|---|
| UTM | : 56S | Driller Rig | : GEO205 - Comacchio | Job Number | : P3444 |
| Easting | : 330881.21 | Driller Supplier | : GEOSENSE | Client | : Landmark Group Construction Australia Pty Ltd |
| Northing | : 6261255.66 | Logged By | : Mahmoud Jangidaryan | Project | : Lindfield |
| RL | : 85.40(m) | Reviewed By | : Ozzie Baskan | Location | : 59-63 Trafalgar Avenue & 1A/B Valley Road, Lindfield NSW |
| Total Depth | : 20.5 m | Date | : 14/02/2025 | Loc Comment | : Driveway of 1A Valley Road, across from the pool. |

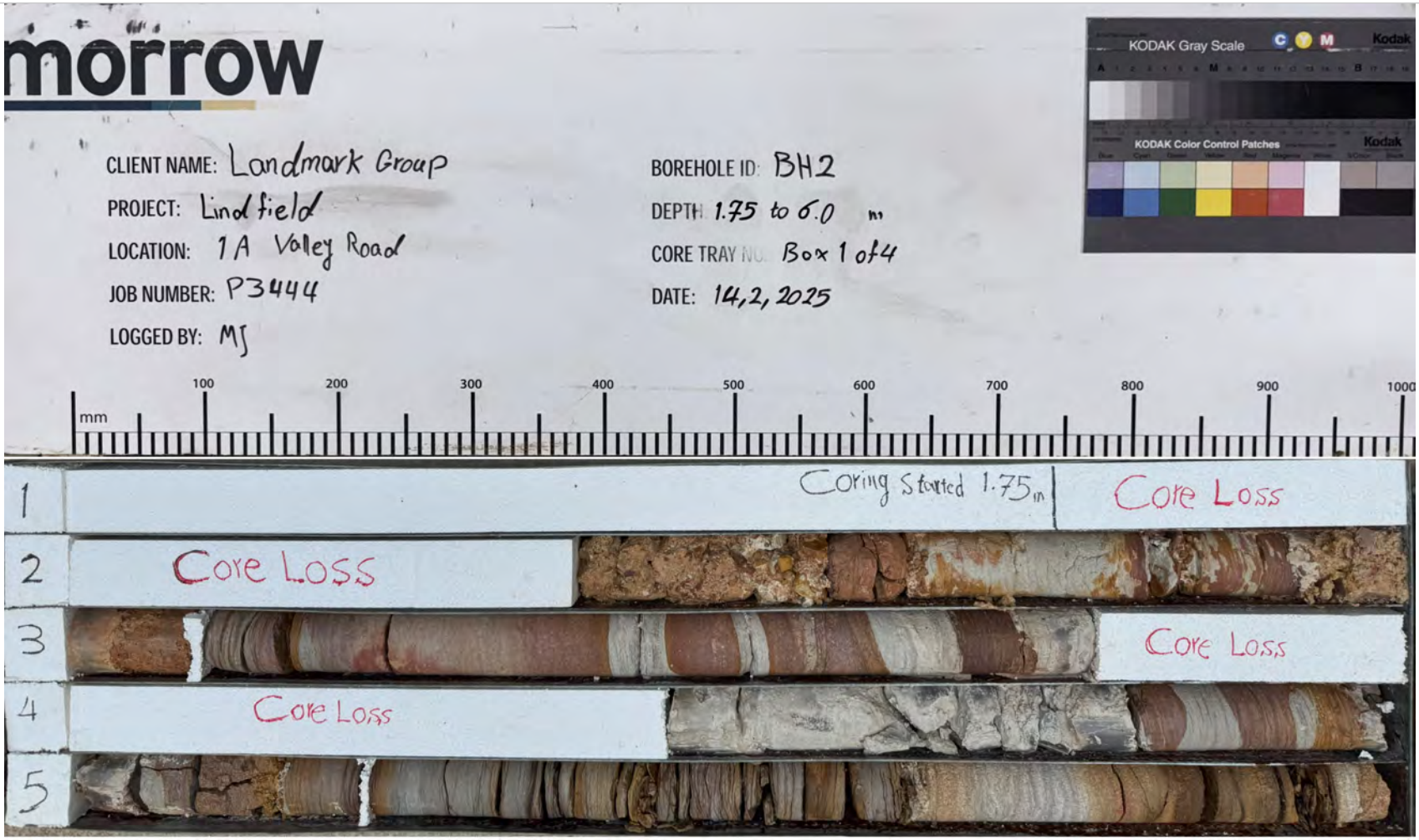
| Drilling Method | Water | Well Diagram | Elevation / Depth (m) | Graphic Log | Classification Code | Material Description | Depth (m) | Weathering | Testing: Is(50) | Estimated Strength (VLS 0.03, LS 0.1, MS 0.3, HS 1, VHS 3, EHS) | RQD% and TCR% | Defect Spacing (mm) (30, 100, 300, 1000, 3000) | Defect Description |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NMLC Coring | Loss - 10% Water Loss | 50mm PVC Slotted | | | SST | Rock SANDSTONE: fresh weathered, high strength, pale grey grey, fine grained, with carbonaceous beddings.. | 17<br>18<br>19 | F | d:2.10 ; a:2.36<br>d:1.88 ; a:1.61<br>d:2.13 ; a:1.78<br>d:1.61 ; a:1.35 | | | | 16.9, J, 30°, PL, RO,<br>17.9, P, PL, VR,<br>18.52, P, 5°, PL, VR,<br>18.61, P, 10°, PL, VR, |

morrow

# Borehole No: BH2

| | | | | | |
|---|---|---|---|---|---|
| UTM | : 56S | Driller Rig | : GEO205 - Comacchio | Job Number | : P3444 |
| Easting | : 330881.21 | Driller Supplier | : GEOSENSE | Client | : Landmark Group Construction Australia Pty Ltd |
| Northing | : 6261255.66 | Logged By | : Mahmoud Jangidaryan | Project | : Lindfield |
| RL | : 85.40(m) | Reviewed By | : Ozzie Baskan | Location | : 59-63 Trafalgar Avenue & 1A/B Valley Road, Lindfield NSW |
| Total Depth | : 20.5 m | Date | : 14/02/2025 | Loc Comment | : Driveway of 1A Valley Road, across from the pool. |

| Drilling Method | Water | Well Diagram | Elevation / Depth (m) | Graphic Log | Classification Code | Material Description | Depth (m) | Weathering | Testing: Is(50) | Estimated Strength (VLS 0.03, LS, MS 0.1, HS 0.3, VHS 1, EHS 3) | RQD% and TCR% | Defect Spacing (mm) (30, 100, 300, 1000, 3000) | Defect Description |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NMLC Coring | | 50mm PVC Slotted | | | SST | Rock SANDSTONE: fresh weathered, high strength, pale grey grey, fine grained, with carbonaceous beddings.. | | F | d:1.34 ; a:1.71 | | | | 20.17, P, 10°, UN, VR,<br>20.42, P, 5°, PL, RO, |
| | | | | | | **BH2 Reached Target Depth at 20.5m** | | | | | | | |

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02 8599 7579

Sydney Gadigal Land
2/5-7 Malta Steet, Fairfield
East NSW 2155

info@morrowgeo.com.au

| | | | |
|---|---|---|---|
| **Photo description** | Box 1 of 4 | | |
| **Client** | Landmark Group Construction Australia Pty Ltd | | |
| **Location** | 59-63 Trafalgar Avenue & 1A/B Valley Road, Lindfield NSW | | |
| **Project name** | Lindfield | | |
| **Project No** | P3444 | **Scale** | Not to Scale |
| **BH No** | BH2 | **BH Depth** | CorePhoto |


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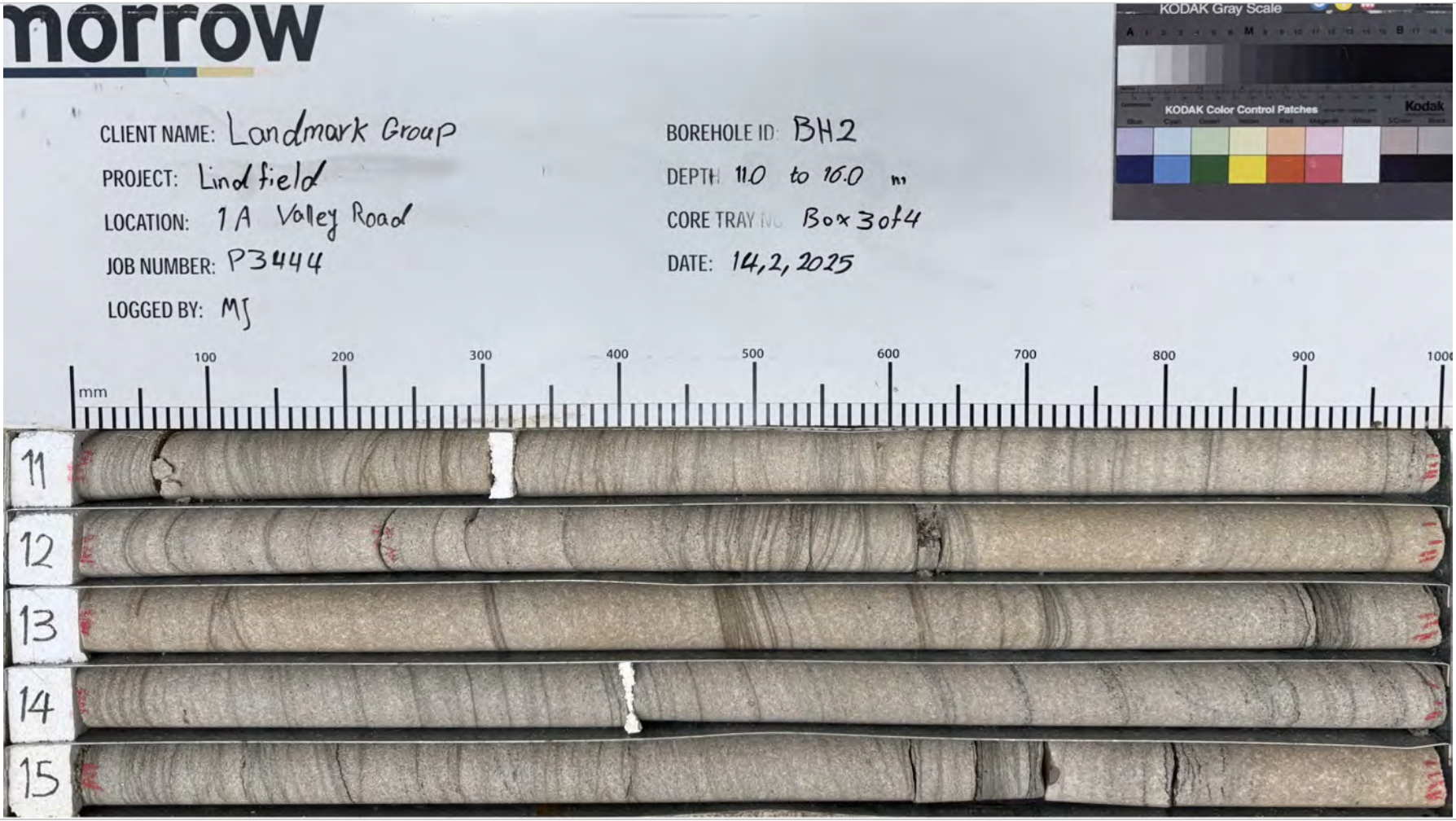
East NSW 2155

info@morrowgeo.com.au

| | | | |
|---|---|---|---|
| **Photo description** | Box 2 of 4 | | |
| **Client** | Landmark Group Construction Australia Pty Ltd | | |
| **Location** | 59-63 Trafalgar Avenue & 1A/B Valley Road, Lindfield NSW | | |
| **Project name** | Lindfield | | |
| **Project No** | P3444 | **Scale** | Not to Scale |
| **BH No** | BH2 | **BH Depth** | CorePhoto |

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2/5-7 Malta Steet, Fairfield
East NSW 2155

info@morrowgeo.com.au

| | | | |
|---|---|---|---|
| **Photo description** | Box 3 of 4 | | |
| **Client** | Landmark Group Construction Australia Pty Ltd | | |
| **Location** | 59-63 Trafalgar Avenue & 1A/B Valley Road, Lindfield NSW | | |
| **Project name** | Lindfield | | |
| **Project No** | P3444 | **Scale** | Not to Scale |
| **BH No** | BH2 | **BH Depth** | CorePhoto |


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|---|---|---|---|
| **Photo description** | Box 4 of 4 | | |
| **Client** | Landmark Group Construction Australia Pty Ltd | | |
| **Location** | 59-63 Trafalgar Avenue & 1A/B Valley Road, Lindfield NSW | | |
| **Project name** | Lindfield | | |
| **Project No** | P3444 | **Scale** | Not to Scale |
| **BH No** | BH2 | **BH Depth** | CorePhoto |

morrow

# Borehole No: BH3

| | | | | | |
|---|---|---|---|---|---|
| UTM | : 56S | Driller Rig | : Man Portable | Job Number | : P3444 |
| Easting | : 330840.02 | Driller Supplier | : TIGHT Site | Client | : Landmark Group Construction Australia Pty Ltd |
| Northing | : 6261235.97 | Logged By | : Mahmoud Jangidaryan | Project | : Lindfield |
| RL | : 87.50(m) | Reviewed By | : Ozzie Baskan | Location | : 59-63 Trafalgar Avenue & 1A/B Valley Road, Lindfield NSW |
| Total Depth | : 20.4 m | Date | : 11/02/2025 | Loc Comment | : North-eastern corner of the tennis court at 63 Trafalgar Avenue. |

| Drilling Method | Water | Testing | Elevation / Depth (m) | Material Type | Graphic Log | Classification Code | Material Description | Depth (m) | Consistency | Weathering | Moisture |
|---|---|---|---|---|---|---|---|---|---|---|---|
| tube | | | 87.4 | Non-Soil | | CCT | Concrete | 0.08 | | | |
| Hand Auger | | | 0.08 / 87.2 | FILL | | CL | FILL Gravelly to sandy CLAY low plasticity, stiff, orange pale grey, fine to medium sized gravel, fine grained sand, trace low plasticity silt, inorganic, w < pl. | 0.3 | St | | w < PL |
| | | | 0.3 / 87.0 | Residual | | CH | Residual Silty CLAY stiff to very stiff, high plasticity, pale grey with red, inorganic, trace of ironstone gravels. | 0.45 | St-VSt | | |
| | | | 0.45 / 86.9 | Rock | | SST | Extremely weathered Sandstone, Gravelly SAND very dense, pale grey orange red, fine to medium grained, fine sized gravel, trace low plasticity clay, trace low plasticity silt. | 0.50 | VD-PC-MC | XW | M |
| | | | 0.6 | | | | **Commenced Coring at 0.6m** | 0.6 | | | |

morrow

# Borehole No: BH3

| | | | | | |
|---|---|---|---|---|---|
| UTM | : 56S | Driller Rig | : Man Portable | Job Number | : P3444 |
| Easting | : 330840.02 | Driller Supplier | : TIGHT Site | Client | : Landmark Group Construction Australia Pty Ltd |
| Northing | : 6261235.97 | Logged By | : Mahmoud Jangidaryan | Project | : Lindfield |
| RL | : 87.50(m) | Reviewed By | : Ozzie Baskan | Location | : 59-63 Trafalgar Avenue & 1A/B Valley Road, Lindfield NSW |
| Total Depth | : 20.4 m | Date | : 11/02/2025 | Loc Comment | : North-eastern corner of the tennis court at 63 Trafalgar Avenue. |

| Drilling Method | Water | Depth (m) | Elevation (m) | Graphic Log | Classification Code | Material Description | Depth (m) | Weathering | Testing: Is(50) | Estimated Strength (VLS 0.1, LS 0.3, MS 1.0, HS 3, VHS 10, EHS) | RQD% and TCR% | Defect Spacing (mm) (30, 100, 300, 1000, 3000) | Defect Description (type, inclination, planarity, roughness, coating, thickness) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 88 | | | | | | | | | | |
| | | 0.50 | 87 | | | **Commenced Coring at 0.6m** | 0.50 | | | | | | |
| NMLC Coring | No Water Loss | | | | SST | Rock SANDSTONE: highly weathered, very low strength, pale grey dark grey pale brown, very fine grained, with siltstone laminations and iron staining. | | | d:1.67 ; a:1.93 | | | | 0.6-0.85, CRF, |
| | | 1 | | | | | 1 | | | | | | 0.98, P, 10°, PL, RO, CL, , |
| | | | | | | | | | | | | | 1-1.02, J, 85°, PL, RO, |
| | | | | | | | | | | | | | 1.06-1.09, XWS, |
| | | | | | | | | | | | | | 1.19, P, 5°, PL, RO, |
| | | | | | | | | | | | RQD = 0% TCR = 100% | | |
| | | 1.50 | 86 | | | | 1.50 | HW | | | | | 1.52, P, 5°, PL, RO, |
| | | | | | | | | | d:0.02 ; a:0.85 | | | | |
| | | | | | | | | | | | | | 1.87, P, 20°, PL, RO, |
| | | | | | | | | | | | | | 1.9, P, 10°, PL, RO, |
| | | 2 | | | | | 2 | | | | | | 2.04, P, 10°, PL, RO, CL, , |
| | | | | | | | | | | | | | 2.15, P, 10°, PL, RO, CL, , |
| | | | | | | | | | | | | | 2.24, P, 5°, PL, RO, CL, , |
| | | | | | | | | | | | | | 2.26, P, 5°, PL, RO, CL, , |
| | | | | | | | 2.35 | | | | | | 2.3, P, 5°, PL, RO, CL, , |
| | | | | | CRL | Coreloss | 2.36 | | | | | | 2.35-2.36, CORELOSS, |
| | | | | | SST | Rock SANDSTONE: highly weathered, medium strength, pale grey dark grey pale brown, fine grained, with siltstone lamination and iron staining. | | | | | | | 2.42, P, 5°, PL, SO, CL, , |
| | | 2.50 | 85 | | | | 2.50 | | | | | | |
| | | | | | | | | | | | | | 2.64, P, 5°, PL, RO, CL, , (X2), |
| | | | | | | | | | d:0.56 ; a:0.81 | | | | |
| | | | | | | | | | | | RQD = 33.75% TCR = 99.38% | | 2.9, P, 10°, PL, RO, CL, , |
| | | 3 | | | | | 3 | | | | | | |
| | | | | | | | | HW | | | | | 3.26, P, 10°, PL, RO, CL, , |
| | | | | | | | | | | | | | 3.32, P, 10°, PL, RO, |
| | | | | | | | | | | | | | 3.36-3.45, J, 60°, PL, RO, |
| | | 3.50 | 84 | | | | 3.50 | | | | | | 3.48, P, 5°, PL, RO, |
| | | | | | | | | | | | | | 3.56, P, 5°, PL, RO, |
| | | | | | | | | | | | | | 3.65, P, 10°, PL, RO, (X2), |
| | | | | | | | | | d:0.26 ; a:0.43 | | | | 3.72, P, 10°, PL, RO, |
| | | | | | | | | | | | RQD = 0% TCR = 88.73% | | 3.82, P, 10°, PL, RO, (X2), |
| | | | | | | | | | | | | | 3.92, P, 10°, PL, RO, (X2), |

morrow

# Borehole No: BH3

| | | | | | |
|---|---|---|---|---|---|
| UTM | : 56S | Driller Rig | : Man Portable | Job Number | : P3444 |
| Easting | : 330840.02 | Driller Supplier | : TIGHT Site | Client | : Landmark Group Construction Australia Pty Ltd |
| Northing | : 6261235.97 | Logged By | : Mahmoud Jangidaryan | Project | : Lindfield |
| RL | : 87.50(m) | Reviewed By | : Ozzie Baskan | Location | : 59-63 Trafalgar Avenue & 1A/B Valley Road, Lindfield NSW |
| Total Depth | : 20.4 m | Date | : 11/02/2025 | Loc Comment | : North-eastern corner of the tennis court at 63 Trafalgar Avenue. |

| Drilling Method | Water | Depth (m) | Elevation (m) | Graphic Log | Classification Code | Material Description | Depth (m) | Weathering | Testing: Is(50) | Estimated Strength (VLS 0.1, LS 0.3, MS 1.0, HS 3, VHS 10, EHS) | RQD% and TCR% | Defect Spacing (mm) (30, 100, 300, 1000, 3000) | Defect Description (type, inclination, planarity, roughness, coating, thickness) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NMLC Coring | No Water Loss | | 84 | | SST | Rock SANDSTONE: highly weathered, medium strength, pale grey dark grey pale brown, fine grained, with siltstone lamination and iron staining. | | HW | | | RQD = 0% TCR = 88.73% | | 4.07-4.17, J, 75°, PL, RO, STN, OP, |
| | | | | | | | | | | | | | 4.19, P, 10°, PL, RO, |
| | | | | | | | | | | | | | 4.25-4.3, CS, |
| | | | | | CRL | Coreloss | 4.31 | | | | | | 4.31-4.39, CORELOSS, |
| | | | | | | | 4.39 | | | | | | 4.41, P, 10°, PL, RO, CL, , |
| | | 4.50 | 83 | | SST | Rock SANDSTONE: highly weathered, high strength, pale grey dark grey pale brown, fine grained, with siltstone lamination and iron staining. | 4.50 | HW | d:0.78 ; a:1.12 | | | | 4.57, P, 10°, PL, RO, |
| | | | | | | | | | | | | | 4.63-4.67, J, 40°, PL, RO, (X2), |
| | | | | | | | 4.7 | | | | | | 4.73-4.79, J, 40°, PL, RO, |
| | | | | | | Rock SANDSTONE: moderately weathered, high strength, pale grey with pale brown, fine grained. | | | | | | | 4.9, P, 10°, PL, RO, CL, OP, |
| | | 5 | | | | | 5 | | | | RQD = 98.74% TCR = 100% | | 5.18, P, 10°, PL, RO, CL, OP, |
| | | 5.50 | 82 | | | | 5.50 | | d:0.72 ; a:1.04 | | | | 5.58, P, 10°, UN, VR, CL, OP, |
| | | 6 | | | | | 6 | | | | | | 5.92, P, 5°, PL, RO, CL, OP, |
| | | | | | | | | | | | | | 6.02, P, 5°, CV, RO, CL, OP, |
| | | | | | | | | | | | | | 6.1, P, 15°, PL, RO, CL, OP, |
| | | | | | | | | | | | | | 6.14, P, 15°, PL, RO, CL, OP, |
| | | | | | | | | | | | | | 6.19, P, 20°, IR, VR, CL, OP, |
| | | | | | | | | | | | | | 6.27, 10°, CV, RO, CL, OP, |
| | | | | | SST | | | MW | | | | | 6.33, P, 20°, PL, RO, CL, OP, |
| | | | | | | | | | | | | | 6.34, P, 20°, PL, RO, CL, OP, |
| | | 6.50 | 81 | | | | 6.50 | | d:1.23 ; a:1.50 | | | | |
| | | 7 | | | | | 7 | | | | RQD = 77.22% TCR = 100% | | 7.04, P, PL, SO, CL, OP, |
| | | | | | | | | | | | | | 7.23, P, PL, SO, CL, OP, |
| | | 7.50 | 80 | | | | 7.50 | | d:1.30 ; a:1.70 | | | | 7.44, P, UN, RO, CL, OP, |
| | | | | | | | | | | | RQD = 71.95% TCR = 100% | | 7.69, P, 5°, PL, RO, |
| | | | | | | | | | | | | | 7.78, P, 5°, PL, RO, |
| | | | | | | | | | | | | | 7.83, P, 5°, PL, RO, |

morrow

# Borehole No: BH3

| | | | | | |
|---|---|---|---|---|---|
| UTM | : 56S | Driller Rig | : Man Portable | Job Number | : P3444 |
| Easting | : 330840.02 | Driller Supplier | : TIGHT Site | Client | : Landmark Group Construction Australia Pty Ltd |
| Northing | : 6261235.97 | Logged By | : Mahmoud Jangidaryan | Project | : Lindfield |
| RL | : 87.50(m) | Reviewed By | : Ozzie Baskan | Location | : 59-63 Trafalgar Avenue & 1A/B Valley Road, Lindfield NSW |
| Total Depth | : 20.4 m | Date | : 11/02/2025 | Loc Comment | : North-eastern corner of the tennis court at 63 Trafalgar Avenue. |

| Drilling Method | Water | Depth (m) | Elevation (m) | Graphic Log | Classification Code | Material Description | Depth (m) | Weathering | Testing: Is(50) | Estimated Strength (VLS 0.1, LS 0.3, MS 1.0, HS 3, VHS 10, EHS) | RQD% and TCR% | Defect Spacing (mm) (30, 100, 300, 1000, 3000) | Defect Description (type, inclination, planarity, roughness, coating, thickness) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NMLC Coring | No Water Loss | | 80 | | SST | Rock SANDSTONE: moderately weathered, high strength, pale grey with pale brown, fine grained. | | MW | | | | | 8.19, P, 5°, PL, RO, |
| | | | | | | | 8.3 | | | | | | |
| | | | | | | Rock SANDSTONE: slightly to fresh weathered, medium to high strength, pale grey, fine grained, with carbonaceous beddings.. | | | d:0.32 ; a:0.83 | | | | 8.31, P, 10°, PL, VR,<br>8.36, P, 10°, PL, VR, |
| | | 8.50 | 79 | | | | 8.50 | | | | RQD = 71.95% TCR = 100% | | 8.5, P, 2°, PL, SO, |
| | | | | | | | | | | | | | 8.66-8.73, CORELOSS, |
| | | 9 | | | | | 9 | | | | | | 9, P, 20°, PL, RO, CL, OP,<br>9.02-9.06, J, 40°, PL, RO,<br>9.06, P, 10°, PL, RO, |
| | | 9.50 | 78 | | | | 9.50 | | d:1.16 ; a:1.32 | | | | |
| | | 10 | | | SST | | 10 | SW-F | | | RQD = 100% TCR = 100% | | 10.4, P, 5°, PL, RO, CL, OP, |
| | | 10.50 | 77 | | | | 10.50 | | d:0.89 ; a:0.86 | | | | |
| | | 11 | | | | | 11 | | | | | | 11.24, J, 45°, PL, RO, CL, OP,<br>11.27, P, 30°, PL, RO, CL, OP, |
| | | 11.50 | 76 | | | | 11.50 | | d:1.34 ; a:1.43 | | RQD = 96.86% TCR = 100% | | 11.51, P, 3°, PL, SO, CL, OP, |

morrow

# Borehole No: BH3

| | | | | | |
|---|---|---|---|---|---|
| UTM | : 56S | Driller Rig | : Man Portable | Job Number | : P3444 |
| Easting | : 330840.02 | Driller Supplier | : TIGHT Site | Client | : Landmark Group Construction Australia Pty Ltd |
| Northing | : 6261235.97 | Logged By | : Mahmoud Jangidaryan | Project | : Lindfield |
| RL | : 87.50(m) | Reviewed By | : Ozzie Baskan | Location | : 59-63 Trafalgar Avenue & 1A/B Valley Road, Lindfield NSW |
| Total Depth | : 20.4 m | Date | : 11/02/2025 | Loc Comment | : North-eastern corner of the tennis court at 63 Trafalgar Avenue. |

| Drilling Method | Water | Depth (m) | Elevation (m) | Graphic Log | Classification Code | Material Description | Depth (m) | Weathering | Testing: Is(50) | Estimated Strength (VLS 0.1, LS 0.3, MS 1.0, HS 3, VHS 10, EHS) | RQD% and TCR% | Defect Spacing (mm) (30, 100, 300, 1000, 3000) | Defect Description (type, inclination, planarity, roughness, coating, thickness) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NMLC Coring | No Water Loss | | 76 | | | Rock SANDSTONE: slightly to fresh weathered, medium to high strength, pale grey, fine grained, with carbonaceous beddings.. | | | | | RQD = 96.86% TCR = 100% | | |
| | | 12.50 | 75 | | | | 12.50 | | d:0.97 ; a:0.82 | | | | |
| | | 13 | | | SST | | 13 | SW-F | | | RQD = 1.57% TCR = 100% | | |
| | | | | | | | | | d:0.63 ; a:0.94 | | | | |
| | | 13.50 | 74 | | | | 13.50 | | | | | | |
| | | 14 | | | | | 14 | | | | | | |
| | | | | | | Rock SANDSTONE: fresh weathered, high strength, pale grey, fine grained, with carbonaceous beddings. | | | | | | | 14.25, P, 2°, PL, RO, CL, OP, |
| | | | | | | | | | d:0.78 ; a:0.1.05 | | | | |
| | | 14.50 | 73 | | | | 14.50 | | | | RQD = 100% TCR = 100% | | 14.66, P, 45°, PL, RO, CL, OP, |
| | | | | | | | | | | | | | 14.75, P, PL, RO, CL, OP, |
| | | 15 | | | SST | | 15 | F | | | | | |
| | | | | | | | | | d:0.57 ; a:1.68 | | | | |
| | | 15.50 | 72 | | | | 15.50 | | | | RQD = 100% TCR = 100% | | 15.59, P, 5°, PL, RO, CL, OP, |
| | | | | | | | | | | | RQD = 100% TCR = 100% | | 15.97, P, 25°, PL, RO, CL, OP, |

morrow

# Borehole No: BH3

| | | | | | |
|---|---|---|---|---|---|
| UTM | : 56S | Driller Rig | : Man Portable | Job Number | : P3444 |
| Easting | : 330840.02 | Driller Supplier | : TIGHT Site | Client | : Landmark Group Construction Australia Pty Ltd |
| Northing | : 6261235.97 | Logged By | : Mahmoud Jangidaryan | Project | : Lindfield |
| RL | : 87.50(m) | Reviewed By | : Ozzie Baskan | Location | : 59-63 Trafalgar Avenue & 1A/B Valley Road, Lindfield NSW |
| Total Depth | : 20.4 m | Date | : 11/02/2025 | Loc Comment | : North-eastern corner of the tennis court at 63 Trafalgar Avenue. |

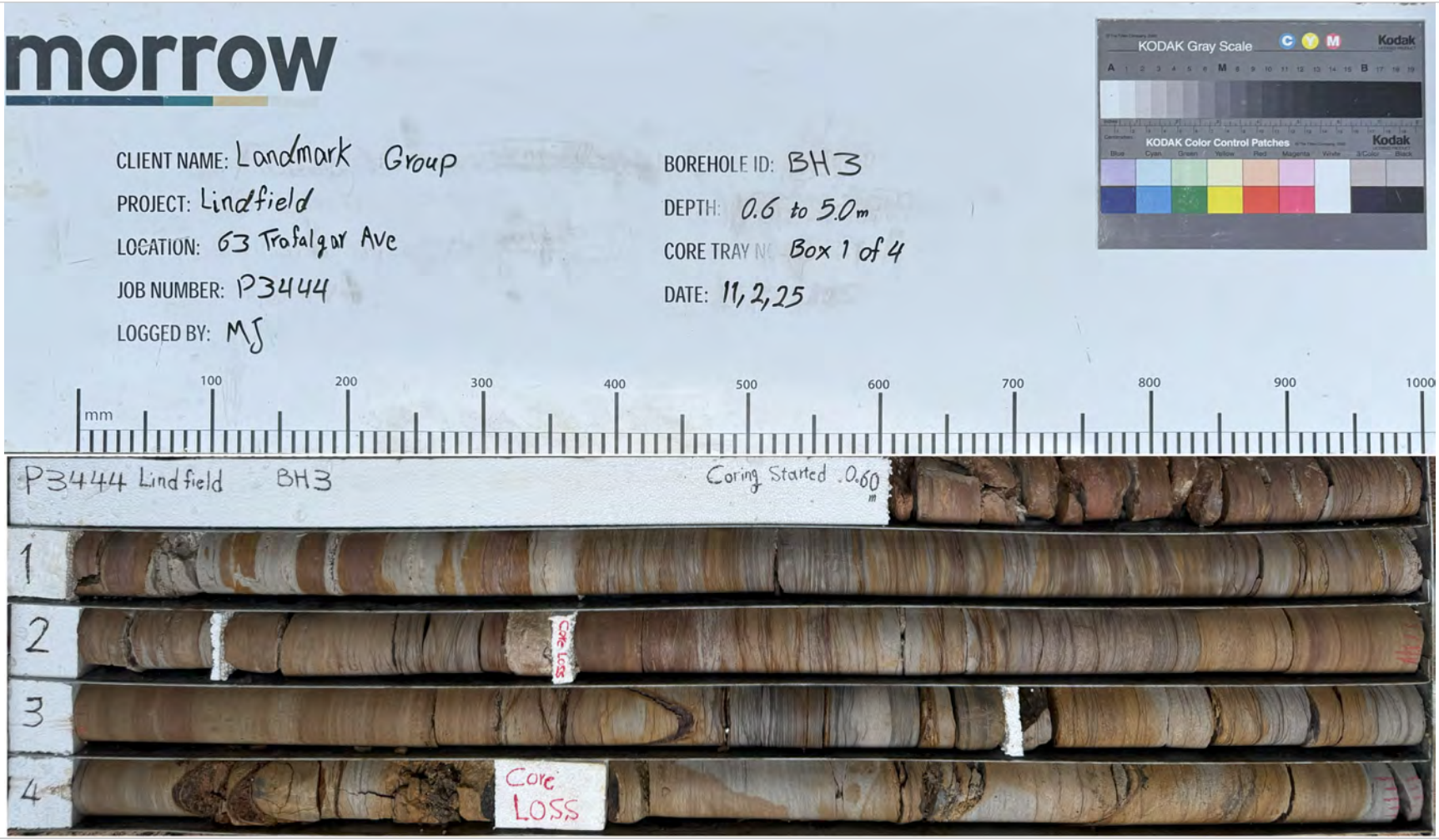
| Drilling Method | Water | Depth (m) | Elevation (m) | Graphic Log | Classification Code | Material Description | Depth (m) | Weathering | Testing: Is(50) | Estimated Strength (VLS 0.1, LS 0.3, MS 1.0, HS 3, VHS 10, EHS) | RQD% and TCR% | Defect Spacing (mm) (30, 100, 300, 1000, 3000) | Defect Description (type, inclination, planarity, roughness, coating, thickness) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NMLC Coring | No Water Loss | | 72 | | SST | Rock SANDSTONE: fresh weathered, high strength, pale grey, fine grained, with carbonaceous beddings. | | F | d:1.39 ; a:2.12 | | | | 16.13, P, PL, VR, CL, OP, |
| | | 16.50 | 71 | | | | 16.50 | | | | RQD = 100% TCR = 100% | | 16.8, P, 5°, PL, RO, CL, OP, |
| | | 17 | | | | | 17 | | | | | | 17.08, P, 5°, PL, VR, CL, OP, |
| | | | | | | | | | | | | | 17.19, P, 20°, PL, RO, CL, OP, |
| | | | | | | | | | d:0.84 ; a:1.22 | | | | |
| | | 17.50 | 70 | | | | 17.50 | | | | | | |
| | | 18 | | | | | 18 | | | | | | 17.98, P, 30°, PL, VR, CL, OP, |
| | | | | | | | | | | | RQD = 100% TCR = 100% | | |
| | | | | | | | | | d:1.68 ; a:1.64 | | | | 18.38, P, PL, RO, CL, OP, |
| | | 18.50 | 69 | | | | 18.50 | | | | | | |
| | | | | | | | | | | | | | 18.91, P, 10°, PL, RO, CL, OP, |
| | | 19 | | | | | 19 | | | | | | |
| | No Water Loss | | | | | | | | d:1.56 ; a:2.21 | | | | |
| | | 19.50 | 68 | | | | 19.50 | | | | RQD = 100% TCR = 100% | | |

morrow

# Borehole No: BH3

| | | | | | |
|---|---|---|---|---|---|
| UTM | : 56S | Driller Rig | : Man Portable | Job Number | : P3444 |
| Easting | : 330840.02 | Driller Supplier | : TIGHT Site | Client | : Landmark Group Construction Australia Pty Ltd |
| Northing | : 6261235.97 | Logged By | : Mahmoud Jangidaryan | Project | : Lindfield |
| RL | : 87.50(m) | Reviewed By | : Ozzie Baskan | Location | : 59-63 Trafalgar Avenue & 1A/B Valley Road, Lindfield NSW |
| Total Depth | : 20.4 m | Date | : 11/02/2025 | Loc Comment | : North-eastern corner of the tennis court at 63 Trafalgar Avenue. |

| Drilling Method | Water | Depth (m) | Elevation (m) | Graphic Log | Classification Code | Material Description | Depth (m) | Weathering | Testing: Is(50) | Estimated Strength (VLS 0.1, LS 0.3, MS 1.0, HS 3, VHS 10, EHS) | RQD% and TCR% | Defect Spacing (mm) (30, 100, 300, 1000, 3000) | Defect Description (type, inclination, planarity, roughness, coating, thickness) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NMLC Coring | | | 68 | | SST | Rock SANDSTONE: fresh weathered, high strength, pale grey, fine grained, with carbonaceous beddings. | | F | d:2.27 ; a:0.88 | | RQD = 100% TCR = 100% | | |
| | | | | | | **BH3 Reached Target Depth at 20.4m** | | | | | | | |

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02 8599 7579

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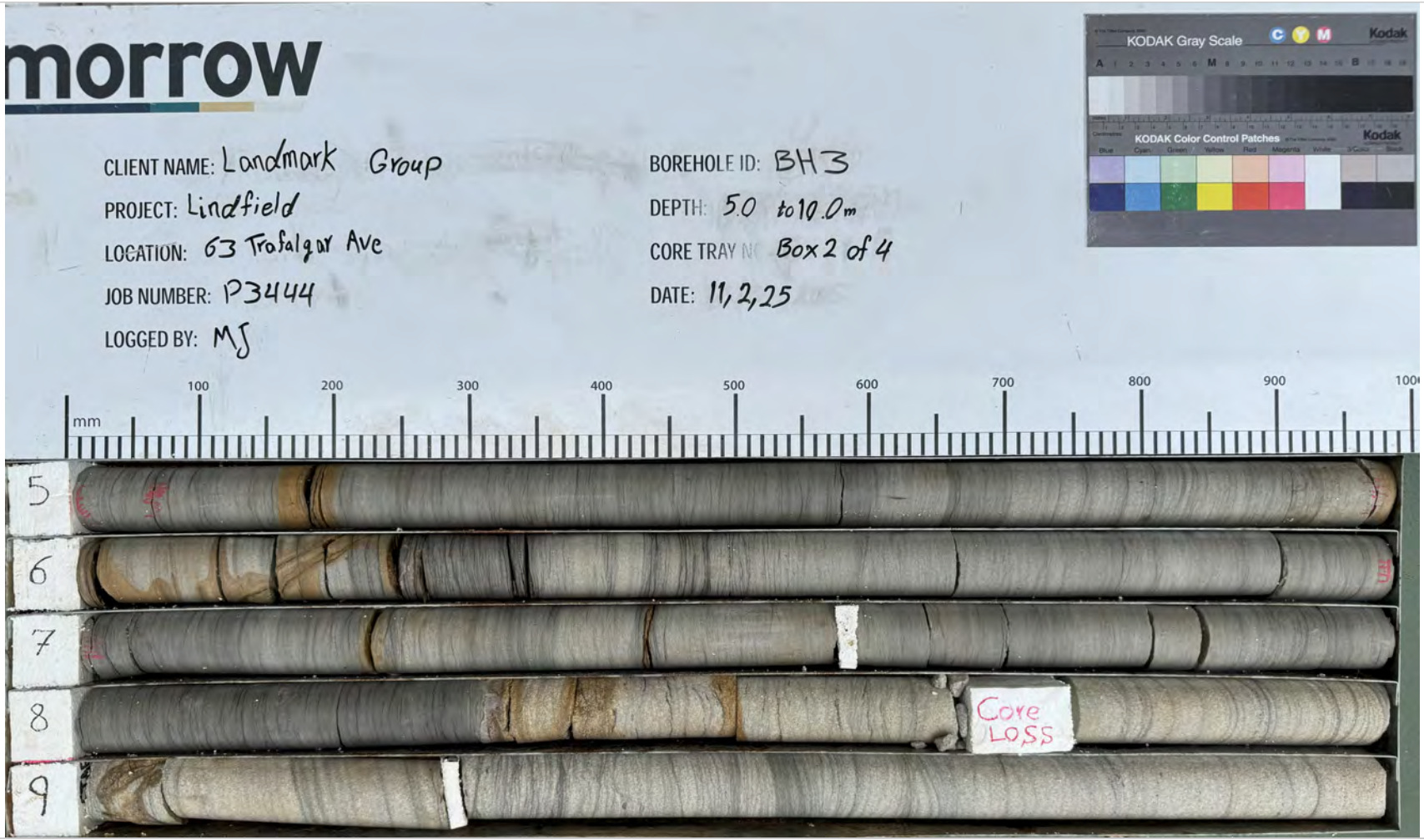
East NSW 2155

info@morrowgeo.com.au

| | | | |
|---|---|---|---|
| **Photo description** | BH3 - Box 1 of 4 | | |
| **Client** | Landmark Group Construction Australia Pty Ltd | | |
| **Location** | 59-63 Trafalgar Avenue & 1A/B Valley Road, Lindfield NSW | | |
| **Project name** | Lindfield | | |
| **Project No** | P3444 | **Scale** | Not to Scale |
| **BH No** | BH3 | **BH Depth** | CorePhoto |

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02 8599 7579

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2/5-7 Malta Steet, Fairfield
East NSW 2155

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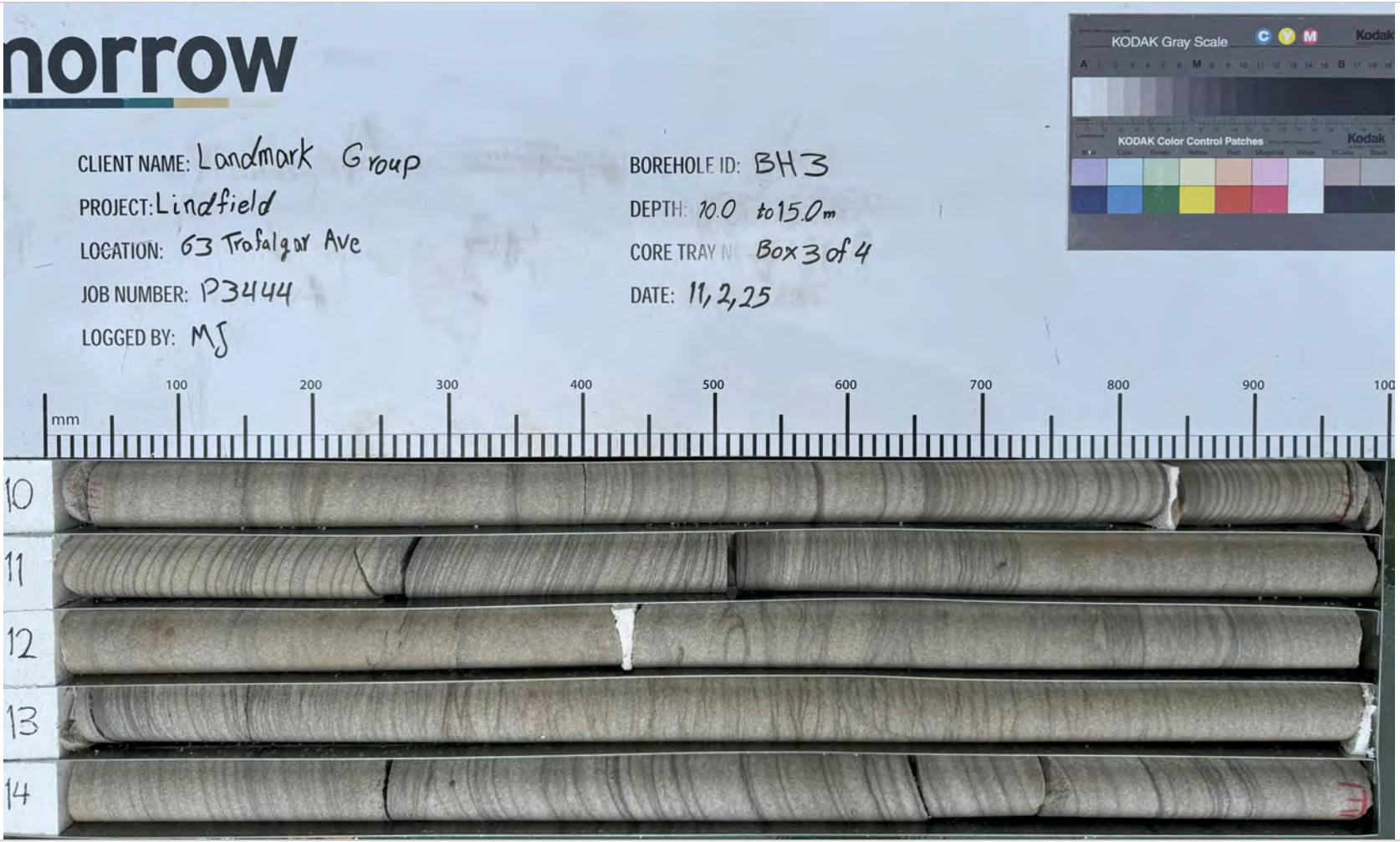
| | | | |
|---|---|---|---|
| **Photo description** | BH3 - Box 2 of 4 | | |
| **Client** | Landmark Group Construction Australia Pty Ltd | | |
| **Location** | 59-63 Trafalgar Avenue & 1A/B Valley Road, Lindfield NSW | | |
| **Project name** | Lindfield | | |
| **Project No** | P3444 | **Scale** | Not to Scale |
| **BH No** | BH3 | **BH Depth** | CorePhoto |

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East NSW 2155

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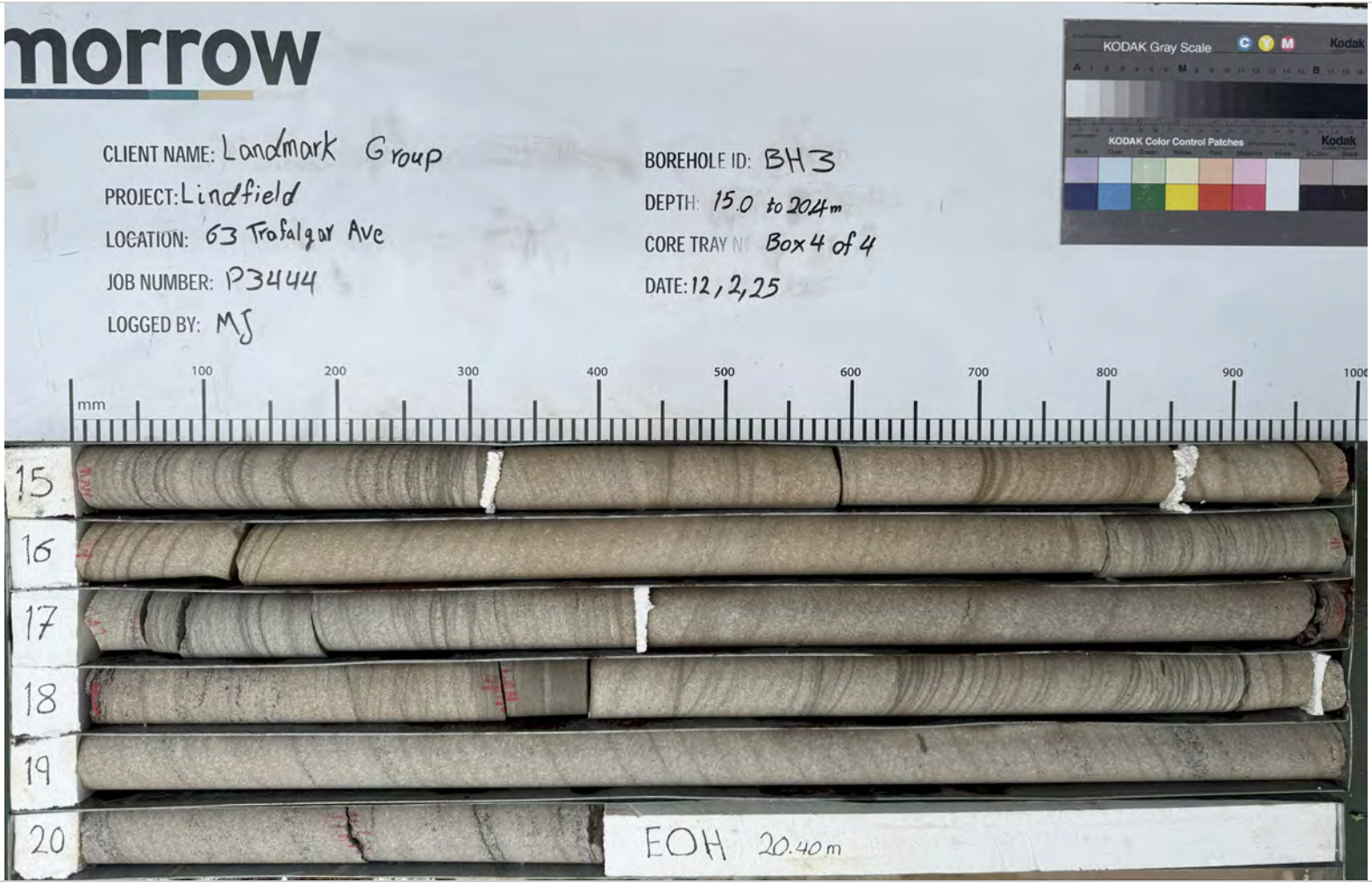
| | | | |
|---|---|---|---|
| **Photo description** | BH3 - Box 3 of 4 | | |
| **Client** | Landmark Group Construction Australia Pty Ltd | | |
| **Location** | 59-63 Trafalgar Avenue & 1A/B Valley Road, Lindfield NSW | | |
| **Project name** | Lindfield | | |
| **Project No** | P3444 | **Scale** | Not to Scale |
| **BH No** | BH3 | **BH Depth** | CorePhoto |

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East NSW 2155

info@morrowgeo.com.au

| | | | |
|---|---|---|---|
| **Photo description** | BH3 - Box 4 of 4 | | |
| **Client** | Landmark Group Construction Australia Pty Ltd | | |
| **Location** | 59-63 Trafalgar Avenue & 1A/B Valley Road, Lindfield NSW | | |
| **Project name** | Lindfield | | |
| **Project No** | P3444 | **Scale** | Not to Scale |
| **BH No** | BH3 | **BH Depth** | CorePhoto |

morrow

# Borehole No: BH4

| | | | | | |
|---|---|---|---|---|---|
| UTM | : 56S | Driller Rig | : GEO205 - Comacchio | Job Number | : P3444 |
| Easting | : 330887.16 | Driller Supplier | : GEOSENSE | Client | : Landmark Group Construction Australia Pty Ltd |
| Northing | : 6261205.27 | Logged By | : Ozzie Baskan | Project | : Lindfield |
| RL | : 81.70(m) | Reviewed By | : Mahmoud Jangidaryan | Location | : 59-63 Trafalgar Avenue & 1A/B Valley Road, Lindfield NSW |
| Total Depth | : 18 m | Date | : 03/03/2025 | Loc Comment | : End of the driveway of 1B Valley Road. |

| Drilling Method | Water | Testing: SPT | Depth (m) | Elevation (m) | Material Type | Graphic Log | Classification Code | Material Description | Elevation / Depth (m) | Consistency/Density | Moisture |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ADT | 2, GWNE | | | 82 | TOPSOIL | | SM | Topsoil Silty SAND very loose to loose, dark grey, fine grained, dry. | 81.5 | VL-L | D |
| | | | | | FILL | | CL | FILL Silty CLAY low plasticity, soft to firm, dark grey, w < pl. | 0.2<br>81.2 | S-F | w < PL |
| | | 2,2,3<br>(N=5) | 1 | 81 | Residual | | CI-CH | Residual Silty CLAY firm to stiff, medium to high plasticity, pale brown, w > pl, with organic matter (roots). | 0.5<br>80.2 | F-St | w > PL |
| | | 8,5,3<br>(N=8) | 2 | 80 | Residual | | CI-CH | Residual Silty CLAY firm to stiff, medium to high plasticity, grey white mottled red, w > pl, with organic matter (roots). | 1.5<br>79.2 | F-St | w > PL |
| | | | 3 | 79 | Rock | | SST | Extremely weathered Sandstone, Silty CLAY hard, low to medium plasticity, pale grey mottled brown, with ironstone and sandstone bands. | 2.5<br>78.7 | VLS | |
| | | | | | Rock | | SST | Rock SANDSTONE: highly weathered, very low to low strength, white grey red, fine to medium grained. | 3<br>78.1 | VLS-LS | |
| | | | | | | | | **Commenced Coring at 3.62m** | 3.62 | | |

morrow

# Borehole No: BH4

| | | | | | |
|---|---|---|---|---|---|
| UTM | : 56S | Driller Rig | : GEO205 - Comacchio | Job Number | : P3444 |
| Easting | : 330887.16 | Driller Supplier | : GEOSENSE | Client | : Landmark Group Construction Australia Pty Ltd |
| Northing | : 6261205.27 | Logged By | : Ozzie Baskan | Project | : Lindfield |
| RL | : 81.70(m) | Reviewed By | : Mahmoud Jangidaryan | Location | : 59-63 Trafalgar Avenue & 1A/B Valley Road, Lindfield NSW |
| Total Depth | : 18 m | Date | : 03/03/2025 | Loc Comment | : End of the driveway of 1B Valley Road. |

| Drilling Method | Water | Depth (m) | Elevation (m) | Graphic Log | Classification Code | Material Description | Depth (m) | Weathering | Testing: Is(50) | Estimated Strength (VLS 0.1, LS 0.3, MS 1.0, HS 3, VHS 10, EHS) | RQD% and TCR% | Defect Spacing (mm) (30, 100, 300, 1000, 3000) | Defect Description (type, inclination, planarity, roughness, coating, thickness) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 0 | 82 | | | | 0 | | | | | | |
| | | 0.50 | 81 | | | | 0.50 | | | | | | |
| | | 1 | | | | | 1 | | | | | | |
| | | 1.50 | 80 | | | | 1.50 | | | | | | |
| | | 2 | | | | | 2 | | | | | | |
| | | 2.50 | 79 | | | | 2.50 | | | | | | |
| | | 3 | | | | | 3 | | | | | | |
| | | 3.50 | 78 | | | **Commenced Coring at 3.62m** | 3.50 | | | | | | |
| NMLC Coring | | | | | SST | Rock SANDSTONE: moderately weathered, high strength, red grey pale brown, fine to medium grained, with iron staining. | | MW | d:0.86; a:1.82 | | RQD = 100% TCR = 100% | | 3.62, P, PL, RO, CL, OP, |

morrow

# Borehole No: BH4

| | | | | | |
|---|---|---|---|---|---|
| UTM | : 56S | Driller Rig | : GEO205 - Comacchio | Job Number | : P3444 |
| Easting | : 330887.16 | Driller Supplier | : GEOSENSE | Client | : Landmark Group Construction Australia Pty Ltd |
| Northing | : 6261205.27 | Logged By | : Ozzie Baskan | Project | : Lindfield |
| RL | : 81.70(m) | Reviewed By | : Mahmoud Jangidaryan | Location | : 59-63 Trafalgar Avenue & 1A/B Valley Road, Lindfield NSW |
| Total Depth | : 18 m | Date | : 03/03/2025 | Loc Comment | : End of the driveway of 1B Valley Road. |

| Drilling Method | Water | Depth (m) | Elevation (m) | Graphic Log | Classification Code | Material Description | Depth (m) | Weathering | Testing Is(50) | Estimated Strength (VLS 0.1, LS 0.3, MS 1.0, HS 3, VHS 10, EHS) | RQD% and TCR% | Defect Spacing (mm) (30, 100, 300, 1000, 3000) | Defect Description (type, inclination, planarity, roughness, coating, thickness) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NMLC Coring | | | 78 | | | | | | | | | | |
| | | | | | SST | Rock SANDSTONE: moderately weathered, high strength, red grey pale brown, fine to medium grained, with iron staining. | | MW | | | | | 4.06, P, 30°, PL, RO, CL, OP, |
| | Loss 10% Water Loss | 4.50 | 77 | | | | 4.50 | | | | | | |
| | | | | | SST | Rock SANDSTONE: moderately weathered, medium strength, fine to medium grained, laminations at 5° to 10°. | 4.68 | MW | d:0.38, a:0.46 | | | | 4.67, J, 5°, PL, RO, CT, OP, |
| | | 5 | | | | | 5 | | | | | | |
| | | | | | SST | | 5.4 | MW | | | RQD = 100% TCR = 100% | | 5.2, 5°, PL, RO, CL, OP, |
| | | 5.50 | 76 | | | Rock SANDSTONE: moderately weathered, medium strength, orange pale grey, fine to medium grained, with ironstone staining. | 5.50 | | d:0.87, a:0.68 | | | | |
| | | 6 | | | | | 6 | | | | | | |
| | | | | | SST | As above, but pale grey. | 6.16 | MW | | | | | 6.68, P, 30°, PL, RO, VN, OP, |
| | | 6.50 | 75 | | | | 6.50 | | d:0.59, a:0.88 | | | | 6.88, J, 5°, PL, RO, STN, OP, (X2), |
| | | 7 | | | | | 7 | | | | | | 7.05, P, 5°, PL, RO, STN, OP, (X2), |
| | | | | | SST | Rock SANDSTONE: slightly weathered, medium to high strength, pale grey, fine to medium grained. | 7.2 | SW | d:0.8, a:1.21 | | RQD = 100% TCR = 100% | | |
| | Loss 0% Water Loss | 7.50 | 74 | | | | 7.50 | | | | | | |

morrow

# Borehole No: BH4

| | | | | | |
|---|---|---|---|---|---|
| UTM | : 56S | Driller Rig | : GEO205 - Comacchio | Job Number | : P3444 |
| Easting | : 330887.16 | Driller Supplier | : GEOSENSE | Client | : Landmark Group Construction Australia Pty Ltd |
| Northing | : 6261205.27 | Logged By | : Ozzie Baskan | Project | : Lindfield |
| RL | : 81.70(m) | Reviewed By | : Mahmoud Jangidaryan | Location | : 59-63 Trafalgar Avenue & 1A/B Valley Road, Lindfield NSW |
| Total Depth | : 18 m | Date | : 03/03/2025 | Loc Comment | : End of the driveway of 1B Valley Road. |

| Drilling Method | Water | Depth (m) | Elevation (m) | Graphic Log | Classification Code | Material Description | Depth (m) | Weathering | Testing Is(50) | Estimated Strength (VLS 0.1, LS 0.3, MS 1.0, HS 3, VHS 10, EHS) | RQD% and TCR% | Defect Spacing (mm) (30, 100, 300, 1000, 3000) | Defect Description (type, inclination, planarity, roughness, coating, thickness) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NMLC Coring | | | 74 | | | Rock SANDSTONE: slightly weathered, medium to high strength, pale grey, fine to medium grained. | | | | | | | |
| | | | | | | | | | d:0.56, a:1.09 | | | | |
| | | 8.50 | 73 | | | | 8.50 | | | | | | 8.46, P, 30°, PL, RO, CL, OP, |
| | Loss 0% Water Loss | | | | | | | | | | RQD = 100% TCR = 100% | | |
| | | 9 | | | | | 9 | | | | | | 8.95, P, 5°, PL, RO, CL, OP, |
| | | 9.50 | 72 | | | | 9.50 | | | | | | |
| | | | | | | | | | d:0.52, a:1.44 | | | | |
| | | 10 | | | SST | | 10 | SW | | | | | |
| | | | | | | | | | d:0.73, a:1.31 | | | | |
| | | 10.50 | 71 | | | | 10.50 | | | | | | 10.55, P, 5°, PL, RO, VN, OP, |
| | | | | | | | | | | | RQD = 100% TCR = 100% | | |
| | | 11 | | | | | 11 | | | | | | |
| | | 11.50 | 70 | | | | 11.50 | | | | | | 11.46, P, 5°, IR, RO, CL, OP, |
| | Loss 0% Water Loss | | | | | | | | d:0.62, a:1.61 | | | | |

morrow

# Borehole No: BH4

| | | | | | |
|---|---|---|---|---|---|
| **UTM** | : 56S | **Driller Rig** | : GEO205 - Comacchio | **Job Number** | : P3444 |
| **Easting** | : 330887.16 | **Driller Supplier** | : GEOSENSE | **Client** | : Landmark Group Construction Australia Pty Ltd |
| **Northing** | : 6261205.27 | **Logged By** | : Ozzie Baskan | **Project** | : Lindfield |
| **RL** | : 81.70(m) | **Reviewed By** | : Mahmoud Jangidaryan | **Location** | : 59-63 Trafalgar Avenue & 1A/B Valley Road, Lindfield NSW |
| **Total Depth** | : 18 m | **Date** | : 03/03/2025 | **Loc Comment** | : End of the driveway of 1B Valley Road. |

| Drilling Method | Water | Depth (m) | Elevation (m) | Graphic Log | Classification Code | Material Description | Depth (m) | Weathering | Testing: Is(50) | Estimated Strength (VLS 0.1, LS 0.3, MS 1.0, HS 3, VHS 10, EHS) | RQD% and TCR% | Defect Spacing (mm) (30, 100, 300, 1000, 3000) | Defect Description (type, inclination, planarity, roughness, coating, thickness) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NMLC Coring | | | 70 | | | Rock SANDSTONE: slightly weathered, high strength, pale grey, fine to medium grained, .. | 12 | | | | | | |
| | | 12.50 | 69 | | | | 12.50 | | | | RQD = 100% TCR = 100% | | 12.72, P, 5°, CV, RO, CL, OP, |
| | Loss 0% Water Loss | | | | | | | | d:0.87, a:2.37 | | | | |
| | | 13 | | | | | 13 | | | | | | |
| | | 13.50 | 68 | | | | 13.50 | | | | | | 13.5, P, 5°, CV, RO, STN, OP, (X2), |
| | | | | | | | | | d:0.86, a:1.94 | | | | |
| | | 14 | | | SST | | 14 | SW | | | | | 14.05, 14.05°, PL, RO, CL, OP, (X2), |
| | | | | | | | | | | | RQD = 100% TCR = 100% | | |
| | | 14.50 | 67 | | | | 14.50 | | | | | | 14.4, J, 70°, PL, RO, CL, OP, |
| | | | | | | | | | d:1.0, a:2.4 | | | | |
| | | 15 | | | | | 15 | | | | | | |
| | | | | | | | | | d:1.0, a:1.89 | | | | |
| | | 15.50 | 66 | | | | 15.50 | | | | | | |
| | Loss 0% Water Loss | | | | | | | | | | RQD = 100% TCR = 100% | | |

morrow

# Borehole No: BH4

| | | | | | |
|---|---|---|---|---|---|
| UTM | : 56S | Driller Rig | : GEO205 - Comacchio | Job Number | : P3444 |
| Easting | : 330887.16 | Driller Supplier | : GEOSENSE | Client | : Landmark Group Construction Australia Pty Ltd |
| Northing | : 6261205.27 | Logged By | : Ozzie Baskan | Project | : Lindfield |
| RL | : 81.70(m) | Reviewed By | : Mahmoud Jangidaryan | Location | : 59-63 Trafalgar Avenue & 1A/B Valley Road, Lindfield NSW |
| Total Depth | : 18 m | Date | : 03/03/2025 | Loc Comment | : End of the driveway of 1B Valley Road. |

| Drilling Method | Water | Depth (m) | Elevation (m) | Graphic Log | Classification Code | Material Description | Depth (m) | Weathering | Testing: Is(50) | Estimated Strength (VLS 0.1, LS 0.3, MS 1.0, HS 3, VHS 10, EHS) | RQD% and TCR% | Defect Spacing (mm) (30, 100, 300, 1000, 3000) | Defect Description (type, inclination, planarity, roughness, coating, thickness) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NMLC Coring | | | 66 | | | Rock SANDSTONE: slightly weathered, high strength, pale grey, fine to medium grained, .. | | | | | | | |
| | | 16.50 | 65 | | | | 16.50 | | d:0.76, a:1.85 | | | | 16.5, P, 10°, IR, RO, STN, , |
| | | 17 | | | SST | | 17 | SW | | | RQD = 100% TCR = 100% | | |
| | Loss 0% Water Loss | | | | | | | | d:0.89, a 1.08 | | | | |
| | | 17.50 | 64 | | | | 17.50 | | | | | | |
| | | | | | | **BH4 Reached Target Depth at 18m** | | | | | | | |


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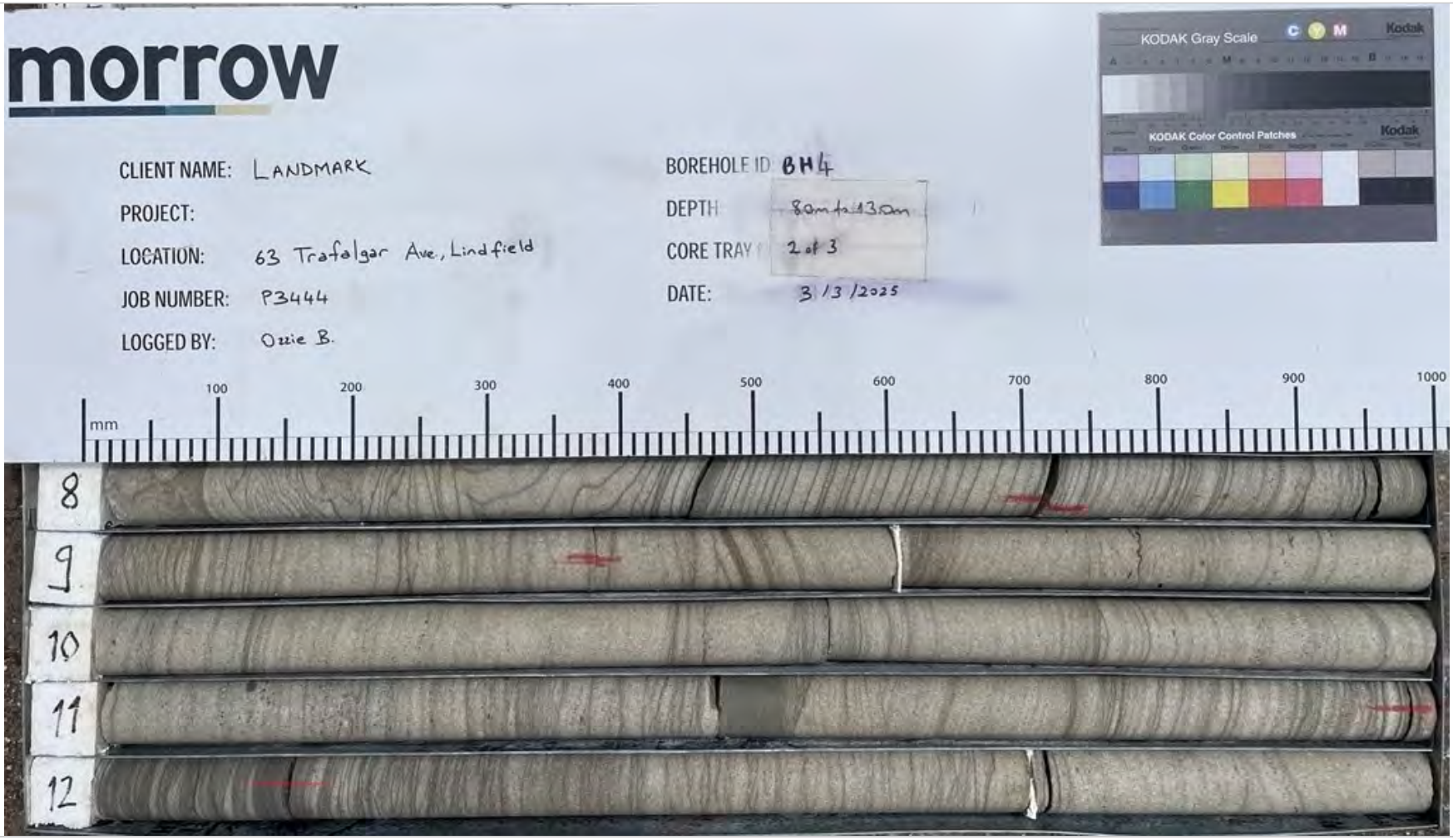
| | | | |
|---|---|---|---|
| **Photo description** | BH4 - Box 1 of 3 | | |
| **Client** | Landmark Group Construction Australia Pty Ltd | | |
| **Location** | 59-63 Trafalgar Avenue & 1A/B Valley Road, Lindfield NSW | | |
| **Project name** | Lindfield | | |
| **Project No** | P3444 | **Scale** | Not to Scale |
| **BH No** | BH4 | **BH Depth** | CorePhoto |

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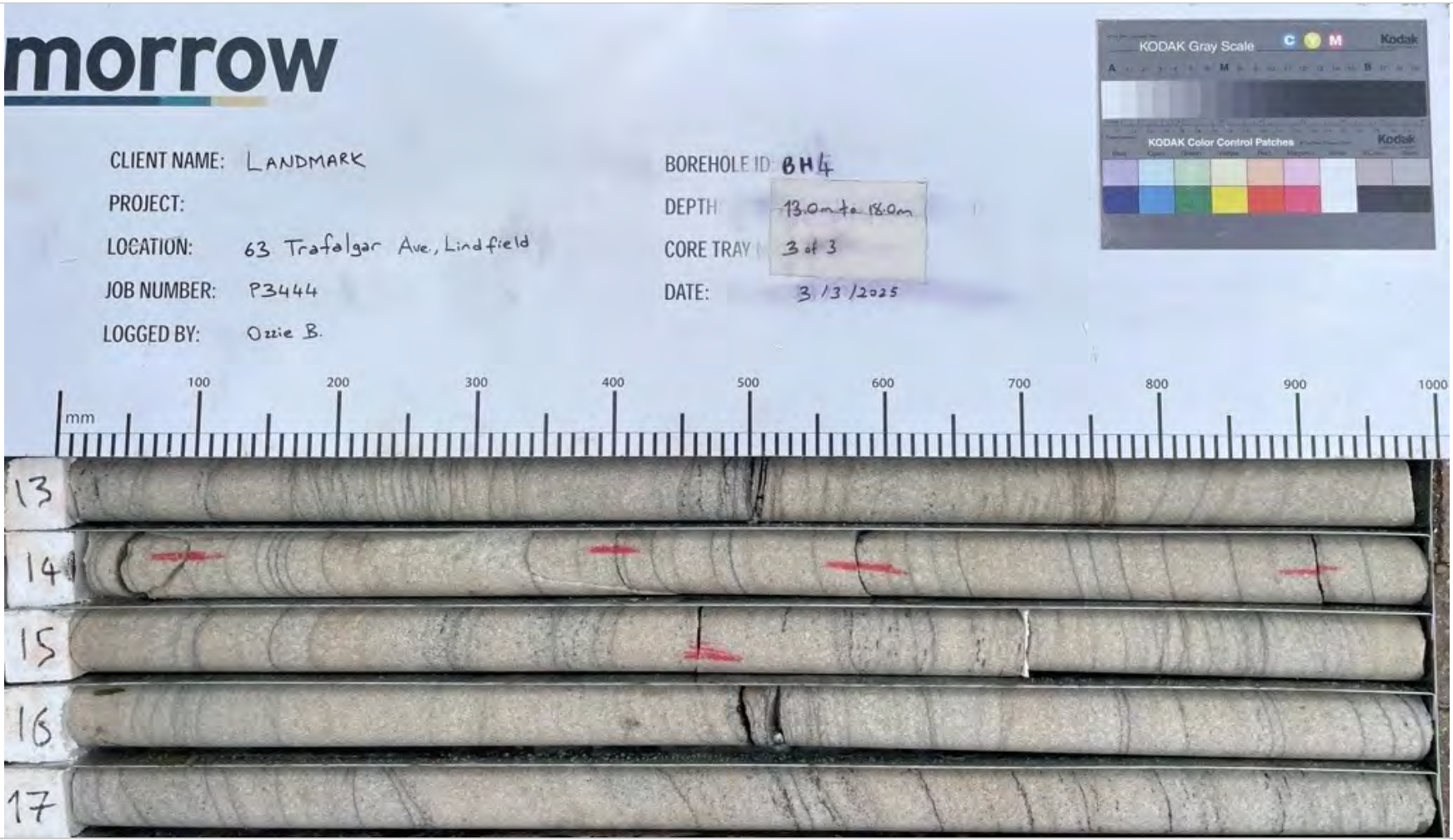
| | | | |
|---|---|---|---|
| **Photo description** | BH4 - Box 2 of 3 | | |
| **Client** | Landmark Group Construction Australia Pty Ltd | | |
| **Location** | 59-63 Trafalgar Avenue & 1A/B Valley Road, Lindfield NSW | | |
| **Project name** | Lindfield | | |
| **Project No** | P3444 | **Scale** | Not to Scale |
| **BH No** | BH4 | **BH Depth** | CorePhoto |

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| | | | |
|---|---|---|---|
| **Photo description** | BH4 - Box 3 of 3 | | |
| **Client** | Landmark Group Construction Australia Pty Ltd | | |
| **Location** | 59-63 Trafalgar Avenue & 1A/B Valley Road, Lindfield NSW | | |
| **Project name** | Lindfield | | |
| **Project No** | P3444 | **Scale** | Not to Scale |
| **BH No** | BH4 | **BH Depth** | CorePhoto |

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# Borehole No: BH5

| | | | | | |
|---|---|---|---|---|---|
| UTM | : 56S | Driller Rig | : GEO205 - Comacchio | Job Number | : P3444 |
| Easting | : 330828.69 | Driller Supplier | : GEOSENSE | Client | : Landmark Group Construction Australia Pty Ltd |
| Northing | : 6261173.80 | Logged By | : Ozzie Baskan | Project | : Lindfield |
| RL | : 83.80(m) | Reviewed By | : Mahmoud Jangidaryan | Location | : 59-63 Trafalgar Avenue & 1A/B Valley Road, Lindfield NSW |
| Total Depth | : 18 m | Date | : 28/02/2025 | Loc Comment | : Driveway of 1B Valley road. |

| Drilling Method | Water | Well Diagram | Testing | Elevation / Depth (m) | Graphic Log | Material Type | Classification Code | Material Description | Depth (m) | Consistency | Weathering | Moisture |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ADT | | 50mm PVC Solid | | 83.4<br>0.4 | | TOPSOIL | CL-CI | Topsoil Silty CLAY low to medium plasticity, dark grey, with fine to medium sized gravel, with fine grained sand, w < pl. | 0.4 | | | w < PL |
| | | | | 82.3<br>1.5 | | Residual | CL-CI | Residual Sandy CLAY stiff to very stiff, low to medium plasticity, pale brown white, with fine sized gravel, with low plasticity silt, w < pl. | 1<br>1.5 | St-VSt | | w < PL |
| | | | | 81.3<br>2.5 | | Rock | SST | Extremely weathered Sandstone, Silty CLAY hard, low to medium plasticity, pale grey mottled brown, with ironstone and sandstone bands. | 2<br>2.5 | VLS | XW | |
| | | 50mm PVC Slotted | | | | Rock | SST | Rock SANDSTONE: highly weathered, very low strength, pale brown white pale grey red, fine grained, with ironstone bands. | 3<br>3.3 | VLS | HW | |
| | | | | | | | | **Commenced Coring at 3.3m** | | | | |

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# Borehole No: BH5

| | | | | | |
|---|---|---|---|---|---|
| UTM | : 56S | Driller Rig | : GEO205 - Comacchio | Job Number | : P3444 |
| Easting | : 330828.69 | Driller Supplier | : GEOSENSE | Client | : Landmark Group Construction Australia Pty Ltd |
| Northing | : 6261173.80 | Logged By | : Ozzie Baskan | Project | : Lindfield |
| RL | : 83.80(m) | Reviewed By | : Mahmoud Jangidaryan | Location | : 59-63 Trafalgar Avenue & 1A/B Valley Road, Lindfield NSW |
| Total Depth | : 18 m | Date | : 28/02/2025 | Loc Comment | : Driveway of 1B Valley road. |

| Drilling Method | Water | Well Diagram | Elevation / Depth (m) | Graphic Log | Classification Code | Material Description | Depth (m) | Weathering | Testing: Is(50) | Estimated Strength (VLS, LS, MS, HS, VHS, EHS; 0.1, 0.3, 1.0, 3, 10) | RQD% and TCR% | Defect Spacing (mm) (30, 100, 300, 1000, 3000) | Defect Description |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 1 | | | | | | |
| | | | | | | | 2 | | | | | | |
| | | | | | | | 3 | | | | | | |
| | | | | | | **Commenced Coring at 3.3m** | | | | | | | |
| NMLC Coring | Loss - 20% Water Loss | 50mm PVC Slotted | 80.3 / 3.55 | | SST | Rock SANDSTONE: highly weathered, very low strength, pale brown white pale grey red, fine grained, with ironstone bands. | 3.55 | MW | d:0.02 ; a:0.02 | | RQD = 84.52% TCR = 95% | | 3.3-3.5, XWS, 5°, |
| | | | | | SST | Rock SANDSTONE: moderately weathered, medium strength, red mottled white, fine to medium grained, iron staining. | | | d:0.73 ; a:0.77 | | | | 3.7-3.78, XWS, |
| | | | | | | | | | | | | | 3.92, J, 30°, PL, RO, STN, OP, |

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# Borehole No: BH5

| | | | | | |
|---|---|---|---|---|---|
| UTM | : 56S | Driller Rig | : GEO205 - Comacchio | Job Number | : P3444 |
| Easting | : 330828.69 | Driller Supplier | : GEOSENSE | Client | : Landmark Group Construction Australia Pty Ltd |
| Northing | : 6261173.80 | Logged By | : Ozzie Baskan | Project | : Lindfield |
| RL | : 83.80(m) | Reviewed By | : Mahmoud Jangidaryan | Location | : 59-63 Trafalgar Avenue & 1A/B Valley Road, Lindfield NSW |
| Total Depth | : 18 m | Date | : 28/02/2025 | Loc Comment | : Driveway of 1B Valley road. |

| Drilling Method | Water | Well Diagram | Elevation / Depth (m) | Graphic Log | Classification Code | Material Description | Depth (m) | Weathering | Testing: Is(50) | Estimated Strength | RQD% and TCR% | Defect Spacing (mm) | Defect Description |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NMLC Coring | Loss - 10% Water Loss | 50mm PVC Slotted | 78.7 / 5.06 | | SST | Rock SANDSTONE: moderately weathered, medium strength, red mottled white, fine to medium grained, iron staining. | 5 | MW | d:0.44 ; a:0.38 | VLS 0.1 LS 0.3 MS 1.0 HS 3 VHS 10 EHS | | 30 100 300 1000 3000 | 4.09, P, 5°, IR, RO, STN, OP,<br>4.18-4.23, XWS,<br>4.85, P, 5°, UN, RO, STN, OP,<br>5.02-5.05, XWS, |
| | | | 78.4 / 5.4 | | SST | Rock SANDSTONE: moderately weathered, medium strength, pale grey mottled red, fine to medium grained, iron staining. | 5.06 | MW | d:0.41 ; a:0.88 | | RQD = 84.52% TCR = 95% | | |
| | | | 77.8 / 6.03 | | SST | Rock SANDSTONE: moderately weathered, medium strength, pale red mottled white, fine to medium grained, iron staining. | 5.4 | MW | | | | | 5.77-5.79, XWS,<br>5.89-5.9, XWS, |
| | | | 77.4 / 6.4 | | SST | Rock SANDSTONE: moderately weathered, medium strength, pale grey, fine to medium grained, .. | 6.03 | MW | d:0.76 ; a:0.76 | | | | 6.02, J, 10°, IR, RO, STN, OP, |
| | | | 77.3 / 6.55 | | CRL | Coreloss | 6.4 | | | | | | |
| | | | | | SST | Rock SANDSTONE: slightly to fresh weathered, high strength, pale grey, fine to medium grained, with carbonaceous laminations. | 6.55<br>7 | SW-F | d:0.71 ; a:1.04 | | RQD = 95% TCR = 95% | | 7.08, P, 5°, PL, RO, CL, OP, |
| | Loss - 0% Water Loss | | | | | | | | | | | | |

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# Borehole No: BH5

| | | | | | |
|---|---|---|---|---|---|
| UTM | : 56S | Driller Rig | : GEO205 - Comacchio | Job Number | : P3444 |
| Easting | : 330828.69 | Driller Supplier | : GEOSENSE | Client | : Landmark Group Construction Australia Pty Ltd |
| Northing | : 6261173.80 | Logged By | : Ozzie Baskan | Project | : Lindfield |
| RL | : 83.80(m) | Reviewed By | : Mahmoud Jangidaryan | Location | : 59-63 Trafalgar Avenue & 1A/B Valley Road, Lindfield NSW |
| Total Depth | : 18 m | Date | : 28/02/2025 | Loc Comment | : Driveway of 1B Valley road. |

| Drilling Method | Water | Well Diagram | Elevation / Depth (m) | Graphic Log | Classification Code | Material Description | Depth (m) | Weathering | Testing: Is(50) | Estimated Strength | RQD% and TCR% | Defect Spacing (mm) | Defect Description |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NMLC Coring | Loss - 0% Water Loss<br>Loss - 0% Water Loss | 50mm PVC Slotted | | | SST | Rock SANDSTONE: slightly to fresh weathered, high strength, pale grey, fine to medium grained, with carbonaceous laminations. | 9<br>10<br>11 | SW-F | d:1.52 ; a:1.74<br>d:1.43 ; a:1.60<br>d:1.38 ; a:1.38<br>d:1.5 ; a:1.67 | VLS 0.1 LS 0.3 MS 1.0 HS 3 VHS 10 EHS | RQD = 95% TCR = 95%<br>RQD = 100% TCR = 100% | 30 100 300 1000 3000 | 8.13, P, 10°, PL, RO, CL, OP, (X2),<br>8.36, P, 5°, PL, RO, CT, OP,<br>10.48, J, 30°, PL, SO, VN, OP,<br>11.89, P, 5°, IR, RO, CT, OP, |

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# Borehole No: BH5

| | | | | | |
|---|---|---|---|---|---|
| UTM | : 56S | Driller Rig | : GEO205 - Comacchio | Job Number | : P3444 |
| Easting | : 330828.69 | Driller Supplier | : GEOSENSE | Client | : Landmark Group Construction Australia Pty Ltd |
| Northing | : 6261173.80 | Logged By | : Ozzie Baskan | Project | : Lindfield |
| RL | : 83.80(m) | Reviewed By | : Mahmoud Jangidaryan | Location | : 59-63 Trafalgar Avenue & 1A/B Valley Road, Lindfield NSW |
| Total Depth | : 18 m | Date | : 28/02/2025 | Loc Comment | : Driveway of 1B Valley road. |

| Drilling Method | Water | Well Diagram | Elevation / Depth (m) | Graphic Log | Classification Code | Material Description | Depth (m) | Weathering | Testing: Is(50) | Estimated Strength (VLS 0.1, LS 0.3, MS 1.0, HS 3, VHS 10, EHS) | RQD% and TCR% | Defect Spacing (mm) (30, 100, 300, 1000, 3000) | Defect Description |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NMLC Coring | Loss - 0% Water Loss | 50mm PVC Slotted | | | SST | Rock SANDSTONE: slightly to fresh weathered, high strength, pale grey, fine to medium grained, with carbonaceous laminations. | 13<br>14<br>15 | SW-F | d:1.39 ; a:2.30<br>d:1.51 ; a:1.63<br>d:1.58 ; a:2.09<br>d:1.69 ; a:1.93 | | RQD = 100% TCR = 100%<br>RQD = 100% TCR = 100%<br>RQD = 100% TCR = 100% | | 13.11, J, 10°, PL, RO, VN, OP,<br>13.65, J, 5°, IR, RO, CT, OP, (X2),<br>14.17, P, 30°, PL, RO, CT, OP, |
| | Loss - 0% Water Loss | | | | | | | | | | | | |

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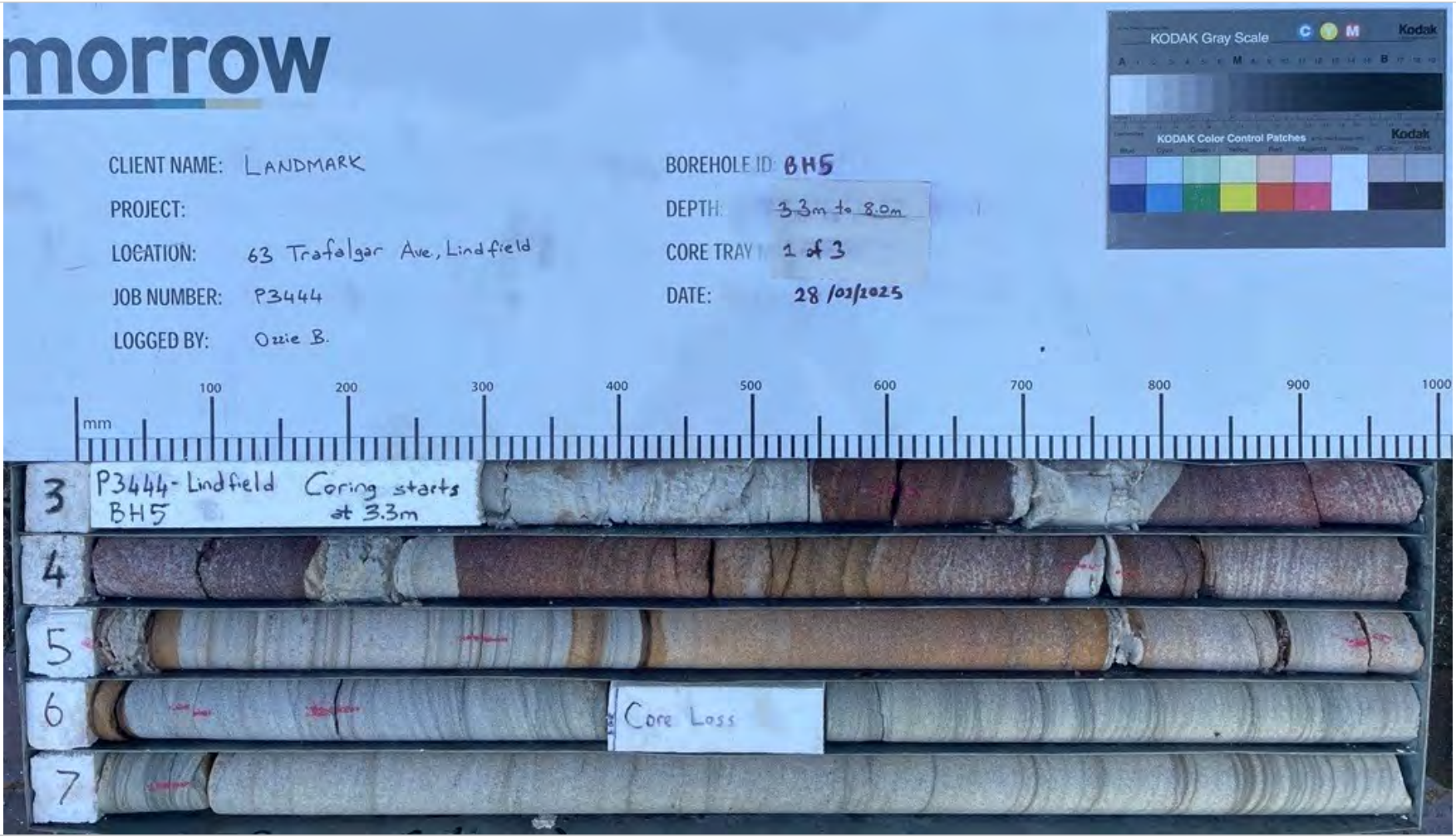
# Borehole No: BH5

| | | | | | |
|---|---|---|---|---|---|
| UTM | : 56S | Driller Rig | : GEO205 - Comacchio | Job Number | : P3444 |
| Easting | : 330828.69 | Driller Supplier | : GEOSENSE | Client | : Landmark Group Construction Australia Pty Ltd |
| Northing | : 6261173.80 | Logged By | : Ozzie Baskan | Project | : Lindfield |
| RL | : 83.80(m) | Reviewed By | : Mahmoud Jangidaryan | Location | : 59-63 Trafalgar Avenue & 1A/B Valley Road, Lindfield NSW |
| Total Depth | : 18 m | Date | : 28/02/2025 | Loc Comment | : Driveway of 1B Valley road. |

| Drilling Method | Water | Well Diagram | Elevation / Depth (m) | Graphic Log | Classification Code | Material Description | Depth (m) | Weathering | Testing: Is(50) | Estimated Strength (VLS 0.1, LS 0.3, MS 1.0, HS 3, VHS 10, EHS) | RQD% and TCR% | Defect Spacing (mm) (30, 100, 300, 1000, 3000) | Defect Description |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NMLC Coring | Loss - 0% Water Loss | 50mm PVC Slotted | | | SST | Rock SANDSTONE: slightly to fresh weathered, high strength, pale grey, fine to medium grained, with carbonaceous laminations. | 17 | SW-F | d:1.70 ; a:1.73<br>d:2.17 ; a:2.32 | | RQD = 100%<br>TCR = 100% | | 17.33, P, 30°, PL, RO, CL, OP, |
| | | | | | | **BH5 Reached Target Depth at 18m** | | | | | | | |

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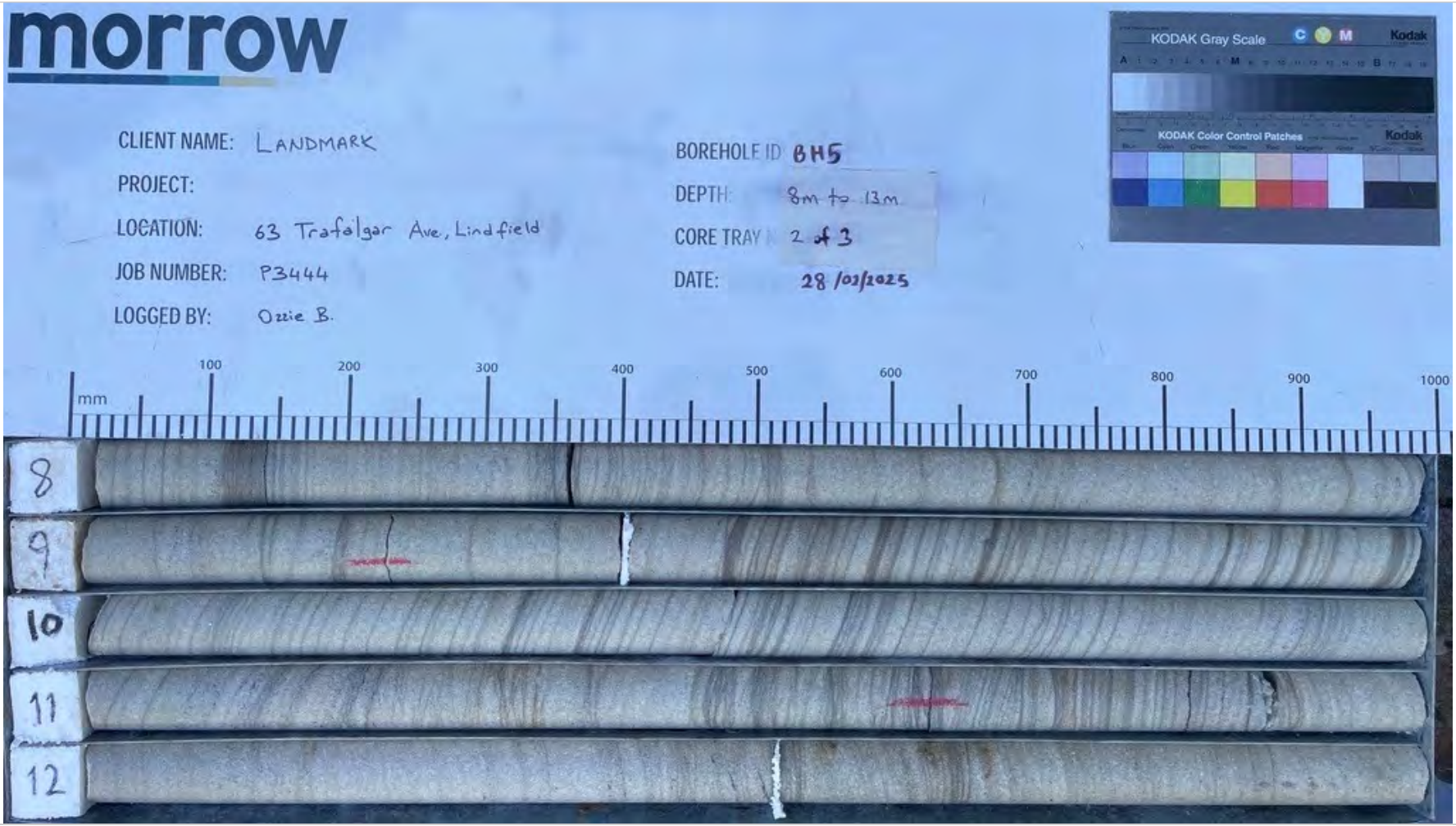
| | | | |
|---|---|---|---|
| **Photo description** | BH5 - Box 1 of 3 | | |
| **Client** | Landmark Group Construction Australia Pty Ltd | | |
| **Location** | 59-63 Trafalgar Avenue & 1A/B Valley Road, Lindfield NSW | | |
| **Project name** | Lindfield | | |
| **Project No** | P3444 | **Scale** | Not to Scale |
| **BH No** | BH5 | **BH Depth** | CorePhoto |

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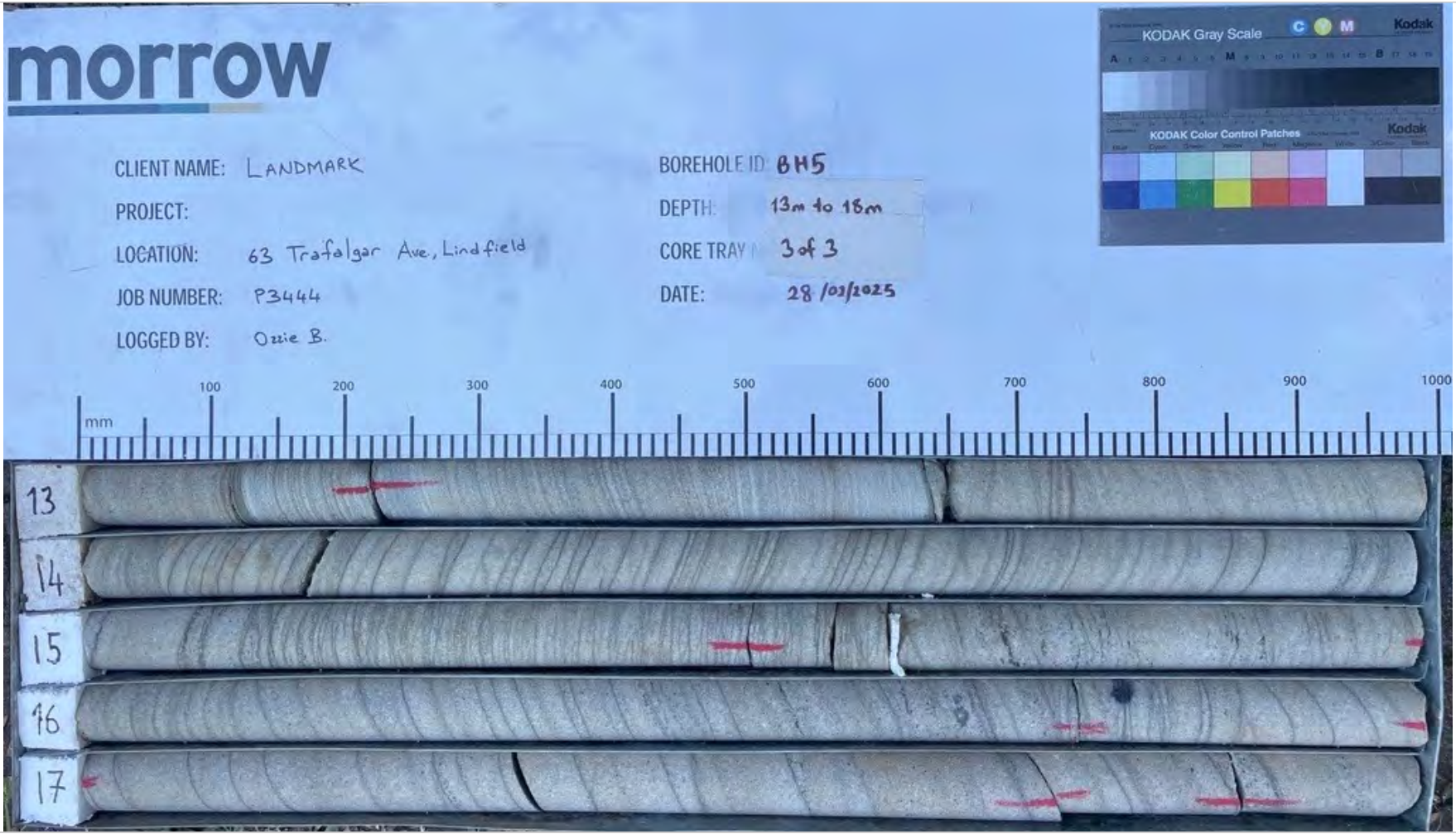
| | | | |
|---|---|---|---|
| **Photo description** | BH5 - Box 2 of 3 | | |
| **Client** | Landmark Group Construction Australia Pty Ltd | | |
| **Location** | 59-63 Trafalgar Avenue & 1A/B Valley Road, Lindfield NSW | | |
| **Project name** | Lindfield | | |
| **Project No** | P3444 | **Scale** | Not to Scale |
| **BH No** | BH5 | **BH Depth** | CorePhoto |

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| | | | |
|---|---|---|---|
| **Photo description** | BH5 - Box 3 of 3 | | |
| **Client** | Landmark Group Construction Australia Pty Ltd | | |
| **Location** | 59-63 Trafalgar Avenue & 1A/B Valley Road, Lindfield NSW | | |
| **Project name** | Lindfield | | |
| **Project No** | P3444 | **Scale** | Not to Scale |
| **BH No** | BH5 | **BH Depth** | CorePhoto |

## GENERAL

Information obtained from site investigations is recorded on log sheets. The "Cored Drill Hole Log" presents data from an operation where a core barrel has been used to recover material - commonly rock. The "Non-Core Drill Hole - Geological Log" presents data from an operation where coring has not been used and information is based on a combination of regular sampling and insitu testing. The material penetrated in non-core drilling is commonly soil but may include rock. The "Excavation - Geological Log" presents data and drawings from exposures of soil and rock resulting from excavation of pits, trenches, etc.

The heading of the log sheets contains information on Project Identification, Hole or Pit Identification, Location and Elevation. The main section of the logs contains information on methods and conditions, material substance description and structure presented as a series of columns in relation to depth below the ground surface which is plotted on the left side of the log sheet. The common depth scale is 8m per drill log sheet and about 3-5m for excavation logs sheets.

As far as is practicable the data contained on the log sheets is factual. Some interpretation is inevitable in the identification of material boundaries in areas of partial sampling, the location of areas of core loss, description and classification of material, estimation of strength and identification of drilling induced fractures. Material description and classifications are based on SAA Site Investigation Code AS 1726 - 1993 with some modifications as defined below.

These notes contain an explanation of the terms and abbreviations commonly used on the log sheets.

## DRILLING

Drilling & Casing

| | |
|---|---|
| ADV | Auger Drilling with V-Bit |
| ADT | Auger Drilling with TC Bit |
| WB | Wash-bore drilling |
| RR | Rock Roller |
| NMLC | NMLC core barrel |
| NQ | NQ core barrel |
| HMLC | HMLC core barrel |
| HQ | HQ core barrel |

### Drilling Fluid/Water

The drilling fluid used is identified and loss of return to the surface estimated as a percentage.

### Drilling Penetration/Drill Depth

Core lifts are identified by a line and depth with core loss per run as a percentage. Ease of penetration in non-core drilling is abbreviated as follows:

| | |
|---|---|
| VE | Very Easy |
| E | Easy |
| M | Medium |
| H | High |
| VH | Very High |

### Groundwater Levels

Date of measurement is shown.

Standing water level measured in completed borehole Level taken during or immediately after drilling

| | |
|---|---|
| D | Disturbed |
| B | Bulk |
| U | Undisturbed |
| SPT | Standard Penetration Test |
| N | Result of SPT (sample taken) |
| PBT | Plate Bearing Test |
| PZ | Piezometer Installation |
| HP | Hand Penetrometer Test |

## EXCAVATION LOGS

Explanatory notes are provided at the bottom of drill log sheets. Information about the origin, geology and pedology may be entered in the "Structure and other Observations" column. The depth of the base of excavation (for the logged section) at the appropriate depth in the "Material Description" column. Refusal of excavation plant is noted should it occur. A sketch of the exposure may be added.

## MATERIAL DESCRIPTION – SOIL

Classification Symbol - In accordance with the Unified Classification System (AS 1726-1993, Appendix A, Table A1)

Material Description - In accordance with AS 1726-1993, Appendix A2.3

### Moisture Condition

| | |
|---|---|
| D | Dry, looks and feels dry |
| M | Moist, No free water on remoulding |
| W | Wet, free water on remoulding |

Consistency - In accordance with AS 1726-1993, Appendix A2.5

| | | |
|---|---|---|
| VS | Very Soft | < 12.5 kPa |
| S | Soft | 12.5 – 25 kPa |
| F | Firm | 25 – 50 kPa |
| St | Stiff | 50 – 100 kPa |
| VSt | Very Stiff | 100 – 200 kPa |
| H | Hard | > 200 kPa |

Strength figures quoted are the approximate range of undrained shear strength for each class.

Density Index. (%) is estimated or is based on SPT results.

| | | |
|---|---|---|
| VL | Very Loose | < 15 % |
| L | Loose | 15 – 35 % |
| MD | Medium Dense | 35 – 65 % |
| D | Dense | 65 – 85 % |
| VD | Very Dense | > 85 % |

## MATERIAL DESCRIPTION -ROCK

### Material Description

Identification of rock type, composition and texture based on visual features in accordance with AS 1726-1993, Appendix A3.1-A3.3 and Tables A6a, A6b and A7.

### Core Loss

Is shown at the bottom of the run unless otherwise indicated.

### Bedding

| | |
|---|---|
| Thinly Laminated | < 6 mm |
| Laminated | 6 - 20 |
| Very Thinly Bedded | 20 - 60 |
| Thinly Bedded | 60 - 200 |
| Medium Bedded | 200 – 600 |
| Thickly Bedded | 600 – 2000 |
| Very Thickly Bedded | > 2000 |

**Weathering** - No distinction is made between weathering and alteration. Weathering classification assists in identification but does not imply engineering properties.

| | |
|---|---|
| Fresh (F) | Rock substance unaffected by weathering |
| Slightly Weathered(SW) | Rock substance partly stained or discoloured. Colour and texture of fresh rock recognisable. |
| Moderately Weathered (MW) | Staining or discolouration extends throughout rock substance. Fresh rock colour not recognisable. |
| Highly Weathered(HW) | Stained or discoloured throughout. Signs of chemical or physical alteration. Rock texture retained. |
| Extremely Weathered (EW) | Rock texture evident but material has soil properties and can be remoulded. |

**Strength** - The following terms are used to described rock strength:

| Rock Strength Class | Abbreviation | Point Load Strength Index, Is(50) (MPa) |
|---|---|---|
| Extremely Low | EL | < 0.03 |
| Very Low | VL | 0.03 to 0.1 |
| Low | L | 0.1 to 0.3 |
| Medium | M | 0.3 to 1 |
| High | H | 1 to 3 |
| Very High | VH | 3 to 10 |
| Extremely High | EH | ≥ 10 |

Strengths are estimated and where possible supported by Point Load Index Testing of representative samples. Test results are plotted on the graphical estimated strength by using:

Diametral Point Load Test

Axial Point Load Test

Where the estimated strength log covers more than one range it indicates the rock strength varies between the limits shown.

## MATERIALS STRUCTURE/FRACTURES

### ROCK

Natural Fracture Spacing - A plot of average fracture spacing excluding defects known or suspected to be due to drilling, core boxing or testing. Closed or cemented joints, drilling breaks and handling breaks are not included in the Natural Fracture Spacing.

Visual Log - A diagrammatic plot of defects showing type, spacing and orientation in relation to core axis.

| | | |
|---|---|---|
| Defects | ----------<br>.....<br>———— | Defects open in-situ or clay sealed<br>Defects closed in-situ<br>Breaks through rock substance |

Additional Data - Description of individual defects by type, orientation, in-filling, shape and roughness in accordance with AS 1726-1993, Appendix A Table A10, notes and Figure A2.

Orientation - angle relative to the plane normal to the core axis.

| | | |
|---|---|---|
| Type | BP<br>JT<br>SM<br>FZ<br>SZ<br>VN<br>FL<br>CL<br>DL<br>HB<br>DB | Bedding Parting<br>Joint<br>Seam<br>Fracture Zone<br>Shear Zone<br>Vein<br>Foliation<br>Cleavage<br>Drill Lift<br>Handling Break<br>Drilling Break |
| Infilling | CN<br>X<br>Clay<br>KT<br>CA<br>Fe<br>Qz<br>MS<br>MU | Clean<br>Carbonaceous<br>Clay<br>Chlorite<br>Calcite<br>Iron Oxide<br>Quartz<br>Secondary Mineral<br>Unidentified Mineral |
| Shape | PR<br>CU<br>UN<br>ST<br>IR<br>DIS | Planar<br>Curved<br>Undulose<br>Stepped<br>Irregular<br>Discontinuous |
| Rougness | POL<br>SL<br>S<br>RF<br>VR | Polished Slickensided<br>Smooth Rough<br>Very Rough |

### SOIL

Structures - Fissuring and other defects are described in accordance with AS 1726-1993, Appendix A2.6, using the terminology for rock defects.

Origin - Where practicable an assessment is provided of the probable origin of the soil, eg fill, topsoil, alluvium, colluvium, residual soil.

# APPENDIX B
# IMPORTANT INFORMATION

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