The report herein represents an update of the report submitted as part of the full planning application for Stoneham Park – Stage 4 (Residential (Application 4)) and covers Area 2D, amongst others which are not considered relevant to this application at the time of submission.

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NORTH STONEHAM PARK PHASE 1

REMEDIATION STRATEGY

RAMBOLL

NORTH STONEHAM PARK PHASE 1
REMEDIATION STRATEGY

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Date	**27/09/2018**
Made by	**Mark Bell, Associate**
Checked by	**Hazel Comyn, Principal Consultant**
Approved by	**Phil Studds, Director**
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1. INTRODUCTION

1.1 Brief

1.1.1 The following report is submitted in support of the reserved matters application for Phase 1 of the North Stoneham Park development and to address planning condition 20(c) of the outline permission (ref. O/15/76023). This report is also submitted in support of the full plsanning application for Stoneham Park Stage 4.

1.1.2 Ramboll UK Limited (Ramboll) was appointed by Highwood Group LLP to provide contaminated land services to progress the proposed Phase 1 mixed use development on the Land South of Chestnut Avenue (North Stoneham Park) comprising of Plots 1B, 1C, 1D, 1E, 2A, 2B, 3B, 3C, 4A and 6A shown on Drawing No 1135/05.

1.1.3 The Phase 1 reserved matter application red line boundary is shown on Figure 1 and defines the area referred to herein as 'the site' which is the subject of this report. The site includes three application areas which are described in more detail within Section 2.2.1.

1.1.4 Ramboll was also appointed to provide contaminated land services to progress the proposed Stage 4 residential development scheme comprising of Plot 2D shown on Drawing No 1135/05 and the boundary and details of the proposed development within this plot is shown on Drawing No 17.003.SK.203.

1.1.5 This report comprises a remediation strategy for the future development which outlines the key land quality issues which are required to be considered during the development of the site across all three application areas which constitute Phase 1 of the development. It includes details pertaining to the methods for developing and constructing the site including the management of soils, foundations and improvements to ground conditions. The design data outlined in this strategy are to be considered in the context of the structural, civil, and geotechnical schemes and designs, once finalised by the design team in consultation with the lead developer (North Stoneham Developments Ltd, Sentinel Housing Association Ltd and Vestal Developments Ltd) in partnership with others who together will build the scheme. Those involved with the construction of the scheme are hereafter referred to as 'the contractor'.

1.2 Roles and Responsibilities

1.2.1 This strategy formalises the remediation mitigation measures proposed to ensure the safe development of the site and is also intended to be used in the development of an Environmental Management Plan for the site works.

1.2.2 This remediation strategy shall be updated if required, based upon the final design scheme and construction methods should they deviate from those described herein.

1.2.3 There are a number of additional actions for a land quality specialist detailed throughout this report, including further sampling and assessment works which may also lead to amendments to the outline strategy detailed herein. Ramboll can act in this regard or provide advice to ensure the contractor is fulfilling all contaminated land requirements detailed herein and arising from the additional investigations when complete.

1.3 Previous Relevant Reports

1.3.1 The following reports have been prepared for the site, from which the proposed approach outlined within this document has been drawn. These documents provide full details of the site description, nature of historic land uses, and land contamination risk assessments.

- Ramboll (2015) *Land South of Chestnut Avenue, North Stoneham Park, Eastleigh. Contaminated Land and Geotechnical Desk Study,* February 2015 (report ref. 61033023/ENV/R01). This report relates to the wider site area, extending beyond the Phase 1 application boundary;
- Soils Limited (2015) *Ground Investigation Report at Land at Chestnut Avenue, North Stoneham Park, Eastleigh, Hampshire SO509HO,* June 2015 (report ref. 14886/GIR/Rev 1.00). This report relates to the wider site area, extending beyond the Phase 1 application boundary;
- Ramboll (2015) *Land South of Chestnut Avenue, North Stoneham Park, Eastleigh; Contaminated Land Assessment,* July 2015 (report ref. 61033023—GLIR-002). This report relates to the wider site area, extending beyond the Phase 1 application boundary;
- Ramboll (2015) *Letter from Ramboll Environ to Andrew White of Highwood Land LLP, 3rd* November 2015 (letter ref. MB-ps-001 Stoneham Pesticides GI). This report relates to Plots 92(B) and 91(B) as defined by the aforementioned reports;
- Ramboll (2016) *Stoneham Park Lakeside Contaminated Land Ground Investigation Report This relates to Areas 12 and 12(a) as defined by the aforementioned reports and comprises the area of land within which the pumping station is considered likely to be constructed; and*
- *Ramboll (2017)* Ground Gas Risk Memo (included as Appendix C).

2. SITE DETAILS

2.1 Site Settings

2.1.1 The site setting is described in full in the *Contaminated Land Assessment* (Ramboll, 2015) report. The application site is located between Stoneham Lane and Chestnut Avenue, in Eastleigh, Hampshire and is centred on National Grid Reference: 443908, 117776. The site is irregular in shape and covers an area of approximately 32 hectares. The site area is a combination of mostly agricultural land and open space used for a variety of recreational purposes with a small number of structures located in the eastern area of the site comprising pavilion buildings and a sports club.

2.1.2 The site is bound to the north by land in residential use, the east by a mixture of residential properties and open space, some of which is associated with Lakeside Country Park, to the south by open land beyond which is Wellington Sports Ground and Eastleigh Football Club and to the west by open space, some of which is associated with Jubilee Recreation Ground.

2.1.3 A site location plan is presented in Figure 1.

2.2 Development Scheme Outline

2.2.1. Drawing No 16.085-SK.001 and Drawing No 16.085-SK.002 present the intended development scheme outline in detail. More generally speaking, Application 1 of the three application areas within the Phase 1 scheme comprises the construction of residential properties which occupy the majority of the Phase 1 site area, a central area of open space and a pump station. The pump station is shown on Drawing No 09-133-011. Application 2 comprises the construction of a local centre located in the southeast corner of the site containing, *inter alia,* commercial buildings, community centre, nursery and residential accommodation above local centre, and Application 3 comprises a landmark building used as an assisted living and care home. Application 4 (Stage 4) comprises of the development outlined on 17.003.SK.203.

3. GROUND MODEL

3.1 Geology

3.1.1 The succession of strata across the site identified during the ground investigation is described in detail on a plot by plot basis within the *Contaminated Land Assessment* (Ramboll, 2015). Reference should be made to the Drawing '*Land Assembly at Stoneham Lane & Chestnut Avenue, Eastleigh* to understand the original plot references used at that stage in the project and referenced herein within the title blocks of the tables below. A summary of the most relevant plot areas is provided below to give an overview of the ground conditions which are likely be encountered during the Phase 1 enabling works.

3.1.2 The geological succession for Plots 4A, 3C, 3B (Application 1) is provided in Table 3.1.

Table 3.1: Summary Ground Conditions at Plot Seven

Stratum	Typical Description	Depth to Base of Stratum (mbgl)	Thickness Range (m)
Made Ground	MADE GROUND: Light grey brown silty sandy clay/gravelly sand, with ash, brick, clinker, plastic and fine to medium flint (encountered in WS8, WS11 and WS22 only)	0.50 – 0.70	0.50 – 0.70
Topsoil	TOPSOIL: Light brown/dark brown clayey gravelly SAND, with fine to medium flint.	0.10 – 0.50	0.10 – 0.50
River Terrace Deposits / Head Deposits (in eastern area)	Brown/orange slightly clayey sandy GRAVEL/Silty SAND/Sandy CLAY, with gravels of fine to coarse, sub-angular to sub-rounded flint	1.40 – 6.0	1.10 – 5.80

mbgl = metres below ground level

3.1.3 The geological succession for Plot 2A (Application 1) is represented by Table 3.2.

Table 3.2: Summary Ground Conditions at Plot Four

Stratum	Typical Description	Depth to Base of Stratum (mbgl)	Thickness Range (m)
Topsoil	TOPSOIL: Dark brown slightly clayey gravelly SAND, with fine to medium sub-angular to sub-rounded flint gravel	0.20 – 0.40	0.20 – 0.40
River Terrace Deposits	Brown/orange slightly clayey sandy GRAVEL/Silty SAND with gravels of fine to coarse, sub-angular to sub-rounded flint. Sandy CLAY (CP13 and WS9 only).	2.30 – 4.30	2.00 – 4.10
London Clay	Firm to very stiff dark grey silty sandy gravelly CLAY. Gravel of fine to coarse, sub-angular to sub-rounded flint	10*	7.5*

mbgl = metres below ground level
* Depth/ thickness is the maximum greatest encountered from the exploratory holes but the actual base of stratum was not encountered

3.1.4 The geological succession of Plots 2B, 1B, 1C and 1D (Application 2) are represented by Table 3.3.

Table 3.3: Summary Ground Conditions at Plot Nine

Stratum	Typical Description	Depth to Base of Stratum (mbgl)	Thickness Range (m)
Made Ground	MADE GROUND: Brown sandy silt/clay/sand with fine to medium brick and flint (encountered in CP6, WS12, WS13, WS17, WS18, WS27 and WS28 only)	0.15 – 0.96	0.15 – 0.96
Topsoil	TOPSOIL: Light brown/dark brown clayey gravelly SAND, with fine to medium flint.	0.10 – 0.30	0.10 – 0.30

Stratum	Typical Description	Depth to Base of Stratum (mbgl)	Thickness Range (m)
River Terrace Deposits	Brown/orange slightly clayey sandy GRAVEL/Silty SAND/Sandy CLAY, with gravels of fine to coarse, sub-angular to sub-rounded flint.	1.40 – 20.00*	1.10 – 5.80
London Clay	Firm to very stiff dark grey silty sandy gravelly CLAY. Gravel of fine to coarse, sub-angular to sub-rounded flint. Silty clayey SAND (encountered in CP5 and CP6 only).	20.50*	14.35*

mbgl = metres below ground level
* Depth/ thickness is the maximum greatest encountered from the exploratory holes but the actual base of stratum was not encountered

3.1.5 The geological succession of Plots 1E and 6A (Application 3) are represented by Table 3.4.

Table 3.4: Summary Ground Conditions at Plot 11b

Stratum	Typical Description	Depth to Base of Stratum (mbgl)	Thickness Range (m)
Made Ground	MADE GROUND: Brown gravelly sand, with gravels of fine to coarse flints and brick	0.30 – 2.00	0.30 – 2.00
River Terrace Deposits / Head Deposits	Brown/Orange slightly clayey sandy GRAVEL/Silty SAND with gravels of fine to coarse, sub-angular to sub-rounded flint	3.90 – 10.0	1.90 – 8.00
London Clay (possible Whitecliffe Sand Member)	Dark grey silty clayey SAND	20*	10*

mbgl = metres below ground level
* Depth/ thickness is the maximum greatest encountered from the exploratory holes but the actual base of stratum was not encountered

3.2 Hydrogeology and Drainage

3.2.1 A full record of available groundwater data is tabulated within the *Ground Investigation Factual Report* (Soils, 2015). Groundwater strikes were observed in 25 of the locations investigated and seepages in a further eight. The average water strike during the ground investigation was 4.8 mbgl; however strikes were recorded between 0.8 mbgl and 17.0 mbgl. During the ground investigation, the majority of groundwater strikes relevant to the Phase 1 site area were recorded within the river terrace deposits underlying the site. The river terrace deposits are classified as a Secondary A aquifer and the solid geology is classified as an unproductive stratum.

3.2.2 Follow on groundwater monitoring was undertaken on two occasions following the ground investigation works, the full results of which are reported within the aforementioned report. During these events, groundwater was observed resting between 0.99 mbgl and 5.36 mbgl.

3.2.3 A number of drainage ditches and streams are located within the Phase 1 area. The northernmost stream flows towards the east from the woodland at Home Wood adjacent to the northern boundary of the site. This flows away from the site beneath Stoneham Lane before draining into Monks Brook, which is located 80 m to the east of the Phase 1 area. The southern-most stream within the Phase 1 area flows towards the east from Home Wood, crossing through the centre of the Phase 1 area before eventually draining into Monks Brook.

3.2.4 No potentially significant risks to controlled waters were identified during previous assessments undertaken pertinent to Phase 1 development works.

3.3 Ground Contamination Identified

The ground investigation undertaken by soils and subsequent contaminated land assessment undertaken by Ramboll in 2015 identified residual impacts which require some form of mitigation

measure. Table 3.5 shows the hazards and pollutant identified which require some form of mitigation measures. Investigation locations are shown on Figure 2.1.

Table 3.5: Hazards and Pollutants Identified as Requiring Remedial Action

Hazard / Pollutant		Additional Actions Required
1	Contact or inhalation/ingestion of soils and soil dusts during construction, posing a risk to construction workers and nearby land users associated with selected PAHs in shallow Made Ground located in the eastern area of the site and also hydrocarbon impacted Made Ground used to construct the new car park identified as being constructed whilst undertaking the ground investigation. Elevated concentrations of PAHs were associated with samples taken from shallow Made Ground soils in WS13, WS27 and WS28.	Risk management measures required to address potential risks to human health during and after construction. Mitigated with standard PPE and provision of dust control measures. Such measures would be included within a Construction Environmental Management Plan (CEMP).
2	Contact or inhalation/ingestion of soils and soil dusts posing a risk to future site users associated with selected PAHs in shallow Made Ground located in the eastern area of the site and also hydrocarbon impacted Made Ground used to construct the new car park identified as being constructed whilst undertaking the ground investigation. Elevated concentrations of PAHs were associated with samples taken from shallow Made Ground soils in WS13, WS27 and WS28.	Risk management measures required to address potential risks to human health after construction. Carefully managed Made Ground soil retained within the Application 2 area would be considered suitable for use without restriction. Restrictions would apply should these soils be used in more sensitive areas e.g. those allocated for residential use.
3	Leaching of substances from imported material into the underlying Secondary A Aquifer.	Materials to be selected, tested, and verified as being suitable for use prior to being placed at the site. An environmental specialist should specify the testing regime and review the analytical results.
4	Permeation of buried water supply pipes by contaminants (e.g. hydrocarbons) in shallow Made Ground in Plot 1B, 2B and 1C.	Risk management measures required. Appropriate selection of water supply pipe material with agreement from water supply company to mitigate the risks should shallow Made Ground soils be used to backfill service trenches.
5	Release of ground gases, and build-up of these in confined spaces. Inhalation of gases in the proposed new buildings or confined spaces. Build-up of gases to explosive concentrations.	Gas mitigation measures may be required to be incorporated into the development design. Risk management measures required in remedial strategy.
6	Risks from UXO were identified at desk study stage as moderate. The potential for UXO on site remains.	Advice required from a UXO specialist, and tool box talks given to educate workers and set in place protocol for discovery of potential UXO and any other mitigation measures which may be considered necessary by the specialist. No further details is provided herein.
7	Leaks and spills during construction	A CEMP will be required, and good construction practice methods should be employed. The CEMP would set out methods for working on site to reduce and contain leakages / spillages such as suitable chemical storage in bunded areas and use of drip trays. Plans for the clean-up of any accidental spillages would also need to be in place. No further detail is provided herein, the contractor shall provide an adequate CEMP to the project environmental consultant for review with appropriate method statements therein.

3.3.1 The principal designer and principal contractor will need to be cognisant of the risks identified and incorporate any mitigation measures identified into the design and construction process.

4. DEVELOPMENT DESIGN

4.0.1 Plots 1B, 1C, 1D, 1E, 2A, 2B, 3B, 3C, 4A and 6A are intended to form the area of the first three reserved matters applications which comprise the proposed Phase 1 development. This includes the following:

- Areas 2A and 2B (Application 1) will be developed as mixed tenure housing and public open space;
- Areas 3B and 4A (Application 1) will be developed as mixed tenure housing and public open space;
- Areas 1C and 1D (Application 2) will be developed as the local centre comprising of a community building, offices, nursery, retail and residential; and
- Area 6A (Application 3) will be developed as the Landmark Building which comprises of a care home and assisted living.

4.0.2 Prior to construction works commencing, it will be necessary to carry out re-grading of the ground levels to achieve pre-construction site levels.

4.0.3 Buildings currently located on site will be demolished as part of the enabling works.

4.0.4 There are a number of design elements that will affect the current ground conditions and thus may have a potentially significant effect on ground contamination risks at the site. These are summarised in Table 4.1.

Table 4.1: Development Design – Remediation Implications

Design Feature	Details
Earthworks	The full details of the cut and fill works are not known at this stage; however it is understood that there will be a net cut in the region of 4,000 m^3 of material. Excess material is considered likely to be generated for the following reasons: i. Excavation and removal of existing upper Made Ground, hard surface and sub-base in localised areas of the site e.g. around Easirent Car Hire; ii. Removal of soil arisings resulting from the creation of foundations, and other buried infrastructure such as service trenches; iii. Excavations to remove soils significantly impacted by contaminants if identified as unsuspected contamination during the enabling works; iv. Excavation of soils in areas of known impacts which are allocated for off-site disposal as part of the final material management plan for the site; and v. Requirement for clean backfill to service trenches. As it is proposed to re-grade site levels at the site, there will be opportunity for the reuse of soils on site where these soils are suitable and their use would not pose an unacceptable risk to the environment or to human health. All materials to be disposed offsite will require waste classification and should be managed under the appropriate waste management regulations and duty of care.
Drainage	The preferred solution for the management of surface water drainage is currently swales, porous paving (private) and attenuation crates (private). Soils on site have been identified as presenting a low potential risk to controlled waters and as such there are no restrictions in the placement of drainage infrastructure with the exception of any areas of unsuspected contamination being identified. The drainage strategy for the site is presented on Drawing No 14-159-005.
Foundations	The detailed foundation design for new buildings has yet to be finalised. However, shallow foundations are considered to be the most likely foundation solution for the site, or as a minimum, the majority of the site. Shallow footings are considered unlikely to increase any potential risks to controlled waters, however considering the potential risks to controlled waters has already been assessed as low,

Design Feature	Details
	should the implementation of piles be required, it is unlikely to require any associated mitigation measures or further assessment with regards to contamination.
Landscaping	Residential areas are anticipated to have gardens. There are small localised pockets of landscaped areas across the development within all three application areas including a children's play area in the southwest corner and a landscaped area incorporating a pond adjacent to the north eastern boundary. The most significant landscaped area is a strip of open land in central area of the site which extends from the northern and southern edges of the red line boundary. Material restrictions will be required for some soils identified at the site within the 2015 ground investigation, which have the potential to present a potential risk to human health if placed at shallow depth in landscaped areas, namely Made Ground in the vicinity of WS13, WS27 and WS28 as well as the material used to construct the new car park on site. These areas are outlined on Figure 2.2.
Potable water supply	Due to the presence of organic compounds in the new car park construction material and shallow Made Ground soils (<0.2mbgl) associated with WS13, WS27 and WS28 it is recommended that the impacted material in these areas is not re-used as backfill in service corridors. If impacted soils are intended to remain in service trenches where potable water supply pipes are placed, barrier pipe would be required.
Services	Services are required across Phase 1 application area. The majority of services are expected to be shallow. Services have the potential to act as preferential pathways for the migration of contamination.

5. CONTROL OF SOILS ON SITE

5.0.1 This section addresses Hazards 1, 2 and 3 of Table 3.5.

5.1 Soil Waste Assessment

5.1.1 An assessment of the likely waste characterisation of the soils at the site has been provided as part of the *Contaminated Land Assessment* (Ramboll, 2015) report. Reference should be made to the aforementioned report to assist with the waste classification of soils intended for off-site disposal.

5.2 Handling and Storage of Soil Materials

5.2.1 This section is focussed upon the site activities in the ground which could give rise to the generation of dust or release of asbestos fibres from soils, and direct contact with soils at the site. The contractor shall ensure that emissions to air arising from the existing Made Ground soils are minimised, including via dust particles. The following measures shall be used by the contractor to minimise the generation of dust, where appropriate:

i. Covering of any stockpiles of soil or spoil which could result in wind-blown dust generation;
ii. Leaching, or washing of soil into surface watercourses. This may need to be accompanied by hoarding if wind speeds are high such that the stockpile cover could be blown away or damaged;
iii. Sheeting of lorries leaving site; and
iv. No vehicles to deposit soil from the site on the highway off site as this may cause cross contamination.
v. Highest standards of housekeeping.

5.2.2 No vehicles shall leave the site with earth, mud, etc. adhering to the wheels in a quantity which may result in its being deposited on the public highway or footpath, and creating a nuisance, or hazard to

vehicles or pedestrians. Suitable wheel washing equipment to avoid such problems shall be installed if necessary, operated and maintained on the site until the development is completed.

5.2.3 The contractor shall be responsible for any air quality and dust monitoring required by the local authority.

5.3 Soil Stockpiling, Soil Waste/Reuse and Imported Soils

5.3.1 The method for determining suitability for soil reuse and/or disposal as waste is provided in Flowchart 1, Page 11. It is intended that soil is re-used on site using the procedures outlined in the CL:AIRE Waste Code of Practice.

5.3.2 Made Ground should be stockpiled separately from natural strata. Made ground associated with the soils around WS13, WS27 and WS28 as well as those used to construct the new car park surface should be segregated from other Made Ground soils which have been deemed suitable for use without restriction. Both areas of Made Ground are highlighted on Figure 2.2. In addition, should excavations reveal soils which are identified as potentially contaminated through visual indicators such as potential asbestos-containing materials (ACMs), black staining or olfactory indicators such as strong hydrocarbon odours, the materials should be stockpiled separately from other excavated materials free of visual or olfactory contamination.

5.3.3 Shallow Made Ground soils in the vicinity of WS13, WS27 and WS28 as well as the soils used in the construction of the new car park are not considered suitable for use in sensitive areas such as residential gardens. Said soils are considered suitable for use in the commercial areas of the site, beneath hardstanding or at depths of >600mm in soft landscaped areas across the site. In such instances, the use of a marker layer is recommended.

5.3.4 Where there is sufficient testing data available, waste soils may be removed directly from site without recourse to further testing and analysis.

5.3.5 Where sampling is undertaken from stockpiles, composite[1] samples are required. Upon receipt of chemical data the average chemical concentration of contaminants in the material is to be used to classify the material (as hazardous or non-hazardous). WAC analysis may also be required if the material is 1) classified as hazardous to determine the class of landfill to which it may be disposed or any requirement for pre-treatment, or 2) if it is desirable to determine if a non-hazardous material may be suitable for disposal at an inert facility. Waste soil be disposed of to an appropriate waste management facility under Duty of Care. Sampling frequencies are summarised in Table 5.1.

5.3.6 Samples shall be kept in accordance with the requirements for MCERTS accreditation and testing should be undertaken by a UKAS accredited facility.

5.3.7 Prior to undertaking excavations, if waste soils are not to be immediately exported from the site or reused, areas of the site shall be designated for temporary soil stockpiling. Soil stockpiles will be required to meet the following:

i. Stockpiles of soils which may be contaminated: Bunded bay walls, impermeable membrane at base, covered with impermeable membrane which is pegged/weighted to the ground, and positioned to mitigate dust/odour nuisance. Providing that it would not cause an odour nuisance, and would not cause contaminants to be dispersed, stockpiles containing hydrocarbons may be regularly turned to maintain aerobic conditions and promote any potential aerobic degradation of hydrocarbon contaminants. This might result in an improved soil quality and greater potential for soil reuse on site and/or reduced disposal costs subject to the appropriate sampling, testing and assessment; and

[1] Note: Composite samples are deemed to be acceptable to represent the characteristics of soils to be disposed of as waste which will subsequently be mixed, but should not be taken from more than one stockpile. Composite sampling is also recommended by British Standards for the characterisation of topsoil, and is therefore deemed to be appropriate. BS3882:2015 Specification for Topsoil

ii. Stockpiles of other soils are to be constructed and maintained in a manner which prevents the generation of dust, which may include measures such as covering with an impermeable membrane which is pegged/weighted to the ground or using dust suppression, as required.

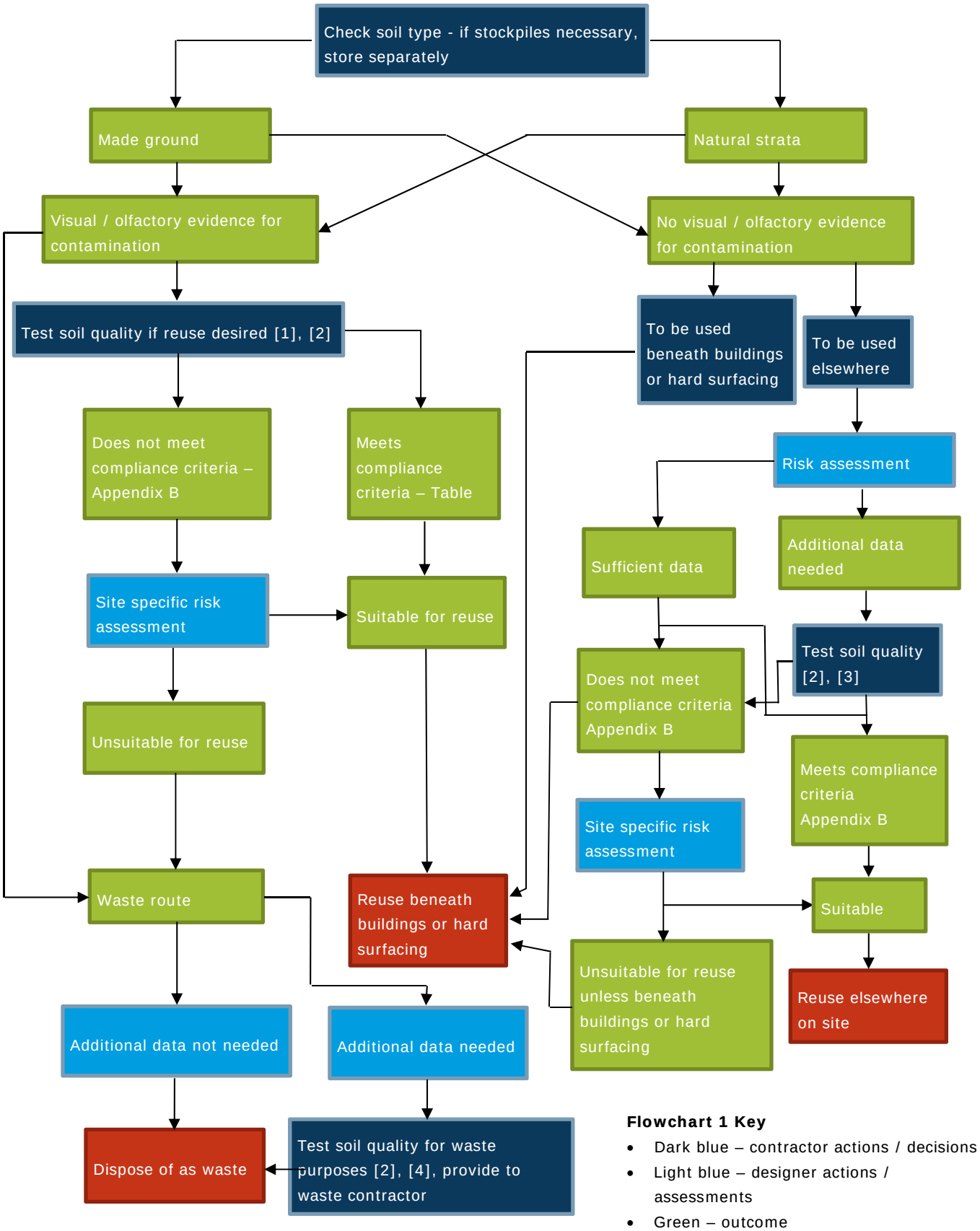
5.3.8 Any soils imported to the site should be tested to ascertain that the material is suitable for use prior to it being placed at the site. The testing regime is provided in Table 5.1 below and the compliance criteria are provided as Appendix A. Soils compliance criteria should be based off a Residential with Plant Uptake end-use for residential areas (Application 1) and also the care home area (Application 3), Public Open Space 1 for the open space in the central area of the site (Application 1) and a Commercial / Industrial end use for the proposed commercial development areas within Application 2. Soils leachate compliance criteria should be based off the most conservative value between the Environmental Quality Standards and the UK Drinking Water Standards. Any material used for the backfilling of service trenches used for potable water supply pipes should adhere to the guidelines presented within the UK WIR Guidance for selection of water supply pipes. The project Environmental Consultant should be contacted to finalise testing suites specific to the appropriate scenario.

Table 5.1: Waste/Reuse and Imported Soil Sampling Frequencies - Summary Table

Soil Type	Sampling Frequency	Minimum Number of Samples	Notes
Suspected to be contaminated	One sample per 100 m^3	3	Each sample shall comprise of seven sub-samples collected at random from the stockpile and bulked. To include soils testing and then also WAC testing if proposed for removal from site for soils intended for disposal at a hazardous or inert facility. If soil is to be reused on site, sampling must include discrete sampling from what appears to be the most contaminated soil, this is in addition to the composite sampling. Not to be reused within service corridors.
Not suspected to be contaminated – material for disposal	One sample per 300 m^3*	3	Each sample shall comprise of seven sub-samples collected at random from the stockpile and bulked. To include soils testing and then also WAC testing if proposed for removal from site for soils intended for disposal at a hazardous or inert facility.
Not suspected to be contaminated – material for reuse beneath buildings / hard surfacing	None	Nil	No testing required. Note that site won Made Ground may not be used within service corridors. Visual check to be made prior to re-use.
Imported soil – clean natural soils	One sample per 350 m^3 *#	3	Each sample shall comprise of four sub-samples collected at random from the stockpile including from the surface and core, and bulked. Evidence for clean source of material to be provided.
Imported soil – non-natural soils	One sample per 100 m^3*	3	Each sample shall comprise of four sub-samples collected at random from the stockpile including from the surface and core, and bulked. Details of source of material to be provided.

* To be confirmed by the project environmental consultant based on the site specifics at the time of earthworks. Sampling frequencies maybe reduced subject to regulator agreement.

\# If proven via audit trail to be virgin material, testing will not be required (at the discretion of the project environmental consultant)



Flowchart 1 Key

- Dark blue – contractor actions / decisions
- Light blue – designer actions / assessments
- Green – outcome
- Red – soil destination

Flowchart 1: Soil Waste and Reuse

Flowchart 1 Notes

[1] Suspected contaminated arisings will be tested at a frequency of one sample per 100 m^3 with a minimum of three samples

[2] Each sample shall comprise of seven sub samples collected at random from the stockpile and bulked
[3] Soils for reuse characterisation to be tested at a frequency of one sample per 300 m^3* with a minimum of three samples
[4] Soils for waste characterisation to be tested at a frequency of one sample per 300 m^3* with a minimum of three samples

5.4 Soil Waste Disposal

5.4.1 For any material which is to be taken off site, the contractor shall comply with all applicable Waste Management and Duty of Care Regulations when removing material off site. Transfer notes must include a description and the quantity of the waste and details of the waste collection contractor who must be licensed. Copies of the waste carrier registration shall be held on site. Sufficient information shall be provided to ensure that the waste disposal operator is aware of the potential hazards of the substance.

5.4.2 Soil laboratory analysis is required for waste classification and additional WAC analysis is required for any materials to be disposed as inert or hazardous, with the exception of exempt wastes. Should the WAC not be met for hazardous waste, there may be a requirement for pre-treatment on site. The contractor must ensure that the waste is taken to an appropriately licensed facility.

5.5 Marker Layers

5.5.1 Although not a remediation requirement, it would be prudent to place any clean imported materials or clean soils intended for re-use at shallow depth over a 'marker layer' such as a geotextile in areas of soft landscaping where underlying soils are not considered suitable for use at shallow depth. In said scenario's, such as the potential re-use of shallow Made Ground soils in the vicinity of WS13, WS27 and WS28, this material would require to be reused in soft landscaped areas at depths of >600mm and with a marker used to ensure a prudent approach.

6. UNEXPECTED CONTAMINATION

6.0.1 Additional precautions may be required to be taken if unexpected contamination is identified through visual or olfactory indications of potential contamination, if visible fragments of asbestos are found, if air quality monitoring indicates higher than expected fibre concentrations are being generated, or if works are required within confined spaces below ground.

6.0.2 The contractor shall be required to provide a method statement detailing how any unexpected areas of contamination encountered during the earthworks are to be managed. This is likely to include.

i. The contractor stopping work in that area and immediately informing their representative to discuss the proposed action; and
ii. Liaising with Eastleigh Borough Council and/or the Environment Agency to agree proposals for the appropriate management of this material.

6.0.3 It will be necessary to retain all records relating to testing, quantity, depth and location of the material identified. Where such material is reused, it will be necessary to retain records on where this material was placed.

6.0.4 If this material is removed off-site, then in addition to records on the source area outlined above, it will also be necessary to retain records relating to waste transfer notes, quantities and the receiving site.

6.0.5 If contaminated material were to be encountered by the contractor during excavations it would be necessary to segregate and stockpile this material separately. Samples would need to be obtained for

chemical testing, as per that for soils suspected to be contaminated in Table 5.1, to determine whether it is possible to re-use this material at the site. At the discretion of the project environmental consultant, area of localised elevated concentration removal may also be necessary.

6.0.6 Validation samples should also be obtained from the base and sides of any such excavation following removal of the hotspots of impacted soils; this should be undertaken by the project environmental consultant. The re-use of soils excavated from hot spots would be subject to the same testing protocol for soils 'suspected to be contaminated' outlined in Table 5.1 and assessed against the compliance criteria presented in Appendix A.

6.0.7 If free phase hydrocarbon product is identified to be present on the water table, this may require specific treatment and/or removal. The nature of a suitable technique to deal with free phase contamination would be dependent upon the scale of the impact and nature of the substance(s) causing contamination (e.g., the type of hydrocarbon), in addition to the activities occurring on site. In such circumstances, the contractor should immediately stop work and contact the project environmental consultant. It should be noted that according to the information available to date, there is no evidence that free phase product currently exists beneath the site. The aforementioned text is advisory only.

7. BURIED SERVICES

This section addresses Hazard 4 (of Table 3.5).

7.0.1 Exceedances of the current UK Guidance for the Specification of Water Supply Pipes to be used in Brownfield Sites (UK Water Industry Research Ltd. UKWIR, 2014) assessment criteria for buried water supply pipes are present in the eastern area of the site at shallow depths in two locations. The chemical testing results received to date indicate that barrier pipe (as described in UKWIR) is required in these areas should the Made Ground which is present only at shallow depth within the exploratory holes advanced (<0.2mbgl) be used as backfill within service trenches due to reported concentrations of hydrocarbons.

7.0.2 The first area is the Made Ground in the vicinity of WS13 and WS28 (Application 2) and the second is the Made Ground used as the construction medium for the new car park located to the east of the club house (Application 1). In these areas, the use of clean backfill within water supply route corridors (using either site won natural strata, or chemical suitable imported material) is required to ensure there remains no potential risks to potable water supply pipes from hydrocarbons concentrations identified at shallow depth in Made Ground soils. Made Ground should not be used in the water supply route corridors in this area and instead, Made Ground from these areas along said service routes should be stockpiled and re-used in a manner for which they are chemically suitable.

7.0.3 The contractor will be required to agree that proposals with the local water authority regarding the design of water services.

8. GROUND GAS

This section addresses Hazard 5 in Table 3.5 and has been updated within this report to reflect the findings of the Ramboll 2017 Ground Gas Risk Memo, reproduced in Appendix C.

8.1 Ground Gas Risk Assessment

8.1.1 A preliminary ground gas risk assessment was undertaken within the *Contaminated Land Assessment* (Ramboll, 2015) report based upon 1 round of ground gas monitoring undertaken between 6 June and

12 June 2015. The assessment concluded that the site was likely to be representative of Characteristic Situation 1 and the results corresponded to a '*Green'* site using the NHBC ground gas risk classification system for low rise housing with ventilated underfloor void and as such no ground gas protection measures were recommended at that stage.

8.1.2 Six additional rounds of ground gas monitoring were undertaken by Ramboll between 15 November 2016 and 11 January 2017 to provide additional site data with which to provide an updated assessment and appropriate recommendations for the development going forwards. The ground gas monitoring data for the Phase 1 site area made available from this work is presented in Appendix C alongside the additional gas monitoring data taken for the remainder of wells across the wider site area. Although some of the data was not taken from the Phase 1 area itself, it does provide context to the gas monitoring data obtained specifically within the Phase 1 area and conservatism where data is available at or immediately adjacent to the Phase 1 boundary.

8.1.3 Using the data taken up until January 2017, a worst-case gas screening value of 0.52 l/hr was calculated using the maximum recorded concentrations of carbon dioxide of 22.8% w/w and methane of 7.4% w/w (WS13), which equates to Characteristic Situation is 2 (CS2). These worst-case conditions correspond to an '*Amber 2'* site. However, considering the significant area across which the site extends and the large amount of monitoring data available at the time, it was reasonable to consider the site in zones for which different gas risk classification were relevant.

8.1.4 With this in mind, with the exception of two anomalous areas, the majority of the phase 1 area was classified as Characteristic Situation 1 and a 'Green' site using the worst case results recorded methane at 0.4% w/w, carbon dioxide at 4.4% w/w and a flow rate of 0.1 l/hr which equates to a worst case gas screening value of 0.004 l/hr.

8.1.5 The two anomalous areas are described below and were the subject of additional ground investigation and follow up ground gas monitoring works reported in full within the Ramboll 2017, Ground Gas Memo (Appendix C). A summary of the changes to the classification within these areas is provided below and the revised ground gas risk zoning plan is provided as Figure 2.1.

8.1.6 The first anomalous area, relating to the highest concentrations of ground gases at the site recorded in WS13, which previously recorded of 22.8% w/w carbon dioxide and 7.4% w/w methane was formerly classified as CS2. It was thought that the elevated concentrations of methane and carbon dioxide were attributable to the degradation of a small release of hydrocarbons. Additional ground investigation works and subsequent monitoring in this area of the site has resulted in the source of ground gas being identified as more likely related to an area of waste tipping. Although this area is recommended to be retained as CS2, there is the potential to reduce it to CS1 following removal of the potential source and then demonstrating that the concentrations of ground gas and associated flow rates have diminished. See Appendix C for further detail.

8.1.7 Another anomalous area is located in the vicinity of WS2 (which is located approximately 10 m to the west of the site boundary) and is near the historic landfill site abutting the northern boundary of the site. This area was previously assessed as Amber 2 / CS2, however the receipt and assessment of additional data has resulted in a reassessment of this area as CS1 / Green. Full details are provided in Appendix C.

8.1.8 Anomolour readings were identified outside of the Phase 1 area of the site within the newly installed WS35. Additional work is required in this area prior to finalising the associated ground gas protection measured, however is outside of the remit of this report. Details are included within the Ramboll 2017, Ground Gas Risk Memo.

8.1.9 The gas zoning across the site is presented on Figure 2.1.

8.1.10 The developer may wish to seek additional data from key areas of the site, namely through the installation of additional wells and the completion of additional ground gas monitoring rounds to investigate the potential to reduce the required gas mitigation measures, subject to agreement with both the contaminated land officer and building control.

8.1.11 For all **non low rise residential buildings (e.g. commercial buildings)**, in order to comply with BS8485 for Type B buildings, in areas of the site which have been classified as **CS2** as defined by CIRIA C665 (2007), namely buildings located in Application 2 (Zone 1 on Figure 2.1), the protection measures will need to have a "minimum score of 3.5 points made up of two or more of the following three types of protection measures:

1) The structural barrier of the floor slab, or of the basement slab and walls if a basement is present;
2) Ventilation measures; and
3) Gas resistant membrane."

The methodology and options for selecting the ground gas protection measures for this scenario are clearly defined in BS8485, and could comprise e.g.:

1) A sub floor dispersal layer with "very good" performance (2.5 points); and
2) A gas resistant membrane meeting all the requirements in Table 7 of BS8485 (2 points).

8.1.12 No other areas of the Phase 1 site area require ground gas protection measures. Furthermore, the area currently classified as CS2 has the potential to be reclassified as CS1 subject to the provision and assessment of suitable data following removal of the assumed source.

8.2 Installation of Gas Membrane and Validation

8.2.1 The proprietary gas resistant membrane is to be installed by a competent, experienced and qualified contractor, with the necessary training and skills to undertake this work (e.g. NVQ Level 2 in Gas Protection Installation). The membrane should be lapped, taped and sealed as appropriate, and any service entry points are to be adequately protected using e.g. top hats.

8.2.2 Verification shall be in general accordance with guidance stipulated within CIRIA C735 and shall meet minimum requirements as detailed within this document.

8.2.3 Inspection is required to be undertaken during construction to demonstrate that the gas protection measures are being appropriately installed under construction quality assurance (CQA) inspection. Upon completion of the inspection, the independent specialist inspector shall provide documentary evidence to demonstrate that they are satisfied with the measures installed, for incorporation into the validation report.

8.2.4 Inspections shall be undertaken during at least the following key intervals:

i. Prior to laying the membrane (to ascertain that the membrane will be laid upon suitable materials);
ii. During the installation process; and
iii. Immediately following completion of the membrane being laid, and prior to being covered e.g. by concrete slab or foundation.

8.2.5 During inspection of the membrane, attention will be paid to observing the base on which the membrane is laid, degree of overlapping, integrity of taped seams and sealing, and observations for flaws such as punctures or tears.

8.2.6 A written record shall be completed for each of the inspection visits, supported by photographic records and an annotated plan showing which areas of the membrane were inspected and when. Appropriate records should be made of any corrective measures identified as being required and subsequently undertaken on the membrane during or post installation.

8.2.7 The details of the organisation undertaking the inspection work, together with qualifications and experience of staff members carrying out the inspections, shall be recorded. All personnel undertaking inspection work shall have sufficient experience and knowledge in this area of work.

8.2.8 To enable a verification report to be completed, copies of all records pertaining to the construction, monitoring and verification of the gas protection system shall be provided by the contractor. These records shall be made available to the project environmental consultant.

9. STANDARD HEALTH AND SAFETY PRECAUTIONS

9.0.1 All site workers shall adopt suitable health and safety precautions, as would be expected as standard at a construction site, to protect themselves from direct contact with soils affected by contamination. This shall include the use of gloves and provision of hand washing facilities.

9.0.2 There are no specific additional requirements for this site.

10. DRAINAGE

10.0.1 The preferred solution for the management of surface water drainage is currently swales, porous paving (private) and attenuation crates (private). The vast majority of the site is at present free draining, and overall the proposed development will cause the rate of infiltration of water through the soils to be reduced. There is not expected to be any net increase in infiltration to the site area, and given that leachate analysis has demonstrated typically low leachability of contaminants from soils, risks of increased contaminant mobilisation as a result of the development are considered to be low.

10.0.2 As such, no remedial measures are considered necessary with respect to free draining areas of the site with the exception of any encountered areas of unsuspected contamination which should be assessed for potential risks to controlled waters should drainage infrastructure intend to be installed in such an area.

11. VERIFICATION PLAN

11.0.1 The contractor shall maintain all the records to enable a post-contract validation report to be produced demonstrating compliance with the remediation strategy. This shall include a detailed summary of the works completed, all necessary laboratory analysis certification, waste transfer notes, any approvals obtained and detailed records of all movements of soil on site supported with chemical validation data.

The contractor shall use the records maintained to procure a Verification Report, which should be produced by a land quality specialist. The necessary information to complete the Verification Report, includes (but is not limited to) that detailed in Table 11.1.

Table 11.1

Table 11.1: Validation Requirements

Validation Reference	Description	Documentation Required

Validation Reference	Description	Documentation Required
V1	Health and safety of ground workers Protection of users of land/water near to the site	• Health and safety risk assessments and method statements for ground works • Records of measures taken to suppress dust generation • Records of liaison with neighbours • Records of any nuisance recorded and actions taken to mitigate this • Records of liaison with asbestos specialist (if required due to being encountered as unsuspected contamination), and any actions taken under their recommendation
V2	Future site users from locally impacted PAH and hydrocarbon contamination	• Method statement for ground workers • Records (including photographs) of Made Ground excavation, stockpiling and subsequent re-use in a location and manner for which it is chemically suitable • Watching brief during excavation works • Validation sampling if considered necessary by the project environmental consultant
V3	Waste	• Results of any additional chemical and WAC testing undertaken on waste soils, along with method of sampling and analysis. Laboratory quality assurance and accreditation certification • Details of any water removed from excavations and disposed of off-site, including chemical testing • Quantities of material disposed of off-site as waste, classification details of the receiving site(s), and copies of all waste transfer notes and consignment notes • Details of any pre-treatment required for disposal of materials failing hazardous WAC, if any
V4	Stockpiles	• Method statements for stockpiling • Photographs of stockpiles and details of how stockpiles have been managed
V5	Services	• Design of service trenches • Photographs showing installation of service trenches • Specification for water supply pipe material used • Records of consultations with the local water company and regulators regarding services design • Records of Made Ground excavation, stockpiling and subsequent re-use in a location and manner for which it is chemically suitable
V6	Additional investigation	• Additional investigation works maybe beneficial for Ground Gas Zone 2 and in the vicinity of WS13, however, are not considered essential • Results of additional investigation works, if undertaken shall include logs, analytical testing with laboratory accreditation certification and review of the data by a land quality specialist to determine whether any additional remedial actions are required. (Any further remedial actions required will be covered under item V7) • Alteration to design of remedial measures resulting from the additional investigation to be documented • Agreements in writing with the local authority of any remedial design changes
V7	Unexpected contamination	• Details of the location and extent of any free phase product if identified • Remediation method statement and verification plan, agreed by the Environment Agency and local council • Photographs showing remedial works • Waste transfer notes and/or consignment notes • Demonstration that remedial targets have been met
V8	Imported fill material and soil reuse	• Testing data for imported fill material and soils which are reused on site to demonstrate suitability for reuse. Where necessary, review of results by a land quality specialist • Details of where imported fill materials have been used • Details of where site won material has originated from and has been placed • Copies of MMP and QP declaration if the CL:AIRE Waste Code of Practice is

Validation Reference	Description	Documentation Required
		utilised • Photographs of material prior to and post placement
V9	Ground gas	• Regulatory approval for gas mitigation design • Records, materials used, and photographs showing installation of gas protection measures • Records of the credentials of the approved installer for the gas remedial measures, including and accreditation certificates • Records of independent inspection of gas remedial measures, carried out by a qualified and competent person; • Independent verification of removal of the source if the remaining CS2 classified area is to be reduced to CS1 and associated post works ground gas monitoring and assessment.
V10	Soil waste – general	• Transfer notes (for controlled waste) and consignment notes (for hazardous waste) • European Waste Code classification • Copies of waste carrier's registrations • Volumes of waste removal
V12	Other	• A log book of complaints from site neighbours/members of the public together with the action taken to address the problem • A log book of visits from statutory bodies and authorities, indicating their findings • Training records • Copies of any site monitoring data, if any update to this outline remedial strategy finds such monitoring to be required

12. LIMITATIONS AND LIABILITY

12.0.1 The remediation strategy detailed within this report has been prepared on the basis of the proposed development design and construction methods available at the time of reporting. This strategy may need to be updated once the final scheme design is finalised.

12.0.2 In addition, further ground investigation works, if carried out, may alter the recommendations as provided herein.

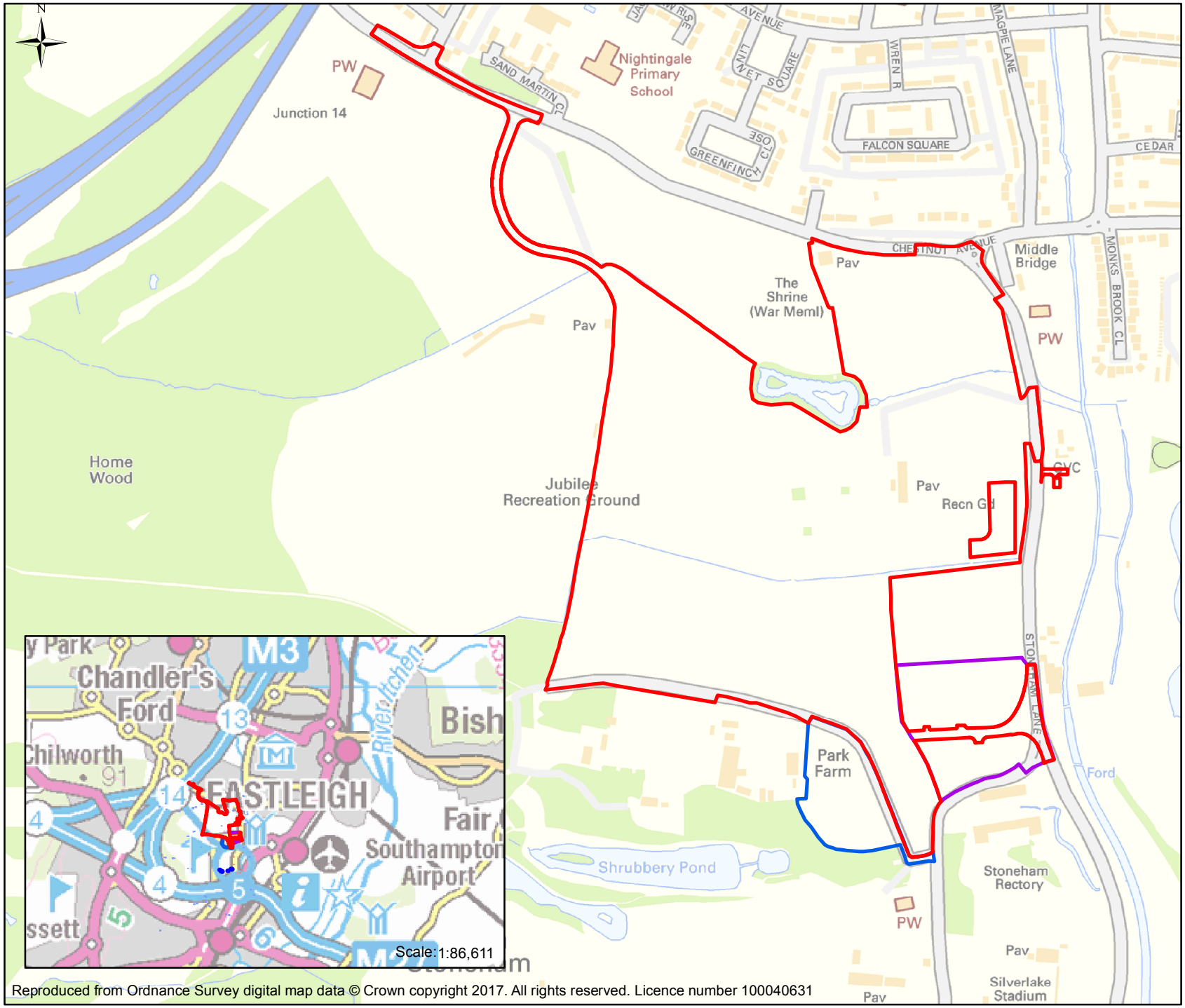
12.0.3 This report has been prepared in general accordance with current UK guidance, and for North Stoneham Developments Ltd, Sentinel Housing Association Ltd and Vestal Developments Ltd. This report shall not be relied upon by any third party unless that party has been granted a contractual right to rely on this report for the purpose for which it was prepared.

12.0.4 Liability for the design of the final remedial scheme, validation of that scheme and any monitoring which is required lies with the contractor.

12.0.5 The findings and opinions in this report are based upon information derived in part from third parties. Ramboll believe these information sources to be reliable, but cannot accept any liability for the accuracy or otherwise of any information derived from third party sources.

DRAWINGS AND FIGURES

FIGURE 1	SITE LOCATION
FIGURE 2.1	GROUND GAS RISK ZONING PLAN
FIGURE 2.2	CONTAMINATION CONSTRAINTS PLANT
DRAWING NUMBER 17.003.SK.203	STONEHAM, EASTLEIGH STAGE 4 MASTERPLAN SECTION 4 (2A2BPARCEL)
DRAWING NUMBER 09-133-011	PROPOSED PUMPING STATION LOCATION
DRAWING NUMBER 16.085-SK.001	PROPOSED MASTERPLAN PARCELS 3B &4A
DRAWING NUMBER 16.085-SK.002	PROPOSED MASTERPLAN PARCELS 2A &2B
DRAWING NUMBER 1135/05	PHASING PLAN
DRAWING NUMBER NONE	LAND ASSEMBLY AT STONEHAM LANE & CHESTNUT AVENUE, EASTLEIGH, HAMPSHIRE
DRAWING NUMBER 1135.P04	PARAMETER PLAN – BUILDING HEIGHTS
DRAWING NUMBER 14-159-005	INDICATIVE SURFACE WATER DRAINAGE STRATEGY



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Residential Phase 1 Application Boundary
Local Centre - Application Boundary
Extra Care - Application Boundary

Scale:1:6,800

Colour Drawing

Client

HIGHWOOD
HIGHWOOD LAND LLP

Project Title

North Stoneham Park Phase One

Project Number

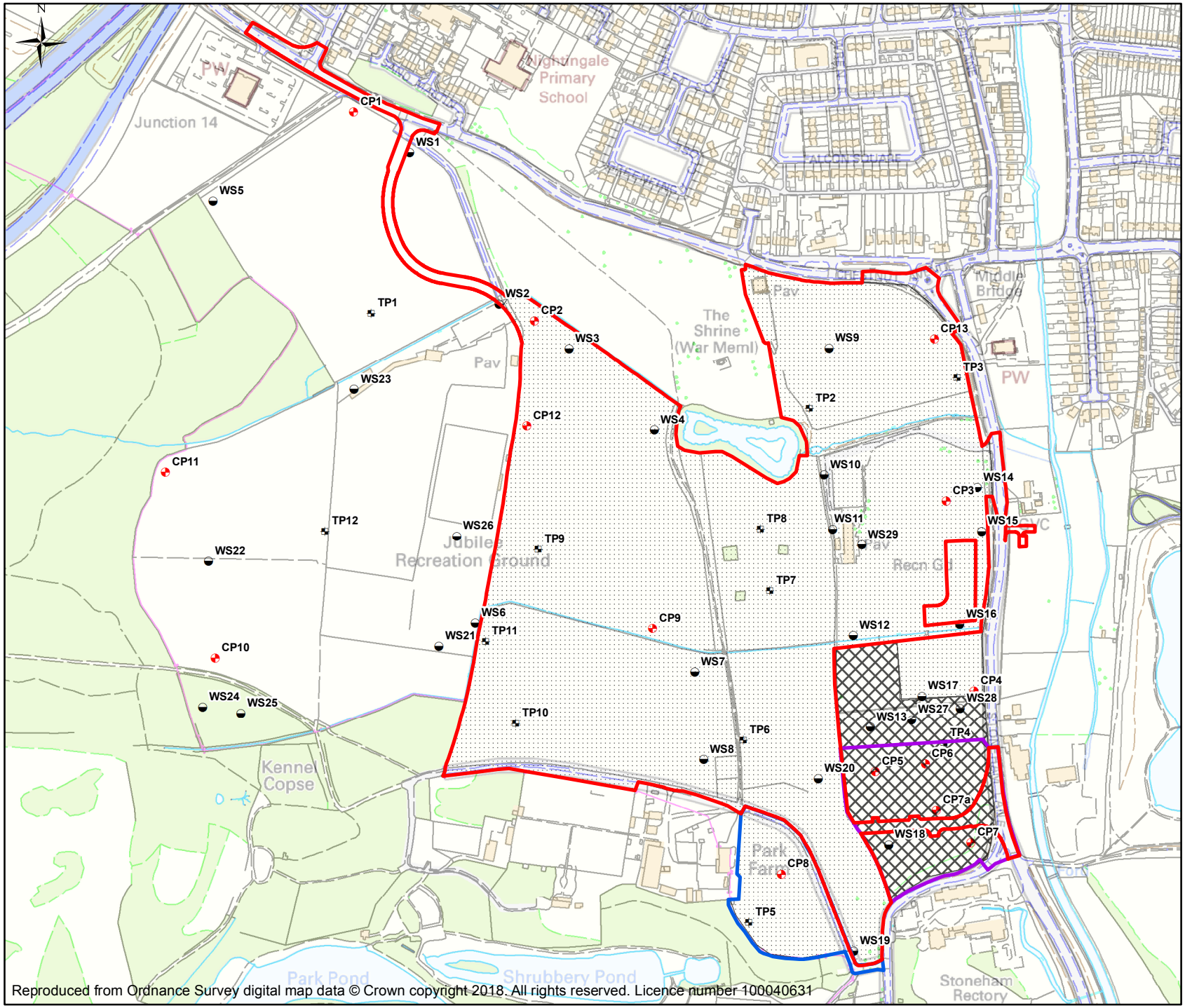
61033023-002

Figure Title

Site Location Plan

RAMBOLL
Tel: 023 8081 7500 southampton@ramboll.co.uk
Fax: 023 8081 7600 www.ramboll.co.uk

Date	Prepared By
25.01.2017	BH
Figure No.	**Revision**
Figure 1	02



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Residential Phase 1 Application Boundary
Extra Care - Application Boundary
Local Centre - Application Boundary

Ground Gas Zone

Ground Gas Zone 1: CS2
Ground Gas Zone 3: Green/CS1

Ground Investigation

Cable Percussion (CP)
Trial Pit (TP)
Windowless sample borehole (WS)

Scale:1:6,000

Colour Drawing

Client

HIGHWOOD CONSTRUCTION

Project Title

North Stoneham Park Phase one

Project Number

61033023-002

Figure Title

Ground Gas Risk Zoning Plan

RAMBOLL
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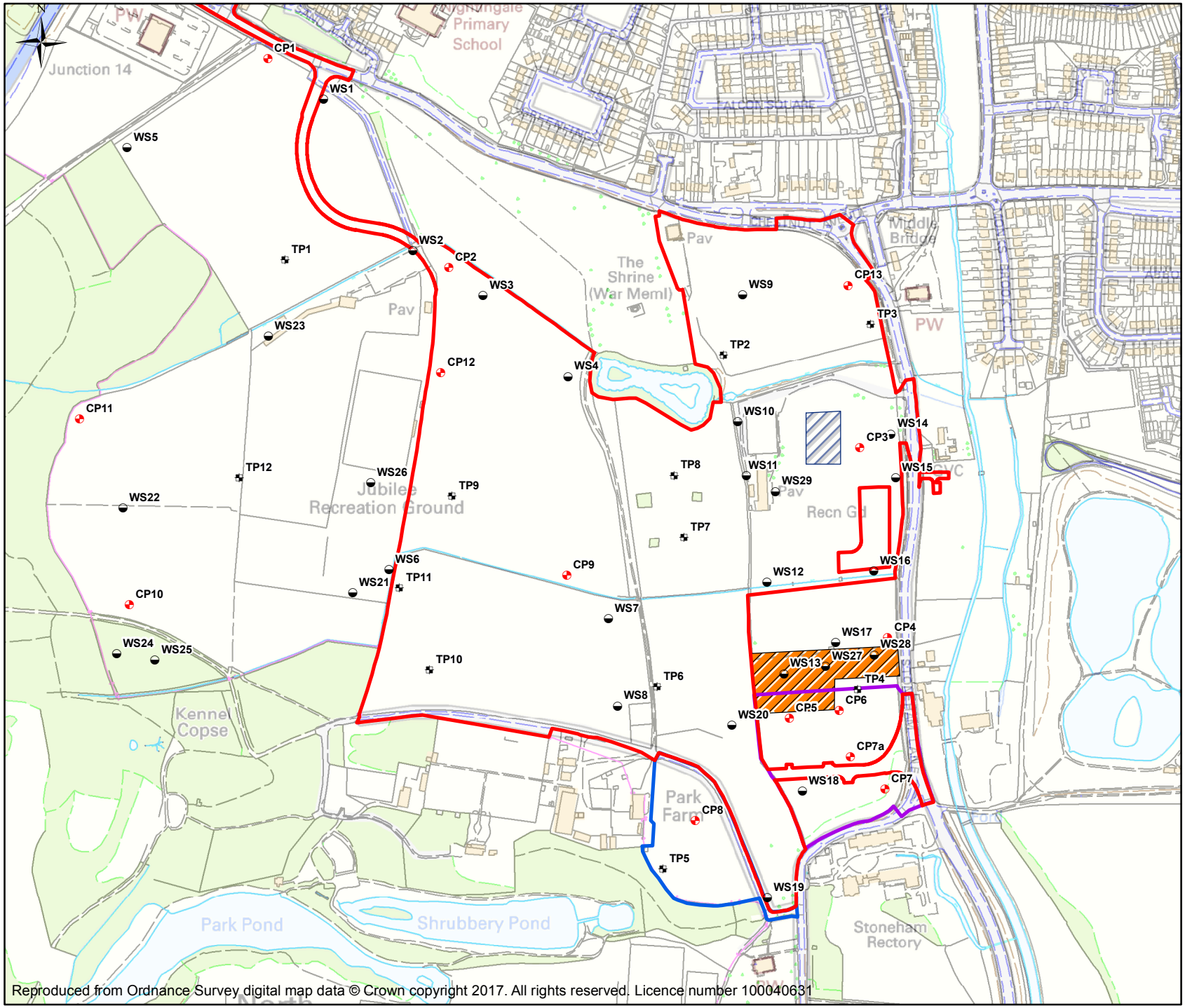
Date	Prepared By
26.09.2018	BH
Figure No.	**Revision**
Figure 2	03



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Residential Phase 1 Application Boundary
Local Centre - Application Boundary
Extra Care - Application Boundary

Contamination Constraints
Shallow Made Ground soils around WS13, WS27 & WS28
New car park

Ground Investigation
Cable Percussion (CP)
Trial Pit (TP)
Windowless sample borehole (WS)

Scale:1:6,000

Colour Drawing

Client
HIGHWOOD
HIGHWOOD LAND LLP

Project Title
North Stoneham Park Phase One

Project Number
61033023-002

Figure Title
Contamination Constraints Plan

RAMBOLL
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Date	Prepared By
25.01.2017	BH
Figure No.	**Revision**
Figure 2.2	02

Type 6V
Type 7
Type 8

SCHEDULE OF ACCOMMODATION - SECTION 4 (2A2B PARCEL)

	Total	m²	ft²	Total area m²	Total area ft²	Plot Numbers:
TYPE 6A - 3B5P	2	101	1087.0	202	2174	5, 11
TYPE 7 - 3B5P	3	93	1001.0	279	3003.12	4, 17, 18
TYPE 8 - 2B4P	13	80	861.1	1040	11194.3	1, 2, 3, 6, 7, 8, 9, 10, 12, 13, 14, 15, 16
TOTAL DWELLINGS	18			1,521	16,371	

NOTES:
FOR COMMENT

0 2 3 4 6 8 10 12 14 16 18 20m
Scale 1:200

N

REVISIONS

CLIENT
HIGHWOOD
HIGHWOOD LAND LLP

TITLE
STONEHAM , EASTLEIGH
STAGE 4 MASTERPLAN
SECTION 4 (2A2B PARCEL)

HGP ARCHITECTS
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Scale @ A1: 1:200
Date: APRIL 2017
Drawn by: IS/RR
Checked by: CK
Drawing No: 17.003.SK.203
Revision:

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E	051016	UPDATE TO RED LINE BOUNDARY. SCHEDULE UPDATE	CK	CK	H	181116	TREES CO-ORDINATED WITH LANDSCAPE ARCHITECT.	SP	CK	J	121216	PLOT 1 AMENDED, PARKING RECONFIGURED, LEVELS	SP	CK	Q	180117	UPDATED PARKING ALLOCATION. SPINE ROAD NOW 6.5M	CK	CK				
D	140916	AFFORDABLE AND SHARED OWNERSHIP INDICATED.	CK	CK			PLOT OWNERSHIP BOUNDARIES AMENDED.					ADDED TO DRAWING, ACCOMMODATION AND SCHEDULE					WIDE. BUS STOPS BY PLOT 1 ADDED						
		NEW BLOCK OF FLATS TO EAST. PHASING BOUNDARIES			G	031116	UPDATED LAYOUT. DOUBLE STACKED PARKING TO FLATS	SP	CK			REVISED. AFFORDABLE ALLOCATION UPDATED. AVENUE			P	110117	PLOT 1, SCHEDULE AND AFFORDABLE ALLOCATION	SP	CK	U	070417	LAYOUT UPDATED. BAYS ADDED TO 4 BEDS. VARIATION	RR	CK
		SHOWN.					REMOVED WHERE POSSIBLE. ADDITIONAL VISITOR					PARK ROAD WIDENED TO 6M.					UPDATED					NOISE UNITS ADDED		
C	090916	LAYOUT AND SCHEDULE UPDATED IN LINE WITH MARK UP	SP	CK			PARKING ADDED. UPDATED SCHEDULE			L	191216	AFFORDABLE ALLOCATION RECONFIGURED. SCHEDULE	SP	CK						T	280317	LAYOUT AMENDED TO PLANNERS COMMENTS	RR	CK
B	070916	LAYOUT AND SCHEDULE UPDATED IN LINE WITH MARK UP	SP	CK	F	121016	TREES, GARAGES & GARDEN WALLS AMENDED.	SP	CK	I	291116	SCHEME RE CONFIGURED BASED ON RPA'S NOW SHOWN.	SP	CK	O	221216	SCHEDULE UPDATED TO INCLUDE WHEELCHAIR FLATS.	SP	CK	S	150317	LAYOUT AMENDED TO PLANNERS COMMENTS AND PLOTS	RR	CK
A	010916	LAYOUT AND SCHEDULE UPDATED	SP	CK			SCHEDULE UPDATED INTO PHASES					PARKING NUMBERS INDICATED. EXISTING AVENUE PARK			K	191216	AFFORDABLE ALLOCATION RECONFIGURED. SCHEDULE	SP	CK	N	211216	PLOT 297 & 298 CHANGED FROM 3B4P TO 3B5P, &	SP	CK			RENUMBERED - POST PLANNING		
REVISIONS												ROUTE INDICATED					UPDATED. 6X 3B5P UNITS CHANGED TO 3B5P.					AVENUE ROAD REDUCED TO 4.8M.		

NOTES:

FOR COMMENT

0 1 5 10 15 20 25 30 40 45 50m

CLIENT: HIGHWOOD LAND LLP

TITLE: NORTH STONEHAM PARK, EASTLEIGH
PROPOSED MASTERPLAN PARCELS 3B & 4A

Scale @ A0: 1:500 | Drawn by: SP / RR | Drawing No: 16.085-SK.001 | Revision:
Date: JANUARY 2017 | Checked by: CK

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WATER MAIN 8m EASEMENT
TBC WITH GROUND SCAN SURVEY
GAS MAIN 6m EASEMENT
WATER MAIN 8m EASEMENT
TURNING HEAD
TURNING HEAD
TURNING HEAD
PLOTS 177-181 (FLATS)
PLOTS 182-186 (FLATS)
PLOTS 187-191 (FLATS)
PLOTS 192-196 (FLATS)
PLOTS 197-201 (FLATS)
PLOTS 202-206 (FLATS)
PLOTS 207-211 (FLATS)
PLOTS 212-216 (FLATS)
PLOTS 217-221 (FLATS)
PLOTS 222-226 (FLATS)
PLOTS 227-231 (FLATS)
PLOTS 232-236 (FLATS)
PLOTS 237-241 (FLATS)
PLOTS

Land Assembly at Stoneham Lane & Chestnut Avenue, Eastleigh, Hampshire. Blue Line denotes policy E1

HIGHWOOD
THE HIGHWOOD GROUP

Promap

Highwood Group.
The Hay Barn, Upper Ashfield Farm, Hoe Lane, Romsey, Hants. SO51 9NJ
t - 02380748900

Site

LAND SOUTH OF CHESTNUT AVENUE, EASTLEIGH

Drawing

Parameter plan

BUILDING HEIGHTS

Date	Scale	Drawing ref.
21.01.15	1:2500@A0	1135.**P04**

KEY

- Application site boundary
- Up to 2 Storeys (Up to 9m)
- Up to 3 Storeys (Up to 12m)
- Up to 4 Storeys (Up to 15m)

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HIGHWOOD
HIGHWOOD LAND LLP

wyg

30y STORM ON-PARCEL ATTENUATION REQUIRE - APPROXIMATELY 352m³

100y STORM ATTENUATION REQUIRE - APPROXIMATELY 687m³

ESTIMATED CONTROLLED DISCHARGED RATE - 8.6 l/s

30y STORM ON-PARCEL ATTENUATION REQUIRE - APPROXIMATELY 533m³

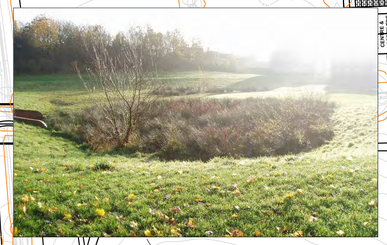
100y STORM ATTENUATION REQUIRE - APPROXIMATELY 1036m³

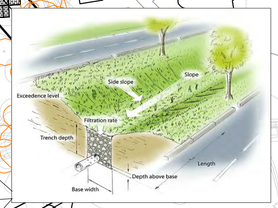
ESTIMATED CONTROLLED DISCHARGED RATE - 13 l/s

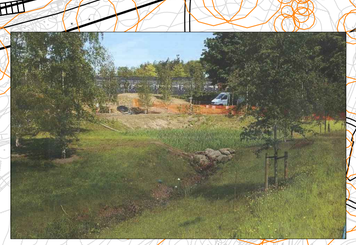
30y STORM ON-PARCEL ATTENUATION REQUIRE - APPROXIMATELY 209m³

100y STORM ATTENUATION REQUIRE - APPROXIMATELY 407.5m³

ESTIMATED CONTROLLED DISCHARGED RATE - 5.12 l/s







30y STORM ON-PARCEL ATTENUATION REQUIRE - APPROXIMATELY 708m³

100y STORM ATTENUATION REQUIRE - APPROXIMATELY 1380.5m³

ESTIMATED CONTROLLED DISCHARGED RATE - 17.5 l/s

30y STORM ON-PARCEL ATTENUATION REQUIRE - APPROXIMATELY 708m³

100y STORM ATTENUATION REQUIRE - APPROXIMATELY 1382.5m³

ESTIMATED CONTROLLED DISCHARGED RATE - 17.4 l/s

WORKS UNDER LATER PHASE

ESTIMATED IMPERMEABLE AREAOF 8.670Ha.
ESTIMATED ATTENUATION STORAGE ON-SITE REQUIRED BETWEEN 4746m³ TO 6783m³

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NOTES

1. ALL DIMENSIONS SHOWN IN METRES UNLESS NOTED OTHERWISE.
2. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT ARCHITECT & ENGINEERING DETAILS, DRAWINGS & SPECIFICATIONS.
3. ANY DISCREPANCIES SHOULD BE REPORTED TO THE ARCHITECT AND/OR ENGINEER IMMEDIATELY SO THAT CLARIFICATION CAN BE SOUGHT PRIOR TO THE COMMENCEMENT OF WORK.
4. WHERE CONNECTIONS MADE TO EXISTING DRAINS INVOLVE REMOVAL OF PIPES OR CONNECTION OF PIPES, FLEXIBLE COUPLINGS SHOULD BE USED TO ENSURE A WATERTIGHT JOINT.
5. PLEASE NOTE, ALL LOCATION OF EXISTING PRIVATE DRAINS, MANHOLES AND LEVELS ARE INDICATIVE ONLY. ACCURATE POSITION AND LEVELS OF DRAINS AND CHAMBERS TO BE DETERMINE ON SITE PRIOR TO WORK COMMENCEMENT.
6. ALL DIMENSIONS, LEVELS AND SURVEY GRID CO-ORDINATES ARE TO BE CHECKED ONSITE AND THE ENGINEER NOTIFIED IMMEDIATELY OF ANY DISCREPANCIES PRIOR TO THE COMMENCEMENT OF THE WORKS.
7. NO DEVIATION FROM THE DETAILS SHOWN ON THIS DRAWING IS PERMITTED WITHOUT PERMISSION FROM THE ENGINEER.
8. THE CONTRACTOR MUST REFER TO THE EXISTING SERVICES PLANS AND INFORMATION AND MUST LOCATE EXISTING SERVICES PRIOR TO ANY EXCAVATIONS. ALL EXCAVATION WORKS IN THE VICINITY OF EXISTING SERVICES SHOULD BE CARRIED OUT IN ACCORDANCE WITH HSG47
9. THE DRAINAGE ARRANGEMENTS ARE SUBJECT TO EVOLVE DURING THE DETAIL DESIGN STAGE OF THE PROJECT.

LEGEND

- PROPOSED SURFACE WATER NETWORK
- PROPOSED LINED PEARMEABLE PAVING
- PROPOSED ATTENUATION STORAGE DURING EXTREME STORM EVENT
- PROPOSED ATTENUATION STORAGE
- PROPOSED HEADWALL
- INDICATIVE FILER DRAIN
- ROOT PROTECTION AREAS

DRAFT

Rev	Amendments	Drn	Chk	App	Date
B	SITE LAYOUT & PONDS UPDATED	OC	BAC	BAC	05.01.17
A	DRAINAGE STRATEGY REVISED	NT	BAC	BAC	05.12.16

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E: enquiries@odysseymarkides.com
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Job Title
STONEHAM, LAND AT CHESTNUT AVE. EASTLEIGH

Drawing Title
INDICATIVE SURFACE WATER DRAINAGE STRATEGY

Client
HIGHWOOD LAND LLP

Scale	Date	Designed
1:2000 @A1	NOV 2016	NT
Drawn	Checked	Approved
NT	BAC	BAC
Job No	Drawing No	Rev
14-159	14-159-005	B

N:\14-159 - Land at Chestnut Ave. Eastleigh\Tech\Acad\Drawings\14-159-005 Indicative Surface Water Drainage Strategy.dwg

N

FOR INFORMATION PURPOSES ONLY

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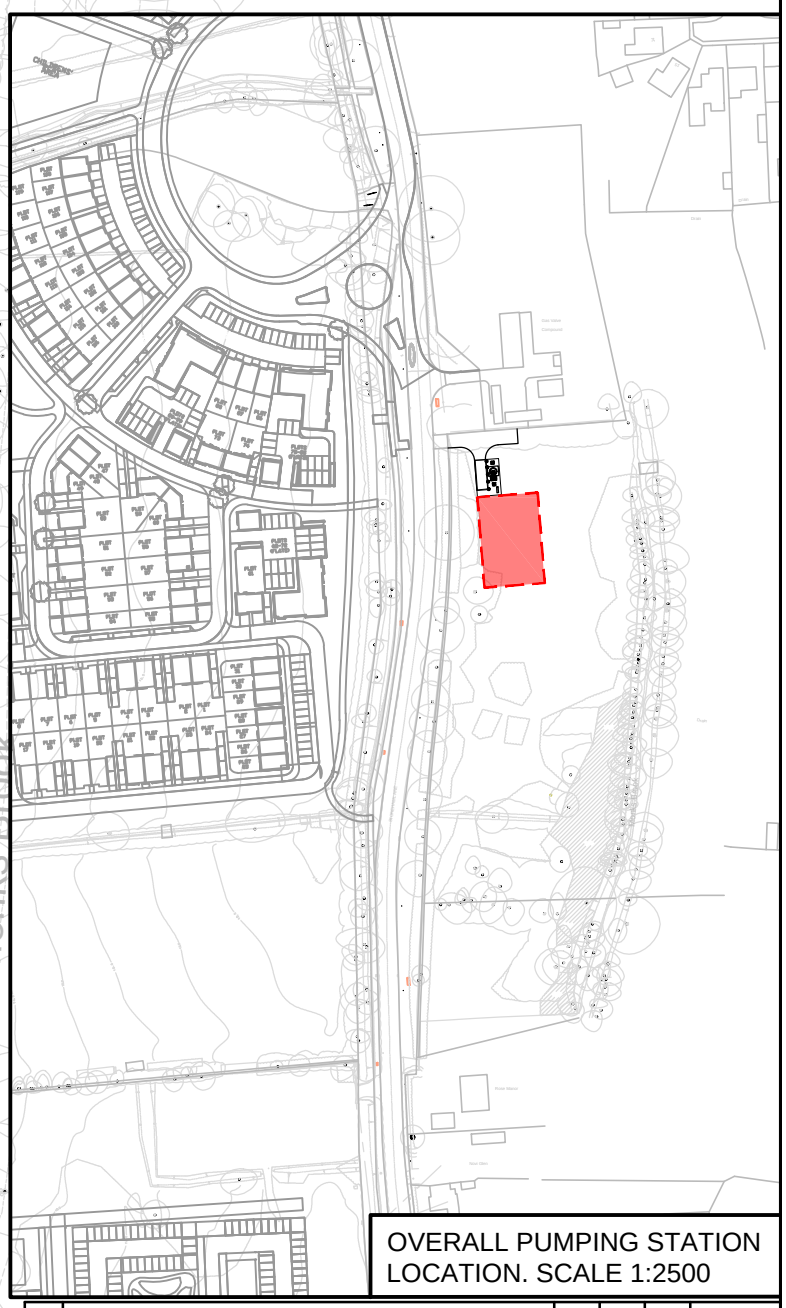
SCALE 1:500

ESTIMATED STORAGE AREA FOR PUMPING STATION

STONEHAM LANE

Monks Brook



OVERALL PUMPING STATION LOCATION. SCALE 1:2500

Rev	Amendments	Drn	Chk	App	Date
B	STORAGE AREA AMENDED	NT	NT	JHM	28.10.16
A	MINOR AMENDMENTS	NT	NT	JHM	28.10.16

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Job Title: STONEHAM, EASTLEIGH	Scale: AS SHOWN @A3	Date: OCT 16	Designed: NT	
Drawing Title: PROPOSED PUMPING STATION LOCATION	Drawn: NT	Checked: JHM	Approved: JHM	
Client: HIGHWOOD GROUP LLP	Job No: 09-133	Drawing No: 09-133-011	Rev: B	

N:\14-159 - Land at Chestnut Ave, Eastleigh\Tech\Acad\Drawings\14-159-011 Proposed Pumping Station Location.dwg

APPENDIX A
COMPLIANCE CRITERIA

Water Quality Thresholds

Shortlist for England, Wales and Scotland.

This shortlist is designed to be used as a quick screening tool to represent a worst case for common contaminants only.

Refer to detailed sheets for all other contaminants and specific receptor thresholds.

		Drinking water resource protection - Shortlist DWS (standard taken in accordance with heirarchy)	Shortlist Freshwater Surface Water Standards
		Hazardous substances (highlighted) For sites with gw resource potential - screen to Method detection limit	
Metals			
Aluminium	µg/l	150	
Antimony	µg/l	5	
Arsenic	µg/l	7.5	50
Barium	mg/l	0.7	
Beryllium	mg/l	0.004	
Boron	mg/l	0.75	
Cadmium and its compounds	µg/l	3.75	≤0.08 (Class1)[15] 0.08 (Class 2) 0.09 (Class3) 0.15 (Class 4) 0.25 (Class 5)
Chromium(III)	µg/l	37.5	4.7
Chromium(VI)	µg/l		3.4
Copper	µg/l	1500	1µg/l bioavailable***
Iron	µg/l	200	1000
Lead and its compounds (dissolved)	µg/l	7.5	1.2 bioavailable
Manganese	µg/l	50	123 µg/l bioavailable***
Mercury	µg/l	0.75	0.07
Nickel	µg/l	15	4 bioavailable***
Selenium	µg/l	7.5	
Zinc	µg/l	-	10.9 bioavailable plus Ambient Background Concentration (µg/l) dissolved***
PAH			
Polyaromatic hydrocarbons (PAH) (sum of b(b)fl, b(k)fl, ind(123cd)p, b(ghi)p)	µg/l	0.1	not applicable
Anthracene	µg/l	-	0.1
Benzo(a)pyrene	µg/l	0.0075	1.7x10-4**
Benzo(b)fluoranthene	µg/l	0.075	
Benzo(k)fluoranthene			**
Benzo(g,h,i)- perylene			
Indeno(1,2,3- cd)-pyrene			
Fluoranthene	µg/l	0.075	0.0063
Naphthalene	µg/l	0.07	2
BTEX			
Benzene	µg/l	0.75	10
Ethylbenzene	µg/l	300	
Toluene	µg/l	700	74
Xylenes (total)	µg/l	500	
TPH	µg/l	10	
MISC			
Ammonia (as N)	µg/l	200	21
Ammonium (NH_4)	µg/l	500	200
Cyanide (free)	µg/l	50	1
Electrical conductivity	µS/cm	1880	
Fluoride	mg/l	1.13	
Nitrate (NO3)[9]	mg/l	37.5	
Nitrite (NO_2)	mg/l	0.5	
Phenol	µg/l	-	7.7
Phosphate (as P)	µg/l	-	
Sodium	mg/l	150	
Sulphate	mg/l	188	

Zn, Cu, Ni bioavailable concentration to be calculated in separate sheet (m-BAT tool 20150206 with test data)
m-BAT tool 20150206 with test data.xlsm
Pb - bioavailable concentration to be calculated in separate sheet (Final Pb Screening Tool)
Final Pb Screening Tool.xlsm

[15]
Class 1: <40 mg CaCO3/l
Class 2: 40 - <50 mg CaCO3/l
Class 3: 50 - <100 mg CaCO3/l
Class 4: 100 - <200 mg CaCO3/l
Class 5: ≥200 mg CaCO3/l

RAMBOLL

Generic Assessment Criteria for soils - to be protective of human health | **V9** | Jul-14

Determinand	Units	Soil Organic Matter	Residential	Residential without homegrown produce [1]	Allotments	Commercial / Industrial	Public Open Space 1 Green space close to housing	Public Open Space 2 Green space far enough from housing that there will be negligible tracking back of soil	Origin of Value
Inorganics									
Arsenic	mg/kg	-	37	40	49	640	79	168	C4SL (DEFRA 2014)
Arsenic	mg/kg	-	32	35	43	640			SGV 2009
Beryllium	mg/kg	-	51	51	55	420			LQM/CIEH 2009
Boron	mg/kg	-	290	10000	45	192000			LQM/CIEH 2009
Cadmium	mg/kg	-	26	149	4.9	410	220	880	C4SL (DEFRA 2014)
Cadmium	mg/kg	-	10	85	1.8	230			SGV 2009
Chromium (III)	mg/kg	-	3000	3000	34600	30400			LQM/CIEH 2009
Chromium (VI)	mg/kg	-	21	21	170	49	23	250	C4SL (DEFRA 2014)
Chromium (VI)	mg/kg	-	4.3	4.3	2.1	35			LQM/CIEH 2009
Copper	mg/kg	-	2330	6200	520	71700			LQM/CIEH 2009
Lead [7]	mg/kg	-	200	310	80	2330	630	1300	C4SL (DEFRA 2014)
Mercury - elemental	mg/kg	1% SOM	0.17	0.17	130 (4.3*)	18 (4.3*)			Calculated with CLEA v1.06
	mg/kg	2.5% SOM	0.42	0.42	200 (11*)	46 (11*)			Calculated with CLEA v1.06
	mg/kg	6% SOM	1	1	320 (26*)[5]	110 (26*)[5]			SGV 2009
Mercury - inorganic	mg/kg	-	170	240	80	3600			SGV 2009
Mercury - methyl	mg/kg	1% SOM	7.4	8.4	8	370 (73*)			Calculated with CLEA v1.06
	mg/kg	2.5% SOM	9.6	11	8	390			Calculated with CLEA v1.06
	mg/kg	6% SOM	11	14	8	410			SGV 2009
Nickel	mg/kg	-	130	130	230	1800			SGV 2009
Selenium	mg/kg	-	350	600	120	13000			SGV 2009
Vanadium	mg/kg	-	75	190	18	3160			LQM/CIEH 2009
Zinc	mg/kg	-	3750	40000	620	665000			LQM/CIEH 2009
Free cyanide	mg/kg	-	49	49	49	49			Ramboll UK
Organics									
Phenol	mg/kg	1% SOM	180	310	66	3200			Calculated with CLEA v1.06, Commercial from SGV report
	mg/kg	2.5% SOM	290	420	135	3200			Calculated with CLEA v1.06, Commercial from SGV report
	mg/kg	6% SOM	420	520	280	3200			SGV 2009
Dioxins (sum of PCDDs, PCDFs, and dioxin- like PCBs) [2]	µg/kg	-	8	8	8	240			SGV 2009
PAH Congeners									
Acenaphthene	mg/kg	1% SOM	210	2000 (57*)	34	85000 (57*)			LQM/CIEH 2009
	mg/kg	2.5% SOM	480	3100 (141*)	85	98000 (141*)			LQM/CIEH 2009
	mg/kg	6% SOM	1000	3900 (340*)	200	100000			LQM/CIEH 2009
Acenaphthylene	mg/kg	1% SOM	170	2000 (86*)	28	84000 (86*)			LQM/CIEH 2009
	mg/kg	2.5% SOM	400	3000 (212*)	69	97000 (212*)			LQM/CIEH 2009
	mg/kg	6% SOM	850	3900 (510*)	160	100000			LQM/CIEH 2009
Anthracene	mg/kg	1% SOM	2300	20000 (1.2*)	380	530000			LQM/CIEH 2009
	mg/kg	2.5% SOM	4900	22000	950	540000			LQM/CIEH 2009
	mg/kg	6% SOM	9200	23000	2200	540000			LQM/CIEH 2009
Benzo (a) anthracene[6]	mg/kg	1% SOM	3.1	3.7	2.5	90			LQM/CIEH 2009
	mg/kg	2.5% SOM	4.7	5.2	5.5	95			LQM/CIEH 2009
	mg/kg	6% SOM	5.9	6.2	10	97			LQM/CIEH 2009
Benzo (a) pyrene [6]	mg/kg	1% SOM							
	mg/kg	2.5% SOM							
	mg/kg	6% SOM	5	5.3	5.7	76	10	21	C4SL (DEFRA 2014)
Benzo (a) pyrene [6]	mg/kg	1% SOM	0.83	1	0.6	14			LQM/CIEH 2009
	mg/kg	2.5% SOM	0.94	1	1.2	14			LQM/CIEH 2009
	mg/kg	6% SOM	1	1	2.1	14			LQM/CIEH 2009
Benzo (b) fluoranthene[6]	mg/kg	1% SOM	5.6	7	3.5	100			LQM/CIEH 2009
	mg/kg	2.5% SOM	6.5	7.3	7.4	100			LQM/CIEH 2009
	mg/kg	6% SOM	7	7.4	13	100			LQM/CIEH 2009
Benzo (ghi) perylene[6]	mg/kg	1% SOM	44	47	70	650			LQM/CIEH 2009
	mg/kg	2.5% SOM	46	47	120	660			LQM/CIEH 2009
	mg/kg	6% SOM	47	48	160	660			LQM/CIEH 2009
Benzo (k) fluoranthene[6]	mg/kg	1% SOM	8.5	10	6.8	140			LQM/CIEH 2009
	mg/kg	2.5% SOM	9.6	10	14	140			LQM/CIEH 2009
	mg/kg	6% SOM	10	10	23	140			LQM/CIEH 2009
Chrysene[6]	mg/kg	1% SOM	6	8.8	2.6	140			LQM/CIEH 2009
	mg/kg	2.5% SOM	8	9.7	5.8	140			LQM/CIEH 2009
	mg/kg	6% SOM	9.3	10	12	140			LQM/CIEH 2009
Dibenzo(a,h)anthracene[6]	mg/kg	1% SOM	0.76	0.87	0.76	13			LQM/CIEH 2009
	mg/kg	2.5% SOM	0.86	0.91	1.5	13			LQM/CIEH 2009
	mg/kg	6% SOM	0.9	0.93	2.3	13			LQM/CIEH 2009
Fluoranthene	mg/kg	1% SOM	260	970	52	23000			LQM/CIEH 2009
	mg/kg	2.5% SOM	460	990	130	23000			LQM/CIEH 2009
	mg/kg	6% SOM	670	1000	290	23000			LQM/CIEH 2009
Fluorene	mg/kg	1% SOM	160	1900 (31*)	27	64000 (31*)			LQM/CIEH 2009
	mg/kg	2.5% SOM	380	2500 (76*)	67	69000			LQM/CIEH 2009
	mg/kg	6% SOM	780	2900 (183*)	160	71000			LQM/CIEH 2009
Indeno (123-cd) pyrene[6]	mg/kg	1% SOM	3.2	4.2	1.8	60			LQM/CIEH 2009
	mg/kg	2.5% SOM	3.9	4.4	3.8	61			LQM/CIEH 2009
	mg/kg	6% SOM	4.2	4.4	7.1	62			LQM/CIEH 2009
Naphthalene	mg/kg	1% SOM	1.5	1.6	4.1	200 (76*)			LQM/CIEH 2009
	mg/kg	2.5% SOM	3.7	3.9	9.9	480 (183*)			LQM/CIEH 2009
	mg/kg	6% SOM	8.7	9.2	23	1100 (432*)			LQM/CIEH 2009
Phenanthrene	mg/kg	1% SOM	92	840 (36*)	16	22000			LQM/CIEH 2009
	mg/kg	2.5% SOM	200	930	38	22000			LQM/CIEH 2009
	mg/kg	6% SOM	380	970	90	23000			LQM/CIEH 2009
Pyrene	mg/kg	1% SOM	560	2300	110	54000			LQM/CIEH 2009
	mg/kg	2.5% SOM	1000	2400	270	54000			LQM/CIEH 2009
	mg/kg	6% SOM	1600	2400	620	54000			LQM/CIEH 2009
BTEX									
Benzene	mg/kg	1% SOM	0.2	0.89	0.039	27	140	190	provisional C4SL (CL:AIRE dec2013)
	mg/kg	2.5% SOM							
	mg/kg	6% SOM	0.87	3.3	0.18	98	140	230	C4SL (DEFRA 2014)
Benzene	mg/kg	1% SOM	0.08	0.27	0.02	28			Calculated with CLEA v1.06
	mg/kg	2.5% SOM	0.16	0.49	0.035	50			Calculated with CLEA v1.06
	mg/kg	6% SOM	0.33	1	0.07	95			SGV 2009
Ethylbenzene	mg/kg	1% SOM	65	170	16	17000 (520*)			Calculated with CLEA v1.06
	mg/kg	2.5% SOM	150	380	39	35000 (1200*)			Calculated with CLEA v1.06
	mg/kg	6% SOM	350	840	90	66000 (2800*)[5]			SGV 2009
Toluene	mg/kg	1% SOM	120	610	22	59000 (870*)			Calculated with CLEA v1.06
	mg/kg	2.5% SOM	270	1300	51	110000 (1900*)			Calculated with CLEA v1.06
	mg/kg	6% SOM	610	2700	120	190000 (4400*) [5]			SGV 2009
Xylene -m	mg/kg	1% SOM	44	55	31	6500 (620*)			Calculated with CLEA v1.06
	mg/kg	2.5% SOM	100	130	74	15000 (1500*)			Calculated with CLEA v1.06
	mg/kg	6% SOM	240	300	180	33000 (3500*)[5]			SGV 2009
Xylene -o	mg/kg	1% SOM	45	60	28	6900 (480*)			Calculated with CLEA v1.06
	mg/kg	2.5% SOM	110	140	67	16000 (1100*)			Calculated with CLEA v1.06
	mg/kg	6% SOM	250	320	160	35000 (2600*)[5]			SGV 2009
Xylene -p	mg/kg	1% SOM	42	53	29	6200 (580*)			Calculated with CLEA v1.06
	mg/kg	2.5% SOM	98	130	70	14000 (1300*)			Calculated with CLEA v1.06
	mg/kg	6% SOM	230	290	160	31000 (3200*)[5]			SGV 2009

RAMBOLL	Generic Assessment Criteria for soils - to be protective of human health	V9	Jul-14

Determinand	Units	Soil Organic Matter	Residential	Residential without homegrown produce [1]	Allotments	Commercial / Industrial	Public Open Space 1 Green space close to housing	Public Open Space 2 Green space far enough from housing that there will be negligible tracking back of soil	Origin of Value
Total Petroleum Hydrocarbons [3]									
TPH Aliphatic EC5-6 [3]	mg/kg	1% SOM	30	30	740	3400 (304*)			LQM/CIEH 2009
	mg/kg	2.5% SOM	55	55	1700	6200 (558*)			LQM/CIEH 2009
	mg/kg	6% SOM	110	110	3900	13000 (1150*)			LQM/CIEH 2009
TPH Aliphatic EC6-8 [3]	mg/kg	1% SOM	73	73	2300	8300 (144*)			LQM/CIEH 2009
	mg/kg	2.5% SOM	160	160	5600	18000 (322*)			LQM/CIEH 2009
	mg/kg	6%SOM	370	370	13000	42000 (736*)			LQM/CIEH 2009
TPH Aliphatic EC8-10 [3]	mg/kg	1% SOM	19	19	320	2100 (78*)			LQM/CIEH 2009
	mg/kg	2.5% SOM	46	46	770	5100 (190*)			LQM/CIEH 2009
	mg/kg	6% SOM	110	110	1700	12000 (451*)			LQM/CIEH 2009
TPH Aliphatic EC10-12 [3]	mg/kg	1% SOM	93 (48*)	93 (48*)	2200	10000 (48*)			LQM/CIEH 2009
	mg/kg	2.5% SOM	230 (120*)	230 (120*)	4400	24000 (118*)			LQM/CIEH 2009
	mg/kg	6% SOM	540 (280*)	540 (280*)	7300	49000 (283*)			LQM/CIEH 2009
TPH Aliphatic EC12-16 [3]	mg/kg	1% SOM	740 (24*)	740 (24*)	11000	61000 (24*)			LQM/CIEH 2009
	mg/kg	2.5% SOM	1700 (59*)	1700 (59*)	13000	83000 (59*)			LQM/CIEH 2009
	mg/kg	6% SOM	3000 (140*)	3000 (140*)	13000	91000 (142*)			LQM/CIEH 2009
TPH Aliphatic EC16-35 [3] [4]	mg/kg	1% SOM	88000	89000	280000	1.00E+06			Calculated with CLEA v1.06
	mg/kg	2.5% SOM	88000	89000	280000	1.00E+06			Calculated with CLEA v1.06
	mg/kg	6% SOM	88000	89000	280000	1.00E+06			Calculated with CLEA v1.06
TPH Aliphatic EC35-44 [3] [4]	mg/kg	1% SOM	88000	89000	280000	1.00E+06			Calculated with CLEA v1.06
	mg/kg	2.5% SOM	88000	89000	280000	1.00E+06			Calculated with CLEA v1.06
	mg/kg	6% SOM	88000	89000	280000	1.00E+06			Calculated with CLEA v1.06
TPH Aromatic EC5-7 (benzene) [3]	mg/kg	1% SOM	65	260	13	28000 (1220*)			LQM/CIEH 2009
	mg/kg	2.5% SOM	130	480	27	49000 (2260*)			LQM/CIEH 2009
	mg/kg	6% SOM	280	980	57	90000 (4710*)			LQM/CIEH 2009
TPH Aromatic EC7-8 (toluene) [3]	mg/kg	1% SOM	120	610	22	59000 (869*)			LQM/CIEH 2009
	mg/kg	2.5% SOM	270	1300	51	110000 (1920*)			LQM/CIEH 2009
	mg/kg	6% SOM	611	2700	120	190000 (4360*)			LQM/CIEH 2009
TPH Aromatic EC8-10 [3]	mg/kg	1% SOM	27	33	8.6	3700 (613*)			LQM/CIEH 2009
	mg/kg	2.5% SOM	65	81	21	8600 (1500*)			LQM/CIEH 2009
	mg/kg	6% SOM	150	190	51	18000 (3580*)			LQM/CIEH 2009
TPH Aromatic EC10-12 [3]	mg/kg	1% SOM	69	180	13	17000 (364*)			LQM/CIEH 2009
	mg/kg	2.5% SOM	160	420	31	29000 (899*)			LQM/CIEH 2009
	mg/kg	6% SOM	350	870	74	34500 (2150*)			LQM/CIEH 2009
TPH Aromatic EC12-16 [3]	mg/kg	1% SOM	140	1300 (169*)	23	36000 (169*)			LQM/CIEH 2009
	mg/kg	2.5% SOM	310	1600 (420*)	57	37000			LQM/CIEH 2009
	mg/kg	6% SOM	590	1700	130	38000			LQM/CIEH 2009
TPH Aromatic EC16-21 [3]	mg/kg	1% SOM	250	1300	46	28000			LQM/CIEH 2009
	mg/kg	2.5% SOM	480	1300	110	28000			LQM/CIEH 2009
	mg/kg	6% SOM	770	1300	260	28000			LQM/CIEH 2009
TPH Aromatic EC21-35 [3]	mg/kg	1% SOM	890	1300	370	28000			LQM/CIEH 2009
	mg/kg	2.5% SOM	1100	1300	820	28000			LQM/CIEH 2009
	mg/kg	6% SOM	1200	1300	1600	28000			LQM/CIEH 2009
TPH Aromatic EC35-44 [3]	mg/kg	1% SOM	890	1300	370	28000			LQM/CIEH 2009
	mg/kg	2.5% SOM	1100	1300	820	28000			LQM/CIEH 2009
	mg/kg	6% SOM	1200	1300	1600	28000			LQM/CIEH 2009
TPH Aliphatic and Aromatic EC44-70	mg/kg	1% SOM	1200	1300	1200	28000			LQM/CIEH 2009
	mg/kg	2.5% SOM	1300	1300	2100	28000			LQM/CIEH 2009
	mg/kg	6% SOM	1300	1300	3000	28000			LQM/CIEH 2009

References:

DEFRA, March 2014. SP1010 Development of Category 4 Screening Levels for Assessment of Land Affected by Contamination - Policy Companion Document.

CL:AIRE Dec 2013. SP1010 Development of Category 4 Screening Levels for Assessment of Land Affected by Contamination - Final Project Report

SGVs. DEFRA/EA published Soil Guideline Values for individual substance in soil. Sourced from www.environment-agency.gov.uk

LQM/CIEH 2009. *The LQM/CIEH Generic Assessment Criteria for Human Health Risk Assessment 2nd Edition.*

Notes:

*GAC capped at soil saturation limit in accordance with guidance for initial screening, saturation limit in brackets

SGVs and LQM/CIEH GAC derived using 'minimal' risk tox data. C4SL derived using 'low' risk tox data but are still considered to represent land within Category 4.

[1] Residential without homegrown produce GAC calculated with CLEA 1.05 based on input data from source given in 'origin of value' column.

[2] Compare GAC with sum of all PCDDs, PCDFs and dioxin-like PCBs listed in EA 2009 *Soil Guideline Values for dioxins, furans and dioxin-like PCBs in soil. Science Report SC050021*
SGVs are only relevant if relative proportions of congeners are similar to that given in Table 4 of the SGV report.
Use EA's 'Dioxins_site_specific_worksheet' to input site data then derive Hazard Index (HI) for assessing mixture on site. Where HI>1, there may be a potential significant risk to human health

[3] Compare individual TPH fractions to individual GAC then calculate Hazard Quotient for each fraction and sum to generate Hazard Index for TPH mixture.
Where HI>1, there may be a potential significant risk to human health.
GAC for TPH fractions are basd on threshold toxicity. Indicator compounds must also be used to provide assessment for potential carcinogenic risks (eg BTEX, PAHs)

[4] Values deviate from those quoted by LQM/CIEH due to exclusion of the inhalation of volatiles pathways. TPH fractions >EC16 are not considered volatile (TPHCWG 1999, LQM/CIEH 2009).

[5] SGV quoted as saturation limit. Risk limit calculated using CLEA 1.05

[6] Benzo(a)pyrene used as surrogate marker for PAHs in grey. Refer to CL:AIRE 2013 Appendix E (Provisional C4SLs for benzo(a)pyrene as a surrogate marker for PAHs) for further details on applicability.

[7] Lead - SGV revoked. No other guidance available, use C4SL.

Ramboll UK has derived criteria for certain compounds for which published criteria are not available. Criteria have been derived in accordance with current UK guidance.
GAC rounded to 2 signifcant figures in accordance with EA guidance.
SOM = soil organic mater, foc = fraction organic carbon
- SOM (%) = (foc / 0.58)*100

1% SOM = foc of 0.0058
2.5%SOM = foc of 0.0145
6%SOM = foc of 0.035

APPENDIX B
GROUND GAS AND GROUNDWATER LEVEL MONITORING RECORDS

GAS AND GROUNDWATER LEVELS
Client: Highwood Land LLP
Site: Stoneham - Land at Chestnut Avenue, Eastleigh
Job Number: 61033023-002

Borehole no.	X	Y	Date	Time (sec)	Gas Flow (ltr/hr)	Barometric Pressure (mb)	Relative Pressure (mb)	Carbon dioxide (%)	Methane (%)	Oxygen (%)	CH_4 LEL (%)	Hydrogen sulphide (ppm)	Water level (mbgl)	Base of borehole	Remarks
CP01	443494.3	118332.1	-	-	-	-	-	-	-	-	-	-			Gas plug missing
CP02	443699.0	118096.3	-	-	-	-	-	-	-	-	-	-	-	-	-
CP03	444164.7	117892.6	15/11/2016	0	0.00	1025	0.34	0.00	0.00	19.3	2.00	0.00	2.73	10.58	-
				30	0.00			3.80	0.10	16.9	2.00	0.00			
				1.00	0.00			3.80	0.10	17.0	2.00	0.00			
				1.30	0.00			3.80	0.10	16.9	2.00	0.00			
				2.00	0.00			3.80	0.10	16.9	2.00	0.00			
				2.30	0.00			3.80	0.10	16.9	2.00	0.00			
				3.00	0.00			3.80	0.10	16.9	2.00	0.00			
				3.30	0.00			3.80	0.10	16.9	2.00	0.00			
				4.00	0.00			3.80	0.10	16.9	2.00	0.00			
				4.30	0.00			3.80	0.10	16.9	2.00	0.00			
				5.00	0.00			3.80	0.10	16.9	2.00	0.00			
				5.30	0.00			3.80	0.10	16.9	2.00	0.00			
				6.00	0.00			3.80	0.10	16.9	2.00	0.00			
				6.30	0.00			3.80	0.10	16.9	2.00	0.00			
CP04	444196.1	117677.8	-	-	-	-	-	-	-	-	-	-	-	-	Not located
CP05	444084.5	117586.2	-	-	-	-	-	-	-	-	-	-	-	-	Not located
CP06	444141.0	117595.1	-	-	-	-	-	-	-	-	-	-	-	-	Not located
CP07a	444153.6	117542.3	-	-	-	-	-	-	-	-	-	-	-	-	Not located
CP08	443978.1	117470.7	-	-	-	-	-	-	-	-	-	-	-	-	Not located
CP09	443832.6	117748.4	-	-	-	-	-	-	-	-	-	-	-	-	Not located
CP10	443337.5	117714.9	-	-	-	-	-	-	-	-	-	-	-	-	Not located
CP11	443281.3	117924.9	-	-	-	-	-	-	-	-	-	-	-	-	Not located
CP12	443690.1	117977.5	-	-	-	-	-	-	-	-	-	-	-	-	Not located
CP13	444151.3	118076.0	-	-	-	-	-	-	-	-	-	-	-	-	Not located
WS01	443557.5	118286.4	-	-	-	-	-	-	-	-	-	-	-	-	Not located
WS02	443658.6	118114.9	-	-	-	-	-	-	-	-	-	-	-	-	Not located
WS03	443738.0	118064.9	-	-	-	-	-	-	-	-	-	-	-	-	Not located
WS04	443834.3	117972.8	-	-	-	-	-	-	-	-	-	-	-	-	Not located
WS05	443335.3	118231.7	-	-	-	-	-	-	-	-	-	-	-	-	Not located
WS06	443631.7	117754.4	-	-	-	-	-	-	-	-	-	-	-	-	Not located
WS07	443880.0	117699.0	-	-	-	-	-	-	-	-	-	-	-	-	Not located
WS08	443890.2	117599.9	-	-	-	-	-	-	-	-	-	-	-	-	Not located
WS09	444031.9	118065.2	-	-	-	-	-	-	-	-	-	-	-	-	Not located
WS10	444026.4	117921.8	15/11/2016	0	0.10	1024	-0.01	0.80	0.20	20.2	3.00	0.00	3.01	3.20	-
				30	0.10			0.80	0.20	20.2	3.00	0.00			
				1.00	0.00			0.80	0.20	20.2	3.00	0.00			
				1.30	0.00			0.80	0.20	20.2	3.00	0.00			
				2.00	0.00			0.80	0.20	20.2	3.00	0.00			
				2.30	0.00			0.80	0.20	20.2	3.00	0.00			
				3.00	0.00			0.80	0.20	20.2	3.00	0.00			
				3.30	0.00			0.80	0.20	20.2	3.00	0.00			
				4.00	0.00			0.80	0.20	20.2	3.00	0.00			
				4.30	0.00			0.80	0.20	20.2	3.00	0.00			
				5.00	0.00			0.80	0.20	20.2	3.00	0.00			
				5.30	0.00			0.80	0.20	20.2	3.00	0.00			
				6.00	0.00			0.80	0.20	20.2	3.00	0.00			
				6.30	0.00			0.80	0.20	20.2	3.00	0.00			
WS11	444036.0	117860.7	16/11/2016	0	0.00	1024	-0.02	1.40	0.20	19.8	2.00	0.20	4.57	4.84	-
				30	0.00			2.60	0.10	19.0	2.00	0.20			
				1.00	0.10			2.70	0.10	18.9	2.00	0.20			
				1.30	0.10			2.70	0.10	18.9	2.00	0.20			
				2.00	0.00			2.70	0.10	18.9	2.00	0.20			
				2.30	0.00			2.70	0.10	19.0	2.00	0.20			
				3.00	0.00			2.70	0.10	19.0	2.00	0.20			
				3.30	0.00			2.70	0.10	19.0	2.00	0.20			
				4.00	0.00			2.70	0.10	19.0	2.00	0.20			
				4.30	0.00			2.70	0.10	19.0	2.00	0.20			
				5.00	0.00			2.70	0.10	19.0	2.00	0.20			
				5.30	0.00			2.70	0.10	19.0	2.00	0.20			
				6.00	0.00			2.70	0.10	19.0	2.00	0.20			
				6.30	0.00			2.70	0.10	19.0	2.00	0.20			
WS12	444059.3	117739.9	-	-	-	-	-	-	-	-	-	-	-	-	Not located
WS13	444078.6	117636.3	-	-	-	-	-	-	-	-	-	-	-	-	Not located
WS14	444199.7	117907.6	15/11/2016	0	0.00	1025	0.23	0.00	0.10	20.9	2.00	0.00	2.13	3.03	-
				30	0.00			0.00	0.10	20.9	2.00	0.00			
				1.00	0.00			0.00	0.10	20.5	2.00	0.00			
				1.30	0.00			0.00	0.10	20.5	2.00	0.00			
				2.00	0.00			0.00	0.10	20.5	2.00	0.00			
				2.30	0.00			0.60	0.10	20.4	2.00	0.00			
				3.00	0.00			0.70	0.10	20.4	2.00	0.00			
				3.30	0.00			0.70	0.10	20.4	2.00	0.00			
				4.00	0.00			0.70	0.10	20.4	2.00	0.00			
				4.30	0.00			0.70	0.10	20.4	2.00	0.00			
				5.00	0.00			0.70	0.10	20.4	2.00	0.00			
				5.30	0.00			0.70	0.10	20.4	2.00	0.00			
				6.00	0.00			0.70	0.10	20.4	2.00	0.00			
				6.30	0.00			0.70	0.10	20.4	2.00	0.00			
WS15	444204.9	117857.8	15/11/2016	0	0.00	1025	-0.04	0.00	0.10	20.9	2.00	0.00	1.63	2.49	-
				30	0.00			0.50	0.10	20.5	2.00	0.00			
				1.00	0.00			0.50	0.10	20.5	2.00	0.00			
				1.30	0.00			0.50	0.10	20.5	2.00	0.00			
				2.00	0.00			0.50	0.10	20.5	2.00	0.00			
				2.30	0.00			0.50	0.10	20.5	2.00	0.00			
				3.00	0.00			0.50	0.10	20.5	2.00	0.00			
				3.30	0.00			0.50	0.10	20.5	2.00	0.00			
				4.00	0.00			0.50	0.10	20.5	2.00	0.00			
				4.30	0.00			0.50	0.10	20.5	2.00	0.00			
				5.00	0.00			0.50	0.10	20.5	2.00	0.00			
				5.30	0.00			0.50	0.10	20.5	2.00	0.00			
				6.00	0.00			0.50	0.10	20.5	2.00	0.00			
				6.30	0.00			0.50	0.10	20.5	2.00	0.00			

GAS AND GROUNDWATER LEVELS
Client: Highwood Land LLP
Site: Stoneham - Land at Chestnut Avenue, Eastleigh
Job Number: 61033023-002

Borehole no.	X	Y	Date	Time (sec)	Gas Flow (ltr/hr)	Barometric Pressure (mb)	Relative Pressure (mb)	Carbon dioxide (%)	Methane (%)	Oxygen (%)	CH_4 LEL (%)	Hydrogen sulphide (ppm)	Water level (mbgl)	Base of borehole	Remarks
WS16	444180.0	117752.7	-	-	-	-	-	-	-	-	-	-	-	-	Not located
WS17	444137.2	117671.5	-	-	-	-	-	-	-	-	-	-	-	-	Not located
WS18	444099.4	117503.3	-	-	-	-	-	-	-	-	-	-	-	-	Not located
WS19	444059.8	117383.1	-	-	-	-	-	-	-	-	-	-	-	-	Not located
WS20	444019.6	117577.9	-	-	-	-	-	-	-	-	-	-	-	-	Not located
WS21	443590.6	117728.0	16/11/2016	-	-	-	-	-	-	-	-	-	1.78	2.10	Gas plug missing
WS22	443330.2	117824.0	-	-	-	-	-	-	-	-	-	-	-	-	Not located
WS23	443494.8	118018.5	-	-	-	-	-	-	-	-	-	-	-	-	Not located
WS24	443323.5	117659.4	16/11/2016	0	0.00	1010	0.01	3.50	0.30	18.3	6.00	0.00	1.1	2.31	-
				30	0.00			3.50	0.30	18.3	6.00	0.00			
				1.00	0.00			3.50	0.30	18.3	6.00	0.00			
				1.30	0.00			3.20	0.40	18.6	7.00	0.00			
				2.00	0.00			3.00	0.40	18.8	7.00	0.00			
				2.30	0.00			2.60	0.40	19.2	7.00	0.00			
				3.00	0.00			2.00	0.40	19.6	7.00	0.00			
				3.30	0.00			1.70	0.40	19.8	7.00	0.00			
				4.00	0.00			1.40	0.40	20.1	7.00	0.00			
				4.30	0.00			1.30	0.40	20.2	7.00	0.00			
				5.00	0.00			1.20	0.40	20.2	7.00	0.00			
				5.30	0.00			1.00	0.40	20.4	7.00	0.00			
				6.00	0.00			1.00	0.40	20.4	7.00	0.00			
				6.30	0.00			1.00	0.40	20.4	7.00	0.00			
WS25	443366.7	117652.2	-	-	-	-	-	-	-	-	-	-	-	-	Not located
WS26	443611.0	117852.5	16/11/2016	-	-	-	-	-	-	-	-	-	1.84	1.92	Gas plug missing
WS27	444125.7	117644.6	-	-	-	-	-	-	-	-	-	-	-	-	Not located
WS28	444180.5	117657.7	-	-	-	-	-	-	-	-	-	-	-	-	Not located
WS29	444069.0	117842.5	15/11/2016	0	0.10	1024	-0.06	0.00	0.00	20.3	2.00	0.00	3.66	5.13	-
				30	0.10			1.00	0.00	20.0	2.00	0.00			
				1.00	0.10			1.30	0.00	20.0	2.00	0.00			
				1.30	0.00			1.30	0.00	19.7	2.00	0.00			
				2.00	0.00			1.30	0.10	19.7	2.00	0.00			
				2.30	0.00			1.30	0.10	19.8	2.00	0.00			
				3.00	0.00			1.30	0.10	19.8	2.00	0.00			
				3.30	0.00			1.30	0.10	19.8	2.00	0.00			
				4.00	0.00			1.30	0.10	19.8	2.00	0.00			
				4.30	0.00			1.30	0.10	19.8	2.00	0.00			
				5.00	0.00			1.30	0.10	19.8	2.00	0.00			
				5.30	0.00			1.20	0.10	19.8	2.00	0.00			
				6.00	0.00			1.20	0.10	19.8	2.00	0.00			
				6.30	0.00			1.20	0.10	19.8	2.00	0.00			

GAS AND GROUNDWATER LEVELS
Client: Highwood Land LLP
Site: Stoneham - Land at Chestnut Avenue, Eastleigh
Job Number: 61033023-002

Borehole no.	X	Y	Date	Time (sec)	Gas Flow (ltr/hr)	Barometric Pressure (mb)	Relative Pressure (mb)	Carbon dioxide (%)	Methane (%)	Oxygen (%)	CH_4 LEL (%)	Hydrogen sulphide (ppm)	Water level (mbgl)	Base of borehole	Remarks
CP01	443494.3	118332.1	21/11/2016	-	-	-	-	-	-	-	-	-	1.51	15.23	Gas plug missing
CP02	443699.0	118096.3	21/11/2016	0	0.00	980	-0.01	2.90	0.40	17.0	7.00	0.00	1.76	8.92	-
				30	0.00			3.00	0.40	17.5	7.00	0.00			
				1.00	0.00			3.10	0.40	17.2	7.00	0.00			
				1.30	0.00			3.20	0.40	17.1	7.00	0.00			
				2.00	0.00			3.40	0.40	16.8	7.00	0.00			
				2.30	0.00			3.50	0.40	16.7	7.00	0.00			
				3.00	0.00			3.50	0.40	16.7	7.00	0.00			
				3.30	0.00			3.50	0.40	16.7	7.00	0.00			
				4.00	0.00			3.50	0.40	16.7	7.00	0.00			
				4.30	0.00			3.50	0.40	16.7	7.00	0.00			
				5.00	0.00			3.50	0.40	16.7	7.00	0.00			
				5.30	0.00			3.50	0.40	16.7	7.00	0.00			
				6.00	0.00			3.50	0.40	16.7	7.00	0.00			
				6.30	0.00			3.50	0.40	16.7	7.00	0.00			
CP03	444164.7	117892.6	21/11/2016	-	-	-	-	-	-	-	-	-	-	-	Flooded
CP04	444196.1	117677.8	21/11/2016	0	0.00	983	-0.04	1.30	0.50	19.7	9.00	0.00	2.12	9.62	-
				30	0.00			1.30	0.50	19.7	9.00	0.00			
				1.00	0.00			1.30	0.50	19.7	9.00	0.00			
				1.30	0.00			1.30	0.50	19.7	9.00	0.00			
				2.00	0.00			1.30	0.50	19.7	9.00	0.00			
				2.30	0.00			1.30	0.50	19.7	9.00	0.00			
				3.00	0.00			1.30	0.50	-	9.00	0.00			
				3.30	0.00			1.30	0.50	19.7	9.00	0.00			
				4.00	0.00			1.30	0.50	19.7	9.00	0.00			
				4.30	0.00			1.30	0.50	19.7	9.00	0.00			
				5.00	0.00			1.30	0.50	19.7	9.00	0.00			
				5.30	0.00			1.30	0.50	19.7	9.00	0.00			
				6.00	0.00			1.30	0.50	19.7	9.00	0.00			
				6.30	0.00			1.30	0.50	19.7	9.00	0.00			
CP05	444084.5	117586.2	21/11/2016	0	0.00	983	0.7	1.80	0.50	18.6	8.00	0.00	4.29	19.6	-
				30	0.00			1.90	0.60	18.6	8.00	0.00			
				1.00	0.00			2.00	0.60	18.3	8.00	0.00			
				1.30	0.00			3.00	0.60	18.2	8.00	0.00			
				2.00	0.00			3.10	0.60	17.5	8.00	0.00			
				2.30	0.00			3.50	0.60	16.9	8.00	0.00			
				3.00	0.00			3.70	0.60	16.4	8.00	0.00			
				3.30	0.00			3.90	0.60	16.4	8.00	0.00			
				4.00	0.00			4.00	0.60	16.2	8.00	0.00			
				4.30	0.00			4.20	0.50	16.0	8.00	0.00			
				5.00	0.00			4.70	0.50	15.2	8.00	0.00			
				5.30	0.00			4.90	0.50	14.7	8.00	0.00			
				6.00	0.00			5.00	0.50	14.4	8.00	0.00			
				6.30	0.00			5.30	0.40	14.3	8.00	0.00			
CP06	444141.0	117595.1	21/11/2016	0	0.00	983	-0.73	0.10	0.60	20.7	10.00	0.00	3.38	19.96	-
				30	0.00			0.10	0.60	20.7	10.00	0.00			
				1.00	0.00			0.10	0.60	20.7	10.00	0.00			
				1.30	0.00			0.10	0.50	20.7	10.00	0.00			
				2.00	0.00			0.10	0.50	20.7	10.00	0.00			
				2.30	0.00			0.10	0.50	20.7	10.00	0.00			
				3.00	0.00			0.10	0.50	20.7	10.00	0.00			
				3.30	0.00			0.10	0.50	20.7	10.00	0.00			
				4.00	0.00			0.00	0.50	20.7	10.00	0.00			
				4.30	0.00			0.00	0.50	20.7	10.00	0.00			
				5.00	0.00			0.00	0.50	20.7	10.00	0.00			
				5.30	0.00			0.00	0.50	20.7	10.00	0.00			
				6.00	0.00			0.00	0.50	20.7	10.00	0.00			
				6.30	0.00			0.00	0.50	20.7	10.00	0.00			
CP07a	444153.6	117542.3	21/11/2016	0	0.00	982	0.68	0.00	0.00	20.0	8.00	0.00	3.46	12.35	-
				30	0.00			0.00	0.00	20.0	8.00	0.00			
				1.00	0.00			0.40	0.40	20.2	8.00	0.00			
				1.30	0.00			0.50	0.40	20.2	8.00	0.00			
				2.00	0.00			0.20	0.40	20.3	8.00	0.00			
				2.30	0.00			0.50	0.40	20.2	8.00	0.00			
				3.00	0.00			0.20	0.40	20.3	8.00	0.00			
				3.30	0.00			0.20	0.40	20.3	8.00	0.00			
				4.00	0.00			0.20	0.40	20.3	8.00	0.00			
				4.30	0.00			0.20	0.40	20.3	8.00	0.00			
				5.00	0.00			0.60	0.40	20.3	8.00	0.00			
				5.30	0.00			0.70	0.40	20.1	8.00	0.00			
				6.00	0.00			0.50	0.40	20.1	8.00	0.00			
				6.30	0.00			0.50	0.40	20.1	8.00	0.00			
CP08	443978.1	117470.7	21/11/2016	0	0.00	981	0.88	0.00	0.00	19.7	8.00	0.00	5.75	12.83	-
				30	0.00			0.00	0.00	19.7	8.00	0.00			
				1.00	0.00			1.40	0.40	19.7	8.00	0.00			
				1.30	0.00			1.40	0.40	19.7	8.00	0.00			
				2.00	0.00			1.40	0.40	19.7	8.00	0.00			
				2.30	0.00			1.40	0.40	19.7	8.00	0.00			
				3.00	0.00			1.40	0.40	19.7	8.00	0.00			
				3.30	0.00			1.40	0.40	19.7	8.00	0.00			
				4.00	0.00			1.40	0.40	19.7	8.00	0.00			
				4.30	0.00			1.40	0.40	19.7	8.00	0.00			
				5.00	0.00			1.40	0.40	19.7	8.00	0.00			
				5.30	0.00			1.40	0.40	19.7	8.00	0.00			
				6.00	0.00			1.40	0.40	19.7	8.00	0.00			
				6.30	0.00			1.40	0.40	19.7	8.00	0.00			
				0	0.00			0.30	0.40	18.4	7.00	0.00			
				30	0.00			0.37	0.40	18.3	7.00	0.00			
				1.00	0.00			0.37	0.40	18.3	7.00	0.00			

GAS AND GROUNDWATER LEVELS
Client: Highwood Land LLP
Site: Stoneham - Land at Chestnut Avenue, Eastleigh
Job Number: 61033023-002

Borehole no.	X	Y	Date	Time (sec)	Gas Flow (ltr/hr)	Barometric Pressure (mb)	Relative Pressure (mb)	Carbon dioxide (%)	Methane (%)	Oxygen (%)	CH_4 LEL (%)	Hydrogen sulphide (ppm)	Water level (mbgl)	Base of borehole	Remarks
CP09	443832.6	117748.4	21/11/2016	1.30	0.00	980	-0.03	0.37	0.40	18.3	7.00	0.00	3.37	8.18	-
				2.00	0.00			0.37	0.40	18.3	7.00	0.00			
				2.30	0.00			0.37	0.40	18.3	7.00	0.00			
				3.00	0.00			0.37	0.40	18.3	7.00	0.00			
				3.30	0.00			0.37	0.40	18.3	7.00	0.00			
				4.00	0.00			0.37	0.40	18.3	7.00	0.00			
				4.30	0.00			0.37	0.40	18.3	7.00	0.00			
				5.00	0.00			0.37	0.40	18.3	7.00	0.00			
				5.30	0.00			0.37	0.40	18.3	7.00	0.00			
				6.00	0.00			0.37	0.40	18.3	7.00	0.00			
				6.30	0.00			0.37	0.40	18.3	7.00	0.00			
CP10	443337.5	117714.9	21/11/2016	-	-	-	-	-	-	-	-	-	-	-	LOST
CP11	443281.3	117924.9	21/11/2016	0	0.00	979	-0.31	3.20	0.40	16.9	2.00	0.00	1.5	17.3	-
				30	0.00			3.20	0.40	16.7	2.00	0.00			
				1.00	0.00			3.20	0.40	16.4	2.00	0.00			
				1.30	0.00			3.20	0.40	16.3	2.00	0.00			
				2.00	0.00			3.20	0.40	16.2	2.00	0.00			
				2.30	0.00			3.20	0.40	16.2	2.00	0.00			
				3.00	0.00			3.20	0.40	16.2	2.00	0.00			
				3.30	0.00			3.20	0.40	16.2	2.00	0.00			
				4.00	0.00			3.20	0.40	16.2	2.00	0.00			
				4.30	0.00			3.20	0.40	16.2	2.00	0.00			
				5.00	0.00			3.20	0.40	16.2	2.00	0.00			
				5.30	0.00			3.20	0.40	16.2	2.00	0.00			
				6.00	0.00			3.20	0.40	16.2	2.00	0.00			
				6.30	0.00			3.20	0.40	16.2	2.00	0.00			
CP12	443690.1	117977.5	21/11/2016	0	0.00	980	-0.03	0.00	0.40	17	7.00	0.00	1.6	9.7	-
				30	0.00			1.50	0.40	16.9	7.00	0.00			
				1.00	0.00			1.70	0.40	16.9	7.00	0.00			
				1.30	0.00			1.80	0.40	16.9	7.00	0.00			
				2.00	0.00			2.10	0.40	16.9	7.00	0.00			
				2.30	0.00			2.10	0.40	16.9	7.00	0.00			
				3.00	0.00			2.30	0.40	16.8	7.00	0.00			
				3.30	0.00			2.40	0.40	16.6	7.00	0.00			
				4.00	0.00			2.50	0.40	16.4	7.00	0.00			
				4.30	0.00			2.50	0.40	16.4	7.00	0.00			
				5.00	0.00			2.50	0.40	16.3	7.00	0.00			
				5.30	0.00			2.50	0.40	16.3	7.00	0.00			
				6.00	0.00			2.50	0.40	16.3	7.00	0.00			
				6.30	0.00			2.50	0.40	16.3	7.00	0.00			
CP13	444151.3	118076.0	21/11/2016	0	0.00	-	-	-	-	-	-	-	-	-	Flooded
WS01	443557.5	118286.4	21/11/2016	0	0.00	980	-0.04	0.00	0.00	20.8	7.00	0.00	0.85	5.16	-
				30	0.00			1.00	0.40	20.5	7.00	0.00			
				1.00	0.00			1.00	0.40	20.5	7.00	0.00			
				1.30	0.00			1.00	0.40	20.5	7.00	0.00			
				2.00	0.00			1.00	0.40	20.5	7.00	0.00			
				2.30	0.00			1.00	0.40	20.5	7.00	0.00			
				3.00	0.00			1.00	0.40	20.5	7.00	0.00			
				3.30	0.00			1.00	0.40	20.5	7.00	0.00			
				4.00	0.00			1.00	0.40	20.5	7.00	0.00			
				4.30	0.00			1.00	0.40	20.5	7.00	0.00			
				5.00	0.00			1.00	0.40	20.5	7.00	0.00			
				5.30	0.00			1.00	0.40	20.5	7.00	0.00			
				6.00	0.00			1.00	0.40	20.5	7.00	0.00			
				6.30	0.00			1.00	0.40	20.5	7.00	0.00			
WS02	443658.6	118114.9	21/11/2016	-	-	-	-	-	-	-	-	-	0.65	5.08	Gas plug missing
WS03	443738.0	118064.9	21/11/2016	0	0.00	980	-0.3	0.00	0.40	19.4	1.00	0.00	1.80	5.50	-
				30	0.00			2.00	0.40	19.4	1.00	0.00			
				1.00	0.00			2.00	0.40	19.4	1.00	0.00			
				1.30	0.00			2.00	0.40	19.4	1.00	0.00			
				2.00	0.00			2.00	0.40	19.4	1.00	0.00			
				2.30	0.00			2.00	0.40	19.4	1.00	0.00			
				3.00	0.00			2.00	0.40	19.4	1.00	0.00			
				3.30	0.00			2.00	0.40	19.4	1.00	0.00			
				4.00	0.00			2.00	0.40	19.4	1.00	0.00			
				4.30	0.00			2.00	0.40	19.4	1.00	0.00			
				5.00	0.00			2.00	0.40	19.4	1.00	0.00			
				5.30	0.00			2.00	0.40	19.4	1.00	0.00			
				6.00	0.00			2.00	0.40	19.4	1.00	0.00			
				6.30	0.00			2.00	0.40	19.4	1.00	0.00			
WS04	443834.3	117972.8	21/11/2016	0	0.00	980	0.05	0.00	0.00	21.2	8.00	0.00	3.15	5.1	-
				30	0.00			0.70	0.50	20.7	8.00	0.00			
				1.00	0.00			0.90	0.50	20.1	8.00	0.00			
				1.30	0.00			1.00	0.50	20.1	8.00	0.00			
				2.00	0.00			1.10	0.50	20.1	8.00	0.00			
				2.30	0.00			1.10	0.50	20.1	8.00	0.00			
				3.00	0.00			1.20	0.50	20.0	8.00	0.00			
				3.30	0.00			1.10	0.50	20.1	8.00	0.00			
				4.00	0.00			1.20	0.50	20.1	8.00	0.00			
				4.30	0.00			1.20	0.50	20.1	8.00	0.00			
				5.00	0.00			1.20	0.50	20.1	8.00	0.00			
				5.30	0.00			1.20	0.50	20.1	8.00	0.00			
				6.00	0.00			1.20	0.50	20.1	8.00	0.00			
				6.30	0.00			1.20	0.50	20.1	8.00	0.00			
WS05	443335.3	118231.7	21/11/2016	-	-	-	-	-	-	-	-	-	1.03	4.75	Gas plug missing
WS06	443631.7	117754.4	21/11/2016	-	-	-	-	-	-	-	-	-	0.85	1.60	Gas plug missing
				0	0.00			0.10	0.40	18.0	2.00	0.00			
				30	0.00			2.80	0.40	18.0	2.00	0.00			
				1.00	0.10			2.80	0.40	17.9	2.00	0.00			

GAS AND GROUNDWATER LEVELS
Client: Highwood Land LLP
Site: Stoneham - Land at Chestnut Avenue, Eastleigh
Job Number: 61033023-002

Borehole no.	X	Y	Date	Time (sec)	Gas Flow (ltr/hr)	Barometric Pressure (mb)	Relative Pressure (mb)	Carbon dioxide (%)	Methane (%)	Oxygen (%)	CH_4 LEL (%)	Hydrogen sulphide (ppm)	Water level (mbgl)	Base of borehole	Remarks
WS07	443880.0	117699.0	21/11/2016	1.30	0.00	979	-0.11	2.80	0.40	17.8	2.00	0.00	2.74	3.12	-
				2.00	0.00			2.80	0.40	17.7	2.00	0.00			
				2.30	0.00			2.80	0.40	17.6	2.00	0.00			
				3.00	0.00			2.80	0.40	17.6	2.00	0.00			
				3.30	0.00			2.80	0.40	17.6	2.00	0.00			
				4.00	0.00			2.80	0.40	17.6	2.00	0.00			
				4.30	0.00			2.80	0.40	17.6	2.00	0.00			
				5.00	0.00			2.80	0.40	17.6	2.00	0.00			
				5.30	0.00			2.80	0.40	17.6	2.00	0.00			
				6.00	0.00			2.80	0.40	17.6	2.00	0.00			
				6.30	0.00			2.90	0.40	17.6	2.00	0.00			
WS08	443890.2	117599.9	21/11/2016	-	-	-	-	-	-	-	-	-	-	-	LOST
WS09	444031.9	118065.2	21/11/2016	0	0.00	983	0.01	0.40	0.00	21.2	5.00	0.00	DRY	3.58	-
				30	0.00			0.40	0.00	21.0	5.00	0.00			
				1.00	0.00			0.40	0.00	21.0	7.00	0.00			
				1.30	0.00			0.40	0.00	21.0	7.00	0.00			
				2.00	0.00			0.40	0.00	21.0	7.00	0.00			
				2.30	0.00			0.40	0.00	21.0	7.00	0.00			
				3.00	0.00			0.40	0.00	21.0	7.00	0.00			
				3.30	0.00			0.40	0.00	21.0	7.00	0.00			
				4.00	0.00			0.40	0.00	21.0	7.00	0.00			
				4.30	0.00			0.40	0.00	21.0	7.00	0.00			
				5.00	0.00			0.40	0.00	21.0	7.00	0.00			
				5.30	0.00			0.40	0.00	21.0	7.00	0.00			
				6.00	0.00			0.40	0.00	21.0	7.00	0.00			
				6.30	0.00			0.40	0.00	21.0	7.00	0.00			
WS10	444026.4	117921.8	21/11/2016	-	-	-	-	-	-	-	-	-	-	-	-
WS11	444036.0	117860.7	21/11/2016	-	-	-	-	-	-	-	-	-	-	-	-
WS12	444059.3	117739.9	21/11/2016	0	0.00	983	0	3.50	0.40	11.8	9.00	0.00	3.37	3.5	-
				30	0.00			3.50	0.40	11.7	9.00	0.00			
				1.00	0.00			3.50	0.40	11.7	9.00	0.00			
				1.30	0.00			3.50	0.40	11.7	9.00	0.00			
				2.00	0.00			3.50	0.40	11.7	9.00	0.00			
				2.30	0.00			3.50	0.40	11.7	9.00	0.00			
				3.00	0.00			3.50	0.40	11.7	9.00	0.00			
				3.30	0.00			3.50	0.40	11.7	9.00	0.00			
				4.00	0.00			3.50	0.40	11.7	9.00	0.00			
				4.30	0.00			3.50	0.40	11.7	9.00	0.00			
				5.00	0.00			3.50	0.40	11.7	9.00	0.00			
				5.30	0.00			3.50	0.40	11.7	9.00	0.00			
				6.00	0.00			3.50	0.40	11.7	9.00	0.00			
				6.30	0.00			3.50	0.40	11.7	9.00	0.00			
WS13	444078.6	117636.3	21/11/2016	-	-	-	-	-	-	-	-	-	-	-	Flooded
WS14	444199.7	117907.6	-	-	-	-	-	-	-	-	-	-	-	-	-
WS15	444204.9	117857.8	-	-	-	-	-	-	-	-	-	-	-	-	-
WS16	444180.0	117752.7	21/11/2016	0	0.00	983	-0.15	1.60	0.50	19.4	9.00	0.00	DRY	1.29	-
				30	0.00			1.60	0.50	19.4	9.00	0.00			
				1.00	0.00			1.60	0.50	19.4	9.00	0.00			
				1.30	0.00			1.60	0.50	19.4	9.00	0.00			
				2.00	0.00			1.50	0.50	19.4	9.00	0.00			
				2.30	0.00			1.50	0.50	19.4	9.00	0.00			
				3.00	0.00			1.50	0.50	19.4	9.00	0.00			
				3.30	0.00			1.50	0.50	19.4	9.00	0.00			
				4.00	0.00			1.50	0.50	19.4	9.00	0.00			
				4.30	0.00			1.50	0.50	19.4	9.00	0.00			
				5.00	0.00			1.50	0.50	19.4	9.00	0.00			
				5.30	0.00			1.50	0.50	19.4	9.00	0.00			
				6.00	0.00			1.50	0.50	19.4	9.00	0.00			
				6.30	0.00			1.50	0.50	19.4	9.00	0.00			
WS17	444137.2	117671.5	21/11/2016	0	0.00	983	-0.15	0.00	0.00	20.0	9.00	0.00	DRY	3.00	-
				30	0.00			0.00	0.00	20.0	9.00	0.00			
				1.00	0.00			3.50	0.50	19.5	9.00	0.00			
				1.30	0.00			3.50	0.50	19.5	9.00	0.00			
				2.00	0.00			3.50	0.50	18.4	9.00	0.00			
				2.30	0.00			3.50	0.50	18.4	9.00	0.00			
				3.00	0.00			3.50	0.50	18.2	9.00	0.00			
				3.30	0.00			3.50	0.50	18.2	9.00	0.00			
				4.00	0.00			3.50	0.50	18.0	9.00	0.00			
				4.30	0.00			3.50	0.50	18.0	9.00	0.00			
				5.00	0.00			3.50	0.50	18.0	9.00	0.00			
				5.30	0.00			3.50	0.50	18.0	9.00	0.00			
				6.00	0.00			3.50	0.50	18.0	9.00	0.00			
				6.30	0.00			3.50	0.50	17.9	9.00	0.00			
WS18	444099.4	117503.3	21/11/2016	0	0.00	983	0.72	0.00	0.00	19.0	8.00	0.00	DRY	2.92	-
				30	0.00			0.00	0.00	19.0	8.00	0.00			
				1.00	0.00			0.00	0.40	19.0	8.00	0.00			
				1.30	0.00			2.00	0.40	19.1	8.00	0.00			
				2.00	0.00			2.30	0.40	19.1	8.00	0.00			
				2.30	0.00			2.30	0.40	19.1	8.00	0.00			
				3.00	0.00			2.40	0.40	19.1	8.00	0.00			
				3.30	0.00			2.50	0.40	19.1	8.00	0.00			
				4.00	0.00			2.70	0.40	19.1	8.00	0.00			
				4.30	0.00			2.90	0.40	19.1	8.00	0.00			
				5.00	0.00			2.70	0.40	19.1	8.00	0.00			
				5.30	0.00			2.70	0.40	19.1	8.00	0.00			
				6.00	0.00			2.70	0.40	19.1	8.00	0.00			
				6.30	0.00			2.70	0.40	19.1	8.00	0.00			
				0	0.00			0.00	0.00	20.3	8.00	0.00			
				30	0.00			0.10	0.00	20.3	8.00	0.00			

GAS AND GROUNDWATER LEVELS
Client: Highwood Land LLP
Site: Stoneham - Land at Chestnut Avenue, Eastleigh
Job Number: 61033023-002

Borehole no.	X	Y	Date	Time (sec)	Gas Flow (ltr/hr)	Barometric Pressure (mb)	Relative Pressure (mb)	Carbon dioxide (%)	Methane (%)	Oxygen (%)	CH_4 LEL (%)	Hydrogen sulphide (ppm)	Water level (mbgl)	Base of borehole	Remarks
WS19	444059.8	117383.1	21/11/2016	1.00	0.00	982	1.12	0.10	0.40	20.3	8.00	0.00	0.97	1.47	-
				1.30	0.00			0.10	0.40	20.4	8.00	0.00			
				2.00	0.00			0.10	0.40	20.4	8.00	0.00			
				2.30	0.00			0.10	0.40	20.4	8.00	0.00			
				3.00	0.00			0.10	0.40	20.4	8.00	0.00			
				3.30	0.00			0.10	0.40	20.4	8.00	0.00			
				4.00	0.00			0.10	0.40	20.4	8.00	0.00			
				4.30	0.00			0.10	0.40	20.4	8.00	0.00			
				5.00	0.00			0.10	0.40	20.4	8.00	0.00			
				5.30	0.00			0.10	0.40	20.4	8.00	0.00			
				6.00	0.00			0.10	0.40	20.4	8.00	0.00			
				6.30	0.00			0.10	0.40	20.4	8.00	0.00			
WS20	444019.6	117577.9	21/11/2016	0	0.00	980	0.6	3.80	0.00	16.0	2.00	0.00	DRY	5.00	-
				30	0.00			3.90	0.00	16.0	2.00	0.00			
				1.00	0.00			3.80	0.40	16.0	2.00	0.00			
				1.30	0.00			3.80	0.40	16.0	2.00	0.00			
				2.00	0.00			3.80	0.40	16.0	2.00	0.00			
				2.30	0.00			3.80	0.40	16.0	2.00	0.00			
				3.00	0.00			3.80	0.40	16.0	2.00	0.00			
				3.30	0.00			3.80	0.40	16.0	2.00	0.00			
				4.00	0.00			3.80	0.40	16.0	2.00	0.00			
				4.30	0.00			3.80	0.40	16.0	2.00	0.00			
				5.00	0.00			3.80	0.40	16.0	2.00	0.00			
				5.30	0.00			3.80	0.40	16.0	2.00	0.00			
				6.00	0.00			3.80	0.40	16.0	2.00	0.00			
				6.30	0.00			3.80	0.40	16.0	2.00	0.00			
WS21	443590.6	117728.0	21/11/2016	-	-	-	-	-	-	-	-	-	-	-	Gas plug missing
WS22	443330.2	117824.0	21/11/2016	-	-	-	-	-	-	-	-	-	-	-	LOST
WS23	443494.8	118018.5	21/11/2016	0	2.30	980	0.01	2.00	0.40	14.9	7.00	0.00	1.98	2.81	-
				30	2.30			3.80	0.40	14.9	7.00	0.00			
				1.00	2.30			4.00	0.40	15	7.00	0.00			
				1.30	2.30			4.20	0.40	15.2	7.00	0.00			
				2.00	2.30			4.60	0.40	14.7	7.00	0.00			
				2.30	2.30			4.60	0.40	14.7	7.00	0.00			
				3.00	2.30			4.70	0.40	14.7	7.00	0.00			
				3.30	2.30			4.90	0.40	14.2	7.00	0.00			
				4.00	2.30			4.90	0.40	14.2	7.00	0.00			
				4.30	2.30			4.90	0.40	14.2	7.00	0.00			
				5.00	2.30			5.00	0.40	14.1	7.00	0.00			
				5.30	2.30			5.00	0.40	14.1	7.00	0.00			
				6.00	2.30			5.10	0.40	14.1	7.00	0.00			
				6.30	2.30			5.10	0.40	14.1	7.00	0.00			
WS24	443323.5	117659.4	-	-	-	-	-	-	-	-	-	-	-	-	-
WS25	443366.7	117652.2	21/11/2016	-	-	-	-	-	-	-	-	-	-	-	LOST
WS26	443611.0	117852.5	21/11/2016	-	-	-	-	-	-	-	-	-	-	-	Gas plug missing
WS27	444125.7	117644.6	21/11/2016	-	-	-	-	-	-	-	-	-	-		LOST
WS28	444180.5	117657.7	21/11/2016	-	-	-	-	-	-	-	-	-	-		LOST
WS29	444069.0	117842.5	-	-	-	-	-	-	-	-	-	-	-	-	-

GAS AND GROUNDWATER LEVELS
Client: Highwood Land LLP
Site: Stoneham - Land at Chestnut Avenue, Eastleigh
Job Number: 61033023-002

Borehole no.	X	Y	Date	Time (sec)	Gas Flow (ltr/hr)	Barometric Pressure (mb)	Relative Pressure (mb)	Carbon dioxide (%)	Methane (%)	Oxygen (%)	CH_4 LEL (%)	Hydrogen sulphide (ppm)	Water level (mbgl)	Base of borehole	Remarks
CP01	443494.3	118332.1	25/11/2016		-	-	-	-	-	-	-	-			Gas plug missing
CP02	443699.0	118096.3	25/11/2016	0	0.00	1015	-0.08	0.10	0.20	16.7	3.00	0.00	1.55	8.87	-
				30	0.00			3.40	0.20	15.0	3.00	0.00			
				1.00	0.00			3.50	0.20	15.0	3.00	0.00			
				1.30	0.00			3.50	0.20	14.9	3.00	0.00			
				2.00	0.00			3.50	0.20	14.9	3.00	0.00			
				2.30	0.00			3.50	0.10	14.9	3.00	0.00			
				3.00	0.00			3.50	0.10	14.9	3.00	0.00			
				3.30	0.00			3.50	0.10	14.9	3.00	0.00			
				4.00	0.00			3.50	0.10	14.9	3.00	0.00			
				4.30	0.00			3.50	0.10	14.9	3.00	0.00			
				5.00	0.00			3.50	0.10	14.9	3.00	0.00			
				5.30	0.00			3.50	0.10	14.9	3.00	0.00			
				6.00	0.00			3.50	0.10	14.9	3.00	0.00			
				6.30	0.00			3.50	0.10	14.9	3.00	0.00			
CP03	444164.7	117892.6	25/11/2016	0	0.00	1017	-0.01	0.10	0.20	21.5	2.00	0.00	2.6	9.62	-
				30	0.00			3.50	0.10	19.5	2.00	0.00			
				1.00	0.00			3.60	0.10	18.5	2.00	0.00			
				1.30	0.00			3.60	0.10	18.1	2.00	0.00			
				2.00	0.00			3.60	0.10	18.0	2.00	0.00			
				2.30	0.00			3.60	0.10	18.0	2.00	0.00			
				3.00	0.00			3.60	0.10	18.0	2.00	0.00			
				3.30	0.00			3.60	0.10	18.0	2.00	0.00			
				4.00	0.00			3.60	0.10	18.0	2.00	0.00			
				4.30	0.00			3.60	0.10	18.0	2.00	0.00			
				5.00	0.00			3.60	0.10	-	2.00	0.00			
				5.30	0.00			3.60	0.10	18.0	2.00	0.00			
				6.00	0.00			3.60	0.10	18.0	2.00	0.00			
				6.30	0.00			3.60	0.10	18.0	2.00	0.00			
CP04	444196.1	117677.8	25/11/2016	0	0.00	1018	-0.04	1.30	0.20	19.9	2.00	0.00	2.11	9.59	-
				30	0.00			1.40	0.20	19.7	2.00	0.00			
				1.00	0.00			1.40	0.10	19.7	2.00	0.00			
				1.30	0.00			1.40	0.10	19.7	2.00	0.00			
				2.00	0.00			1.40	0.10	19.7	2.00	0.00			
				2.30	0.00			1.40	0.10	19.7	2.00	0.00			
				3.00	0.00			1.40	0.10	19.7	2.00	0.00			
				3.30	0.00			1.40	0.10	19.7	2.00	0.00			
				4.00	0.00			1.40	0.10	19.7	2.00	0.00			
				4.30	0.00			1.40	0.10	19.7	2.00	0.00			
				5.00	0.00			1.40	0.10	19.7	2.00	0.00			
				5.30	0.00			1.40	0.10	19.7	2.00	0.00			
				6.00	0.00			1.40	0.10	19.7	2.00	0.00			
				6.30	0.00			1.40	0.10	19.7	2.00	0.00			
CP05	444084.5	117586.2	25/11/2016	0	0.00	1017	-0.09	4.20	0.20	18.8	3.00	0.00	4.28	19.9	-
				30	0.00			4.70	0.20	16.5	3.00	0.00			
				1.00	0.00			5.20	0.20	15.3	3.00	0.00			
				1.30	0.00			5.60	0.20	14.7	3.00	0.00			
				2.00	0.00			6.00	0.20	14.1	3.00	0.00			
				2.30	0.00			6.30	0.20	13.3	3.00	0.00			
				3.00	0.00			6.60	0.20	13.0	3.00	0.00			
				3.30	0.00			6.90	0.20	12.6	3.00	0.00			
				4.00	0.00			6.90	0.20	12.2	3.00	0.00			
				4.30	0.00			7.30	0.20	12.1	3.00	0.00			
				5.00	0.00			7.50	0.20	11.5	3.00	0.00			
				5.30	0.00			7.70	0.20	11.4	3.00	0.00			
				6.00	0.00			7.90	0.20	11.1	3.00	0.00			
				6.30	0.00			8.00	0.20	11.0	3.00	0.00			
CP06	444141.0	117595.1	25/11/2016	0	0.00	1017	-0.05	0.40	0.20	21.1	3.00	0.00	3.40	19.80	-
				30	0.00			0.40	0.20	21.0	3.00	0.00			
				1.00	0.00			0.40	0.20	21.0	3.00	0.00			
				1.30	0.00			0.40	0.20	21.0	3.00	0.00			
				2.00	0.00			0.40	0.20	21.0	3.00	0.00			
				2.30	0.00			0.40	0.20	21.0	3.00	0.00			
				3.00	0.00			0.40	0.20	21.0	3.00	0.00			
				3.30	0.00			0.40	0.20	21.0	3.00	0.00			
				4.00	0.00			0.40	0.20	21.0	3.00	0.00			
				4.30	0.00			0.40	0.20	21.0	3.00	0.00			
				5.00	0.00			0.40	0.20	21.0	3.00	0.00			
				5.30	0.00			0.40	0.20	21.0	3.00	0.00			
				6.00	0.00			0.40	0.20	21.0	3.00	0.00			
				6.30	0.00			0.40	0.20	21.0	3.00	0.00			
CP07a	444153.6	117542.3	25/11/2016	0	0.00	1018		0.30	0.10	21.0	3.00	0.00	3.44	12.22	-
				30	0.00			0.30	0.20	21.0	3.00	0.00			
				1.00	0.00			0.30	0.20	21.0	2.00	0.00			
				1.30	0.00			0.30	0.20	21.0	2.00	0.00			
				2.00	0.00			0.30	0.10	20.9	2.00	0.00			
				2.30	0.00			0.30	0.10	20.9	2.00	0.00			
				3.00	0.00			0.30	0.10	21.0	2.00	0.00			
				3.30	0.00			0.30	0.20	21.0	2.00	0.00			
				4.00	0.00			0.30	0.20	21.0	2.00	0.00			
				4.30	0.00			0.30	0.10	20.9	2.00	0.00			
				5.00	0.00			0.30	0.10	20.9	2.00	0.00			
				5.30	0.00			0.30	0.10	20.9	2.00	0.00			
				6.00	0.00			0.30	0.10	20.9	2.00	0.00			
				6.30	0.00			0.30	0.10	20.9	2.00	0.00			
				0	0.00			0.30	0.20	20.9	2.00	0.00			
				30	0.10			0.30	0.10	20.8	2.00	0.00			
				1.00	0.00			0.30	0.10	20.8	2.00	0.00			
				1.30	0.00			0.30	0.10	20.8	2.00	0.00			

GAS AND GROUNDWATER LEVELS
Client: Highwood Land LLP
Site: Stoneham - Land at Chestnut Avenue, Eastleigh
Job Number: 61033023-002

Borehole no.	X	Y	Date	Time (sec)	Gas Flow (ltr/hr)	Barometric Pressure (mb)	Relative Pressure (mb)	Carbon dioxide (%)	Methane (%)	Oxygen (%)	CH_4 LEL (%)	Hydrogen sulphide (ppm)	Water level (mbgl)	Base of borehole	Remarks
CP08	443978.1	117470.7	25/11/2016	2.00	0.00	1016	-0.06	0.30	0.10	20.8	2.00	0.00	5.79	12.66	-
				2.30	0.00			0.30	0.10	20.8	2.00	0.00			
				3.00	0.00			0.30	0.10	20.8	2.00	0.00			
				3.30	0.00			0.30	0.10	20.8	2.00	0.00			
				4.00	0.00			0.30	0.10	20.8	2.00	0.00			
				4.30	0.00			0.30	0.10	20.8	2.00	0.00			
				5.00	0.00			0.30	0.10	20.8	2.00	0.00			
				5.30	0.00			0.30	0.10	20.8	2.00	0.00			
				6.00	0.00			0.30	0.10	20.8	2.00	0.00			
				6.30	0.00			0.30	0.10	20.8	2.00	0.00			
CP09	443832.6	117748.4	25/11/2016	0	0.00	1014	-0.04	0.30	0.10	19.1	2.00	0.00	3.00	8.24	-
				30	0.00			0.20	0.10	20.8	2.00	0.00			
				1.00	0.00			0.20	0.10	21.0	2.00	0.00			
				1.30	0.00			0.20	0.10	21.0	2.00	0.00			
				2.00	0.00			0.20	0.10	21.1	2.00	0.00			
				2.30	0.00			0.20	0.10	21.0	2.00	0.00			
				3.00	0.00			0.20	0.10	21.0	2.00	0.00			
				3.30	0.00			0.20	0.10	21.0	2.00	0.00			
				4.00	0.00			0.20	0.10	21.0	2.00	0.00			
				4.30	0.00			0.20	0.10	21.0	2.00	0.00			
				5.00	0.00			0.20	0.10	21.0	2.00	0.00			
				5.30	0.00			0.20	0.10	21.0	2.00	0.00			
				6.00	0.00			0.20	0.10	21.0	2.00	0.00			
				6.30	0.00			0.20	0.10	21.0	2.00	0.00			
CP10	443337.5	117714.9	25/11/2016	-	-	-	-	-	-	-	-	-	-	-	LOST
CP11	443281.3	117924.9	25/11/2016	0	0.00	1013	-0.65	2.30	0.10	17.4	2.00	0.00	1.41	15.79	-
				30	0.00			2.30	0.10	17.0	2.00	0.00			
				1.00	0.00			2.30	0.10	16.8	2.00	0.00			
				1.30	0.00			2.30	0.10	16.8	2.00	0.00			
				2.00	0.00			2.30	0.10	16.8	2.00	0.00			
				2.30	0.00			2.30	0.10	16.8	2.00	0.00			
				3.00	0.00			2.30	0.10	16.8	2.00	0.00			
				3.30	0.00			2.30	0.10	16.8	2.00	0.00			
				4.00	0.00			2.30	0.10	16.8	2.00	0.00			
				4.30	0.00			2.30	0.10	16.8	2.00	0.00			
				5.00	0.00			2.30	0.10	16.8	2.00	0.00			
				5.30	0.00			2.30	0.10	16.8	2.00	0.00			
				6.00	0.00			2.30	0.10	16.8	2.00	0.00			
				6.30	0.00			2.30	0.10	16.8	2.00	0.00			
CP12	443690.1	117977.5	25/11/2016	0	0.00	1014	-0.03	0.80	0.20	19.8	3.00	0.00	2.94	8.7	-
				30	0.00			3.00	0.10	16.5	2.00	0.00			
				1.00	0.00			3.00	0.10	16.4	2.00	0.00			
				1.30	0.00			3.00	0.10	16.4	2.00	0.00			
				2.00	0.00			3.00	0.10	16.5	2.00	0.00			
				2.30	0.00			3.00	0.10	16.5	2.00	0.00			
				3.00	0.00			3.00	0.10	16.5	2.00	0.00			
				3.30	0.00			3.00	0.10	16.5	2.00	0.00			
				4.00	0.00			3.00	0.10	16.5	2.00	0.00			
				4.30	0.00			3.00	0.10	16.5	2.00	0.00			
				5.00	0.00			3.00	0.10	16.5	2.00	0.00			
				5.30	0.00			3.00	0.10	16.5	2.00	0.00			
				6.00	0.00			3.00	0.10	16.5	2.00	0.00			
				6.30	0.00			3.00	0.10	16.5	2.00	0.00			
CP13	444151.3	118076.0	25/11/2016	0	0.00	1017	0.03	0.10	0.00	21.5	2.00	0.00	2.2	10.35	-
				30	0.00			3.20	0.10	19.7	2.00	0.00			
				1.00	0.00			3.40	0.10	19.4	2.00	0.00			
				1.30	0.00			3.70	0.10	19.2	2.00	0.00			
				2.00	0.00			3.80	0.10	19.1	2.00	0.00			
				2.30	0.00			3.80	0.10	19.1	2.00	0.00			
				3.00	0.00			3.90	0.10	19.0	2.00	0.00			
				3.30	0.00			3.90	0.10	19.0	2.00	0.00			
				4.00	0.00			3.90	0.10	19.0	2.00	0.00			
				4.30	0.00			3.90	0.10	19.0	2.00	0.00			
				5.00	0.00			3.90	0.10	19.0	2.00	0.00			
				5.30	0.00			3.90	0.10	19.0	2.00	0.00			
				6.00	0.00			3.90	0.10	19.0	2.00	0.00			
				6.30	0.00			3.90	0.10	19.0	2.00	0.00			
WS01	443557.5	118286.4	25/11/2016	0	0.00	1013	-0.07	0.60	0.10	21.1	2.00	0.00	1.21	5.15	-
				30	0.00			0.90	0.10	20.6	2.00	0.00			
				1.00	0.00			0.90	0.10	20.6	2.00	0.00			
				1.30	0.00			0.90	0.10	20.6	2.00	0.00			
				2.00	0.00			0.90	0.10	20.6	2.00	0.00			
				2.30	0.00			0.90	0.10	20.6	2.00	0.00			
				3.00	0.00			0.90	0.10	20.6	2.00	0.00			
				3.30	0.00			0.90	0.10	20.6	2.00	0.00			
				4.00	0.00			0.90	0.10	20.6	2.00	0.00			
				4.30	0.00			0.90	0.10	20.6	2.00	0.00			
				5.00	0.00			0.90	0.10	20.6	2.00	0.00			
				5.30	0.00			0.90	0.10	20.6	2.00	0.00			
				6.00	0.00			0.90	0.10	20.6	2.00	0.00			
				6.30	0.00			0.90	0.10	20.6	2.00	0.00			
WS02	443658.6	118114.9	25/11/2016	-	-	-	-	-	-	-	-	-	-	-	Gas plug missing
				0	0.00			0.40	0.20	20.6	2.00	0.00			
				30	0.00			2.00	0.10	19.0	2.00	0.00			
				1.00	0.00			2.00	0.10	19.0	2.00	0.00			
				1.30	0.00			2.00	0.20	19.0	2.00	0.00			
				2.00	0.00			2.00	0.20	19.0	2.00	0.00			
				2.30	0.00			2.00	0.20	19.0	2.00	0.00			

GAS AND GROUNDWATER LEVELS
Client: Highwood Land LLP
Site: Stoneham - Land at Chestnut Avenue, Eastleigh
Job Number: 61033023-002

Borehole no.	X	Y	Date	Time (sec)	Gas Flow (ltr/hr)	Barometric Pressure (mb)	Relative Pressure (mb)	Carbon dioxide (%)	Methane (%)	Oxygen (%)	CH_4 LEL (%)	Hydrogen sulphide (ppm)	Water level (mbgl)	Base of borehole	Remarks
WS03	443738.0	118064.9	25/11/2016	3.00	0.00	1015	-0.02	2.00	0.20	18.9	2.00	0.00	1.66	5.05	-
				3.30	0.00			2.00	0.20	18.8	2.00	0.00			
				4.00	0.00			2.00	0.20	18.7	2.00	0.00			
				4.30	0.00			2.00	0.20	18.7	2.00	0.00			
				5.00	0.00			2.00	0.10	18.7	2.00	0.00			
				5.30	0.00			2.00	0.10	18.7	2.00	0.00			
				6.00	0.00			2.00	0.10	18.7	2.00	0.00			
				6.30	0.00			2.00	0.10	18.7	2.00	0.00			
WS04	443834.3	117972.8	25/11/2016	0	0.00	1015	-0.05	1.30	0.10	19.3	2.00	0.00	2.4	5.08	-
				30	0.00			1.50	0.10	18.4	2.00	0.00			
				1.00	0.00			1.50	0.10	18.1	2.00	0.00			
				1.30	0.00			1.50	0.10	18.0	2.00	0.00			
				2.00	0.00			1.50	0.10	18.0	2.00	0.00			
				2.30	0.00			1.60	0.10	18.0	2.00	0.00			
				3.00	0.00			1.60	0.10	17.9	2.00	0.00			
				3.30	0.00			1.60	0.10	17.9	2.00	0.00			
				4.00	0.00			1.60	0.10	18.0	2.00	0.00			
				4.30	0.00			1.60	0.10	18.0	2.00	0.00			
				5.00	0.00			1.60	0.10	18.0	2.00	0.00			
				5.30	0.00			1.60	0.10	18.0	3.00	0.00			
				6.00	0.00			1.60	0.20	18.0	3.00	0.00			
				6.30	0.00			1.60	0.20	18.0	3.00	0.00			
WS05	443335.3	118231.7	25/11/2016	-	-	-	-	-	-	-	-	-	-	-	Gas plug missing
WS06	443631.7	117754.4	25/11/2016	-	-	-	-	-	-	-	-	-	-	-	Gas plug missing
WS07	443880.0	117699.0	25/11/2016	0	0.00	1016	-0.02	2.20	0.10	18.0	2.00	0.00	2.55	3.11	-
				30	0.00			2.30	0.10	17.6	2.00	0.00			
				1.00	0.00			2.30	0.10	17.6	2.00	0.00			
				1.30	0.00			2.30	0.10	17.6	2.00	0.00			
				2.00	0.00			2.30	0.10	17.6	2.00	0.00			
				2.30	0.00			2.30	0.10	17.6	2.00	0.00			
				3.00	0.00			2.30	0.10	17.6	2.00	0.00			
				3.30	0.00			2.30	0.10	17.6	2.00	0.00			
				4.00	0.00			2.30	0.10	17.6	2.00	0.00			
				4.30	0.00			2.30	0.10	17.6	2.00	0.00			
				5.00	0.00			2.30	0.10	17.6	2.00	0.00			
				5.30	0.00			2.30	0.10	17.6	2.00	0.00			
				6.00	0.00			2.30	0.10	17.6	2.00	0.00			
				6.30	0.00			2.30	0.10	17.6	2.00	0.00			
WS08	443890.2	117599.9	25/11/2016	-	-	-	-	-	-	-	-	-	-	-	LOST
WS09	444031.9	118065.2	25/11/2016	0	0.00	1017	2.53	0.00	0.20	21.5	3.00	0.00	DRY	3.46	-
				30	0.00			0.00	0.20	21.5	3.00	0.00			
				1.00	0.00			0.00	0.20	21.5	3.00	0.00			
				1.30	0.00			0.00	0.20	21.5	3.00	0.00			
				2.00	0.00			0.00	0.20	21.5	3.00	0.00			
				2.30	0.00			0.00	0.20	21.5	3.00	0.00			
				3.00	0.00			0.00	0.20	21.5	3.00	0.00			
				3.30	0.00			0.00	0.20	21.5	3.00	0.00			
				4.00	0.00			0.00	0.20	21.5	3.00	0.00			
				4.30	0.00			0.00	0.20	21.5	3.00	0.00			
				5.00	0.00			0.00	0.20	21.5	3.00	0.00			
				5.30	0.00			0.00	0.20	21.5	3.00	0.00			
				6.00	0.00			0.00	0.20	21.5	3.00	0.00			
				6.30	0.00			0.00	0.20	21.5	3.00	0.00			
WS10	444026.4	117921.8	25/11/2016	0	0.00	1017	-0.01	0.10	0.10	21.4	2.00	0.00	2.25	3.19	-
				30	0.00			0.20	0.10	20.6	2.00	0.00			
				1.00	0.00			1.30	0.10	20.6	2.00	0.00			
				1.30	0.00			1.30	0.10	20.5	2.00	0.00			
				2.00	0.00			1.30	0.10	20.5	2.00	0.00			
				2.30	0.00			1.30	0.10	20.5	2.00	0.00			
				3.00	0.00			1.30	0.10	20.5	2.00	0.00			
				3.30	0.00			1.30	0.10	20.5	2.00	0.00			
				4.00	0.00			1.30	0.10	20.6	2.00	0.00			
				4.30	0.00			1.30	0.10	20.6	2.00	0.00			
				5.00	0.00			1.30	0.10	20.6	2.00	0.00			
				5.30	0.00			1.30	0.10	20.6	2.00	0.00			
				6.00	0.00			1.30	0.10	20.6	2.00	0.00			
				6.30	0.00			1.30	0.10	20.6	2.00	0.00			
WS11	444036.0	117860.7	25/11/2016	0	0.00	1017	0.01	2.10	0.10	21	2.00	0.00	4.21	4.83	-
				30	0.00			2.40	0.10	20.7	2.00	0.00			
				1.00	0.00			2.60	0.10	20.6	2.00	0.00			
				1.30	0.00			2.60	0.10	20.6	2.00	0.00			
				2.00	0.00			2.60	0.10	20.7	2.00	0.00			
				2.30	0.00			2.60	0.10	20.7	2.00	0.00			
				3.00	0.00			2.60	0.10	20.7	2.00	0.00			
				3.30	0.00			2.60	0.10	20.7	2.00	0.00			
				4.00	0.00			2.60	0.10	20.7	2.00	0.00			
				4.30	0.00			2.60	0.10	20.7	2.00	0.00			
				5.00	0.00			2.50	0.10	20.6	2.00	0.00			
				5.30	0.00			2.50	0.10	20.6	2.00	0.00			
				6.00	0.00			2.50	0.10	20.6	2.00	0.00			
				6.30	0.00			2.50	0.10	20.6	2.00	0.00			
WS12	444059.3	117739.9	25/11/2016	0	0.00	1017	0.03	0.90	0.20	18.9	2.00	0.00	2.05	3.46	
				30	0.00			2.80	0.10	16.0	2.00	0.00			
				1.00	0.00			2.80	0.10	16.0	2.00	0.00			
				1.30	0.00			2.80	0.10	15.8	2.00	0.00			
				2.00	0.00			2.80	0.10	15.8	2.00	0.00			
				2.30	0.00			2.80	0.10	15.8	2.00	0.00			
				3.00	0.00			2.80	0.10	16.0	2.00	0.00			

GAS AND GROUNDWATER LEVELS
Client: Highwood Land LLP
Site: Stoneham - Land at Chestnut Avenue, Eastleigh
Job Number: 61033023-002

Borehole no.	X	Y	Date	Time (sec)	Gas Flow (ltr/hr)	Barometric Pressure (mb)	Relative Pressure (mb)	Carbon dioxide (%)	Methane (%)	Oxygen (%)	CH_4 LEL (%)	Hydrogen sulphide (ppm)	Water level (mbgl)	Base of borehole	Remarks
WS12	444059.3	117739.9	25/11/2016	3.30	0.00	1017	-0.03	2.80	0.10	16.0	2.00	0.00	2.03	3.46	-
				4.00	0.00			2.80	0.10	16.2	2.00	0.00			
				4.30	0.00			2.80	0.10	16.3	2.00	0.00			
				5.00	0.00			2.80	0.10	16.4	2.00	0.00			
				5.30	0.00			2.80	0.10	16.5	2.00	0.00			
				6.00	0.00			2.80	0.10	16.5	2.00	0.00			
				6.30	0.00			2.80	0.10	16.6	2.00	0.00			
WS13	444078.6	117636.3	25/11/2016	0	0.00	1017	-0.05	21.90	7.80	3.60	>>	3	4.22	4.38	-
				30	0.00			22.20	8.00	0.80	>>	3			
				1.00	0.00			22.30	8.00	0.30	>>	4			
				1.30	0.00			22.40	8.00	0.20	>>	4			
				2.00	0.00			22.50	8.00	0.10	>>	4			
				2.30	0.00			22.70	7.80	0.10	>>	4			
				3.00	0.00			22.80	7.50	0.10	>>	3			
				3.30	0.00			22.90	7.30	0.10	>>	3			
				4.00	0.00			23.00	7.20	0.10	>>	3			
				4.30	0.00			23.00	7.10	0.10	>>	3			
				5.00	0.00			23.10	7.00	0.10	>>	3			
				5.30	0.00			23.20	6.90	0.00	>>	3			
				6.00	0.00			23.30	6.90	0.00	>>	3			
				6.30	0.00			23.30	6.80	0.00	>>	3			
WS14	444199.7	117907.6	25/11/2016	0	0.00	1017	-0.02	0.00	0.10	20	2	0.00	1.85	3.05	-
				30	0.00			1.30	0.10	20	2	0.00			
				1.00	0.00			1.30	0.10	20	2	0.00			
				1.30	0.00			1.30	0.10	19.8	2	0.00			
				2.00	0.1			1.30	0.10	19.8	2	0.00			
				2.30	0.00			1.30	0.10	19.8	2	0.00			
				3.00	0.00			1.30	0.10	19.8	2	0.00			
				3.30	0.00			1.30	0.10	19.8	2	0.00			
				4.00	0.00			1.30	0.10	19.8	2	0.00			
				4.30	0.00			1.30	0.10	19.8	2	0.00			
				5.00	0.00			1.30	0.10	19.8	2	0.00			
				5.30	0.00			1.30	0.10	19.8	2	0.00			
				6.00	0.00			1.30	0.10	19.8	2	0.00			
				6.30	0.00			1.30	0.10	19.8	2	0.00			
WS15	444204.9	117857.8	25/11/2016	0	0.00	1018	-0.01	0.10	0.10	21.3	2.00	0.00	1.49	2.51	-
				30	0.00			0.60	0.10	20.8	2.00	0.00			
				1.00	0.00			1.00	0.10	20.4	2.00	0.00			
				1.30	0.00			1.10	0.10	20.3	2.00	0.00			
				2.00	0.00			1.10	0.10	20.2	2.00	0.00			
				2.30	0.00			1.10	0.10	20.2	2.00	0.00			
				3.00	0.00			1.10	0.10	20.2	2.00	0.00			
				3.30	0.00			1.10	0.10	20.2	2.00	0.00			
				4.00	0.00			1.10	0.10	20.2	2.00	0.00			
				4.30	0.00			1.10	0.10	20.2	2.00	0.00			
				5.00	0.00			1.10	0.10	20.2	2.00	0.00			
				5.30	0.00			1.10	0.10	20.2	2.00	0.00			
				6.00	0.00			1.10	0.10	20.2	2.00	0.00			
				6.30	0.00			1.10	0.10	20.2	2.00	0.00			
WS16	444180.0	117752.7	25/11/2016	0	0.10	1017	-0.03	0.30	0.10	20.5	2.00	0.00	DRY	1.25	-
				30	0.10			1.90	0.10	19.9	2.00	0.00			
				1.00	0.10			1.90	0.10	19.8	2.00	0.00			
				1.30	0.10			1.80	0.10	19.8	2.00	0.00			
				2.00	0.10			1.80	0.10	19.7	2.00	0.00			
				2.30	0.10			1.80	0.10	19.7	2.00	0.00			
				3.00	0.10			1.80	0.10	19.7	2.00	0.00			
				3.30	0.10			1.80	0.10	19.7	2.00	0.00			
				4.00	0.10			1.80	0.10	19.8	2.00	0.00			
				4.30	0.10			1.80	0.10	19.8	2.00	0.00			
				5.00	0.10			1.80	0.10	19.8	2.00	0.00			
				5.30	0.10			1.80	0.10	19.8	2.00	0.00			
				6.00	0.10			1.80	0.10	19.8	2.00	0.00			
				6.30	0.10			1.80	0.10	19.8	2.00	0.00			
WS17	444137.2	117671.5	25/11/2016	0	0.00	1017	-0.06	0.10	0.00	20.4	2.00	0.00	DRY	3	-
				30	0.00			0.20	0.20	20	2.00	0.00			
				1.00	0.00			2.60	0.10	18.8	2.00	0.00			
				1.30	0.00			2.60	0.10	18.7	2.00	0.00			
				2.00	0.00			2.60	0.10	18.7	2.00	0.00			
				2.30	0.00			2.60	0.10	18.5	2.00	0.00			
				3.00	0.00			2.60	0.10	18.4	2.00	0.00			
				3.30	0.00			2.60	0.10	18.1	2.00	0.00			
				4.00	0.00			3.60	0.10	18	2.00	0.00			
				4.30	0.00			3.80	0.10	17.9	2.00	0.00			
				5.00	0.00			4.00	0.10	17.9	2.00	0.00			
				5.30	0.00			4.00	0.10	17.8	2.00	0.00			
				6.00	0.00			4.00	0.10	17.8	2.00	0.00			
				6.30	0.00			4.00	0.10	17.8	2.00	0.00			
WS18	444099.4	117503.3	25/11/2016	0	0.00	1017	-0.06	0.10	0.2	20.9	3.00	0.00	DRY	2.93	-
				30	0.00			0.10	0.2	21.1	3.00	0.00			
				1.00	0.00			0.00	0.2	21.2	3.00	0.00			
				1.30	0.00			0.00	0.2	21.2	3.00	0.00			
				2.00	0.00			0.10	0.2	21.1	3.00	0.00			
				2.30	0.00			0.20	0.2	21.2	3.00	0.00			
				3.00	0.00			0.00	0.2	21.2	3.00	0.00			
				3.30	0.00			0.00	0.2	21.2	3.00	0.00			
				4.00	0.00			0.00	0.2	21.2	3.00	0.00			
				4.30	0.00			0.00	0.2	21.2	3.00	0.00			
				5.00	0.00			0.00	0.2	21.2	3.00	0.00			

GAS AND GROUNDWATER LEVELS
Client: Highwood Land LLP
Site: Stoneham - Land at Chestnut Avenue, Eastleigh
Job Number: 61033023-002

Borehole no.	X	Y	Date	Time (sec)	Gas Flow (ltr/hr)	Barometric Pressure (mb)	Relative Pressure (mb)	Carbon dioxide (%)	Methane (%)	Oxygen (%)	CH_4 LEL (%)	Hydrogen sulphide (ppm)	Water level (mbgl)	Base of borehole	Remarks
				5.30	0.00			0.00	0.2	21.2	3.00	0.00			
				6.00	0.00			0.00	0.2	21.2	3.00	0.00			
				6.30	0.00			0.00	0.2	21.2	3.00	0.00			
WS19	444059.8	117383.1	25/11/2016	0	0.00	1017	-0.07	0	0.2	21	3.00	0.00	1.32	1.47	-
				30	0.00			1	0.2	19.5	3.00	0.00			
				1.00	0.00			1	0.2	19.3	3.00	0.00			
				1.30	0.00			1	0.2	19.4	3.00	0.00			
				2.00	0.00			0.9	0.2	19.6	3.00	0.00			
				2.30	0.00			0.8	0.1	19.7	3.00	0.00			
				3.00	0.00			0.8	0.1	19.7	3.00	0.00			
				3.30	0.00			0.7	0.1	19.8	3.00	0.00			
				4.00	0.00			0.7	0.1	19.8	3.00	0.00			
				4.30	0.00			0.7	0.1	19.8	3.00	0.00			
				5.00	0.00			0.7	0.1	19.8	3.00	0.00			
				5.30	0.00			0.7	0.1	19.8	3.00	0.00			
				6.00	0.00			0.7	0.1	19.8	3.00	0.00			
				6.30	0.00			0.7	0.1	19.8	3.00	0.00			
WS20	444019.6	117577.9	25/11/2016	0	0.00	1017	-0.06	0.10	0.20	20.5	2.00	0.00	4.96	4.97	-
				30	0.00			3.40	0.10	17.1	2.00	0.00			
				1.00	0.00			3.40	0.10	17.1	2.00	0.00			
				1.30	0.00			3.40	0.10	17.3	2.00	0.00			
				2.00	0.00			3.20	0.10	17.9	2.00	0.00			
				2.30	0.00			2.90	0.10	17.9	2.00	0.00			
				3.00	0.00			2.80	0.10	18.2	2.00	0.00			
				3.30	0.00			2.60	0.10	18.3	2.00	0.00			
				4.00	0.00			2.40	0.10	18.5	2.00	0.00			
				4.30	0.00			2.30	0.10	18.7	2.00	0.00			
				5.00	0.00			2.20	0.10	19	2.00	0.00			
				5.30	0.00			2.00	0.10	19.3	2.00	0.00			
				6.00	0.00			1.80	0.10	19.3	2.00	0.00			
				6.30	0.00			1.80	0.10	19.3	2.00	0.00			
WS21	443590.6	117728.0	25/11/2016	-	-	-	-	-	-	-	-	-	-	-	Gas plug missing
WS22	443330.2	117824.0	25/11/2016	-	-	-	-	-	-	-	-	-	-	-	LOST
WS23	443494.8	118018.5	25/11/2016	0	0.00	1013	-0.08	4.50	0.20	17.7	2.00	0.00	2.13	2.83	-
				30	0.00			4.60	0.10	14.7	2.00	0.00			
				1.00	0.00			4.60	0.10	14.5	2.00	0.00			
				1.30	0.00			4.60	0.10	14.4	2.00	0.00			
				2.00	0.00			4.60	0.20	14.4	3.00	0.00			
				2.30	0.00			4.60	0.10	14.4	2.00	0.00			
				3.00	0.00			4.70	0.10	14.3	2.00	0.00			
				3.30	0.00			4.70	0.10	14.3	2.00	0.00			
				4.00	0.00			4.70	0.10	14.2	2.00	0.00			
				4.30	0.00			4.70	0.10	14.2	2.00	0.00			
				5.00	0.00			4.70	0.10	14.2	2.00	0.00			
				5.30	0.00			4.70	0.10	14.2	2.00	0.00			
				6.00	0.00			4.70	0.10	14.2	2.00	0.00			
				6.30	0.00			4.70	0.10	14.2	2.00	0.00			
WS24	443323.5	117659.4	25/11/2016	0	0.00	1013	-0.03	1.20	0.10	20.2	2.00	0.00	0.69	2.33	-
				30	0.10			0.70	0.10	20.5	2.00	0.00			
				1.00	0.00			0.40	0.10	20.8	2.00	0.00			
				1.30	0.00			0.30	0.10	21.1	2.00	0.00			
				2.00	0.00			0.10	0.10	21.2	2.00	0.00			
				2.30	0.00			0.10	0.10	21.3	2.00	0.00			
				3.00	0.00			0.10	0.10	21.3	2.00	0.00			
				3.30	0.00			0.00	0.10	21.4	2.00	0.00			
				4.00	0.00			0.00	0.10	21.4	2.00	0.00			
				4.30	0.00			0.00	0.10	21.4	2.00	0.00			
				5.00	0.00			0.00	0.10	21.4	2.00	0.00			
				5.30	0.00			0.00	0.10	21.4	2.00	0.00			
				6.00	0.00			0.00	0.10	21.4	2.00	0.00			
				6.30	0.00			0.00	0.10	21.4	2.00	0.00			
WS25	443366.7	117652.2	25/11/2016	-	-	-	-	-	-	-	-	-	-	-	LOST
WS26	443611.0	117852.5	25/11/2016	-	-	-	-	-	-	-	-	-	1.83	1.91	Gas plug missing
WS27	444125.7	117644.6	25/11/2016	-	-	-	-	-	-	-	-	-	-	-	LOST
WS28	444180.5	117657.7	25/11/2016	-	-	-	-	-	-	-	-	-	-	-	LOST
WS29	444069.0	117842.5	25/11/2016	0	0.10	1017	-0.03	1.80	0.10	18.5	2.00	0.00	3.32	5.08	-
				30	0.00			1.80	0.10	18.5	2.00	0.00			
				1.00	0.10			1.80	0.10	17.5	2.00	0.00			
				1.30	0.00			1.80	0.10	17.7	2.00	0.00			
				2.00	0.00			1.80	0.10	17.7	2.00	0.00			
				2.30	0.00			1.80	0.10	17.7	2.00	0.00			
				3.00	0.00			1.80	0.10	17.7	2.00	0.00			
				3.30	0.00			1.80	0.10	17.7	2.00	0.00			
				4.00	0.00			1.80	0.10	17.7	2.00	0.00			
				4.30	0.00			1.80	0.10	17.7	2.00	0.00			
				5.00	0.00			1.80	0.10	17.7	2.00	0.00			
				5.30	0.00			1.80	0.10	17.7	2.00	0.00			
				6.00	0.00			1.80	0.10	17.6	2.00	0.00			
				6.30	0.00			1.80	0.10	17.6	2.00	0.00			

GAS AND GROUNDWATER LEVELS
Client: Highwood Land LLP
Site: Stoneham - Land at Chestnut Avenue, Eastleigh
Job Number: 61033023-002

Borehole no.	X	Y	Date	Time (sec)	Gas Flow (ltr/hr)	Barometric Pressure (mb)	Relative Pressure (mb)	Carbon dioxide (%)	Methane (%)	Oxygen (%)	CH_4 LEL (%)	Hydrogen sulphide (ppm)	Water level (mbgl)	Base of borehole	Remarks
CP01	443494.3	118332.1	01/12/2016	0	0.00	1025	-0.07	1.00	0.10	20.3	2.00	0.00	1.93	15.30	-
				30	0.00			2.50	0.10	19.3	2.00	0.00			
				1.00	0.00			2.50	0.10	19.1	2.00	0.00			
				1.30	0.00			2.50	0.10	19.1	2.00	0.00			
				2.00	0.00			2.50	0.10	19.1	2.00	0.00			
				2.30	0.00			2.50	0.10	19.1	2.00	0.00			
				3.00	0.00			2.50	0.10	19.1	2.00	0.00			
				3.30	0.00			2.50	0.10	19.1	2.00	0.00			
				4.00	0.00			2.50	0.10	19.1	2.00	0.00			
				4.30	0.00			2.50	0.10	19.1	2.00	0.00			
				5.00	0.00			2.50	0.10	19.1	2.00	0.00			
				5.30	0.00			2.50	0.10	19.1	2.00	0.00			
				6.00	0.00			2.50	0.10	19.10	2.00	0.00			
				6.30	0.00			2.50	0.10	19.10	2.00	0.00			
CP02	443699.0	118096.3	01/12/2016	0	0.00	1025	-0.07	0.40	0.10	20.4	2.00	0.00	1.6	8.95	-
				30	0.00			3.50	0.10	15.2	2.00	0.00			
				1.00	0.00			3.60	0.10	13.8	2.00	0.00			
				1.30	0.00			3.60	0.10	13.4	2.00	0.00			
				2.00	0.00			3.60	0.10	13.4	2.00	0.00			
				2.30	0.00			3.60	0.10	13.3	2.00	0.00			
				3.00	0.00			3.60	0.10	13.4	2.00	0.00			
				3.30	0.00			3.60	0.10	13.4	2.00	0.00			
				4.00	0.00			3.60	0.10	13.4	2.00	0.00			
				4.30	0.00			3.60	0.10	13.4	2.00	0.00			
				5.00	0.00			3.60	0.10	13.4	2.00	0.00			
				5.30	0.00			3.60	0.10	-	2.00	0.00			
				6.00	0.00			3.60	0.10	13.4	2.00	0.00			
				6.30	0.00			3.60	0.10	13.4	2.00	0.00			
CP03	444164.7	117892.6	01/12/2016	0	0.00	1027	-0.09	2.80	0.10	19.6	2.00	0.00	2.76	10.63	-
				30	0.00			3.20	0.10	18.0	2.00	0.00			
				1.00	0.00			3.20	0.10	17.9	2.00	0.00			
				1.30	0.00			3.20	0.10	17.9	2.00	0.00			
				2.00	0.00			3.20	0.10	17.9	2.00	0.00			
				2.30	0.00			3.20	0.10	17.9	2.00	0.00			
				3.00	0.00			3.20	0.10	17.9	2.00	0.00			
				3.30	0.00			3.20	0.10	17.9	2.00	0.00			
				4.00	0.00			3.20	0.10	17.9	2.00	0.00			
				4.30	0.00			3.20	0.10	17.9	2.00	0.00			
				5.00	0.00			3.20	0.10	17.9	2.00	0.00			
				5.30	0.00			3.20	0.10	17.9	2.00	0.00			
				6.00	0.00			3.20	0.10	17.9	2.00	0.00			
				6.30	0.00			3.20	0.10	17.9	2.00	0.00			
CP04	444196.1	117677.8	01/12/2016	0	0.00	1027	-0.09	3.90	0.10	18.7	2.00	0.00	2.14	9.56	-
				30	0.00			1.50	0.10	19.8	2.00	0.00			
				1.00	0.00			1.50	0.10	20.0	2.00	0.00			
				1.30	0.00			1.50	0.10	20.0	2.00	0.00			
				2.00	0.00			1.50	0.10	20.1	2.00	0.00			
				2.30	0.00			1.50	0.10	20.1	2.00	0.00			
				3.00	0.00			1.50	0.10	20.1	2.00	0.00			
				3.30	0.00			1.50	0.10	20.1	2.00	0.00			
				4.00	0.00			1.50	0.10	20.1	2.00	0.00			
				4.30	0.00			1.50	0.10	20.1	2.00	0.00			
				5.00	0.00			1.50	0.10	20.1	2.00	0.00			
				5.30	0.00			1.50	0.10	20.1	2.00	0.00			
				6.00	0.00			1.50	0.10	20.1	2.00	0.00			
				6.30	0.00			1.50	0.10	20.1	2.00	0.00			
CP05	444084.5	117586.2	01/12/2016	0	0.00	1027	-0.09	4.90	0.10	12.8	2.00	0.00	4.31	18.88	-
				30	0.00			4.90	0.10	14.0	2.00	0.00			
				1.00	0.00			4.90	0.10	15.6	2.00	0.00			
				1.30	0.00			4.90	0.10	15.7	2.00	0.00			
				2.00	0.00			4.90	0.10	15.7	2.00	0.00			
				2.30	0.00			4.90	0.10	15.8	2.00	0.00			
				3.00	0.00			4.90	0.10	15.8	2.00	0.00			
				3.30	0.00			4.90	0.10	15.8	2.00	0.00			
				4.00	0.00			4.90	0.10	15.8	2.00	0.00			
				4.30	0.00			4.90	0.10	15.8	2.00	0.00			
				5.00	0.00			4.90	0.10	15.8	2.00	0.00			
				5.30	0.00			4.90	0.10	15.8	2.00	0.00			
				6.00	0.00			4.90	0.10	15.8	2.00	0.00			
				6.30	0.00			4.90	0.10	15.8	2.00	0.00			
CP06	444141.0	117595.1	01/12/2016	0	0.00	1027	-0.07	1.60	0.10	20.5	2.00	0.00	3.51	19.80	-
				30	0.00			1.60	0.10	20.8	2.00	0.00			
				1.00	0.00			0.60	0.10	20.9	2.00	0.00			
				1.30	0.00			0.50	0.10	21.0	2.00	0.00			
				2.00	0.00			0.50	0.10	21.1	2.00	0.00			
				2.30	0.00			0.50	0.10	21.1	2.00	0.00			
				3.00	0.00			0.50	0.10	21.1	2.00	0.00			
				3.30	0.00			0.50	0.10	21.1	2.00	0.00			
				4.00	0.00			0.50	0.10	21.2	2.00	0.00			
				4.30	0.00			0.50	0.10	21.2	2.00	0.00			
				5.00	0.00			0.50	0.10	21.2	2.00	0.00			
				5.30	0.00			0.50	0.10	21.2	2.00	0.00			
				6.00	0.00			0.50	0.10	21.2	2.00	0.00			
				6.30	0.00			0.50	0.10	21.2	2.00	0.00			
				0	0.00			2.60	0.10	19.7	2.00	0.00			
				30	0.00			1.20	0.10	20.6	2.00	0.00			
				1.00	0.00			1.20	0.10	20.7	2.00	0.00			
				1.30	0.00			1.20	0.10	20.7	2.00	0.00			
				2.00	0.00			1.20	0.10	20.7	2.00	0.00			
				2.30	0.00			1.20	0.10	20.7	2.00	0.00			

GAS AND GROUNDWATER LEVELS
Client: Highwood Land LLP
Site: Stoneham - Land at Chestnut Avenue, Eastleigh
Job Number: 61033023-002

Borehole no.	X	Y	Date	Time (sec)	Gas Flow (ltr/hr)	Barometric Pressure (mb)	Relative Pressure (mb)	Carbon dioxide (%)	Methane (%)	Oxygen (%)	CH_4 LEL (%)	Hydrogen sulphide (ppm)	Water level (mbgl)	Base of borehole	Remarks
CP07a	444153.6	117542.3	01/12/2016	3.00	0.00	1027	-0.06	1.20	0.10	20.7	2.00	0.00	3.46	12.35	-
				3.30	0.00			1.30	0.10	20.7	2.00	0.00			
				4.00	0.00			1.30	0.10	20.7	2.00	0.00			
				4.30	0.00			1.40	0.10	20.7	2.00	0.00			
				5.00	0.00			1.40	0.10	20.7	2.00	0.00			
				5.30	0.00			1.40	0.10	20.7	2.00	0.00			
				6.00	0.00			1.40	0.10	20.7	2.00	0.00			
				6.30	0.00			1.40	0.10	20.7	2.00	0.00			
CP08	443978.1	117470.7	01/12/2016	0	0.00	1026	-0.07	0.50	0.10	20.7	2.00	0.00	5.76	12.71	-
				30	0.00			0.50	0.10	20.7	2.00	0.00			
				1.00	0.00			0.50	0.10	20.8	2.00	0.00			
				1.30	0.00			0.50	0.10	20.8	2.00	0.00			
				2.00	0.00			0.50	0.10	20.8	2.00	0.00			
				2.30	0.00			0.50	0.10	20.8	2.00	0.00			
				3.00	0.00			0.50	0.10	20.8	2.00	0.00			
				3.30	0.00			0.50	0.10	20.8	2.00	0.00			
				4.00	0.00			0.50	0.10	20.8	2.00	0.00			
				4.30	0.00			0.50	0.10	20.8	2.00	0.00			
				5.00	0.00			0.50	0.10	20.8	2.00	0.00			
				5.30	0.00			0.50	0.10	20.8	2.00	0.00			
				6.00	0.00			0.50	0.10	20.8	2.00	0.00			
				6.30	0.00			0.50	0.10	20.8	2.00	0.00			
CP09	443832.6	117748.4	01/12/2016	0	0.00	1026	-0.06	2.70	0.10	18.0	2.00	0.00	2.92	8.34	-
				30	0.00			1.40	0.10	17.9	2.00	0.00			
				1.00	0.00			0.80	0.10	18.5	2.00	0.00			
				1.30	0.00			0.80	0.10	20.2	2.00	0.00			
				2.00	0.00			0.80	0.10	20.4	2.00	0.00			
				2.30	0.00			0.80	0.10	20.5	2.00	0.00			
				3.00	0.00			0.80	0.10	20.5	2.00	0.00			
				3.30	0.00			0.80	0.10	20.5	2.00	0.00			
				4.00	0.00			0.80	0.10	20.5	2.00	0.00			
				4.30	0.00			0.80	0.10	20.5	2.00	0.00			
				5.00	0.00			0.80	0.10	20.5	2.00	0.00			
				5.30	0.00			0.80	0.10	20.5	2.00	0.00			
				6.00	0.00			0.80	0.10	20.5	2.00	0.00			
				6.30	0.00			0.80	0.10	20.5	2.00	0.00			
CP10	443337.5	117714.9		-	-	-	-	-	-	-	-	-	-	-	LOST
CP11	443281.3	117924.9	02/12/2016	0	1.10	1021	0.12	1.10	0.10	18.6	2.00	0.00	1.42	16.91	-
				30	1.10			1.50	0.10	18.6	2.00	0.00			
				1.00	0.00			1.70	0.10	18.2	2.00	0.00			
				1.30	0.00			1.70	0.10	18.2	2.00	0.00			
				2.00	0.00			1.70	0.10	18.0	2.00	0.00			
				2.30	0.00			1.80	0.10	17.9	2.00	0.00			
				3.00	0.00			1.90	0.10	17.8	2.00	0.00			
				3.30	0.00			1.90	0.10	17.8	2.00	0.00			
				4.00	0.00			1.90	0.10	17.9	2.00	0.00			
				4.30	0.00			1.90	0.10	17.7	2.00	0.00			
				5.00	0.00			1.90	0.10	17.7	2.00	0.00			
				5.30	0.00			1.90	0.10	17.7	2.00	0.00			
				6.00	0.00			1.90	0.10	17.7	2.00	0.00			
				6.30	0.00			1.90	0.10	17.6	2.00	0.00			
CP12	443690.1	117977.5	01/12/2016	0	0.00	1025	-0.06	3.20	0.10	16.9	2.00	0.00	3.05	8.77	-
				30	0.00			3.20	0.10	17.3	2.00	0.00			
				1.00	0.00			3.20	0.10	17.3	2.00	0.00			
				1.30	0.00			3.20	0.10	17.3	2.00	0.00			
				2.00	0.00			3.20	0.10	17.3	2.00	0.00			
				2.30	0.00			3.20	0.10	17.3	2.00	0.00			
				3.00	0.00			3.20	0.10	17.3	2.00	0.00			
				3.30	0.00			3.20	0.10	17.3	2.00	0.00			
				4.00	0.00			3.20	0.10	17.3	2.00	0.00			
				4.30	0.00			3.20	0.10	17.3	2.00	0.00			
				5.00	0.00			3.20	0.10	17.3	2.00	0.00			
				5.30	0.00			3.20	0.10	17.3	2.00	0.00			
				6.00	0.00			3.20	0.10	17.3	2.00	0.00			
				6.30	0.00			3.20	0.10	17.3	2.00	0.00			
CP13	444151.3	118076.0	01/12/2016	0	0.00	1029	0.02	3.80	0.10	19.8	1.00	0.00	2.21	10.36	-
				30	0.00			3.80	0.10	19.8	1.00	0.00			
				1.00	0.00			3.80	0.10	19.8	1.00	0.00			
				1.30	0.00			3.80	0.10	19.8	1.00	0.00			
				2.00	0.00			3.80	0.10	19.8	1.00	0.00			
				2.30	0.00			3.80	0.10	19.8	1.00	0.00			
				3.00	0.00			3.80	0.10	19.8	1.00	0.00			
				3.30	0.00			3.80	0.10	19.8	1.00	0.00			
				4.00	0.00			3.80	0.10	19.8	1.00	0.00			
				4.30	0.00			3.80	0.10	19.8	1.00	0.00			
				5.00	0.00			3.80	0.10	19.8	1.00	0.00			
				5.30	0.00			3.80	0.10	19.8	1.00	0.00			
				6.00	0.00			3.80	0.10	19.8	1.00	0.00			
				6.30	0.00			3.80	0.10	19.8	1.00	0.00			
WS01	443557.5	118286.4	01/12/2016	0	0.00	1025	-0.07	1.00	0.10	18.7	2.00	0.00	1.33	5.18	-
				30	0.00			0.90	0.10	20.3	2.00	0.00			
				1.00	0.00			0.90	0.10	20.4	2.00	0.00			
				1.30	0.00			0.90	0.10	20.5	2.00	0.00			
				2.00	0.00			0.90	0.10	20.5	2.00	0.00			
				2.30	0.00			0.90	0.10	20.5	2.00	0.00			
				3.00	0.00			0.90	0.10	20.5	2.00	0.00			
				3.30	0.00			0.90	0.10	20.5	2.00	0.00			
				4.00	0.00			0.90	0.10	20.5	2.00	0.00			
				4.30	0.00			0.90	0.10	20.5	2.00	0.00			

GAS AND GROUNDWATER LEVELS
Client: Highwood Land LLP
Site: Stoneham - Land at Chestnut Avenue, Eastleigh
Job Number: 61033023-002

Borehole no.	X	Y	Date	Time (sec)	Gas Flow (ltr/hr)	Barometric Pressure (mb)	Relative Pressure (mb)	Carbon dioxide (%)	Methane (%)	Oxygen (%)	CH_4 LEL (%)	Hydrogen sulphide (ppm)	Water level (mbgl)	Base of borehole	Remarks
				5.00	0.00			0.90	0.10	20.5	2.00	0.00			
				5.30	0.00			0.90	0.10	20.5	2.00	0.00			
				6.00	0.00			0.90	0.10	20.5	2.00	0.00			
				6.30	0.00			0.90	0.10	20.5	2.00	0.00			
WS02	443658.6	118114.9		-	-	-	-	-	-	-	-	-	-	-	Gas plug fitted
				0	0.00			2.00	0.20	19.0	2.00	0.00			
				30	0.00			2.00	0.10	19.0	2.00	0.00			
				1.00	0.00			2.00	0.10	18.8	2.00	0.00			
				1.30	0.00			2.00	0.20	18.8	2.00	0.00			
				2.00	0.00			2.00	0.20	18.8	2.00	0.00			
				2.30	0.00			2.00	0.20	18.8	2.00	0.00			
WS03	443738.0	118064.9	01/12/2016	3.00	0.00	1025	-0.06	2.00	0.20	18.8	2.00	0.00	1.65	5.05	-
				3.30	0.00			2.00	0.20	18.8	2.00	0.00			
				4.00	0.00			2.00	0.20	18.8	2.00	0.00			
				4.30	0.00			2.00	0.20	18.8	2.00	0.00			
				5.00	0.00			2.00	0.10	18.8	2.00	0.00			
				5.30	0.00			2.00	0.10	18.8	2.00	0.00			
				6.00	0.00			2.00	0.10	18.8	2.00	0.00			
				6.30	0.00			2.00	0.10	18.8	2.00	0.00			
				0	0.00			1.80	0.10	18.0	2.00	0.00			
				30	0.00			1.60	0.10	18.7	2.00	0.00			
				1.00	0.00			1.70	0.10	18.8	2.00	0.00			
				1.30	0.00			1.80	0.10	18.7	2.00	0.00			
				2.00	0.00			1.90	0.10	18.6	2.00	0.00			
				2.30	0.00			2.00	0.10	18.3	2.00	0.00			
WS04	443834.3	117972.8	01/12/2016	3.00	0.00	1025	-0.06	2.10	0.10	18.3	2.00	0.00	2.36	5.07	-
				3.30	0.00			2.10	0.10	18.3	2.00	0.00			
				4.00	0.00			2.10	0.10	18.2	2.00	0.00			
				4.30	0.00			2.10	0.10	18.3	2.00	0.00			
				5.00	0.00			2.10	0.10	18.3	2.00	0.00			
				5.30	0.00			2.10	0.10	18.3	2.00	0.00			
				6.00	0.00			2.10	0.10	18.3	2.00	0.00			
				6.30	0.00			2.10	0.10	18.3	2.00	0.00			
				0	0.00			0.40	0.10	20.0	2.00	0.00			
				30	0.00			2.10	0.10	19.7	2.00	0.00			
				1.00	0.00			2.20	0.10	19.3	2.00	0.00			
				1.30	0.00			2.30	0.10	19.0	2.00	0.00			
				2.00	0.00			2.30	0.10	19.0	2.00	0.00			
				2.30	0.00			2.30	0.10	18.3	2.00	0.00			
WS05	443335.3	118231.7	01/12/2016	3.00	0.00	1025	0	2.30	0.10	18.9	2.00	0.00	2.5	4.8	-
				3.30	0.00			2.30	0.10	19.9	2.00	0.00			
				4.00	0.00			2.30	0.10	19.0	2.00	0.00			
				4.30	0.00			2.30	0.10	19.2	2.00	0.00			
				5.00	0.00			2.30	0.10	19.4	2.00	0.00			
				5.30	0.00			2.30	0.10	19.4	2.00	0.00			
				6.00	0.00			2.30	0.10	19.5	2.00	0.00			
				6.30	0.00			2.30	0.10	19.8	2.00	0.00			
				0	0.00			2.00	0.1	18.9	2.00	0.00			
				30	0.00			3.90	0.1	15.9	2.00	0.00			
				1.00	0.00			3.90	0.1	15.2	2.00	0.00			
				1.30	0.00			3.90	0.1	15	2.00	0.00			
				2.00	0.00			3.90	0.1	15	2.00	0.00			
				2.30	0.00			3.90	0.1	14.9	2.00	0.00			
WS06	443631.7	117754.4	01/12/2016	3.00	0.00	1026	-0.08	3.90	0.1	14.9	2.00	0.00	0.82	1.57	-
				3.30	0.00			3.90	0.1	14.9	2.00	0.00			
				4.00	0.00			3.90	0.1	14.9	2.00	0.00			
				4.30	0.00			3.90	0.1	14.8	2.00	0.00			
				5.00	0.00			4.00	0.1	14.5	2.00	0.00			
				5.30	0.00			4.00	0.1	14.6	2.00	0.00			
				6.00	0.00			4.10	0.1	14.4	2.00	0.00			
				6.30	0.00			4.10	0.1	14.3	2.00	0.00			
				0	0.00			0.50	0.10	20.4	2.00	0.00			
				30	0.00			2.60	0.10	18.9	2.00	0.00			
				1.00	0.00			2.80	0.10	17.6	2.00	0.00			
				1.30	0.00			2.80	0.10	17.5	2.00	0.00			
				2.00	0.00			2.80	0.10	17.4	2.00	0.00			
				2.30	0.00			2.90	0.10	17.4	2.00	0.00			
WS07	443880.0	117699.0	01/12/2016	3.00	0.00	1026	-0.07	2.90	0.10	17.4	2.00	0.00	2.45	3.12	-
				3.30	0.00			2.90	0.10	17.4	2.00	0.00			
				4.00	0.00			2.90	0.10	17.4	2.00	0.00			
				4.30	0.00			2.90	0.10	17.4	2.00	0.00			
				5.00	0.00			2.90	0.10	17.4	2.00	0.00			
				5.30	0.00			2.90	0.10	17.4	2.00	0.00			
				6.00	0.00			2.90	0.10	17.4	2.00	0.00			
				6.30	0.00			2.90	0.10	17.4	2.00	0.00			
WS08	443890.2	117599.9		-	-	-	-	-	-	-	-	-	-	-	LOST
				0	0.00			0.00	0.10	21.6	1.00	0.00			
				30	0.00			0.00	0.10	21.6	1.00	0.00			
				1.00	0.00			0.00	0.10	21.6	1.00	0.00			
				1.30	0.00			0.00	0.10	21.6	1.00	0.00			
				2.00	0.00			0.00	0.10	21.6	1.00	0.00			
				2.30	0.00			0.00	0.10	21.6	1.00	0.00			
WS09	444031.9	118065.2	01/12/2016	3.00	0.00	1029	0	0.00	0.10	21.6	1.00	0.00	DRY	3.61	-
				3.30	0.00			0.00	0.10	21.6	1.00	0.00			
				4.00	0.00			0.00	0.10	21.6	1.00	0.00			
				4.30	0.00			0.00	0.10	21.6	1.00	0.00			
				5.00	0.00			0.00	0.10	21.6	1.00	0.00			
				5.30	0.00			0.00	0.10	21.6	1.00	0.00			
				6.00	0.00			0.00	0.10	21.6	1.00	0.00			

GAS AND GROUNDWATER LEVELS
Client: Highwood Land LLP
Site: Stoneham - Land at Chestnut Avenue, Eastleigh
Job Number: 61033023-002

Borehole no.	X	Y	Date	Time (sec)	Gas Flow (ltr/hr)	Barometric Pressure (mb)	Relative Pressure (mb)	Carbon dioxide (%)	Methane (%)	Oxygen (%)	CH_4 LEL (%)	Hydrogen sulphide (ppm)	Water level (mbgl)	Base of borehole	Remarks
				6.30	0.00			0.00	0.10	21.6	1.00	0.00			
WS10	444026.4	117921.8	01/12/2016	0	0.00	1027	-0.05	1.30	0.10	20.9	1.00	0.00	2.56	3.22	-
				30	0.00			1.30	0.10	20.9	1.00	0.00			
				1.00	0.00			1.30	0.10	20.9	1.00	0.00			
				1.30	0.00			1.30	0.10	20.9	1.00	0.00			
				2.00	0.00			1.30	0.10	20.9	1.00	0.00			
				2.30	0.00			1.30	0.10	20.9	1.00	0.00			
				3.00	0.00			1.40	0.10	20.9	1.00	0.00			
				3.30	0.00			1.40	0.10	20.9	1.00	0.00			
				4.00	0.00			1.40	0.10	20.9	1.00	0.00			
				4.30	0.00			1.40	0.10	20.9	1.00	0.00			
				5.00	0.00			1.30	0.10	20.9	1.00	0.00			
				5.30	0.00			1.30	0.10	20.9	1.00	0.00			
				6.00	0.00			1.30	0.10	20.9	1.00	0.00			
				6.30	0.00			1.30	0.10	20.9	1.00	0.00			
WS11	444036.0	117860.7	01/12/2016	0	0.00	1027	-0.03	2.00	0.10	21.0	1.00	0.00	4.22	4.87	-
				30	0.00			2.00	0.10	21.0	1.00	0.00			
				1.00	0.00			2.00	0.10	20.9	1.00	0.00			
				1.30	0.00			2.00	0.10	21.0	1.00	0.00			
				2.00	0.00			1.90	0.10	21.0	1.00	0.00			
				2.30	0.00			1.80	0.10	21.1	1.00	0.00			
				3.00	0.00			1.80	0.10	21.1	1.00	0.00			
				3.30	0.00			1.80	0.10	21.0	1.00	0.00			
				4.00	0.00			1.90	0.10	21.0	1.00	0.00			
				4.30	0.00			1.90	0.10	21.0	1.00	0.00			
				5.00	0.00			1.90	0.10	21.0	1.00	0.00			
				5.30	0.00			1.90	0.10	21.0	1.00	0.00			
				6.00	0.00			1.90	0.10	21.0	1.00	0.00			
				6.30	0.00			1.90	0.10	21.0	1.00	0.00			
WS12	444059.3	117739.9	01/12/2016	0	0.00	1027	-0.03	0.50	0.10	20.1	2.00	0.00	DRY	3.51	-
				30	0.00			1.90	0.10	19.9	2.00	0.00			
				1.00	0.00			1.90	0.10	19.8	2.00	0.00			
				1.30	0.00			1.90	0.10	19.8	2.00	0.00			
				2.00	0.00			1.90	0.10	19.8	2.00	0.00			
				2.30	0.00			1.90	0.10	19.8	2.00	0.00			
				3.00	0.00			1.90	0.10	19.8	2.00	0.00			
				3.30	0.00			1.90	0.10	19.8	2.00	0.00			
				4.00	0.00			1.90	0.10	19.8	2.00	0.00			
				4.30	0.00			1.90	0.10	19.8	2.00	0.00			
				5.00	0.00			1.90	0.10	19.8	2.00	0.00			
				5.30	0.00			1.90	0.10	19.8	2.00	0.00			
				6.00	0.00			1.90	0.10	19.8	2.00	0.00			
				6.30	0.00			1.90	0.10	19.8	2.00	0.00			
WS13	444078.6	117636.3	01/12/2016	0	0.00	1027	-0.06	21.20	7.70	1.00	>>	1.00	4.2	4.38	-
				30	0.00			21.40	7.70	0.00	>>	1.00			
				1.00	0.00			21.60	7.70	0.20	>>	1.00			
				1.30	0.00			21.70	7.70	0.10	>>	1.00			
				2.00	0.00			21.80	7.70	0.10	>>	1.00			
				2.30	0.00			22.00	7.70	0.10	>>	1.00			
				3.00	0.00			21.10	7.50	0.10	>>	1.00			
				3.30	0.00			22.20	7.30	0.10	>>	1.00			
				4.00	0.00			22.30	7.20	0.00	>>	1.00			
				4.30	0.00			22.30	7.10	0.00	>>	1.00			
				5.00	0.00			22.30	7.10	0.00	>>	1.00			
				5.30	0.00			22.30	7.00	0.00	>>	1.00			
				6.00	0.00			22.30	7.00	0.00	>>	1.00			
				6.30	0.00			22.30	7.00	0.00	>>	1.00			
WS14	444199.7	117907.6	01/12/2016	0	0.00	1027	-0.06	1.30	0.10	20.7	1.00	0.00	2.08	3.05	-
				30	0.00			1.30	0.10	20.5	1.00	0.00			
				1.00	0.00			1.30	0.10	20.5	1.00	0.00			
				1.30	0.00			1.30	0.10	20.5	1.00	0.00			
				2.00	0.00			1.40	0.10	20.5	1.00	0.00			
				2.30	0.00			1.40	0.10	20.5	1.00	0.00			
				3.00	0.00			1.40	0.10	20.5	1.00	0.00			
				3.30	0.00			1.40	0.10	20.5	1.00	0.00			
				4.00	0.00			1.40	0.10	20.5	1.00	0.00			
				4.30	0.00			1.40	0.10	20.5	1.00	0.00			
				5.00	0.00			1.40	0.10	20.5	1.00	0.00			
				5.30	0.00			1.40	0.10	20.5	1.00	0.00			
				6.00	0.00			1.40	0.10	20.5	1.00	0.00			
				6.30	0.00			1.40	0.10	20.5	1.00	0.00			
WS15	444204.9	117857.8	01/12/2016	0	0.00	1027	-0.05	1.30	0.10	21.1	1.00	0.00	1.6	2.51	-
				30	0.00			1.20	0.10	21.1	1.00	0.00			
				1.00	0.00			1.10	0.10	21.2	1.00	0.00			
				1.30	0.00			1.10	0.10	21.2	1.00	0.00			
				2.00	0.00			1.10	0.10	21.2	1.00	0.00			
				2.30	0.00			1.10	0.10	21.2	1.00	0.00			
				3.00	0.00			1.10	0.10	21.2	1.00	0.00			
				3.30	0.00			1.10	0.10	21.2	1.00	0.00			
				4.00	0.00			1.10	0.10	21.2	1.00	0.00			
				4.30	0.00			1.10	0.10	21.2	1.00	0.00			
				5.00	0.00			1.10	0.10	21.2	1.00	0.00			
				5.30	0.00			1.10	0.10	21.2	1.00	0.00			
				6.00	0.00			1.10	0.10	21.2	1.00	0.00			
				6.30	0.00			1.10	0.10	21.2	1.00	0.00			
				0	0.00			1.50	0.10	20.4	2.00	0.00			
				30	0.00			1.50	0.10	20.5	2.00	0.00			
				1.00	0.00			1.50	0.10	20.5	2.00	0.00			
				1.30	0.00			1.60	0.10	20.5	2.00	0.00			

GAS AND GROUNDWATER LEVELS
Client: Highwood Land LLP
Site: Stoneham - Land at Chestnut Avenue, Eastleigh
Job Number: 61033023-002

Borehole no.	X	Y	Date	Time (sec)	Gas Flow (ltr/hr)	Barometric Pressure (mb)	Relative Pressure (mb)	Carbon dioxide (%)	Methane (%)	Oxygen (%)	CH_4 LEL (%)	Hydrogen sulphide (ppm)	Water level (mbgl)	Base of borehole	Remarks
WS16	444180.0	117752.7	01/12/2016	2.00	0.00	1027	-0.06	1.60	0.10	20.5	2.00	0.00	Dry	1.28	-
				2.30	0.00			1.60	0.10	20.5	2.00	0.00			
				3.00	0.00			1.60	0.10	20.5	2.00	0.00			
				3.30	0.00			1.60	0.10	20.5	2.00	0.00			
				4.00	0.00			1.60	0.10	20.5	2.00	0.00			
				4.30	0.00			1.60	0.10	20.5	2.00	0.00			
				5.00	0.00			1.60	0.10	20.5	2.00	0.00			
				5.30	0.00			1.60	0.10	20.5	2.00	0.00			
				6.00	0.00			1.60	0.10	20.5	2.00	0.00			
				6.30	0.00			1.60	0.10	20.5	2.00	0.00			
WS17	444137.2	117671.5	01/12/2016	0	0.00	1027	-0.06	0.60	0.10	20.7	2.00	0.00	DRY	3.00	-
				30	0.00			2.90	0.10	19.6	2.00	0.00			
				1.00	0.00			2.90	0.10	19.3	2.00	0.00			
				1.30	0.00			2.90	0.10	19.2	2.00	0.00			
				2.00	0.00			2.90	0.10	19.2	2.00	0.00			
				2.30	0.00			2.90	0.10	19.2	2.00	0.00			
				3.00	0.00			3.10	0.10	19.1	2.00	0.00			
				3.30	0.00			3.30	0.10	19.0	2.00	0.00			
				4.00	0.00			3.40	0.10	18.9	2.00	0.00			
				4.30	0.00			3.70	0.10	18.8	2.00	0.00			
				5.00	0.00			3.70	0.10	18.8	2.00	0.00			
				5.30	0.00			3.80	0.10	18.7	2.00	0.00			
				6.00	0.00			3.90	0.10	18.7	2.00	0.00			
				6.30	0.00			3.90	0.10	18.7	2.00	0.00			
WS18	444099.4	117503.3	01/12/2016	0	0.00	1027	-0.08	1.60	0.20	18.7	2.00	0.00	DRY	2.92	-
				30	0.00			1.70	0.20	19.0	2.00	0.00			
				1.00	0.00			1.80	0.10	20.1	2.00	0.00			
				1.30	0.00			2.00	0.10	20.0	2.00	0.00			
				2.00	0.00			2.10	0.10	20.0	2.00	0.00			
				2.30	0.00			2.10	0.10	19.8	2.00	0.00			
				3.00	0.00			2.30	0.10	19.8	2.00	0.00			
				3.30	0.00			2.40	0.10	19.8	2.00	0.00			
				4.00	0.00			2.40	0.10	19.8	2.00	0.00			
				4.30	0.00			2.50	0.10	19.8	2.00	0.00			
				5.00	0.00			2.50	0.10	19.8	2.00	0.00			
				5.30	0.00			2.50	0.10	19.8	2.00	0.00			
				6.00	0.00			2.50	0.10	19.8	2.00	0.00			
				6.30	0.00			2.50	0.10	19.8	2.00	0.00			
WS19	444059.8	117383.1	01/12/2016	0	0.00	1027	-0.08	0.40	0.10	18.9	2.00	0.00	1.3	1.47	-
				30	0.00			0.80	0.10	19.8	2.00	0.00			
				1.00	0.00			1.20	0.10	19.0	2.00	0.00			
				1.30	0.00			1.40	0.10	18.7	2.00	0.00			
				2.00	0.00			1.40	0.10	18.5	2.00	0.00			
				2.30	0.00			1.40	0.10	18.4	2.00	0.00			
				3.00	0.00			1.40	0.10	18.5	2.00	0.00			
				3.30	0.00			1.00	0.10	19.0	2.00	0.00			
				4.00	0.00			1.00	0.10	19.4	2.00	0.00			
				4.30	0.00			1.00	0.10	19.5	2.00	0.00			
				5.00	0.00			1.00	0.10	19.5	2.00	0.00			
				5.30	0.00			1.00	0.10	19.5	2.00	0.00			
				6.00	0.00			1.00	0.10	19.5	2.00	0.00			
				6.30	0.00			1.00	0.10	19.5	2.00	0.00			
WS20	444019.6	117577.9	01/12/2016	0	0.00	1026	-0.06	3.80	0.10	16.3	2.00	0.00	DRY	4.97	-
				30	0.00			3.80	0.10	15.8	2.00	0.00			
				1.00	0.00			3.80	0.10	15.6	2.00	0.00			
				1.30	0.00			3.80	0.10	15.7	2.00	0.00			
				2.00	0.00			3.80	0.10	15.7	2.00	0.00			
				2.30	0.00			3.80	0.10	15.9	2.00	0.00			
				3.00	0.00			3.80	0.10	15.9	2.00	0.00			
				3.30	0.00			3.20	0.10	16.6	2.00	0.00			
				4.00	0.00			3.10	0.10	16.8	2.00	0.00			
				4.30	0.00			3.00	0.10	16.9	2.00	0.00			
				5.00	0.00			2.90	0.10	17.1	2.00	0.00			
				5.30	0.00			2.80	0.10	17.3	2.00	0.00			
				6.00	0.00			2.70	0.10	17.6	2.00	0.00			
				6.30	0.00			2.60	0.10	17.7	2.00	0.00			
WS21	443590.6	117728.0	01/12/2016	0	0.00	1026	-0.06	1.50	0.10	20	2.00	0.00	1.43	2.09	-
				30	0.00			1.60	0.10	19.8	2.00	0.00			
				1.00	0.00			1.60	0.10	19.7	2.00	0.00			
				1.30	0.00			1.60	0.10	19.7	2.00	0.00			
				2.00	0.00			1.60	0.10	19.7	2.00	0.00			
				2.30	0.00			1.60	0.10	19.7	2.00	0.00			
				3.00	0.00			1.60	0.10	19.7	2.00	0.00			
				3.30	0.00			1.60	0.10	19.7	2.00	0.00			
				4.00	0.00			1.60	0.10	19.7	2.00	0.00			
				4.30	0.00			1.60	0.10	19.7	2.00	0.00			
				5.00	0.00			1.60	0.10	19.7	2.00	0.00			
				5.30	0.00			1.60	0.10	19.7	2.00	0.00			
				6.00	0.00			1.60	0.10	19.7	2.00	0.00			
				6.30	0.00			1.60	0.10	19.7	2.00	0.00			
WS22	443330.2	117824.0		-	-	-	-	-	-	-	-	-	-	-	LOST
WS23	443494.8	118018.5	01/12/2016	0	0.00			4.90	0.10	17.5	2.00	0.00	2.24	2.83	-
				30	0.00			5.20	0.10	16	2.00	0.00			
				1.00	0.00			5.20	0.10	15.8	2.00	0.00			
				1.30	0.00			5.20	0.10	12.9	2.00	0.00			
				2.00	0.00			5.20	0.10	12.9	2.00	0.00			
				2.30	0.00			5.20	0.10	12.9	2.00	0.00			
				3.00	0.00			5.20	0.10	12.9	2.00	0.00			
				3.30	0.00			5.20	0.10	12.9	2.00	0.00			

GAS AND GROUNDWATER LEVELS
Client: Highwood Land LLP
Site: Stoneham - Land at Chestnut Avenue, Eastleigh
Job Number: 61033023-002

Borehole no.	X	Y	Date	Time (sec)	Gas Flow (ltr/hr)	Barometric Pressure (mb)	Relative Pressure (mb)	Carbon dioxide (%)	Methane (%)	Oxygen (%)	CH_4 LEL (%)	Hydrogen sulphide (ppm)	Water level (mbgl)	Base of borehole	Remarks
				4.00	0.00			5.20	0.10	12.8	2.00	0.00			
				4.30	0.00			5.20	0.10	12.8	2.00	0.00			
				5.00	0.00			5.20	0.10	12.8	2.00	0.00			
				5.30	0.00			5.20	0.10	12.8	2.00	0.00			
				6.00	0.00			5.20	0.10	12.8	2.00	0.00			
				6.30	0.00			5.20	0.10	12.8	2.00	0.00			
WS24	443323.5	117659.4	02/12/2016	0	0.00	1021	0.1	4.00	0.10	14.2	1.00	0.00	1.14	2.33	-
				30	0.00			4.00	0.10	14.2	1.00	0.00			
				1.00	0.00			4.00	0.10	14.1	1.00	0.00			
				1.30	0.00			4.00	0.10	14.1	1.00	0.00			
				2.00	0.00			4.00	0.10	14.3	1.00	0.00			
				2.30	0.00			4.00	0.10	14.5	1.00	0.00			
				3.00	0.00			4.00	0.10	14.5	1.00	0.00			
				3.30	0.00			4.00	0.10	14.5	1.00	0.00			
				4.00	0.00			4.00	0.10	14.5	1.00	0.00			
				4.30	0.00			4.00	0.10	14.5	1.00	0.00			
				5.00	0.00			4.00	0.10	14.5	1.00	0.00			
				5.30	0.00			4.00	0.10	14.5	1.00	0.00			
				6.00	0.00			4.00	0.10	14.5	1.00	0.00			
				6.30	0.00			4.00	0.10	14.5	1.00	0.00			
WS25	443366.7	117652.2	02/12/2016	0	0.10	1021	0.1	1.10	0.10	11.6	2.00	0.00	1.15	4.54	-
				30	0.20			1.10	0.10	12.7	2.00	0.00			
				1.00	0.20			1.20	0.10	14	2.00	0.00			
				1.30	0.30			1.30	0.10	16.4	2.00	0.00			
				2.00	0.30			2.80	0.10	16	2.00	0.00			
				2.30	0.30			3.00	0.10	16.1	2.00	0.00			
				3.00	0.30			2.80	0.10	16.2	2.00	0.00			
				3.30	0.30			3.00	0.10	16.3	2.00	0.00			
				4.00	0.30			3.80	0.10	16.5	2.00	0.00			
				4.30	0.30			3.90	0.10	16.7	2.00	0.00			
				5.00	0.30			3.80	0.10	16.7	2.00	0.00			
				5.30	0.30			3.80	0.10	16.7	2.00	0.00			
				6.00	0.30			3.60	0.10	16.7	2.00	0.00			
				6.30	0.30			3.50	0.10	16.7	2.00	0.00			
WS26	443611.0	117852.5	01/12/2016	0	0.00	1027	-0.08	3.70	0.10	14.3	2.00	0.00	1.8	1.92	-
				30	0.00			1.90	0.10	18.5	2.00	0.00			
				1.00	0.00			1.90	0.10	19.6	2.00	0.00			
				1.30	0.00			1.90	0.10	19.7	2.00	0.00			
				2.00	0.00			2.00	0.10	19.7	2.00	0.00			
				2.30	0.00			2.10	0.10	19.7	2.00	0.00			
				3.00	0.00			2.20	0.10	19.6	2.00	0.00			
				3.30	0.00			2.20	0.10	19.5	2.00	0.00			
				4.00	0.00			2.40	0.10	19.5	2.00	0.00			
				4.30	0.00			2.40	0.10	19.5	2.00	0.00			
				5.00	0.00			2.50	0.10	19.5	2.00	0.00			
				5.30	0.00			2.50	0.10	19.5	2.00	0.00			
				6.00	0.00			2.50	0.10	19.5	2.00	0.00			
				6.30	0.00			2.50	0.10	19.5	2.00	0.00			
WS27	444125.7	117644.6	-	-	-	-	-	-	-	-	-	-	-	-	LOST
WS28	444180.5	117657.7	-	-	-	-	-	-	-	-	-	-	-	-	LOST
WS29	444069.0	117842.5	01/12/2016	0	0.00	1027	-0.06	1.90	0.10	20.3	1.00	0.00	3.43	5.07	-
				30	0.00			2.00	0.10	19.7	1.00	0.00			
				1.00	0.00			2.00	0.10	19.6	1.00	0.00			
				1.30	0.00			2.00	0.10	19.6	1.00	0.00			
				2.00	0.00			2.00	0.10	19.6	1.00	0.00			
				2.30	0.00			2.00	0.10	19.6	1.00	0.00			
				3.00	0.00			2.00	0.10	19.6	2.00	0.00			
				3.30	0.00			2.00	0.10	19.6	2.00	0.00			
				4.00	0.00			2.00	0.10	19.6	2.00	0.00			
				4.30	0.00			2.00	0.10	19.6	2.00	0.00			
				5.00	0.00			2.00	0.10	19.6	2.00	0.00			
				5.30	0.00			2.00	0.10	19.6	2.00	0.00			
				6.00	0.00			2.00	0.10	19.6	2.00	0.00			
				6.30	0.00			2.00	0.10	19.6	2.00	0.00			

GAS AND GROUNDWATER LEVELS
Client: Highwood Land LLP
Site: Stoneham - Land at Chestnut Avenue, Eastleigh
Job Number: 61033023-002

Borehole no.	X	Y	Date	Time (sec)	Gas Flow (ltr/hr)	Barometric Pressure (mb)	Relative Pressure (mb)	Carbon dioxide (%)	Methane (%)	Oxygen (%)	CH_4 LEL (%)	Hydrogen sulphide (ppm)	Water level (mbgl)	Base of borehole	Remarks
CP01	443494.3	118332.1	07/12/2016	0	0.00	1022	0.02	1.80	0.10	19.7	1.00	0.00	2.03	15.30	-
				30	0.00			1.80	0.10	19.8	1.00	0.00			
				1.00	0.00			1.80	0.10	19.8	1.00	0.00			
				1.30	0.00			1.80	0.10	19.7	1.00	0.00			
				2.00	0.00			1.80	0.10	19.7	1.00	0.00			
				2.30	0.00			1.80	0.10	19.7	1.00	0.00			
				3.00	0.00			1.80	0.10	19.7	1.00	0.00			
				3.30	0.00			1.80	0.10	19.7	1.00	0.00			
				4.00	0.00			1.80	0.10	19.7	1.00	0.00			
				4.30	0.00			1.80	0.10	19.7	1.00	0.00			
				5.00	0.00			1.80	0.10	19.7	1.00	0.00			
				5.30	0.00			1.80	0.10	19.7	1.00	0.00			
				6.00	0.00			1.80	0.10	19.7	1.00	0.00			
				6.30	0.00			1.80	0.10	19.7	1.00	0.00			
CP02	443699.0	118096.3	07/12/2016	0	0.00	1022	0.08	0.60	0.10	19.9	1.00	0.00	1.62	8.97	-
				30	0.00			3.60	0.10	13.5	1.00	0.00			
				1.00	0.00			3.60	0.10	13.4	1.00	0.00			
				1.30	0.00			3.60	0.10	13.4	1.00	0.00			
				2.00	0.00			3.60	0.10	13.4	1.00	0.00			
				2.30	0.00			3.60	0.10	13.4	1.00	0.00			
				3.00	0.00			3.60	0.10	13.4	1.00	0.00			
				3.30	0.00			3.60	0.10	13.4	1.00	0.00			
				4.00	0.00			3.60	0.10	13.4	1.00	0.00			
				4.30	0.00			3.60	0.10	13.4	1.00	0.00			
				5.00	0.00			3.60	0.10	13.4	1.00	0.00			
				5.30	0.00			3.60	0.10	-	1.00	0.00			
				6.00	0.00			3.60	0.10	13.4	1.00	0.00			
				6.30	0.00			3.60	0.10	13.4	1.00	0.00			
CP03	444164.7	117892.6	07/12/2016	0	0.00	1023	0.03	1.50	0.10	19.3	1.00	0.00	2.69	10.65	-
				30	0.00			3.20	0.10	17.3	1.00	0.00			
				1.00	0.00			3.20	0.10	17.5	1.00	0.00			
				1.30	0.00			3.20	0.10	17.5	1.00	0.00			
				2.00	0.00			3.20	0.10	17.5	1.00	0.00			
				2.30	0.00			3.20	0.10	17.5	1.00	0.00			
				3.00	0.00			3.20	0.10	17.5	1.00	0.00			
				3.30	0.00			3.20	0.10	17.5	1.00	0.00			
				4.00	0.00			3.20	0.10	17.5	1.00	0.00			
				4.30	0.00			3.20	0.10	17.5	1.00	0.00			
				5.00	0.00			3.20	0.10	17.5	1.00	0.00			
				5.30	0.00			3.20	0.10	17.5	1.00	0.00			
				6.00	0.00			3.20	0.10	17.5	1.00	0.00			
				6.30	0.00			3.20	0.10	17.5	1.00	0.00			
CP04	444196.1	117677.8	07/12/2016	0	0.00	1023	0.04	1.40	0.10	20	2.00	0.00	2.18	9.52	-
				30	0.00			1.40	0.10	20	2.00	0.00			
				1.00	0.00			1.40	0.10	20	2.00	0.00			
				1.30	0.00			1.40	0.10	20	2.00	0.00			
				2.00	0.00			1.40	0.10	20.1	2.00	0.00			
				2.30	0.00			1.40	0.10	20.1	2.00	0.00			
				3.00	0.00			1.40	0.10	20.1	2.00	0.00			
				3.30	0.00			1.40	0.10	20.1	2.00	0.00			
				4.00	0.00			1.40	0.10	20.1	2.00	0.00			
				4.30	0.00			1.40	0.10	20.1	2.00	0.00			
				5.00	0.00			1.40	0.10	20.1	2.00	0.00			
				5.30	0.00			1.40	0.10	20.1	2.00	0.00			
				6.00	0.00			1.40	0.10	20.1	2.00	0.00			
				6.30	0.00			1.40	0.10	20.1	2.00	0.00			
CP05	444084.5	117586.2	07/12/2016	0	0.00	1023	0.01	3.30	0.10	17.4	2.00	0.00	4.34	18.67	-
				30	0.00			3.30	0.10	17.8	2.00	0.00			
				1.00	0.00			3.40	0.10	17.8	2.00	0.00			
				1.30	0.00			3.40	0.10	17.8	1.00	0.00			
				2.00	0.00			3.40	0.10	17.8	1.00	0.00			
				2.30	0.00			3.40	0.10	17.8	1.00	0.00			
				3.00	0.00			3.40	0.10	17.8	1.00	0.00			
				3.30	0.00			3.50	0.10	17.8	1.00	0.00			
				4.00	0.00			3.50	0.10	17.8	1.00	0.00			
				4.30	0.00			3.50	0.10	17.8	1.00	0.00			
				5.00	0.00			3.50	0.10	17.8	1.00	0.00			
				5.30	0.00			3.50	0.10	17.8	1.00	0.00			
				6.00	0.00			3.50	0.10	17.8	1.00	0.00			
				6.30	0.00			3.50	0.10	17.8	1.00	0.00			
CP06	444141.0	117595.1	07/12/2016	0	0.00	1033	0.02	0.90	0.10	20.4	1.00	0.00	3.48	19.80	-
				30	0.00			0.30	0.10	20.9	1.00	0.00			
				1.00	0.00			0.30	0.10	21.0	1.00	0.00			
				1.30	0.00			0.30	0.10	21.0	1.00	0.00			
				2.00	0.00			0.30	0.10	21.0	1.00	0.00			
				2.30	0.00			0.30	0.10	21.0	1.00	0.00			
				3.00	0.00			0.30	0.10	21.0	1.00	0.00			
				3.30	0.00			0.30	0.10	21.1	1.00	0.00			
				4.00	0.00			0.30	0.10	21.1	1.00	0.00			
				4.30	0.00			0.30	0.10	21.1	1.00	0.00			
				5.00	0.00			0.30	0.10	21.1	1.00	0.00			
				5.30	0.00			0.30	0.10	21.1	1.00	0.00			
				6.00	0.00			0.30	0.10	21.1	1.00	0.00			
				6.30	0.00			0.30	0.10	21.1	1.00	0.00			
				0	0.00			0.10	0.10	20.3	2.00	0.00			
				30	0.00			0.20	0.10	20.9	2.00	0.00			
				1.00	0.00			0.30	0.10	20.9	2.00	0.00			
				1.30	0.00			0.50	0.10	20.6	2.00	0.00			
				2.00	0.00			0.90	0.10	20.6	2.00	0.00			
				2.30	0.00			1.00	0.10	20.5	1.00	0.00			

GAS AND GROUNDWATER LEVELS
Client: Highwood Land LLP
Site: Stoneham - Land at Chestnut Avenue, Eastleigh
Job Number: 61033023-002

Borehole no.	X	Y	Date	Time (sec)	Gas Flow (ltr/hr)	Barometric Pressure (mb)	Relative Pressure (mb)	Carbon dioxide (%)	Methane (%)	Oxygen (%)	CH_4 LEL (%)	Hydrogen sulphide (ppm)	Water level (mbgl)	Base of borehole	Remarks
CP07a	444153.6	117542.3	07/12/2016	3.00	0.00	1023	0.03	1.20	0.10	20.4	1.00	0.00	3.47	12.2	-
				3.30	0.00			1.20	0.10	20.5	1.00	0.00			
				4.00	0.00			1.20	0.10	20.5	1.00	0.00			
				4.30	0.00			1.20	0.10	20.4	1.00	0.00			
				5.00	0.00			1.20	0.10	20.5	1.00	0.00			
				5.30	0.00			1.20	0.10	20.5	1.00	0.00			
				6.00	0.00			1.20	0.10	20.5	1.00	0.00			
				6.30	0.00			1.20	0.10	20.5	1.00	0.00			
CP08	443978.1	117470.7	07/12/2016	0	0.00	1023	0.01	0.30	0.10	20.8	1.00	0.00	5.9	12.6	-
				30	0.00			0.30	0.10	20.8	1.00	0.00			
				1.00	0.00			0.30	0.10	20.9	1.00	0.00			
				1.30	0.00			0.30	0.10	20.9	1.00	0.00			
				2.00	0.00			0.30	0.10	20.9	1.00	0.00			
				2.30	0.00			0.30	0.10	20.9	1.00	0.00			
				3.00	0.00			0.30	0.10	20.9	1.00	0.00			
				3.30	0.00			0.30	0.10	20.9	1.00	0.00			
				4.00	0.00			0.30	0.10	20.9	1.00	0.00			
				4.30	0.00			0.30	0.10	20.9	1.00	0.00			
				5.00	0.00			0.30	0.10	20.9	1.00	0.00			
				5.30	0.00			0.30	0.10	20.9	1.00	0.00			
				6.00	0.00			0.30	0.10	20.9	1.00	0.00			
				6.30	0.00			0.30	0.10	20.9	1.00	0.00			
CP09	443832.6	117748.4	07/12/2016	0	0.00	1022	0	1.40	0.10	19.5	1.00	0.00	2.92	8.3	-
				30	0.00			1.70	0.10	19.7	1.00	0.00			
				1.00	0.00			1.80	0.10	19.6	1.00	0.00			
				1.30	0.00			1.80	0.10	19.6	1.00	0.00			
				2.00	0.00			1.80	0.10	19.6	1.00	0.00			
				2.30	0.00			1.80	0.10	19.6	1.00	0.00			
				3.00	0.00			1.80	0.10	19.6	1.00	0.00			
				3.30	0.00			1.80	0.10	19.6	1.00	0.00			
				4.00	0.00			1.80	0.10	19.6	1.00	0.00			
				4.30	0.00			1.80	0.10	19.6	1.00	0.00			
				5.00	0.00			1.80	0.10	19.6	1.00	0.00			
				5.30	0.00			1.80	0.10	19.6	1.00	0.00			
				6.00	0.00			1.80	0.10	19.6	1.00	0.00			
				6.30	0.00			1.80	0.10	19.6	1.00	0.00			
CP10	443337.5	117714.9	-	-	-	-	-	-	-	-	-	-	-	-	LOST
CP11	443281.3	117924.9	07/12/2016	0	1.10	1022	0.02	1.90	0.10	14.1	2.00	0.00	1.54	16.97	-
				30	1.10			1.70	0.10	16.3	2.00	0.00			
				1.00	0.00			1.70	0.10	16.4	2.00	0.00			
				1.30	0.00			1.70	0.10	16.4	2.00	0.00			
				2.00	0.00			1.60	0.10	16.6	2.00	0.00			
				2.30	0.00			1.60	0.10	16.5	2.00	0.00			
				3.00	0.00			1.60	0.10	16.5	2.00	0.00			
				3.30	0.00			1.60	0.10	16.5	2.00	0.00			
				4.00	0.00			1.60	0.10	16.5	2.00	0.00			
				4.30	0.00			1.60	0.10	16.5	2.00	0.00			
				5.00	0.00			1.60	0.10	16.5	2.00	0.00			
				5.30	0.00			1.60	0.10	16.5	2.00	0.00			
				6.00	0.00			1.60	0.10	16.5	2.00	0.00			
				6.30	0.00			1.60	0.10	16.5	2.00	0.00			
CP12	443690.1	117977.5	07/12/2016	0	0.00	1022	0	1.90	0.10	19.3	1.00	0.00	3	8.7	-
				30	0.00			3.00	0.10	18	1.00	0.00			
				1.00	0.00			3.00	0.10	17.8	1.00	0.00			
				1.30	0.00			3.00	0.10	17.8	1.00	0.00			
				2.00	0.00			3.00	0.10	17.8	1.00	0.00			
				2.30	0.00			3.00	0.10	17.8	1.00	0.00			
				3.00	0.00			3.00	0.10	17.8	1.00	0.00			
				3.30	0.00			3.00	0.10	17.8	1.00	0.00			
				4.00	0.00			3.00	0.10	17.8	1.00	0.00			
				4.30	0.00			3.00	0.10	17.8	1.00	0.00			
				5.00	0.00			3.00	0.10	17.8	1.00	0.00			
				5.30	0.00			3.00	0.10	17.8	1.00	0.00			
				6.00	0.00			3.00	0.10	17.8	1.00	0.00			
				6.30	0.00			3.00	0.10	17.8	1.00	0.00			
CP13	444151.3	118076.0	07/12/2016	0	0.00	1022	0.13	3.90	0.10	17.0	2.00	0.00	2.22	10.35	-
				30	0.00			3.90	0.10	18.3	2.00	0.00			
				1.00	0.00			3.90	0.10	18.3	2.00	0.00			
				1.30	0.00			3.90	0.10	18.3	2.00	0.00			
				2.00	0.00			3.90	0.10	18.3	2.00	0.00			
				2.30	0.00			3.90	0.10	18.4	2.00	0.00			
				3.00	0.00			3.90	0.10	18.4	2.00	0.00			
				3.30	0.00			3.90	0.10	18.4	2.00	0.00			
				4.00	0.00			3.90	0.10	18.4	2.00	0.00			
				4.30	0.00			3.90	0.10	18.4	2.00	0.00			
				5.00	0.00			3.90	0.10	18.4	2.00	0.00			
				5.30	0.00			3.90	0.10	18.4	2.00	0.00			
				6.00	0.00			3.90	0.10	18.4	2.00	0.00			
				6.30	0.00			3.90	0.10	18.4	2.00	0.00			
WS01	443557.5	118286.4	07/12/2016	0	0.00	1022	0.01	1.60	0.10	19.9	2.00	0.00	1.28	5.16	-
				30	0.00			0.90	0.10	20.4	2.00	0.00			
				1.00	0.00			0.90	0.10	20.4	2.00	0.00			
				1.30	0.00			0.90	0.10	20.4	2.00	0.00			
				2.00	0.00			0.90	0.10	20.4	2.00	0.00			
				2.30	0.00			0.90	0.10	20.4	2.00	0.00			
				3.00	0.00			0.90	0.10	20.4	2.00	0.00			
				3.30	0.00			0.90	0.10	20.4	2.00	0.00			
				4.00	0.00			0.90	0.10	20.4	2.00	0.00			
				4.30	0.00			0.90	0.10	20.4	2.00	0.00			

GAS AND GROUNDWATER LEVELS
Client: Highwood Land LLP
Site: Stoneham - Land at Chestnut Avenue, Eastleigh
Job Number: 61033023-002

Borehole no.	X	Y	Date	Time (sec)	Gas Flow (ltr/hr)	Barometric Pressure (mb)	Relative Pressure (mb)	Carbon dioxide (%)	Methane (%)	Oxygen (%)	CH_4 LEL (%)	Hydrogen sulphide (ppm)	Water level (mbgl)	Base of borehole	Remarks
				5.00	0.00			0.90	0.10	20.4	2.00	0.00			
				5.30	0.00			0.90	0.10	20.4	2.00	0.00			
				6.00	0.00			0.90	0.10	20.4	2.00	0.00			
				6.30	0.00			0.90	0.10	20.4	2.00	0.00			
WS02	443658.6	118114.9	07/12/2016	0	0.00	1022	0.01	0.1	0.10	10.80	1.00	0.00	1.53	5.06	-
				30	0.00			6.5	0.10	3.60	2.00	0.00			
				1.00	0.00			6.7	0.10	3.10	2.00	0.00			
				1.30	0.00			6.7	0.10	3.00	1.00	0.00			
				2.00	0.00			6.7	0.10	3.00	1.00	0.00			
				2.30	0.00			6.8	0.10	2.90	1.00	0.00			
				3.00	0.00			6.8	0.10	3.00	1.00	0.00			
				3.30	0.00			6.8	0.10	3.20	1.00	0.00			
				4.00	0.00			6.8	0.10	3.90	1.00	0.00			
				4.30	0.00			6.8	0.10	4.20	1.00	0.00			
				5.00	0.00			6.7	0.10	5.20	1.00	0.00			
				5.30	0.00			6.5	0.10	6.00	1.00	0.00			
				6.00	0.00			6.4	0.10	6.60	1.00	0.00			
				6.30	0.00			6.4	0.10	6.60	1.00	0.00			
WS03	443738.0	118064.9	07/12/2016	0	0.00	1022	0.08	3.40	0.10	14.2	1.00	0.00	1.63	5.08	-
				30	0.00			1.90	0.10	17.2	1.00	0.00			
				1.00	0.00			1.90	0.10	17.3	1.00	0.00			
				1.30	0.00			1.90	0.10	17.3	1.00	0.00			
				2.00	0.00			1.90	0.10	17.3	1.00	0.00			
				2.30	0.00			1.90	0.10	17.3	1.00	0.00			
				3.00	0.00			1.90	0.10	17.3	1.00	0.00			
				3.30	0.00			1.90	0.10	17.3	1.00	0.00			
				4.00	0.00			1.90	0.10	17.3	1.00	0.00			
				4.30	0.00			1.90	0.10	17.3	1.00	0.00			
				5.00	0.00			1.90	0.10	17.3	1.00	0.00			
				5.30	0.00			1.90	0.10	17.3	1.00	0.00			
				6.00	0.00			1.90	0.10	17.3	1.00	0.00			
				6.30	0.00			1.90	0.10	17.3	1.00	0.00			
WS04	443834.3	117972.8	07/12/2016	0	0.00	1022	0	1.30	0.10	19.0	1.00	0.00	2.34	5.08	-
				30	0.00			1.40	0.10	19.8	1.00	0.00			
				1.00	0.00			1.70	0.10	19.7	1.00	0.00			
				1.30	0.00			1.80	0.10	19.5	1.00	0.00			
				2.00	0.00			1.90	0.10	19.4	1.00	0.00			
				2.30	0.00			1.90	0.10	19.5	1.00	0.00			
				3.00	0.00			1.90	0.10	19.5	1.00	0.00			
				3.30	0.00			1.90	0.10	19.5	1.00	0.00			
				4.00	0.00			1.90	0.10	19.5	1.00	0.00			
				4.30	0.00			1.90	0.10	19.5	1.00	0.00			
				5.00	0.00			1.90	0.10	19.5	1.00	0.00			
				5.30	0.00			1.90	0.10	19.5	1.00	0.00			
				6.00	0.00			1.90	0.10	19.5	1.00	0.00			
				6.30	0.00			1.90	0.10	19.5	1.00	0.00			
WS05	443335.3	118231.7	07/12/2016	0	0.00	1022	0.01	1.50	0.10	19.2	2.00	0.00	2.41	4.8	-
				30	0.00			1.50	0.10	19.6	2.00	0.00			
				1.00	0.00			1.60	0.10	19.6	2.00	0.00			
				1.30	0.00			1.70	0.10	19.5	2.00	0.00			
				2.00	0.00			1.70	0.10	19.5	2.00	0.00			
				2.30	0.00			1.70	0.10	19.5	2.00	0.00			
				3.00	0.00			1.70	0.10	19.5	2.00	0.00			
				3.30	0.00			1.70	0.10	19.5	2.00	0.00			
				4.00	0.00			1.70	0.10	19.5	2.00	0.00			
				4.30	0.00			1.70	0.10	19.5	2.00	0.00			
				5.00	0.00			1.70	0.10	19.5	2.00	0.00			
				5.30	0.00			1.70	0.10	19.5	2.00	0.00			
				6.00	0.00			1.70	0.10	19.5	2.00	0.00			
				6.30	0.00			1.70	0.10	19.5	2.00	0.00			
WS06	443631.7	117754.4	07/12/2016	0	0.00	1022	0.01	1.80	0.10	19.5	1.00	0.00	0.83	1.58	-
				30	0.00			4.00	0.10	14.0	1.00	0.00			
				1.00	0.00			4.00	0.10	14.0	1.00	0.00			
				1.30	0.00			4.00	0.10	14.0	1.00	0.00			
				2.00	0.00			4.00	0.10	14.0	1.00	0.00			
				2.30	0.00			4.00	0.10	14.0	1.00	0.00			
				3.00	0.00			4.00	0.10	14.0	1.00	0.00			
				3.30	0.00			4.00	0.10	14.0	1.00	0.00			
				4.00	0.00			4.00	0.10	14.0	1.00	0.00			
				4.30	0.00			4.00	0.10	14.0	1.00	0.00			
				5.00	0.00			4.00	0.10	14.0	1.00	0.00			
				5.30	0.00			4.00	0.10	14.0	1.00	0.00			
				6.00	0.00			4.00	0.10	14.0	1.00	0.00			
				6.30	0.00			4.00	0.10	14.0	1.00	0.00			
WS07	443880.0	117699.0	07/12/2016	0	0.00	1022	0.01	2.70	0.10	18.4	1.00	0.00	2.38	3.14	-
				30	0.00			2.80	0.10	18.2	1.00	0.00			
				1.00	0.00			2.80	0.10	18.1	1.00	0.00			
				1.30	0.00			2.80	0.10	18.1	1.00	0.00			
				2.00	0.00			2.80	0.10	18.1	1.00	0.00			
				2.30	0.00			2.80	0.10	18.1	1.00	0.00			
				3.00	0.00			2.80	0.10	18.1	1.00	0.00			
				3.30	0.00			2.80	0.10	18.1	1.00	0.00			
				4.00	0.00			2.80	0.10	18.1	1.00	0.00			
				4.30	0.00			2.80	0.10	18.1	1.00	0.00			
				5.00	0.00			2.80	0.10	18.1	1.00	0.00			
				5.30	0.00			2.80	0.10	18.1	1.00	0.00			
				6.00	0.00			2.80	0.10	18.1	1.00	0.00			
				6.30	0.00			2.80	0.10	18.1	1.00	0.00			
WS08	443890.2	117599.9	-	-	-	-	-	-	-	-	-	-	-	-	LOST

GAS AND GROUNDWATER LEVELS
Client: Highwood Land LLP
Site: Stoneham - Land at Chestnut Avenue, Eastleigh
Job Number: 61033023-002

Borehole no.	X	Y	Date	Time (sec)	Gas Flow (ltr/hr)	Barometric Pressure (mb)	Relative Pressure (mb)	Carbon dioxide (%)	Methane (%)	Oxygen (%)	CH_4 LEL (%)	Hydrogen sulphide (ppm)	Water level (mbgl)	Base of borehole	Remarks
WS09	444031.9	118065.2	07/12/2016	0	0.00	1022	0.13	4.60	0.10	16.1	2.00	0.00	DRY	3.3	-
				30	0.00			4.40	0.10	16.3	2.00	0.00			
				1.00	0.00			4.00	0.10	16.8	2.00	0.00			
				1.30	0.00			3.90	0.10	16.7	2.00	0.00			
				2.00	0.00			3.90	0.10	16.7	2.00	0.00			
				2.30	0.00			3.90	0.20	16.7	2.00	0.00			
				3.00	0.00			4.00	0.20	16.6	2.00	0.00			
				3.30	0.00			4.00	0.20	16.6	2.00	0.00			
				4.00	0.00			4.00	0.20	16.6	2.00	0.00			
				4.30	0.00			4.00	0.20	16.6	2.00	0.00			
				5.00	0.00			4.00	0.20	16.6	2.00	0.00			
				5.30	0.00			4.00	0.20	16.6	2.00	0.00			
				6.00	0.00			4.00	0.20	16.6	2.00	0.00			
				6.30	0.00			4.00	0.20	16.6	2.00	0.00			
WS10	444026.4	117921.8	07/12/2016	0	0.00	1007	0	2.00	0.20	19.5	3.00	0.00	2.46	3.32	-
				30	0.00			2.00	0.20	19.6	3.00	0.00			
				1.00	0.00			1.90	0.20	19.6	3.00	0.00			
				1.30	0.00			2.00	0.20	19.6	3.00	0.00			
				2.00	0.00			2.00	0.20	19.6	3.00	0.00			
				2.30	0.00			2.00	0.20	19.6	3.00	0.00			
				3.00	0.00			2.00	0.20	19.6	3.00	0.00			
				3.30	0.00			2.00	0.20	19.6	3.00	0.00			
				4.00	0.00			2.00	0.20	19.6	3.00	0.00			
				4.30	0.00			2.00	0.20	19.6	3.00	0.00			
				5.00	0.00			2.00	0.20	19.6	3.00	0.00			
				5.30	0.00			2.00	0.20	19.6	3.00	0.00			
				6.00	0.00			2.00	0.20	19.6	3.00	0.00			
				6.30	0.00			2.00	0.20	19.6	3.00	0.00			
WS11	444036.0	117860.7	07/12/2016	0	0.00	1007	0	2.70	0.20	19.8	3.00	0.00	4.89	4.9	-
				30	0.00			2.80	0.20	19.3	3.00	0.00			
				1.00	0.00			2.80	0.20	19.3	3.00	0.00			
				1.30	0.00			2.80	0.20	19.3	3.00	0.00			
				2.00	0.00			2.80	0.20	19.3	3.00	0.00			
				2.30	0.00			2.90	0.20	19.3	3.00	0.00			
				3.00	0.00			2.90	0.20	19.3	3.00	0.00			
				3.30	0.00			2.90	0.20	19.3	3.00	0.00			
				4.00	0.00			2.90	0.20	19.3	3.00	0.00			
				4.30	0.00			2.90	0.20	19.3	3.00	0.00			
				5.00	0.00			2.90	0.20	19.3	3.00	0.00			
				5.30	0.00			2.90	0.20	19.3	3.00	0.00			
				6.00	0.00			2.90	0.20	19.3	3.00	0.00			
				6.30	0.00			2.90	0.20	19.3	3.00	0.00			
WS12	444059.3	117739.9	07/12/2016	0	0.00	1023	0.06	1.80	0.10	19.9	2.00	0.00	DRY	3.51	-
				30	0.00			1.80	0.10	20.0	2.00	0.00			
				1.00	0.00			1.80	0.10	20.1	2.00	0.00			
				1.30	0.00			1.80	0.10	20.1	2.00	0.00			
				2.00	0.00			1.80	0.10	20.1	2.00	0.00			
				2.30	0.00			1.80	0.10	20.1	2.00	0.00			
				3.00	0.00			1.80	0.10	20.1	2.00	0.00			
				3.30	0.00			1.80	0.10	20.1	2.00	0.00			
				4.00	0.00			1.80	0.10	20.1	2.00	0.00			
				4.30	0.00			1.80	0.10	20.1	2.00	0.00			
				5.00	0.00			1.80	0.10	20.1	2.00	0.00			
				5.30	0.00			1.80	0.10	20.1	2.00	0.00			
				6.00	0.00			1.80	0.10	20.1	2.00	0.00			
				6.30	0.00			1.80	0.10	20.1	2.00	0.00			
WS13	444078.6	117636.3	07/12/2016	0	0.00	1023	0.06	8.80	7.00	7.40	>>>	0.00	3.17	4.45	-
				30	0.00			20.80	7.30	0.30	>>>	0.00			
				1.00	0.00			20.80	7.30	0.20	>>>	0.00			
				1.30	0.00			21.00	7.30	0.10	>>>	0.00			
				2.00	0.00			21.10	7.30	0.10	>>>	0.00			
				2.30	0.00			21.20	7.20	0.10	>>>	2.00			
				3.00	0.00			21.30	7.10	0.10	>>>	2.00			
				3.30	0.00			21.40	7.00	0.10	>>>	2.00			
				4.00	0.00			21.50	6.90	0.10	>>>	2.00			
				4.30	0.00			21.50	6.90	0.10	>>>	2.00			
				5.00	0.00			21.50	6.80	0.10	>>>	2.00			
				5.30	0.00			21.60	6.70	0.10	>>>	2.00			
				6.00	0.00			21.60	6.70	0.00	>>>	2.00			
				6.30	0.00			21.70	6.60	0.00	>>>	2.00			
WS14	444199.7	117907.6	07/12/2016	0	0.00	1023	0.05	1.20	0.20	20.2	3.00	0.00	1.12	3.05	-
				30	0.00			1.20	0.20	20.2	3.00	0.00			
				1.00	0.00			1.20	0.20	20.2	3.00	0.00			
				1.30	0.00			1.20	0.20	20.2	3.00	0.00			
				2.00	0.00			1.20	0.20	20.2	3.00	0.00			
				2.30	0.00			1.20	0.20	20.2	2.00	0.00			
				3.00	0.00			1.20	0.20	20.1	2.00	0.00			
				3.30	0.00			1.20	0.20	20.2	2.00	0.00			
				4.00	0.00			1.20	0.20	20.2	2.00	0.00			
				4.30	0.00			1.20	0.20	20.2	2.00	0.00			
				5.00	0.00			1.20	0.20	20.2	2.00	0.00			
				5.30	0.00			1.20	0.20	20.2	2.00	0.00			
				6.00	0.00			1.20	0.20	20.2	2.00	0.00			
				6.30	0.00			1.20	0.20	20.2	2.00	0.00			
				0	0.00			0.00	0.10	21	2.00	0.00			
				30	0.00			0.70	0.10	20.7	2.00	0.00			
				1.00	0.00			0.70	0.10	20.7	2.00	0.00			
				1.30	0.00			0.70	0.10	20.7	2.00	0.00			
				2.00	0.00			0.80	0.10	20.8	2.00	0.00			
				2.30	0.00			0.80	0.10	20.8	2.00	0.00			

GAS AND GROUNDWATER LEVELS
Client: Highwood Land LLP
Site: Stoneham - Land at Chestnut Avenue, Eastleigh
Job Number: 61033023-002

Borehole no.	X	Y	Date	Time (sec)	Gas Flow (ltr/hr)	Barometric Pressure (mb)	Relative Pressure (mb)	Carbon dioxide (%)	Methane (%)	Oxygen (%)	CH_4 LEL (%)	Hydrogen sulphide (ppm)	Water level (mbgl)	Base of borehole	Remarks
WS15	444204.9	117857.8	07/12/2016	3.00	0.00	1013	0.05	0.80	0.10	20.8	2.00	0.00	1.63	2.5	-
				3.30	0.00			0.80	0.10	20.8	2.00	0.00			
				4.00	0.00			0.80	0.10	20.8	2.00	0.00			
				4.30	0.00			0.80	0.10	20.8	2.00	0.00			
				5.00	0.00			0.80	0.10	20.8	2.00	0.00			
				5.30	0.00			0.80	0.10	20.8	2.00	0.00			
				6.00	0.00			0.80	0.10	20.8	2.00	0.00			
				6.30	0.00			0.80	0.10	20.8	2.00	0.00			
WS16	444180.0	117752.7	07/12/2016	0	0.00	1023	0.05	1.20	0.10	20.4	2.00	0.00	DRY	1.28	-
				30	0.00			1.30	0.10	20.3	2.00	0.00			
				1.00	0.00			1.30	0.10	20.3	2.00	0.00			
				1.30	0.00			1.30	0.10	20.3	2.00	0.00			
				2.00	0.00			1.30	0.10	20.3	2.00	0.00			
				2.30	0.00			1.30	0.10	20.3	2.00	0.00			
				3.00	0.00			1.30	0.10	20.3	2.00	0.00			
				3.30	0.00			1.30	0.10	20.3	2.00	0.00			
				4.00	0.00			1.30	0.10	20.3	2.00	0.00			
				4.30	0.00			1.30	0.10	20.3	2.00	0.00			
				5.00	0.00			1.30	0.10	20.3	2.00	0.00			
				5.30	0.00			1.30	0.10	20.3	2.00	0.00			
				6.00	0.00			1.30	0.10	20.3	2.00	0.00			
				6.30	0.00			1.30	0.10	20.3	2.00	0.00			
WS17	444137.2	117671.5	07/12/2016	0	0.00	1023	0	2.70	0.10	19.1	2.00	0.00	DRY	3.00	-
				30	0.00			2.70	0.10	19.1	2.00	0.00			
				1.00	0.00			2.80	0.10	19.1	2.00	0.00			
				1.30	0.00			2.80	0.10	19	2.00	0.00			
				2.00	0.00			3.10	0.10	18.9	2.00	0.00			
				2.30	0.00			3.30	0.10	18.7	2.00	0.00			
				3.00	0.00			3.30	0.10	18.7	2.00	0.00			
				3.30	0.00			3.30	0.10	18.7	2.00	0.00			
				4.00	0.00			3.30	0.10	18.7	2.00	0.00			
				4.30	0.00			3.30	0.10	18.7	2.00	0.00			
				5.00	0.00			3.30	0.10	18.7	2.00	0.00			
				5.30	0.00			3.30	0.10	18.7	2.00	0.00			
				6.00	0.00			3.30	0.10	18.7	2.00	0.00			
				6.30	0.00			3.30	0.10	18.7	2.00	0.00			
WS18	444099.4	117503.3	07/12/2016	0	0.00	1023	0	1.20	0.20	18.5	2.00	0.00	DRY	2.92	-
				30	0.00			1.60	0.20	19.9	2.00	0.00			
				1.00	0.00			1.70	0.20	19.9	2.00	0.00			
				1.30	0.00			2.10	0.10	19.8	2.00	0.00			
				2.00	0.00			2.70	0.10	19.4	2.00	0.00			
				2.30	0.00			2.80	0.10	19.3	2.00	0.00			
				3.00	0.00			2.90	0.10	19.3	2.00	0.00			
				3.30	0.00			2.90	0.10	19.3	2.00	0.00			
				4.00	0.00			2.90	0.10	19.3	2.00	0.00			
				4.30	0.00			2.90	0.10	19.3	2.00	0.00			
				5.00	0.00			2.90	0.10	19.3	2.00	0.00			
				5.30	0.00			2.90	0.10	19.3	2.00	0.00			
				6.00	0.00			2.90	0.10	19.3	2.00	0.00			
				6.30	0.00			2.90	0.10	19.3	2.00	0.00			
WS19	444059.8	117383.1	07/12/2016	0	0.00	1023	0	0.10	0.10	21.0	1.00	0.00	DRY	1.47	-
				30	0.00			2.40	0.10	15.4	1.00	0.00			
				1.00	0.00			2.40	0.10	15.4	1.00	0.00			
				1.30	0.00			2.40	0.10	15.4	1.00	0.00			
				2.00	0.00			2.30	0.10	15.6	1.00	0.00			
				2.30	0.00			2.20	0.10	16.2	1.00	0.00			
				3.00	0.00			2.10	0.10	16.4	1.00	0.00			
				3.30	0.00			2.00	0.10	16.8	1.00	0.00			
				4.00	0.00			1.90	0.10	17.0	1.00	0.00			
				4.30	0.00			1.50	0.10	18.3	1.00	0.00			
				5.00	0.00			1.30	0.10	18.4	1.00	0.00			
				5.30	0.00			1.30	0.10	18.4	1.00	0.00			
				6.00	0.00			1.30	0.10	18.4	1.00	0.00			
				6.30	0.00			1.30	0.10	18.4	1.00	0.00			
WS20	444019.6	117577.9	07/12/2016	0	0.10	1023	0.02	0.20	0.10	20.7	1.00	0.00	DRY	5	-
				30	0.10			3.80	0.10	16.2	1.00	0.00			
				1.00	0.00			3.90	0.10	16.1	1.00	0.00			
				1.30	0.00			3.80	0.10	16.2	1.00	0.00			
				2.00	0.00			3.80	0.10	16.4	1.00	0.00			
				2.30	0.00			3.40	0.10	17	1.00	0.00			
				3.00	0.00			3.20	0.10	17.3	1.00	0.00			
				3.30	0.00			3.10	0.10	17.5	1.00	0.00			
				4.00	0.00			2.80	0.10	17.9	1.00	0.00			
				4.30	0.00			2.70	0.10	18.1	1.00	0.00			
				5.00	0.00			2.60	0.10	18.2	1.00	0.00			
				5.30	0.00			2.50	0.10	18.4	1.00	0.00			
				6.00	0.00			2.50	0.10	18.4	1.00	0.00			
				6.30	0.00			2.50	0.10	18.4	1.00	0.00			
WS21	443590.6	117728.0	07/12/2016	0	0.00	1022	0.01	0.80	0.10	17.6	1.00	0.00	1.47	2.09	-
				30	0.00			1.50	0.10	19.9	1.00	0.00			
				1.00	0.00			1.50	0.10	19.9	1.00	0.00			
				1.30	0.00			1.50	0.10	20.0	1.00	0.00			
				2.00	0.00			1.50	0.10	20.0	1.00	0.00			
				2.30	0.00			1.50	0.10	20.1	1.00	0.00			
				3.00	0.00			1.50	0.10	20.1	1.00	0.00			
				3.30	0.00			1.50	0.10	20.1	1.00	0.00			
				4.00	0.00			1.50	0.10	20.1	1.00	0.00			
				4.30	0.00			1.50	0.10	20.1	1.00	0.00			
				5.00	0.00			1.50	0.10	20.1	1.00	0.00			
				5.30	0.00			1.50	0.10	20.1	1.00	0.00			

GAS AND GROUNDWATER LEVELS
Client: Highwood Land LLP
Site: Stoneham - Land at Chestnut Avenue, Eastleigh
Job Number: 61033023-002

Borehole no.	X	Y	Date	Time (sec)	Gas Flow (ltr/hr)	Barometric Pressure (mb)	Relative Pressure (mb)	Carbon dioxide (%)	Methane (%)	Oxygen (%)	CH_4 LEL (%)	Hydrogen sulphide (ppm)	Water level (mbgl)	Base of borehole	Remarks
				6.00	0.00			1.50	0.10	20.1	1.00	0.00			
				6.30	0.00			1.50	0.10	20.1	1.00	0.00			
WS22	443330.2	117824.0	-	-	-	-	-	-	-	-	-	-	-	-	LOST
				0	0.00			3.00	0.10	17.8	1.00	0.00			
				30	0.00			5.10	0.10	13.6	1.00	0.00			
				1.00	0.00			5.10	0.10	13.4	1.00	0.00			
				1.30	0.00			5.30	0.10	13.2	1.00	0.00			
				2.00	0.00			5.30	0.10	13.2	1.00	0.00			
				2.30	0.00			5.30	0.10	13.2	1.00	0.00			
WS23	443494.8	118018.5	07/12/2016	3.00	0.00	1022	0	5.30	0.10	13.2	1.00	0.00	2.28	2.82	-
				3.30	0.00			5.30	0.10	13.2	1.00	0.00			
				4.00	0.00			5.30	0.10	13.2	1.00	0.00			
				4.30	0.00			5.30	0.10	13.2	1.00	0.00			
				5.00	0.00			5.30	0.10	13.2	1.00	0.00			
				5.30	0.00			5.30	0.10	13.2	1.00	0.00			
				6.00	0.00			5.30	0.10	13.2	1.00	0.00			
				6.30	0.00			5.30	0.10	13.2	1.00	0.00			
				0	0.00			3.60	0.10	15.9	1.00	0.00			
				30	0.00			3.70	0.10	15.6	1.00	0.00			
				1.00	0.00			3.80	0.10	15.6	1.00	0.00			
				1.30	0.00			3.80	0.10	15.6	1.00	0.00			
				2.00	0.00			3.80	0.10	15.6	1.00	0.00			
				2.30	0.00			3.80	0.10	15.6	1.00	0.00			
WS24	443323.5	117659.4	07/12/2016	3.00	0.00	1022	0	3.80	0.10	15.6	1.00	0.00	1.57	2.35	-
				3.30	0.00			3.80	0.10	15.6	1.00	0.00			
				4.00	0.00			3.80	0.10	15.6	1.00	0.00			
				4.30	0.00			3.80	0.10	15.6	1.00	0.00			
				5.00	0.00			3.80	0.10	15.6	1.00	0.00			
				5.30	0.00			3.80	0.10	15.6	1.00	0.00			
				6.00	0.00			3.80	0.10	15.6	1.00	0.00			
				6.30	0.00			3.80	0.10	15.6	1.00	0.00			
				0	0.10			2.60	0.10	19.8	1.00	0.00			
				30	0.20			4.20	0.10	19.2	1.00	0.00			
				1.00	0.20			4.20	0.10	19.2	1.00	0.00			
				1.30	0.30			4.20	0.10	19.2	1.00	0.00			
				2.00	0.30			4.20	0.10	18.8	1.00	0.00			
				2.30	0.30			4.20	0.10	17	1.00	0.00			
WS25	443366.7	117652.2	07/12/2016	3.00	0.30	1022	0.01	5.00	0.10	16.6	1.00	0.00	1.13	4.53	-
				3.30	0.30			7.60	0.10	15.2	1.00	0.00			
				4.00	0.30			7.40	0.10	10	1.00	0.00			
				4.30	0.30			6.70	0.10	7.9	1.00	0.00			
				5.00	0.30			6.70	0.10	8.3	1.00	0.00			
				5.30	0.30			6.50	0.10	8.5	1.00	0.00			
				6.00	0.30			6.50	0.10	8.6	1.00	0.00			
				6.30	0.30			6.40	0.10	8.8	1.00	0.00			
				0	0.00			1.70	0.10	20	1.00	0.00			
				30	0.00			1.70	0.10	19.9	1.00	0.00			
				1.00	0.00			1.90	0.10	19.8	1.00	0.00			
				1.30	0.00			1.90	0.10	19.8	1.00	0.00			
				2.00	0.00			1.90	0.10	19.8	1.00	0.00			
				2.30	0.00			1.90	0.10	19.8	1.00	0.00			
WS26	443611.0	117852.5	07/12/2016	3.00	0.00	1022	0.01	2.00	0.10	19.8	1.00	0.00	DRY	1.92	-
				3.30	0.00			2.00	0.10	19.8	1.00	0.00			
				4.00	0.00			2.00	0.10	19.9	1.00	0.00			
				4.30	0.00			2.00	0.10	19.7	1.00	0.00			
				5.00	0.00			2.10	0.10	19.7	1.00	0.00			
				5.30	0.00			2.10	0.10	19.7	1.00	0.00			
				6.00	0.00			2.10	0.10	19.7	1.00	0.00			
				6.30	0.00			2.10	0.10	19.7	1.00	0.00			
WS27	444125.7	117644.6	-	-	-										LOST
WS28	444180.5	117657.7	-	-	-										LOST
				0	0.00			1.80	0.10	19.8	2.00	0.00			
				30	0.00			1.80	0.10	19.8	2.00	0.00			
				1.00	0.00			1.80	0.10	19.8	2.00	0.00			
				1.30	0.00			1.80	0.10	19.8	2.00	0.00			
				2.00	0.00			1.80	0.10	19.8	2.00	0.00			
				2.30	0.00			1.80	0.10	19.9	2.00	0.00			
WS29	444069.0	117842.5	07/12/2016	3.00	0.00	1023	0.04	1.80	0.10	19.9	2.00	0.00	3.44	5	-
				3.30	0.00			1.80	0.10	19.9	2.00	0.00			
				4.00	0.00			1.80	0.10	19.9	2.00	0.00			
				4.30	0.00			1.80	0.10	19.9	2.00	0.00			
				5.00	0.00			1.80	0.10	19.9	2.00	0.00			
				5.30	0.00			1.80	0.10	19.9	2.00	0.00			
				6.00	0.00			1.80	0.10	19.9	2.00	0.00			
				6.30	0.00			1.80	0.10	19.9	2.00	0.00			

GAS AND GROUNDWATER LEVELS
Client: Highwood Land LLP
Site: Stoneham - Land at Chestnut Avenue, Eastleigh
Job Number: 61033023-002

Borehole no.	X	Y	Date	Time (sec)	Gas Flow (ltr/hr)	Barometric Pressure (mb)	Relative Pressure (mb)	Carbon dioxide (%)	Methane (%)	Oxygen (%)	CH_4 LEL (%)	Hydrogen sulphide (ppm)	Water level (mbgl)	Base of borehole	Remarks
CP01	443494.3	118332.1	11/01/17	0	0.00	1008	0.01	1.10	0.10	21	2.00	0.00	1.57	15.12	-
				30	0.00			1.10	0.10	21.1	2.00	0.00			
				1.00	0.00			0.70	0.10	21.2	2.00	0.00			
				1.30	0.00			0.60	0.10	21.3	2.00	0.00			
				2.00	0.00			0.50	0.10	21.3	2.00	0.00			
				2.30	0.00			0.40	0.10	21.4	2.00	0.00			
				3.00	0.00			0.40	0.10	21.4	2.00	0.00			
				3.30	0.00			0.40	0.10	21.4	2.00	0.00			
				4.00	0.00			0.40	0.10	21.4	2.00	0.00			
				4.30	0.00			0.40	0.10	21.4	2.00	0.00			
				5.00	0.00			0.40	0.10	21.4	2.00	0.00			
				5.30	0.00			0.40	0.10	21.4	2.00	0.00			
				6.00	0.00			0.40	0.10	21.4	2.00	0.00			
				6.30	0.00			0.40	0.10	21.4	2.00	0.00			
CP02	443699.0	118096.3	11/01/17	0	0.00	1008	0.03	4.40	0.10	8.4	2.00	0.00	1.13	8.97	-
				30	0.00			4.40	0.10	7.2	2.00	0.00			
				1.00	0.00			4.40	0.10	7.2	2.00	0.00			
				1.30	0.00			4.40	0.10	7.1	2.00	0.00			
				2.00	0.00			4.40	0.10	7.1	2.00	0.00			
				2.30	0.00			4.40	0.10	7.1	2.00	0.00			
				3.00	0.00			4.40	0.10	7.1	2.00	0.00			
				3.30	0.00			4.40	0.10	7.1	2.00	0.00			
				4.00	0.00			4.40	0.10	7.1	2.00	0.00			
				4.30	0.00			4.40	0.10	7.1	2.00	0.00			
				5.00	0.00			4.40	0.10	7.1	2.00	0.00			
				5.30	0.00			4.40	0.10	-	2.00	0.00			
				6.00	0.00			4.40	0.10	7.1	2.00	0.00			
				6.30	0.00			4.40	0.10	7.1	2.00	0.00			
CP03	444164.7	117892.6	11/01/17	0	0.00	1007	0.04	3.10	0.10	18.6	2.00	0.00	2.6	10.62	-
				30	0.00			3.40	0.10	17.4	2.00	0.00			
				1.00	0.00			3.40	0.10	17.8	2.00	0.00			
				1.30	0.00			3.40	0.10	17.8	2.00	0.00			
				2.00	0.00			3.40	0.10	17.8	2.00	0.00			
				2.30	0.00			3.40	0.10	17.8	2.00	0.00			
				3.00	0.00			3.40	0.10	17.8	2.00	0.00			
				3.30	0.00			3.40	0.10	17.8	2.00	0.00			
				4.00	0.00			3.40	0.10	17.8	2.00	0.00			
				4.30	0.00			3.40	0.10	17.8	2.00	0.00			
				5.00	0.00			3.40	0.10	17.8	2.00	0.00			
				5.30	0.00			3.40	0.10	17.8	2.00	0.00			
				6.00	0.00			3.40	0.10	17.8	2.00	0.00			
				6.30	0.00			3.40	0.10	17.8	2.00	0.00			
CP04	444196.1	117677.8	11/01/17	0	0.00	1007	0.04	1.30	0.10	20.4	2.00	0.00	2.08	9.53	-
				30	0.00			1.40	0.10	20.1	2.00	0.00			
				1.00	0.00			1.40	0.10	20.1	2.00	0.00			
				1.30	0.00			1.40	0.10	20.1	2.00	0.00			
				2.00	0.00			1.40	0.10	20.1	2.00	0.00			
				2.30	0.00			1.40	0.10	20.1	2.00	0.00			
				3.00	0.00			1.40	0.10	20.1	2.00	0.00			
				3.30	0.00			1.40	0.10	20.1	2.00	0.00			
				4.00	0.00			1.40	0.10	20.1	2.00	0.00			
				4.30	0.00			1.40	0.10	20.1	2.00	0.00			
				5.00	0.00			1.40	0.10	20.1	2.00	0.00			
				5.30	0.00			1.40	0.10	20.1	2.00	0.00			
				6.00	0.00			1.40	0.10	20.1	2.00	0.00			
				6.30	0.00			1.40	0.10	20.1	2.00	0.00			
CP05	444084.5	117586.2	11/01/17	0	0.00	1007	0.04	1.50	0.10	17.8	2.00	0.00	4.38	19.7	-
				30	0.00			2.20	0.10	18.8	2.00	0.00			
				1.00	0.00			2.90	0.10	18.0	2.00	0.00			
				1.30	0.00			3.60	0.10	17.2	2.00	0.00			
				2.00	0.00			4.20	0.10	16.2	2.00	0.00			
				2.30	0.00			4.50	0.10	16.3	2.00	0.00			
				3.00	0.00			5.20	0.10	15.6	2.00	0.00			
				3.30	0.00			5.20	0.10	15.6	2.00	0.00			
				4.00	0.00			5.20	0.10	15.6	2.00	0.00			
				4.30	0.00			5.20	0.10	15.6	2.00	0.00			
				5.00	0.00			5.20	0.10	15.6	2.00	0.00			
				5.30	0.00			5.20	0.10	15.6	2.00	0.00			
				6.00	0.00			5.20	0.10	15.6	2.00	0.00			
				6.30	0.00			5.20	0.10	15.6	2.00	0.00			
CP06	444141.0	117595.1	11/01/17	0	0.00	1007	0	0.50	0.10	20.9	2.00	0.00	3.45	19.39	-
				30	0.00			0.50	0.10	21.0	2.00	0.00			
				1.00	0.00			0.50	0.10	21.0	2.00	0.00			
				1.30	0.00			0.50	0.10	21.0	2.00	0.00			
				2.00	0.00			0.50	0.10	21.0	2.00	0.00			
				2.30	0.00			0.50	0.10	21.0	2.00	0.00			
				3.00	0.00			0.50	0.10	21.0	2.00	0.00			
				3.30	0.00			0.50	0.10	21.0	2.00	0.00			
				4.00	0.00			0.50	0.10	21.0	2.00	0.00			
				4.30	0.00			0.50	0.10	21.0	2.00	0.00			
				5.00	0.00			0.50	0.10	21.0	2.00	0.00			
				5.30	0.00			0.50	0.10	21.0	2.00	0.00			
				6.00	0.00			0.50	0.10	21.0	2.00	0.00			
				6.30	0.00			0.50	0.10	21.0	2.00	0.00			
CP07a	444153.6	117542.3	11/01/17	0	0.00	1007	0	2.50	0.10	19.6	2.00	0.00	3.46	12.22	-
				30	0.00			0.40	0.10	21.0	2.00	0.00			
				1.00	0.00			0.80	0.10	20.9	2.00	0.00			
				1.30	0.00			1.30	0.10	20.6	2.00	0.00			
				2.00	0.00			1.40	0.10	20.6	2.00	0.00			
				2.30	0.00			1.40	0.10	20.4	2.00	0.00			
				3.00	0.00			1.50	0.10	20.4	2.00	0.00			
				3.30	0.00			1.50	0.10	20.4	2.00	0.00			

GAS AND GROUNDWATER LEVELS
Client: Highwood Land LLP
Site: Stoneham - Land at Chestnut Avenue, Eastleigh
Job Number: 61033023-002

Borehole no.	X	Y	Date	Time (sec)	Gas Flow (ltr/hr)	Barometric Pressure (mb)	Relative Pressure (mb)	Carbon dioxide (%)	Methane (%)	Oxygen (%)	CH_4 LEL (%)	Hydrogen sulphide (ppm)	Water level (mbgl)	Base of borehole	Remarks
				4.00	0.00			1.50	0.10	20.4	2.00	0.00			
				4.30	0.00			1.50	0.10	20.4	2.00	0.00			
				5.00	0.00			1.50	0.10	20.4	2.00	0.00			
				5.30	0.00			1.50	0.10	20.4	2.00	0.00			
				6.00	0.00			1.50	0.10	20.4	2.00	0.00			
				6.30	0.00			1.50	0.10	20.4	2.00	0.00			
CP08	443978.1	117470.7	11/01/17	0	0.00	1009	0.04	0.80	0.10	20.2	2.00	0.00	5.86	12.64	-
				30	0.00			0.80	0.10	20.4	2.00	0.00			
				1.00	0.00			0.80	0.10	20.4	2.00	0.00			
				1.30	0.00			0.80	0.10	20.5	2.00	0.00			
				2.00	0.00			0.80	0.10	20.5	2.00	0.00			
				2.30	0.00			0.70	0.10	20.5	2.00	0.00			
				3.00	0.00			0.70	0.10	20.5	2.00	0.00			
				3.30	0.00			0.70	0.10	20.5	2.00	0.00			
				4.00	0.00			0.70	0.10	20.5	2.00	0.00			
				4.30	0.00			0.70	0.10	20.5	2.00	0.00			
				5.00	0.00			0.70	0.10	20.5	2.00	0.00			
				5.30	0.00			0.70	0.10	20.5	2.00	0.00			
				6.00	0.00			0.70	0.10	20.5	2.00	0.00			
				6.30	0.00			0.70	0.10	20.5	2.00	0.00			
CP09	443832.6	117748.4	11/01/17	0	0.00	1009	0.02	0.60	0.10	19.8	2.00	0.00	1.80	8.1	-
				30	0.00			0.60	0.10	20.2	2.00	0.00			
				1.00	0.00			0.60	0.10	20.3	2.00	0.00			
				1.30	0.00			0.60	0.10	20.3	2.00	0.00			
				2.00	0.00			0.60	0.10	20.3	2.00	0.00			
				2.30	0.00			0.60	0.10	20.3	2.00	0.00			
				3.00	0.00			0.60	0.10	20.3	2.00	0.00			
				3.30	0.00			0.60	0.10	20.3	2.00	0.00			
				4.00	0.00			0.60	0.10	20.3	2.00	0.00			
				4.30	0.00			0.60	0.10	20.3	2.00	0.00			
				5.00	0.00			0.60	0.10	20.3	2.00	0.00			
				5.30	0.00			0.60	0.10	20.3	2.00	0.00			
				6.00	0.00			0.60	0.10	20.3	2.00	0.00			
				6.30	0.00			0.60	0.10	20.3	2.00	0.00			
CP10	443337.5	117714.9	-	-	-	-	-	-	-	-	-	-	-	-	LOST
				0	1.10			0.80	0.10	17.9	2.00	0.00			
				30	1.10			0.90	0.10	15.6	2.00	0.00			
				1.00	0.00			0.80	0.10	16.3	2.00	0.00			
				1.30	0.00			0.50	0.10	17.8	2.00	0.00			
				2.00	0.00			0.60	0.10	17.8	2.00	0.00			
				2.30	0.00			0.40	0.10	18.6	2.00	0.00			
				3.00	0.00			0.40	0.10	18.9	2.00	0.00			
CP11	443281.3	117924.9	11/01/17	3.30	0.00	1008	0.04	0.50	0.10	18.5	2.00	0.00	1.43	16.73	-
				4.00	0.00			0.50	0.10	18.4	2.00	0.00			
				4.30	0.00			0.50	0.10	18.5	2.00	0.00			
				5.00	0.00			0.50	0.10	18.5	2.00	0.00			
				5.30	0.00			0.50	0.10	18.5	2.00	0.00			
				6.00	0.00			0.50	0.10	18.5	2.00	0.00			
				6.30	0.00			0.50	0.10	18.5	2.00	0.00			
				0	0.00			2.70	0.10	21.3	2.00	0.00			
				30	0.00			3.60	0.10	12.6	2.00	0.00			
				1.00	0.00			3.80	0.10	12.1	2.00	0.00			
				1.30	0.00			3.80	0.10	12	2.00	0.00			
				2.00	0.00			3.90	0.10	11.7	2.00	0.00			
				2.30	0.00			3.90	0.10	11.6	2.00	0.00			
				3.00	0.00			3.90	0.10	11.6	2.00	0.00			
CP12	443690.1	117977.5	11/01/17	3.30	0.00	1008	0.1	3.90	0.10	11.6	2.00	0.00	1.7	8.7	-
				4.00	0.00			3.90	0.10	11.5	2.00	0.00			
				4.30	0.00			3.90	0.10	11.5	2.00	0.00			
				5.00	0.00			3.90	0.10	11.5	2.00	0.00			
				5.30	0.00			3.90	0.10	11.5	2.00	0.00			
				6.00	0.00			3.90	0.10	11.5	2.00	0.00			
				6.30	0.00			3.90	0.10	11.5	2.00	0.00			
				0	0.00			3.50	0.20	17.7	3.00	0.00			
				30	0.00			3.50	0.20	17.7	3.00	0.00			
				1.00	0.00			3.50	0.20	17.7	3.00	0.00			
				1.30	0.00			3.50	0.20	17.7	3.00	0.00			
				2.00	0.00			3.50	0.20	17.7	3.00	0.00			
				2.30	0.00			3.50	0.20	17.7	3.00	0.00			
				3.00	0.00			3.50	0.20	17.7	3.00	0.00			
CP13	444151.3	118076.0	11/01/17	3.30	0.00	1006	0.13	3.50	0.20	17.7	3.00	0.00	2.22	10.35	-
				4.00	0.00			3.50	0.20	17.7	3.00	0.00			
				4.30	0.00			3.50	0.20	17.7	3.00	0.00			
				5.00	0.00			3.50	0.20	17.7	3.00	0.00			
				5.30	0.00			3.50	0.20	17.7	3.00	0.00			
				6.00	0.00			3.50	0.20	17.7	3.00	0.00			
				6.30	0.00			3.50	0.20	17.7	3.00	0.00			
				0	0.00			0.50	0.10	21.1	2.00	0.00			
				30	0.00			0.50	0.10	20.7	2.00	0.00			
				1.00	0.00			0.50	0.10	20.7	2.00	0.00			
				1.30	0.00			0.80	0.10	20.7	2.00	0.00			
				2.00	0.00			0.80	0.10	20.7	2.00	0.00			
				2.30	0.00			0.80	0.10	20.7	2.00	0.00			
				3.00	0.00			0.80	0.10	20.7	2.00	0.00			
WS01	443557.5	118286.4	11/01/17	3.30	0.00	1008	0	0.80	0.10	20.7	2.00	0.00	0.95	5.18	-
				4.00	0.00			0.80	0.10	20.7	2.00	0.00			
				4.30	0.00			0.80	0.10	20.7	2.00	0.00			
				5.00	0.00			0.80	0.10	20.7	2.00	0.00			
				5.30	0.00			0.80	0.10	20.7	2.00	0.00			
				6.00	0.00			0.80	0.10	20.7	2.00	0.00			
				6.30	0.00			0.80	0.10	20.7	2.00	0.00			
				0	6.00			3.9	0.10	2.20	2.00	0.00			

GAS AND GROUNDWATER LEVELS
Client: Highwood Land LLP
Site: Stoneham - Land at Chestnut Avenue, Eastleigh
Job Number: 61033023-002

Borehole no.	X	Y	Date	Time (sec)	Gas Flow (ltr/hr)	Barometric Pressure (mb)	Relative Pressure (mb)	Carbon dioxide (%)	Methane (%)	Oxygen (%)	CH_4 LEL (%)	Hydrogen sulphide (ppm)	Water level (mbgl)	Base of borehole	Remarks
WS02	443658.6	118114.9	11/01/17	30	2.40	1008	0	3.9	0.10	2.00	2.00	0.00	0.74	5.06	-
				1.00	2.40			3.9	0.10	1.00	2.00	0.00			
				1.30	2.40			3.9	0.10	1.00	2.00	0.00			
				2.00	2.40			3.9	0.10	1.00	2.00	0.00			
				2.30	2.40			3.9	0.10	1.00	2.00	0.00			
				3.00	2.40			3.9	0.10	1.00	2.00	0.00			
				3.30	2.40			3.9	0.10	1.00	2.00	0.00			
				4.00	2.40			3.9	0.10	1.00	2.00	0.00			
				4.30	2.40			3.9	0.10	1.00	2.00	0.00			
				5.00	2.40			3.9	0.10	1.00	2.00	0.00			
				5.30	2.40			3.9	0.10	1.00	2.00	0.00			
				6.00	2.40			3.9	0.10	1.00	2.00	0.00			
				6.30	2.40			3.9	0.10	1.00	2.00	0.00			
WS03	443738.0	118064.9	11/01/17	0	0.00	1008	0	0.80	0.10	17.4	1.00	0.00	0.8	5	-
				30	0.00			1.80	0.10	15.6	1.00	0.00			
				1.00	0.00			1.80	0.10	15.3	1.00	0.00			
				1.30	0.00			1.80	0.10	15.3	1.00	0.00			
				2.00	0.00			1.80	0.10	15.3	1.00	0.00			
				2.30	0.00			1.80	0.10	15.3	1.00	0.00			
				3.00	0.00			1.80	0.10	15.3	1.00	0.00			
				3.30	0.00			1.80	0.10	15.3	1.00	0.00			
				4.00	0.00			1.80	0.10	15.3	1.00	0.00			
				4.30	0.00			1.80	0.10	15.3	1.00	0.00			
				5.00	0.00			1.80	0.10	15.3	1.00	0.00			
				5.30	0.00			1.80	0.10	15.3	1.00	0.00			
				6.00	0.00			1.80	0.10	15.3	1.00	0.00			
				6.30	0.00			1.80	0.10	15.3	1.00	0.00			
WS04	443834.3	117972.8	11/01/17	0	0.00	1008	0.02	1.40	0.10	20.7	2.00	0.00	1.73	5.08	-
				30	0.00			1.40	0.10	21.6	2.00	0.00			
				1.00	0.00			1.45	0.10	21.0	2.00	0.00			
				1.30	0.00			1.45	0.10	21.0	2.00	0.00			
				2.00	0.00			1.45	0.10	21.0	2.00	0.00			
				2.30	0.00			1.45	0.10	21.0	2.00	0.00			
				3.00	0.00			1.45	0.10	21.0	2.00	0.00			
				3.30	0.00			1.45	0.10	21.0	2.00	0.00			
				4.00	0.00			1.45	0.10	21.0	2.00	0.00			
				4.30	0.00			1.45	0.10	21.0	2.00	0.00			
				5.00	0.00			1.45	0.10	21.0	2.00	0.00			
				5.30	0.00			1.45	0.10	21.0	2.00	0.00			
				6.00	0.00			1.45	0.10	21.0	2.00	0.00			
				6.30	0.00			1.45	0.10	21.0	2.00	0.00			
WS05	443335.3	118231.7	11/01/17	0	0.00	1008	0	0.50	0.10	21.0	2.00	0.00	2.5	4.84	-
				30	0.00			0.10	0.10	21.3	2.00	0.00			
				1.00	0.00			0.00	0.10	21.4	2.00	0.00			
				1.30	0.00			0.00	0.10	21.4	2.00	0.00			
				2.00	0.00			0.00	0.10	21.4	2.00	0.00			
				2.30	0.00			0.00	0.10	21.4	2.00	0.00			
				3.00	0.00			0.00	0.10	21.4	2.00	0.00			
				3.30	0.00			0.00	0.10	21.4	2.00	0.00			
				4.00	0.00			0.00	0.10	21.4	2.00	0.00			
				4.30	0.00			0.00	0.10	21.4	2.00	0.00			
				5.00	0.00			0.00	0.10	21.4	2.00	0.00			
				5.30	0.00			0.00	0.10	21.4	2.00	0.00			
				6.00	0.00			0.00	0.10	21.4	2.00	0.00			
				6.30	0.00			0.00	0.10	21.4	2.00	0.00			
WS06	443631.7	117754.4	11/01/17	0	0.00	1008	0	2.50	0.10	20	1.00	0.00	0.8	1.58	-
				30	0.00			3.00	0.10	19.5	1.00	0.00			
				1.00	0.00			4.00	0.10	18.0	1.00	0.00			
				1.30	0.00			4.00	0.10	15.5	1.00	0.00			
				2.00	0.00			4.00	0.10	14.0	1.00	0.00			
				2.30	0.00			4.00	0.10	14.0	1.00	0.00			
				3.00	0.00			4.00	0.10	14.0	1.00	0.00			
				3.30	0.00			4.00	0.10	14.0	1.00	0.00			
				4.00	0.00			4.00	0.10	14.0	1.00	0.00			
				4.30	0.00			4.00	0.10	14.0	1.00	0.00			
				5.00	0.00			4.00	0.10	14.0	1.00	0.00			
				5.30	0.00			4.00	0.10	14.0	1.00	0.00			
				6.00	0.00			4.00	0.10	14.0	1.00	0.00			
				6.30	0.00			4.00	0.10	14.0	1.00	0.00			
WS07	443880.0	117699.0	11/01/17	0	0.00	1009	0.03	2.90	0.10	17.1	2.00	0.00	1.41	3.12	-
				30	0.00			2.00	0.10	16.5	2.00	0.00			
				1.00	0.00			4.00	0.10	14.7	2.00	0.00			
				1.30	0.00			4.00	0.10	14.7	2.00	0.00			
				2.00	0.00			4.00	0.10	14.7	2.00	0.00			
				2.30	0.00			4.00	0.10	14.7	2.00	0.00			
				3.00	0.00			4.00	0.10	14.7	2.00	0.00			
				3.30	0.00			4.00	0.10	14.7	2.00	0.00			
				4.00	0.00			4.00	0.10	14.7	2.00	0.00			
				4.30	0.00			4.00	0.10	14.7	2.00	0.00			
				5.00	0.00			4.00	0.10	14.7	2.00	0.00			
				5.30	0.00			4.00	0.10	14.7	2.00	0.00			
				6.00	0.00			4.00	0.10	14.7	2.00	0.00			
				6.30	0.00			4.00	0.10	14.7	2.00	0.00			
WS08	443890.2	117599.9	-	-	-	-	-	-	-	-	-	-	-	-	LOST
WS09	444031.9	118065.2	11/01/17	0	0.10	1006	0.17	3.70	0.20	17	2.00	0.00	DRY	3.57	-
				30	0.10			3.90	0.20	16.3	2.00	0.00			
				1.00	0.10			4.00	0.20	16.3	2.00	0.00			
				1.30	0.10			4.00	0.20	16.3	2.00	0.00			
				2.00	0.10			4.00	0.20	16.3	2.00	0.00			
				2.30	0.10			4.00	0.20	16.2	2.00	0.00			
				3.00	0.10			4.10	0.20	16.2	2.00	0.00			
				3.30	0.10			4.10	0.20	16.2	2.00	0.00			

GAS AND GROUNDWATER LEVELS
Client: Highwood Land LLP
Site: Stoneham - Land at Chestnut Avenue, Eastleigh
Job Number: 61033023-002

Borehole no.	X	Y	Date	Time (sec)	Gas Flow (ltr/hr)	Barometric Pressure (mb)	Relative Pressure (mb)	Carbon dioxide (%)	Methane (%)	Oxygen (%)	CH_4 LEL (%)	Hydrogen sulphide (ppm)	Water level (mbgl)	Base of borehole	Remarks
				4.00	0.10			4.20	0.20	16.2	2.00	0.00			
				4.30	0.10			4.20	0.20	16.2	2.00	0.00			
				5.00	0.10			4.20	0.20	16.2	2.00	0.00			
				5.30	0.10			4.20	0.20	16.2	2.00	0.00			
				6.00	0.10			4.20	0.20	16.2	2.00	0.00			
				6.30	0.10			4.20	0.20	16.2	2.00	0.00			
WS10	444026.4	117921.8	11/01/17	0	0.00	1007	0	2.00	0.20	19.5	3.00	0.00	2.46	3.35	-
				30	0.00			2.00	0.20	19.6	3.00	0.00			
				1.00	0.00			1.90	0.20	19.6	3.00	0.00			
				1.30	0.00			1.90	0.20	19.6	3.00	0.00			
				2.00	0.00			2.00	0.20	19.6	3.00	0.00			
				2.30	0.00			2.00	0.20	19.6	3.00	0.00			
				3.00	0.00			2.00	0.20	19.6	3.00	0.00			
				3.30	0.00			2.00	0.20	19.6	3.00	0.00			
				4.00	0.00			2.00	0.20	19.6	3.00	0.00			
				4.30	0.00			2.00	0.20	19.6	3.00	0.00			
				5.00	0.00			2.00	0.20	19.6	3.00	0.00			
				5.30	0.00			2.00	0.20	19.6	3.00	0.00			
				6.00	0.00			2.00	0.20	19.6	3.00	0.00			
				6.30	0.00			2.00	0.20	19.6	3.00	0.00			
WS11	444036.0	117860.7	11/01/17	0	0.00	1023	0.08	2.00	0.10	20.0	2.00	0.00	4.89	5	-
				30	0.00			2.00	0.10	20.0	2.00	0.00			
				1.00	0.00			2.10	0.10	19.9	2.00	0.00			
				1.30	0.00			2.10	0.10	19.9	2.00	0.00			
				2.00	0.00			2.10	0.20	19.9	2.00	0.00			
				2.30	0.00			2.10	0.20	19.9	2.00	0.00			
				3.00	0.00			2.10	0.20	19.8	2.00	0.00			
				3.30	0.00			2.10	0.20	19.8	2.00	0.00			
				4.00	0.00			2.10	0.20	19.8	2.00	0.00			
				4.30	0.00			2.10	0.20	19.8	2.00	0.00			
				5.00	0.00			2.10	0.20	19.8	2.00	0.00			
				5.30	0.00			2.10	0.20	19.8	2.00	0.00			
				6.00	0.00			2.10	0.20	19.8	2.00	0.00			
				6.30	0.00			2.10	0.20	19.8	2.00	0.00			
WS12	444059.3	117739.9	11/01/17	0	0.00	1007	0	1.50	0.10	19.8	2.00	0.00	2.3	3.53	-
				30	0.00			1.90	0.10	19.1	2.00	0.00			
				1.00	0.00			2.20	0.10	18.9	2.00	0.00			
				1.30	0.00			2.20	0.10	18.9	2.00	0.00			
				2.00	0.00			2.20	0.10	18.9	2.00	0.00			
				2.30	0.00			2.20	0.10	18.9	2.00	0.00			
				3.00	0.00			2.20	0.10	18.9	2.00	0.00			
				3.30	0.00			2.20	0.10	18.9	2.00	0.00			
				4.00	0.00			2.20	0.10	18.9	2.00	0.00			
				4.30	0.00			2.20	0.10	18.9	2.00	0.00			
				5.00	0.00			2.20	0.10	18.9	2.00	0.00			
				5.30	0.00			2.20	0.10	18.9	2.00	0.00			
				6.00	0.00			2.20	0.10	18.9	2.00	0.00			
				6.30	0.00			2.20	0.10	18.9	2.00	0.00			
WS13	444078.6	117636.3	11/01/17	0	0.00	1007	0.08	15.50	4.80	9.50	>>>	0.00	4.15	4.44	-
				30	0.00			19.20	6.50	0.50	>>>	0.00			
				1.00	0.00			20.00	6.40	0.20	>>>	0.00			
				1.30	0.00			20.10	6.40	0.10	>>>	0.00			
				2.00	0.00			20.20	6.30	0.10	>>>	0.00			
				2.30	0.00			20.40	6.20	0.10	>>>	0.00			
				3.00	0.00			20.50	6.10	0.10	>>>	0.00			
				3.30	0.00			20.50	6.10	0.10	>>>	0.00			
				4.00	0.00			20.60	6.00	0.10	>>>	0.00			
				4.30	0.00			20.70	5.90	0.10	>>>	0.00			
				5.00	0.00			20.90	5.70	0.10	>>>	0.00			
				5.30	0.00			21.00	5.70	0.00	>>>	0.00			
				6.00	0.00			21.00	5.60	0.00	>>>	0.00			
				6.30	0.00			21.10	5.50	0.00	>>>	0.00			
WS14	444199.7	117907.6	11/01/17	0	0.00	1007	0.05	1.40	0.20	20	3.00	0.00	2.04	3.04	-
				30	0.00			1.70	0.20	19.1	3.00	0.00			
				1.00	0.00			1.80	0.20	19.1	3.00	0.00			
				1.30	0.00			1.80	0.20	19.2	3.00	0.00			
				2.00	0.00			1.80	0.20	19.2	3.00	0.00			
				2.30	0.00			1.80	0.20	19.2	2.00	0.00			
				3.00	0.00			1.80	0.20	19.2	2.00	0.00			
				3.30	0.00			1.80	0.20	19.2	2.00	0.00			
				4.00	0.00			1.80	0.20	19.2	2.00	0.00			
				4.30	0.00			1.80	0.20	19.2	2.00	0.00			
				5.00	0.00			1.80	0.20	19.2	2.00	0.00			
				5.30	0.00			1.80	0.20	19.2	2.00	0.00			
				6.00	0.00			1.80	0.20	19.2	2.00	0.00			
				6.30	0.00			1.80	0.20	19.2	2.00	0.00			
WS15	444204.9	117857.8	11/01/17	0	0.00	1007	0.04	1.30	0.10	19.3	2.00	0.00	1.58	2.52	-
				30	0.00			1.30	0.10	19.7	2.00	0.00			
				1.00	0.00			1.30	0.10	19.8	2.00	0.00			
				1.30	0.00			1.30	0.10	19.8	2.00	0.00			
				2.00	0.00			1.30	0.10	19.8	2.00	0.00			
				2.30	0.00			1.30	0.10	19.8	2.00	0.00			
				3.00	0.00			1.30	0.10	19.8	2.00	0.00			
				3.30	0.00			1.30	0.10	19.8	2.00	0.00			
				4.00	0.00			1.30	0.10	19.8	2.00	0.00			
				4.30	0.00			1.30	0.10	19.8	2.00	0.00			
				5.00	0.00			1.30	0.10	19.8	2.00	0.00			
				5.30	0.00			1.30	0.10	19.8	2.00	0.00			
				6.00	0.00			1.30	0.10	19.8	2.00	0.00			
				6.30	0.00			1.30	0.10	19.8	2.00	0.00			
				0	0.00			0.60	0.10	20.1	2.00	0.00			
				30	0.00			0.80	0.10	20.5	2.00	0.00			

GAS AND GROUNDWATER LEVELS
Client: Highwood Land LLP
Site: Stoneham - Land at Chestnut Avenue, Eastleigh
Job Number: 61033023-002

Borehole no.	X	Y	Date	Time (sec)	Gas Flow (ltr/hr)	Barometric Pressure (mb)	Relative Pressure (mb)	Carbon dioxide (%)	Methane (%)	Oxygen (%)	CH_4 LEL (%)	Hydrogen sulphide (ppm)	Water level (mbgl)	Base of borehole	Remarks
WS16	444180.0	117752.7	11/01/17	1.00	0.00	1007	0.02	1.60	0.10	19.7	2.00	0.00	DRY	1.3	-
				1.30	0.00			1.70	0.10	19.7	2.00	0.00			
				2.00	0.00			1.70	0.10	19.7	2.00	0.00			
				2.30	0.00			1.70	0.10	19.7	2.00	0.00			
				3.00	0.00			1.70	0.10	19.7	2.00	0.00			
				3.30	0.00			1.70	0.10	19.7	2.00	0.00			
				4.00	0.00			1.70	0.10	19.7	2.00	0.00			
				4.30	0.00			1.70	0.10	19.7	2.00	0.00			
				5.00	0.00			1.70	0.10	19.7	2.00	0.00			
				5.30	0.00			1.70	0.10	19.7	2.00	0.00			
				6.00	0.00			1.70	0.10	19.7	2.00	0.00			
				6.30	0.00			1.70	0.10	19.7	2.00	0.00			
WS17	444137.2	117671.5	11/01/17	0	0.00	1007	0.05	2.20	0.10	19	2.00	0.00	DRY	3.00	-
				30	0.00			3.40	0.10	17.9	2.00	0.00			
				1.00	0.00			3.70	0.10	17.7	2.00	0.00			
				1.30	0.00			3.90	0.10	17.6	2.00	0.00			
				2.00	0.00			3.90	0.10	17.6	2.00	0.00			
				2.30	0.00			3.90	0.10	17.6	2.00	0.00			
				3.00	0.00			4.00	0.10	17.5	2.00	0.00			
				3.30	0.00			4.00	0.10	17.5	2.00	0.00			
				4.00	0.00			4.00	0.10	17.5	2.00	0.00			
				4.30	0.00			4.00	0.10	17.5	2.00	0.00			
				5.00	0.00			4.00	0.10	17.5	2.00	0.00			
				5.30	0.00			4.00	0.10	17.5	2.00	0.00			
				6.00	0.00			4.00	0.10	17.5	2.00	0.00			
				6.30	0.00			4.00	0.10	17.5	2.00	0.00			
WS18	444099.4	117503.3	11/01/17	0	0.00	1007	0.01	1.40	0.20	17.4	3.00	0.00	DRY	2.93	-
				30	0.00			2.80	0.10	19.2	2.00	0.00			
				1.00	0.00			3.20	0.10	19	2.00	0.00			
				1.30	0.00			3.50	0.10	18.8	2.00	0.00			
				2.00	0.00			3.50	0.10	18.8	2.00	0.00			
				2.30	0.00			3.50	0.10	18.8	2.00	0.00			
				3.00	0.00			3.50	0.10	18.8	2.00	0.00			
				3.30	0.00			3.50	0.10	18.8	2.00	0.00			
				4.00	0.00			3.50	0.10	18.8	2.00	0.00			
				4.30	0.00			3.50	0.10	18.8	2.00	0.00			
				5.00	0.00			3.50	0.10	18.8	2.00	0.00			
				5.30	0.00			3.50	0.10	18.8	2.00	0.00			
				6.00	0.00			3.50	0.10	18.8	2.00	0.00			
				6.30	0.00			3.50	0.10	18.8	2.00	0.00			
WS19	444059.8	117383.1	11/01/17	0	0.00	1009	0.01	0.10	0.10	21.1	2.00	0.00	DRY	1.47	-
				30	0.00			3.00	0.10	17.4	2.00	0.00			
				1.00	0.00			3.10	0.10	16.8	2.00	0.00			
				1.30	0.00			2.60	0.10	17.4	2.00	0.00			
				2.00	0.00			2.40	0.10	17.7	2.00	0.00			
				2.30	0.00			2.30	0.10	17.9	2.00	0.00			
				3.00	0.00			2.20	0.10	18.0	2.00	0.00			
				3.30	0.00			2.10	0.10	18.2	2.00	0.00			
				4.00	0.00			2.00	0.10	18.5	2.00	0.00			
				4.30	0.00			1.90	0.10	18.7	2.00	0.00			
				5.00	0.00			1.80	0.10	18.9	2.00	0.00			
				5.30	0.00			1.70	0.10	19.0	2.00	0.00			
				6.00	0.00			1.60	0.10	19.1	2.00	0.00			
				6.30	0.00			1.60	0.10	19.1	2.00	0.00			
WS20	444019.6	117577.9	11/01/17	0	0.00	1009	0.03	3.90	0.10	16.9	2.00	0.00	DRY	5.04	-
				30	0.00			4.20	0.10	16.1	2.00	0.00			
				1.00	0.10			4.30	0.10	16	2.00	0.00			
				1.30	0.10			4.10	0.10	16.2	2.00	0.00			
				2.00	0.10			3.90	0.10	16.6	2.00	0.00			
				2.30	0.00			3.60	0.10	16.9	2.00	0.00			
				3.00	0.00			3.50	0.10	17.1	2.00	0.00			
				3.30	0.00			3.30	0.10	17.2	2.00	0.00			
				4.00	0.00			3.30	0.10	17.3	2.00	0.00			
				4.30	0.00			3.20	0.10	17.4	2.00	0.00			
				5.00	0.00			3.10	0.10	17.5	2.00	0.00			
				5.30	0.00			3.10	0.10	17.5	2.00	0.00			
				6.00	0.00			3.10	0.10	17.5	2.00	0.00			
				6.30	0.00			3.10	0.10	17.5	2.00	0.00			
WS21	443590.6	117728.0	11/01/17	0	0.00	1008	0	0.10	0.10	20.7	2.00	0.00	1.21	2.1	-
				30	0.00			0.20	0.10	19.1	2.00	0.00			
				1.00	0.00			0.20	0.10	19	2.00	0.00			
				1.30	0.00			0.20	0.10	19.1	2.00	0.00			
				2.00	0.00			0.20	0.10	19.1	2.00	0.00			
				2.30	0.00			0.20	0.10	19.1	2.00	0.00			
				3.00	0.00			0.20	0.10	19.1	2.00	0.00			
				3.30	0.00			0.20	0.10	19.1	2.00	0.00			
				4.00	0.00			0.20	0.10	19.1	2.00	0.00			
				4.30	0.00			0.20	0.10	19.1	2.00	0.00			
				5.00	0.00			0.20	0.10	19.1	2.00	0.00			
				5.30	0.00			0.20	0.10	19.1	2.00	0.00			
				6.00	0.00			0.20	0.10	19.1	2.00	0.00			
				6.30	0.00			0.20	0.10	19.1	2.00	0.00			
WS22	443330.2	117824.0	-	-	-	-	-	-	-	-	-	-	-	-	LOST
WS23	443494.8	118018.5	11/01/17	0	0.00	1008	0	3.00	0.10	17	2.00	0.00	2.27	2.82	-
				30	0.00			5.00	0.10	16.5	2.00	0.00			
				1.00	0.00			5.20	0.10	15	2.00	0.00			
				1.30	0.00			5.30	0.10	14	2.00	0.00			
				2.00	0.00			5.30	0.10	14	2.00	0.00			
				2.30	0.00			5.30	0.10	14	2.00	0.00			
				3.00	0.00			5.30	0.10	14	2.00	0.00			
				3.30	0.00			5.30	0.10	14	2.00	0.00			
				4.00	0.00			5.30	0.10	14	2.00	0.00			

GAS AND GROUNDWATER LEVELS
Client: Highwood Land LLP
Site: Stoneham - Land at Chestnut Avenue, Eastleigh
Job Number: 61033023-002

Borehole no.	X	Y	Date	Time (sec)	Gas Flow (ltr/hr)	Barometric Pressure (mb)	Relative Pressure (mb)	Carbon dioxide (%)	Methane (%)	Oxygen (%)	CH_4 LEL (%)	Hydrogen sulphide (ppm)	Water level (mbgl)	Base of borehole	Remarks
				4.30	0.00			5.30	0.10	14	2.00	0.00			
				5.00	0.00			5.30	0.10	14	2.00	0.00			
				5.30	0.00			5.30	0.10	14	2.00	0.00			
				6.00	0.00			5.30	0.10	14	2.00	0.00			
				6.30	0.00			5.30	0.10	14	2.00	0.00			
WS24	443323.5	117659.4	11/01/17	0	0.00	1008	0	3.70	0.10	21.2	1.00	0.00	0.67	2.35	-
				30	0.00			3.70	0.10	21.3	1.00	0.00			
				1.00	0.00			3.70	0.10	21.3	1.00	0.00			
				1.30	0.00			3.70	0.10	21.3	1.00	0.00			
				2.00	0.00			3.70	0.10	21.3	1.00	0.00			
				2.30	0.00			3.70	0.10	21.3	1.00	0.00			
				3.00	0.00			3.70	0.10	21.3	1.00	0.00			
				3.30	0.00			3.70	0.10	21.3	1.00	0.00			
				4.00	0.00			3.80	0.10	21.3	1.00	0.00			
				4.30	0.00			3.80	0.10	21.3	1.00	0.00			
				5.00	0.00			3.80	0.10	21.3	1.00	0.00			
				5.30	0.00			3.80	0.10	21.3	1.00	0.00			
				6.00	0.00			3.80	0.10	21.3	1.00	0.00			
				6.30	0.00			3.80	0.10	21.3	1.00	0.00			
WS25	443366.7	117652.2	11/01/17	0	0.10	1008	0	5.30	0.10	18	2.00	0.00	1.78	4.47	-
				30	0.10			5.80	0.10	17.6	2.00	0.00			
				1.00	0.10			5.80	0.10	17	2.00	0.00			
				1.30	0.10			5.80	0.10	17	2.00	0.00			
				2.00	0.00			5.80	0.10	17	2.00	0.00			
				2.30	0.00			5.80	0.10	17	2.00	0.00			
				3.00	0.00			5.80	0.10	17	2.00	0.00			
				3.30	0.00			5.80	0.10	17	2.00	0.00			
				4.00	0.00			5.80	0.10	16	2.00	0.00			
				4.30	0.00			5.80	0.10	16	2.00	0.00			
				5.00	0.00			5.80	0.10	16	2.00	0.00			
				5.30	0.00			5.80	0.10	16	2.00	0.00			
				6.00	0.00			5.80	0.10	16	2.00	0.00			
				6.30	0.00			5.80	0.10	16	2.00	0.00			
WS26	443611.0	117852.5	11/01/17	0	0.00	1008	0	1.80	0.10	20	1.00	0.00	DRY	1.92	-
				30	0.00			1.85	0.10	19.9	1.00	0.00			
				1.00	0.00			1.90	0.10	19.8	1.00	0.00			
				1.30	0.00			2.00	0.10	19.8	1.00	0.00			
				2.00	0.00			2.00	0.10	19.8	1.00	0.00			
				2.30	0.00			2.00	0.10	19.8	1.00	0.00			
				3.00	0.00			2.10	0.10	19.8	1.00	0.00			
				3.30	0.00			2.10	0.10	19.8	1.00	0.00			
				4.00	0.00			2.10	0.10	19.9	1.00	0.00			
				4.30	0.00			2.10	0.10	19.7	1.00	0.00			
				5.00	0.00			2.10	0.10	19.7	1.00	0.00			
				5.30	0.00			2.10	0.10	19.7	1.00	0.00			
				6.00	0.00			2.10	0.10	19.7	1.00	0.00			
				6.30	0.00			2.10	0.10	19.7	1.00	0.00			
WS27	444125.7	117644.6	-	-	-										LOST
WS28	444180.5	117657.7	-	-	-										LOST
WS29	444069.0	117842.5	11/01/17	0	0.00	1007	0.03	1.70	0.10	18.7	2.00	0.00	2.88	5	-
				30	0.00			1.80	0.10	18.7	2.00	0.00			
				1.00	0.00			2.00	0.10	17.8	2.00	0.00			
				1.30	0.00			2.00	0.10	17.8	2.00	0.00			
				2.00	0.00			2.10	0.10	17.8	2.00	0.00			
				2.30	0.00			2.10	0.10	17.8	2.00	0.00			
				3.00	0.00			2.10	0.10	17.8	2.00	0.00			
				3.30	0.00			2.10	0.10	17.8	2.00	0.00			
				4.00	0.00			2.10	0.10	17.8	2.00	0.00			
				4.30	0.00			2.10	0.10	17.8	2.00	0.00			
				5.00	0.00			2.10	0.10	17.8	2.00	0.00			
				5.30	0.00			2.10	0.10	17.8	2.00	0.00			
				6.00	0.00			2.10	0.10	17.8	2.00	0.00			
				6.30	0.00			2.10	0.10	17.8	2.00	0.00			

APPENDIX C
GROUND GAS RISK MEMO

MEMO

Job	**Stoneham Park**
Client	**Highwood Group Ltd**
Memo no	**GG-002**
Date	**27-11-17**
To	**Jonathan Wilson**
From	**Mark Bell**

Brief

Ramboll UK Ltd (Ramboll) have been commissioned by Highwood Group Ltd (Highwood) to refine the geographical extent of the Zone 1 (Characteristic Situation 2 - CS2) and the Zone 2 (Amber 2) ground gas zones (GGZ) identified to date at the Stoneham Park development site for the purpose of informing design.

This review has been undertaken following a recent phase of ground investigation and associated ground gas monitoring rounds undertaken by Soil Limited (Soils) between May and November 2017 and utilises data from previous phases of work, where appropriate.

Introduction

A preliminary ground gas risk assessment was undertaken within the *Contaminated Land Assessment* (Ramboll, 2015) report based upon one round of ground gas monitoring undertaken between 6th June and 12th June 2015. Six additional rounds of ground gas monitoring were undertaken by Ramboll between 5th November 2016 and 11th January 2017 to provide additional site data used to complete an updated assessment, including ground gas related recommendations for the development appropriate to the amount of information available at that time.

Two zones of the site were identified at this stage as potentially requiring some form of ground gas protection measures and as such additional ground investigation works were recommended by Ramboll to further delineate the boundary of said areas for the purpose of design and to interrogate the datasets further. The two ground gas risk zones are presented in *North Stoneham Park Phase 1 Remediation Strategy* (Ramboll, 2016) and shown on Figures 1 and 3 below.

The proposed works were outlined within the *Stoneham Park GG-001 Memo* (Ramboll, 2017) and completed by Soils between 27th April and 17th July 2017. 9 rounds of ground gas monitoring were undertaken between 24th July and 3rd November 2017 from the newly installed wells. No ground gas monitoring was undertaken from boreholes installed prior to the most recent phase of investigation.

Scope

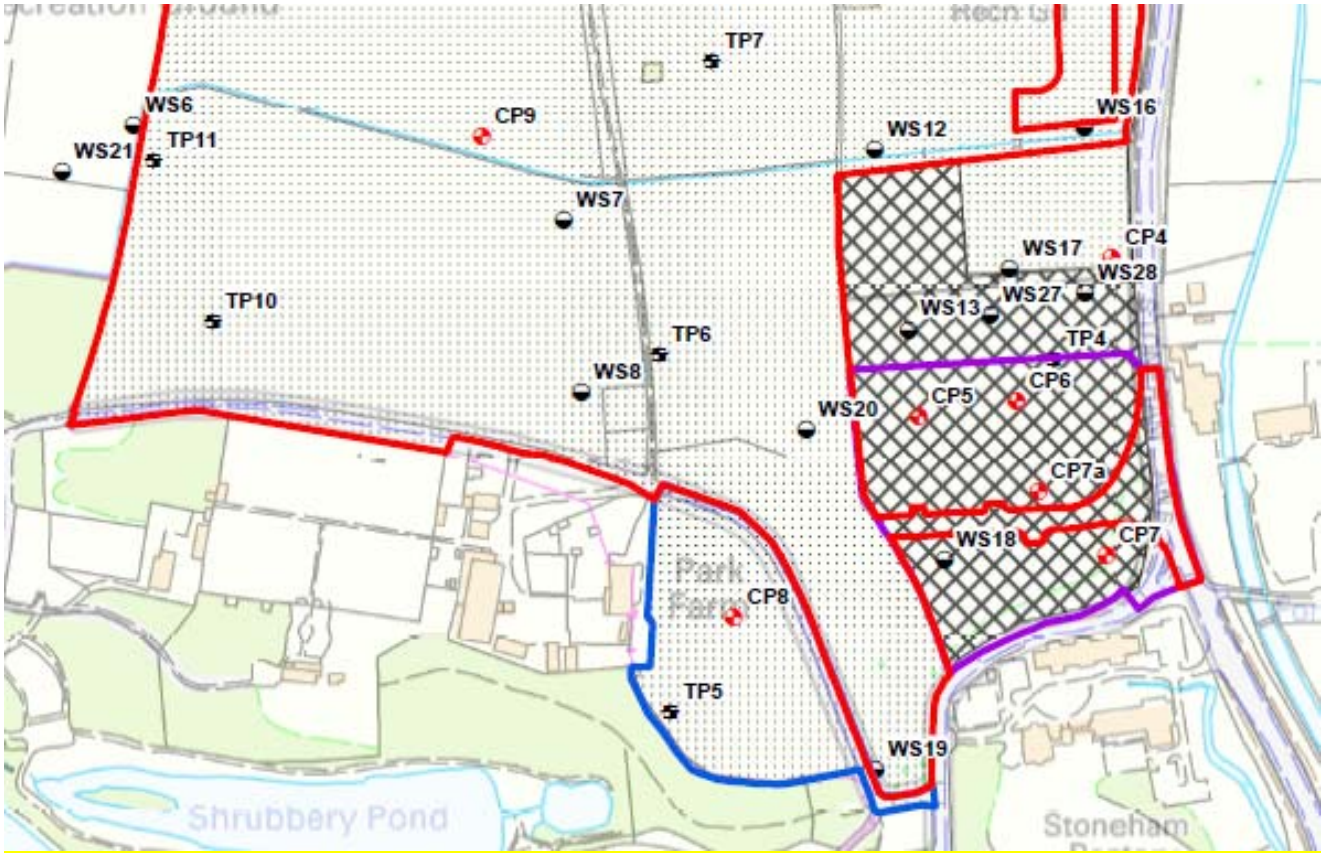
The scope of works undertaken herein comprises:

- A review of the new and existing ground gas data associated with Zone 1 and Zone 2;
- A review of relevant data acquired in areas of the site outside the proposed scope of the Stoneham Park GG-001 Memo (Ramboll 2017);
- A review of the geology in relevant areas of the site;
- A review of the previously proposed boundaries associated with Zones 1 and 2;
- Provision of a series of conclusions and recommendations drawn from the data provided.

Ground Gas Zone 1 (GGZ1): School Site CS2

GGZ1 abuts the south eastern boundary of the site in the area of the proposed school. The area, outlined on Figure 1, was characterised as CS2 during the previous phase of assessment.

Figure 1: Zone 1 – Former Geographical Extent – CS2



Historical data showed that the worst case ground gas concentrations and flow rates reported in this area were:

- 8.0% w/w CH_4;
- 23.3% w/w CO_2; and
- <0.01 1/hr.

The aforementioned data was taken from WS13 during the monitoring round undertaken on the 25th November 2016. Recorded concentrations from this monitoring well were found to be relatively consistent across all of the ground gas monitoring rounds undertaken following the first phase of ground investigation indicating the data is representative and reliable. The ground gas readings from WS13 data formed the basis for recommending the area intended for development as a school (within which WS13 is located) be classified as CS2, namely that contained within the hashed area in Figure 1. CP5 also recorded elevated concentrations of carbon dioxide above the 5% w/w trigger threshold for consideration to increase the characteristic situation from CS1 to CS2. CP5 represents the closest borehole to the south of WS13. No flow was recorded across any of the exploratory hole positions in this area.

Elevated concentrations of hydrocarbons in shallow soils and a registered landfill site to the east are two potential sources of ground gas in this area of the site. The landfill site is shown on the Envirocheck Extract on Appendix B.

As part of the previous phase of works it was recommended that additional ground investigation and ground gas monitoring works were considered necessary to further understand the magnitude of the risk within this area of the site and to better delineate the extent of elevated ground gases and establish, if viable, the most likely source.

8 additional window sample holes (WS1a-WS1h inclusive) were advanced and installed around, to the east, to the southeast and to the south of WS13 and CP5 and monitored on 9 occasions. Figure 2 below shows the exploratory hole location plan provided by Soils Limited. Exploratory Logs of the recorded ground conditions as well as the installation details of the wells are provided in Appendix A.

Figure 2: Zone 1 – Additional Exploratory Hole Locations

No additional data is available from existing wells following the most recent round of ground gas monitoring and as such, no recent data for WS13 is available. The data from the additional ground gas monitoring undertaken in this area showed the following worst case gas concentrations and flow rates taken across all new exploratory holes in this area:

- 13% w/w CH_4;
- 21.2% w/w CO_2; and
- 0.81 l/hr flow rate.

These worst case conditions result in a GSV of 0.170 l/hr. The threshold between CS1 and CS2 is 0.07 l/hr. CH_4 was noted above the threshold of 1% w/w on 1 out of 60 occasions and was noted above detection limits on 2 occasions, one of which was the maximum recorded concentration reported above. As such, the positive methane reading taken from WS1c is anomalous. CO_2 was noted above the 5% w/w threshold on 32 out of 60 occasions. The recorded concentrations of carbon dioxide are highest in the north western corner of the area investigated and reduce gradually to the south, east and southeast. Flow rate was recorded above detection limits on 8 occasions.

Readings from this area were:

- Typically 0% w/w CH_4;
- Variable 0% w/w CO_2 to >20% w/w CO_2; and
- Variable flow rate typically between <0.01 l/hr and 0.5l/hr.

The ground gas data acquired from the additional phase of investigation result in a CS2 classification due to a combination of the worst case GSV and also due to the consistently high recorded concentrations of carbon dioxide.

Source of Ground Gas is GGZ1

The additional ground investigation data and ground gas monitoring data demonstrates that there are ground gases present beneath this area of the site. The positive flow rates in this area (notably the northwest corner) compared with similar ground conditions over the rest of the site would indicate that there is a localised active source of ground gas. Concentrations of methane almost wholly below detection limits and persistently elevated concentrations of carbon dioxide would indicate that the organic material being decomposed is being done so under almost exclusively aerobic conditions.

Some general observations and basic interpretation of the dataset has provided the following insight into the likelihood that the ground gas concentrations recorded are attributable to previously identified potential sources:

Landfill Site Adjacent to the East of the Site: The concentrations of ground gas along the eastern boundary of the site are negligible to low compared with those in the north western part of this area. Considering the ground conditions are relatively consistent across this part of the site, it is considered unlikely that ground gas concentrations would be lower closer to the landfill site and higher further away as the data is suggesting. Aside of this, it would also be relatively unlikely that grounds gases emitted from the landfill site, if recorded on site, would be absent of methane within wells which are recording elevated concentrations of carbon dioxide. Finally, it is considered likely that should the landfill site be the source of ground gases in

this area then the flow rate would be more consistent across this area of the site rather than being present only in the western most part of the newly investigated area. Due to these reasons, it is considered unlikely that the ground gases in Zone 1 are attributable to the registered landfill site located off-site to the east of this area.

Hydrocarbon Source: No evidence of hydrocarbon odours, vegetation distress or significantly elevated readings on the photoionization detector (PID) have been recorded during investigatory or monitoring works in this area of the site. Soils data is also absent of a hydrocarbon signature aside of tarmac, which is not a viable source of the ground gases recorded. Water samples taken from the previous phase of investigation e.g. from WS13 show no evidence of hydrocarbons which further reduces the likelihood that a significant hydrocarbon source being present in this area. Given this information, should a hydrocarbon source be responsible for generating the ground gases identified in this area of the site, it is unlikely to be in the area investigated.

Probable Source of Ground Gas:

The following facts are known about the ground gases recorded in this area of the site, namely:

- The concentration gradient of the ground gases indicates that the source is located to the north / northwest of WS1a and WS1c;
- The absence of methane indicates that there is a replenishing and available supply of oxygen at the location of organic degradation. This is likely due to the presence of permeable ground (which is evidenced by the granular deposits in this area) and the source being at shallow depth (so atmospheric oxygen can replenish that spent during aerobic respiration.
- The source is localised; and
- There is no direct evidence of the source in the historical maps, Envirocheck report, soils data nor groundwater data.

A review has been undertaken of available satellite imagery to ascertain whether a viable source is visible from the air. During this exercise a mound of material of unknown composition has been found which is located in an appropriate position to represent the potential source of ground gases observed in this area of the site. This source of organic material is partially hidden beneath trees approximately 35m north of WS1c and may represent the surface expression of an area of buried waste.

Ramboll consider it likely, given the evidence available, that the source of ground gas in this area of the site is most likely to be the area of waste / partially buried waste located 35m to the north of WS1c. This area is shown in Figure 3 below:

Figure 3 – Location of most probable source of ground gas

Note: The full vertical and lateral extent of this material is unknown.

If this material is demonstrated to be the source of ground gas in this area of the site, then its removal would likely result in a reduction in ground gas regime from CS2 to CS1 and remove risks to the north and west which may be associated with these conditions and is not currently well defined.

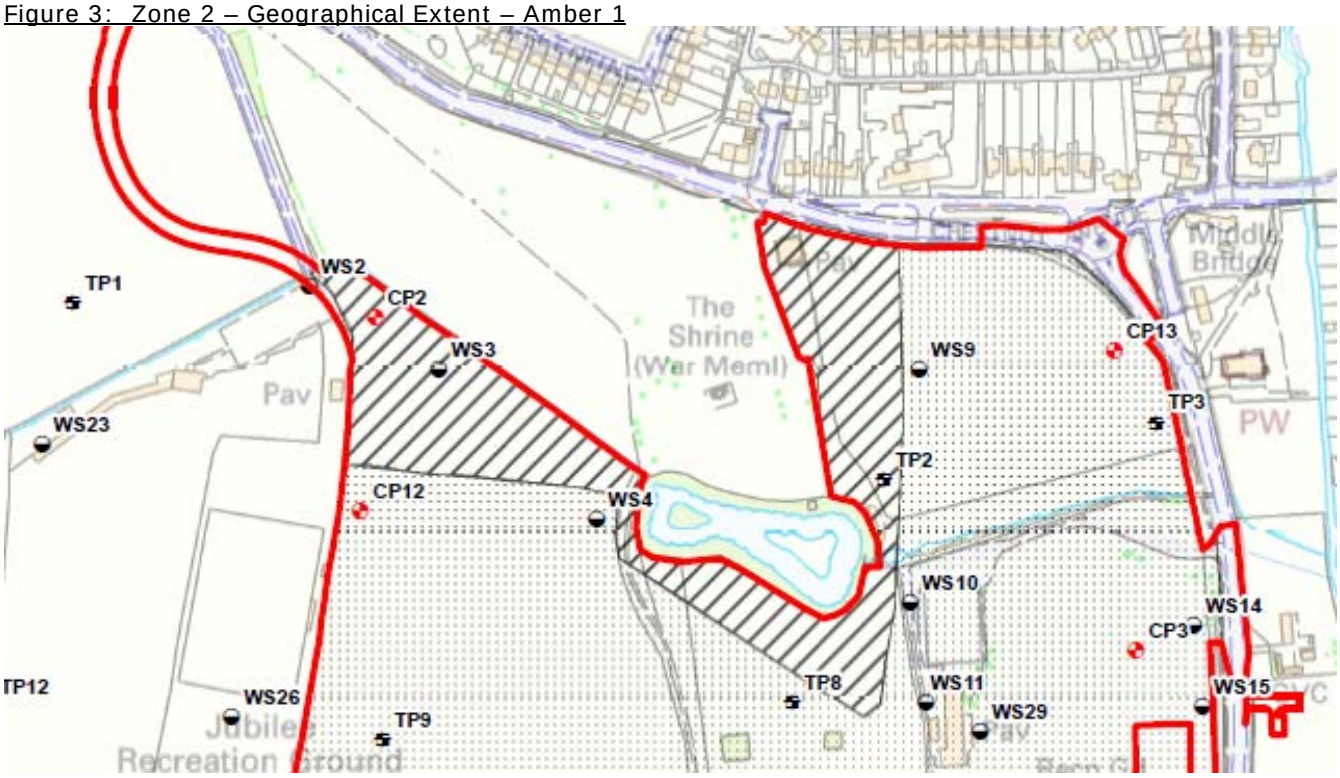
If this source however is not proven and remediated, then this area of the site is recommended to be classified as CS2 and additional investigation undertaken to the west and north to confirm how far these conditions extend into the adjacent residential plots.

Ground Gas Zone 2 (GGZ2): Amber 2

GGZ2 abuts the northern boundary of the site, immediately adjacent to a historic landfill site. Worst case data acquired following the first phase of investigation at the site indicated an Amber 2 ground gas regime when classified against the NHBC Traffic Light system for a low rise residential dwelling with a minimum 150mm underfloor void. At the time of assessment, the foundation detail for the development was not known however has been subsequently confirmed as a beam and block system with a 200mm underfloor void. The foundation detail is presented on Drawing Number 17.021.DETAIL 1. The foundation detail has validated the assessment method used at the time and has also been used for the most recent dataset.

Figure 3 shows the boundary of GGZ2 which was drawn to extend around the perimeter of the historical landfill to the north, where *The Shrine* war memorial is shown.

Figure 3: Zone 2 – Geographical Extent – Amber 1



Historical data showed that the worst case ground gas concentrations and flow rates reported in this area were:

- 0.1% w/w CH_4;
- 6.7% w/w CO_2;and
- 2.4 1/hr.

The aforementioned data was taken from exploratory hole WS02 during the monitoring round undertaken on 11th January 2017 following the first phase of investigation and formed the basis for conservatively recommending an inferred GGZ2 boundary around the historical landfill site, which was presumed to be the source of the elevated concentrations of ground gas and positive flow.

WS02 was also monitored on 7th December 2016 during which time no flow was recorded, CO_2 measured 6.7% and CH_4 measured 0.1%w/w. WS02 was not monitored during any other occasions.

The combined data suggested that additional ground investigation works and subsequent ground gas monitoring were required in this area to interrogate the anomalous reading, provide more data in close proximity to the landfill and further test the hypothesis that the ground gas readings recorded were attributable to the adjacent historical landfill site or whether they were attributable to another source or an anomalous data point.

6 additional window sample holes (WS2a-WS2f inclusive) were advanced and installed around the southern and eastern boundaries of the historical landfill site and monitored on 9 occasions. Figure 4 below shows the

exploratory hole location plan provided by Soils Limited. Exploratory Logs of the recorded ground conditions as well as the installation details of the wells are provided in Appendix A

Figure 4: Zone 2 – Additional Exploratory Hole Locations

The data from the ground gas monitoring undertaken in this area showed the following worst case gas concentrations and flow rates taken across all new exploratory holes in this area:

- 0% w/w CH_4;
- 8.2% w/w CO_2; and
- 0.6 l/hr flow rate

These worst case conditions result in a GSV of 0.0492 l/hr. The threshold between Green and Amber 1 is 0.78 l/hr. CO_2 was noted above the 5% w/w threshold on 9 out of 50 occasions however the exceedances were intermittent and marginal:

Readings from this area were typically:

- 0% w/w CH_4;
- <5% w/w CO_2; and
- <0.3 l/hr flow rate and often 0.0 l/hr across some / all wells during a monitoring round.

Although WS02 was not monitored during the most recent rounds of monitoring, the high 2.4l/hr flow rate historically measured was not recorded in close proximity to the landfill in another other holes or on any other occasions in either new or existing wells. Further scrutiny of the exploratory hole log of WS02 suggests

that the flow rate recorded was more likely representative of compressed air escaping from the bung due to the water level being above the top of the screened section at the time of monitoring. As such, Ramboll do not consider it likely that the flow rate recorded is representative of advective flow within the superficial deposits especially when the other data in the same ground conditions across this area is taken into account.

In light of the additional data made available, Ramboll consider it appropriate to exclude the anomalous reading measured within WS02 on the 7th December 2017 from the ground gas risk assessment. Considering the "typical maximum concentrations" of CO_2 within the residual dataset are only marginally above the threshold (and the majority are below), methane was consistently recorded below detection limits, the flow rates are consistently absent or negligible and the calculated GSV is an order of magnitude below the threshold of Amber 1, a Green classification is considered to be more appropriate.

Other Areas

Although outside the remit of this report, additional wells were installed by Soils Ltd in other areas of the site. WS35 shows elevated concentrations of CO_2 and some positive flow which may result in a reclassification of this area as Amber1. Additional work is required in this area prior to finalising the design detail for associated plots.

Conclusions

GGZ1 has been assessed as CS2, however has the potential to be reduced to CS1 following removal of the source of ground gas in this area of the site. This is based on the assumption that the mound of waste / buried waste in the corner of the adjacent field is the source of ground gas, which will need to be confirmed prior to removal followed by a reassessment of the residual ground gas regime.

Based on the information reviewed to date, Ramboll consider it appropriate to exclude the anomalous reading measured within WS02 on the 7th December 2017 from the ground gas risk assessment in GGZ2. Considering the "typical maximum concentrations" of CO_2 within the residual dataset are only marginally above the threshold (and the majority are below), methane was consistently recorded below detection limits, the flow rates are consistently absent or negligible and the calculated GSV is an order of magnitude below the threshold of Amber 1, a Green classification is considered to be more appropriate.

Recommendations

Ramboll recommends that further work is undertaken GGZ1 and the findings formalised within an updated remediation strategy. This should comprise either:

- Intrusive investigation into the potential ground gas source in the corner of the field to the north, removal of the source and monitoring of residual ground gases from existing wells to demonstrate the risk has been reduced and the area can be re-classified as CS1 (subject to favourable results); or

- Incorporate CS2 protection measures into this area of the site and undertake additional ground investigation works to the west and north to fully understand the extent of these conditions. A re-assessment of the ground gas risk in these adjacent plots should be undertaken simultaneously.

Ramboll recommend that GGZ2 is re-classified as "*Green*" and as such no ground gas protection measures are considered necessary. The change in ground gas regime classification should be formalised in a revised remedial strategy.

All conclusions and recommendations made within this report should be approved by the Local Authority and Building Control prior to implementing any changes to the existing strategy.

Further work is recommended in the area of WS35, which comprises a newly installed well away from the areas of interest. There is potential that this area may not be classified as "green" which would invalidate the existing remediation strategy for the wider area in this part of the site.

APPENDIX A

Soils Limited
Newton House, Cross Road, Tadworth KT20 5SR
Tel: 01737 814221 Email: admin@soilslimited.co.uk

Borehole Log

Borehole No. **WS1**
Sheet 1 of 1

Project Name: Land South of Chestnut Avenue,	Project No.: 16177	Co-ords: E444011.72 N118133.25	Hole Type WS
Location: North Stoneham Park, Eastleigh, SO50 9HQ		Level: 14.59m AOD	Scale 1:50
Client: Highwood Group		Dates: 08/05/2017	Logged By MB

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m AOD)	Legend	Stratum Description
		0.15	D1		0.25	14.34		Brown friable slightly gravelly very (fine) sandy SILT. Gravel is sub-angular to rounded fine to coarse flint. Some roots (1-2mm). TOPSOIL
		0.50	D2					Firm light orangish brown mottled brown slightly sandy CLAY. Sand is fine. Occasional rootlets seen to 0.6m. RIVER TERRACE DEPOSITS (1)
		1.00	D3					
		1.50	D4		1.60	12.99		
		1.80	D5					Firm light brown slightly sandy slightly gravelly CLAY. Sand is fine. Gravel is sub-angular to rounded fine to coarse flint. RIVER TERRACE DEPOSITS (1)
		2.30	D6		2.15	12.44		Firm light brown slightly sandy slightly gravelly CLAY. Locally gravelly. Sand is fine and medium. Gravel is sub-angular to rounded fine to coarse flint. RIVER TERRACE DEPOSITS (1)
		2.70	D7		2.55	12.04		Firm light brown mottled light orangish brown slightly sandy slightly gravelly CLAY. Sand is fine. Gravel is sub-angular to rounded fine and medium flint. RIVER TERRACE DEPOSITS (1)
		3.50	B8		3.30	11.29		Orangish brown sandy GRAVEL. Sand is fine to coarse. Gravel is sub-angular to rounded fine to coarse flint. RIVER TERRACE DEPOSITS (1)
		4.50	B9					
		4.97	D10		4.95	9.64		Grey silty CLAY. (minimal recovery). LONDON CLAY FORMATION
					5.00	9.59		End of Borehole at 5.00m

General Remarks:
Roots observed to 0.60m bgl. No groundwater encountered. Hole collapsed back to 4.00m bgl.

Groundwater Remarks:

Borehole Type
CP: Cable Percussive
WS: Windowless Sampler
RC: Rotary Cored

Sample Types
D: Disturbed
B: Bulk
J: Jar
W: Water
U: Undisturbed

In-Situ Testing
SPT: Split spoon - Standard Penetration Test
CPT: Cone - Standard Penetration Test

Soils Limited
Newton House, Cross Road, Tadworth KT20 5SR
Tel: 01737 814221 Email: admin@soilslimited.co.uk

Borehole Log

Borehole No. **WS13**
Sheet 1 of 1

Project Name: Land South of Chestnut Avenue,	Project No.: 16177	Co-ords: E443811.72 N118000.42	Hole Type WS
Location: North Stoneham Park, Eastleigh, SO50 9HQ		Level: 22.03m AOD	Scale 1:50
Client: Highwood Group		Dates: 27/04/2017	Logged By MB

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m AOD)	Legend	Stratum Description
		0.20	D1		0.45	21.58		Dark brown clayey gravelly fine SAND. Gravel is sub-angular to rounded fine to coarse flint. Frequent roots (1-2mm). TOPSOIL
		0.70	D2		1.00	21.03		Firm brown mottled light brownish grey slightly sandy slightly gravelly CLAY. Sand is fine. Gravel is angular to rounded fine to coarse flint. Occasional rootlets. RIVER TERRACE FORMATION (3)
		1.20	D3		1.35	20.68		Brown slightly clayey very gravelly fine and medium SAND. Gravel is angular to sub-rounded fine to coarse flint. RIVER TERRACE FORMATION (3)
		1.40 - 1.70	B4		1.75	20.28		Brown sandy GRAVEL. Sand is fine to coarse. Gravel is sub-angular to sub-rounded fine to coarse flint. RIVER TERRACE FORMATION (3)
		1.90	D5					Firm orangish brown mottled light grey slightly sandy slightly gravelly CLAY. Sand is fine. Gravel is sub-angular to sub-rounded fine to coarse flint. RIVER TERRACE FORMATION (3)
		2.30	D6					
		2.80	D7					
		3.40	D8		3.30	18.73		Firm fissured brownish grey mottled orangish brown CLAY with occasional partings of orangish brown silt and fine sand. Fissures are sub horizontal and randomly orientated, very closely spaced and orangish brown stained. LONDON CLAY FORMATION
		3.90	D9					
		4.20	D10		4.00	18.03		Stiff dark brownish grey slightly sandy CLAY with occasional partings of grey silt and fine sand. LONDON CLAY FORMATION
		4.70	D11		4.90	17.13		End of Borehole at 4.90m

General Remarks:
Roots observed to 0.90m bgl. No groundwater encountered.

Groundwater Remarks:

Borehole Type
CP: Cable Percussive
WS: Windowless Sampler
RC: Rotary Cored

Sample Types
D: Disturbed
B: Bulk
J: Jar
W: Water
U: Undisturbed

In-Situ Testing
SPT: Split spoon - Standard Penetration Test
CPT: Cone - Standard Penetration Test

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Borehole Log

Borehole No. **WS23**
Sheet 1 of 1

Project Name: Land South of Chestnut Avenue,	Project No.: 16177	Co-ords: E443655.55 N117636.68	Hole Type WS
Location: North Stoneham Park, Eastleigh, SO50 9HQ		Level: 25.46m AOD	Scale 1:50
Client: Highwood Group		Dates: 27/04/2017	Logged By MB

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m AOD)	Legend	Stratum Description
		0.20	D1		0.30	25.16		TOPSOIL; Dark brown slightly sandy slightly gravelly CLAY. Sand is fine. Gravel is sub-angular to sub-rounded fine and medium flint. Some roots (1-3mm).
		0.40	D2					
		0.60 - 0.85	B3		0.55	24.91		Soft to firm light greyish brown mottled orangish brown slightly sandy slightly gravelly CLAY. Sand is fine. Gravel is sub-angular to rounded fine to coarse flint and chalk. Occasional rootlets. RIVER TERRACE DEPOSITS
		0.90 - 1.30	B4		0.85	24.61		Light greyish brown mottled orangish brown slightly clayey sandy GRAVEL. Sand is fine to coarse. Gravel is sub-angular to rounded fine to coarse flint and chalk. RIVER TERRACE DEPOSITS
					1.30	24.16		Orangish brown very sandy GRAVEL. Sand is fine to coarse. Gravel is sub-angular to rounded fine to coarse flint. RIVER TERRACE DEPOSITS
		1.50 - 2.00	B5					Interlaminated to thinly inter bedded orangish brown, brown and light grey silty fine SAND. RIVER TERRACE DEPOSITS
		2.50 - 3.00	B6					
		3.55	D7		3.50	21.96		Soft to firm interlaminated dark orangish brown and brown sandy CLAY. Sand is fine. RIVER TERRACE DEPOSITS
					3.60	21.86		End of Borehole at 3.60m

General Remarks:
Roots observed to 0.55m bgl. Groundwater strike at 1.80m bgl, standing at 0.96m bgl.

Groundwater Remarks:

Borehole Type
CP: Cable Percussive
WS: Windowless Sampler
RC: Rotary Cored

Sample Types
D: Disturbed
B: Bulk
J: Jar
W: Water
U: Undisturbed

In-Situ Testing
SPT: Split spoon - Standard Penetration Test
CPT: Cone - Standard Penetration Test

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Borehole Log

Borehole No. **WS31**
Sheet 1 of 1

Project Name: Land South of Chestnut Avenue,	Project No.: 16177	Co-ords: E443500.41 N118025.84	Hole Type WS
Location: North Stoneham Park, Eastleigh, SO50 9HQ		Level: 28.68m AOD	Scale 1:50
Client: Highwood Group		Dates: 08/05/2017	Logged By MB

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m AOD)	Legend	Stratum Description
		0.20	D1		0.35	28.33		Brown friable slightly gravelly very (fine) sandy SILT. Gravel is sub-angular to rounded fine to coarse flint. Some roots (1-2mm). TOPSOIL
		0.50	D2		0.70	27.98		Brown and dark orangish brown sandy clayey GRAVEL. Sand is fine to coarse. Gravel is sub-angular to rounded fine to coarse flint. Occasional rootlets. RIVER TERRACE DEPOSITS
		0.80	D3					Firm light brown mottled orangish brown and light grey slightly sandy slightly gravelly CLAY. Sand is fine. Gravel is sub-angular to rounded fine to coarse flint. RIVER TERRACE DEPOSITS
	▼	1.30	D4					
		1.50 - 2.00	B5		1.50	27.18		Brown and orangish brown very sandy slightly clayey GRAVEL. Sand is fine to coarse. Gravel is sub-angular to rounded fine to coarse flint. RIVER TERRACE DEPOSITS
					2.00	26.68		End of Borehole at 2.00m

General Remarks:
Roots observed to 0.70m bgl. Groundwater strike at 1.30m bgl.

Groundwater Remarks:

Borehole Type
CP: Cable Percussive
WS: Windowless Sampler
RC: Rotary Cored

Sample Types
D: Disturbed
B: Bulk
J: Jar
W: Water
U: Undisturbed

In-Situ Testing
SPT: Split spoon - Standard Penetration Test
CPT: Cone - Standard Penetration Test

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Borehole Log

Borehole No. **WS35** Sheet 1 of 1

Project Name: Land South of Chestnut Avenue,	Project No.: 16177	Co-ords: E443554.63 N117685.22	Hole Type WS
Location: North Stoneham Park, Eastleigh, SO50 9HQ		Level: 27.60m AOD	Scale 1:50
Client: Highwood Group		Dates: 03/05/2017	Logged By MB

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m AOD)	Legend	Stratum Description
		0.15	D1		0.30	27.30		Dark brown clayey very gravelly fine and medium SAND. Gravel is angular to rounded fine to coarse flint. Frequent roots (1-2mm). TOPSOIL
		0.45	D2		0.60	27.00		Brown slightly silty sandy GRAVEL. Sand is fine to coarse . Gravel is sub-angular to rounded fine to coarse flint. Some rootlets. RIVER TERRACE DEPOSITS
		0.80	D3		1.15	26.46		Firm orangish brown mottled light grey slightly sandy slightly gravelly CLAY. Sand is fine. Gravel is sub-angular to rounded fine to coarse flint and chalk. Occasional rootlets seen to 0.9m. RIVER TERRACE DEPOSITS
		1.50 - 2.00	B4					Brown slightly silty sandy GRAVEL. Sand is fine to coarse. Gravel is sub-angular to rounded fine to coarse flint. RIVER TERRACE DEPOSITS
		2.50 - 3.00	B5					Slightly clayey.
		3.70	D6		3.45	24.16		Stiff dark brownish grey CLAY. LONDON CLAY FORMATION
		4.40	D7		4.60	23.00		Mottled brown and orangish brown.
								End of Borehole at 4.60m

General Remarks:
Roots observed to 0.90m bgl. Groundwater strike at 3.00m bgl, standing at 3.80m bgl.

Groundwater Remarks:

Borehole Type
CP: Cable Percussive
WS: Windowless Sampler
RC: Rotary Cored

Sample Types
D: Disturbed
B: Bulk
J: Jar
W: Water
U: Undisturbed

In-Situ Testing
SPT: Split spoon - Standard Penetration Test
CPT: Cone - Standard Penetration Test

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Borehole Log

Borehole No.
WS1A
Sheet 1 of 1

Project Name: Land South of Chestnut Avenue,	Project No.: 16177	Co-ords: E444092.80 N117652.60	Hole Type WS
Location: North Stoneham Park, Eastleigh, SO50 9HQ		Level: 14.14m AOD	Scale 1:50
Client: Highwood Group		Dates: 14/06/2017	Logged By

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m AOD)	Legend	Stratum Description
		0.25	D+J					Stiff dark brown to dark orangish brown slightly gravelly sandy SILT. Gravel is fine to medium rounded to sub-angular flint. Sand is fine to medium. Occasional fine rootlets, root 6mm diameter at 0.9m
		0.75	D+J					
					1.00	13.14		Orangish brown very clayey fine to medium SAND. Coarse sand present in occasional pockets. Occasional roots and rootlets.
		1.30	D					No sample
		1.90	D		1.90	12.24		Dark yellowish brown slightly clayey fine to medium SAND. Course sand and fine gravel present in occasional pockets. Occasional roots to 1mm diameter.
		2.20	D					
		2.70	D					
		2.90	D		2.85	11.28		Dark yellowish brown sandy CLAY
								50% recovery
					3.20	10.94		Brown slightly silty very sandy fine to coarse sub-angular to angular flint GRAVEL. Sand is fine to coarse.
		3.40	D					
					3.90	10.24		Dark orangish brown slightly sandy silty fine to coarse sub-angular to angular flint GRAVEL. Sand is fine to coarse.
								50% recovery
		4.50	D					
					4.90	9.24		End of Borehole at 4.90m

General Remarks:
Roots observed to 2.85m bgl. Groundwater struck at 4.00m bgl.

Groundwater Remarks:

Borehole Type
CP: Cable Percussive
WS: Windowless Sampler
RC: Rotary Cored

Sample Types
D: Disturbed
B: Bulk
J: Jar
W: Water
U: Undisturbed

In-Situ Testing
SPT: Split spoon - Standard Penetration Test
CPT: Cone - Standard Penetration Test

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Borehole Log

Borehole No. **WS1B**
Sheet 1 of 1

Project Name: Land South of Chestnut Avenue,	Project No.: 16177	Co-ords: E444147.40 N117657.70	Hole Type WS
Location: North Stoneham Park, Eastleigh, SO50 9HQ		Level: 12.76m AOD	Scale 1:50
Client: Highwood Group		Dates: 14/06/2017	Logged By

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m AOD)	Legend	Stratum Description
		0.25	D+J		0.50	12.26		Stiff dark brown becoming brown sandy SILT. Sand is fine to medium. Occasional medium gravel.
		0.80	D+J		1.15	11.61		Dark yellowish brown slightly clayey fine to medium SAND. Roots to 6mm diameter to 0.7m bgl.
		1.30	D		1.55	11.21		Dark yellowish brown slightly clayey gravelly fine to coarse SAND. Gravel is fine to coarse sub-angular to angular flint.
		1.80	D		1.90	10.86		Brown clayey sandy fine to coarse sub-angular to angular flint GRAVEL. Sand is fine to coarse flint.
		2.00	D		2.80	9.96		Brown slightly silty very sandy fine to coarse sub-angular to angular flint GRAVEL. Sand is fine to coarse.
		2.70	D		3.90	8.86		Dark yellowish brown slightly silty fine to medium SAND. 60% recovery
		3.70	D					End of Borehole at 3.90m

General Remarks:
Roots and rootlets observed to 1.60m bgl. Groundwater struck at 4.00m bgl.

Groundwater Remarks:

Borehole Type
CP: Cable Percussive
WS: Windowless Sampler
RC: Rotary Cored

Sample Types
D: Disturbed
B: Bulk
J: Jar
W: Water
U: Undisturbed

In-Situ Testing
SPT: Split spoon - Standard Penetration Test
CPT: Cone - Standard Penetration Test

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Borehole Log

Borehole No. **WS1C**
Sheet 1 of 1

Project Name: Land South of Chestnut Avenue,	Project No.: 16177	Co-ords: E444072.50 N117631.80	Hole Type WS
Location: North Stoneham Park, Eastleigh, SO50 9HQ		Level: 14.35m AOD	Scale 1:50
Client: Highwood Group		Dates: 14/06/2017	Logged By

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m AOD)	Legend	Stratum Description
		0.10	D		0.20	14.15		Dark brownish black slightly silty slightly gravelly fine to coarse SAND. Gravel is fine to medium sub-angular flint. Roots and rootlets present. TOPSOIL
		0.70	D					Stiff dark orangish brown slightly sandy SILT. Sand is fine to medium. Root system max diameter 10mm from 0.4m to 0.8m.
		1.30	D		1.40	12.95		Dark yellowish brown slightly clayey fine to medium SAND. Coarse sand and fine gravel present in occasional pockets. Occasional black and green staining. Rare roots and rootlets to 3.3m
		1.80	D					
		2.20	D					
		2.70	D					
		3.20	D		3.35	11.00		Brown slightly silty very sandy fine to coarse sub-angular to angular flint GRAVEL. Sand is fine to coarse.
		3.70	D					
		4.30	D		4.20	10.15		Dark yellowish grey slightly silty fine to medium SAND.
		4.70	D		4.90	9.45		End of Borehole at 4.90m

General Remarks:
Roots and rootlets observed to 3.30m bgl. Groundwater struck at 3.00m bgl.

Groundwater Remarks:

Borehole Type
CP: Cable Percussive
WS: Windowless Sampler
RC: Rotary Cored

Sample Types
D: Disturbed
B: Bulk
J: Jar
W: Water
U: Undisturbed

In-Situ Testing
SPT: Split spoon - Standard Penetration Test
CPT: Cone - Standard Penetration Test

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Borehole Log

Borehole No. **WS1D**
Sheet 1 of 1

Project Name: Land South of Chestnut Avenue,	Project No.: 16177	Co-ords: E444130.60 N117619.00	Hole Type WS
Location: North Stoneham Park, Eastleigh, SO50 9HQ		Level: 13.02m AOD	Scale 1:50
Client: Highwood Group		Dates: 14/06/2017	Logged By

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m AOD)	Legend	Stratum Description
		0.25	D					Grass over stiff brown to orangish brown slightly gravelly sandy becoming very sandy SILT. Sand is fine to medium. Gravel is medium sub-rounded to sub-angular flint. Occasional roots and rootlets.
		0.75	D					
		1.25	D					
		1.55	D		1.45	11.57		
		1.80	D		1.65	11.37		Orangish brown very sandy gravelly SILT. Gravel is fine to coarse sub-angular flint. Sand is fine to coarse. Rare rootlets.
					2.20	10.82		Brown slightly silty very sandy fine to coarse sub-angular to sub-rounded flint GRAVEL. Sand is fine to coarse.
		2.50	D					Brown slightly silty sandy fine to coarse sub-angular to angular flint GRAVEL. Sand is medium to coarse.
		3.00	D					
		3.50	D		3.20	9.82		Brown stained black slightly sandy silty fine to coarse sub-angular to angular flint GRAVEL. Sand is fine to coarse.
		4.00	D		3.70	9.32		Dark orangish brown slightly silty fine to medium SAND.
		4.50	D		4.60	8.42		End of Borehole at 4.60m

General Remarks:
Roots and rootlets to 1.65m bgl. Groundwater struck at 3.60m bgl.

Groundwater Remarks:

Borehole Type
CP: Cable Percussive
WS: Windowless Sampler
RC: Rotary Cored

Sample Types
D: Disturbed
B: Bulk
J: Jar
W: Water
U: Undisturbed

In-Situ Testing
SPT: Split spoon - Standard Penetration Test
CPT: Cone - Standard Penetration Test

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Borehole Log

Borehole No.
WS1E
Sheet 1 of 1

Project Name: Land South of Chestnut Avenue,	Project No.: 16177	Co-ords: E444173.00 N117624.70	Hole Type WS
Location: North Stoneham Park, Eastleigh, SO50 9HQ		Level: 12.29m AOD	Scale 1:50
Client: Highwood Group		Dates: 13/06/2017	Logged By

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.10	D		0.20	12.09		Brown silty SAND with abundant rootlets.
		0.40	D					Dark orangish brown slightly gravelly silty SAND. Gravel is fine to coarse sub-angular to rounded flint. Frequent roots and rootlets present.
		0.85	D		0.65	11.64		Dark orangish brown slightly clayey very gravelly fine to coarse SAND. Gravel is fine to coarse sub-angular to rounded flint. One cobble sized flint. Occasional rootlets. RIVER TERRACE GRAVELS
		1.70	D		0.95	11.34		Brown slightly clayey sandy fine to coarse sub-angular to rounded flint GRAVEL. Sand is fine to coarse.
		2.60	D		3.00	9.29		Very soft light brown mottled light grey slightly gravelly slightly sandy CLAY. Sand is fine to medium. Fine to medium gravel and coarse sand present in small pockets.
		3.30	D		3.50	8.79		End of Borehole at 3.50m

General Remarks:
Groundwater struck at 3.50m bgl. Roots and rootlets observed to 0.95m bgl. Hole collapsed to 2.80m bgl.

Groundwater Remarks:

Borehole Type
CP: Cable Percussive
WS: Windowless Sampler
RC: Rotary Cored

Sample Types
D: Disturbed
B: Bulk
J: Jar
W: Water
U: Undisturbed

In-Situ Testing
SPT: Split spoon - Standard Penetration Test
CPT: Cone - Standard Penetration Test

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Borehole Log

Borehole No. **WS1F**
Sheet 1 of 1

Project Name: Land South of Chestnut Avenue,	Project No.: 16177	Co-ords: E444092.90 N117606.80	Hole Type WS
Location: North Stoneham Park, Eastleigh, SO50 9HQ		Level: 13.89m AOD	Scale 1:50
Client: Highwood Group		Dates: 13/06/2017	Logged By

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m AOD)	Legend	Stratum Description
		0.10	D		0.20	13.69		Brown slightly gravelly silty fine to medium SAND. Gravel is fine to medium flint. Roots and rootlets. TOPSOIL.
		0.50	D					Brown to dark orangish brown slightly gravelly very sandy SILT. Sand is fine to medium. Gravel is fine to medium flint.
		0.90	D					
		1.30	D		1.40	12.49		Dark orangish brown slightly clayey SAND. Sand is fine to medium. Occasional pockets of fine flint gravel. Clayey pockets from 2.6 to 2.8m BGL.
		1.80	D					
		2.30	D					
		2.70	D					Clayey pockets from 2.6 to 2.8m BGL.
		3.10	D		2.80	11.09		Light reddish brown silty sandy fine to coarse sub-angular to sub-rounded flint GRAVEL. Bands of black staining at 3.45 and 3.6m BGL.
		3.40	D					Bands of black staining at 3.45 and 3.6m BGL.
		3.70	D		3.60	10.29		Light brown sandy fine to coarse sub-angular to sub-rounded flint GRAVEL. Sand is medium to coarse. Rare fine rootlets.
					3.85	10.04		Brown clayey fine to medium SAND
		4.10	D		3.90	9.99		Brown clayey fine to medium sand from 3.85 to 3.9m BGL.
					4.20	9.69		Light reddish brown slightly clayey sandy fine to coarse flint GRAVEL. Sand is fine to coarse.
		4.40	D					Dark yellowish brown mottled orangish slightly clayey fine to medium SAND.
					4.60	9.29		No recovery.
					4.80	9.09		End of Borehole at 4.80m

General Remarks:
Rootlets observed to 3.85m bgl. Groundwater struck at 4.00m bgl.

Groundwater Remarks:

Borehole Type
CP: Cable Percussive
WS: Windowless Sampler
RC: Rotary Cored

Sample Types
D: Disturbed
B: Bulk
J: Jar
W: Water
U: Undisturbed

In-Situ Testing
SPT: Split spoon - Standard Penetration Test
CPT: Cone - Standard Penetration Test

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Borehole Log

Borehole No. **WS1G** Sheet 1 of 1

Project Name: Land South of Chestnut Avenue,	Project No.: 16177	Co-ords: E444085.40 N117580.70	Hole Type WS
Location: North Stoneham Park, Eastleigh, SO50 9HQ		Level: 13.87m AOD	Scale 1:50
Client: Highwood Group		Dates: 13/06/2017	Logged By

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m AOD)	Legend	Stratum Description
		0.25	D					Grass over stiff brown slightly gravelly sandy SILT. Sand is fine to medium. Gravel is fine to coarse sub-rounded to sub-angular flint. Roots and rootlets.
					0.50	13.37		Dark orangish brown clayey fine to medium SAND. Root system up to 2mm diameter from 0.5 to 0.8 BGL and occasional roots and rootlets. Occasional fine to medium flint gravel.
		0.75	D					
		1.25	D					
		1.75	D					
					1.90	11.97		Brown slightly silty sandy fine to coarse sub-angular to sub-rounded flint GRAVEL. Sand is fine to coarse.
		2.15	D		2.10	11.77		Dark yellowish brown clayey fine to medium SAND.
		2.30	D		2.20	11.67		Dark yellowish brown slightly clayey fine to medium SAND. Mottled greenish sand pockets.
					3.00	10.87		Reddish brown slightly silty sandy sub angular to angular fine to coarse flint GRAVEL. Sand is fine to coarse. Black staining at 3.25m BGL.
		3.30	D					Band of black staining at 3.25m BGL.
		3.80	D					
		4.20	D					
					4.40	9.47		Dark yellowish brown mottled orangish slightly silty fine to medium SAND.
		4.60	D		4.70	9.17		End of Borehole at 4.70m

General Remarks:
Roots and rootlets observed to 1.90m bgl. Groundwater struck at 3.50m bgl.

Groundwater Remarks:

Borehole Type
CP: Cable Percussive
WS: Windowless Sampler
RC: Rotary Cored

Sample Types
D: Disturbed
B: Bulk
J: Jar
W: Water
U: Undisturbed

In-Situ Testing
SPT: Split spoon - Standard Penetration Test
CPT: Cone - Standard Penetration Test

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Borehole Log

Borehole No. **WS1H** Sheet 1 of 1

Project Name: Land South of Chestnut Avenue,	Project No.: 16177	Co-ords: E444137.70 N117579.40	Hole Type WS
Location: North Stoneham Park, Eastleigh, SO50 9HQ		Level: 12.77m AOD	Scale 1:50
Client: Highwood Group		Dates: 13/06/2017	Logged By

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m AOD)	Legend	Stratum Description
		0.25	D					Grass over stiff brown slightly gravelly sandy SILT. Sand is fine to medium. Gravel is fine to medium sub-rounded to sub-angular flint. Roots and rootlets.
					0.55	12.22		Dark orangish brown clayey fine to medium SAND. Occasional rootlets. Rare fine flint gravel.
		0.75	D					
		1.10	D					
		1.30	D		1.20	11.57		Dark orangish brown gravelly very clayey fine to medium SAND. Gravel is fine to coarse sub-angular to sub-rounded flint.
					1.45	11.32		Dark orangish brown clayey sandy fine to coarse sub-rounded to angular flint GRAVEL. Sandy is fine to coarse.
		1.70	D		1.80	10.97		Black slightly silty sandy fine to coarse sub-angular to rounded flint GRAVEL. Sand is fine to coarse.
		2.00	D					
					2.20	10.57		Light Reddish brown slightly silty sandy sub angular to angular fine to coarse flint GRAVEL. Sand is fine to coarse.
		2.50	D					
		3.00	D					
		3.40	D		3.30	9.47		Reddish brown silty sandy sub angular to angular fine to coarse flint GRAVEL. Sand is fine to coarse.
					3.60	9.17		End of Borehole at 3.60m

General Remarks:
Roots and rootlets observed to 1.20m bgl. Groundwater struck at 3.50m bgl.

Groundwater Remarks:

Borehole Type
CP: Cable Percussive
WS: Windowless Sampler
RC: Rotary Cored

Sample Types
D: Disturbed
B: Bulk
J: Jar
W: Water
U: Undisturbed

In-Situ Testing
SPT: Split spoon - Standard Penetration Test
CPT: Cone - Standard Penetration Test

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Borehole Log

Borehole No.
WS2A
Sheet 1 of 1

Project Name: Land South of Chestnut Avenue,	Project No.: 16177	Co-ords: E443692.30 N118110.70	Hole Type WS
Location: North Stoneham Park, Eastleigh, SO50 9HQ		Level: 22.49m AOD	Scale 1:50
Client: Highwood Group		Dates: 17/07/2017	Logged By

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m AOD)	Legend	Stratum Description
					0.20	22.29		Dark brown slightly gravelly sandy SILT. Sand is fine. Gravel is fine to medium sub-angular flint. Fine roots and rootlets throughout. TOPSOIL.
					0.30	22.19		Brown slightly sandy SILT. Sand is fine. Rare fine rounded flint gravel. Ferruginous staining. Frequent fine roots and rootlets.
					0.60	21.89		Light grey slightly sandy SILT. Ferruginous staining. Occasional fine rootlets.
								Grey mottled orange slightly sandy SILT. Sand is fine. Band of fine to coarse sub-rounded flint gravel at 0.6m to 0.7m BGL. Band of fine to medium sub-rounded flint gravel at 0.9 to 0.95m BGL. Ferruginous staining. Occasional fine roots and rootlets.
					1.50	20.99		Firm grey mottled orange slightly sandy CLAY. Sand is fine. Ferruginous staining. Frequent decaying roots.
					1.95	20.54		Stiff grey mottled dark orangish brown CLAY/SILT. Decaying roots to 2.3m.
					3.00	19.49		Stiff dark grey fine sandy CLAY.
					4.90	17.59		End of Borehole at 4.90m

1 2 3 4 5 6 7 8 9 10

General Remarks:
Groundwater struck at 2.90m bgl. Roots observed to 1.50m bgl, with decaying roots observed to 2.30m bgl.

Groundwater Remarks:

Borehole Type
CP: Cable Percussive
WS: Windowless Sampler
RC: Rotary Cored

Sample Types
D: Disturbed
B: Bulk
J: Jar
W: Water
U: Undisturbed

In-Situ Testing
SPT: Split spoon - Standard Penetration Test
CPT: Cone - Standard Penetration Test

Soils Limited
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Borehole Log

Borehole No.
WS2B
Sheet 1 of 1

Project Name: Land South of Chestnut Avenue,	Project No.: 16177	Co-ords: E443788.50 N118041.30	Hole Type WS
Location: North Stoneham Park, Eastleigh, SO50 9HQ		Level: 20.88m AOD	Scale 1:50
Client: Highwood Group		Dates: 17/07/2017	Logged By

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m AOD)	Legend	Stratum Description
					0.45	20.43		Dark brown slightly gravelly sandy SILT. Sand is fine. Gravel is fine to medium sub-angular to sub-rounded flint. Fine roots and rootlets throughout. TOPSOIL.
					0.80	20.08		Brown slightly sandy very gravelly SILT. Sand is fine to coarse. Gravel is fine to coarse rounded to sub-angular flint. Occasional rootlets.
					1.20	19.68		Brown silty sandy fine to coarse rounded to sub-rounded flint GRAVEL. Sand is fine to coarse.
					2.35	18.53		Stiff light brownish grey mottled orangish brown clayey SILT.
					2.50	18.38		Stiff orange mottled light grey slightly sandy CLAY.
					3.60	17.28		Stiff light brown mottled light grey slightly sandy CLAY. Sand is fine Ferruginous staining.
					4.10	16.78		Stiff light brownish grey slightly sandy CLAY. Sand is present as ferruginous staining fine to medium partings.
					4.90	15.98		Stiff dark grey fine sandy CLAY.
								End of Borehole at 4.90m

General Remarks:
Groundwater struck at 2.90m bgl. Roots and rootlets observed to 0.80m bgl.

Groundwater Remarks:

Borehole Type
CP: Cable Percussive
WS: Windowless Sampler
RC: Rotary Cored

Sample Types
D: Disturbed
B: Bulk
J: Jar
W: Water
U: Undisturbed

In-Situ Testing
SPT: Split spoon - Standard Penetration Test
CPT: Cone - Standard Penetration Test

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Borehole Log

Borehole No. **WS2C**
Sheet 1 of 1

Project Name: Land South of Chestnut Avenue,	Project No.: 16177	Co-ords: E443925.00 N117923.20	Hole Type WS
Location: North Stoneham Park, Eastleigh, SO50 9HQ		Level: 17.43m AOD	Scale 1:50
Client: Highwood Group		Dates: 17/07/2017	Logged By

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m AOD)	Legend	Stratum Description
					0.30	17.13		Dark brown slightly gravelly sandy SILT. Sand is fine. Gravel is fine to medium sub-angular to sub-rounded flint. Fine roots and rootlets throughout. TOPSOIL.
					0.65	16.78		Brown slightly gravelly sandy SILT. Sand is fine. Gravel is fine to coarse sub-angular to sub-rounded flint. Rootlets throughout.
					1.05	16.38		Stiff dark brown slightly gravelly slightly sandy SILT. Sand is fine. Gravel is fine to coarse sub-rounded flint. Flint cobble at 1.0m. Rare fine roots.
					1.45	15.98		Firm orangish brown sandy SILT. Rare medium flint gravel. Occasional fine roots.
								Band of silty fine sand at 1.05m BGL.
								Brown sandy silty fine to coarse rounded to sub-angular flint GRAVEL. Sand is fine to coarse.
					2.15	15.28		Stiff to firm light grey mottled orangish brown slightly fine sandy CLAY. Band of fine flint gravel at 2.55m BGL. Band of silty fine sand at 1.05m BGL. Occasional black staining.
								Band of fine flint gravel at 2.55m BGL.
					3.20	14.23		Brown very silty fine SAND. Band of fine to coarse flint gravel at 3.25m BGL.
					3.40	14.03		Band of fine to coarse flint gravel at 3.25m BGL.
								Firm brown mottled light grey slightly sandy CLAY. Sand is fine.
					4.00	13.43		Dark orangish brown mottled grey very clayey fine SAND.
					4.55	12.88		Orange very sandy fine to medium rounded flint GRAVEL. Sand is fine.
					4.60	12.83		soft to very soft dark grey slightly gravelly CLAY. Gravel is fine to medium rounded flint.
					4.80	12.63		End of Borehole at 4.80m

General Remarks:
Groundwater struck at 3.90m bgl. Roots observed to 1.45m bgl.

Groundwater Remarks:

Borehole Type
CP: Cable Percussive
WS: Windowless Sampler
RC: Rotary Cored

Sample Types
D: Disturbed
B: Bulk
J: Jar
W: Water
U: Undisturbed

In-Situ Testing
SPT: Split spoon - Standard Penetration Test
CPT: Cone - Standard Penetration Test

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Borehole Log

Borehole No.
WS2D
Sheet 1 of 1

Project Name: Land South of Chestnut Avenue,	Project No.: 16177	Co-ords: E444008.30 N117922.20	Hole Type WS
Location: North Stoneham Park, Eastleigh, SO50 9HQ		Level: 15.43m AOD	Scale 1:50
Client: Highwood Group		Dates: 17/07/2017	Logged By

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m AOD)	Legend	Stratum Description
					0.30	15.13		Dark brown slightly gravelly sandy SILT. Sand is fine. Gravel is fine to medium sub-angular to sub-rounded flint. Fine roots and rootlets throughout. TOPSOIL.
					0.45	14.98		Brown slightly gravelly sandy SILT. Sand is fine. Gravel is fine to coarse sub-angular to sub-rounded flint. Frequent rootlets.
								Brown silty sandy fine to coarse rounded to angular flint GRAVEL. Sand is fine to coarse.
					2.70	12.73		Grey slightly silty slightly sandy fine to coarse rounded to angular flint GRAVEL. Sand is fine to coarse.
					3.90	11.53		End of Borehole at 3.90m

General Remarks:
Groundwater struck at 3.90m bgl. Roots and rootlets observed to 0.45m bgl.

Groundwater Remarks:

Borehole Type
CP: Cable Percussive
WS: Windowless Sampler
RC: Rotary Cored

Sample Types
D: Disturbed
B: Bulk
J: Jar
W: Water
U: Undisturbed

In-Situ Testing
SPT: Split spoon - Standard Penetration Test
CPT: Cone - Standard Penetration Test

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Borehole Log

Borehole No. **WS2E**
Sheet 1 of 1

Project Name: Land South of Chestnut Avenue,	Project No.: 16177	Co-ords: E443973.50 N118029.90	Hole Type WS
Location: North Stoneham Park, Eastleigh, SO50 9HQ		Level: 16.75m AOD	Scale 1:50
Client: Highwood Group		Dates: 14/06/2017	Logged By

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m AOD)	Legend	Stratum Description
		0.10	D		0.20	16.55		Dark brownish black slightly clayey gravelly fine to coarse SAND. Gravel is fine to medium sub-angular flint. Roots and rootlets present. TOPSOIL
		0.30	D					Orangish brown very clayey fine to medium SAND. Occasional roots and rootlets.
		0.80	D		1.00	15.75		Dark yellowish brown slightly clayey slightly gravelly fine to medium SAND. Gravel is fine to medium sub-angular flint.
		1.30	D		1.45	15.30		Orangish brown very clayey fine to medium SAND.
		1.60	D		1.70	15.05		Dark yellowish brown slightly clayey gravelly fine to coarse SAND. Gravel is fine to coarse sub-angular to angular flint.
		2.10	D		2.50	14.25		Mottled orangish brown and yellowish brown and reddish brown slightly silty fine to medium SAND.
		2.60	D		2.85	13.90		Multicolored (greenish, brown, reddish, orangish, dark yellowish) slightly silty fine SAND. Sand is thinly laminated in colored layers.
		3.20	D		3.30	13.45		Orangish brown very clayey slightly gravelly fine to medium SAND. Gravel is fine to medium angular to sub-angular flint. Band of thinly laminated colored fine sand at 3.7 and 3.8m
		3.60	D					Band of thinly laminated colored fine sand at 3.7m BGL
		4.10	D					Band of thinly laminated colored fine sand at 3.8m BGL
		4.60	D		4.30	12.45		Brown clayey sandy fine to coarse rounded to sub-angular flint GRAVEL. Sand is fine to coarse.
					4.90	11.85		End of Borehole at 4.90m

General Remarks:
Groundwater struck at 4.00m bgl. Roots and rootlets observed to 1.00m bgl.

Groundwater Remarks:

Borehole Type
CP: Cable Percussive
WS: Windowless Sampler
RC: Rotary Cored

Sample Types
D: Disturbed
B: Bulk
J: Jar
W: Water
U: Undisturbed

In-Situ Testing
SPT: Split spoon - Standard Penetration Test
CPT: Cone - Standard Penetration Test

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Borehole Log

Borehole No. **WS2F**
Sheet 1 of 1

Project Name: Land South of Chestnut Avenue,	Project No.: 16177	Co-ords: E443944.00 N118111.40	Hole Type WS
Location: North Stoneham Park, Eastleigh, SO50 9HQ		Level: 18.13m AOD	Scale 1:50
Client: Highwood Group		Dates: 14/06/2017	Logged By

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m AOD)	Legend	Stratum Description
		0.25	D					Pinkish brownish grey slightly clayey sandy fine to coarse limestone GRAVEL. MADE GROUND (SUB BASE)
					0.50	17.63		
		0.75	D					Dark orangish brown clayey fine to medium SAND. Occasional roots and rootlets. Rare fine flint gravel.
					1.00	17.13		
		1.25	D					Dark yellowish brown slightly clayey fine to medium SAND. Occasional fine flint gravel. Occasional partings of blackish/greenish sand.
					1.55	16.58		
		1.75	D					Dark orangish brown mottled grey very clayey fine to medium SAND. Rare fine flint gravel. Occasional partings of blackish/greenish sand.
					2.10	16.03		
								Orangish brown slightly gravelly slightly clayey fine to medium SAND. Gravel is fine to coarse rounded to sub-angular flint. Occasional partings of blackish/greenish sand.
		2.75	D					
		3.10	D		3.00	15.13		Reddish brown slightly gravelly sandy CLAY. Sand is fine to medium.
		3.30	D		3.20	14.93		Gravel is fine to coarse.
					3.50	14.63		Orangish brown slightly gravelly clayey fine to medium SAND. Gravel is fine to medium sub-rounded to sub-angular flint.
		3.60	D		3.65	14.48		Light Reddish brown slightly silty sandy sub angular to angular fine to coarse flint GRAVEL. Sand is fine to coarse.
								Dark yellowish brown slightly silty SAND.
		4.10	D					
					4.45	13.68		Firm greyish brown CLAY.
		4.60	D		4.70	13.43		End of Borehole at 4.70m

General Remarks:
Groundwater struck at 2.40m bgl. Roots and rootlets observed to 1.55m bgl.

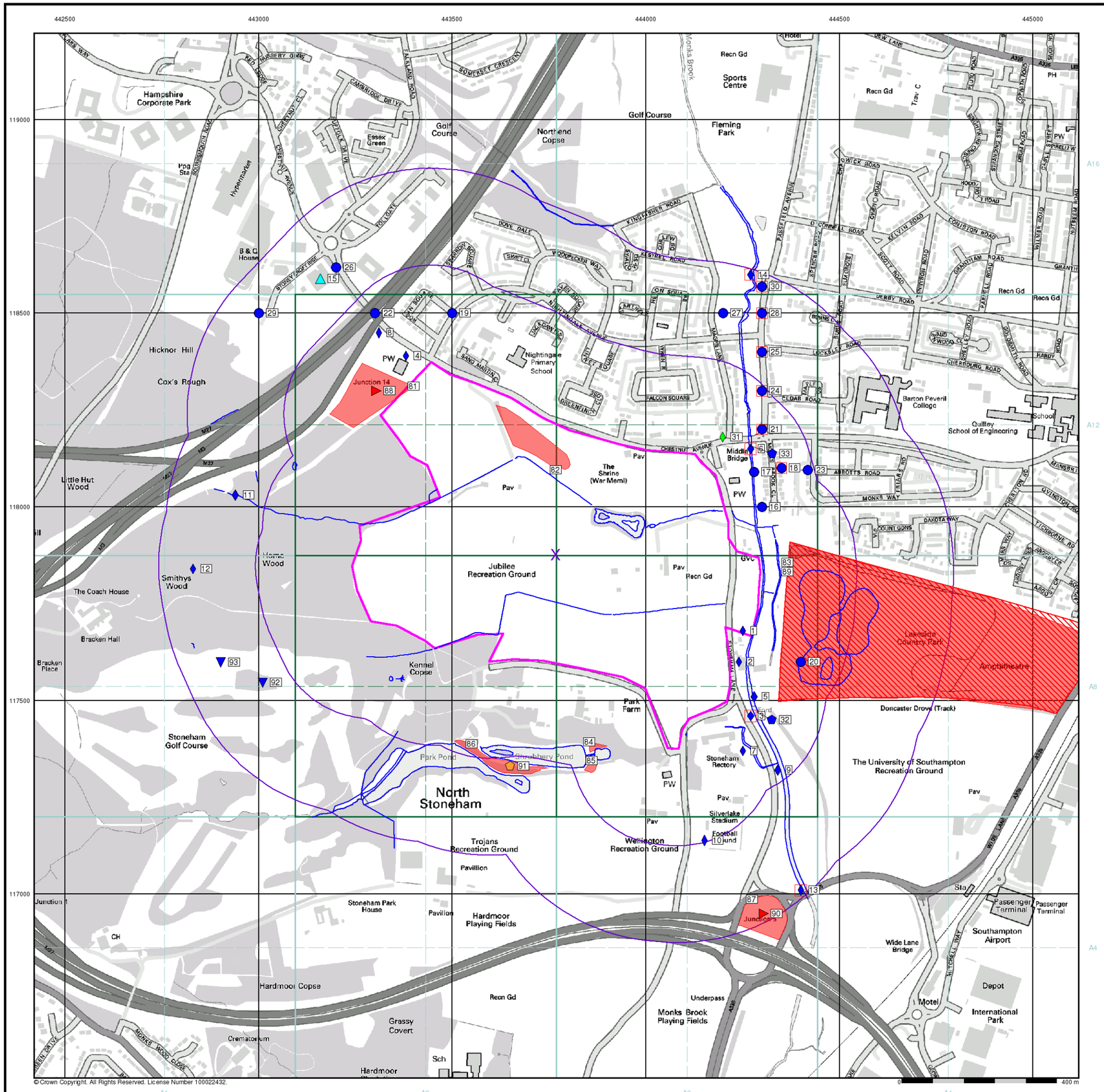
Groundwater Remarks:

Borehole Type
CP: Cable Percussive
WS: Windowless Sampler
RC: Rotary Cored

Sample Types
D: Disturbed
B: Bulk
J: Jar
W: Water
U: Undisturbed

In-Situ Testing
SPT: Split spoon - Standard Penetration Test
CPT: Cone - Standard Penetration Test

APPENDIX B



Envirocheck®

General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Map ID
- Several of Type at Location

Agency and Hydrological

- Contaminated Land Register Entry or Notice (Location)
- Contaminated Land Register Entry or Notice
- Discharge Consent
- Enforcement or Prohibition Notice
- Integrated Pollution Control
- Integrated Pollution Prevention Control
- Local Authority Integrated Pollution Prevention and Control
- Local Authority Pollution Prevention and Control
- Local Authority Pollution Prevention and Control Enforcement
- Pollution Incident to Controlled Waters
- Prosecution Relating to Authorised Processes
- Prosecution Relating to Controlled Waters
- Registered Radioactive Substance
- River Network or Water Feature
- River Quality Sampling Point
- Substantiated Pollution Incident Register
- Water Abstraction
- Water Industry Act Referral

Geological

- BGS Recorded Mineral Site

Industrial Land Use

- Contemporary Trade Directory Entry
- Fuel Station Entry

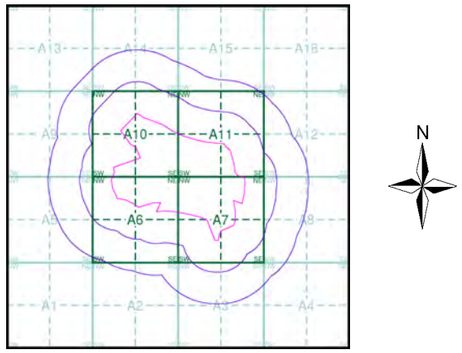
Waste

- BGS Recorded Landfill Site (Location)
- BGS Recorded Landfill Site
- EA Historic Landfill (Buffered Point)
- EA Historic Landfill (Polygon)
- Integrated Pollution Control Registered Waste Site
- Licensed Waste Management Facility (Landfill Boundary)
- Licensed Waste Management Facility (Location)
- Local Authority Recorded Landfill Site (Location)
- Local Authority Recorded Landfill Site
- Registered Landfill Site
- Registered Landfill Site (Location)
- Registered Landfill Site (Point Buffered to 100m)
- Registered Landfill Site (Point Buffered to 250m)
- Registered Waste Transfer Site (Location)
- Registered Waste Transfer Site
- Registered Waste Treatment or Disposal Site (Location)
- Registered Waste Treatment or Disposal Site

Hazardous Substances

- COMAH Site
- Explosive Site
- NIHHS Site
- Planning Hazardous Substance Consent
- Planning Hazardous Substance Enforcement

Site Sensitivity Map - Slice A



Order Details

Order Number:	57324486_1_1
Customer Ref:	61033023
National Grid Reference:	443770, 117880
Slice:	A
Site Area (Ha):	58.65
Search Buffer (m):	500

Site Details

Site at, Eastleigh, Hampshire

Landmark Information Group

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