

Stephen Williams Planning Department Newport City Council Civic Centre Newport NP20 4UR

5 May 2010

Our Ref RSK/CDF/110229/07/16 Part B

Dear Stephen,

RE APPLICATION TO DISCHARGE CONDITION 16, PART (B) (SITE INVESTIGATION) OF PP 08/1257, CONSTRUCTION AND OPERATION OF NEVIS BIOMASS POWER PLANT, NEWPORT

ENV

то

YNNY

MAIL ID

MAY

n7 ARR 2010

Please find enclosed four copies of the Ground Gas Risk Assessment report hereby submitted in support of discharging Condition 16 part (B) of planning permission 08/1257

Condition 16 reads as follows

(16) No part of the development hereby permitted shall commence until,

(a) An appropriate Desk-Study of the site has been carried out to include a conceptual model and a preliminary risk assessment. If potential contamination is identified then an appropriate intrusive site investigation shall be undertaken in accordance with Condition (b).

(b) A Site Investigation Report to (BS10175/2001), containing the results of any intrusive investigation shall be submitted and approved in writing by the Local Planning Authority

I trust this information is sufficient and please do not hesitate to contact me should you have any further questions or queries

Yours Sincerely

Catherine Mackay (nee Anderson) MSc Senior Environmental Consultant RSK Environment Ltd Part of the RSK Group plc <u>mailto canderson@rsk co uk</u> Mobile 07917 425260

10/ 048

СС

Peter Trussler Nevis Power Limited, Ground Floor Tuscan House Beck Court, Cardiff Gate Business Park Cardiff CF23 8RP



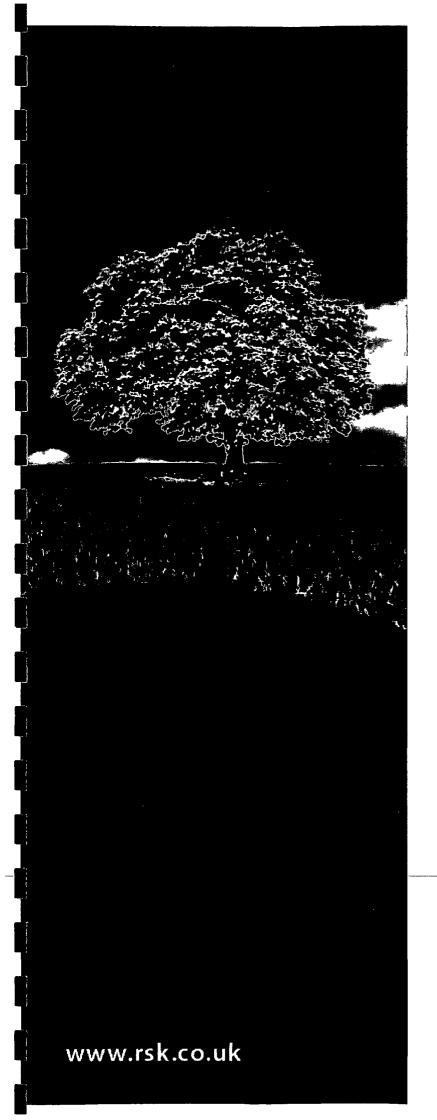
1

RSK Environment Ltd Regus House Malthouse Avenue Cardiff Gate Business Park Cardiff CF23 8RU

Telephone +44 (0) 2920 263627

63428

www rsk co uk





Ground Gas Risk Assessment Newport Biomass Power Plant Newport South Wales



Nevis Power Ltd

May 2010

Safeguarding your business environment CONFIDENTIAL

GROUND GAS RISK ASSESSMENT NEWPORT BIOMASS POWER PLANT NEWPORT, SOUTH WALES

REPORT NO

310826 - R2 (00)

Client Nevis Power Limited Ground Floor, Tuscan House Beck Court, Cardiff Gate Business Park Cardiff, CF23 8RP

DOCUMENT issue status

f

Report Issue	FINAL		
Reference Number	310826 – R2 (00)	
Title	Name	Signature	Date
Author	A Przewieslik	2 2	
Project Manager	A Przewieslik	\sim	$\overline{\mathbf{Y}}$
Technical Reviewer	ρ _θ S Mortimer	the	May 2010
Quality Reviewer	pr H Clarke	- C++	

This report is not to be used for contractual or engineering purposes unless the above is signed where indicated by the author the project manager and the technical reviewer of the report and the report is designated FINAL



		TABLE OF CONTENTS	
EXE	ECUTI	VE SUMMARY	1
1	INTI	RODUCTION	2
	11	⁻ Objectives	3
	12	Scope	3
	13	Limitations	3
2	SITI	E DETAILS	4
	2 1	Site Location	4
	22	Site Description	4
	23	Licences and Permissions	4
		Proposed Construction	5
	25	Previous Reports	5
3	PRE	LIMINARY GROUND GAS RISK ASSESSMENT	8
	3 1	Environmental Data	8
	32	Adjacent Historic Landfill Site	9
	33	Summary of Potential Contaminant Sources	9
	34	Sensitive Receptors	9
	35	Summary of Plausible Pathways	10
	36	Initial Conceptual Model for Ground Gases	10
	37	Risks to Human Health	11
4		IRONMENTAL SITE INVESTIGATION	12
	41	Introduction	12
		4 1 1 Health and Safety	12
		4 1 2 Utility Service Clearance	12
		413 Sampling Strategy	12
		4 1 4 Borehole Drilling and Installation4 1 5 Ground Gas Monitoring	14 14
		4 1 6 Tidal Monitoring	14
	42	Ground Conditions	15
	42	4 2 1 Made Ground	15
		4 2 2 Alluvial Clay	15
		4 2 3 Alluvial Gravel	16
		4 2 4 Mercia Mudstone	16
	43	Monitoring Strategy and Methodology	16
		4 3 1 Ground Gas Monitoring	16
	44	Tidal Monitoring	18
5	DIS	CUSSION AROUND ENVIRONMENTAL CONDITIONS	20
	51	Historic Landfill	20
	52	Site Assessment	20
	53	Discussion around Conceptual Site Model	22
	54	Refined CSM	23

GROUND GAS RISK ASSESSMENT NEWPORT BIOMASS POWER PLANT NEVIS POWER LTD



6	OUTLINE GROUND GAS PROTECTION STRATEGY	24
	6 1 1 Additional Gas Protection Requirements	25
7	CONCLUSIONS	26
8	REFERENCES	27
LIST	OF TABLES	

8

- Table 1 Desk Study Environmental Data
- Table 2
 Initial Conceptual Site Model showing Potential Pollutant Linkages
 11
- Table 3 Borehole Rationale 13
- Table 4
 Temporal Atmospheric Conditions During RSK Ground Gas Monitoring
 16
- Table 5
 Summary of Gas Monitoring Data Showing Worst Case Measurements
 17
- Table 6 Summary of Tidal Monitoring Data 18
- Table 7 Summary of Worst Case Gas Monitoring Data Showing Characteristic Situation Number 21
- Table 8 Revised Conceptual Site Model 23
- Table 9
 Summary of Outline Gas Protection Recommendations
 25

LIST OF FIGURES

Figure 1 Site Location Plan Figure 2 Site Plan Figure 3 Proposed Development Layout Plan Figure 4 Refined Conceptual Site Model

LIST OF APPENDICES

- Appendix A Summary of Legislation and Policy Relating to Contaminated Land
- Appendix B Service Constraints
- Appendix C Photographs of Site Works
- Appendix D Ground Gas Monitoring Data
- Appendix E Tidal Monitoring Data
- Appendix F Modified Wilson and Card Spreadsheet
- Appendix G Borehole Logs



EXECUTIVE SUMMARY

RSK was commissioned by Nevis Power Limited (NPL) to undertake a more detailed assessment of risk from ground gas RSK undertook the construction and installation of additional ground gas monitoring locations and an extended programme of gas monitoring between January and March 2010 utilising existing and new boreholes

RSK consider that the source of ground gas is the underlying geology (peat deposits within the alluvium) The adjacent historic landfill and contaminants within Made Ground were discounted as sources within the refined conceptual model, which was confirmed via a combination of subsequent monitoring events and soil chemical testing respectively

Gas monitoring has indicated elevated concentrations of methane and carbon dioxide typical of a peat source. Flow rates have typically been moderate to high (both negative and positive flows). The gas regime is considered to be influenced by tidal groundwater movements beneath the site.

CIRIA Report C665⁽³⁾ and BS8485⁽⁴⁾ have been used to assess ground gas risks at the site and permit scoping of outline gas protection requirements Typically the results from the Modified Wilson and Card classification (suitable for a commercial/industrial end use scenario) indicate the site to be designated as CS1 to CS3 (very low to moderate risk) However, where local peat deposits are present this designation could increase to CS4 to CS5 (high risk)

Based on the ground gas risk assessment completed, the outline scope of gas protection requirements considered to be required at the site is summarised in Section 6 Typically the gas protection strategy involves a combination of robust floor slab design and detailing, together with gas membrane provision and appropriate testing/validation. In some instances passive ventilation may be required beneath the floor slab construction. It should be noted that the gas protection requirements are subject to confirmation of the floor slab construction detail for each proposed building. In this relation, the final scope of protection should be agreed via liaison with RSK when more detailed information regarding floor slab construction design is available.

In addition to the above the following recommendations have been made

- All granular material e g drainage mat, pile mat etc from beneath proposed building footprints should be replaced with predominantly cohesive fill, and
- All service trenches should be sealed at the perimeter of buildings to prevent any gas collected in the granular layer remaining on site migrating through the trench backfill toward the buildings

1 INTRODUCTION

Nevis Power Limited (NPL) intend to develop a biomass-fuelled power plant at Alexandra Docks (South Dock), Newport, South Wales (subject site) RSK STATS Geoconsult Ltd (RSK) was commissioned by NPL to undertake a risk-based assessment relating to ground gas at the proposed biomass-fuelled power plant at Alexandra Docks, Newport

Approved Document $C^{(1)}$ refers to the model procedures for the assessment of land as detailed in CLR11⁽²⁾ and directs readers to a number of guidance documents relating to ground gas, including CIRIA Report 147 and CIRIA Report 152 In 2007 two new gas assessment guidance documents were issues

- CIRIA Report C665 Assessing risks posed by hazardous ground gases to buildings⁽³⁾, and
- BS8485 2007 Code of Practice for the Characterisation and Remediation from Ground Gas in Affected Developments⁽⁴⁾

Both these documents set out the Modified Wilson and Card approach for the assessment of ground gas risks on commercial/industrial sites. This method uses both gas concentrations and borehole flow rates to define a Characteristic Situation for a site based on the limiting borehole gas volume flow for methane (CH_4) and carbon dioxide (CO_2). The limiting borehole gas volume flow is known as the gas screening value (GSV).

The calculation is carried out for both CH_4 and CO_2 and the worst case value adopted The Characteristic Situation is determined by comparison of GSV with the Modified Wilson and Card classification set out in the guidance

An initial round of ground gas monitoring undertaken during a preliminary geotechnical and environmental site investigation⁽⁵⁾, identified elevated concentrations of carbon dioxide and methane (ground gas) within natural alluvial strata across the site Ground gas flow rates were low Two potential sources of ground gas were identified at the site, natural peat within the underlying alluvial deposits and an adjacent historic landfill

Risks to human health and controlled waters from identified chemicals of potential concern (COPC) within Made Ground at the site have been assessed within separate reports submitted to the Local Planning Authority (LPA) A number of reports have been prepared for the site and are listed below

- Preliminary Risk Assessment, 110041 R1 (00)⁽⁶⁾
- Initial-Geotechnical and Environmental Investigation, 110041 -- R2 (00)⁽⁵⁾, and __
- Groundwater Risk Assessment 310826 R1 (00)⁽⁷⁾

This gas risk assessment report details the installation of additional ground gas monitoring locations and further ground gas monitoring visits undertaken by RSK between January and March 2010 This report has been prepared on the basis that NPL will develop the site as a biomass fuelled power plant i e commercial/industrial end use



11 Objectives

The objectives of this assessment are as follows

- To assess the ground gas regime at the subject site and risks posed to human health from identified conditions and
- To provide a ground gas report with outline recommendations for gas protection measures to assist in the discharge of planning conditions pertaining to the subject site, as described in the planning consent 05/1257 Condition 16 (Contaminated land) part b

12 Scope

The scope of the investigation and layout of this report has been designed with CLR11 in mind and guidance on contaminated land for developers issued by the Welsh Local Government Association and Environment Agency Wales in February 2006^(2.8) A summary of relevant legislation and government policies applicable to land development is included in Appendix A

The scope of works for the ground gas assessment included

- Drilling of a further five deep monitoring wells with standpipe installations (BH101– BH105) across the site within the deeper alluvial clays/alluvial gravels,
- Drilling and installation of a further nine shallow monitoring wells (SBH1–SBH8 and BH104S) across the site within the alluvial clays,
- A programme of gas monitoring comprising 7 visits over a 3-month period spanning 18 January 2010 to 8 March 2010
- Assessment of data in accordance with CIRIA Guidance (C665)⁽³⁾ and BS8485⁽⁴⁾, and
- Production of this ground gas risk assessment report

13 Limitations

The comments given in this report and the opinions expressed are based on the ground conditions encountered during the site work and on the results of tests made in the field and in the laboratory However there may be conditions pertaining to the site that have not been disclosed by the investigation and therefore could not be taken into account. In particular, it should be noted that there may be areas of Made Ground not detected due to the limited nature of the investigation or the thickness and quality of Made Ground across the site may be variable. In addition, groundwater and ground gas levels may vary from those reported due to seasonal, or other, effects

This report is subject to the RSK STATS Geoconsult Limited service constraints given in Appendix B



2 SITE DETAILS

21 Site Location

The site is situated within Alexandra Docks, Newport South Wales The site may be located by National Grid reference 331430 184140 The site is located within a commercial dock setting south-west of South Dock A site location plan is presented as Figure 1

2 2 Site Description

The subject site occupies approximately 5ha and currently comprises open undeveloped ground Figure 2 denotes the pre-development site layout including the location of ground gas monitoring wells (BH101 – BH105 BH104S SBH1 – SBH8 and original monitoring wells BH1S BH1D BH2S, BH2D, BH3S and BH3D)

The site is at an elevation of approximately 9m above ordnance datum (AOD) and is roughly level. The site is bounded to the west and south-west by the River Ebbw beyond which are estuarine mudflats and agricultural land. A waste electrical and electronic equipment (WEEE) recycling facility bounds the site to the north. The site is bounded to the north-east by South Dock of Alexandra Docks with a sand berth operated by Severn Sands and Aggregates located to the east of the site. Beyond the southern site boundary are estuarine mudflats and the confluence of the River Ebbw and River Usk.

2 3 Licences and Permissions

RSK understands that the site has existing planning permission for development as biomassfuelled power plant (application No 05/1257) A number of conditions are attached to this permission including Condition 16, which relates to the protection of human health and controlled waters and is reproduced below

(16) No part of the development hereby permitted shall commence until,

(a) An appropriate Desk-Study of the site has been carried out, to include a conceptual model and a preliminary risk assessment. If potential contamination is identified then an appropriate intrusive site investigation shall be undertaken in accordance with Condition (b)

(b) A Site Investigation Report to (BS10175 2001) containing the results of any intrusive investigation shall be submitted and approved in writing by the Local Planning Authority

(c) If required a Remediation Strategy including Method statement and full Risk Assessment will be submitted to and approved in writing by the Local Planning Authority

No part of the development hereby permitted shall be occupied until

(d) Following remediation a Completion/Validation Report confirming the remediation has being carried out as agreed, has been submitted to, and approved in writing by the Local Planning Authority

(e) Any additional or unforeseen contamination encountered during the development shall be notified to the Local Planning Authority as soon as is practicable. Suitable revision of the remediation strategy shall be submitted and approved by the Local Planning Authority

Reason The Local Planning Authority wishes to ensure that any potential risks to human health or the wider environment which may arise as a result of potential land contamination are satisfactorily addressed and in the interest of safeguarding the features of the Severn Estuary European sites and SSSI and the River Usk SAC and SSSI



2 4 Proposed Construction

A commercial/industrial scenario comprising the construction of a biomass-fuelled power plant has been proposed for the subject site Figure 3 shows the proposed development layout

---Due to- the considerable thickness of very soft to soft compressible alluvial deposits, piled foundations are likely to be adopted Piled foundations are likely to be founded within either the alluvial gravel or the underlying Mercia Mudstone

To mitigate flood risks from the River Ebbw to the subject site, there is the requirement to raise site levels. It is RSK's understanding that a separate flood risk assessment will be undertaken, however that a minimum of 1m uplift is required.

2 5 Previous Reports

Brief summaries of previous investigations undertaken at the subject site are included below

Preliminary Risk Assessment Report⁽⁶⁾

The PRA included a review of previous reports associated with the site and surrounding area, details of a site walkover the development of an initial Conceptual Site Model (CSM) through an assessment of potential pollutant linkages (PPLs) The PRA identified a number of potentially complete relevant pollutant linkages (RPLs) in relation to ground gas Data related to other RPLs is included in the PRA⁽⁶⁾

- Potential risks to human-health from ground gases (carbon dioxide and methane) associated with general Made Ground and/or peat deposits via inhalation of ground gases by end users and/or potential build up of gases within voids and/or buildings, and
- Migration of leachate and/or ground gases associated with former landfill site

The report recommended an intrusive investigation to assess the identified RPLs including the construction and installation of monitoring wells for groundwater and ground gas assessment trial pitting to assess general Made Ground across the site, laboratory geotechnical and chemical analysis with generic quantitative risk assessment (GQRA) and detailed quantitative risk assessment (DQRA), if required

Initial Geotechnical and Environmental Investigation⁽⁵⁾

Twenty trial pits were excavated by mechanical excavator to assess general ground conditions across the site with an additional three ground gas and groundwater monitoring wells (dual installations) constructed using a cable tool, and installed to depth of 15 40m (BH1D) 15 35m (BH2D) and 10 80m (BH3D) respectively

The general geology identified across the site comprised Made Ground ranging between 0 20m and 2 70m thickness Made Ground generally comprised black ash fill, gravel and clayey gravel with fragments of wood and brick This was typically underlain by reworked cohesive material (clay)

GROUND GAS RISK ASSESSMENT NEWPORT BIOMASS POWER PLANT NEVIS POWER LTD



The thickness of Made Ground was generally less within the northern area of the site, ranging between 0 2–0 6m thickness when compared with the southern area of the site (ranging up to 2 7m thickness) Made Ground in the northern area of the site typically comprised a narrow horizon of granular material with concrete brick and wood fragments (average thickness of 0 3m with the exception of TP4 (1 1m thickness)) underlain by reworked clay Made Ground within the southern area comprised an average of 2 4m thickness of granular fill (gravel and clayey gravel)

Underlying these deposits were silty clay, sandy clay and gravelly clay with occasional organic components (peat) In turn, the clays were underlain by gravel and cobbles at depth Two boreholes (BH1D and BH2D) encountered the bedrock of the Mercia Mudstone Group (weathered mudstone) at approximately 15m bgl

No obvious visual and/or olfactory evidence of contamination was encountered during the intrusive works, however Made Ground comprising black ash fill was noted in the eastern and south-eastern areas of the site Groundwater samples from monitoring well BH3D exhibited an *apparent* slight oily surface sheen however no olfactory evidence was noted

Soil samples were scheduled for a range of determinands Selected soil samples were scheduled for leachate analysis which included analysis for heavy metals (suite of 12) alkalinity and pH

Groundwater samples were scheduled for a range of determinands

The report concluded that risks to human health from identified ground conditions were considered unlikely to be significant Risks to controlled waters from identified ground conditions were considered unlikely to be significant, however RSK recommended additional rounds of groundwater monitoring and sampling to further assess the groundwater regime

Two potential sources of ground gases were considered the adjacent historic landfill, and peat deposits within the underlying alluvium CIRIA Report C665⁽³⁾ was used to provide guidance in the assessment of ground gas The Modified Wilson and Card system was adopted for a commercial end use

A preliminary round of gas monitoring indicated elevated concentrations of carbon dioxide (max conc 5 4%) and methane (max conc 50 5%) with low ground gas flow rates, resulting in a low risk characteristic situation (CS 1) designation. It was noted that tidally influenced groundwater could have affects on the ground gas regime RSK recommended further 'gas monitoring, the installation of additional gas monitoring locations and tidal monitoring to better assess the ground gas conditions for the site

Groundwater Risk Assessment⁽⁷⁾

RSK undertook further intrusive investigation between January and March 2010, which comprised the installation of ten deep boreholes (BH101 – BH110) to assess groundwater conditions and determine the underlying geology (in particular peat deposits within the alluvial clays) An additional nine shallow boreholes (SBH1 – SBH8 and BH104S) were installed to assess the ground gas regime beneath the site

The groundwater risk assessment⁽⁷⁾ concluded that the groundwater regime beneath the subject site is dynamic and influenced by the tidal River Ebbw Groundwater flow direction and hydraulic



gradient are shown to vary over the tidal cycle (push-pull effect) affecting the groundwater regime across the site

To date no significant free-phase product has been encountered at the site Based upon the groundwater and leachate analytical results RSK considers that the site in its pre-development state is unlikely to pose a pollution risk to controlled waters



3 PRELIMINARY GROUND GAS RISK ASSESSMENT

31 Environmental Data

The summary of environmental data held within available reports is given in the following table

Table 1 Desk Study Environmental Data

r	
History of Site	The site has remained un-developed since 1883, however, the site has historically been used as a temporary car storage compound from 1992 until recently Historic maps dated 1883–1902 show the River Ebbw channel crossing the centre of the subject site in a south-westerly direction with the southern corner of the site comprising estuarine mudflats Following expansion of the Alexandra Docks via the construction of the South Dock in circa 1920 the course of the River Ebbw was straightened with the former channel reclaimed and infilled Further commercial development of the docks area including timber yards, engineering works, waste electrical and electronic equipment (WEEE) recycling facility, ship building works and storage sheds are indicated to have comprised open un-developed ground until present
Hydrology and Flooding	The majority of the subject site lies at an elevation of approximately 9m AOD with the ground relatively level, however sloping very gently down towards the south/south-west The River Ebbw is located beyond the western site boundary flowing towards the south The confluence of the River Ebbw and the River Usk lies beyond the southern site boundary There is one recorded water abstraction within 1km of the site. The operator is recorded as AES East Usk Ltd, located approximately 700m east of the site. The indicated purpose is for the production of energy – non-evaporative cooling. It is not recorded whether the abstraction is from surface or groundwater.
Geology and Hydrogeology	Available geological records ⁽⁹⁾ and data collected during previous intrusive investigation ⁽⁵⁾ at the site indicate the site to be underlain by alluvial superficial deposits comprising Marine or Estuarine Alluvium (silt, clay sand and gravel) This is underlain by bedrock of the Mercia Mudstone Group (weathered mudstone) of Triassic age The alluvial deposits typically include peat deposits of between 0 2–0 5m thickness, generally at depth between 4m to 11m below ground level (bgl) The Groundwater Vulnerability Map ⁽¹⁰⁾ shows the site as being underlain by a secondary B aquifer of negligible permeability Groundwater monitoring undertaken at the site indicates two separate water bodies beneath the site A shallow water body within the alluvial deposits at approximately 1 to 2m depth with a deeper water body under tidally influenced_sub-artesian_conditions within the_alluvial_sands_and_gravels_at approximately 8m to 11m depth Tidal variation within the River Ebbw can vary by as much as 11m between high and low tides The site is not located within a source protection zone (SPZ), as defined by the Environment Agency (EA)

GROUND GAS RISK ASSESSMENT NEWPORT BIOMASS POWER PLANT NEVIS POWER LTD



Surrounding Land Use	The site is located within Alexandra Docks The surrounding land use comprises commercial and industrial operations associated with dock activities, including a sand and aggregates berth, WEEE recycling facility, storage sheds and port activities The River Ebbw bounds the site to the west, beyond which is agricultural land The site is located approximately 100m north of a Ramsar site associated with the Severn estuary, the Ramsar site follows the course of the River Usk, downstream This area is also considered an Area of Special Protection The subject site is separated from the Ramsar site boundary by the River Ebbw The land adjacent to the western, south-western and southern site boundaries is classified as a site of special scientific interest (SSSI) An area of special conservation is located approximately 150m east of the site following the
Pollution Incidents to	River Usk upstream The Phase I desk study ⁽⁶⁾ indicates that there is one recorded category 3 pollution incident (minor incident) to controlled water located approximately
Controlled Waters	200m north-east of the site This incident occurred on 30 May 1995 with the pollutant noted as mud, clay and soil
Discharge Consents	The Phase I desk study ⁽⁶⁾ states that there are two active discharge consents within 250m of the site, both of which are operated by Associated British Ports (ABP) The recorded discharge type is unknown The discharge points are located approximately 110m south-east and 230m east of the site There is one identified inactive discharge consent on-site The stated operator is recorded as ABP with the revocation date stated as 25 September 1992
Radon	According to the National Radiological Protection Board, less than 1% of homes in the area are above the Action Level
Mining History	The subject site is situated in an area that is not likely to be affected by coal mining activities

3 2 Adjacent Historic Landfill Site

The PRA⁽⁶⁾ identified a historic landfill adjoining the northern site boundary, presently redeveloped as a waste electrical and electronic equipment (WEEE) recycling facility Details pertaining to the landfill are limited. As stated within the PRA, the license holder is recorded as Gwent Haulage Company Limited. The first waste input date is recorded as 31 January 1976 with input having ceased on 31 December 1990. Specified deposited waste is described as inert and industrial waste

3 3 Summary of Potential Contaminant Sources

On Site Sources

- Ground gas from peat and Made Ground and
- Ground gas arising from the breakdown of hydrocarbon COPC spilt in the ground as a result of site use for temporary car storage

Off-Site Sources

Ground gas from historic landfill adjacent to northern site boundary

3 4 Sensitive Receptors

- Construction site workers,
- Future (commercial/industrial) site users from asphyxiation risk and
- Build up of explosive mixtures of gas within buildings and/or confined spaces



3 5 Summary of Plausible Pathways

- Migration of ground gas associated with Made Ground via breakdown of COPC and/or alluvial peat via building infrastructure (deep piled foundations) service trenches and granular soils (including service trenches) and
- Migration of ground gas associated with historic landfill via shallow granular Made Ground and/or deep granular alluvial gravel

It should be noted that tidal affects on groundwater could influence the ground gas regime at the site by causing flow rates to fluctuate

3 6 Initial Conceptual Model for Ground Gases

The information presented in Sections 2 and 3 1–3 6 has been used to compile an initial conceptual model for ground gas issues at the site. The identified potential contaminants and receptors have been considered with any possible pathways that may link them. The resulting pollutant linkages are considered in the following table.



Potential Contaminant Source	Potential Receptor	Possible Pathway	Viable Pollutant Linkage
	Future (commercial/industrial) site users	Preferential migration via building infrastructure such as piled foundations	Potentially Complete - Elevated
Ground gases from soils (alluvial peat and Made Ground)	Build up of explosive mixtures of gases within buildings and/or confined spaces	and/or service trenches leading to ingress and accumulation beneath buildings and/or within confined spaces	levels of CH ₄ and CO ₂ were identified during the preliminary round of ground gas monitoring undertaken by RSK in April 2008 although flow rates were low
	Construction workers	Possible collection of ground gas within service trenches and other confined spaces	Alluvial peat deposits were identified beneath the site
Ground gases from adjacent landfill (off site)	Future (commercial/industrial) site users Build up of explosive mixtures of gases within buildings and/or voids	Migration of ground gases via shallow granular Made Ground and/or deep granular alluvial gravel	Potentially Complete – Potential for off site generation and migration of ground gas from historic landfill located adjacent to
	Construction workers	Possible collection of ground gas within service trenches and other confined spaces	the northern site boundary
	Future (commercial/industrial) site users	Preferential migration via building infrastructure such as piled foundations	
Ground gas from the breakdown of COPC spilt as a result of site use as temporary car storage	Build up of explosive mixtures of gases within buildings and/or voids	and/or service trenches leading to ingress and accumulation beneath buildings and/or within confined spaces	Incomplete – Significant concentrations of COPC were not measured within Made Ground or natural soils during the previous investigation ⁽⁵⁾
5.01 aye	Construction workers	Possible collection of ground gas within service trenches and other confined spaces	

Table 2 Initial Conceptual Site Model showing Potential Pollutant Linkages

37 Risks to Human Health

The information presented in Sections 3.4 and 3.6 has been used to inform an initial CSM

Ground gases associated with alluvial peat may pose a risk to construction workers and future (commercial/industrial) site users via asphyxiation and/or risk of explosion. Methane and carbon dioxide have been identified at the site during a previous ground gas monitoring event⁽⁵⁾



4 ENVIRONMENTAL SITE INVESTIGATION

41 Introduction

To further assess potential risks from the identified RPLs within the initial CSM, additional intrusive investigation at the subject site was undertaken. The site investigation works were carried out by RSK between 5 January 2010 and 15 March 2010. The works undertaken are described in the following section. Photographs of the site set-up during the works are presented within Appendix C. Site works included

- Drilling and subsequent installation of five monitoring wells (BH101–BH105) for dual ground gas and groundwater monitoring purposes
- Drilling and installation of eight shallow window sample boreholes (SBH1–SBH8) and one cable tool borehole (BH104S) for ground gas monitoring purposes,
- Monitoring of groundwater levels in selected boreholes to assess tidal influence including the installation of level loggers over a 2 week period and
- A programme of gas monitoring comprising 7 visits over a period of approximately three months, monitoring the boreholes noted above plus existing boreholes BH1 BH2 and BH3

4 1 1 Health and Safety

In advance of the site works, a site-specific health and safety plan (SSHSP) was prepared, along with method statements and control of substances hazardous to health (COSHH) All site staff attended a health and safety induction presented by Associated British Ports (ABP) prior to site works commencing Prior to commencement of intrusive works, the proposed borehole locations were discussed with an authorised representative of ABP and a permit to excavate completed

On site, details of the SSHSP were discussed with fieldwork personnel and, on completion of the briefing, the health and safety plan was signed and dated by site personnel to confirm they had understood and fully accepted the site rules Safety briefings were conducted throughout the duration of the fieldwork

Fieldworks were supervised by a holder of a SPA contractor s safety passport

4 1 2 Utility Service Clearance

Prior to commencement of excavation works, each exploratory location was 'cleared using a cable avoidance tool (CAT) The purpose of the survey was to identify positions of buried services and infrastructure to minimise the risk of injury or damage. An authorised representative of ABP provided service plans for the site and immediate surrounding area

4 1 3 Sampling Strategy

Borehole locations were determined based on information collected during the PRA⁽⁶⁾ and to assess the ground gas regime beneath the site. The borehole rationale and piezometric installation details are provided within Table 3.

GROUND GAS RISK ASSESSMENT NEWPORT BIOMASS POWER PLANT NEVIS POWER LTD

Borehole Rationale

Table 3



Borehole Number	Borehole Screened	Screened Depth "(m bgl)	Rationale
-BH101	Alluvial gravel	13 00 – 18 30	To assess potential ground gas via the dee migration pathway along the northern site boundar (closest to historic landfill)
BH102	Alluvial gravel	13 50 – 19 00	To assess potential ground gas via the dee migration pathway within the southern area of the site
BH103	Alluvial gravel	13 00 – 19 00	To assess potential ground gas via the dee migration pathway within the northern half of the site
BH104	Alluvial gravel	13 00 – 19 00	To assess potential ground gas via the dee migration pathway along the eastern site boundary
BH104S	Deep alluvial clay	9 40 - 12 40	To assess the ground gas potential within peat ric deposits identified at depth within the alluvial clay
BH105	Alluvial gravel	13 50 – 19 00	To assess potential ground gas via the dee migration pathway within the southern corner of th site
SBH1	Shallow alluvial clay	2 00 – 5 00	To assess potential ground gas via the shallor migration pathway along the northern site boundar (closest to historic landfill)
SBH2	Shallow alluvial clay	2 00 – 5 30	To assess potential ground gas via the shallo migration pathway within the northern area of the site
SBH3	Shallow alluvial clay	3 00 – 5 10	To assess potential ground gas via the shallo migration pathway within the northern area of the site
SBH4	Shallow alluvial clay	3 00 – 4 70	To assess potential ground gas via the shallo migration pathway within the northern area of the site
SBH5	Shallow alluvial clay	3 00 – 5 40	To assess potential ground gas via the shallo migration pathway within the central area of the site
SBH6	Shallow alluvial clay	3 00 – 5 00	To assess potential ground gas via the shallor migration pathway within the central area of the site
SBH7	Shallow alluvial clay	2 00 – 5 30	To assess potential ground gas via the shallor migration pathway within the south-eastern area of the site
SBH8	Shallow alluvial clay	1 50 – 5 50	To assess potential ground gas via the shallo migration pathway within the southern area of the sit



All deep boreholes (BH101 – BH105) were advanced into the underlying Mercia Mudstone to assess the weathered mudstone deposits and collect geotechnical data for foundation design detailed within a separate report. Gas monitoring was undertaken within newly installed wells and existing boreholes BH1S – BH3S and BH1D – BH3D

414 Borehole Drilling and Installation

Borehole drilling and monitoring well installation was undertaken between 5 and 27 January 2010

Owing to the geology beneath the site, soft alluvium underlain by sand, gravel and cobbles, in turn underlain by the Mercia Mudstone Group no single drilling technique was appropriate Two cable percussion rigs (Dando 2000 and Dando 3000) were used for the construction of the deep boreholes from ground level to the top of the rock head Rotary/percussive Berretta T41 and T44 drilling rigs and a Gryphon drilling rig were used to advance the boreholes into the underlying Mercia Mudstone

Monitoring well installations comprised 50mm-internal diameter high-density polyethylene (HDPE) casing, screened across the anticipated groundwater interface. The borehole annuli were backfilled with 5mm to 10mm grain size graded siliceous gravel with a bentonite seal placed above the filter pack to prevent any downward migration of surface/perched water.

A track mounted Terrier rig was used for the construction and installation of shallow ground gas monitoring wells (SBH1 – SBH8) Monitoring well installations comprised 40mm-internal diameter HDPE pipe

All piezometric installations were installed to approximately 1m above ground level to allow site levels to be raised

Details of the ground conditions encountered and the monitoring well installations are presented on the borehole logs in Appendix G Borehole locations are presented on Figure 2

A qualified geo-environmental engineer logged the boreholes in accordance with BS 5930⁽¹¹⁾ The descriptions of the strata encountered, samples taken, field observations of soil and groundwater, *in situ* testing and details of the monitoring well installations are included on the borehole logs presented within Appendix G

415 Ground Gas Monitoring

Ground gas monitoring was undertaken over a period of approximately three months between January and March 2010 An infrared Gas Data LMSxi multifunction gas analyser was used to measure concentrations-of-methane -carbon-dioxide and-oxygen-in-percentage-by volume- Initialand steady state concentrations were recorded A built in flow meter was used to measure borehole flow rate in litres per hour (I/hr)

Ground gas monitoring data is presented within Appendix D



416 Tidal Monitoring

To further assess the tidal influence on the groundwater regime beneath the site, tidal monitoring was undertaken using level loggers installed within three monitoring wells (BH101 BH104 and BH105) and a barometric pressure logger within monitoring well BH102

Tidal monitoring data is presented within Appendix E

4 2 Ground Conditions

421 Made Ground

The presence of Made Ground on site is likely to be the result of expansion works at Alexandra Docks via the construction of South Dock in circa 1920 Historic maps dated 1883–1902 show the River Ebbw channel crossing the centre of the subject site in a south-west direction with the southern corner of the site comprising estuarine mudflats. It is likely that excavated material from the expansion works on South Dock was used to reclaim and infill the former river channel and southern tip of the site.

Typically, two types of Made Ground are identified on site

 A thin horizon of granular Made Ground at surface level with occasional fragments of concrete brick and wood, with an average thickness of 0 3m within the northern area of the site. The thickness of granular material within the southern area of the site was generally greater (up to 1 75m thickness),

Underlain by

Cohesive material, comprising reworked *clay*, up to 2 6m thickness

It should be noted that during the intrusive work undertaken by RSK in 2008⁽⁵⁾, Made Ground deposits within the southern area were logged as comprising granular material (gravel and clayey gravel) However, more recent inspection of these deposits specifically for assessment of ground gas risks has identified the material to predominantly comprise reworked cohesive soil with no visual evidence of putrescible material such as wood

Further it is noted that boreholes BH103, BH107 BH108, BH109, SBH4 and SBH5 are located within the assumed course of the infilled former river channel. Observed materials comprised reworked natural alluvium similar to those elsewhere on site but which could not be clearly distinguished from natural material solely by inspection of the borehole arisings.

No visual and/or olfactory evidence of contamination was noted within Made Ground deposit across the site

422 Alluvial Clay

The alluvial clay comprised slightly silty (occasionally slightly sandy) *clay* organic in places, generally soft nearer the surface and becoming very soft with depth. Some organic (peat) material was encountered within this stratum, typically comprising small pockets of pseudo-fibrous peat. The peat content was typically noted to increase with depth. notably in the position of BH104 (BH104S) where peaty clay was recorded between 11 15m and 12 50m depth and the drillers reported a rotting vegetation smell with a haze/shimmer' above the casing during drilling.



The noted haze/shimmer within BH104 is likely the result of egress of methane gas from the borehole and gas density differences between the ambient air and methane

The encountered slightly silty clay was generally very soft to soft through the entire stratum as shown by the recorded SPT N values that ranged from 0 to 4 The thickness of this stratum ranged from 9 5m (BH101) in the north-west of the site to 13 4m (BH108) in the centre of the site with an average of 11 5m thickness Boreholes BH103, BH107 BH108, BH109, SBH4 and SBH5 were located within the infilled former river channel Observed reworked borehole arisings were not clearly distinguishable from natural cohesive material

423 Alluvial Gravel

Alluvial gravel were encountered in all deep cable tool boreholes. The stratum generally comprised medium dense becoming very dense fine to coarse sub-angular to sub-rounded gravel with occasional sub-angular to sub-rounded cobbles. The encountered depth ranged from 12 5m bgl (BH103) to 15m bgl (BH104) with thicknesses ranging from 5 8m in BH104 to 8m in BH105.

SPT/CPT values range between 30 to in excess of 50 indicating a dense to very dense, compact gravel horizon Gravel and cobbles comprised well sorted sandstone quartizite and conglomerate fragments

424 Mercia Mudstone

The solid geology bedrock beneath the site comprises Mercia Mudstone described as very weak (locally weak) reddish-brown, occasionally mottled grey-green, indistinctly laminated *mudstone*, encountered at depths between 19 5m (BH101) and 20 8m (BH104) The base of the mudstone strata was not encountered

4 3 Monitoring Strategy and Methodology

4 3 1 Ground Gas Monitoring

Recent ground gas monitoring has been carried out by RSK primarily on seven occasions 18 January 2010, 25 January 2010 1 February 2010, 8 February 2010, 15 February 2010, 22 February 2010 and 8 March 2010 Selected boreholes were monitored on 3 February 2010 The preliminary monitoring round was undertaken on 10 April 2008

Boreholes numbered BH101 – BH105 BH104S SBH1 – SBH8 BH1S BH1D BH2S, BH2D BH3S and BH3D were monitored during 2010 Boreholes BH1S, BH1D, BH2S, BH2D, BH3S and BH3D were monitored on 10 April 2008

Table 4	Temporal Atmospheric Conditions During RSK Ground Gas Monitoring
	Temporal Adhospherio Conditions Daring New Ground Gas monitoring

Date	Atmospheric pressure* during the preceding three days prior to the monitoring round			•	al Conditions	Locations Monitored		
	3 2		1	Atmos' Pres' (mB)	Raınfall]		
10 April 2008	1005 2	1004 1	1000 2	997 9	Overcast drizzle slight wind	BH1S BH1D BH2S BH2D BH3S and BH3D		
18 January 2010	1014 3	1000 3	1019 2	1025 0	Overcast drizzle/sleet -2°C	SBH1-SBH8		

GROUND GAS RISK ASSESSMENT NEWPORT BIOMASS POWER PLANT NEVIS POWER LTD



Date	Atmospheric pressure* during the preceding three days prior to the monitoring round				al Conditions monitoring	Locations Monitored
	3	2	۲ ^د	Atmos' [°] Pres' (mB)	Raınfall	ł
25 January 2010	1014 6	1022 6	1026 6	1032 8	Sunny dry 0°C	SBH1–SBH8
1 February 2010	995 7	1004 2	1006 8	1016 8	Overcast dry slight wind 7°C	SBH1-SBH8 BH104S
3 February 2010	1006 8	1016 8	1006 0	1008 5	Overcast drizzle slight wind 5 5°C	BH104S BH1S BH1D BH2S BH2D BH3S BH3D BH101– BH105 and BH104S
8 February 2010	999 3	1015 9	1024 4	1013 9	Overcast 6°C	BH101–BH105 SBH1–SBH8 BH104S BH1S BH1D BH2S BH2D BH3S and BH3D
15 February 2010	1025 1	1025 5	1025 1	1006 2	Overcast dry 7°C	BH101–BH105 SBH1–SBH8 BH104S BH1S BH1D BH2S BH2D BH3S and BH3D
22 February 2010	996 3	997 9	992	986 3	Sunny dry slight wind 7°C	BH101–BH105 SBH1–SBH8 BH104S BH1S BH1D BH2S BH2D BH3S and BH3D
8 March 2010	1031 9	1027 7	1033 6	1030 7	Sunny dry slight wind 8°C	BH104S BH1S BH1D BH2S BH2D BH3S BH3D BH101– BH105 and BH104S

*Barometric pressure as measured at RAF St Athan (20 miles west of Newport)

In line with current best practice, monitoring by RSK has been undertaken during a number of different atmospheric conditions as summarised in Table 4

Two visits (10 April 2008 and 22 February 2010) were undertaken at times of falling atmospheric pressure

It is generally anticipated that flow rates increase as atmospheric pressure falls. This is consistent with the monitoring event undertaken on 22 February 2010 which typically recorded the peak flow rates summarised in Table 5. Notwithstanding this increased flow rates were also recorded in deeper borehole monitoring on the site during higher periods of atmospheric pressure – notably BH104S and BH103 on 8 February 2010. This suggests that an additional factor is influencing ground gas flow rates such as tidal change.

A summary of worst-case ground gas results is presented in Table 5 and further discussed in Section 5

		CH ₄(%)		CO ₂ (%)		O ₂ (%)		Flow Rate I/hr	
Borehole	Response Zone		SS⁺				SS	Max Flow	
location		Initial*		Initial*	SS	Initial*	55	Neg ve	Pos ve
SBH1	Alluvial clay	<0 1	<0 1	05	<0 1	20 7	21 4	02	
SBH2	Alluvial clay	<0 1	<0 1	06	<0 1	20 7	21 3	06	
SBH3	Alluvial clay	<0 1	<0 1	2 2	2 5	83	73	31	14 0
SBH4	Alluvial clay	<0 1	<0 1	06	<0 1	21 1	20 6	19	76
SBH5	Alluvial clay	0 1	<0 1	0 1	<0 1	21 3	21 2		08
SBH6	Alluvial clay	<0 1	<0 1	03	<0 1	20 7	21 2	63	03

 Table 5
 Summary of Gas Monitoring Data Showing 'Worst Case' Measurements

GROUND GAS RISK ASSESSMENT NEWPORT BIOMASS POWER PLANT NEVIS POWER LTD



		СН	4(%) ً	CO2	(%)	O ₂ (%)		Flow Rate I/hr	
								Max	Flow
SBH7	Alluvial clay	<0 1	<0 1	03	03	21 0	211	39	35
SBH8	Alluvial clay	60 0	77	30	03	37	19 1	76	22 4
BH101	Alluvial gravel	14	08	39	16	197	20 8	95	0 2
BH102	Alluvial gravel	32	08	4 1	11	93	176	0 2	06
BH103	Alluvial gravel	78 0	68 0	66	58	75	41	24 9	17 5
BH104	Alluvial gravel	74 0	26 5	4 5	16	49	14 7		02
BH104S	Alluvial clay	65 0	44 5	58	30	11	10 3		28 2
BH105	Alluvial gravel	94 0	40 5	4 2	16	03	119	29	17
BH1S	Alluvial clay	47 5	36 5	54	4 5	05	22	95	10 (
BH1D	Alluvial gravel	39 0	38 0	6 1	54	15	22	99	85
BH2S	Alluvial clay	05	10	0 2	02	20 6	21 0	03	11 2
BH2D	Alluvial gravel	23	07	35	40	92	84	98	52
BH3S	Alluvial clay	11 0	40	4 1	42	76	99	·	
BH3D	Alluvial gravel	50 5	17	10	10	93	203	01	01

Note

It should be noted that during monitoring visits sucking noises could be heard at some monitoring locations as the gas tap was opened and the flow pod connected On some occasions the flow rates exceeded the recording negative flow range of the monitor (25 0l/hr to +25 0l/hr (+/-10 to 15%)) Where this occurred the last recorded negative reading was noted

-14

34 ym**

с

*Initial measurement

Steady State measurement

44 **Tidal Monitoring**

RSK undertook tidal monitoring over a two week period during February 2010 Three groundwater level loggers and one barometric pressure logger were installed in BH101 BH104 and BH105 and BH102, respectively Monitoring wells BH101 and BH105 were located closer to the River Ebbw (approximately 35m and 50m distance respectively) with BH104 located inland' in relation to BH101 and BH105 All boreholes had response zones within the granular alluvial deposits Tidal data is summarised within Table 6

Date	Time /Type	Time /Type	Time /Type	Time /Type
	Newport tidal data	BH101	BH104	BH105
15	02 30 (low tide)	03 40 (low tide)	03 40 (low tide)	03 40 (low tide)
February	08 00 (high tide)	08 40 (high tide)	08 40 (high tide)	08 40 (high tide)
2010	14 45 (low tide)	16 10 (low tide)	15 45 (low tide)	15 45 (low tide)
	20 15 (high tide)	21 35 (high tide)	21 10 (high tide)	20 45 (high tide)



The monitoring results have been compared to tidal data obtained from Newport Tide Gauge (West Pier, Newport) supplied by the British Oceanographic Data Centre (BODC)⁽¹²⁾ as detailed within Table 6

The tidal monitoring data from all three deep boreholes indicated there to be hydraulic continuity between the alluvial gravel and the tidal estuary of the River Ebbw, with a variation in groundwater level during each tidal cycle of between approximately 1 4m (BH101 and BH105) and 1 8m (BH104) Raw tidal monitoring data uncorrected for barometric pressure, is presented on three graphs within Appendix E. The barometric log also presented in Appendix E, shows that a long-term variation of about 0 4m in the readings is attributable to changes in atmospheric pressure. The raw data has not been corrected for this variation, as the objective of the monitoring was to determine the short term variation in levels over a tidal cycle which is not significantly affected by the slow changes in atmospheric pressure. The break in readings evident on all the graphs on 17 February was caused when the loggers were temporarily removed from the boreholes to permit groundwater sampling.

Data indicates tidal variation in boreholes which have response zones partially or completely screened within the alluvial gravel. The amount of groundwater fluctuation varies between approximately 1 4m and 1 8m depth

A lag time between high tide and peak groundwater levels beneath the site was noted ranging between 30 minutes and 90 minutes. No spatial variation in lag time was noted across the site

The shallow groundwater within the Made Ground/shallow alluvial clay is not considered to be in hydraulic continuity with deeper groundwater or with the River Ebbw Whilst there are no boreholes screened specifically within the Made Ground any changes in groundwater level are likely to be directly related to rainfall events and the nature of the surface cover



5 DISCUSSION AROUND ENVIRONMENTAL CONDITIONS

51 Historic Landfill

The PRA⁽⁶⁾ identified a historic landfill adjoining the northern site boundary presently redeveloped as a waste electrical and electronic equipment (WEEE) recycling facility. Two possible ground gas migration pathways for potential ground gases arising from the historic landfill are considered – a deep migration pathway through the alluvial gravel and shallow migration pathway through granular Made Ground

The deep migration pathway is considered unlikely owing to the identified thickness of alluvial clay present (average on site thickness of 11 5m) Groundwater monitoring data for deep boreholes along the northern site boundary (BH101 and BH1D) did not identify dissolved-phase concentrations of chemicals of potential concern (COPC), which would be expected if the historic landfill had penetrated the alluvial gravel Furthermore, the sub-artesian groundwater regime within the alluvial gravel would have resulted in groundwater ingress should the landfill have penetrated the granular alluvium and thus excavation into this stratum to form the landfill is considered unlikely identified concentrations of ground gases (methane and carbon dioxide) and ground gas flow rates within monitoring well BH101 (which targeted the alluvium gravel on the northern portion of the site) were typically low during all monitoring visits (with the exception of measured flow rates on 8 February 2010)

Shallow granular Made Ground has been identified within the northern area of the site (average of 0 3m thickness) Thicker granular material was identified within the central and southern areas of the site, at greater distance from the historic landfill during the previous investigation⁽⁵⁾ Granular materials are typically underlain by cohesive reworked alluvium (Made Ground) The area north of the site, corresponding with the historic landfill is situated topographically level with the subject site. It is therefore considered that the minimal thickness of granular Made Ground along the northern site boundary is not sufficient to result in a significant shallow migration pathway. Further shallow ground gas monitoring wells (SBH1 SBH2 and SBH3) within the northern area of the site did not identify significant concentrations of methane, carbon dioxide and associated flow rates.

Furthermore, the stated landfill waste is recorded as inert waste which is unlikely to comprise putrescible material

In conclusion, it is considered that ground gas migration from the adjacent landfill via either deep migration pathways (i e the alluvial gravel) or shallow migration pathways (granular Made Ground) is unlikely

5 2 Site Assessment

The proposed development for the subject site is to comprise a commercial/industrial end use For this site, the likely foundation solution will comprise piled foundations due to the thickness of compressible alluvial deposits (approximately 11 5m thickness)

In consideration of the development proposals, gas monitoring results have been modelled using the Modified Wilson and Card classification. The results of the RSK ground gas monitoring are given in Appendix D. This data has been entered into the model to derive gas screening values.



(GSV s) and characteristic situation (CS) designations for each borehole. The modelled results are presented in Appendix F and summarised in Table 7

As noted in Table 5, flow rates recorded on the site varied significantly between and during monitoring events, ranging from negative to positive flows at individual locations. It is considered likely that this reflects tidal influence beneath the site whereby groundwater fluctuations result in gas movement within pore spaces, known as the 'piston effect

For the purposes on the gas risk assessment RSK have utilised the highest recorded flow reading (negative or positive) recorded at each monitoring position

Table 7	Summary of 'Worst Case' Gas Monitoring Data Showing Characteristic Situation
Number	

	Max CH ₄ (%)	Max CO₂(%)	Max Flow	GSV (l/hr)		(4)
Borehole location			Rate I/hr	CH4	CO2	CS Number ⁽⁴⁾
SBH1	<0 1	0 5	02(ve)	0 00	0 00	CS1
SBH2	<0 1	0.6	06(ve)	0 00	0 00	CS1
SBH3	<0 1	2 5	14 0 (+ve)	0 00	0 35	CS2
SBH4	<0 1	06	76 (+ve)	0 00	0 00	CS1
SBH5	01	0 1	0 8 (+ve)	0 00	0 00	CS1
SBH6	<0 1	03	63(ve)	0 00	0 00	CS1
SBH7	<0 1	03	39(ve)	0 00	0 01	CS1
SBH8	60	30	22 4 (+ve)	13 44	0 07	CS4
BH1S	47 5	5 4	10 (+ve)	4 52	0 43	CS4
BH1D	39	61	99(ve)	3 90	0 54	CS4
BH2S	10	0 2	11 2 (+ve)	0 06	0 02	CS1
BH2D	23	40	98(ve)	0 23	0 39	CS2
BH3S	11	4 2	0	0 02	0 01	CS1
BH3D	50 5	10	0 1	2 63	0 05	CS1
BH101	14	39	95(ve)	0 13	0 15	CS2
BH102	32	4 1	06(+ve)	0 02	0 01	CS1
BH103	78	66	24 9 (ve)	19 42	1 44	CS5
BH104	74	4 5	02(ve)	0 07	0 00	CS2
BH104S	65	58	28 2 (+ve)	23 97	0 85	CS5
BH105	94	42	29(ve)	1 10	0 02	CS3

The results show that boreholes screened within shallow alluvial clay (SBH1 – SBH7) have a very low to low risk characteristic situation CS1 and CS2 designation. A notable exception was SBH8 which had a moderate to high risk, characteristic situation CS4 designation. This correlates with visual observations of recovered core data where peat deposits (isolated lenses) were encountered at shallow depth within SBH8. No significant peat deposits were noted within SBH1–SBH7.

Typically, boreholes screened within the deeper alluvial clay/alluvial gravel had higher measured concentrations of methane, carbon dioxide and associated flow rates. The Modified Wilson and Card model for the site indicates that where these elevated concentrations of methane and



carbon dioxide were identified in the deeper geological units a typical CS designation of CS2 to CS4 was applicable (moderate to high risk), with two CS5 designations identified for BH104S and BH103

Calculated GSVs indicate the principal gas of concern to be methane. Concentrations of carbon dioxide were generally low. This is likely to reflect the solution of carbon dioxide into groundwater.

5 3 Discussion around Conceptual Site Model

For the reasons noted in Section 5.1, it is considered that the principal source of potentially hazardous ground gas is the alluvium underlying the site and not the adjacent historic landfill. The alluvial deposits contain lenses/pockets of peat which typically has the potential to give rise to elevated levels of ground gas and flow rates although typically these are generated in the relative short term as the trapped gas within the peat lenses dissipates with time. As discussed in section 4.4, the variable flow rates recorded are considered likely to be affected by tidal influences, as well as atmospheric pressure.

Consistent with the above boreholes BH101 – BH105, SBH8 BH104S BH1S, BH1D BH2S BH2D, BH3S and BH3D with response zones screened within peat bearing strata, have given rise to elevated levels of ground gasses. These boreholes have also been installed with part of the response zone within the underlying alluvial gravel, which means that they are likely to be tidally influenced (with the exception of SBH8). Conversely, lower concentrations and flow rates were measured in those boreholes screened within the upper (approximately top 5m) alluvial clays alone (SBH1–SBH7).

During the intrusive works, isolated pockets of pseudo-fibrous peat were encountered at depth (8–11m bgl) Occasional narrow peat horizons (5–20mm thickness) were encountered within the shallow cohesive alluvium, in particular within BH104S. It is likely that these thicker peat bands are localised and represent isolated peat lenses

Gas migration through the alluvial clays that overlie those deeper deposits which contain inclusions and lenses of peat is likely to be low, as typically evidenced by the boreholes installed with relatively shallow response zones in the alluvial clays alone

Consequently in the current situation, a linkage does not typically exist between the source of the hazardous ground gas and the proposed development. However, as previously noted, the proposed development will be supported on piled foundations which are likely to penetrate through the alluvium to the competent alluvial gravel or underlying Mercia Mudstone. Piled foundations have the potential to create migration pathways from the source of the ground gas in the peat up through the alluvium to the underside of the proposed development.

It is understood that driven piles are potentially being considered to support the development at the site. It is possible that ancillary buildings could be supported via ground bearing foundations depending upon ground conditions

Driven piles would displace soils in a radial fashion leading to a reduction in volume adjacent to the pile. This leads to a densification of soils and a corresponding decrease in permeability. The radial movements of the soil will also create a stress field in the zone of influence through which the pile has been driven which tends to make the soil close up after the pile has been driven. It is therefore considered that the potential pathways created by the piles are not significant. It is



considered that ground bearing foundations are unlikely to create migration pathways owing to the cohesive nature of the alluvial clay

Consolidation of the alluvium as a result of uplifting the site will result in a reduction in pore spaces within the alluvial material. The short term rate of gas emission from the peat has the -potential-to increase during the consolidation phase however the gas generation potential is likely to be reduced in the long term (post consolidation). The construction phase risks associated with increased gas generation in the short term can be mitigated through the use of personal protective equipment (PPE) and a site specific health and safety plan (SSHSP) and is unlikely to be significant. In the longer term, the residual gas risks should be mitigated via the adoption of suitable gas protection measures within proposed buildings.

54 Refined CSM

The conceptual model for the site has been refined in accordance with the additional assessment and analysis of the site conditions This is presented as Table 8 and Figure 4

 Potential Contaminant Source 	Potential Receptor	Possible Pathway	Viable Pollutant Linkage		
	Future (commercial/industrial) site users	Preferential migration via building infrastructure such as piled foundations	Potentially Complete - Characteristic situation CS1 CS2 for shallow alluvial deposits (very		
Ground gases from soils (alluvial peat and Made Ground)	Build up of explosive mixtures of gases within buildings and/or confined spaces	and/or service trenches leading to ingress and accumulation beneath buildings and/or within confined spaces	low to low risk) The pathway for ground gas migration is removed from the development via 11 5m cohesive alluvium However pile foundations could result		
	Construction workers	Possible collection of ground gas within service trenches and other confined spaces	preferential migration pathways Whilst considered unlikely an actual pathway would result in very high risk		
Ground gases from adjacent landfill (off site)	Future (commercial/industrial) site users Build up of explosive mixtures of gases within buildings and/or voids	via shallow granular Made Ground and/or des deep granular alluvial or gravel incomplete – Deposi within the historic described as inert of generate significant v ground gas Ground			
	Construction workers	Possible collection of ground gas within service trenches and other confined spaces	unlikely to result in shallow and/or deep migration pathways		

Table 8	Revised	Conceptual	Site Model
---------	---------	------------	------------



6 OUTLINE GROUND GAS PROTECTION STRATEGY

CIRIA Report C665⁽³⁾ has been used to provide guidance in the assessment of ground gas at the site. The Modified Wilson and Card system has been adopted for assessment of the commercial end use with BS8485 utilised to inform the ground gas protection strategy in the following section

Typically the results from the Modified Wilson and Card classification indicate the site would be designated as CS1 to CS3 (very low to moderate risk) However, as demonstrated in boreholes SBH8, BH104S, BH103, BH1S and BH1D, where local peat deposits are present this designation could increase to CS4 to CS5

In due consideration of the above, the remedial strategy for the site has been designed to reflect the high methane concentrations recorded whilst recognising that the source of the gas is typically localised peat lenses at depth within the alluvial deposits migration from which will largely be mitigated by the overlying alluvial clay which contains only thin partings and lenses of peat material, but that a viable pathway may be formed by piling

To date no detailed information regarding floor slab construction has been provided to RSK. In this relation, the gas protection recommendations are provided to reflect 3 different potential development scenarios.

- 1 Large span industrial type buildings with *in-situ* reinforced concrete suspended floor slabs,
- 2 Commercial type buildings (inc offices small plant buildings etc.) where *in-situ* reinforced concrete suspended floor slabs are utilised, and
- 3 Commercial type buildings (inc offices, small plant buildings etc.) where pre-cast floor slabs are utilised

The gas protection recommendations reflecting the above are summarised in Table 9 The gas protection requirements for any buildings which fall outside the scenarios listed above should be clarified with RSK as part of the development design



Table 9 Summary of Outline Gas Protection Recommendations

Scenarios	Typical scope of protection measures	BS8485 Considerations	Important Notes and Requirements
Large span industrial type buildings with in- situ reinforced concrete suspended floor slabs	A 2000 gauge (minimum) gas resistant membrane should be incorporated within the floor slab construction Service penetrations should be cast into the slab All service penetrations and joints should be sealed with water bars The number of penetrations through the slab and membrane should be limited by design	The floor slab scores 1 5 points and the membrane installation 1 point = 2 5 total equivalent to CS3/CS4 protection for an industrial building	The gas membrane specification data sheet should be forwarded to RSK for approval prior to commencement of installation on site Gas membrane detailing drawings should be forwarded to RSK for approval prior to commencement of works on site The membrane should be inspected by an independent party upon installation and immediately prior to being covered
Commercial type buildings (inc offices small plant buildings etc) where in situ reinforced concrete suspended floor slabs are utilised	A 2000 gauge (minimum) gas resistant membrane should be incorporated within the floor slab construction Service penetrations should be cast into the slab All service penetrations and joints should be sealed with water bars The number of penetrations through the slab and membrane should be limited by design	The floor slab scores 1 5 points and the membrane installation 2 points = 3 5 total equivalent to CS3/CS4 protection for a commercial building	The gas membrane specification data sheet should be forwarded to RSK for approval prior to commencement of installation on site Gas membrane detailing drawings should be forwarded to RSK for approval prior to commencement of works on site The membrane should be installed by a Specialist Contractor with appropriate CQA certification provided and integrity testing completed
Commercial type buildings (inc offices small plant buildings etc) where pre cast floor slabs are utilised	A 2000 gauge (minimum) gas resistant membrane should be incorporated within the floor slab construction with all joints and penetrations sealed The floor slab should be passively ventilated ideally by a clear open void with minimum void height of 225mm Voids should be ventilated by openings providing not less than 1500mm ² per metre run of external wall or 500mm ² per m ² of floor area whichever gives the greater opening Ventilation openings should be provided on at least two opposite sides of a building The number of penetrations through the slab and membrane should be limited by design	Passive ventilation (assuming very good performance in accordance with BS8485) scores 2 5 points and the membrane installation 2 points = 4 total equivalent to CS4 protection for a commercial building	The gas membrane specification data sheet should be forwarded to RSK for approval prior to commencement of installation on site Gas membrane detailing drawings should be forwarded to RSK for approval prior to commencement of works on site The membrane should be installed by a Specialist Contractor with appropriate CQA certification provided and integrity testing completed

611 Additional Gas Protection Requirements

Any granular material e g drainage mat, pile mat etc placed on the site to facilitate construction should be removed from beneath proposed building footprints and replaced with well compacted cohesive fill to limit the potential for gas accumulation beneath the building construction. Service trenches should be sealed at regular intervals, and notably around the periphery of buildings to prevent preferential pathways for ground gas migration from developing.

Elsewhere on site, site surfacing should be left as permeable as possible to permit natural venting of any ground gas to atmosphere



7 CONCLUSIONS

Results from a preliminary round⁽⁵⁾ of ground gas monitoring at the site indicated elevated concentrations of methane and carbon dioxide from boreholes installed within underlying peat and gravel strata. Measured gas flow rates were generally low. Two potential sources were considered, the adjacent historic landfill and peat deposits within the underlying alluvium.

RSK were commissioned by NPL to undertake a more detailed assessment of risk from ground gas RSK undertook the installation of additional ground gas monitoring locations and an extended programme of gas monitoring between January and March 2010 from existing and new boreholes

RSK consider that the source of ground gas is the underlying geology (peat deposits within the cohesive alluvium) The adjacent historic landfill and contaminants within Made Ground were discounted as sources within the refined CSM

Gas monitoring has indicated elevated concentrations of methane and carbon dioxide typical of a peat source. Flow rates have typically been moderate to high (both negative and positive flows). The gas regime is considered to be influenced by tidal groundwater movements beneath the site.

CIRIA Report C665⁽³⁾ and BS8485⁽⁴⁾ have been used in the assessment of ground gas at the site and the Modified Wilson and Card system adopted for a commercial end use

- Typically, boreholes screened within shallow alluvial clay (SBH1–SBH7) have a very low to low risk, characteristic situation CS1 and CS2 designation
- Typically boreholes screened within the deeper alluvial clay/alluvial gravel had higher measured concentrations of methane, carbon dioxide and associated flow rates, a typical CS designation of CS2 to CS4 was applicable (moderate to high risk), with two CS5 designations identified for BH104S and BH103

Typically the results from the Modified Wilson and Card classification indicate the site would be designated as CS1 to CS3 (very low to moderate risk) However where local peat deposits are present this designation could increase to CS4 to CS5 (high risk)

The outline remedial strategy for the site has been designed to reflect the high methane concentrations recorded whilst recognising that the source of the gas is typically localised peat lenses at depth within the alluvial deposits, migration from which will largely be mitigated by the overlying alluvial clay which contains only thin partings of peat material

Outline recommendations for the ground gas protection strategy at the site are set out in Section 6 It should be noted that these are subject to confirmation when the floor slab construction and pile type of the proposed buildings is confirmed

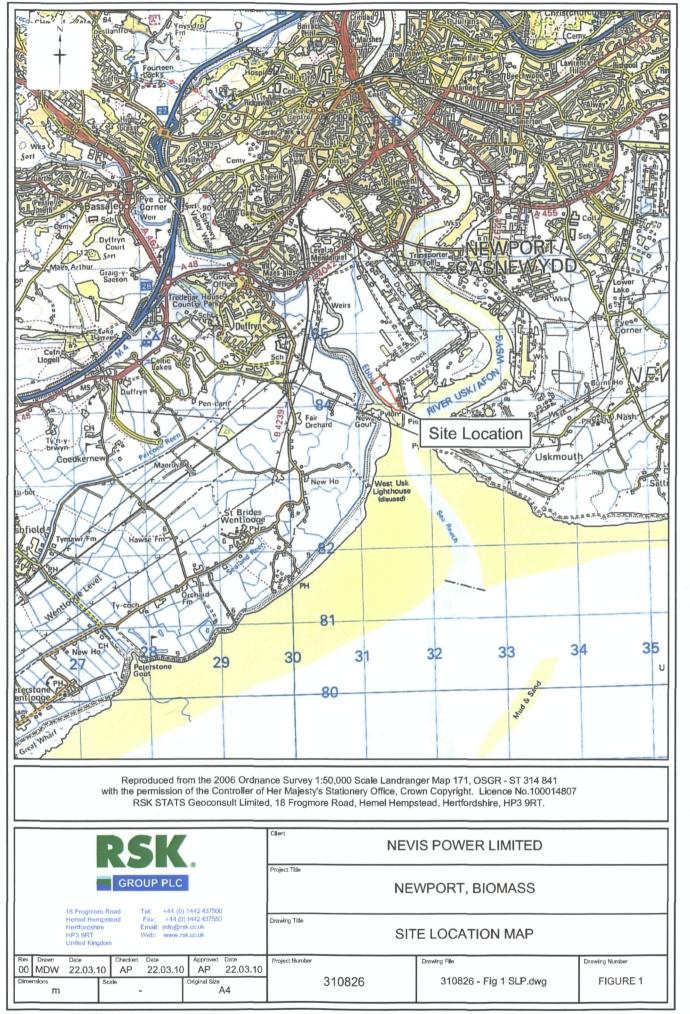


8 REFERENCES

- 1 The Building Regulations 2000 Approved Document C (2004 edition) Office of the Deputy Prime Minister
- 2 Environment Agency Model Procedures for the Management of Contaminated Land Contaminated Land Report Number 11 (CLR11) September 2004
- 3 Wilson S et al (2007) CIRIA Report C665 Assessing Risks Posed By Hazardous Ground Gases To Buildings Construction Industry Research and Information Association
- 4 BS8485 2007 Code of Practice for the Characterisation and Remediation from Ground Gas in Affected Developments
- 5 RSK Geoconsult Limited Initial Geotechnical and Environmental Investigation Newport Biomass Project Newport Wales 110041 – R2 (00), May 2008
- 6 RSK Geoconsult Limited, Preliminary Risk Assessment, Newport Biomass Project, Newport, Wales 110041 – R1 (00) December 2007
- 7 RSK STATS Geoconsult Limited Newport Biomass Power Plant, Newport, South Wales 310826 R1 (00)
- 8 Welsh Local Government Association & Environment Agency Wales Land Contamination A Guide for Developers February 2006
- 9 British Geological Survey (BGS) Newport, Sheet 249, Solid and Drift Scale 1 50,000, 1994
- 10 Groundwater Vulnerability Map Sheet No 36 Mid Glamorgan 1 100 000, 2005
- 11 British Standards Institution, Code of Practice for Site Investigations BS 5930 1999
- 12
 British
 Oceanographic
 Data
 Centre

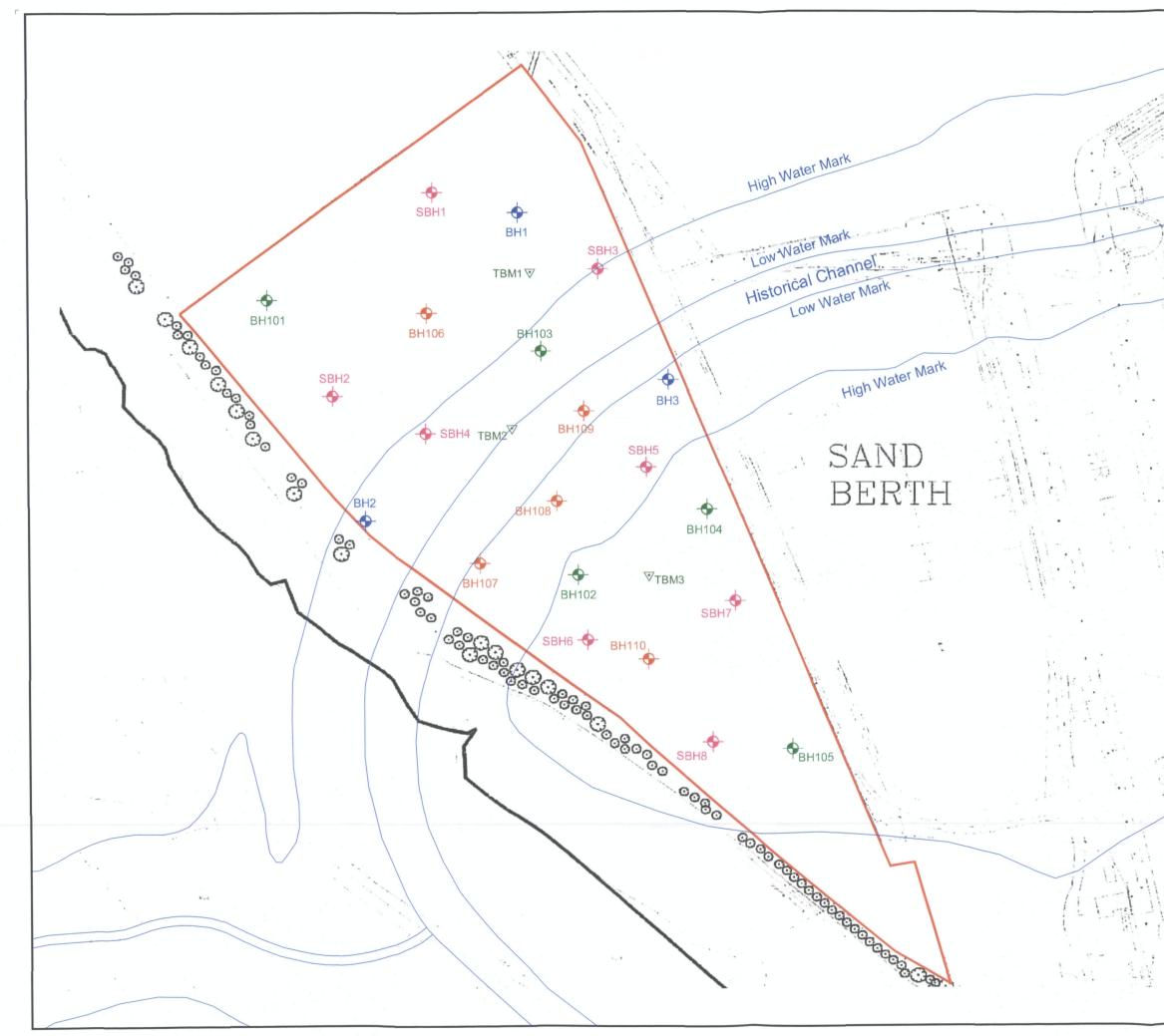
 https://www.bodc.ac.uk/data/online_delivery/ntslf/raw/
 Data
 Centre
- 13 Williams, GJ May 1968 The Buried Channel and Superficial Deposits of the Lower Usk and their Correlation with similar features in the Lower Severn

Figures

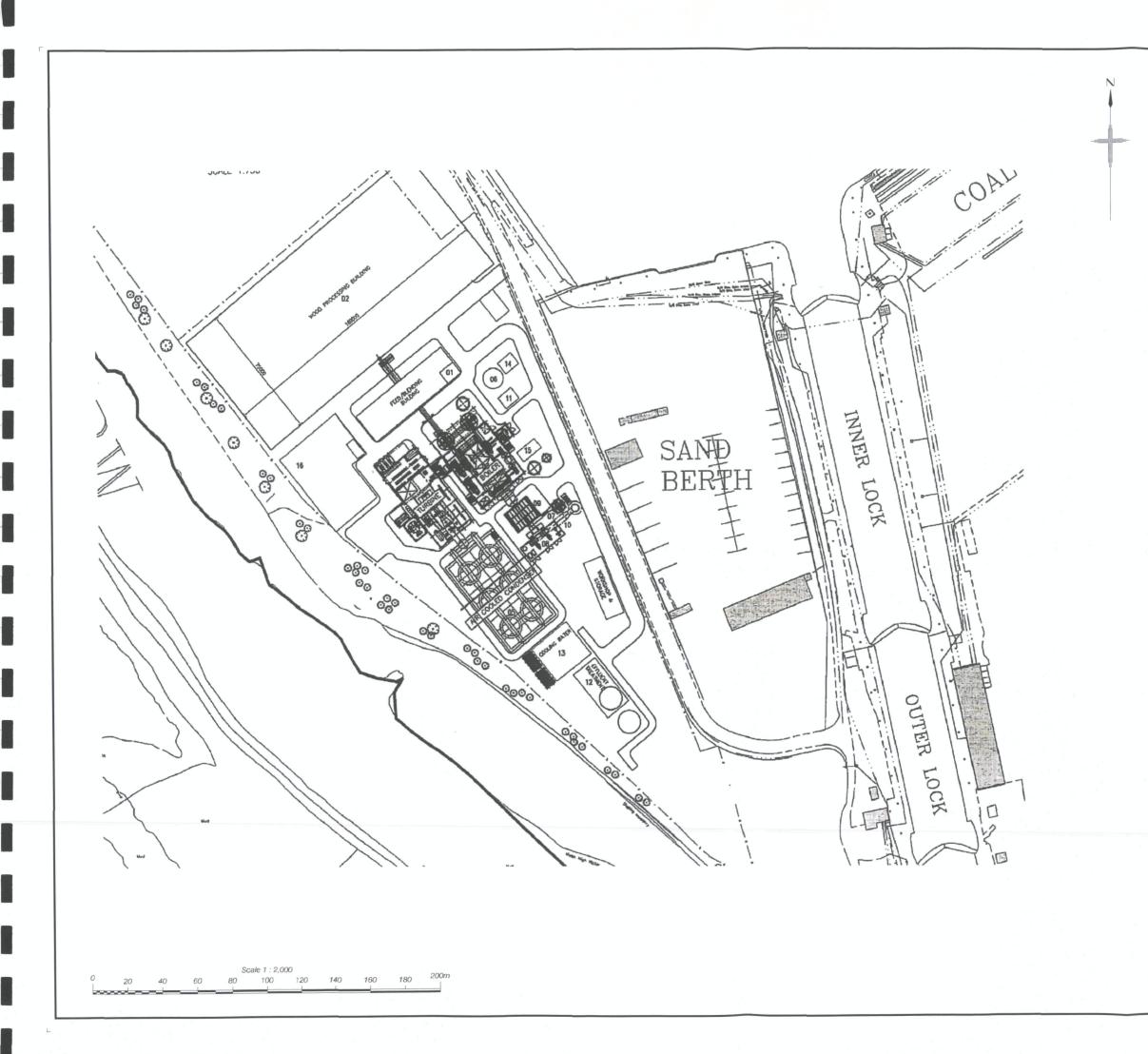


L

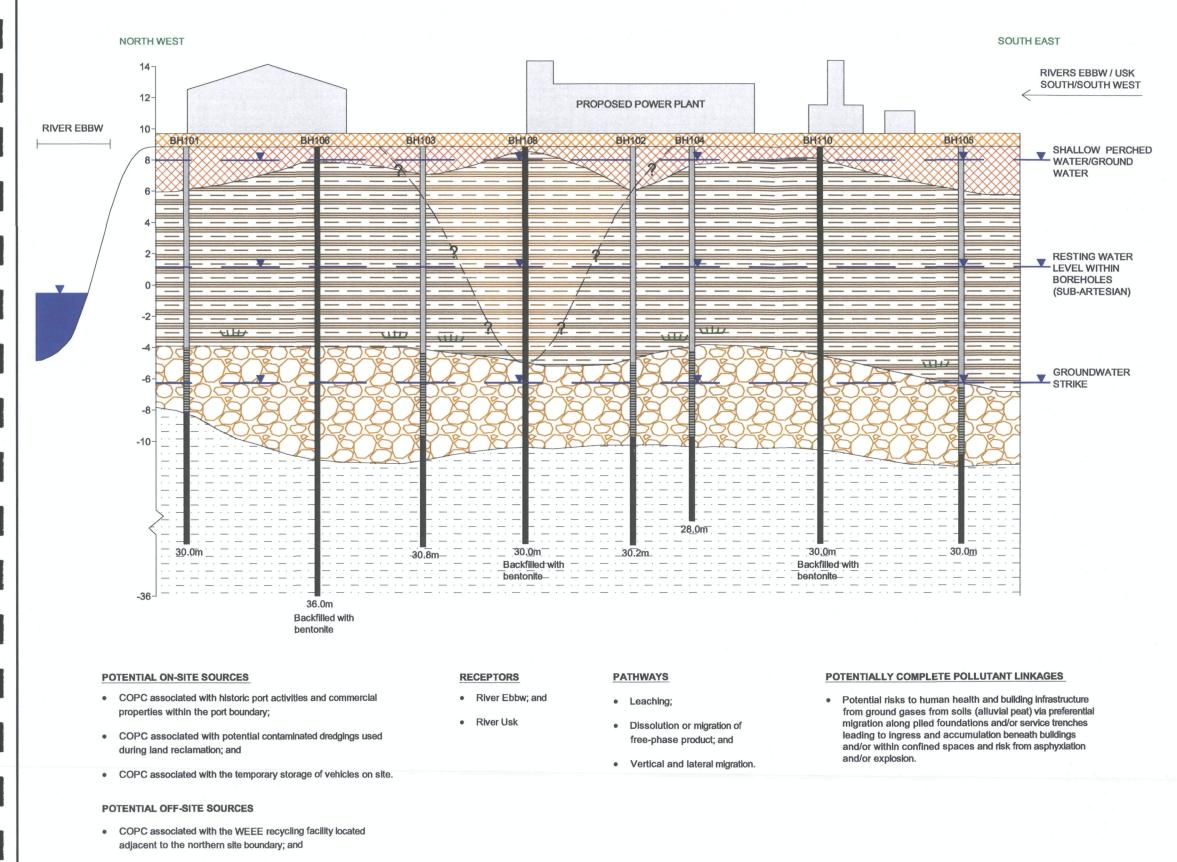
_



LEG	BEND								
	SEND								
-	Site Boundary								
BH1S/D - BH3S/D (Installed 2008)									
- BH101-105 (Installed 2010)									
BH106-110 (No installation 2010)									
-	SBH1-SBH8 (Installed 2010)								
	🕅 Te	mporary Ber	ich Mark						
P1	09.03.10	FIRST		MDW	AP	AP			
Rev.	Date	Ame	endment	Drawn	Chkd.	Appd.			
Proje	ct Title								
NEWPORT BIOMASS									
Draw	EXPLORATORY LOCATIONS								
Draw		ORATO	RY LOC	CATIC	NS	5			
	EXPI					3			
Draw MD	Date W 09.03	Checked 3.10 AP	Date 09.03.10	Approved AP					
Draw MD Scale	Date W 09.03	Checked	Date 09.03.10	Approved	Date 09.03				
Draw MD Scale 1:1 Proje	EXPL	3.10 Checked AP Orig Size	Date 09.03.10	Approved AP Dimension m	Date 09.03				
Draw MD Scale 1:1 Proje 31	EXPL n Date W 09.03 1500 ct No.	3.10 AP Orig Size A3	Date 09.03.10 Drawing File	Approved AP Dimension m	Date 09.03 s				



LEG	BEND										
P1	22.03.10		FIRST ISS	SUE	MDW	AP	AP				
Rev.	Date		Amendm	ent	Drawn	Chkd.	Appd.				
				317							
					8						
	Groop F	arm Rus	GRO	UP PLC	(0)1454 227	550					
		ge Green oad,									
	Bristol, BS37 9			web, ww	W.ISK.CO.UK						
Client						_					
	NE	EVIS	S POW	ER LI	MITEI	D					
Proje	ct Title						_				
	Ν	IEW	PORT	, BION	IASS						
Drawi	Ing Title	POS	SED D	EVELO		ΕΝΤ	-				
				T PLA							
-											
Drawn MD	n Date W 22.03	3.10	Checked I	Date 2.03.10	Approved AP		3.10				
Scale	Scale Orig Size Dimensions										
1:2000 A3 m Project No. Drawing File											
310826 310826 (R02-00).dwg											
FIGURE 3											



COPC associated with the historic land fill site to the north of the site.

LEGEND						
	MADE G	ROUND				
	PROPO	SED UPLIFT				
II7 -	ALLUVI	JM CLAY (V	VITH PEAT	AT DEPT	H)	
RY	SAND, C	GRAVEL & C	OBBLES			
- · · - ·	MERCIA	MUDSTON	E			
	REWOR	KED ALLUV	IAL DEPOS	SIT		
- 7 -	HISTOR	IC RIVER C	HANNEL			
P1 22.03.	10	FIRST ISS	UE	MDW	AP	AP
Rev. Date		Amendme	ent	Drawn	Chkd.	Appd.
Folly Folly Iron Brist	en Farm Busi ridge Green, r Road, Acton, ol, 7 9TS	ness Park,	UP PLC Tel: +44 Fax: +44 Email: info(Web: www	(0)1454 2275 (0)1454 2275 @rsk.co.uk		
	IEVIS	POW	ER LIN	NITEI	D	
Project Title						
		PORT OWER				
Drawing Title		ED CC SITE N			L	
Drawn Dar MDW 22	te .03.10		^{pate} 2.03.10	Approved AP	Date 22.0	3.10
scale 1:2000		Orig Size A3		Dimension M	s	
Project No. 310826			Drawing File 310826 (R02-00).	dwg	
Drawing No. FIGURE	E 4					^{Rev.} P1
				-		

_1

Appendix A Summary of Legislation and Policy Relating to Contaminated Land



Summary of legislation and policy relating to contaminated land

Part IIA of the Environmental Protection Act (EPA) and its associated Contaminated Land Regulations 2000 (SI 2000/227), which came into force in England on 1 April 2000 are the basis for the current regulatory framework and form the statutory regime for the identification and remediation of contaminated land

Part IIA of the EPA 1990 defines contaminated land as any land which appears to the Local Authority in whose area it is situated to be in such a condition by reason of substances in on or under the land that significant harm is being caused, or that there is significant possibility of significant harm being caused or that pollution of controlled waters is being or is likely to be caused. Controlled waters defined by the Water Resources Act, are considered all groundwater inland waters and estuaries

The intention of the EPA 1990 Part IIA is to deal with contaminated land issues that are considered to cause significant harm on land that is not undergoing development, (see circular 2-2000 for definitions of what is significant harm, website link - <u>http://www.defra.gov.uk/environment/land/contaminated/circ2-2000/index.htm</u>)

The Water Framework Directive 2000/60/EC (WFD) legislation aims to deliver long-term protection of the water environment and to improve the quality of all water bodies, including rivers, wetlands coasts, estuaries, lakes, man-made structures and groundwater

The Water Resources Act 1991 introduces an offence to cause or knowingly permit pollution of controlled waters The Act provides the Environment Agency with powers to implement remediation necessary to protect controlled waters and recover all reasonable costs of doing so The Groundwater Regulations, 1998 aim to complement EPA 1990 These regulations give the Environment Agency the power to *prevent* the discharge of List I substances and *restrict* the discharge of List II substances to groundwater

Contaminated land is often dealt with through planning because of land redevelopment This approach is documented in Planning Policy Statement Planning and Pollution Control PPS23, which states that it remains the responsibility of the landowner and developer to identify land affected by contamination and carry out sufficient remediation to render the land suitable for use The overall aim of the planning and pollution control policy is to promote the sustainable and beneficial use of land (in particular encouraging reuse of previously developed land in preference to greenfield sites) Within this aim polluting activities that are necessary for society and the economy should be so sited and planned, and subject to such planning conditions, that their adverse effects are minimised and contained to within acceptable limits

Appendix B Service Constraints

,

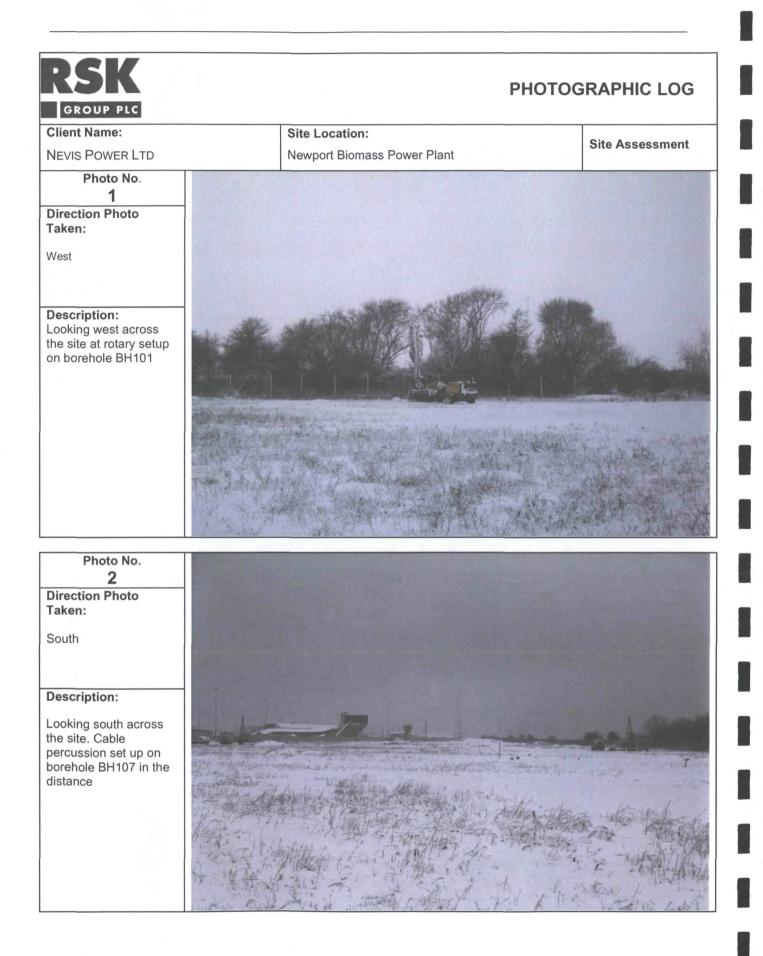
GROUND GAS RISK ASSESSMENT NEWPORT BIOMASS POWER PLANT NEVIS POWER LTD

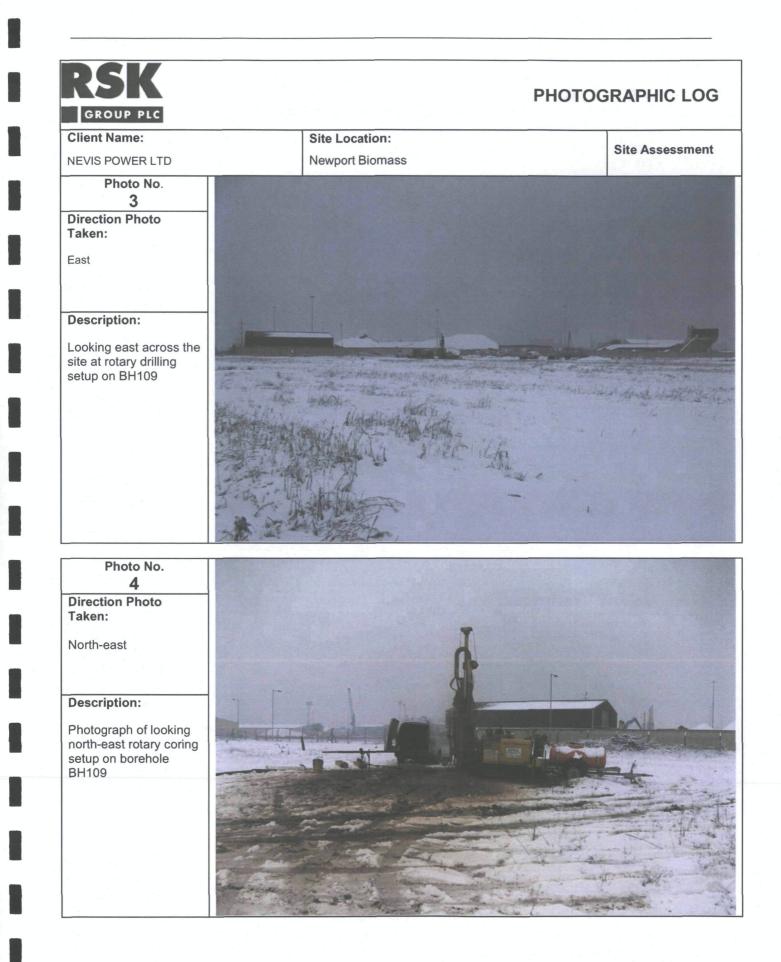


RSK STATS GEOCONSULT LIMITED SERVICE CONSTRAINTS

- 1 This report and the site investigation carried out carried out in connection with the report (together the Services) were compiled and carried out by RSK STATS Geoconsult Limited (RSK) for Nevis Power Limited (the client) in accordance with the terms of a contract between RSK and the client dated 16 November 2009 The Services were performed by RSK with the skill and care ordinarily exercised by a reasonable environmental consultant at the time the Services were performed Further and in particular the Services were performed by RSK taking into account the limits of the scope of works required by the client the time scale involved and the resources including financial and manpower resources agreed between RSK and the client
- 2 Other than that expressly contained in paragraph 1 above RSK provides no other representation or warranty whether express or implied in relation to the Services
- 3 Unless otherwise agreed the Services were performed by RSK exclusively for the purposes of the client RSK is not aware of any interest of or reliance by any party other than the client in or on the Services Unless expressly provided in writing RSK does not authorise consent or condone any party other than the client relying upon the Services Should this report or any part of this report or otherwise details of the Services or any part of the Services be made known to any such party and such party relies thereon that party does so wholly at its own and sole risk and RSK disclaims any liability to such parties Any such party would be well advised to seek independent advice from a competent environmental consultant and/or lawyer
- 4 It is RSK's understanding that this report is to be used for the purpose described in the introduction to the report. That purpose was a significant factor in determining the scope and level of the Services. Should the purpose for which the report is used or the proposed use of the site change this report may no longer be valid and any further use of or reliance upon the report in those circumstances by the client without RSK's review and advice shall be at the client's sole and own risk. Should RSK be requested to review the report after the date hereof. RSK shall be entitled to additional payment at the then existing rates or such other terms as agreed between RSK and the client.
- 5 The passage of time may result in changes in site conditions regulatory or other legal provisions technology or economic conditions which could render the report inaccurate or unreliable. The information and conclusions contained in this report should not be relied upon in the future without the written advice of RSK. In the absence of such written advice of RSK reliance on the report in the future shall be at the client s own and sole risk. Should RSK be requested to review the report in the future RSK shall be entitled to additional payment at the then existing rate or such other terms as may be agreed between RSK and the client.
- 6 The observations and conclusions described in this report are based solely upon the Services which were provided pursuant to the agreement between the client and RSK RSK has not performed any observations investigations studies or testing not specifically set out or required by the contract between the client and RSK Limited RSK is not liable for the existence of any condition the discovery of which would require performance of services not otherwise contained in the Services For the avoidance of doubt unless otherwise expressly referred to in the introduction to this report RSK did not seek to evaluate the presence on or off the site of asbestos electromagnetic fields lead paint heavy metals radon gas or other radioactive or hazardous materials
- 7 The Services are based upon RSK's observations of existing physical conditions at the Site gained from a walkover survey of the site together with RSK's interpretation of information including documentation obtained from third parties and from the client on the history and usage of the site. The Services are also based on information and/or analysis provided by independent testing and information services or laboratories upon which RSK was reasonably entitled to rely. The Services clearly are limited by the accuracy of the information including documentation reviewed by RSK and the observations possible at the time of the walkover survey. Further RSK was not authorised and did not attempt to independently verify the accuracy or completeness of information documentation or materials received from the client or third parties including laboratories and information services during the performance of the Services RSK is not liable for any inaccurate information which was not reasonably available to RSK and including the doing of any independent investigation of the information provided to RSK save as otherwise provided in the terms of the contract between the client and RSK.
- 8 The phase II or intrusive environmental site investigation aspects of the Services is a limited sampling of the site at pre determined borehole and soil vapour locations based on the operational configuration of the site. The conclusions given in this report are based on information gathered at the specific test locations and can only be extrapolated to an undefined limited area around those locations. The extent of the limited area depends on the soil and groundwater conditions together with the position of any current structures and underground facilities and natural and other activities on site. In addition chemical analysis was carried out for a limited number of parameters [as stipulated in the contract between the client and RSK] [based on an understanding of the available operational and historical information] and it should not be inferred that other chemical species are not present.
- 9 Any site drawing(s) provided in this report is (are) not meant to be an accurate base plan but is (are) used to present the general relative locations of features on and surrounding the site

Appendix C Photographs of Site Works





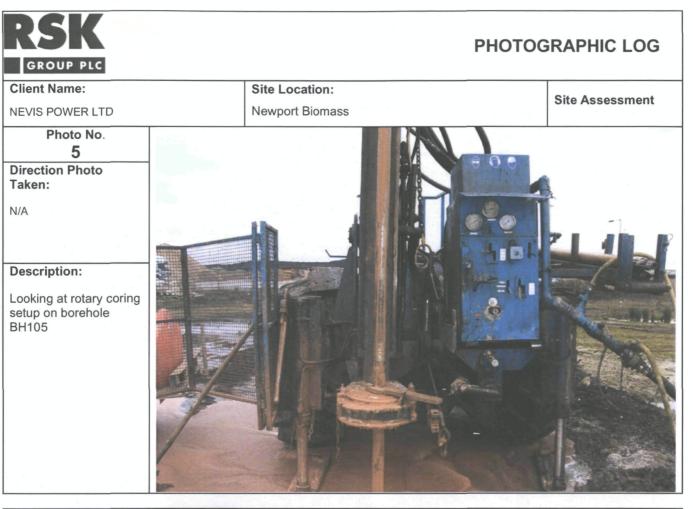


Photo No. 6 Direction Photo Taken:

South

Description:

Photograph of rotary coring setup on BH109 in the foreground with cable percussion setup on BH104 in the background



Appendix D Ground Gas Monitoring Data

Site Newport Biomass Power Plant

Job No 310826 - 18 01 2010



Table C2	Ground Gas	Monitoring	Round P	ro Forma Two
----------	------------	------------	---------	--------------

Borehole	Time Seconds	Gas Flow	Borehole Pressure	Methane	Methane	Carbon Dioxide	Oxygen)ther Gase (ppm)	S	Depth to Water
	(Minutes)	(l/hr)	(Pa)	(%v/v)	(% LEL *)	(%v/v)	(%v/v)	PID	H₂S	CO	(m bgl)
SBH1	0	-0 2	1022	0	0	0	20 8		0	0	W-
	15			0	0	0	21 7		0	0]1 785m T
	30			0	0	0	21 7		0	0]5 15m Gl
	45			0	0	0	21 8		0	0	+1 13m
	60 (1)			0	0	0	21 8		0	0	
	90			0	0	0	21 7		0	0	
	120 (2)			0	0	0	21 7		0	0	
	180 (3)			0	0	0	21 7		0	0	
	240 (4)										
	300 (5)										
	360 (6)										
	420 (7)										
	480 (8)										
	540 (9)										
	600 (10)]

Notes

Monitoring order is from left to right across table

Releva	nt Information At Time Of Monitori	ng
Monitored by (name, position)	AP	
Atmospheric Pressure (mB)	1022	
Weather	overcast showeers	
Temperature (°C, between -10°C to +40°C only)	3C	
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated
	Mass Balance Transducer	Last calibrated
	MiniRAE PID	Last calibrated
Visible Signs of Vegetation Stress	N/A	· · · · · · · · · · · · · · · · · · ·
Other Comments / Observations	N/A	
Boreholes Sampled For Laboratory Analysis		

Job No 310826 18 01 2010



Table C2	Ground Gas	Monitoring	Round Pr	o Forma Two
----------	------------	------------	----------	-------------

Borehole	Time Seconds	Gas Flow	Borehole Pressure	Methane	Methane (% LEL *)	Carbon Dıoxıde (%v/v)	Oxygen	C	Other Gase (ppm)	S	Depth to Water
	(Minutes)	(l/hr)	(Pa)	(%v/v)	(% LEL ")	(%V/V)	(%v/v)	PID	H₂S	CO	(m bgl)
SBH2	0	0	1022	0	0	0 1	20 7		0	0	W 1 50m
	15			0	0	0 2	21 5		0	0	T- 5 57m
	30			0	0	01	21 7		0	0	GL
	45			0	0	0	21 7		0	0	+1 45m
	60 (1)			0	0	0	21 7		0	0	
	90			0	0	0	21 7		0	0	
	120 (2)			0	0	0	21 7		0	0	
	180 (3)			0	0	0	21 7		0	0	
	240 (4)	I									
	300 (5)										
	360 (6)]
	420 (7)										
	480 (8)										
	540 (9)										
	600 (10)										1

Notes

Monitoring order is from left to right across table

Relevan	nt Information At Time Of Monitorir	ng
Monitored by (name, position)	AP	
Atmospheric Pressure (mB)	1022	
Weather	overcast showeers	
Temperature ^(°C, between -10°C to +40°C only)	3C	
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated
	Mass Balance Transducer	Last calibrated
	MiniRAE PID	Last calibrated
Visible Signs of Vegetation Stress	N/A	
Other Comments / Observations	N/A	
Boreholes Sampled For Laboratory Analysis		





Table C2 Ground Gas Monitoring Round Pro Forma Two

Borehole	Time Seconds	Gas Flow	Borehole Pressure	Methane	Methane	Carbon Dioxide	Oxygen		Other Gase (ppm)	S	Depth to Water
	(Minutes)	(l/hr)	(Pa)	(%v/v)	(% LEL *)	(%v/v)	(%v/v)	PID	H₂S	CO	(m bgl)
SBH3	0	-0 2	1024	0	0	0	21 1		0	0	W- 3 11m
	15			0	0	09	9 7		0	0	_ T- 5 25m
	30			0	0	11	96		0	0] GL
	45			0	0	11	8 8		0	0	+1 15m
	60 (1)			0	0	11	87		0	0	
	90			0	0	11	86		0	0	
	120 (2)			0	0	1	86		0	0	
	180 (3)			0	0	08	9 1		0	0	
	240 (4)			0	0	07	98		0	0]
	300 (5)			0	0	06	10 7		0	0	
i	360 (6)			0	0	05	11 7		0	0	
	420 (7)			0	0	04	12 3		0	0	
	480 (8)			0	0	04	12 8		0	0	
	540 (9)			0	0	04	13 2		0	0	
	600 (10)			0	0	03	13 5		0	0	1

Notes

Monitoring order is from left to right across table

Releva	nt Information At Time Of Monitorin	ng	
Monitored by (name, position)	AP		
Atmospheric Pressure (mB)	1024		
Weather	overcast showeers		
Temperature (°C, between -10°C to +40°C only)	3C		
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated	
	Mass Balance Transducer	Last calibrated	
	MiniRAE PID	Last calibrated	
Visible Signs of Vegetation Stress	N/A		
Other Comments / Observations	N/A	· · · · · · · · · · · · · · · · · · ·	
Boreholes Sampled For Laboratory Analysis			

Job No 310826 - 18 01 2010



Table C2 Ground Gas Monitoring Round Pro Forma Two

Borehole	Time Seconds	Gas Flow	Borehole Pressure	Methane	Methane	Carbon Dioxide	Oxygen		Other Gase (ppm)	s	Depth to Water
	(Minutes)	(l/hr)	(Pa)	(%v/v)	(% LEL *)	(%v/v)	(%v/v)	PID	H ₂ S	CO	(m bgl)
SBH4	0	-1 9	1022	0	0	0 1	20 9		0	0	W- 1 17n
	15			0	0	0 2	21 7		0	0] T- 5 00m
	30			0	0	01	21 7		0	0	GL
	45			0	0	0	21 7		0	0	+1 05m
	60 (1)			0	0	0	21 7		0	0	
	90			0	0	0	21 7		0	0	
	120 (2)	1		0	0	0	21 6		0	0]
	180 (3)			0	0	0	21 6		0	0	
	240 (4)										
	300 (5)	1									
	360 (6)										
	420 (7)										
	480 (8)										
	540 (9)										
	600 (10)										

Notes

Monitoring order is from left to right across table

Releva	nt Information At Time Of Monitorii	ng
Monitored by (name, position)	AP	
Atmospheric Pressure (mB)	1022	
Weather	overcast showeers	
Temperature (°C, between 10°C to +40°C only)	3C	
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated
	Mass Balance Transducer	Last calibrated
	MiniRAE PID	Last calibrated
Visible Signs of Vegetation Stress	N/A	· · ·
Other Comments / Observations	N/A	
Boreholes Sampled For Laboratory Analysis		



				Table C2 Grc	und Gas Mo	Table C2 Ground Gas Monitoring Round Pro Forma Two	Forma Two				
	Time	Gae Flow	Borehole	Mathana	Mathane	Carbon Dioxide	Ovyden	0	Other Gases	s	Depth to
Borehole	Borehole Seconds		Pressure						(mdd)		Water
	(Minutes)	(1111)	(Pa)	(1102)			(/0VIV)	DID	H2S	co	(In bgl)
SBH5	0	0	1022	0	0	0	21		0	0	W-1 08m
	15			0	0	01	214		0	0	T-515m
	30			0	0	01	213		0	0	GL
	45			0	0	10	213		0	0	+1 06m
	60 (1)			0	0	0 1	214		0	0	
	06			0	0	0	215		0	0	
	120 (2)			0	0	0	215		0	0	
	180 (3)			0	0	0	216		0	0	
	240 (4)										
	300 (5)										
_	360 (6)										
	420 (7)										
	480 (8)										
	540 (9)										
	600 (10)										
Notes											
IMONITORING	order IS ITO	m left to rig	Nonitoring order is from left to right across table	ble Dle							

Monitoring order is from left to right across table Monitoring should be for not less than 3 minutes However if high concentrations of gases initially recorded monitoring should be for up to 10 minutes * LEL = Lower Explosive Limit = 5%v/v

Relevar	Relevant Information At Time Of Monitoring	6
Monitored by (name, position)	AP	
Atmospheric Pressure (mB) 1022	1022	
Weather	Weather overcast showeers	
Temperature (°C, between -10°C to +40°C only) 3C	3C	
Equipment Used (RSK Reference No)	(RSK Reference No) Infra Red Gas Analyser	Last calibrated
	Mass Balance Transducer	Last calibrated
		Last calibrated
Visible Signs of Vegetation Stress N/A	N/A	
Other Comments / Observations N/A	N/A	
Boreholes Sampled For Laboratory Analysis		

Page 1 of 1

Site Biomass Power Plant Job No <u>310826 - 18 01 2010</u>

RSK

				Table C2 Gro	und Gas Mo	Table C2 Ground Gas Monitoring Round Pro Forma Two	⁻ orma Two				
		Gas Flow	Borehole	Methane	Methane	Carbon Dioxide	Oxygen	0	Other Gases	S	Depth to
	(Minutes)	(I/hr)	(Pa)	(^/^%)	(% TET *)	(^/^%)	(^/^%)	DID		ပ္ပ	(m bgl)
SBH6	0	0	1024	0	0	0	214		0	0	W- 1 82m
	15			0	0	0	214		0	0	T- 5 15m
	30	_		0	0	0	214		0	0	GL
	45			0	0	0	214		0	0	+1 30m
	60 (1)			0	0	0	214		0	0	
	06			0	0	0	214		0	0	
	120 (2)			0	0	0	214		0	0	
	180 (3)	_		0	0	0	214		0	0	
	240 (4)										
	300 (5)										
_	360 (6)										
	420 (7)										
	480 (8)										
	540 (9)										
	600 (10)										
Notes											
Monitoring	order is froi	m left to rig	Monitoring order is from left to right across table	ble							

Relevant Information At Time Of Monitoring			Weather overcast showeers		Red Gas Analyser Last calibrated	Aass Balance Transducer Last calibrated	MiniRAE PID Last calibrated			
Relevant In	Monitored by (name, position) AP	Atmospheric Pressure (mB) 1024	Weather ove	Temperature (°C, between 10°C to +40°C only) 3C	Equipment Used (RSK Reference No) Infra Red Gas Analyser	Ma	Mir	Visible Signs of Vegetation Stress N/A	Other Comments / Observations N/A	Boreholes Sampled For Laboratory Analysis

 Site
 Biomass Power Plant

 Job No
 310826
 18 01 2010

GROUP PLC ドラ

				Table C2 Gr	ound Gas Mo	Ile C2 Ground Gas Monitoring Round Pro Forma Two	Forma Two				
Borehole	Time	Ű	Borehole Pressure	Methane	Methane	Carl	Oxygen	0	Other Gases	s	Depth to Water
	(Minutes)	(I/hr)	(Pa)	(^/^%)	(% LEL *)	(\/\%)	(^/^%)	DID	H ₂ S	ပ္ပ	(In bgl)
SBH7	0	-39	1022	0	0	0	21		0	0	W- 1 08m
	15			0	0	03	213		0	0	T- 4 23m
	30			0	0	0 5	212		0	0	GL
	45			0	0	0 5	212		0	0	+1 05m
	60 (1)			0	•	04	212		0	0	
	06			0	0	0 4	213		0	0	
	120 (2)			0	0	04	213		0	0	
	180 (3)			0	0	03	213		0	0	
	240 (4)										
	300 (5)										_
	360 (6)										
	420 (7)										
	480 (8)										
	540 (9)										
	600 (10)										
Notes											
Monitoring	order is froi	m left to rig	Monitoring order is from left to right across table	ble							

Monitoring should be for **not less** than 3 minutes However if high concentrations of gases initially recorded monitoring should be for up to 10 minutes * LEL = Lower Explosive Limit = 5%v/v

Relevan	Relevant Information At Time Of Monitoring	D
Monitored by (name, position)) AP	
Atmospheric Pressure (mB)	1022	
Weather	Weather overcast showeers	
Temperature (°C, between -10°C to +40°C only) 3C	3C	
Equipment Used (RSK Reference No)	d (RSK Reference No) Infra Red Gas Analyser	Last calibrated
	Mass Balance Transducer	Last calibrated
		Last calibrated
Visible Signs of Vegetation Stress	N/A	
Other Comments / Observations N/A	N/A	
Boreholes Sampled For Laboratory Analysis		

Site Biomass Power Plant Job No 310826 - 18 01 2010

RSK

				Table C2 Gro	und Gas Mc	le C2 Ground Gas Monitoring Round Pro Forma Two	orma Two				
	Time	Gae Flow	_	Methane	Methane	Carbon Dioxide	Oxvoen		Other Gases	s	Depth to
Borehole	Seconds		Pressure				10/2/jul		(mqq)		Water
	(Minutes)	(1111)	(Pa)	(1/0/)		(1/0/)	(/0//)	DID	H ₂ S	ပ္ပ	(lgd m)
SBH8	0	0 7	1024	0 5		01	20 8		0	0	-W-
	15			27		2	39		0	0	1 805m T-
	30			29		2.2	27		0	0	5 115m
•	45			29		2 2	2 6		0	0	GL
-	60 (1)			28 5		2 1	2 8		0	0	+2 07m
	06			28		2 1	3		0	0	
	120 (2)			27		2	27		0	0	
	180 (3)			25.5		19	48		0	0	
•	240 (4)	_		22 5		17	66		0	0	
- -	300 (5)			17 5		13	9.5		0	0	
	360 (6)			13.5		0 8	12.8		0	0	
	420 (7)	_		6		0 6	154		0	0	
	480 (8)			56	94 3	0 4	17.8		0	0	
	540 (9)			4	861	03	18 9		0	0	
	600 (10)			22	45 2	01	19.9		0	0	
Notes											
Monitoring (order is fror	n laft to no	Monitoring order is from left to right across table								
- ALININIA		וו וכור ול יוא	ווון מעועסט ועו	210		:					

Monitored by (name, position) AP	Relevant Information At Time Of Monitoring	
Atmospheric Pressure (mB) 1024		
Weather overcast showeers	cast showeers	
Temperature (°C, between -10°C to +40°C only) 3C		
Equipment Used (RSK Reference No) Infra Red Gas Analyser	Red Gas Analyser	Last calibrated
Mass	Mass Balance Transducer	Last calibrated
MiniR	Minirae PID	Last calibrated
Visible Signs of Vegetation Stress N/A		
Other Comments / Observations N/A		
Boreholes Sampled For Laboratory Analysis		

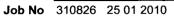




Table C2 Ground Gas Monitoring Round Pro Forma Two

Borehole	Time Seconds	Gas Flow	Borehole Pressure	Methane	Methane	Carbon Dioxide	Oxygen	0	Other Gase (ppm)	s	Depth to Water
	(Minutes)	(l/hr)	(Pa)	(%v/v)	(% LEL *)	(%v/v)	(%v/v)	PID	H₂S	CO	(m bgl)
SBH1	0	0	1031	0	0	0 2	21 8		0	0	
	15			0	0	01	21 7		0	0	
	30			0	0	0	21 7		0	0	
	45			0	0	0	21 7		0	0	
	60 (1)			0	0	0	21 7		0	0	
	90			0	0	0	21 7		0	0	
	120 (2)			0	0	0	21 7		0	0	
	180 (3)			0	0	0	21 7		0	0	
	240 (4)										
	300 (5)										
	360 (6)										
	420 (7)]
	480 (8)										
	540 (9)										
	600 (10)										

Notes

Monitoring order is from left to right across table

Relevar	nt Information At Time Of Monitorir	ng
Monitored by (name, position)	AP	
Atmospheric Pressure (mB)	1031	
Weather	overcast windy	
Temperature (°C, between -10°C to +40°C only)	6C	
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated
	Mass Balance Transducer	Last calibrated
	MiniRAE PID	Last calibrated
Visible Signs of Vegetation Stress	N/A	• • • • • • • • • • • • • • • • • • • •
Other Comments / Observations	N/A	
Boreholes Sampled For Laboratory Analysis		

Job No 310826 25 01 2010



Table C2 Ground Gas Monitoring Round Pro Forma Two

Borehole	Time Seconds	Gas Flow	Borehole Pressure	Methane	Methane	Carbon Dioxide	Oxygen		Other Gase (ppm)	s	Depth to Water
	(Minutes)	(l/hr)	(Pa)	(%v/v)	(% LEL *)	(%v/v)	(%v/v)	PID	H₂S	CO	(m bgl)
SBH2	0	0	1031	0	0	0	21 6		0	0	
	15	ļ		0	0	0	21 6		0	0	
	30			0	0	0	21 6		0	0	
	45			0	0	0	21 6		0	0	
	60 (1)	1		0	0	0	21 6		0	0	
	90			0	0	0	21 6		0	0	
	120 (2)			0	0	0	21 6		0	0	
	180 (3)			0	0	0	21 5		0	0	
	240 (4)										
	300 (5)	-									
	360 (6)										
	420 (7)										
	480 (8)										
	540 (9)]
	600 (10)	I									

Notes

Monitoring order is from left to right across table

Releva	nt Information At Time Of Monitori	ng
Monitored by (name, position)	AP	
Atmospheric Pressure (mB)	1031	
Weather	overcast windy	
Temperature (°C, between 10°C to +40°C only)	6C	
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated
	Mass Balance Transducer	Last calibrated
	MiniRAE PID	Last calibrated
Visible Signs of Vegetation Stress	N/A	
Other Comments / Observations	N/A	
Boreholes Sampled For Laboratory Analysis		

Job No 310826 - 25 01 2010



I

Table C2 Ground Gas Monitoring Round Pro Forma Two

Borehole	Time Seconds	Gas Flow	Borehole Pressure	Methane	Methane	Carbon Dioxide	Oxygen		Other Gase (ppm)	s	Depth to Water
	(Minutes)		(Pa)	(%v/v)	(% LEL *)	(%v/v)	(%v/v)	PID	H ₂ S	CO	(m bgl)
SBH3	0	-3 1	1031	0	0	0	21		0	0	
	15			0	0	04	19 1		0	0	
	30			0	0	06	18 5		0	0	
	45			0	0	06	18 4		0	0	
	60 (1)			0	0	06	18 4		0	0	
-	90			0	0	06	18 3		0	0	
	120 (2)			0	0	06	18 4		0	0	
	180 (3)			0	0	06	18 3		0	0]
	240 (4)										
	300 (5)										
	360 (6)										
	420 (7)										
	480 (8)				, , , , , , , , , , , , , , , , , , ,						
	540 (9)										
	600 (10)										

Notes

Monitoring order is from left to right across table

Releva	Relevant Information At Time Of Monitoring								
Monitored by (name, position)	AP								
Atmospheric Pressure (mB)	1031								
Weather	overcast windy								
Temperature (°C, between -10°C to +40°C only)	6C								
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated							
	Mass Balance Transducer	Last calibrated							
	MiniRAE PID	Last calibrated							
Visible Signs of Vegetation Stress	N/A								
Other Comments / Observations	N/A								
Boreholes Sampled For Laboratory Analysis									

Job No 310826 - 25 01 2010



Table C2 Ground Gas Monitoring Round Pro Forma Two

Borehole	Time Seconds	Gas Flow	Borehole Pressure	ressure (%v/v) (% I FI	Methane Carbon Dioxide (% LEL *) (%v/v)	Oxygen (%v/v)	Other Gases (ppm)			Depth to Water	
	(Minutes)	(l/hr)	(Pa)		(% LEL ")	(%V/V)	(%V/V)	PID	H₂S	CO	(m bgl)
SBH4	0	0	1031	0	0	0	21 8		0	0	
	15	I		0	0	04	21 4		0	0]
	30			0	0	03	21 4		0	0	
	45			0	0	0 2	21 4		0	0	
	60 (1)			0	0	01	21 5		0	0	
	90			0	0	0	21 5		0	0	
	120 (2)			0	0	0 1	21 5		0	0	
	180 (3)			0	0	0 1	21 5		0	0	
	240 (4)										
	300 (5)										
	360 (6)										
	420 (7)										
	480 (8)										
	540 (9)						•••				
	600 (10)										

Notes

Monitoring order is from left to right across table

Releva	nt Information At Time Of Monitorin	ng					
Monitored by (name, position) AP							
Atmospheric Pressure (mB)	1031						
Weather	Weather overcast windy						
Temperature (°C, between -10°C to +40°C only)	6C						
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated					
	Mass Balance Transducer	Last calibrated					
	MiniRAE PID	Last calibrated					
Visible Signs of Vegetation Stress	N/A						
Other Comments / Observations	N/A						
Boreholes Sampled For Laboratory Analysis		· · · · · · · · · · · · · · · · · · ·					

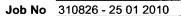




Table C2 Ground Gas Monitoring Round Pro Forma Two

Borehole	Time Seconds	Gas Flow	Borehole Pressure	Methane	Methane	Carbon Dioxide	Oxygen		Other Gase (ppm)	S	Depth to Water
	(Minutes)		(Pa)		(% LEL *)	(%v/v)	(%v/v)	PID	H ₂ S	CO	(m bgl)
SBH5	0	08	1031	0	0	0	21 3		0	0	
	15			0	0	0	21 2		0	0	
	30			0	0	0	21 2		0	0	
	45			0	0	0	21 2		0	0	
	60 (1)			0	0	0	21 3		0	0	
	90			0	0	0	21 3		0	0	
	120 (2)			0	0	0	21 3		0	0	
	180 (3)			0	0	0	21 3		0	0	
	240 (4)										
	300 (5)										
	360 (6)										
	420 (7)										
	480 (8)										
	540 (9)										
	600 (10)										

Notes

Monitoring order is from left to right across table

Releva	nt Information At Time Of Monitorir	ng				
Monitored by (name, position)	AP					
Atmospheric Pressure (mB)	1031					
Weather	overcast windy					
Temperature (°C, between -10°C to +40°C only)	6C					
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated				
	Mass Balance Transducer	Last calibrated				
	MiniRAE PID	Last calibrated				
Visible Signs of Vegetation Stress	N/A					
Other Comments / Observations	N/A					
Boreholes Sampled For Laboratory Analysis						

Job No 310826 - 25 01 2010



Table C2 Ground Gas Monitoring Round Pro Forma Two

Borehole	Time Seconds	Gas Flow	Borehole Pressure	Methane		Oxygen (%v/v)	Other Gases (ppm)			Depth to Water	
	(Minutes)	(l/hr)	(Pa)	(%v/v)	(% LEL *)	(%v/v)	(%v/v)	PID	H₂S	CO	 (m bgl)
SBH6	0	03	1031	0	0	0	21 7		0	0	
	15			0	0	0	21 4		0	0	
	30			0	0	0	21 4		0	0	
	45			0	0	0	21 4		0	0	
	60 (1)			0	0	0	21 4		0	0	
	90			0	0	0	21 4		0	0	
	120 (2)			0	0	0	21 4		0	0	
	180 (3)			0] 0 [0	21 4		0	0	
	240 (4)										
	300 (5)										
	360 (6)										
	420 (7)] []
	480 (8)]
	540 (9)]
	600 (10)										

Notes

Monitoring order is from left to right across table

Releva	nt Information At Time Of Monitori	ng				
Monitored by (name, position)	AP					
Atmospheric Pressure (mB)						
Weather	overcast windy					
Temperature (°C, between -10°C to +40°C only)	6C					
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated				
	Mass Balance Transducer	Last calibrated				
	MiniRAE PID	Last calibrated				
Visible Signs of Vegetation Stress	N/A					
Other Comments / Observations	N/A					
Boreholes Sampled For Laboratory Analysis						

Job No 310826 25 01 2010



Table C2	Ground Gas	Monitoring	Round	Pro Forma Two
----------	------------	------------	-------	---------------

Borehole	Time Seconds	nde Gas Flow	Borehole Pressure	Methane	Methane	Carbon Dioxide	Oxygen		Other Gase (ppm)	S	Depth to Water
	(Minutes)	(l/hr)	(Pa)	(%v/v)	(% LEL *)	(%v/v)	(%v/v)	PID	H₂S	CO	(m bgl)
SBH7	0	0	1031	0	0	0	21 6		0	0	
	15			0	0	0	21 3		0	0	
	30			0	0	0	21 3		0	0	
	45			0	0	0	21 3		0	0	
	60 (1)			0	0	0	21 3		0	0	
	90			0	0	0	21 3		0	0	
	120 (2)	·····		0	0	0	21 3		0	0	
	180 (3)			0	0	0	21 3		0	0	7
	240 (4)										
	300 (5)										
	360 (6)										
	420 (7)										
	480 (8)]
	540 (9)										
	600 (10)										

Notes

Monitoring order is from left to right across table

Releva	Relevant Information At Time Of Monitoring								
Monitored by (name, position)	AP								
Atmospheric Pressure (mB)	1031								
Weather	overcast windy								
Temperature (°C, between -10°C to +40°C only)	6C								
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated							
	Mass Balance Transducer	Last calibrated							
	MiniRAE PID	Last calibrated							
Visible Signs of Vegetation Stress	N/A								
Other Comments / Observations	N/A								
Boreholes Sampled For Laboratory Analysis									

Job No 310826 25 01 2010



Table C2 Ground Gas Monitoring Round Pro Forma Two

Borehole S	Time Seconds	Gas Flow	Borehole Pressure	Methane	Methane	Carbon Dioxide	Oxygen	0)ther Gase (ppm)	S	Depth to Water
	(Minutes)	(l/hr)	(Pa)	(Pa) (%v/v)	(% LEL *)	(%v/v)	(%v/v)	PID	H ₂ S	CO	(m bgl)
SBH8	0	-0 2	1031	13 5		01	21 6		0	0	
	15	I		18		0 8	14 7		0	0]
	30			19		0 8	14 7		0	0	
	45			18		08	14 5		0	0	
	60 (1)			17		08	14 8		0	0]
	90			14		0 7	14 5		0	0	
	120 (2)			10 5		0 5	17 6		0	0	
	180 (3)			53		03	19 3		0	0	
	240 (4)			41	83 2	2	19 8		0	0	
	300 (5)			29	57	01	20 1		0	0	
	360 (6)			28	54 1	0	20 2		0	0	
	420 (7)			27	52 6	0	20 3		0	0	
	480 (8)			2	39 9	0	20 6		0	0	
	540 (9)			12	23 9	0	20 8		0	0	
	600 (10)			17	33 8	0	20 6		0	0	7

Notes

Monitoring order is from left to right across table

Relevan	nt Information At Time Of Monitori	ng			
Monitored by (name, position)	AP				
Atmospheric Pressure (mB)	1031				
Weather	overcast windy				
Temperature (°C, between 10°C to +40°C only)	/) 6C				
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated			
	Mass Balance Transducer	Last calibrated			
	MiniRAE PID	Last calibrated			
Visible Signs of Vegetation Stress	N/A				
Other Comments / Observations	N/A				
Boreholes Sampled For Laboratory Analysis					



Job No 310826 - 01 02 2010

Table C2	Ground Gas	Monitoring Round	Pro Forma Two
----------	------------	------------------	---------------

Borehole	Time Seconds	Gas Flow	Borehole Pressure	Methane	Methane	Carbon Dioxide	Oxygen	0	Other Gase (ppm)	S	Depth to Water
	(Minutes)	(l/hr)	(Pa)	(%v/v)	(% LEL *)	(%v/v)	(%v/v)	PID	H₂S	CO	(m bgl)
SBH1	0	0	1013	0	0	0 1	21		0	0	
	15			0	0	0 2	21 3		0	0	
	30			0	0	0 1	21 5		0	0	
	45			0	0	0	21 6		0	0	
	60 (1)			0	0	0	21 6		0	0	
	90			0	0	0	21 6		0	0	
	120 (2)			0	0	0	21 6		0	0	
	180 (3)			0	0	0	21 5		0	0]
	240 (4)										
	300 (5)		Ľ								
	360 (6)										
	420 (7)										
	480 (8)										
	540 (9)										
	600 (10)										7

Notes

Monitoring order is from left to right across table

Releva	nt Information At Time Of Monitori	ng
Monitored by (name, position)	AP	
Atmospheric Pressure (mB)	1013	
Weather	overcast windy	
Temperature (°C, between 10°C to +40°C only)	7C	
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated
	Mass Balance Transducer	Last calibrated
	MiniRAE PID	Last calibrated
Visible Signs of Vegetation Stress	N/A	
Other Comments / Observations	N/A	
Boreholes Sampled For Laboratory Analysis		

Job No 310826 - 01 02 2010



Table C2 Ground Gas Monitoring Round Pro Forma Two

Borehole	Time Seconds	Gas Flow	Borehole Pressure	Methane	Methane	Carbon Dioxide	Oxygen		Other Gase (ppm)	S	Depth to Water
	(Minutes)	(l/hr)	(Pa)	(%v/v)	(% LEL *)	(%v/v)	(%v/v)	PID	H ₂ S	CO	(m bgl)
SBH2	0	0	1013	0	0	0	21 7		0	0	
F	15			0	0	06	21 3		0	0]
	30			0	0	05	21 3		0	0	
	45			0	0	04	21 3		0	0	
	60 (1)			0	0	0 2	21 4		0	0	
	90			0	0	01	21 4		0	0	
	120 (2)			0	0	0	21 4		0	0	
	180 (3)			0	0	0	21 4		0	0	
	240 (4)										
	300 (5)										
	360 (6)										
	420 (7)										
	480 (8)										
	540 (9)]
	600 (10)]

Notes

Monitoring order is from left to right across table

Releva	nt Information At Time Of Monitorii	ng			
Monitored by (name, position)	AP				
Atmospheric Pressure (mB)	1013 overcast windy				
Weather					
Temperature (°C, between -10°C to +40°C only)	7C				
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated			
	Mass Balance Transducer	Last calibrated			
	MiniRAE PID	Last calibrated			
Visible Signs of Vegetation Stress	N/A				
Other Comments / Observations	N/A				
Boreholes Sampled For Laboratory Analysis					



Job No 310826 - 01 02 2010

Table C2 Ground Gas Monitoring Round Pro Forma Two	as Monitoring Round Pro Forma Two	Table C2 Ground Gas Monitoring
--	-----------------------------------	--------------------------------

Borehole	Time Seconds	Gas Flow	Borehole Pressure	Methane (%v/v)	Methane (% LEL *)	Carbon Dioxide	Oxygen	0	Other Gase (ppm)	S	Depth to Water
	(Minutes)	(l/hr)	(Pa)	(%v/v)		(%v/v)	(%v/v)	PID	H ₂ S	CO	(m bgl)
SBH3	0	0	1013	0	0	0	21 4		0	0	
:	15			0	0	08	18 3		0	0]
	30			0	0	1	17 9		0	0	
	45			0	0	11	17 9		0	0	
	60 (1)			0	0	11	17 9		0	0	
	90			0	0	11	17 9		0	0	
	120 (2)			0	0	11	17 9		0	0	7
	180 (3)			0	0	11	17 9		0	0	
	240 (4)										
	300 (5)										
	360 (6)										
	420 (7)										
	480 (8)										
	540 (9)]
	600 (10)										

Notes

Monitoring order is from left to right across table

Releva	nt Information At Time Of Monitori	ng				
Monitored by (name, position)	AP					
Atmospheric Pressure (mB)	1013					
Weather	overcast windy					
Temperature (°C, between -10°C to +40°C only)	7C					
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated				
	Mass Balance Transducer	Last calibrated				
	MiniRAE PID	Last calibrated				
Visible Signs of Vegetation Stress	N/A					
Other Comments / Observations	N/A					
Boreholes Sampled For Laboratory Analysis						

Job No 310826 - 01 02 2010



Table C2 Ground Gas Monitoring Round Pro Forma Two

Borehole	Time Seconds	Gas Flow	Borehole Pressure	Methane	Methane	Carbon Dioxide	Oxygen		Other Gase (ppm)	S	Depth to Water
	(Minutes)	(l/hr)	(Pa)	(%v/v)	(% LEL *)	(%v/v)	(%v/v)	PID	H₂S	CO	(m bgl)
SBH4	0	0	1013	0	0	0	21 7		0	0	
-	15			0	0	06	21 2		0	0	
	30			0	0	03	21 3		0	0	
	45	1		0	0	0 2	21 3		0	0	
	60 (1)			0	0	0 2	21 3		0	0	
	90			0	0	01	21 3		0	0	
	120 (2)			0	0	0	21 3		0	0	
	180 (3)			0	0	0	21 3		0	0	
	240 (4)										
	300 (5)										
	360 (6)	-									
	420 (7)										
	480 (8)										
	540 (9)										
	600 (10)										

Notes

Monitoring order is from left to right across table

Relevar	at Information At Time Of Monitorii	ng
Monitored by (name, position)	AP	
Atmospheric Pressure (mB)	1013	
Weather	overcast windy	
Temperature (°C, between -10°C to +40°C only)	7C	
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated
	Mass Balance Transducer	Last calibrated
	MiniRAE PID	Last calibrated
Visible Signs of Vegetation Stress	N/A	
Other Comments / Observations	N/A	
Boreholes Sampled For Laboratory Analysis		

Job No 310826 01 02 2010



Table C2 Ground Gas Monitoring Round Pro Forma Two
--

Borehole	Time Seconds	Gas Flow	Borehole Pressure	Methane	Methane	Carbon Dioxide	Oxygen		Other Gase (ppm)	S	Depth to Water
	(Minutes)	(l/hr)	(Pa)	(%v/v)	(% LEL *)	(%v/v)	(%v/v)	PID	H₂S	CO	(m bgl)
SBH5	0	0	1013	0	0	0	21 6		0	0	
-	15			0	0	0	21 3		0	0	
	30			0	0	0	21 3		0	0	
	45			0	0	0	21 3		0	0	7
	60 (1)			0	0	0	21 3		0	0	
	90			0	0	0	21 2		0	0	
	120 (2)			0	0	0	21 2		0	0	
	180 (3)			0	0	0	21 2		0	0	
	240 (4)										
	300 (5)										
	360 (6)										
	420 (7)										
	480 (8)										
	540 (9)	İ									
	600 (10)										7

Notes

Monitoring order is from left to right across table

Releva	nt Information At Time Of Monitorir	ng				
Monitored by (name, position)	AP					
Atmospheric Pressure (mB)	1013					
Weather	overcast windy					
Temperature (°C, between 10°C to +40°C only)	7C					
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated				
	Mass Balance Transducer	Last calibrated				
	MiniRAE PID	Last calibrated				
Visible Signs of Vegetation Stress	N/A					
Other Comments / Observations	N/A					
Boreholes Sampled For Laboratory Analysis						

Job No <u>310826 - 01 02 2010</u>



Table C2 Ground Gas Monitoring Round Pro Forma Two

Borehole	Time Seconds	de Gas Flow	i Proceuro i	Methane	Methane	Carbon Dioxide	Oxygen		Other Gase (ppm)	es	Depth to Water
	(Minutes)		(Pa)	(%v/v)	(% LEL *)	(%v/v)	(%v/v)	PID	H ₂ S	СО	(m bgl)
SBH6	0	0	1013	0	0	0	21 5		0	0	
	15			0	0	0	21 3		0	0	
	30			0	0	0	21 2		0	0	
	45			0	0	0	21 2		0	0	
	60 (1)			0	0	0	21 2		0	0]
	90			0	0	0	21 2		0	0	
	120 (2)			0	0	0	21 2		0	0	
	180 (3)			0	0	0	21 2		0	0	
	240 (4)										
	300 (5)										
	360 (6)					_					
	420 (7)]
	480 (8)										
	540 (9)	-									
	600 (10)										1

Notes

Monitoring order is from left to right across table

Releva	nt Information At Time Of Monitori	ing					
Monitored by (name, position)	AP						
Atmospheric Pressure (mB)	1013						
Weather	overcast windy						
Temperature (°C, between 10°C to +40°C only)	7C						
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated					
	Mass Balance Transducer	Last calibrated					
	MiniRAE PID	Last calibrated					
Visible Signs of Vegetation Stress	N/A						
Other Comments / Observations	N/A						
Boreholes Sampled For Laboratory Analysis							

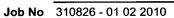




Table C2 Ground Gas Monitoring Round Pro Forma Two

Borehole	Seconde	Gas Flow	Borehole Pressure	Methane		Carbon Dıoxıde (%v/v)	Oxygen	Other Gases (ppm)			Depth to Water
	(Minutes)		(Pa)	(%v/v)	(% LEL *)	(%V/V)	(%v/v)	PID	H₂S	CO	(m bgl)
SBH7	0	01	1013	0	0	0	21 6		0	0	
	15			0	0	0 2	21		0	0	
	30			0	0	0 2	20 9		0	0	
	45			0	0	01	21		0	0	
	60 (1)			0	0	0	21		0	0	
	90			0	0	0	21 1		0	0	
	120 (2)			0	0	0	21 1		0	0	
	180 (3)			0	0	0	21 1		0	0	
	240 (4)										
	300 (5)										
	360 (6)										
	420 (7)]
	480 (8)										
	540 (9)										
	600 (10)										

Notes

Monitoring order is from left to right across table

Releva	Relevant Information At Time Of Monitoring								
Monitored by (name, position)	AP								
Atmospheric Pressure (mB)	1013								
Weather	overcast windy								
Temperature (°C, between 10°C to +40°C only)	7C								
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated							
	Mass Balance Transducer	Last calibrated							
	MiniRAE PID	Last calibrated							
Visible Signs of Vegetation Stress	N/A								
Other Comments / Observations	N/A								
Boreholes Sampled For Laboratory Analysis									

Job No 310826 - 01 02 2010



Table C2 Ground Gas Monitoring Round Pro Forma Two

Borehole	Time Seconds	Gas Flow	Borehole Pressure	Methane	Methane	Carbon Dioxide	Oxygen		Other Gase (ppm)	es	Depth to Water
	(Minutes)	(l/hr)	(Pa)	(%v/v)	(% LEL *)	(%v/v)	(%v/v)	PID	H ₂ S	CO	(m bgl)
SBH8	0	2 8	1013	27	>100	1	11 1		0	0	
	15			36	>100	15	94		0	0	
	30			31 5	>100	15	99		0	0	
	45			26 5	>100	11	11 7		0	0]
	60 (1)			20 5	>100	08	13 6		0	0	
	90			17	>100	07	15		0	0	
	120 (2)			15	>100	07	15 6		0	0	
	180 (3)	-		12 5	>100	06	16 6		0	0	
	240 (4)	-		10 5	>100	05	17 2		0	0	
	300 (5)			8 2	>100	04	18 2		0	0	
	360 (6)			68	>100	03	18 6		0	0	
	420 (7)			54	>100	0 2	19 3		0	0	
	480 (8)	1		4 9	94 6	0 1	19 5		0	0	
	540 (9)			4 2	85 7	01	19 7		0	0	
	600 (10)			38	74	0	19 9		0	0	1

Notes

Monitoring order is from left to right across table

Releva	nt Information At Time Of Monitori	ng					
Monitored by (name, position)	AP						
Atmospheric Pressure (mB)	1013						
Weather	overcast windy						
Temperature (°C, between -10°C to +40°C only)	7C						
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated					
	Mass Balance Transducer	Last calibrated					
	MiniRAE PID	Last calibrated					
Visible Signs of Vegetation Stress	N/A						
Other Comments / Observations	N/A	·					
Boreholes' Sampled For Laboratory Analysis							

Job No 310826 - 01 02 2010



Table C2 Ground Gas Monitoring Round Pro Forma Two

Borehole	Time Seconds	Gas Flow	Borehole Pressure	Methane	Methane	Carbon Dioxide	Oxygen		Other Gase (ppm)	es	Depth to Water
	(Minutes)		(Pa)	(%v/v)	(% LEL *)	(%v/v)	(%v/v)	PID	H ₂ S	CO	(m bgl)
BH104S	0	85	1013	78	>100	5	3 1		0	0	
	15			73	>100	51	4		0	0	
	30			67	>100	44	57		0	0	
	45			55	>100	38	78		0	0	
	60 (1)			53	>100	36	87		0	0	
	90			59	>100	4	68		0	0	
	120 (2)			62	>100	41	69		0	0	7
	180 (3)			54	>100	37	8		0	0	
	240 (4)			51	>100	34	93		0	0	
	300 (5)			47	>100	3 2	10		0	0	7
	360 (6)			46 5	>100	31	10 4		0	0	
	420 (7)			46	>100	3	10 3		0	0	
	480 (8)			45 5	>100	31	10 1		0	0	
	540 (9)			42	>100	28	11		0	0	
	600 (10)	Ì		44 5	>100	3	10 3		0	0	

Notes

Monitoring order is from left to right across table

Relevan	nt Information At Time Of Monitori	ng				
Monitored by (name, position)	AP					
Atmospheric Pressure (mB)	1013					
Weather	overcast windy					
Temperature (°C, between -10°C to +40°C only)	7C					
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated				
	Mass Balance Transducer	Last calibrated				
	MiniRAE PID	Last calibrated				
Visible Signs of Vegetation Stress	N/A					
Other Comments / Observations	N/A					
Boreholes Sampled For Laboratory Analysis						

Job No 310826 03 02 2010



Table C2 Ground Gas Monitoring Round Pro Forma Two

Borehole	Time Seconds	Gas Flow	Borehole Pressure	Methane	Methane	Carbon Dioxide	Oxygen	Other Gases (ppm)			Depth to Water
	(Minutes)	(l/hr)	(Pa)	(%v/v)	(% LEL *)	(%v/v)	(%v/v)	PID	H ₂ S	CO	<u>] (m TOC)</u>
BH1S	0	-9 5	1007	0	0	03	20 9		0	0	
	15			24	58 8	12	18 7		0	0	
	30			32	63 5	13	18 4		0	0	
	45			34	66 7	13	18 3		0	0	
	60 (1)			3 5	68 1	1 3	18 3		0	0	
	120 (2)			38	746	14	17 9		0	0	
	180 (3)			4 4	87 9	16	17 1		0	0	
	240 (4)			69	>100	23	15 9		0	0	
	300 (5)			97	>100	27	12 9		0	0	
	360 (6)			12 5	>100	34	11		0	0	
	420 (7)			15	>100	39	91		0	0	
	488 (8)			16	>100	41	8 2		0	0	
	540 (9)	1		16 5	>100	4 3	74		0	0	
	600 (10)			17	>100	44	69		0	0]
	660 (11)			18	>100	4 5	64		0	0	
	720 (12)			18	>100	4 5	6 2	7	0	0	

Notes

Monitoring order is from left to right across table

Releva	nt Information At Time Of Monitor	ring
Monitored by (name, position)	CW	
Atmospheric Pressure (mB)	1005	
Weather	Cold	
Temperature (°C, between -10°C to +40°C only)		
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated
	Mass Balance Transducer	Last calibrated
	MiniRAE PID	Last calibrated
Visible Signs of Vegetation Stress	N/A	
Other Comments / Observations	N/A	
Boreholes Sampled For Laboratory Analysis		

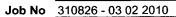




Table C2 Ground Gas Monitoring Round Pro Forma Two

Borehole	Time Seconds	Gas Flow	nde Gas Flow	Borehole Pressure	Methane	Methane	Carbon Dioxide	Oxygen		Other Gase (ppm)	S	Depth to Water
	(Minutes)		(Pa)	(%v/v)	(% LEL *)	(%v/v)	(%v/v)	PID	H ₂ S	CO	(m TOC)	
BH2S	0	0	1006	03	13	0 1	21 6		0	0	7 635	
	15			0	0	0 2	21 8		0	0		
	30			0	0	0	21 7		0	0		
	45			0	0	0	21 7		0	0		
	60 (1)			0	0	0	21 7		0	0		
	120 (2)			0	0	0	21 6		0	0		
	180 (3)			0	0	01	21 5		0	0		
	240 (4)			0	0	03	21 5		0	0		
	300 (5)			0	0	03	21 5		0	0		
				·····								
							·····				-	
			↓ ⊢								_	

Notes

Monitoring order is from left to right across table

Releva	nt Information At Time Of Monitorin	ng
Monitored by (name, position)	CW	
Atmospheric Pressure (mB)	1006	
Weather	Overcast and cold	
Temperature (°C, between 10°C to +40°C only)		
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated
	Mass Balance Transducer	Last calibrated
	MiniRAE PID	Last calibrated
Visible Signs of Vegetation Stress	N/A	
Other Comments / Observations	N/A	
Boreholes Sampled For Laboratory Analysis		

Job No 310826 - 03 02 2010



Table C2 Ground Gas Monitoring Round Pro Forma Two

(Minutes) (Minutes) <t< th=""><th>Borehole</th><th>Time Seconds</th><th>Gas Flow</th><th>Borehole Pressure</th><th>Methane</th><th>Methane</th><th rowspan="2">Carbon Dioxide (%v/v)</th><th rowspan="2">Oxygen (%v/v)</th><th colspan="3">Other Gases (ppm)</th><th>Depth to Water</th></t<>	Borehole	Time Seconds	Gas Flow	Borehole Pressure	Methane	Methane	Carbon Dioxide (%v/v)	Oxygen (%v/v)	Other Gases (ppm)			Depth to Water
$\begin{array}{c c c c c c c c c c c c c c c c c c c $		(Minutes)	(l/hr)	(Pa)	(%v/v)	(% LEL *)			PID		CO	(m TOC)
$\begin{array}{c c c c c c c c c c c c c c c c c c c $		0	0	1007	03	>100	0 2	21 5		0	0	2 25
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $		15			1	>100	0 2	21 8		0	0]
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $		30			3 5	>100	03	17 6		0	0	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $		45			97	>100	03	18 3		0	0	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $		60 (1)			91	>100	03	18 7		0	0	
240 (4) 49 98 2 01 20 2 0 0 300 (5) 46 86 3 01 20 4 0 0 360 (6) 4 80 0 20 5 0 0 420 (7) 31 75 4 0 20 5 0 0 488 (8) 4 79 9 0 20 4 0 0					66	>100	0 2	19 5		0	0	
300 (5) 46 86 3 0 1 20 4 0 0 360 (6) 4 80 0 20 5 0 0 420 (7) 31 75 4 0 20 5 0 0 488 (8) 4 79 9 0 20 4 0 0		180 (3)			58	>100	0 2	19 9		0	0	
360 (6) 4 80 0 20 5 0 0 420 (7) 31 75 4 0 20 5 0 0 488 (8) 4 79 9 0 20 4 0 0		240 (4)			4 9	98 2	0 1	20 2		0	0	
420 (7) 31 754 0 205 0 0 488 (8) 4 79.9 0 20.4 0 0		300 (5)			46	86 3	01	20 4		0	0	
488 (8) 4 79 9 0 20 4 0 0		360 (6)			4	80	0	20 5		0	0	
		420 (7)			31	75 4	0	20 5		0	0	
540 (9) 4 79 0 20 4 0 0	ľ	488 (8)			4	79 9	0	20 4		0	0	
		540 (9)			4	79	00	20 4		0	0	

Notes

Monitoring order is from left to right across table

Releva	nt Information At Time Of Monitor	ing
Monitored by (name, position)	CW	
Atmospheric Pressure (mB)	1006	
Weather	Cold	
Temperature (°C, between -10°C to +40°C only)		
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated
	Mass Balance Transducer	Last calibrated
	MiniRAE PID	Last calibrated
Visible Signs of Vegetation Stress	N/A	
Other Comments / Observations	N/A	
Boreholes Sampled For Laboratory Analysis		



Job No 310826 - 03 02 2010

Table C2 Ground Gas Monitoring Round Pro	Forma Two
--	-----------

Borehole	Time Seconds	Gas Flow	Borehole Pressure	Methane	Methane	Carbon Dioxide	Oxygen	Other Gases (ppm)			Depth to Water
	(Minutes)	(l/hr)	(Pa)	(%v/v)	(% LEL *)	(%v/v)	(%v/v)	PID	H₂S	СО	<u>(m TOC</u>
BH101	Ō	0 2	1007	01	2	0 2	19 7		_0	0	
	15			14	15	39	19 6		0	0]
	30			2	1	44	19 3		0	0	
	45			22	1	46	19 2		0	0	
	60 (1)			2	11	4	19 7		0	0	
	90			09	09	2	20 3		0	0	
	120 (2)			0 2	09	07	21 3		0	0	
	180 (3)			0	11	0 4	21 5		0	0	
	240 (4)		Ľ	0	07	0 4	21 5		0	0	
	300 (5)			0	06	04	21 4		0	0	
-	360 (6)			0	01	04	21 4		0	0	
	420 (7)			0	0 1	0 4	21 5		0	0	
	488 (8)			0	01	03	21 5		0	0]

Notes

Monitoring order is from left to right across table

Releva	nt Information At Time Of Monitorin	ng
Monitored by (name, position)	CW	
Atmospheric Pressure (mB)	1006	
Weather	Cold	
Temperature (°C, between -10°C to +40°C only)		
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated
	Mass Balance Transducer	Last calibrated
	MiniRAE PID	Last calibrated
Visible Signs of Vegetation Stress	N/A	
Other Comments / Observations	N/A	
Boreholes Sampled For Laboratory Analysis		

Job No 310826 - 03 02 2010



Table C2 Ground Gas Monitoring Round Pro Forma Two

Time Seconds	Gas Flow	Borehole Pressure	Methane	Methane	Carbon Dioxide	Oxygen			es	Depth to Water
		(Pa)	(%V/V)	(% LEL *)	(%V/V)	(%v/v)	PID	H₂S	CO	(m TOC)
0	01	1006	37	67 3	03	17 7		0	0	7 699
15			32	42 8	41	93		0	0	7
30			28	38 6	34	11 8		0	0	7
45			2 1	38 6	27	13 6		0	0	
60 (1)			17	32 2	2 1	14 6		0	0	
			15	28 8	19	15 4		0	0	
			1 2	23 2	16	16 3		0	0	
240 (4)			09	18 2	13	17 2		0	0	
300 (5)			09	17 2	12	17 4		0	0	
360 (60			08	14 2	11	17 6		0	0	
						·····	_			
		·								4
	l!									-
										4
		∣ ├─		┿──			-			4
	Seconds (Minutes) 0 15 30 45 60 (1) 120 (2) 180 (3) 240 (4) 300 (5)	Seconds (Minutes) Gas Flow (I/hr) 0 0 1 15	Seconds (Minutes) Gas Flow (I/hr) Pressure (Pa) 0 0 1 1006 15 - - 30 - - 45 - - 60 (1) - - 120 (2) - - 180 (3) - - 240 (4) - -	Seconds (Minutes) Gas Flow (I/hr) Pressure (Pa) Methane (%v/v) 0 0 1 1006 3 7 15 32 32 32 30 28 228 45 21 28 60 (1) 177 120 (2) 15 180 (3) 12 12 240 (4) 09 09	Seconds (Minutes) Gas Flow (I/hr) Pressure (Pa) Methane (%v/v) Methane (% LEL *) 0 0 1 1006 3 7 67 3 15 32 42 8 30 28 38 6 45 21 38 6 60 (1) 177 32 2 120 (2) 15 28 8 180 (3) 12 23 2 240 (4) 0 9 18 2 300 (5) 0 9 17 2	Seconds (Minutes) Gas Flow (I/hr) Pressure (Pa) Methane (%v/v) Methane (% LEL *) Carbon Dioxide (%v/v) 0 0 1 1006 3 7 67 3 0 3 15 1006 3 7 67 3 0 3 1 30 28 38 6 3 4 1 45 21 38 6 2 7 1 60 (1) 17 32 2 2 1 1 120 (2) 15 28 8 19 1 180 (3) 12 12 23 2 16 240 (4) 09 18 2 13 1	Seconds (Minutes) Gas Flow (I/hr) Pressure (Pa) Methane (%v/v) Methane (% LEL*) Carbon Dioxide (%v/v) Oxygen (%v/v) 0 01 1006 37 67 3 0 3 177 15 32 42 8 41 9 3 30 28 38 6 34 118 45 21 38 6 27 13 6 60 (1) 177 32 2 21 14 6 120 (2) 15 28 8 19 154 180 (3) 12 09 18 2 13 172 300 (5) 09 17 2 12 17 4	Seconds (Minutes) Gas Flow (I/hr) Pressure (Pa) Methane (%v/v) Methane (% LEL *) Carbon Dioxide (%v/v) Oxygen (%v/v) Image: Compute comp	Seconds (Minutes)Gas Flow (/hr)Pressure (Pa)Methane (%v/v)Methane (% LEL *)Carbon Dioxide (%v/v)Oxygen (%v/v)(ppm) (%v/v)00110063767 30 317 70153242 841930302838 63411 80452138 62713 6060 (1)1732 22114 60120 (2)1528 81915 40180 (3)01223 21616 30240 (4)0917 21217 40	Seconds (Minutes)Gas Flow (/hr)Pressure (Pa)Methane (%v/v)Carbon Dioxide (%v/v)Oxygen (%v/v)(ppm)00110063767 30 317 7000153242 84193000302838 63411 8000452138 62713 600060 (1)1732 22114 6000120 (2)151528 81915 400180 (3)120918 21317 200300 (5)0917 21217 400

Notes

Monitoring order is from left to right across table

Releva	nt Information At Time Of Monitori	ng
Monitored by (name, position)	CW	
Atmospheric Pressure (mB)	1006	
Weather	Overcast and cold	
Temperature (°C, between 10°C to +40°C only)		
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated
	Mass Balance Transducer	Last calibrated
	MiniRAE PID	Last calibrated
Visible Signs of Vegetation Stress	N/A	
Other Comments / Observations	N/A	
Boreholes Sampled For Laboratory Analysis		

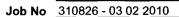




Table C2 Ground Gas Monitoring Round Pro Forma Two

Borehole	Time Seconds	Gas Flow	Borehole Pressure	Methane	Methane	Carbon Dioxide	Oxygen		Other Gase (ppm)	IS .	Depth to Water
	(Minutes)	(l/hr)	(Pa)	(%v/v)	(%v/v) (% LEL *)	(%v/v)	(%v/v)	PID	H₂S	co	(<u>m TOC</u>)
BH103	0	03	1006	38	767	09	20		0	0	7 445
	15	01		44	819	08	20 1		0	0	
	30	01		34	67 9	0 7	20 3		0	0	
	45	01		37	57 2	07	20 6		0	0	
	60 (1)	01		2 5	50 5	06	20 7		0	0	
	90			2 3	48 7	06	20 6		0	0	
	120 (2)			24	49 4	06	20 7		0	0	7
	180 (3)			2	40	0 5	20 8		0	0	
	240 (4)			24	43 5	06	20 7		0	0	7
	300 (5)			24	50	06	20 7		0	0	
		······	L								
								_			4

Notes

Monitoring order is from left to right across table

Releva	nt Information At Time Of Monitorin	lg
Monitored by (name, position)	AF	
Atmospheric Pressure (mB)	1006	
Weather	Overcast and cold	
Temperature (°C, between -10°C to +40°C only)		
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated
	Mass Balance Transducer	Last calibrated
	MiniRAE PID	Last calibrated
Visible Signs of Vegetation Stress	N/A	
Other Comments / Observations	N/A	
Boreholes Sampled For Laboratory Analysis		

Job No 310826 03 02 2010



Table C2 Ground Gas Monitoring Round Pro Forma Two

Borehole	Time Seconds	Gas Flow	Borehole Pressure	Methane (%v/v)	Methane (% LEL *)	Carbon Dıoxıde (%v/v)	Oxygen (%v/v)	Other Gases (ppm)			Depth to Water
	(Minutes)	i ivnir) i	(Pa)					PID	H ₂ S	CO	(m TOC)
BH104	0	0 1	1007	34 5		14	11 9		0	0	7 97
	15			31 5		12	13 2		0	0	
	30			29 5		11	13 9		0	0	
	45			25 5		08	15 1		0	_ 0]
	60 (1)			24		08	15 2		0	0	7
	90			23 5		08	15 5		0	0	
	120 (2)			20 5		0 7	16 3		0	0	
	180 (3)			19		07	16 5		0	0	
	240 (4)			18 5		07	16 9		0	0	
	300 (5)			17 5		07	16 8		0	0	
									0	0	
	_]
											7

Notes

Monitoring order is from left to right across table

Relevan	nt Information At Time Of Monitoria	ng				
Monitored by (name, position)	CW					
Atmospheric Pressure (mB)	1006					
Weather	Wet and cold					
Temperature (°C, between 10°C to +40°C only)						
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated				
	Mass Balance Transducer	Last calibrated				
	MiniRAE PID	Last calibrated				
Visible Signs of Vegetation Stress	N/A					
Other Comments / Observations	N/A					
Boreholes Sampled For Laboratory Analysis						

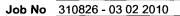




Table C2 Ground Gas Monitoring Round Pro Forma Two

Borehole	Time Seconds	Gas Flow	Borehole Pressure	Methane	Methane	Carbon Dioxide	Oxygen		Other Gase (ppm)	es	Depth to Water
	(Minutes)	(l/hr)	(Pa)	(%v/v)	(% LEL *)	(%v/v)	(%v/v)	PID	H ₂ S	CO	(m TOC)
BH105	0	17		17 5	>100	29	4 6		0	0	
	15			94	>100	42	03	_	0	0	7
	30			94	>100	4 2	0 1		0	0_	
	45			95	>100	4 2	0 1		0	0	
	60 (1)			95	>100	41	01		0	0	
	120 (2)			92	>100	4	06		0	0	
	180 (3)			88	>100	39	15		0	0	
	240 (4)			80	>100	3 5	33		0	0	
	300 (5)			72	>100	32	4 6		0	0]
	360 (6)			65	>100	27	67		0	0	
	420 (7)			54	>100	22	86		0	0]
	488 (8)			49	>100	19	10 5		0	0]
	540 (9)			41 5	>100	17	11 5		0	0	
	600 (10)	•		40 5	>100	16	11 9		0	0	
	660 (11)			39 5	>100	16	12 2		0	0	
	720 (12)			38	>100	15	12 7		0	0	

Notes

Monitoring order is from left to right across table

Releva	nt Information At Time Of Monitorii	ng				
Monitored by (name, position)	CW					
Atmospheric Pressure (mB)	1006					
Weather	Cold and raining					
Temperature (°C, between -10°C to +40°C only)						
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated				
	Mass Balance Transducer	Last calibrated				
	MiniRAE PID	Last calibrated				
Visible Signs of Vegetation Stress	N/A					
Other Comments / Observations	N/A					
Boreholes Sampled For Laboratory Analysis						

Job No 310826 08 02 2010



Table C2 Ground Gas Monitoring Round Pro Forma Two

Borehole	Time Seconds	Gas Flow	Borehole Pressure	Methane	Methane	Carbon Dioxide	Oxygen		Other Gase (ppm)	S	Depth to Water
	(Minutes)		(Pa)	(%v/v)	(% LEL *)	(%v/v)	(%v/v)	PID	H ₂ S	CO	(m bgl)
SBH1	0	-0 1	1011	0	0	0	21 5		0	0	
	15			0	0	0	21 5		0	0	
	30			0	0	0	21 7		0	0	
	45			0	0	0	21 8		0	0	
	60 (1)			0	0	0	21 8		0	0	
	90			0	0	0	21 8		0	0	
	120 (2)			0	0	0	21 8		0	0	
	180 (3)			0	0	0	21 8		0	0	
	240 (4)										
	300 (5)]
	360 (6)										
	420 (7)										
	480 (8)										
	540 (9)										
	600 (10)										

Notes

Monitoring order is from left to right across table

Releva	nt Information At Time Of Monitori	ng				
Monitored by (name, position)	Monitored by (name, position) AP					
Atmospheric Pressure (mB)	1011					
Weather	overcast windy					
Temperature (°C, between -10°C to +40°C only)	5 5C					
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated				
	Mass Balance Transducer	Last calibrated				
	MiniRAE PID	Last calibrated				
Visible Signs of Vegetation Stress	N/A					
Other Comments / Observations	N/A					
Boreholes Sampled For Laboratory Analysis						

Job No 310826 - 08 02 2010



Table C2	Ground Gas	Monitoring	Round	Pro Forma Tw	0
----------	------------	------------	-------	--------------	---

Borehole	Time Seconds	Gas Flow	Borehole Pressure	Methane	Methane	Carbon Dioxide	Oxygen	0	Other Gase (ppm)	S	Depth to Water
	(Minutes)	(l/hr)	(Pa)	(%v/v)	(% LEL *)	(%v/v)	(%v/v)	PID	H₂S	CO	(m bgl)
SBH2	0	-06	1011	0	0	0	21 4		0	0	
	15			0	0	05	21 6		0	0	
	30			0	0	04	21 6		0	0	
	45			0	0	03	21 6		0	0	
	60 (1)			0	0	0 1	21 7		0	0	
	90			0	0	0	21 7		0	0	7
	120 (2)			0	0	0	21 7		0	0	7
	180 (3)			0	0	0	21 7		0	0	
	240 (4)										
	300 (5)									_]
	360 (6)]
	420 (7)										
	480 (8)										
	540 (9)										
	600 (10)										٦_

Notes

Monitoring order is from left to right across table

Relevar	nt Information At Time Of Monitorir	1g				
Monitored by (name, position)	AP					
Atmospheric Pressure (mB)						
Weather	overcast windy					
Temperature (°C, between -10°C to +40°C only)) 5 5C					
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated				
	Mass Balance Transducer	Last calibrated				
	MiniRAE PID	Last calibrated				
Visible Signs of Vegetation Stress	N/A					
Other Comments / Observations	N/A					
Boreholes Sampled For Laboratory Analysis						

Job No 310826 08 02 2010



Table C2 Ground Gas Monitoring Round Pro Forma Two

Borehole	Time Seconds	Gas Flow	Borehole Pressure	Methane	Methane	Carbon Dioxide	Oxygen		Other Gase (ppm)	s	Depth to Water
	(Minutes)	(l/hr)	(Pa)	(%v/v)	(% LEL *)	(%v/v)	(%v/v)	PID	H₂S	СО	(m bgl)
SBH3	0	0 1	1011	0	0	0	21 7		0	0	
	15			0	0	0	21 7		0	0	
	30			0	0	0	21 7		0	0	
	45			0	0	0	21 6		0	0	
	60 (1)			0	0	0	21 6		0	0	
	90			0	0	0	21 6		0	0	
	120 (2)	l i		0	0	0	21 6		0	0	
	180 (3)			0	0	0	21 6		0	0	
	240 (4)]
	300 (5)										
	360 (6)]
	420 (7)										
	480 (8)										
1	540 (9)										
	600 (10)										

Notes

Monitoring order is from left to right across table

Relevant Information At Time Of Monitoring								
Monitored by (name, position)	AP							
Atmospheric Pressure (mB)	1011							
Weather	er overcast windy							
Temperature (°C, between -10°C to +40°C only)	5 5C							
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated						
	Mass Balance Transducer	Last calibrated						
	MiniRAE PID	Last calibrated						
Visible Signs of Vegetation Stress	N/A							
Other Comments / Observations	N/A							
Boreholes Sampled For Laboratory Analysis								

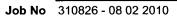




Table C2 Ground Gas Monitoring Round Pro Forma Two

Borehole	Time Seconds	onde Gas Flow	Borehole Pressure	Methane	Methane	Carbon Dioxide	Oxygen	C	Other Gase (ppm)	S	Depth to Water
	(Minutes)		(Pa)	(%v/v)	(% LEL *)	(%v/v)	(%v/v)	PID	H ₂ S	CO	(m bgl)
SBH4	0	-3	1011	0	0	0	21 6		0	0	
	15			0	0	04	21 5		0	0	
	30			0	0	04	21 5		0	0	
	45			0	0	04	21 5		0	0	
	60 (1)			0	0	0 2	21 6		0	0	
	90			0	0	0	21 6		0	0	
	120 (2)			0	0	0	21 6		0	0	
	180 (3)			0	0	0	21 6		0	0	
	240 (4)		l l								
	300 (5)										
	360 (6)										
	420 (7)										
	480 (8)										
	540 (9)										
	600 (10)										7

Notes

Monitoring order is from left to right across table

Releva	Relevant Information At Time Of Monitoring								
Monitored by (name, position)	AP								
Atmospheric Pressure (mB)	1011								
Weather	overcast windy								
Temperature (°C, between 10°C to +40°C only)	5 5C								
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated							
	Mass Balance Transducer	Last calibrated							
	MiniRAE PID	Last calibrated							
Visible Signs of Vegetation Stress	N/A	•							
Other Comments / Observations	N/A								
Boreholes Sampled For Laboratory Analysis									

Job No 310826 - 08 02 2010



Table C2 Ground Gas Monitoring Round Pro Forma Two

Borehole	Time Seconds	Gas Flow (l/hr)	Borehole Pressure	Methane	Methane	Carbon Dioxide	Oxygen (%v/v)	C	Other Gase (ppm)	S	Depth to Water
	(Minutes)	(Minutes)	(Pa)	(%v/v)	(% LEL *)	(%v/v)		PID	H₂S	СО	(m bgl)
SBH5	0	0	1011	0	0	0	21 8		0	0	
ŀ	15			0	0	0	21 6		0	0]
	30			Ō	0	0	21 5		0	0	
	45			0	0	0	21 5		0	0]
	60 (1)			0	0	0	21 5		0	0]
	90			0	0	0	21 5		0	0]
	120 (2)			0	0	0	21 5		0	0	
	180 (3)	[]		0	0	0	21.4		0	0	
	240 (4)]
	300 (5)										
	360 (6)										
	420 (7)]
	480 (8)]
	540 (9)]
	600 (10)										<u> </u>

Notes

Monitoring order is from left to right across table

Releva	nt Information At Time Of Monitori	ng
Monitored by (name, position)	AP	
Atmospheric Pressure (mB)	1011	
Weather	overcast windy	
Temperature (°C, between -10°C to +40°C only)	5 5C	
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated
	Mass Balance Transducer	Last calibrated
	MiniRAE PID	Last calibrated
Visible Signs of Vegetation Stress	N/A	
Other Comments / Observations	N/A	
Boreholes Sampled For Laboratory Analysis		

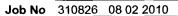




Table C2 Ground Gas Monitoring Round Pro Forma Two

Borehole	Time Seconds	Gas Flow	Borehole Pressure	Methane	Methane	Carbon Dioxide	Oxygen		other Gase (ppm)	es	Depth to Water
	(Minutes)	(l/hr)	(Pa)	(%v/v)	(% LEL *)	(%v/v)	(%v/v)	PID	H₂S	CO	(m bgl)
SBH6	0	-63	1011	0	0	0	21 8		0	0	
-	15			0	0	0	21 5		0	0	
	30			0	0	0	214		0	0	
	45			0	0	0	21 4		0	0	
	60 (1)			0	0	0	21 4		0	0	
	90			0	0	0	21 4		0	0	
	120 (2)			0	0	0	21 4		0	0	
	180 (3)			Ō	0	0	21 4		0	0	
	240 (4)										
	300 (5)										
	360 (6)										
	420 (7)										
	480 (8)										
	540 (9)										
_	600 (10)										

Notes

Monitoring order is from left to right across table

Relevan	nt Information At Time Of Monitori	ng
Monitored by (name, position)	AP	
Atmospheric Pressure (mB)	1011	
Weather	overcast windy	
Temperature (°C, between 10°C to +40°C only)	5 5C	
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated
	Mass Balance Transducer	Last calibrated
	MiniRAE PID	Last calibrated
Visible Signs of Vegetation Stress	N/A	
Other Comments / Observations	N/A	
Boreholes Sampled For Laboratory Analysis		

Job No 310826 - 08 02 2010



Table C2 Ground Gas Monitoring Round Pro Forma Two

Borehole	Time Seconds (Minutes)	Gas Flow	Borehole Pressure	I Mothano	Methane	Carbon Dıoxıde (%v/v)	Oxygen (%v/v)		Other Gase (ppm)	S	Depth to Water (m bgi)
		(l/hr)	(Pa)		(% LEL *)			PID	H₂S	CO	
SBH7	0	-0 3	1011	0	0	0	21 8		0	0	
-	15			0	0	0	21 4		0	0	
	30			0	0	0	21 3		0	0	
	45			0	0	0	21 3		0	0	
	60 (1)			0	0	0	21 3		0	0	
	90			0	0	0	21 3		0	0	
	120 (2)			0	0	0	21 2		0	0	
	180 (3)			0	0	0	21 2		0	0	
	240 (4)										
	300 (5)										
	360 (6)										
	420 (7)										
	480 (8)										
	540 (9)										
	600 (10)										

Notes

Monitoring order is from left to right across table

Relevan	nt Information At Time Of Monitorin	ng			
Monitored by (name, position)	AP				
Atmospheric Pressure (mB)	1011				
Weather	overcast windy				
Temperature (°C, between -10°C to +40°C only)	5C				
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated			
	Mass Balance Transducer	Last calibrated			
	MiniRAE PID	Last calibrated			
Visible Signs of Vegetation Stress	N/A	•			
Other Comments / Observations	N/A				
Boreholes Sampled For Laboratory Analysis					





1

Table C2 Ground Gas Monitoring Round Pro Forma Two

Borehole	Seconde	Gas Flow	Borehole Pressure	Methane	Methane	Carbon Dioxide	Oxygen	Other Gases (ppm)			Depth to Water
		(l/hr)	(Pa)	(%v/v)	(% LEL *)	(%v/v)	(%v/v)	PID	H₂S	СО	(m bgl)
SBH8	0	2 2	1011	0	0	0	21 8		0	0	
	15			53	>100	22	4 8		0	0	
	30			59	>100	2 5	36		0	0	
	45			57	>100	24	37		0	0	
	60 (1)			55	>100	2 2	4 2		0	0	
	90			52	>100	2 2	5 1		0	0	
	120 (2)			47 5	>100	2	64		0	0	
	180 (3)			39 5	>100	17	89		0	0]
	240 (4)			31	>100	13	11 8		0	0	
	300 (5)			23 5	>100	09	13 8		0	0	
	360 (6)			19 5	>100	0 7	13 2		0	0	
	420 (7)			15 5	>100	06	16 8		0	0	
	480 (8)		l E	11 5	>100	04	18		0	0	
	540 (9)			9	>100	04	18 6		0	0	
	600 (10)			7 1	>100	03	19 1		0	0	7

Notes

Monitoring order is from left to right across table

Releva	nt Information At Time Of Monitori	ng					
Monitored by (name, position)	AP						
Atmospheric Pressure (mB)	1011						
Weather	vercast windy						
Temperature (°C, between 10°C to +40°C only)	55C						
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated					
	Mass Balance Transducer	Last calibrated					
	MiniRAE PID	Last calibrated					
Visible Signs of Vegetation Stress	N/A						
Other Comments / Observations	N/A	······································					
Boreholes Sampled For Laboratory Analysis							

Job No 310826 08 02 2010



Table C2 Ground Gas Monitoring Round Pro Forma Two

Borehole	Gas How	1	Borehole Pressure	Methane	Methane	Carbon Dioxide	Oxygen (%v/v)		Other Gase (ppm)	S	Depth to Water
		(Pa)	(%v/v)	(% LEL *)	(%v/v)		PID	H₂S	CO	(m bgl)	
BH1D	0	-9 9	1011	0	>100	0	21 7		0	0	
	15			24	>100	36	6 5		0	0	
	30			28	>100	4 3	4 6		0	0	
	45			28	>100	4 3	4 3		0	0	
	60 (1)			28 5	>100	4 3	39		0	0]
	90			29	>100	44	36		0	0	
	120 (2)			30	>100	4 5	31		0	0	
	180 (3)			30 5	>100	4 5	2 9		0	0]
	240 (4)			31	>100	46	26		0	0	
	300 (5)			32	>100	46	2 4		0	0	
	360 (6)			32	>100	46	2 3		0	0	
	420 (7)			32	>100	46	2 2		0	0	
	480 (8)			32	>100	46	2 2		0	0	
	540 (9)										
	600 (10)										

Notes

Monitoring order is from left to right across table

Releva	nt Information At Time Of Monitori	ng				
Monitored by (name, position)	AP					
Atmospheric Pressure (mB)	1011					
Weather	overcast windy					
Temperature (°C, between -10°C to +40°C only)	5 5C	5 5C				
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated				
	Mass Balance Transducer	Last calibrated				
	MiniRAE PID	Last calibrated				
Visible Signs of Vegetation Stress	N/A					
Other Comments / Observations	N/A					
Boreholes Sampled For Laboratory Analysis						



Job No 310826 - 08 02 2010

Table C2	Ground Gas	Monitoring	Round Pro Forma Two

Borehole	Time Seconds	Gas Flow	Borehole Pressure	Methane	Methane	Carbon Dıoxıde (%v/v)	Oxygen (%v/v)	Other Gases (ppm)			Depth to Water
	(Minutes)	(l/hr)	(Pa)	(%v/v)	(% LEL *)			PID	H₂S	CO	(m bgl)
BH1S	0	27	1011	13	>100	17	17 7		Ő	0	
	15			69	>100	29	12 5		0	0	
-	30			74	>100	32	12 1		0	0	
	45			7 2	>100	31	12 1		0	0	
	60 (1)			7 2	>100	31	12 2		0	0	
	90			72	>100	31	12 2		0	0	
	120 (2)			8	>100	31	11 8		0	0	7
	180 (3)			12 5	>100	3 4	99		0	0	
	240 (4)			14	>100	3 5	94		0	0	
	300 (5)			16	>100	37	8 1		0	0	
	360 (6)			18	>100	37	76		0	0	
-	420 (7)			19	>100	38	7 2		0	0	
	480 (8)			19 5	>100	39	68		0	0	
	540 (9)										
	600 (10)										

Notes

Monitoring order is from left to right across table

Releva	nt Information At Time Of Monitorin	ng				
Monitored by (name, position)	AP					
Atmospheric Pressure (mB)						
Weather	overcast windy					
Temperature (°C, between -10°C to +40°C only)	y 5 5C					
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated				
	Mass Balance Transducer	Last calibrated				
	MiniRAE PID	Last calibrated				
Visible Signs of Vegetation Stress	N/A					
Other Comments / Observations						
Boreholes Sampled For Laboratory Analysis						

Job No 310826 - 08 02 2010



Table C2 Ground Gas Monitoring Round Pro Forma Two

Borehole	Time Seconds	Gas Flow	Borehole Pressure	Methane	Methane	Carbon Dioxide	Oxygen /		Other Gase (ppm)	S	Depth to Water
	(Minutes)	(l/hr)	(Pa)	(%v/v)	(% LEL *)	(%v/v)	(%v/v)	PID	H₂S	СО	<u>(m bgl)</u>
BH2D	0	52	1011	Q		0	21 7	Ţ	0	0	
	15			0	0	0 8	20 4		0	0	
	30			0	0	11	20 3		0	0	
	45			0	0	11	20 3		0	0	
	60 (1)			0	0	11	20 3		0	0	
	90			0	0	1	20 3		0	0	
	120 (2)			0	0	1	20 3		0	0	
	180 (3)			0	0	1	20 3		0	0	
	240 (4)										
	300 (5)									_	
1	360 (6)								_	_	
	420 (7)										
	480 (8)										
	540 (9)										
	600 (10)										

Notes

Monitoring order is from left to right across table

Releva	nt Information At Time Of Monitorin	ng				
Monitored by (name, position)	AP					
Atmospheric Pressure (mB)	1011					
Weather	overcast windy					
Temperature (°C, between -10°C to +40°C only)	5 5C					
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated				
	Mass Balance Transducer	Last calibrated				
	MiniRAE PID	Last calibrated				
Visible Signs of Vegetation Stress	N/A					
Other Comments / Observations	N/A					
Boreholes Sampled For Laboratory Analysis						



Job No 310826 - 08 02 2010

Table C2	Ground Gas	Monitoring	Round P	ro Forma Two	,

Borehole	Time Seconds	Gas Flow	Borehole Pressure	Methane	Methane	Carbon Dioxide	Oxygen		Other Gase (ppm)	S	Depth to Water
	(Minutes)	(l/hr)	(Pa)	(%v/v)	(% LEL *)	(%v/v)	(%v/v)	PID	H ₂ S	CO	(m bgl)
BH3S	0	0	1011	0	0	0	21 9		0	0	
	15			05	94	3 5	9 2		0	0	
	30		[08	95	39	8 5		0	0	
	45			08	94	38	84		0	0	
	60 (1)			08	88	39	84		0	0	
	90			08	94	39	83		0	0	
	120 (2)			1	11 5	39	8 3		0	0	
	180 (3)			1	12 4	39	83		0	0	
	240 (4)			1	12	39	84		0	0	
	300 (5)			1	12 2	4	84		0	0	
	360 (6)										
	420 (7)										
-	480 (8)										
	540 (9)										
	600 (10)										L

Notes

Monitoring order is from left to right across table

Relevar	nt Information At Time Of Monitorin	lg				
Monitored by (name, position)	AP					
Atmospheric Pressure (mB)	1011					
Weather	overcast windy					
Temperature (°C, between -10°C to +40°C only)	5 5C					
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated				
	Mass Balance Transducer	Last calibrated				
	MiniRAE PID	Last calibrated				
Visible Signs of Vegetation Stress	N/A					
Other Comments / Observations	N/A					
Boreholes Sampled For Laboratory Analysis						

Job No 310826 08 02 2010



Table C2 Ground Gas Monitoring Round Pro Forma Two

Borehole	Time Seconds	Gas Flow	Borehole Pressure	Methane	Methane	Carbon Dioxide	Oxygen		Other Gase (ppm)	es	Depth to Water
	(Minutes)		(Pa)	(%v/v)	(% LEL *)	(%v/v)	(%v/v)	PID	H₂S	CO	(m_bgl)
BH101	0	9 5	1011	04	0	01	21 9		0	0	
	15			09	17 3	18	20 8		0	0	
	30			11	22 6	2	20 7		0	0	
	45			11	23 5	2	20 7		0	0	
	60 (1)			11	22 4	19	20 7		0	0	
	90			11	22	19	20 7		0	0	
1	120 (2)			1	20 7	18	20 7		0	0	
	180 (3)			1	197	17	20 8		0	0]
	240 (4)			09	18 3	16	20 8		0	0	
	300 (5)			0.8	17	16	20 8		0	0	
	360 (6)										
	420 (7)]
	480 (8)										
	540 (9)]
	600 (10)										1

Notes

Monitoring order is from left to right across table

Releva	nt Information At Time Of Monitori	ng				
Monitored by (name, position)	AP					
Atmospheric Pressure (mB)	1011					
Weather	overcast windy					
Temperature (°C, between -10°C to +40°C only)	ly) 5 5C					
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated				
	Mass Balance Transducer	Last calibrated				
	MiniRAE PID	Last calibrated				
Visible Signs of Vegetation Stress	N/A					
Other Comments / Observations	N/A					
Boreholes Sampled For Laboratory Analysis						

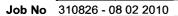




 Table C2
 Ground Gas Monitoring Round Pro Forma Two

Borehole	Time Seconds	Gas Flow Pressure Methane	Methane Carbon Dioxide	Oxygen (%v/v)	Other Gases (ppm)			Depth to Water			
	(Minutes)	(l/hr)	(Pa)	(%v/v)	(% LEL *)	(%v/v)	(%V/V)	PID	H₂S	CO] (m bgl)
BH102	0	0	1011	0	0	0	21 7		0	0	
	15			0 4	65	07	19 2		0	0	
	30			04	82	07	19 1		0	0]
	45			03	7	07	19 3		0	0	
	60 (1)			03	58	06	19 7		0	0	1
	90			0 2	53	0 5	19 9		0	0	
	120 (2)			0 2	38	05	20 1		0	0	
	180 (3)			0 1	31	04	20 2		0	0	
	240 (4)			0 1	3	04	20 3		0	0	7
	300 (5)			0 1	24	03	20 5		0	0	
	360 (6)										
	420 (7)										
	480 (8)										
	540 (9)										
	600 (10)										

Notes

Monitoring order is from left to right across table

Relevan	nt Information At Time Of Monitori	ng
Monitored by (name, position)	AP	
Atmospheric Pressure (mB)	1011	
Weather	overcast windy	
Temperature (°C, between -10°C to +40°C only)	5 5C	
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated
	Mass Balance Transducer	Last calibrated
	MiniRAE PID	Last calibrated
Visible Signs of Vegetation Stress	N/A	
Other Comments / Observations	N/A	
Boreholes Sampled For Laboratory Analysis		

Job No 310826 08 02 2010



Table C2 Ground Gas Monitoring Round Pro Forma Two

Borehole	Time Seconds	onde Gas Flow	Borehole Pressure	Methane	Methane	Carbon Dioxide	Oxygen		Other Gase (ppm)	S	Depth to Water
	(Minutes)	(l/hr)	(Pa)	(%v/v)	(% LEL *)	(%v/v)	(%v/v)	PID	H₂S	CO	(m bgl)
BH103	0	17 5	1011	12	>100	12	17 9		0	0	
	15			13	>100	13	17 1		0	0	
	30			13	>100	13	17 1		0	0	
	45			13 5	>100	14	17		0	0	
	60 (1)			13 5	>100	14	17		0	0	
	90			13 5	>100	14	17		0	0	
	120 (2)			14	>100	14	16 9		0	0	
	180 (3)			14 5	>100	14	16 7		0	0	
	240 (4)			15	>100	15	16 6		0	0	
	300 (5)			15	>100	15	16 4		0	0	
	360 (6)			15 5	>100	16	16 3		0	Ö	
	420 (7)			16 5	>100	17	16		0	0	
	480 (8)			17 5	>100	18	15 8		0	0]
	540 (9)			18	>100	18	15 7		0	0]
	600 (10)			18	>100	18	15 5		0	0	

Notes

Monitoring order is from left to right across table

Releva	nt Information At Time Of Monitorii	ng				
Monitored by (name, position)	AP					
Atmospheric Pressure (mB)						
Weather	overcast windy					
Temperature (°C, between -10°C to +40°C only)	5 5C					
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated				
	Mass Balance Transducer	Last calibrated				
	MiniRAE PID	Last calibrated				
Visible Signs of Vegetation Stress	N/A					
Other Comments / Observations	N/A					
Boreholes Sampled For Laboratory Analysis						

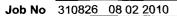




Table C2 Ground Gas Monitoring Round Pro Forma Two

Borehole	L Seconds I	Gas Flow	Pressure	Methane	Methane	Carbon Dioxide (%v/v)	Oxygen (%v/v)		Other Gase (ppm)	is i	Depth to Water (m bgl)
	(Minutes)	(l/hr)	(Pa)	(%v/v)	(% LEL *)			PID	H ₂ S	CO	
BH104	0	0	1011	0	0	0	21 8		0	0	
	15			23	>100	13	16 2		0	0	
	30			24	>100	14	16		0	0	
	45			22	>100	13	16 3		0	0	
	60 (1)			21	>100	12	16 6		0	0	
	90			18 5	>100	1	17 1		0	0]
	120 (2)			18 5	>100	1	17 1		0	0	
	180 (3)			16 5	>100	1	17 2		0	0	
	240 (4)			15 5	>100	08	17 8		0	0	
	300 (5)			15 5	>100	08	17 9		0	0	
	360 (6)			16	>100	08	17 8		0	0	
	420 (7)			16 5	>100	08	17 5		0	0	
	480 (8)			15	>100	0 8	17 9		0	0	7
	540 (9)			16 5	>100	08	17 8		0	0	
	600 (10)			16	>100	08	17 7		0	0	7

Notes

Monitoring order is from left to right across table

Releva	nt Information At Time Of Monitorin	ng					
Monitored by (name, position)	AP						
Atmospheric Pressure (mB)	1011						
Weather	overcast windy						
Temperature (°C, between -10°C to +40°C only)	5 5C						
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated					
	Mass Balance Transducer	Last calibrated					
	MINIRAE PID	Last calibrated					
Visible Signs of Vegetation Stress	N/A						
Other Comments / Observations	N/A						
Boreholes Sampled For Laboratory Analysis							

Job No 310826 08 02 2010



Table C2 Ground Gas Monitoring Round Pro Forma Two

Borehole	Time Seconds	Gas Flow	Proceuro	Methane	Methane	Carbon Dıoxıde (%v/v)	Oxygen (%v/v)		Other Gase (ppm)	S	Depth to Water (m bgl)
	(Minutes)	(l/hr)	(Pa)	(%v/v)	(% LEL *)			PID	H₂S	CO	
BH104S	0	16 1	1011	4 1	>100	01	21 5		0	0	
	15			85	>100	51	19		0	0	
	30			78	>100	4 6	3 2		0	0	
	45			65	>100	41	66		0	0	
	60 (1)			58	>100	37	7 5		0	0	
	90			49 5	>100	3 2	91		0	0	1
	120 (2)			40 5	>100	2 4	11 7		0	0	
	180 (3)			33	>100	2	13		0	0	
	240 (4)			29	>100	18	14 3		0	0	
	300 (5)			28 5	>100	17	14 3		0	0	
	360 (6)	1		23 5	>100	14	15 5		0	0	
	420 (7)			25	>100	15	15 3		0	0	
	480 (8)			21 5	>100	13	16		0	0	
	540 (9)			21 5	>100	13	16		0	0	
	600 (10)			21	>100	12	16 2		0	0]

Notes

Monitoring order is from left to right across table

Releva	nt Information At Time Of Monitori	ng				
Monitored by (name, position)	AP					
Atmospheric Pressure (mB)) 1011					
Weather	r overcast windy					
Temperature (°C, between -10°C to +40°C only)	5 5C					
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated				
	Mass Balance Transducer	Last calibrated				
		Last calibrated				
Visible Signs of Vegetation Stress	N/A					
Other Comments / Observations	N/A					
Boreholes Sampled For Laboratory Analysis						

Job No 310826 08 02 2010



{

Table C2 Ground Gas Monitoring Round Pro Forma Two

Borehole	Time Seconds	Gas Flow	Borehole Pressure	Methane	Methane		Oxygen (%v/v)	Other Gases (ppm)			Depth to Water
	(Minutes)	(l/hr)	(Pa)	(%v/v)	(% LEL *)			PID	H₂S	CO	(m bgl)
BH105	0	02	1011	0	>100	0	21 6		0	0	
	15			16 5	>100	0 5	17 6		0	0	
	30			15	>100	0 5	17 9		0	0	
	45			13	>100	04	18 5		0	0]
1	60 (1)			12	>100	04	18 4		0	0	
	90			11 5	>100	04	18 7		0	0	
	120 (2)			10	>100	03	18 9		0	0	
	180 (3)			83	>100	0 3	19 4		0	0	
	240 (4)			82	>100	0 3	19 4		0	0	
	300 (5)			81	>100	0 2	19 5		0	0	
	360 (6)			71	>100	0 2	19 7	_	0	0	
	420 (7)			69	>100	0 2	197		0	0	
	480 (8)			61	>100	0 1	20		0	0	
	540 (9)			65	>100	0 2	19 8		0	0	
	600 (10)			66	>100	0 2	19 8		0	0	7

Notes

Monitoring order is from left to right across table

Releva	nt Information At Time Of Monitoria	ng					
Monitored by (name, position)	AP						
Atmospheric Pressure (mB)	1011						
Weather	r overcast windy						
Temperature (°C, between 10°C to +40°C only)	5 5C						
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated					
	Mass Balance Transducer	Last calibrated					
	MiniRAE PID	Last calibrated					
Visible Signs of Vegetation Stress	N/A						
Other Comments / Observations	N/A						
Boreholes Sampled For Laboratory Analysis							

Job No 310826 15 02 2010



Table C2 Ground Gas Monitoring Round Pro Forma Two

Borehole	I Saconde I	Gas Flow	Borehole Pressure	Methane		Carbon Dioxide	Oxygen	C)ther Gase (ppm)	S	Depth to Water
	(Minutes)		(Pa)	(%v/v)	(% LEL *)	(%v/v)	(%v/v)	PID	H₂S	CO	(m bgl)
SBH1	0	0	1004	0	0	01	20 7		0	0	
	15			0	0	0 1	21 4		0	0	
	30			0	0	0	21 7		0	0	
ĺ	45			0	0	0	21 7		0	0	7
	60 (1)			0	0	0	21 7		0	0	
	90			0	0	0	21 7		0	0	
	120 (2)			0	0	0	21 7		0	0	
	180 (3)			0	0	0	21 7		0	0	
	240 (4)								0	0	
	300 (5)								0	0	
	360 (6)			-							
	420 (7)										
	480 (8)]
	540 (9)]
	600 (10)										

Notes

Monitoring order is from left to right across table

Releva	nt Information At Time Of Monitorin	ng			
Monitored by (name, position)	AP				
Atmospheric Pressure (mB)	1004				
Weather	overcast				
Temperature (°C, between -10°C to +40°C only)	BC				
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated			
	Mass Balance Transducer	Last calibrated			
	MiniRAE PID	Last calibrated			
Visible Signs of Vegetation Stress	N/A				
Other Comments / Observations	N/A				
Boreholes Sampled For Laboratory Analysis					

Job No 310826 - 15 02 2010



Table C2 Ground Gas Monitoring Round Pro Forma Two

Borehole	Time Seconds (1/b-)	Uracelira	Methane	Methane	Carbon Dioxide	Oxygen		Other Gase (ppm)	S	Depth to Water	
	(Minutes)	(l/hr)	(Pa)	(%v/v)	(% LEL *)	(%v/v)	(%v/v)	PID	H ₂ S	CO	(m bgl)
SBH2	0	0	1004	0	0	0	21 7		0	0	
	15			0	0	06	21 3		0	0	
	30			0	0	04	21 3		0	0]
	45			0	0	03	21 3		0	0	
	60 (1)			0	0	02	21 3		0	0	
	90			0	0	0	21 4		0	0	
	120 (2)			0	0	0	21 4		0	0	
i	180 (3)			0	0	0	21 4		0	0]
	240 (4)										
	300 (5)										
	360 (6)										
	420 (7)]
	480 (8)]
	540 (9)]
	600 (10)										

Notes

Monitoring order is from left to right across table

Releva	nt Information At Time Of Monitorin	ng					
Monitored by (name, position)	AP						
Atmospheric Pressure (mB)	1004						
Weather	overcast						
Temperature (°C, between -10°C to +40°C only)	8C						
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated					
	Mass Balance Transducer	Last calibrated					
	MiniRAE PID	Last calibrated					
Visible Signs of Vegetation Stress	N/A						
Other Comments / Observations	N/A						
Boreholes Sampled For Laboratory Analysis							

Job No 310826 - 15 02 2010



Table C2 Ground Gas Monitoring Round Pro Forma Two

Borehole	i Soconde I	Gas Flow	Borehole Pressure	Methane	Methane	Carbon Dioxide	Oxygen	C	other Gase (ppm)	S	Depth to Water
	(Minutes)	(l/hr)	(Pa)	(%v/v)	(% LEL *)	(%v/v)	(%v/v)	PID	H₂S	CO	(m bgl)
SBH3	0	0 2	1003	0	0	0	21 8		0	0	
	15			0	0	1	19 3		0	0]
	30			0	0	13	18 9		0	0	
	45			0	0	13	18 9		0	0]
	60 (1)			0	0	13	18 8		0	0	
	90			0	0	13	18 8		0	0	
	120 (2)			0	0	13	18 8		0	0	
	180 (3)			0	0	1 3	18 8		0	0	
	240 (4)										
	300 (5)]
	360 (6)										
	420 (7)										
	480 (8)										
	540 (9)										
	600 (10)]

Notes

Monitoring order is from left to right across table

Relevan	nt Information At Time Of Monitori	ng
Monitored by (name, position)	AP	
Atmospheric Pressure (mB)	1003	
Weather	overcast	
Temperature (°C, between -10°C to +40°C only)	8C	
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated
	Mass Balance Transducer	Last calibrated
	MiniRAE PID	Last calibrated
Visible Signs of Vegetation Stress	N/A	
Other Comments / Observations	N/A	
Boreholes Sampled For Laboratory Analysis		

Job No 310826 15 02 2010



Table C2 Ground Gas Monitoring Round Pro Forma Two

Borehole	Time Seconds (Minutes)	Conde Gas Flow	Draceura	Methane		Carbon Dioxide	Oxygen		Other Gase (ppm)	S	Depth to Water
		l/hr) (Pa)	(%v/v)	(% LEL *)	(%v/v)	(%v/v)	PID	H₂S	СО	(m bgl)	
SBH4	0	Ō	1004	0	0	0	21 7		0	0	
	15			0	0	03	21 3		0	0	
	30			0	0	0 2	21 3		0	0	
	45			0	0	0	21 3		0	0	
	60 (1)			0	0	0	21 3		0	0	7
	90			0	0	0	21 3		0	0	7
	120 (2)			0	0	0	21 4		0	0	7
	180 (3)			0	0	0	21 4		0	0	
	240 (4)										
	300 (5)]
	360 (6)										
	420 (7)										
	480 (8)]
	540 (9)										
	600 (10)										

Notes

Monitoring order is from left to right across table

Releva	nt Information At Time Of Monitori	ng
Monitored by (name, position)	AP	
Atmospheric Pressure (mB)	1004	
Weather	overcast	
Temperature (°C, between 10°C to +40°C only)	8C	
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated
	Mass Balance Transducer	Last calibrated
	MiniRAE PID	Last calibrated
Visible Signs of Vegetation Stress	N/A	
Other Comments / Observations	N/A	
Boreholes Sampled For Laboratory Analysis		

Job No 310826 - 15 02 2010



Table C2 Ground Gas Monitoring Round Pro Forma Two

Borehole	Time Seconds (Minutes)	Gas Flow	Borehole Pressure	Methane	Methane	Carbon Dıoxıde (%v/v)	Oxygen (%v/v)	Other Gases (ppm)			Depth to Water
		(i/nr)	(Pa)	(%v/v)	(% LEL *)			PID	H₂S	со	(m bgl)
SBH5	0	0	1004	0 1	16	0	21 7		0	0	
	15			0	04	0	21 4		0	0	
	30			0	0	0	21 4		0	0	
	45			0	0	0	21 4		0	0	
	60 (1)			0	0	0	21 4		0	0	
	90			0	0	0	21 4		0	0	
	120 (2)			0	0	0	21 3		0	0	
	180 (3)			0	0	0	21 3		0	0	
	240 (4)										
	300 (5)										
	360 (6)										
	420 (7)										
	480 (8)										
	540 (9)]
	600 (10)										

Notes

Monitoring order is from left to right across table

Relevan	t Information At Time Of Monitorir	ng
Monitored by (name, position)	AP	
Atmospheric Pressure (mB)	1004	
Weather	overcast	
Temperature (°C, between -10°C to +40°C only)	8C	
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated
	Mass Balance Transducer	Last calibrated
	MiniRAE PID	Last calibrated
Visible Signs of Vegetation Stress	N/A	
Other Comments / Observations		
Boreholes Sampled For Laboratory Analysis		



1

Job No 310826 - 15 02 2010

Table C2 Ground Gas Monitoring Round Pr	ro Forma Two
---	--------------

Borehole	Seconde	Gas Flow	Borehole Pressure	Methane	Methane	Carbon Dioxide	Oxygen		Other Gase (ppm)	es	Depth to Water
			(Pa)	(%v/v)	(% LEL *)	(%v/v)	(%v/v)	PID	H ₂ S	СО	(m bgl)
SBH6	0	0	1004	0	0	0	216		0	0	
	15			0	0	0	21 3		0	0	
	30			0	0	0	21 2		0	0	
	45			0	0	0	21 2		0	0	
	60 (1)			0	0	0	21 2		0	0	
	90			0	0	0	21 2		0	0	
	120 (2)			0	0	0	21 2		0	0	
	180 (3)			0	0	0	21 2		0	0	
	240 (4)										
	300 (5)										
	360 (6)										
	420 (7)										
	480 (8)										
	540 (9)										
	600 (10)										_ ٦

Notes

Monitoring order is from left to right across table

Releva	nt Information At Time Of Monitorir	ng
Monitored by (name, position)	AP	
Atmospheric Pressure (mB)	1004	
Weather	overcast	
Temperature (°C, between -10°C to +40°C only)	8C	
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated
	Mass Balance Transducer	Last calibrated
	MiniRAE PID	Last calibrated
Visible Signs of Vegetation Stress	N/A	
Other Comments / Observations	N/A	
Boreholes Sampled For Laboratory Analysis		

Job No 310826 - 15 02 2010



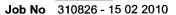
Table C2 Ground Gas Monitoring Round Pro Forma Two

Borehole	Time Seconds (Minutes)		Borehole Pressure	Methane	Methane		Oxygen	Other Gases (ppm)			Depth to Water
		(Pa)	(%v/v)	(% LEL *)	(%v/v)	(%v/v)	PID	H₂S	CO	(m bgl)	
SBH7	0	-0 4	1004	0	0	0	217		0	0	
	15			0	0	0 1	21 3		0	0	
	30			0	0	0	21 3		0	0	
	45			0	0	0	21 3		0	0	
	60 (1)			0	0	0	21 3		0	0	
	90			0	0	0	21 3		0	0	
	120 (2)			0	0	0	21 3		0	0	
	180 (3)			0	0	0	21 3		0	0	
	240 (4)					_					
	300 (5)										
	360 (6)										
	420 (7)										
	480 (8)										
	540 (9)										
	600 (10)										

Notes

Monitoring order is from left to right across table

Releva	nt Information At Time Of Monitori	ng
Monitored by (name, position)	AP	
Atmospheric Pressure (mB)	1003	
Weather		
Temperature (°C, between -10°C to +40°C only)	8C	
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated
	Mass Balance Transducer	Last calibrated
	MiniRAE PID	Last calibrated
Visible Signs of Vegetation Stress	N/A	
Other Comments / Observations	N/A	
Boreholes Sampled For Laboratory Analysis		······





1

Table C2 Ground Gas Monitoring Round Pro Forma Two

Borehole			Borehole Pressure	Methane	Methane	Carbon Dioxide	Oxygen		Other Gase (ppm)	S	Depth to Water
		ir) (Pa)	(%v/v)	(% LEL *)	(%v/v)	(%v/v)	PID	H ₂ S	CO	(m bgl)	
SBH8	0	-76	1004	0	0	0	21 5		0	0	
	15			47 5	>100	22	65		0	0	
	30			47 5	>100	2 2	67		0	0	
	45			47	>100	2 2	66		0	0	
ľ	60 (1)			44 5	>100	2 1	74		0	0	
	90			41 5	>100	19	83		0	0	
	120 (2)			36 5	>100	17	97		0	0	
	180 (3)			29 5	>100	13	12 1		0	0	
	240 (4)			25	>100	11	13 4		0	0	
	300 (5)			20 5	>100	0 8	14 7		0	0	
	360 (6)			17 5	>100	0 7	15 9		0	0	
	420 (7)			12 5	>100	0 5	17 4		0	0	
ŀ	480 (8)			10	>100	0 4	18 1		0	0	
	540 (9)			74	>100	03	18 9		0	0	
	600 (10)			61	>100	0 2	19 4		0	0	

Notes

Monitoring order is from left to right across table

Releva	nt Information At Time Of Monitori	ng
Monitored by (name, position)	AP	
Atmospheric Pressure (mB)	1003	
Weather	overcast	
Temperature (°C, between 10°C to +40°C only)	8C	
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated
	Mass Balance Transducer	Last calibrated
	MiniRAE PID	Last calibrated
Visible Signs of Vegetation Stress	N/A	
Other Comments / Observations	N/A	
Boreholes Sampled For Laboratory Analysis		

Job No 310826 - 15 02 2010



Table C2 Ground Gas Monitoring Round Pro Forma Two

Borehole	Time Seconds (Minutes)	Gas Flow	Draceura	(Methane	Carbon Dioxide	Oxygen	Other Gases (ppm)			Depth to Water
		(1/nr)	(Pa)		(% LEL *) (%v/v)	(%v/v)	(%v/v)	PID	H ₂ S	CO	(m bgl)
BH2D	0	9 8	1004	0	0	0	21 6		0	0	
	15			0	0	0 5	20 4		0	0	
	30			0	0	08	20		0	0	
1	45			0	0	0.8	19 9		0	0]
	60 (1)			0	0	1	19 8		0	0	
	90			0	0	1 2	19 6		0	0	
	120 (2)			0	0	1 3	19 6		0	0	
I	180 (3)			0	0	11	197		0	0	
	240 (4)										
	300 (5)										
	360 (6)										
	420 (7)										
	480 (8)										
	540 (9)										
	600 (10)										

Notes

Monitoring order is from left to right across table

Releva	nt Information At Time Of Monitoria	ng			
Monitored by (name, position)	AP				
Atmospheric Pressure (mB)	1004				
Weather	overcast				
Temperature (°C, between -10°C to +40°C only)) 8C				
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated			
	Mass Balance Transducer	Last calibrated			
	MiniRAE PID	Last calibrated			
Visible Signs of Vegetation Stress	N/A				
Other Comments / Observations	N/A	······································			
Boreholes Sampled For Laboratory Analysis					

Job No 310826 - 15 02 2010



Table C2 Ground Gas Monitoring Round Pro Forma Two

	Time Seconds (Minutes) Gas Flow (I/hr)	Gas Flow	Borehole Pressure	Metnane	Methane	Carbon Dioxide	Oxygen	Other Gases (ppm)			Depth to Water
		^{r)} (Pa)	(%v/v)	(% LEL *)	(%v/v)	(%v/v)	PID	H₂S	CO	(m bgl)	
BH2S	0	0	1004	0	0	0	21 5		0	0	
	15			0	0	0	21 3		0	0	
	30			0	0	0	21 3		0	0	
	45			0	0	0	21 3		0	0	
	60 (1)			0	0	0	21 3		0	0	
	90			0	0	0	21 3		0	0	
	120 (2)			0	0	0	21 3		0	0	
	180 (3)			0	0	0	21 3		0	0	
	240 (4)			-							
	300 (5)										
	360 (6)										
	420 (7)										
	480 (8)]
	540 (9)										
	600 (10)										

Notes

Monitoring order is from left to right across table

Releva	nt Information At Time Of Monitorin	ng				
Monitored by (name, position)	AP					
Atmospheric Pressure (mB)						
Weather	overcast					
Temperature (°C, between 10°C to +40°C only)	8C					
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated				
	Mass Balance Transducer	Last calibrated				
	MiniRAE PID	Last calibrated				
Visible Signs of Vegetation Stress	N/A					
Other Comments / Observations	N/A					
Boreholes Sampled For Laboratory Analysis						

Job No 310826 - 15 02 2010



Table C2 Ground Gas Monitoring Round Pro Forma Two

	Time Seconds (Minutes)	1 1	V Borehole Pressure	Methane	Methane	Carbon Dioxide	Oxygen	Other Gases (ppm)			Depth to Water
		(Pa)	(%v/v)	(% LEL *)	(%v/v)	(%v/v)	PID	H ₂ S	CO	(m bgl)	
BH3D	0	0	1004	0	0	0	21 4		0	0	
	15			3 5	69 3	0 2	20 1		0	0]
	30			3 2	59 6	01	20 2		0	0	
	45			24	50 2	01	20 3		0	0]
	60 (1)			23	42 5	01	20 4		0	0]
	90			2	38 4	0	20 6		0	0	
	120 (2)			18	35 3	0	20 6		0	0	
	180 (3)	-		16	35 9	0	20 6		0	0	
	240 (4)			2 1	40 9	0	20 6		0	0	
	300 (5)			17	32 3	0	20 7		0	0	
	360 (6)			1 5	29 5	0	20 7		0	0	
	420 (7)			1 3	26 6	0	20 8		0	0]
	480 (8)			11	22 9	0	20 9		0	0	
	540 (9)]
	600 (10)										

Notes

Monitoring order is from left to right across table

Releva	nt Information At Time Of Monitor	Ing				
Monitored by (name, position)	AP					
Atmospheric Pressure (mB)	1004					
Weather	overcast					
Temperature (°C, between -10°C to +40°C only)	8C					
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated				
	Mass Balance Transducer	Last calibrated				
	MiniRAE PID	Last calibrated				
Visible Signs of Vegetation Stress	N/A					
Other Comments / Observations	ıs N/A					
Boreholes Sampled For Laboratory Analysis						





Table C2 Ground Gas Monitoring Round Pro Forma Two

Borehole	Time Seconds	Gas Flow	Borehole Pressure	Methane	Methane		Oxygen (%v/v)	Other Gases (ppm)			Depth to Water
	(Minutes)	(l/hr)	(Pa)	(%v/v)	(% LEL *)			PID	H₂S	со	(m bgl)
BH3S	0	0	1004	01	13	0	21 2		0	0	
	15	_		17	31 8	41	12 6		0	0	
	30			18	31 7	4 3	12 2		0	0	
	45			18	32 1	4 3	12 2		0	0	
	60 (1)			18	316	4 3	12 2		0	0	
	90			18	317	4 3	12 2		0	0]
	120 (2)			18	31 2	4 3	12 1		0	0]
	180 (3)			17	29 5	44	12		0	0	
	240 (4)			17	29	44	11 9		0	0	
	300 (5)			17	27	4 3	11 9		0	0]
	360 (6)			1 5	24 7	4 3	11 9		0	0	
	420 (7)			12	22 4	43	12		0	0]
	480 (8)			12	21 6	4 2	12 3		0	0	
	540 (9)										
	600 (10)										7

Notes

Monitoring order is from left to right across table

Releva	nt Information At Time Of Monitori	ng				
Monitored by (name, position)	AP					
Atmospheric Pressure (mB)	1003					
Weather	overcast					
Temperature (°C, between 10°C to +40°C only)	8C					
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated				
	Mass Balance Transducer	Last calibrated				
	MiniRAE PID	Last calibrated				
Visible Signs of Vegetation Stress	N/A					
Other Comments / Observations	N/A					
Boreholes Sampled For Laboratory Analysis						

Job No 310826 15 02 2010



Table C2 Ground Gas Monitoring Round Pro Forma Two

Borehole	Time Seconds	Gas Flow	Borehole Pressure	Methane (%v/v)	Methane (% LEL *)	Carbon Dıoxıde (%v/v)	Oxygen (%v/v))ther Gase (ppm)	S	Depth to Water (m bgl)
(Minutes)	(Minutes)	(l/hr)	(Pa)	(%V/V)				PID	H₂S	CO	
BH101	0	0	1003	0	0	0	21 6		0	0	
	15			11	23 9	2 4	20 3		0	0	
	30			04	10 3	1 5	20 8		0	0	
	45			03	7	09	21		0	0	
	60 (1)			0 2	39	0 7	21 1		0	0	
	90			0	05	0 5	21 3		0	0	
	120 (2)			0	0	04	21 3		0	0	
	180 (3)			0	0	0 2	21 4		0	0	
	240 (4)			0	0	0 2	21 4		0	0]
	300 (5)			0	0	01	21 4		0	0	
	360 (6)]
	420 (7)]
	480 (8)]
	540 (9)]
	600 (10)										

Notes

Monitoring order is from left to right across table

Releva	nt Information At Time Of Monitorin	ng					
Monitored by (name, position)	AP						
Atmospheric Pressure (mB)	1004						
Weather	overcast						
Temperature (°C, between -10°C to +40°C only)	3C						
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated					
	Mass Balance Transducer	Last calibrated					
	MiniRAE PID	Last calibrated					
Visible Signs of Vegetation Stress	N/A	· ····································					
Other Comments / Observations	N/A	***					
Boreholes Sampled For Laboratory Analysis							

Job No 310826 - 15 02 2010



Table C2 Ground Gas Monitoring Round Pro Forma Two

Borehole	Time Seconds	Gas Flow	Borehole Pressure	Methane	Methane (% LEL *)	Carbon Dioxide	Oxygen	Other Gases (ppm)			Depth to Water
	(Minutes)		<u>(</u> Pa)	(%v/v)	(% LEL ^)	(%v/v)	(%v/v)	PID	H₂S	CO	(m bgl)
BH102	0	0	1003	0	0	0	21 5		0	0	
	15			2 1	36 3	3 5	10 9		0	0	
	30			18	31 2	28	13 1		0	0	
	45			13	25 3	23	14		0	0	
	60 (1)			1	20 3	19	15 4		0	0	
	90			0.8	14 6	16	16 6		0	0	1
	120 (2)			05	11	13	17 2		0	0	
	180 (3)			04	69	07	18 7		0	0]
	240 (4)			0 2	51	0 6	19 1		0	0	
	300 (5)			0 2	0	06	19 3		0	0	
	360 (6)										
	420 (7)										
	480 (8)										
	540 (9)										
	600 (10)										7

Notes

Monitoring order is from left to right across table

Releva	nt Information At Time Of Monitorir	ng				
Monitored by (name, position)	AP					
Atmospheric Pressure (mB)) 1003					
Weather	overcast					
Temperature (°C, between -10°C to +40°C only)	8C					
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated				
	Mass Balance Transducer	Last calibrated				
	MiniRAE PID	Last calibrated				
Visible Signs of Vegetation Stress	N/A					
Other Comments / Observations	N/A					
Boreholes Sampled For Laboratory Analysis						

Job No 310826 - 15 02 2010



Table C2 Ground Gas Monitoring Round Pro Forma Two

Borehole	Time Seconds	Gas Flow	Borehole Pressure	Methane (%v/v)	Methane	Carbon Dioxide	Oxygen (%v/v)		Other Gase (ppm)	es	Depth to Water
(Min	(Minutes)	(l/hr)	(Pa)	(%///)	(% LEL *)	(%v/v)	(/0V/V)	PID	H ₂ S	СО	(m bgl)
BH103	0	-7 5	1003	0	0	0	21 6		0	0	
	15			27	>100	27	12 7		0	0	
	30			30	>100	33	11 9		0	0	
	45			30 5	>100	33	11 8		0	0	
	60 (1)			30 5	>100	33	11 7		0	0	
	90			30 5	>100	33	11 7		0	0	
	120 (2)			30 5	>100	33	116		0	0	
	180 (3)			30 5	>100	34	11 5		0	0	
	240 (4)		_	31	>100	34	11 5		0	0	
	300 (5)			31_	>100	34	11 5		0_	0	
	360 (6)			31	>100	34	11 5		0	0	
	420 (7)			31	>100	34	11 5		0	0	
	480 (8)			31	>100	34	11 5		0	0	
	540 (9)]
	600 (10)										

Notes

Monitoring order is from left to right across table

Releval	nt Information At Time Of Monitorii	ng			
Monitored by (name, position)	AP				
Atmospheric Pressure (mB)	1003				
Weather	overcast				
Temperature (°C, between 10°C to +40°C only)	8C				
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated			
	Mass Balance Transducer	Last calibrated			
	MiniRAE PID	Last calibrated			
Visible Signs of Vegetation Stress	N/A				
Other Comments / Observations	N/A	<u></u>			
Boreholes Sampled For Laboratory Analysis					

Job No 310826 15 02 2010



Table C2 Ground Gas Monitoring Round Pro Forma Two

Borehole	Time Seconds	Gas Flow	Borehole Pressure	Methane (%v/v)	Methane	Carbon Dıoxıde (%v/v)	Oxygen (%v/v)	Other Gases (ppm)			Depth to Water
	(Minutes)	(l/hr)	(Pa)	(%v/v)	(% LEL *)			PID	H ₂ S	CO	(m bgl)
BH104	0	0	1004	0	0	0	21 2		0	0	
	15			74	>100	4 5	49		0	0]
	30			61	>100	39	68		0	0]
	45			61	>100	39	68		0	0]
	60 (1)			56	>100	36	77		0	0	
	90			51	>100	3 3	87		0	0	
	120 (2)			46	>100	29	97		0	0]
	180 (3)			41	>100	25	11		0	0	
	240 (4)			37	>100	22	12 1		0	0	
	300 (5)			36	>100	21	12 4		0	0	
	360 (6)			33 5	>100	2	13		0	0]
	420 (7)			30	>100	18	13 8		0	0	
	480 (8)			29	>100	18	14		0	0	
	540 (9)			27 5	>100	17	14 4		0	0	
	600 (10)			26 5	>100	16	14 7		0	0	1

Notes

Monitoring order is from left to right across table

Releva	nt Information At Time Of Monitorin	ng					
Monitored by (name, position)	AP						
Atmospheric Pressure (mB)	1004						
Weather	r overcast						
Temperature (°C, between -10°C to +40°C only)	8C						
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated					
	Mass Balance Transducer	Last calibrated					
	MiniRAE PID	Last calibrated					
Visible Signs of Vegetation Stress	N/A						
Other Comments / Observations	N/A						
Boreholes Sampled For Laboratory Analysis							

Job No 310826 - 15 02 2010



				Table C2 Gr	ound Gas Mc	onitoring Round Pro	o Forma Two				
Borehole	Time Seconds (Minutes)		Borehole Pressure (Pa)	Methane (%v/v)	Methane (% LEL *)	Carbon Dıoxıde (%v/v)	Oxygen (%v/v)	PID	Other Gase (ppm) H₂S	s CO	Depth to Water (m bgl)
BH104S	0	10	1003	0	0	0	21 5		Ô	0	
	15			73	>100	52	2	1	0	0	1
	30			65	>100	47	3 9		0	0	1
	45			52	>100	4	64		0	0	
	60 (1)			45	>100	3 5	8 5		0	0	
	90			38 5	>100	26	10 6		0	0	
	120 (2)			34 5	>100	24	114		0	0]]
	180 (3)			21 5	>100	16	14 6		0	0	
	240 (4)			22 5	>100	15	<u> </u>		0	0]
	300 (5)			20	>100	14	15 4		0	0]
	360 (6)			19	>100	1 3	15 7		0	0]
1	420 (7)			17	>100	11	16 4		0	0	
	480 (8)			15 5	>100	1	16 7		0	0	
	540 (9)			15 5	>100	1	167		0	0]
	600 (10)			17	>100	11	16 3		0	0	

Notes

Monitoring order is from left to right across table

Relevan	nt Information At Time Of Monitori	ng				
Monitored by (name, position)	AP					
Atmospheric Pressure (mB)	1003					
Weather	overcast					
Temperature (°C, between 10°C to +40°C only)	3C					
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated				
	Mass Balance Transducer	Last calibrated				
	MiniRAE PID	Last calibrated				
Visible Signs of Vegetation Stress	N/A					
Other Comments / Observations	N/A					
Boreholes Sampled For Laboratory Analysis						

Job No 310826 - 15 02 2010



Table C2 Ground Gas Monitoring Round Pro Forma Two

Borehole	Time Seconds	Gas Flow	Borehole Pressure	Methane	Methane	Carbon Dioxide	Oxygen	0	Other Gase (ppm)	s	Depth to Water
	(Minutes) (I/hr)	(Pa)	(%v/v)	(% LEL *)	(%v/v)	(%v/v)	PID	H ₂ S	CO	(m bgl)	
BH105	0	0 1	1003	0	0	0	21 7		0	0	
	15			75	>100_	26	44		0	0	
	30			65	>100	22	63		0	0	
	45			56	>100	2	77		0	0]
	60 (1)			19 5	>100	18	92		0	0	
	90			15 5	>100	16	10 2		0	0	
	120 (2)			44	>100	16	10 7		0	0	
	180 (3)			39	>100	14	121		0	0	
	240 (4)			33 5	>100	11	13 2		0	0	
	300 (5)			30	>100	1	13 8		0	0	
	360 (6)			27	>100	08	14 7		0	0	
	420 (7)			26	>100	08	15 1		0	0	
	480 (8)			25	>100	08	15 1		0	0]
	540 (9)			23 5	>100	08	15 5		0	0	
	600 (10)			23	>100	07	15 7		0	0	T

Notes

Monitoring order is from left to right across table

Releva	nt Information At Time Of Monitorin	ng					
Monitored by (name, position)	AP						
Atmospheric Pressure (mB)	1003						
Weather	overcast						
Temperature (°C, between -10°C to +40°C only)							
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated					
	Mass Balance Transducer	Last calibrated					
		Last calibrated					
Visible Signs of Vegetation Stress	N/A						
Other Comments / Observations	N/A						
Boreholes Sampled For Laboratory Analysis							

Job No 310826 22 02 2010



Table C2 Ground Gas Monitoring Round Pro Forma Two

Borehole	Time Seconds	Gas Flow	Borehole Pressure	Methane	Methane	Carbon Dioxide	Oxygen		Other Gase (ppm)	es	Depth to Water
	(Minutes)	(l/hr)	(Pa)	(%v/v)	(% LEL *)	(%v/v)	(%v/v)	PID	H₂S	CO	<u>(m bgl)</u>
SBH1	0	0	979	01	0	01	21 7		0	0	
	15			0	0	0 2	21 4		Ō	0	
F	30			0	0	0	21 4		0	0	
	45			0	0	0	21 4		0	0]
	60 (1)			0	0	0	21 4		0	0]
	90			0	0	0	21 4		0	0	
	120 (2)			0	0	0	21 4		0	0	
	180 (3)			0	0	0	21 4		0	0	
	240 (4)]
	300 (5)]
	360 (6)										
	420 (7)]
	480 (8)										
	540 (9)										
	600 (10)										

Notes

Monitoring order is from left to right across table

Releva	nt Information At Time Of Monitoring					
Monitored by (name, position)	AP					
Atmospheric Pressure (mB)	982					
Weather	overcast some showers very windy					
Temperature (°C, between -10°C to +40°C only)						
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated				
	Mass Balance Transducer	Last calibrated				
	MiniRAE PID	Last calibrated				
Visible Signs of Vegetation Stress	N/A					
Other Comments / Observations	N/A					
Boreholes Sampled For Laboratory Analysis						

Job No 310826 - 22 02 2010



Table C2	Ground Gas	Monitoring Round	Pro Forma Two

Borehole	Time Seconds	Gas Flow	Borehole Pressure	Methane (%v/v)	Methane		Oxygen (%v/v)	Other Gases (ppm)			Depth to Water
	(Minutes)	(l/hr)	(Pa)	(%///)	(% LEL *)			PID	H₂S	CO	(m bgl)
SBH2	0	0	982	0	0	01	21 2		0	0	
	15			0	0	06	212		0	0]
	30			0	0	0 5	21 2		0	0	1
	45			0	0	04	21 2		0	0	
	60 (1)			0	0	03	212		0	0	7
	90			0	0	01	21 3		0	0]
	120 (2)			0	0	0	21 3		0	0	
	180 (3)			0	0	0	21 3		0	0	
	240 (4)]
	300 (5)										
	360 (6)										
	420 (7)										
	480 (8)										
	540 (9)										
	600 (10)										

Notes

Monitoring order is from left to right across table

Releva	nt Information At Time Of Monitoring	
Monitored by (name, position)	AP	
Atmospheric Pressure (mB)	982	
Weather	overcast some showers very windy	
Temperature (°C, between -10°C to +40°C only)	1C	
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated
	Mass Balance Transducer	Last calibrated
	MiniRAE PID	Last calibrated
Visible Signs of Vegetation Stress	N/A	
Other Comments / Observations	N/A	
Boreholes Sampled For Laboratory Analysis		

Job No 310826 - 22 02 2010

Time



Depth to

Table C2 Ground Gas Monitoring Round Pro Forma Two Other Gases Borehole Borehole Seconds Gas Flow Carbon Dioxide Methane Oxygen (%v/v) Methane Pressure

Borehole	Seconds	Gas Flow	Pressure	Methane			Oxygen		(ppm)		Water
	(Minutes)		(Pa)	(%v/v)	(% LEL *)	(%v/v)	(%v/v)	PID	H ₂ S	CO	(m bgl)
SBH3	0	14	982	0	0	0	22 1		0	0	
	15			0	0	22	83		0	0	
	30			0	0	26	7 2		0	0	
E	45			0	0	26	71		0	0	
	60 (1)			0	0	26	7		0	0	
F	90			0	0	26	7		0	0	
	120 (2)			0	0	26	7		0	0]
	180 (3)			0	0	26	7		0	0	
	240 (4)			0	0	26	7 1		0	0	
	300 (5)			0	0	2 5	73		0	0	
	360 (6)										
	420 (7)									_	
	480 (8)										
	540 (9)										
	600 (10)										

Notes

Monitoring order is from left to right across table

Releva	nt Information At Time Of Monitorin	g
Monitored by (name, position)	AP	
Atmospheric Pressure (mB)	882	
Weather	overcast some showers very windy	
Temperature (°C, between -10°C to +40°C only)	1C	
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated
	Mass Balance Transducer	Last calibrated
	MiniRAE PID	Last calibrated
Visible Signs of Vegetation Stress	N/A	
Other Comments / Observations	N/A	
Boreholes Sampled For Laboratory Analysis	· · · · · · · · · · · · · · · · · · ·	

Job No 310826 22 02 2010



Table C2 Ground Gas Monitoring Round Pro Forma Two

Borehole	Time Seconds	Gas Flow	Borehole Pressure	Methane	Methane	Carbon Dioxide	Oxygen)ther Gase (ppm)	S	Depth to Water
	(Minutes) ^{(1/}		(Pa)	(%v/v)	(% LEL *)	(%v/v)	(%v/v)	PID	H₂S	CO	(m bgl)
SBH4	0	76	981	0	0	01	21 1		0	0	
F	15			0	0	0	21 3		0	0	
	30			0	0	0	21 4		0	0]
	45			0	0	0	21 4		0	0	
	60 (1)			0	0	0	21 4		0	0	1
	90			0	0	0	21 4		0	0	
	120 (2)			0	0	0	21 4		0	0	
	180 (3)			0	0	0	21 4		0	0]
	240 (4)										
	300 (5)										
\$	360 (6)										
	420 (7)										
ľ	480 (8)										
	540 (9)										
	600 (10)										

Notes

Monitoring order is from left to right across table

Relevar	nt Information At Time Of Monitoring							
Monitored by (name, position)	AP							
Atmospheric Pressure (mB)	82							
Weather	overcast some showers very windy							
Temperature (°C, between -10°C to +40°C only)	1C							
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated						
	Mass Balance Transducer	Last calibrated						
	MiniRAE PID	Last calibrated						
Visible Signs of Vegetation Stress	N/A							
Other Comments / Observations	N/A							
Boreholes Sampled For Laboratory Analysis	······································							

Job No 310826 - 22 02 2010



Table C2 Ground Gas Monitoring Round Pro Forma Two

Borehole	Time Seconds	Gas Flow	Borehole Pressure	Methane (%v/v)	Methane	Carbon Dıoxıde (%v/v)	Oxygen)ther Gase (ppm)	es	Depth to Water (m bgl)
	(Minutes)	(l/hr)	(Pa)	(%V/V)	(% LEL *)		(%v/v)	PID	H₂S	CO	
SBH5	0	0	982	0	0	0 1	21 7		0	0	
	15			0	0	0 2	21 5		0	0	7
	30			0	0	0	21 4		0	0	7
1	45			0	0	0	21 4		0	0	7
	60 (1)			0	0	0	21 4		0	0	7
	90			0	0	0	21 4		0	0	
	120 (2)			0	0	0	21 4		0	0	
	180 (3)			0	0	0	21 4		0	0	
	240 (4)]
	300 (5)]
	360 (6)										
	420 (7)										
	480 (8)										
	540 (9)]
	600 (10)]

Notes

Monitoring order is from left to right across table

Releva	nt Information At Time Of Monitoring	
Monitored by (name, position)	AP	
Atmospheric Pressure (mB)	982	
Weather	overcast some showers very windy	
Temperature (°C, between 10°C to +40°C only)	1C	
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated
	Mass Balance Transducer	Last calibrated
	MiniRAE PID	Last calibrated
Visible Signs of Vegetation Stress	N/A	
Other Comments / Observations	N/A	
Boreholes Sampled For Laboratory Analysis		

Job No 310826 - 22 02 2010



Table C2	Ground Ga	s Monitoring	Round Pro	Forma Two
----------	-----------	--------------	-----------	-----------

Borehole	Time Seconds	onds Gas Flow	Droceuro	i Methane			Oxygen (%v/v)	Other Gases (ppm)			Depth to Water
	(Minutes)	(l/hr)	(Pa)	(%V/V)		(%V/V)	(%V/V)	PID	H ₂ S	CO	(m bgl)
BH104	0	29	981	0	0	0	21 1		0	0	
	15			50	>100	16	94		0	0]
	30			46	>100	14	10 4		0	0	
	45			42	>100	13	10 7		0	0	
	60 (1)			39	>100	1 2	11 7		0	0	7
	90			37	>100	11	12 2		0	0	7
	120 (2)			35 5	>100	1	12 8		0	0	7
	180 (3)			30	>100	08	14		0	0	1
	240 (4)			25 5	>100	0 7	14 7				7
	300 (5)			25	>100	07					1
I	360 (6)			25	>100	06					1
	420 (7)			22	>100	06]
	480 (8)			22	>100	0 6]
	540 (9)			20	>100	06					
	600 (10)			20	>100	06					ך

Notes

Monitoring order is from left to right across table

Relevan	nt Information At Time Of Monitorin	ng
Monitored by (name, position)	AP	
Atmospheric Pressure (mB)	982	
Weather	overcast some showers very windy	
Temperature (°C, between -10°C to +40°C only)	1C	
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated
	Mass Balance Transducer	Last calibrated
	MiniRAE PID	Last calibrated
Visible Signs of Vegetation Stress	N/A	<u></u>
Other Comments / Observations	N/A	
Boreholes Sampled For Laboratory Analysis		

Job No 310826 22 02 2010



Table C2 Ground Gas Monitoring Round Pro Forma Two

Borehole	Time Seconds (Minutes)	Gas Flow	Borehole Pressure	Methane	J I I	Oxygen (%v/v)	Other Gases (ppm)			Depth to Water	
			(Pa)	(%v/v)		(%%/%)	(%V/V)	PID	H₂S	CO	(m bgl)
SBH7	0	3 5	982	0	0	0	21 7		0	0	
	15			0	0	0	21 5		0	0]
	30			0	0	0	21 4		0	0	
	45			0	0	0	21 4		0	0	
l	60 (1)			0	0	0	21 4		0	0]
	90			0	0	0	21 4		0	0]
	120 (2)			0	0	0	21 4		0	0	
	180 (3)			0	0	0	21 4		0	0	
	240 (4)										
	300 (5)										
	360 (6)										
	420 (7)										
	480 (8)										
	540 (9)										
	600 (10)										

Notes

Monitoring order is from left to right across table

Relevan	nt Information At Time Of Monitoring	g				
Monitored by (name, position)	AP					
Atmospheric Pressure (mB)	982					
Weather	overcast some showers very windy					
Temperature (°C, between 10°C to +40°C only)	1C					
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated				
	Mass Balance Transducer	Last calibrated				
	MiniRAE PID	Last calibrated				
Visible Signs of Vegetation Stress	N/A					
Other Comments / Observations	N/A					
Boreholes Sampled For Laboratory Analysis						

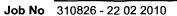




Table C2 Ground Gas Monitoring Round Pro Forma Two

Borehole	Time Seconds	Gas Flow	Borehole Pressure	Methane	Methane	Carbon Dioxide	Oxygen	0	Other Gase (ppm)	S	Depth to Water
	(Minutes)	(l/hr)	(Pa)	(%v/v)	(% LEL *)	(%v/v)	(%v/v)	PID	H₂S	CO	(m bgl)
SBH8	0	22 4	981	02	0	0	21 2		0	0	
	15			60	>100	3	37		0	0	7
P	30			63	>100	31	29		0	0	
	45			62	>100	3	28		0	0	7
	60 (1)			60	>100	29	34		0	0	
	90			59	>100	29	36		0	0	7
	120 (2)			52	>100	24	56		0	0	7
	180 (3)			48 5	>100	2 2	73		0	0	7
1	240 (4)			39 5	>100	18	9 2		0	0	7
	300 (5)			34	>100	16	11		0	0	
0	360 (6)			26	>100	1	13 8		0	0	
	420 (7)			19 5	>100	0 8	15.4		0	0	
	480 (8)			15 5	>100	06	16 8		0	0]
	540 (9)			10 5	>100	04	18 2		0	0]
	600 (10)			77	>100	03	19 1		0	0	

Notes

Monitoring order is from left to right across table

Relevan	nt Information At Time Of Monitoring	
Monitored by (name, position)	AP	
Atmospheric Pressure (mB)	982	
Weather	overcast some showers very windy	
Temperature (°C, between -10°C to +40°C only)	1C	
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated
	Mass Balance Transducer	Last calibrated
	MiniRAE PID	Last calibrated
Visible Signs of Vegetation Stress	N/A	
Other Comments / Observations	N/A	
Boreholes Sampled For Laboratory Analysis		

Job No 310826 22 02 2010



Table C2 Ground Gas Monitoring Round Pro Forma Two

Borehole	Time Seconds (Minutes)	Gas Flow	Borehole Pressure	i Mothana	Methane Carbon Dioxide (% LEL *) (%v/v)	Oxygen (%v/v)	Other Gases (ppm)			Depth to Water	
		(1/nr)	(Pa)			(%V/V)	(%V/V)	PID	H ₂ S	CO	(m bgl)
BH1D	0	85	979	37	>100	31	6		0	0	
	15			39	>100	61	15		Ō	0	
	30			39	>100	62	09		0	0	
	45			38 5	>100	62	08		0	0	
	60 (1)			38 5	>100	61	08		0	0	
	90			38 5	>100	61	08		0	0	
	120 (2)			38 5	>100	6	08		0	0]
	180 (3)			38 5	>100	59	09		0	0	
	240 (4)			38	>100	58	1		0	0	
	300 (5)			38	>100	57	1		Ō	0	
	360 (6)			38	>100	56	11		0	0]
	420 (7)			38 5	>100	56	12		0	0	
	480 (8)			38	>100	54	13		0	0	
	540 (9)			38	>100	54	13		0	0	
	600 (10)			38	>100	54	13		0	Ö	7

Notes

Monitoring order is from left to right across table

Releva	nt Information At Time Of Monitoring	
Monitored by (name, position)	AP	
Atmospheric Pressure (mB)	982	
Weather	overcast some showers very windy	
Temperature (°C, between -10°C to +40°C only)	1C	
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated
	Mass Balance Transducer	Last calibrated
	MiniRAE PID	Last calibrated
Visible Signs of Vegetation Stress	N/A	
Other Comments / Observations	N/A	
Boreholes Sampled For Laboratory Analysis		



Job No 310826 22 02 2010

Table C2 Ground Gas Monitoring Round Pro Forma Two	,
--	---

Borehole	Seconde	Gas Flow	Borehole Pressure	Methane	Methane	Carbon Dioxide	Oxygen		Other Gase (ppm)	S	Depth to Water
	(Minutes)		(Pa)	(%v/v)	(% LEL *)	(%v/v)	(%v/v)	PID	H₂S	СО	(m bgl)
BH1S	0	-7 9	979	0	0	0	21 7		0	_ 0	
	15			39	>100	3 5	6 1		0	0	
	30			42 5	>100	38	53		0	0	7
	45			42 5	>100	38	5 2		0	_ 0	7
	60 (1)			42 5	>100	37	5 2		0	0	7
	90			42	>100	36	54		0	0	7
	120 (2)			41	>100	36	5 5		0	0	7
	180 (3)			40 5	>100	36	58		0	0	7
	240 (4)			39 5	>100	34	6		0	0	7
	300 (5)			39	>100	34	6 1		0	0	7
	360 (6)			38 5	>100	3 5	6 2		0	0	
	420 (7)			38	>100	34	6 2		0	0	
	480 (8)			37 5	>100	36	6		0	0	7
	540 (9)			36 5	>100	36	59		0	0	
	600 (10)			36 5	>100	36	5 9		0	0	7

Notes

Monitoring order is from left to right across table

Relevar	nt Information At Time Of Monitorin	g					
Monitored by (name, position)	AP						
Atmospheric Pressure (mB)	982						
Weather	overcast some showers very windy						
Temperature (°C, between -10°C to +40°C only)) 1C						
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated					
	Mass Balance Transducer	Last calibrated					
	MiniRAE PID	Last calibrated					
Visible Signs of Vegetation Stress	N/A						
Other Comments / Observations	N/A	· · · · · · · · · · · · · · · · · · ·					
Boreholes Sampled For Laboratory Analysis							

Job No <u>310826</u> 22 02 2010



Table C2 Ground Gas Monitoring Round Pro Forma Two

Borehole	Time Seconds	Conds Gas Flow	Gas Flow (I/hr) Borehole Pressure		Methane	1 I I	Oxygen	Other Gases (ppm)			Depth to Water
	(Minutes)	(I/nr)	(Pa)	(%v/v)	(% LEL *)	(%v/v)	(%v/v)	PID	H₂S	CO	(m bgl)
BH2D	0	28	981	0	0	01	21 5		0	0	
	15	_		0	0	0 7	20 2		0	0	
	30			0	0	0 7	20 2		0	0	
	45			0	0	0 7	20 2		0	0]
	60 (1)			0	0	06	20 3		0	0	
	90			0	0	06	20 4		0	0	
	120 (2)			0	0	0 5	20 4		0	0	
	180 (3)			0	0	0 5	20 4		0	0	
	240 (4)										
	300 (5)										
	360 (6)										
	420 (7)										
	480 (8)										
	540 (9)			_]
	600 (10)										

Notes

Monitoring order is from left to right across table

Relevar	nt Information At Time Of Monitorin	ng					
Monitored by (name, position)	AP						
Atmospheric Pressure (mB)	982						
Weather	r overcast some showers very windy						
Temperature (°C, between -10°C to +40°C only)	1C						
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated					
	Mass Balance Transducer	Last calibrated					
	MiniRAE PID	Last calibrated					
Visible Signs of Vegetation Stress	N/A						
Other Comments / Observations	N/A						
Boreholes Sampled For Laboratory Analysis		<u> </u>					





Table C2 Ground Gas Monitoring Round Pro Forma Two

Borehole	Time Seconds	econds Gas Flow	Proceilira	Methane Methane (%v/v) (% LEL *)	Carbon Dioxide	Oxygen	Other Gases (ppm)			Depth to Water	
	(Minutes)				(% LEL ^)	(%v/v)	(%v/v)	PID	H ₂ S	CO	(m bgl)
BH2S	0	11 2	981	0	0	01	21 5		0	10	
	15			0	0	0 2	21 2		0	0	
	30			0	0	0 1	21 2		0	0	
	45			0	0	01	21 2		0	0	1
	60 (1)			0	0	01	21 2		0	0	
	90			0	0	01	21 2		0	0]
	120 (2)			0	0	01	21 3		0	0]
i	180 (3)			0	0	01	21 3		0	0	
	240 (4)										
	300 (5)										
	360 (6)										
	420 (7)										
	480 (8)										
	540 (9)										
	600 (10)										

Notes

Monitoring order is from left to right across table

Releva	nt Information At Time Of Monitoring	g					
Monitored by (name, position)	AP						
Atmospheric Pressure (mB)	982						
Weather	overcast some showers very windy						
Temperature (°C, between 10°C to +40°C only)) 1C						
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated					
	Mass Balance Transducer	Last calibrated					
	MiniRAE PID	Last calibrated					
Visible Signs of Vegetation Stress	N/A						
Other Comments / Observations	N/A						
Boreholes Sampled For Laboratory Analysis							

Job No <u>310826 - 22 02 2010</u>



Table C2 Ground Gas Monitoring Round Pro Forma Two

Borehole Se	Time Seconds (Minutes)	Gas Flow	Borehole Pressure	Methane		Carbon Dioxide	Oxygen (%v/v)	Other Gases (ppm)			Depth to Water
		(l/nr) (Pa)	(%v/v) ((% LEL *)	(%v/v)	(%0//0)	PID	H₂S	CO	(m bgl)	
BH3D	0	-0 1	982	0	0	0	21 6		0	0	
	15			69	>100	0 2	19 3		0	0	
	30			65	>100	0 2	19 3		0	0	
1	45			57	>100	01	19 6		0	0]
	60 (1)			5 2	>100	0 1	19 7		0	0	
	90			4 6	92 9	0 1	20		0	0	
	120 (2)			43	89 8	01	20		0	0	
	180 (3)			37	72 5	0	20 3		0	0	
	240 (4)			3 5	746	0	20 4		0	0	
	300 (5)			29	59	0	20 6		0	0	
	360 (6)			27	51 3	0	20 6		0	0	
	420 (7)			18	36 8	0	20 9		0	0	
	480 (8)			19	37 1	0	20 9		0	0]
	540 (9)			17	38 2	0	20 9		0	0]
	600 (10)			17	34 2	0	20 9		0	0	1

Notes

Monitoring order is from left to right across table

Releva	Relevant Information At Time Of Monitoring									
Monitored by (name, position)	AP									
Atmospheric Pressure (mB)	982									
Weather	overcast some showers very windy									
Temperature (°C, between -10°C to +40°C only)	1C									
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated								
	Mass Balance Transducer	Last calibrated								
	MiniRAE PID	Last calibrated								
Visible Signs of Vegetation Stress	N/A									
Other Comments / Observations	N/A									
Boreholes Sampled For Laboratory Analysis										

Job No 310826 22 02 2010



Table C2 Ground Gas Monitoring Round Pro Forma Two

Borehole Sec	Time Seconds	Seconds Gas Flow	Borehole Pressure	Methane	Methane	Carbon Dioxide	Oxygen		Other Gase (ppm)	es	Depth to Water
	(Minutes)		(^(/////) (Pa)	(%v/v)	(% LEL *)	(%v/v)	(%v/v)	PID	H₂S	CO	(m bgl)
BH3S	0	0	982	0	0	0	21 2		0	0	
	15			54	65	2	76		0	0	
	30			6	64 3	2 2	7 2		0	0	
	45			6	65 7	22	7 1		0	0	
	60 (1)			59	63 9	2 2	71		0	0	
	90			6	63 7	2 2	7 1		0	0	
	120 (2)			6 1	63 5	2 2	7		0	0	
	180 (3)			6 1	64 1	22	7		0	0	
I	240 (4)			6	62 5	21	7		0	0	
	300 (5)			54	53 9	2	7 2		0	0	
	360 (6)			4 3	46 6	2	74		0	0	
	420 (7)			37	40 1	19	79		0	0	
	480 (8)			3 1	36 5	18	86		0	0	
F	540 (9)			28	35 7	17	94		0	0	
	600 (10)			24	33 6	17	99		0	0	7

Notes

Monitoring order is from left to right across table

Releva	nt Information At Time Of Monitoring						
Monitored by (name, position)	AP						
Atmospheric Pressure (mB)	982						
Weather	overcast some showers very windy						
Temperature (°C, between -10°C to +40°C only)	10						
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated					
	Mass Balance Transducer	Last calibrated					
	MiniRAE PID	Last calibrated					
Visible Signs of Vegetation Stress	N/A	· · · · · · · · · · · · · · · · · · ·					
Other Comments / Observations	N/A						
Boreholes Sampled For Laboratory Analysis							

Job No 310826 - 22 02 2010



Table C2	Ground	Gas	Monitoring	Round	Pro	Forma	Two

Borehole	Time Seconds	Gas Flow	Borehole Pressure	Methane	Methane	Carbon Dioxide	Oxygen		Other Gase (ppm)	S	Depth to Water
	(Minutes)	(l/hr)	(Pa)	(%v/v)	(% LEL *)	(%v/v)	(%v/v)	PID	H ₂ S	СО	(m bgl)
BH101	0	-09	982	0	0	0	21 4		0	0	
	15			05	12 8	08	20 5		0	0	
	30			05	11 2	0 7	20 7		0	0	
	45			04	84	0 5	20 9		0	0	
	60 (1))		03	55	04	21 6		0	0	
	90			0 2	33	03	21 1		0	0	
	120 (2)			0	14	0 2	21 2		0	0	
	180 (3)			0	0	0	21 3		0	0	
	240 (4)			0	0	0	21 3		0	0	
	300 (5)			0	0	0	21 3		0	0	
	360 (6)										
	420 (7)]
	480 (8)										
	540 (9)]
	600 (10)										

Notes

Monitoring order is from left to right across table Monitoring should be for not less than 3 minutes. However, if high concentrations of gases initially recorded monitoring should be for up to 10 minutes. * LEL = Lower Explosive Limit = 5%v/v

Relevan	nt Information At Time Of Monitorin	g					
Monitored by (name, position)	AP						
Atmospheric Pressure (mB)	982						
Weather	er overcast some showers very windy						
Temperature (°C, between 10°C to +40°C only)	1C						
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated					
	Mass Balance Transducer	Last calibrated					
	MiniRAE PID	Last calibrated					
Visible Signs of Vegetation Stress	N/A						
Other Comments / Observations	N/A						
Boreholes Sampled For Laboratory Analysis							



Job No 310826 - 22 02 2010

Table C2	Ground Gas	Monitoring	Round	Pro Forma 1	ľwo

\$

Borehole	Time Seconds	Gas Flow	Borehole Pressure	Methane	Methane	Carbon Dioxide	Oxygen)ther Gase (ppm)	S	Depth to Water
	(Minutes)	(l/hr)	(Pa)	(%v/v)	(% LEL *)	(%v/v)	(%v/v)	PID	H₂S	CO	(m <u>bgl</u>)
BH104	0	0 2	982	0 1	0	0	218		0	0	
	15			26	>100	01	20 8		0	0	
	30			3 1	>100	0	20 8		0	0	
	45			23	>100	01	20 7		0	0	
1	60 (1)			2 5	>100	0	20 8		0	0	
ĺ	90			29	>100	0	20 7		0	0	
	120 (2)			2 2	>100	0	20 8		0	0	
	180 (3)			21	>100	0	20 9		0	0	
	240 (4)			2	>100	0	20 9		0	0	
	300 (5)			2	>100	0	20 9		0	0	7
	360 (6)]
	420 (7)										
	480 (8)										
	540 (9)										
	600 (10)										

Notes

Monitoring order is from left to right across table

Releva	nt Information At Time Of Monitoring	
Monitored by (name, position)	AP	
Atmospheric Pressure (mB)	982	
Weather	overcast some showers very windy	
Temperature (°C, between -10°C to +40°C only)	1C	
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated
	Mass Balance Transducer	Last calibrated
	MiniRAE PID	Last calibrated
Visible Signs of Vegetation Stress	N/A	
Other Comments / Observations	N/A	······································
Boreholes Sampled For Laboratory Analysis		

Job No 310826 22 02 2010



Table C2 Ground Gas Monitoring Round Pro Forma Two

Borehole	Time Seconds	Gas Flow	Borehole Pressure	Methane	Methane	Carbon Dioxide	Oxygen		Other Gase (ppm)	S	Depth to Water
	(Minutes)	(l/hr)	(Pa)	(%v/v)	(% LEL *)	(%v/v)	(%v/v)	PID	H₂S	CO	(m bgl)
BH103	0	24 9	982	0	0	0	21 6		Ō	0	
	15			78	>100	66	2 5		0	0	
	30			78	>100	66	21		0	0	
	45			78	>100	65	2 1		0	0	
	60 (1)			78	>100	6 5	2		0	0	
	90			77	>100	6 5	2		0	0	
	120 (2)			77	>100	64	22		0	0	
	180 (3)			76	>100	63	24		_0	0	
	240 (4)			74	>100	62	28		0	0	
	300 (5)			72	>100	61	32		0	0	
	360 (6)			71	>100	6	3 4		0	0	
	420 (7)			71	>100	6	3 5		0	0	
	480 (8)			69	>100	59	38		0	0	
	540 (9)			69	>100	59	39		_0	0]
	600 (10)			68	>100	58	41		0	0	

Notes

Monitoring order is from left to right across table

Relevan	nt Information At Time Of Monitorin	ng
Monitored by (name, position)	AP	
Atmospheric Pressure (mB)	982	
Weather	overcast some showers very windy	
Temperature (°C, between -10°C to +40°C only)	1C	
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated
	Mass Balance Transducer	Last calibrated
	MiniRAE PID	Last calibrated
Visible Signs of Vegetation Stress	N/A	
Other Comments / Observations	N/A	
Boreholes Sampled For Laboratory Analysis		

Job No 310826 - 22 02 2010



Table C2 Ground Gas Monitoring Round Pro Forma Two

Borehole	Time Seconds	Gas Flow	Borehole Pressure	Methane	Methane	Carbon Dioxide	Oxygen		Other Gase (ppm)	S	Depth to Water
	(Minutes)	()/nr)	(Pa)	(%v/v)	(% LEL *)	(%v/v)	(%v/v)	PID	H₂S	CO	(m bgl)
BH102	0	0 2	982	0	0	0	21 1		0	0	
	15			04	73	0.6	19 3		0	0	
	30			03	62	04	19 7		0	0	7
	45			0 2	39	04	20 1		0	0	7
	60 (1)			0 2	38	04	20 1		0	0	
	90			0 1	24	03	20 3		0	0	
	120 (2)			0 1	23	03	20 4		0	0	7
	180 (3)			0 1	18	03	20 5		0	0	1
	240 (4)			0	07	0 2	20 6				7
	300 (5)			0 1	01	0 3	20 4				7
	360 (6)										
	420 (7)										7
	480 (8)										
	540 (9)]
	600 (10)										7

Notes

Monitoring order is from left to right across table

Releva	nt Information At Time Of Monitoring	
Monitored by (name, position)	AP	
Atmospheric Pressure (mB)	982	
Weather	overcast some showers very windy	
Temperature (°C, between 10°C to +40°C only)	1C	
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated
	Mass Balance Transducer	Last calibrated
	MiniRAE PID	Last calibrated
Visible Signs of Vegetation Stress	N/A	
Other Comments / Observations	N/A	
Boreholes Sampled For Laboratory Analysis		

Job No 310826 22 02 2010



Table C2 Ground Gas Monitoring Round Pro Forma Two

Borehole	Time Seconds	Gas Flow	Borehole Pressure	Methane	Methane	Carbon Dioxide	Oxygen	(Other Gase (ppm)	s	Depth to Water
	(Minutes)	(l/hr)	nr) (Pa)	(%v/v)	(% LEL *)	(%v/v)	(%v/v)	PID	H ₂ S	CO	(m bgl)
BH105	0	-2 9	981	0	0	0	21 1		0	0	
	15			50	>100	16	94		0	0	
	30			46	>100	14	10 4		0	0	
	45			42	>100	13	10 7		0	0]
	60 (1)			39	>100	1 2	11 7		0	0	
	90			37	>100	11	12 2		0	0	
	120 (2)			35 5	>100	1	12 8		0	0	
	180 (3)			30	>100	08	14		0	0	
	240 (4)			25 5	>100	0 7	14 7		0	0	
	300 (5)	1		25	>100	07	15 3		0	0	
	360 (6)			25	>100	06	15 5		0	0	
	420 (7)			22	>100	06	16 1		0	0	
	480 (8)	1		22	>100	06	16		0	0	
	540 (9)			20	>100	06	16 4		0	0	
	600 (10)			20	>100	06	16 6		0	0	

Notes

Monitoring order is from left to right across table

Releva	nt Information At Time Of Monitoring	
Monitored by (name, position)	AP	
Atmospheric Pressure (mB)	982	
Weather	overcast some showers very windy	
Temperature (°C, between -10°C to +40°C only)	1C	
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated
	Mass Balance Transducer	Last calibrated
	MiniRAE PID	Last calibrated
Visible Signs of Vegetation Stress	N/A	
Other Comments / Observations	N/A	
Boreholes Sampled For Laboratory Analysis		······

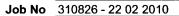




Table C2 Ground Gas Monitoring Round Pro Forma Two

Borehole	Time Seconds	Gas Flow	Borehole Pressure	Methane	Methane	Carbon Dioxide	Oxygen		Other Gase (ppm)	es.	Depth to Water
	(Minutes)	(I/nr)	(l/hr) (Pa)	(%v/v)	(% LEL *)	(%v/v)	(%v/v)	PID	H₂S	СО	(m bgl)
BH104S	0	15	982	0	0	0	21 5		0	0	
	15			76	>100	54	11		0	0	7
	30			72	>100	51	26		0	0	
	45			65	>100	46	38		0	0	
	60 (1)			58	>100	44	4 2		0	0]
	90			52	>100	39	68		0	0	
	120 (2)			47	>100	37	77		0	0	
	180 (3)			39	>100	3	99		0	0	
	240 (4)			32 5	>100	23	12		0	0	
	300 (5)			29 5	>100	21	13		0	0	
	360 (6)			28 5	>100	2	13 4		0	0	
	420 (7)			27	>100	10 9	13 6		0	0	
	480 (8)			26 5	>100	19	13 9		0	0]
	540 (9)			27	>100	19	13 7		0	0	
	600 (10)			28 5	>100	2	13 4		0	0	

Notes

Monitoring order is from left to right across table

Releva	nt Information At Time Of Monitorin	g
Monitored by (name, position)	AP	
Atmospheric Pressure (mB)	982	
Weather	overcast some showers very windy	
Temperature (°C, between -10°C to +40°C only)	1C	
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated
	Mass Balance Transducer	Last calibrated
	MiniRAE PID	Last calibrated
Visible Signs of Vegetation Stress	N/A	
Other Comments / Observations	N/A	
Boreholes Sampled For Laboratory Analysis		· · ·

Job No 310826 - 08 03 2010



Table C2 Ground Gas Monitoring Round Pro Forma Two

Borehole	Time Seconds	Gas Flow	Borehole Pressure	Methane	Methane	Carbon Dioxide	Oxygen		Other Gase (ppm)	es	Depth to Water
	(Minutes)		(%v/v)	(% LEL *)	(%v/v)	(%v/v)	PID	H₂S	CO	(m bgl)	
BH1D	0	81	1028	34	0	18	16 1		Ö	0	
	15			16	>100	39	6 1		0	0	
	30			42 5	>100	48	36		0	_0	
	45			48	>100	56	2 2		0	0	
	60 (1)			47 5	>100	54	2 5		0	0	
	90			45 5	>100	5 2	3 1		0	0	
	120 (2)			44	>100	49	3 5		0	0	
	180 (3)			42	>100	46	4 2		0	0	
	240 (4)			40 5	>100	44	4 8		0	0	
	300 (5)			39 5	>100	4 5	4 9		0	0	
	360 (6)			36 5	>100	4 6	46		0	0]
	420 (7)			35	>100	46	4 9		0	0]
	480 (8)			33	>100	46	49		0	0	
	540 (9)			31 5	>100	4 5	5 3		0	0	
	600 (10)			30 5	>100	4 5	56		0	0	

Notes

Monitoring order is from left to right across table

Releva	nt Information At Time Of Monitorir	ng
Monitored by (name, position)	AP	
Atmospheric Pressure (mB)	1030 7	
Weather	SUNNY CLEAR WINDY COLD	
Temperature (°C, between -10°C to +40°C only)	1C	
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated
	Mass Balance Transducer	Last calibrated
	MiniRAE PID	Last calibrated
Visible Signs of Vegetation Stress	N/A	
Other Comments / Observations	N/A	
Boreholes Sampled For Laboratory Analysis		

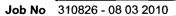




Table C2 Ground Gas Monitoring Round Pro Forma Two

Borehole	Time Seconds (Minutes)	Gas Flow	Borehole Pressure	Methane	Methane	Carbon Dioxide	Oxygen	(Other Gase (ppm)	S	Depth to Water
		(<i>i/nr</i>)	(Pa)	(%v/v)	(% LEL *)	(%v/v)	(%v/v)	PID	H ₂ S	CO	(m bgl)
BH1S	0	10	1028	0	0	0	21 9		0	0	
	15			22 5	>100	43	6 1		0	0]
	30			24	>100	4 6	54		0	0	
	45			24 5	>100	46	4 9		0	0	
	60 (1)			25 5	>100	48	39		0	0	
	90			26	>100	49	3 4		0	0	
	120 (2)			27	>100	51	2 9		0	0	
	180 (3)			27 5	>100	51	23		0	0	
	240 (4)			28 5	>100	53	21		0	0]
	300 (5)			29	>100	54	2		0	0	
	360 (6)			29 5	>100	54	2		0	0	
-	420 (7)			29 5	>100	53	2		0	0	
	480 (8)			29 5	>100	54	2		0	0	
	540 (9)			29 5	>100	52	2		0	0	
	600 (10)			29 5	>100	53	2 1		0	0	

Notes

Monitoring order is from left to right across table

Releva	nt Information At Time Of Monitorin	g
Monitored by (name, position)	AP	
Atmospheric Pressure (mB)	1030 7	
Weather	SUNNY CLEAR WINDY COLD	
Temperature (°C, between 10°C to +40°C only)	1C	
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated
	Mass Balance Transducer	Last calibrated
	MiniRAE PID	Last calibrated
Visible Signs of Vegetation Stress	N/A	
Other Comments / Observations	N/A	
Boreholes Sampled For Laboratory Analysis		

Job No 310826 - 08 03 2010



Table C2 Ground Gas Monitoring Round Pro Forma Two

Borehole	Time Seconds (Minutes)	Gas Flow	Borehole Pressure	Methane	Methane	Carbon Dioxide	Oxygen		Other Gase (ppm)	S	Depth to Water
		(i/nr)	(Pa)	(%v/v)	(% LEL *)	(%v/v)	(%v/v)	PID	H₂S	CO	(m bgl)
BH2D	0	0 2	1028	0	0	0	21 7		0	0	
	15			0	0	1	19 6		0	0	
	30			0	0	1 2	19 5		0	0	
	45	1		0	0	11	19 6		0	0	
	60 (1)			0	0	11	19 6		0	0	
	90			0	0	1	19 7		0	0	
	120 (2)			0	0	08	19 9		0	0	
	180 (3)			0	0	08	20		0	0	
	240 (4)										
	300 (5)										
	360 (6)										
	420 (7)										
	480 (8)										
	540 (9)										
	600 (10)										

Notes

Monitoring order is from left to right across table

Releva	nt Information At Time Of Monitor	ing				
Monitored by (name, position)	AP					
Atmospheric Pressure (mB)	1030 7					
Weather	SUNNY CLEAR WINDY COLD					
Temperature (°C, between 10°C to +40°C only)	1C					
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated				
	Mass Balance Transducer	Last calibrated				
	MiniRAE PID	Last calibrated				
Visible Signs of Vegetation Stress	N/A					
Other Comments / Observations	N/A					
Boreholes Sampled For Laboratory Analysis						

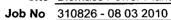




Table C2 Ground Gas Monitoring Round Pro Forma Two

Borehole	Seconde	onds Gas Flow Pressure	Borehole Pressure	Methane	Methane		Oxygen		Other Gase (ppm)	es	Depth to Water
	(Minutes)		(Pa)	(%v/v)	(% LEL *)	(%v/v)	(%v/v)	PID	H ₂ S	co	(m bgl)
BH2S	0	03	1028	0	0	0	21 6		0	0	
	15			0	0	0	21 4		0	0	
	30			0	0	0	21 4		0	0	7
	45			0	0	0	21 4		0	0	7
	60 (1)			0	0	0	21 4		0	0	7
	90			0	0	0	21 3		0	0	7
	120 (2)			0	0	0	21 4		0	0	7
	180 (3)			0	0	0	21 4		0	0	
	240 (4)										
	300 (5)										
	360 (6)										
	420 (7)	:									
	480 (8)										
	540 (9)										
	600 (10)										

Notes

Monitoring order is from left to right across table

Releva	nt Information At Time Of Monitoring	
Monitored by (name, position)	AP	
Atmospheric Pressure (mB)	1030 7	
Weather	SUNNY CLEAR WINDY COLD	
Temperature (°C, between -10°C to +40°C only)	1C	
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated
	Mass Balance Transducer	Last calibrated
	MiniRAE PID	Last calibrated
Visible Signs of Vegetation Stress	N/A	• • • • • • • • • • • • • • • • • • •
Other Comments / Observations	N/A	
Boreholes Sampled For Laboratory Analysis		

Job No 310826 08 03 2010



Table C2 Ground Gas Monitoring Round Pro Forma Two

Borehole	Time Seconds	Gas Flow	Borehole Pressure	Methane	Methane	Carbon Dioxide	Oxygen		Other Gase (ppm)	S	Depth to Water
	(Minutes)		(%v/v)	(% LEL *)	(%v/v)	(%v/v)	PID	H₂S	CO	(m bgl)	
BH3D	0	01	1028	0	0	0	21 6		0	0	
	15			0 5	97	0 2	20 7		0	0	
	30			04	8	0 1	20 8	_	0	0]
	45			03	65	0 1	20 9		0	0	
	60 (1)			0 2	48	0	20 9		0	0	
	90			0 2	34	0	21		0	0	
	120 (2)			0 1	19	0	21		0	0	
	180 (3)			0	03	0	21 1		0	0	
	240 (4)			0	0	0	21 1		0	0	
	300 (5)			0	0	0	21 2		0	0	
	360 (6)								0	0	
	420 (7)								0	0	
	480 (8)								0	0	
	540 (9)								0	0]
	600 (10)								0	0	

Notes

Monitoring order is from left to right across table

Releva	nt Information At Time Of Monitorir	ng				
Monitored by (name, position)	AP					
Atmospheric Pressure (mB)	1030 7					
Weather	SUNNY CLEAR WINDY COLD					
Temperature (°C, between -10°C to +40°C only)	1C					
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated				
	Mass Balance Transducer	Last calibrated				
	MiniRAE PID	Last calibrated				
Visible Signs of Vegetation Stress	N/A					
Other Comments / Observations	N/A					
Boreholes Sampled For Laboratory Analysis						

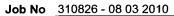




Table C2 Ground Gas Monitoring Round Pro Forma Two

Borehole	Seconds Ga	econds Gas Flow	Borehole Pressure	Methane	Methane	Carbon Dioxide	Oxygen		Other Gase (ppm)	S	Depth to Water
	(Minutes)		1 (1/11/1) 1	(Pa)	(%v/v)	(% LEL *)	(%v/v)	(%v/v)	PID	H₂S	CO
BH3S	0	0	1028	0	0	0	21 7		0	0	
	15			0	0	3 5	15 5		0	0	
F	30			0	0	39	14 7		0	0	
	45			0	0	4	14 8		0	0	
	60 (1)			0	0	39	14 8		0	0	
	90			0	0	4	14 8		0	0	
	120 (2)			0	0	4	14 5		0	0	
	180 (3)			0	0	4	14 5		0	0]
	240 (4)			0	0	4	14 6		0	0	
	300 (5)			0	0	4	14 6		0	0	
	360 (6)			-							
	420 (7)										
ľ	480 (8)										
	540 (9)										
	600 (10)										

Notes

Monitoring order is from left to right across table

Releva	nt Information At Time Of Monitorin	g
Monitored by (name, position)	AP	
Atmospheric Pressure (mB)	1030 7	
Weather	SUNNY CLEAR WINDY COLD	
Temperature (°C, between -10°C to +40°C only)	1C	
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated
	Mass Balance Transducer	Last calibrated
	MiniRAE PID	Last calibrated
Visible Signs of Vegetation Stress	N/A	
Other Comments / Observations	N/A	· · · ·
Boreholes Sampled For Laboratory Analysis		

Job No 310826 - 08 03 2010



Table C2 Ground Gas Monitoring Round Pro Forma Two

Borehole	Time Seconds	Gas Flow	Borehole Pressure	Methane	Methane (% LEL *)	Carbon Dioxide	Oxygen (%v/v)		Other Gase (ppm)	S	Depth to Water
	(Minutes)	(///٢)	(l/hr) (Pa)	(%v/v)	(% LEL)	(%v/v)	(76V/V)	PIÐ	H ₂ S	CO	(m bgl)
BH101	0	-0 4	1028	0 1	14	0	21 6		0	0	
	15			03	62	0 4	20 9		0	0	
	30			03	61	04	20 8		0	0	
	45			0 2	54	04	20 9		0	0	
	60 (1)			0 2	5 1	04	20 9		0	0	
	90			0 2	39	03	21		0	0	
	120 (2)			0 1	35	03	21		0	0	
	180 (3)			0 1	29	0 2	21		0	0]
	240 (4)										
	300 (5)]
	360 (6)										
	420 (7)										
	480 (8)										
	540 (9)										
	600 (10)										

Notes

Monitoring order is from left to right across table

Releva	nt Information At Time Of Monitori	ng
Monitored by (name, position)	AP	
Atmospheric Pressure (mB)	1030 7	
Weather	SUNNY CLEAR WINDY COLD	
Temperature (°C, between 10°C to +40°C only)	1C	
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated
	Mass Balance Transducer	Last calibrated
	MiniRAE PID	Last calibrated
Visible Signs of Vegetation Stress	N/A	······································
Other Comments / Observations	N/A	
Boreholes Sampled For Laboratory Analysis		

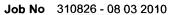




Table C2 Ground Gas Monitoring Round Pro Forma Two

Borehole	Time Seconds (Minutes)		Borehole Pressure	Methane	Methane	Carbon Dioxide	Oxygen	Other Gases (ppm)			Depth to Water
		^{r)} (Pa)	(%v/v)	(% LEL *)	(%v/v)	(%v/v)	PID	H₂S	CO	(m bgl)	
BH102	0	06	1028	0	0	0	21 1		0	0	
	15			07	14.8	17	16		0	0	
	30			0 9	16 2	17	16		0	0	
	45			07	14 7	16	16 4		0	0	
	60 (1)			0 7	13 9	15	16 7		0	0	
	90			0 5	11	1 2	17 3		0	0]
	120 (2)			0 5	99	1	17 7		0	0	
	180 (3)			04	8	0 8	18 4		0	0	
	240 (4)			0 3	63	07	18 9		0	0	
	300 (5)			0 2	49	06	19 3		0	0	
	360 (6)										
	420 (7)										
	480 (8)										
	540 (9)										
	600 (10)										7

Notes

7

Monitoring order is from left to right across table

Relevar	nt Information At Time Of Monitorin)g
Monitored by (name, position)	AP	
Atmospheric Pressure (mB)	1030 7	
Weather	SUNNY CLEAR WINDY COLD	
Temperature (°C, between -10°C to +40°C only)	1C	
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated
	Mass Balance Transducer	Last calibrated
	MiniRAE PID	Last calibrated
Visible Signs of Vegetation Stress	N/A	
Other Comments / Observations	N/A	
Boreholes Sampled For Laboratory Analysis		

Job No 310826 - 08 03 2010



Table C2 Ground Gas Monitoring Round Pro Forma Two

Borehole	Time Seconds (Minutes) Gas Flor (I/hr)	Gas Flow	Prossura	Methane (%v/v)	Methane	Carbon Dıoxıde (%v/v)	Oxygen (%v/v)	Other Gases (ppm)			Depth to Water
		(i/nr)			(% LEL *)			PID	H ₂ S	CO	(m bgl)
BH103	0	26	1028	0	0	0	21 6		0	0	
	15			20 5	>100	19	15 7		0	0	
	30			23 5	>100	_2	15 1		0	0]
	45			24	>100	21	15		0	0	
	60 (1)			24 5	>100	21	14 9		0	0	
	90			24 5	>100	21	14 9		0	0	
	120 (2)			25	>100	21	14 9		0	0	
	180 (3)			23	>100	21	15 2		0	0]
	240 (4)			23 5	>100	2	15 3		0	0]
	300 (5)			22	>100	2	15 6		0	0	
	360 (6)			20 5	>100	2	16 1		0	0	
	420 (7)			22	>100	18	15 7		0	0	
	480 (8)			21 5	>100	19	15 8		0	0]
	540 (9)			22	>100	19	15 7		0	0	
	600 (10)			21 5	>100	19	156		0	0	

Notes

Monitoring order is from left to right across table

Releva	nt Information At Time Of Monitoring		
Monitored by (name, position)	AP		
Atmospheric Pressure (mB)	1030 7		
Weather	SUNNY CLEAR WINDY COLD		
Temperature (°C, between 10°C to +40°C only)	1C		
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated	
	Mass Balance Transducer	Last calibrated	
	MiniRAE PID	Last calibrated	
Visible Signs of Vegetation Stress	N/A	······································	
Other Comments / Observations	N/A	····· · · · · · · · · · · · · · · · ·	
Boreholes Sampled For Laboratory Analysis			

Site Biomass Power Plant

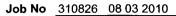




Table C2 Ground Gas Monitoring Round Pro Forma Two

Borehole	Time Seconds	Gas Flow	Borehole Pressure	Methane	Methane	Carbon Dioxide	Oxygen		Other Gase (ppm)	S	Depth to Water
	(Minutes)	1 (1/07)	(Pa)	(%v/v)	(% LEL *)	(%v/v)	(%v/v)	PID	H ₂ S	CO	(m bgl)
BH104	0	0	1028	0	0	0	21 7		0	0	
	15			30 5	>100	2	13		0	0	
	30			30 5	>100	2	12 7		0	0	
f	45			27 5	>100	18	13 9		0	0	
	60 (1)			26 5	>100	17	13 8		0	0	_
	90			22 5	>100	15	14 5		0	0]
	120 (2)			22	>100	14	15 1		0	0]
	180 (3)			19	>100	1 2	16 1		0	0	
	240 (4)			17 5	>100	1	16 4		0	0	
	300 (5)			16 5	>100	09	16 8		0	0	
	360 (6)			16	>100	09	16 8		0	0	
	420 (7)			14	>100	09	17 1		0	0]
	480 (8)			14 5	>100	08	17 3		0	0	
	540 (9)			12 5	>100	08	17 7		0	0	
	600 (10)			12 5	>100	07	17 7		0	0	

Notes

Monitoring order is from left to right across table

Monitoring should be for **not less** than 3 minutes. However, if high concentrations of gases initially recorded monitoring should be for up to 10 minutes. * LEL = Lower Explosive Limit = 5%v/v

Releva	nt Information At Time Of Monitorir	ng
Monitored by (name, position)	AP	
Atmospheric Pressure (mB)	1030 7	
Weather	SUNNY CLEAR WINDY COLD	
Temperature (°C, between -10°C to +40°C only)	1C	
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated
	Mass Balance Transducer	Last calibrated
	MiniRAE PID	Last calibrated
Visible Signs of Vegetation Stress	N/A	
Other Comments / Observations	N/A	
Boreholes Sampled For Laboratory Analysis		

Site Biomass Power Plant

Job No 310826 - 08 03 2010



Table C2 Ground Gas Monitoring Round Pro Forma Two

Borehole	Time Seconds	Gas Flow	Borehole Pressure	Methane	Methane	Carbon Dioxide	Oxygen		Other Gase (ppm)	S	Depth to Water
	(Minutes)	(l/hr)	(Pa)	(%v/v)	(% LEL *)	(%v/v)	(%v/v)	PID	H ₂ S	CO	(m bgl)
BH104S	0	28 2	1028	0	0	0	21 7		0	0	
	15			74	>100	58	15		0	0	
	30			73	>100	5 5	24		0	0]
	45			63	>100	47	47		0	0	
	60 (1)	1		55	>100	4 5	59		0	0]
	90			47 5	>100	39	8 2		0	0	
	120 (2)			39 5	>100	33	99		0	0	
	180 (3)			34 5	>100	28	11 4		0	0	
	240 (4)			32	>100	23	12 7		0	0	
	300 (5)			28 5	>100	21	13 4		0	0	
	360 (6)			26	>100	19	14		0	0	
	420 (7)			26 5	>100	19	14		0	0	
	480 (8)			26 5	>100	19	14 1		0	0	
	540 (9)			23	>100	17	15		0	0	
	600 (10)			23 5	>100	17	14 8		0	0]

Notes

Monitoring order is from left to right across table

Monitoring should be for **not less** than 3 minutes. However, if high concentrations of gases initially recorded monitoring should be for up to 10 minutes. * LEL = Lower Explosive Limit = 5%v/v

Releva	nt Information At Time Of Monitorir	ng
Monitored by (name, position)	AP	
Atmospheric Pressure (mB)	1030 7	
Weather	SUNNY CLEAR WINDY COLD	
Temperature (°C, between -10°C to +40°C only)	1C	
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated
	Mass Balance Transducer	Last calibrated
	MiniRAE PID	Last calibrated
Visible Signs of Vegetation Stress	N/A	
Other Comments / Observations	N/A	
Boreholes Sampled For Laboratory Analysis		

Site Biomass Power Plant

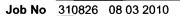




Table C2 Ground Gas Monitoring Round Pro Forma Two

Borehole	Time Seconds	Gas Flow	Borehole Pressure	Methane	Methane	Carbon Dioxide	Oxygen		Other Gase (ppm)	es -	Depth to Water
	(Minutes)	(l/hr)	(Pa)	(%v/v)	(% LEL *)	(%v/v)	(%v/v)	PID	H₂S	CO	(m bgl)
BH105	0	-0 5	1028	0	0	0	21 6		0	0	
	15			44	>100	13	11 6		0	0	
	30			43	>100	12	11 6		0	0	
	45			37 5	>100	1	12 7		0	0]
	60 (1)			35	>100	09	13 1		0	0	
	90			32	>100	08	13 8		0	0	
	120 (2)			31	>100	08	14 2		0	0	
	180 (3)			27	>100	0 7	15 1		0	0	
	240 (4)			25	>100	0 7	15 7		0	0	
	300 (5)			23 5	>100	06	16		0	0	
	360 (6)			21	>100	06	16 5		0	0	
	420 (7)			19 5	>100	06	16 8		0	0	
	480 (8)			19	>100	05	17		0	0	
	540 (9)			18 5	>100	0 5	17 1		0	0	
	600 (10)			17 5	>100	0 5	17 4		0	0	7

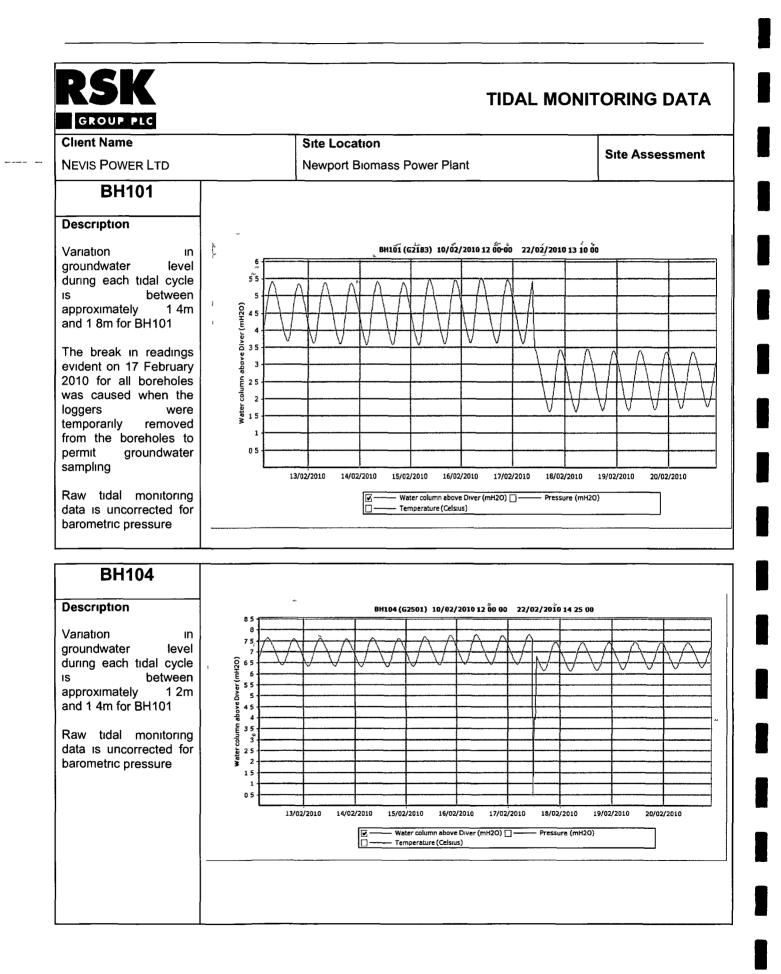
Notes

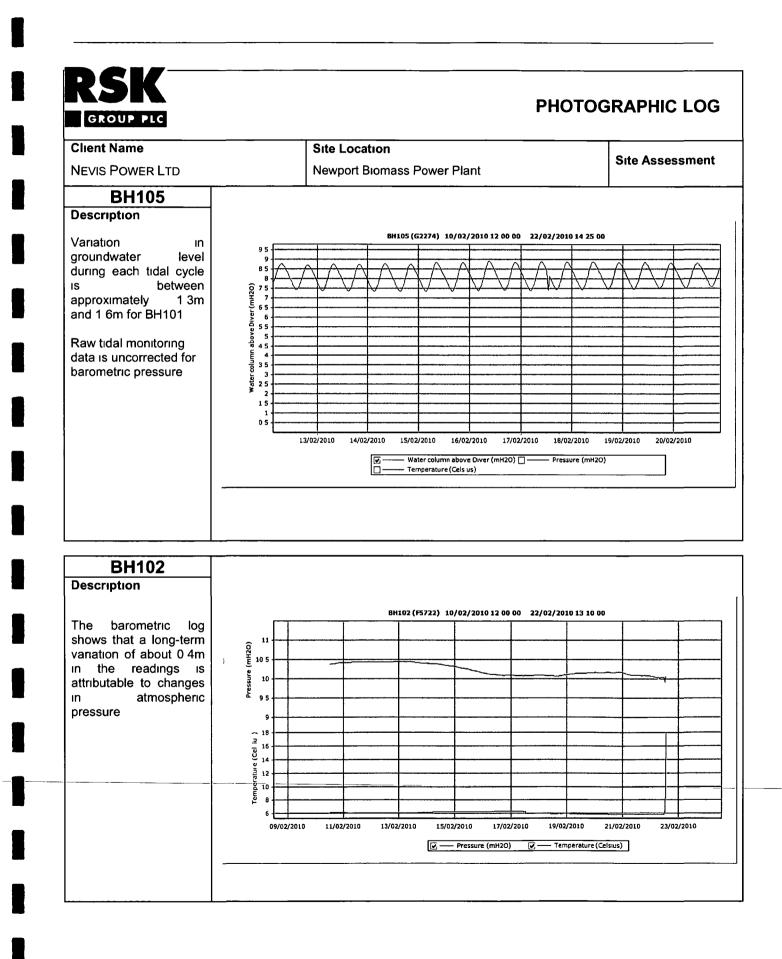
Monitoring order is from left to right across table

Monitoring should be for not less than 3 minutes. However, if high concentrations of gases initially recorded monitoring should be for up to 10 minutes * LEL = Lower Explosive Limit = 5% v/v

Releva	nt Information At Time Of Monitori	ng
Monitored by (name, position)	AP	
Atmospheric Pressure (mB)	1030 7	
Weather	SUNNY CLEAR WINDY COLD	<u> </u>
Temperature (°C, between 10°C to +40°C only)	1C	
Equipment Used (RSK Reference No)	Infra Red Gas Analyser	Last calibrated
	Mass Balance Transducer	Last calibrated
	MiniRAE PID	Last calibrated
Visible Signs of Vegetation Stress	N/A	
Other Comments / Observations	N/A	
Boreholes Sampled For Laboratory Analysis		

Appendix E Tidal Monitoring Data





Appendix F Modified Wilson and Card Spreadsheet

	Job No.: Client: Site:	N		826 - R2 /is Power iomass F	Ltd	ant									
	Charac Situa	teristic	ow-rise resid	lential deve Risk	opments w	ithout a clea GSV	ır ventilatec	KEY: GSV	void, flats an Gas Screen		ial / industr	ial sites		1	
	1			Very Low Low		0.07			_		ed on a site-	specific basi	5		
	4		м	Moderate oderate to H High	igh	3.5 15 70			GSV indicat						
	6	3	-	Very High		>70			GSV indicat GSV indicat CH4 ≥20%V	tes moderate	or greater	risk; Concent	rations of		
	From CIRIA R	eport 659 (20	06) "Assessing To Buildings	Risks Posed E ", Wilson et al.	3y Hazardous (Ground Gases			Oxygen con Total ground Negative flo Positive flow	d gas conce w rate	10%v/v	00%v/v			
BH NO.	DATE	CH4 I %v/v	CH4 SS %v/v	CO2 I %v/v	CO2 SS %v/v	02 I %v/v	02 SS %v/v	Flow I/hr	Baro mbar	BH Press mbar	I SUM %v/v	SS SUM	G CH4	SV CO2	CS
SBH1	18/01/2010 25/01/2010	<0.1 <0.1	<0.1 <0.1	<0.1 0.2	<0.1 <0.1	21.7 21.8	21.7 21.7	0.2	1025 1032.8	1022 1030	21.7 22.0	21.7 21.7	0.00	0.00	0
	01/02/2010 08/02/2010	<0.1	<0.1	0.2	<0.1 <0.1	21.3 21.5	21.5 21.8	0	1016.8 1013.9	1013 1011	21.5 22.0	21.5 21.8	0.00	0.00	
	15/02/2010 22/02/2010	<0.1	<0.1 <0.1	0.1	<0.1 <0.1	20.7 21.4	21.7 21.4	0	1006.2 986.3	1004 979	20.8 21.6	21.7 21.4	0.00	0.00	
SBH2	18/01/2010 25/01/2010	<0.1 <0.1	<0.1 <0.1	0.2 <0.1	<0.1 <0.1	20.7 21.6	21.7 21.5	0	1025 1032.8	1022 1030	20.9 21.6	21.7	0.00	0.00	
	01/02/2010 08/02/2010	<0.1 <0.1	<0.1 <0.1	<0.1 0.5	<0.1 <0.1	21.7 21.4	21.4 21.7	0	1016.8 1013.9	1013 1011	21.7 21.9	21.4 21.7	0.00	0.00	
	15/02/2010 22/02/2010	<0.1 <0.1	<0.1 <0.1	0.6	<0.1 <0.1	21.3 21.2	21.4 21.3	0	1006.2 986.3	1004 982	21.9 21.8	21.4 21.3	0.00	0.00	
SBH3	18/01/2010	<0.1	<0.1	0.9	0.3	9.7 19.1	13.5 18.3	0.2	1025 1032.8	1022 1031	10.6 19.5	13.8 18.9	0.00	0.00	
	01/02/2010 08/02/2010	<0.1 <0.1	<0.1	0.8	1.1 <0.1	18.3 21.7	17.9 21.6	0	1016.8 1013.9	1013 1011	19.1 21.7	19.0 21.6	0.00	0.00	
	15/02/2010 22/02/2010	<0.1 <0.1	<0.1 <0.1	1.0 2.2	1.3 2.5	19.3 8.3	18.8 7.3	0.2 14	1006.2 986.3	1003 982	20.3 10.5	20.1 9.8	0.00	0.00	
SBH4	18/01/2010 25/01/2010	<0.1 <0.1	<0.1 <0.1	<0.1 0.4	<0.1 <0.1	21.7 21.4	20.6 21.5	1.9 0	1025 1032.8	1022 1031	21.7 21.8	20.6	0.00	0.00	
	01/02/2010	<0.1 <0.1	<0.1 <0.1	0.6	<0.1 <0.1	21.2 21.5	21.3 21.6	0	1016.8 1013.9	1013 1011	21.8 21.9	21.3 21.6	0.00	0.00	
	15/02/2010 22/02/2010	<0.1 <0.1	<0.1 <0.1	0.3	<0.1 <0.1	21.3 21.1	21.4 21.4	0 7.6	1006.2 986.3	1004 982	21.6 21.2	21.4	0.00	0.00	
SBH5	18/01/2010 25/01/2010	<0.1 <0.1	<0.1 <0.1	0.1	<0.1 <0.1	21.4 21.3	21.6 21.3	0	1025 1032.8	1022 1031	21.5 21.3	21.6	0.00	0.00	
	01/02/2010 08/02/2010	<0.1 <0.1	<0.1 <0.1	<0.1 <0.1	<0.1 <0.1	21.6 21.8	21.2 21.4	0	1016.8 1013.9	1013 1011	21.6 21.8	21.2 21.4	0.00	0.00	
	15/02/2010	0.1 <0.1	<0.1 <0.1	<0.1 <0.1	<0.1 <0.1	21.7 21.5	21.3 21.4	0	1006.2 986.3	1004 982	21.8 21.5	21.3	0.00	0.00	
SBH6	18/01/2010 25/01/2010	<0.1 <0.1	<0.1 <0.1	<0.1 <0.1	<0.1 <0.1	21.4 21.7	21.4 21.4	0	1025 1032.8	1022 1030	21.4 21.7	21.4	0.00	0.00	
	01/02/2010	<0.1 <0.1	<0.1 <0.1	<0.1 <0.1	<0.1 <0.1	21.5 21.8	21.2 21.4	0	1016.8 1013.9	1013 1011	21.5	21.2 21.4	0.00	0.00	
	15/02/2010 22/02/2010	<0.1 <0.1	<0.1 <0.1	<0.1 0.3	<0.1 <0.1	21.6 20.7	21.2 21.4	0	1006.2 986.3	1004 982	21.6 21.0	21.2	0.00	0.00	
SBH7	18/01/2010	<0.1	<0.1	0.3	0.3	21.3 21.6	21.3 21.3	3.9 0	1025 1032.8	1022 1031	21.6 21.6	21.6	0.00	0.01	
	01/02/2010	<0.1 <0.1	<0.1 <0.1	0.2	<0.1 <0.1	21.0 21.8	21.1	0.1	1016.8 1013.9	1013 1011	21.2 21.8	21.1 21.2	0.00	0.00	
	15/02/2010 22/02/2010	<0.1 <0.1	<0.1 <0.1	0.1	<0.1 <0.1	21.3 21.5	21.3 21.4	0.4	1006.2 986.3	1004 982	21.4 21.5	21.3	0.00	0.00	
SBH8	18/01/2010	27.0	2.2	2.0 0.8	0.1 <0.1	3.9 14.7	19.9 20.6	0.7	1025 1032.8	1022 1030	32.9 33.5	22.2	0.19	0.00	
	01/02/2010	27.0 53.0	3.8	1.0	<0.1	11.1	19.9	2.8	1016.8	1013	39.1 60.0	23.7	0.76	0.00	
	15/02/2010	47.5 60.0	6.1 7.7	2.2	0.2	6.5 3.7	19.4 19.1	7.6	1006.2 986.3	1004 981	56.2	25.7	3.61 13.44	0.02	
3H104S	01/02/2010	78.0 85.0	44.5	5.0	3.0	3.1 1.9	10.3	8.5 16.1	1016.8	1013 1011	86.1 92.0	57.8	6.63 13.69	0.26	
	15/02/2010	73.0	17.0	5.2	1.1	2.0	16.3	10	1006.2	1003	80.2 82.5	34.4	7.30	0.11	
	08/03/2010	74.0	23.5	5.8	1.7	1.5	14.8	28.2	1030.7	1028	81.3	40.0	20.87	0.48	
BH101	03/02/2010	1.4 0.9	<0.1	3.9 1.8	0.3	19.7 20.8	21.5 20.8	0.2	1008.5 1013.9	1007 1011	25.0 23.5	21.8	0.00	0.00	
	15/02/2010	0.9 1.1 0.5	<0.1	2.4 0.8	0.1	20.8 20.3 20.5	20.8	0.9	1013.9 1006.2 986.3	1003 982	23.8	23.2 21.5 21.3	0.09	0.00	
	08/03/2010	0.3	0.1	0.4	0.2	20.9	21.0	0.4	1030.7	1028	21.6	21.3	0.00	0.00	
BH102	03/02/2010	3.2 0.4	0.8	4.1 0.7	1.1 0.3	9.3 19.2	17.6	0.1	1008.5	1007 1011	16.6 20.3	19.5	0.00	0.00	
	15/02/2010	2.1 0.4	0.1	3.5 0.6	0.6	10.9 19.3	19.3	0	1013.9	1003	16.5 20.3	20.9	0.00	0.00	
	08/03/2010	0.4	0.1	1.7	0.3	19.3	19.3	0.2	1030.7	1028	20.3 18.4 0.0	20.8	0.00	0.00	
BH103	03/02/2010	3.8 12.0	2.4	0.9	0.6	20.0 17.9	20.7 15.5	0.3	1008.5 1013.9	1006 1011	24.7 31.1	23.7	0.00	0.00	F
	08/02/2010 15/02/2010 22/02/2010	27.0 78.0	18.0 31.0 68.0	1.2 2.7 6.6	1.8 3.4 5.8	17.9 12.7 7.5	15.5 11.5 4.1	7.5	1013.9 1006.2 986.3	1011 1003 982	42.4 92.1	45.9 77.9	2.10 2.03 19.42	0.32	
	08/03/2010	20.5	21.5	1.9	1.9	15.7	15.6	24.9	1030.7	1028	38.1 0.0	39.0	0.53	0.05	
BH104	03/02/2010	34.5 23.0	17.5	1.4	0.7	11.9 16.2	16.8 17.7	0.1	1008.5 1013.9	1007	47.8	35.0	0.03	0.00	
	08/02/2010	23.0 74.0 50.0	16.0 26.5	4.5	0.8	16.2 4.9 9.4	14.7	0	1013.9 1006.2 986.3	1004	83.4	34.5 42.8	0.00	0.00	
	22/02/2010 08/03/2010	50.0 30.5	20.0 12.5	1.6 2.0	0.6	9.4 13.0	16.6 17.7	0.2	986.3 1030.7	981 1028	61.0 45.5	37.2	0.10	0.00 0.00 0.00	
BH105	03/02/2010	94.0	40.5	4.2	1.6	0.3	11.9	1.7	1008.5	1006	0.0	0.0	0.00	0.03	
	08/02/2010 15/02/2010	16.5 75.0	6.6 23.0	0.5	0.2	17.6 4.4	19.8 15.7	0.2	1013.9 1006.2	1011 1003	34.6 82.0	26.6	0.03	0.00	
	22/02/2010 08/03/2010	2.6 44.0	2.0 17.5	0.1	<0.1 0.5	20.8 11.6	20.9 17.4	0.5	986.3 1030.7	982 1028	23.5	22.9	0.08	0.00	
BH1S	03/02/2010	2.4	18.0	1.2	4.5	18.7	6.2	9.5	1008.5	1006	0.0	0.0	0.00	0.00	
	08/02/2010 22/02/2010	1.3 39.0	19.5 36.5	1.7 3.5	3.9 3.6	17.7 6.1	2.2 5.9	2.7	1013.9 986.3	1011 979	20.7 48.6	25.6 46.0	0.04 3.08	0.11 0.28	
	08/03/2010	42.5	30.5 <0.1	4.8 5.4	4.5 0.1	3.6 0.5	5.6 20.9	10	1030.7 998	1028 996	50.9 53.4	40.6	4.25 0.10	0.45	

Characteristic Situation	Risk	GSV	KE
1	Very Low	0.07	
2	Low	0.7	
3	Moderate	3.5	
4	Moderate to High	15	
5	High	70	100
6	Very High	>70	



		CH4 I	CH4 SS	CO2 I	CO2 SS	02 I	O2 SS	Flow	Baro	BH Press	I SUM	SS SUM	G	SV	
BH NO.	DATE	%v/v	%v/v	%v/v	%v/v	%v/v	%v/v	l/hr	mbar	mbar	%v/v	%v/v	CH4	CO2	CS No.
											0.0	0.0	0.00	0.00	CS1
BH1D	08/02/2010	24.0	32.0	3.6	4.6	6.5	2.2	9,9	1013.9	1011	34.1	38.8	2.38	0.46	CS3
	22/02/2010			6.1	5.4	1.5	13.0	8.5	986.3	979	46.6	56.4	3.32	0.46	CS3
	08/03/2010			4.3	5.3	6.1	2.1	8.1	1030.7	1028	32.9	36.9	1.82	0.43	CS3
	10/04/2008	9.7	0.2	1.2	<0.1	16.8	20.7		998	996	27.7	20.9	0.02	0.00	CS1
											0.0	0.0	0.00	0.00	CS1
							12000				0.0	0.0	0.00	0.00	CS1
BH2S	03/02/2010	0.3	<0.1	0.1	0.2	21.6	21.5	0	1008.5		22.0	21.7	0.00	0.00	CS1
	08/02/2010	0.5	1.0	0.2	<0.1	20.6	21.1	0	1013.9	1011	21.3	22.1	0.00	0.00	CS1
	15/02/2010	<0.1	<0.1	<0.1	<0.1	21.5	21.3	0	1006.2	1004	21.5	21.3	0.00	0.00	CS1
	22/02/2010	<0.1	<0.1	0.2	0.1	21.2	21.3	11.2	986.3	981	21.4	21.4	0.00	0.01	CS1
	08/03/2010	<0.1	<0.1	<0.1	<0.1	21.4	21.4		1030.7	1028	21.4	21.4	0.00	0.00	CS1
	10/04/2008	<0.1	<0.1	0.1	<0.1	20.8	21.0	0	998	996	20.9	21.0	0.00	0.00	CS1
BH2D	08/02/2010	2.3	0.7	3.5	4.0	9.2	8.4	5.2	1013.9	1011	15.0	13.1	0.12	0.21	CS2
	15/02/2010	<0.1	<0.1	0.5	1.1	20.4	19.7		1006.2	1004	20.9	20.8	0.00	0.11	CS2
	22/02/2010	<0.1	<0.1	0.7	0.5	20.2	20.4	2.8	986.3	981	20.9	20.9	0.00	0.01	CS1
	08/03/2010	<0.1	<0.1	<0.1	<0.1	19.6	20.0		1030.7	1028	19.6	20.0	0.00	0.00	CS1
	10/04/2008	0.3	<0.1	0.9	<0.1	19.7	21.0		998	996	20.9	21.0	0.00	0.00	CS1
									1. Y 1	100 C 10 C 1	0.0	0.0	0.00	0.00	CS1
BH3S	03/02/2010	11.0	4.0	0.2	<0.1	21.5	20.4	0	1008.5		32.7	24.4	0.00	0.00	CS1
	08/02/2010	<0.1	<0.1	0.1	0.1	21.3	21.4	0	1013.9	1011	21.4	21.5	0.00	0.00	CS1
	15/02/2010	1.7	1.2	4.1	4.2	12.6	12.3	0	1006.2	1004	18.4	17.7	0.00	0.00	CS1
	22/02/2010	5.4	2.4	2.0	1.7	7.6	9.9	0	986.3	982	15.0	14.0	0.00	0.00	CS1
	08/03/2010	<0.1	<0.1	3.5	4.0	15.5	14.6	0	1030.7	1028	19.0	18.6	0.00	0.00	CS1
	10/04/2008	8.3	<0.1	3.3	<0.1	9.8	20.8	0	998	996	21.4	20.8	0.00	0.00	CS1
BH3D	08/02/2010	<0.1	<0.1	0.8	1.0	20.4	20.3	0	1013.9	1011	21.2	21.3	0.00	0.00	CS1
	15/02/2010	3.5	1.1	0.2	<0.1	20.1	20.9	0	1006.2	1004	23.8	22.0	0.00	0.00	CS1
	22/02/2010	6.9	1.7	0.2	<0.1	19.3	20.9	0.1	986.3	982	26.4	22.6	0.01	0.00	CS1
	08/03/2010	0.5	<0.1	0.2	<0.1	20.7 9.3	21.2	0.1	1030.7 998	1028 996	21.4 60.8	21.2 20.8	0.00	0.00	CS1
	10/04/2008	50.5	<0.1	1.0	<0.1	9.3	20.8	0	898	990	0.0	0.0	0.00	0.00	CS1 CS1
											0.0	0.0	0.00	0.00	031
VORST-C	ASE VALUES	PER BOR	EHOLE												
		and the second data was a second data w	um CH4	Maxim	um CO2	Minim	um O2	Max Flow	Not Ap	plicable	Maximu	ım Total	Maximu	Im GSVs	CS No
SBH1	0262220000	<0.1	< 0.1	0.5	<0.1	20.7	21.4	0.2			21.2	21.4	0.00	0.00	CS1
SBH2	En la constante	<0.1	<0.1	0.6	<0.1	00.7				and the second second second	24.2				
SBH3	Concernance of the second					20.7	21.3	0.6		10-3-2-32 (C)/DL	21.3	21.3	0.00	0.00	CS1
SBH4		<0.1	< 0.1	2.2	2.5	8.3	21.3 7.3	0.6			10.5	21.3 9.8	0.00	0.00	CS1 CS2
		<0.1	<0.1 <0.1	2.2 0.6											
SBH4 SBH5					2.5	8.3	7.3	14.0			10.5	9.8	0.00	0.35	CS2
		<0.1	<0.1	0.6	2.5 <0.1	8.3 21.1	7.3 20.6	14.0 7.6			10.5 21.7	9.8 20.6	0.00	0.35	CS2 CS1
SBH5		<0.1 0.1	<0.1 <0.1	0.6 0.1	2.5 <0.1 <0.1	8.3 21.1 21.3	7.3 20.6 21.2	14.0 7.6 0.8			10.5 21.7 21.5	9.8 20.6 21.2	0.00 0.00 0.00	0.35 0.00 0.00	CS2 CS1 CS1
SBH5 SBH6		<0.1 0.1 <0.1	<0.1 <0.1 <0.1	0.6 0.1 0.3	2.5 <0.1 <0.1 <0.1	8.3 21.1 21.3 20.7	7.3 20.6 21.2 21.2	14.0 7.6 0.8 6.3			10.5 21.7 21.5 21.0	9.8 20.6 21.2 21.2	0.00 0.00 0.00 0.00	0.35 0.00 0.00 0.00	CS2 CS1 CS1 CS1
SBH5 SBH6 SBH7		<0.1 0.1 <0.1 <0.1	<0.1 <0.1 <0.1 <0.1	0.6 0.1 0.3 0.3	2.5 <0.1 <0.1 <0.1 0.3	8.3 21.1 21.3 20.7 21.0	7.3 20.6 21.2 21.2 21.1	14.0 7.6 0.8 6.3			10.5 21.7 21.5 21.0 21.3	9.8 20.6 21.2 21.2 21.4	0.00 0.00 0.00 0.00 0.00	0.35 0.00 0.00 0.00 0.01	CS2 CS1 CS1 CS1 CS1
SBH5 SBH6 SBH7 SBH8 BH104S		<0.1 0.1 <0.1 <0.1 60.0 85.0	<0.1 <0.1 <0.1 <0.1 7.7 44.5	0.6 0.1 0.3 0.3 3.0 5.8	2.5 <0.1 <0.1 0.3 0.3 3.0	8.3 21.1 21.3 20.7 21.0 3.7 1.1	7.3 20.6 21.2 21.2 21.1 19.1 10.3	14.0 7.6 0.8 6.3			10.5 21.7 21.5 21.0 21.3 66.7 91.9	9.8 20.6 21.2 21.2 21.4 27.1 57.8	0.00 0.00 0.00 0.00 0.00 13.44 23.97	0.35 0.00 0.00 0.00 0.01 0.07 0.85	CS2 CS1 CS1 CS1 CS1 CS1 CS4
SBH5 SBH6 SBH7 SBH8 BH104S BH101		<0.1 0.1 <0.1 <0.1 60.0 85.0 1.4	<0.1 <0.1 <0.1 <0.1 7.7 44.5 0.8	0.6 0.1 0.3 0.3 3.0 5.8 3.9	2.5 <0.1 <0.1 0.3 0.3 3.0 1.6	8.3 21.1 21.3 20.7 21.0 3.7 1.1 19.7	7.3 20.6 21.2 21.1 19.1 10.3 20.8	14.0 7.6 0.8 6.3 3.9 22.4 28.2 9.5			10.5 21.7 21.5 21.0 21.3 66.7	9.8 20.6 21.2 21.2 21.4 27.1	0.00 0.00 0.00 0.00 0.00 13.44	0.35 0.00 0.00 0.01 0.07 0.85 0.15	CS2 CS1 CS1 CS1 CS1 CS1 CS4 CS5
SBH5 SBH6 SBH7 SBH8 BH104S BH101 BH102		<0.1 0.1 <0.1 <0.1 60.0 85.0 1.4 3.2	<0.1 <0.1 <0.1 7.7 44.5 0.8 0.8	0.6 0.1 0.3 0.3 3.0 5.8 3.9 4.1	2.5 <0.1 <0.1 <0.3 0.3 3.0 1.6 1.1	8.3 21.1 21.3 20.7 21.0 3.7 1.1 19.7 9.3	7.3 20.6 21.2 21.1 19.1 10.3 20.8 17.6	14.0 7.6 0.8 6.3 3.9 22.4 28.2			10.5 21.7 21.5 21.0 21.3 66.7 91.9 25.0 16.6	9.8 20.6 21.2 21.2 21.4 27.1 57.8 23.2 19.5	0.00 0.00 0.00 0.00 13.44 23.97 0.13 0.02	0.35 0.00 0.00 0.01 0.07 0.85 0.15 0.01	CS2 CS1 CS1 CS1 CS1 CS1 CS4 CS5 CS2 CS2 CS1
SBH5 SBH6 SBH7 SBH8 BH104S BH101 BH102 BH103		<0.1 0.1 <0.1 <0.1 60.0 85.0 1.4 3.2 78.0	<0.1 <0.1 <0.1 <0.1 7.7 44.5 0.8	0.6 0.1 0.3 0.3 3.0 5.8 3.9 4.1 6.6	2.5 <0.1 <0.1 <0.1 0.3 0.3 3.0 1.6 1.1 5.8	8.3 21.1 21.3 20.7 21.0 3.7 1.1 19.7 9.3 7.5	7.3 20.6 21.2 21.2 21.1 19.1 10.3 20.8 17.6 4.1	14.0 7.6 0.8 6.3 3.9 22.4 28.2 9.5 0.6 24.9			10.5 21.7 21.5 21.0 21.3 66.7 91.9 25.0 16.6 92.1	9.8 20.6 21.2 21.2 21.4 27.1 57.8 23.2 19.5 77.9	0,00 0,00 0,00 0,00 13,44 23,97 0,13 0,02 19,42	0.35 0.00 0.00 0.01 0.07 0.85 0.15 0.01 1.44	CS2 CS1 CS1 CS1 CS1 CS4 CS5 CS2 CS1 CS5
SBH5 SBH6 SBH7 SBH8 BH104S BH101 BH102 BH103 BH104		<0.1 0.1 <0.1 <0.1 60.0 85.0 1.4 3.2	<0.1 <0.1 <0.1 7.7 44.5 0.8 0.8	0.6 0.1 0.3 3.0 5.8 3.9 4.1 6.6 4.5	2.5 <0.1 <0.1 <0.1 0.3 0.3 3.0 1.6 1.1 5.8 1.6	8.3 21.1 21.3 20.7 21.0 3.7 1.1 19.7 9.3 7.5 4.9	7.3 20.6 21.2 21.1 19.1 10.3 20.8 17.6 4.1 14.7	14.0 7.6 0.8 6.3 3.9 22.4 28.2 9.5 0.6 24.9 0.2			10.5 21.7 21.5 21.0 21.3 66.7 91.9 25.0 16.6 92.1 83.4	9.8 20.6 21.2 21.2 21.4 27.1 57.8 23.2 19.5 77.9 42.8	0,00 0,00 0,00 0,00 13,44 23,97 0,13 0,02 19,42 0,15	0.35 0.00 0.00 0.01 0.07 0.85 0.15 0.01 1.44 0.00	CS2 CS1 CS1 CS1 CS1 CS1 CS4 CS5 CS2 CS2 CS1
SBH5 SBH6 SBH7 SBH8 BH104S BH101 BH102 BH103 BH104 BH105		<0.1 0.1 <0.1 <0.1 60.0 85.0 1.4 3.2 78.0 74.0 94.0	<0.1 <0.1 <0.1 <0.1 7.7 44.5 0.8 0.8 0.8 68.0 26.5 40.5	0.6 0.1 0.3 3.0 5.8 3.9 4.1 6.6 4.5 4.2	2.5 <0.1 <0.1 <0.1 0.3 0.3 3.0 1.6 1.1 5.8 1.6 1.6	8.3 21.1 21.3 20.7 21.0 3.7 1.1 19.7 9.3 7.5 4.9 0.3	7.3 20.6 21.2 21.1 19.1 10.3 20.8 17.6 4.1 14.7 11.9	14.0 7.6 0.8 6.3 3.9 22.4 28.2 9.5 0.6 24.9 0.2 2.9			10.5 21.7 21.5 21.0 21.3 66.7 91.9 25.0 16.6 92.1 83.4 98.5	9.8 20.6 21.2 21.2 21.4 27.1 57.8 23.2 19.5 77.9 42.8 54.0	0,00 0,00 0,00 0,00 13,44 23,97 0,13 0,02 19,42 0,15 2,73	0.35 0.00 0.00 0.01 0.07 0.85 0.15 0.01 1.44 0.00 0.05	CS2 CS1 CS1 CS1 CS1 CS4 CS5 CS2 CS1 CS5 CS2 CS2 CS3
SBH5 SBH6 SBH7 SBH8 BH104S BH104S BH102 BH102 BH103 BH104 BH105 BH1S		<0.1 0.1 <0.1 <0.1 60.0 85.0 1.4 3.2 78.0 74.0	<0.1 <0.1 <0.1 <0.1 7.7 44.5 0.8 0.8 0.8 68.0 26.5	0.6 0.1 0.3 0.3 3.0 5.8 3.9 4.1 6.6 4.5 4.2 5.4	2.5 <0.1 <0.1 <0.1 0.3 0.3 3.0 1.6 1.1 5.8 1.6 1.6 4.5	8.3 21.1 21.3 20.7 21.0 3.7 1.1 19.7 9.3 7.5 4.9 0.3 0.5	7.3 20.6 21.2 21.1 19.1 10.3 20.8 17.6 4.1 14.7 11.9 2.2	14.0 7.6 0.8 6.3 3.9 22.4 28.2 9.5 0.6 24.9 0.2 2.9 10.0			10.5 21.7 21.5 21.0 21.3 66.7 91.9 25.0 16.6 92.1 83.4 98.5 53.4	9.8 20.6 21.2 21.2 21.4 27.1 57.8 23.2 19.5 77.9 42.8 54.0 43.2	0.00 0.00 0.00 0.00 13.44 23.97 0.13 0.02 19.42 0.15 2.73 4.75	0.35 0.00 0.00 0.01 0.07 0.85 0.15 0.01 1.44 0.00 0.05 0.45	CS2 CS1 CS1 CS1 CS1 CS4 CS5 CS2 CS1 CS5 CS2 CS3 CS4
SBH5 SBH6 SBH7 SBH8 BH104S BH101 BH102 BH103 BH104 BH105 BH1S BH1D		<0.1 0.1 <0.1 <0.1 60.0 85.0 1.4 3.2 78.0 74.0 94.0 47.5 39.0	<0.1 <0.1 <0.1 <0.1 7.7 44.5 0.8 0.8 0.8 0.8 68.0 26.5 36.5 38.0	0.6 0.1 0.3 0.3 3.0 5.8 3.9 4.1 6.6 4.5 4.5 4.5 4.2 5.4 6.1	2.5 <0.1 <0.1 <0.1 0.3 0.3 0.3 0.3 1.6 1.1 5.8 1.6 1.6 1.6 1.6 5.4	8.3 21.1 21.3 20.7 21.0 3.7 1.1 19.7 9.3 7.5 4.9 0.3 0.5 1.5	7.3 20.6 21.2 21.1 10.3 20.8 17.6 4.1 14.7 11.9 2.2 2.2	14.0 7.6 0.8 6.3 3.9 22.4 9.5 0.6 24.9 0.2 2.9 10.0 9.9			10.5 21.7 21.5 21.0 21.3 66.7 91.9 25.0 16.6 92.1 83.4 98.5 53.4 46.6	9.8 20.6 21.2 21.2 21.4 27.1 57.8 23.2 19.5 77.9 42.8 54.0 43.2 45.6	0.00 0.00 0.00 13.44 23.97 0.13 0.02 19.42 0.15 2.73 4.75 3.86	0.35 0.00 0.00 0.01 0.07 0.85 0.15 0.01 1.44 0.00 0.05 0.45 0.53	CS2 CS1 CS1 CS1 CS4 CS5 CS2 CS2 CS5 CS2 CS3 CS4 CS4 CS4
SBH5 SBH6 SBH7 SBH8 BH104S BH101 BH102 BH103 BH104 BH105 BH1S BH1D BH2S		<0.1 0.1 <0.1 <0.1 60.0 85.0 1.4 3.2 78.0 74.0 94.0 47.5 39.0 0.5	<0.1 <0.1 <0.1 <0.1 7.7 44.5 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.8	0.6 0.1 0.3 0.3 3.0 5.8 3.9 4.1 6.6 4.5 4.2 5.4 6.1 0.2	2.5 <0.1 <0.1 <0.3 0.3 0.3 3.0 1.6 1.1 5.8 1.6 1.6 1.6 4.5 5.4 0.2	8.3 21.1 21.3 20.7 21.0 3.7 1.1 19.7 9.3 7.5 4.9 0.3 0.5 1.5 20.6	7.3 20.6 21.2 21.2 21.1 19.1 10.3 20.8 17.6 4.1 14.7 11.9 2.2 2.2 2.1.0	14.0 7.6 0.8 6.3 3.9 22.4 28 2 9.5 0.6 24.9 0.2 2.9 10.0 9.9 11.2			10.5 21.7 21.5 21.0 21.3 66.7 91.9 25.0 16.6 92.1 83.4 98.5 53.4 46.6 21.3	9.8 20.6 21.2 21.2 21.4 27.1 57.8 23.2 19.5 77.9 42.8 54.0 43.2 45.6 22.2	0.00 0.00 0.00 13.44 23.97 0.13 0.02 19.42 0.15 2.73 4.75 3.86 0.06	0.35 0.00 0.00 0.00 0.01 0.85 0.15 0.01 1.44 0.00 0.05 0.45 0.53 0.02	CS2 CS1 CS1 CS1 CS4 CS5 CS2 CS1 CS1 CS5 CS2 CS1 CS3 CS4 CS4 CS4
SBH5 SBH6 SBH7 SBH8 BH104S BH101 BH102 BH103 BH104 BH105 BH104 BH105 BH104 BH105 BH104 BH105 BH104 BH105 BH105 BH106 BH107 BH108 BH128 BH201		<0.1 0.1 <0.1 <0.1 60.0 85.0 1.4 3.2 78.0 74.0 94.0 47.5 39.0 0.5 2.3	<0.1	0.6 0.1 0.3 3.0 5.8 3.9 4.1 6.6 4.5 4.2 5.4 6.1 0.2 3.5	2.5 <0.1 <0.1 <0.1 0.3 0.3 0.3 0.3 1.6 1.6 1.6 1.6 1.6 1.6 1.6 4.5 5.4 0.2 4.0	8.3 21.1 21.3 20.7 21.0 3.7 1.1 19.7 9.3 7.5 4.9 0.3 0.5 1.5 20.6 9.2	7.3 20.6 21.2 21.2 21.1 19.1 10.3 20.8 17.6 4.1 14.7 11.9 2.2 2.2 2.1 2.1 0 8.4	14.0 7.6 0.8 6.3 3.9 22.4 28.2 9.5 0.6 24.9 0.2 2.9 10.0 9.9 9.11.2 9.8			10.5 21.7 21.5 21.0 21.3 66.7 91.9 25.0 16.6 92.1 83.4 98.5 53.4 46.6 21.3 15.0	9.8 20.6 21.2 21.2 21.4 27.1 57.8 23.2 19.5 77.9 42.8 54.0 43.2 45.6 22.2 13.1	0.00 0.00 0.00 13.44 23.97 0.13 0.02 19.42 0.15 2.73 4.75 3.86 0.06 0.23	0.35 0.00 0.00 0.00 0.01 0.85 0.15 0.01 1.44 0.00 0.05 0.45 0.45 0.45 0.33 0.02 0.39	CS2 CS1 CS1 CS1 CS4 CS5 CS2 CS1 CS5 CS2 CS3 CS4 CS4 CS4 CS1 CS2
SBH5 SBH6 SBH7 SBH8 BH104S BH101 BH102 BH103 BH104 BH105 BH1S BH1D BH2S		<0.1 0.1 <0.1 <0.1 60.0 85.0 1.4 3.2 78.0 74.0 94.0 47.5 39.0 0.5	<0.1 <0.1 <0.1 <0.1 7.7 44.5 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.8	0.6 0.1 0.3 0.3 3.0 5.8 3.9 4.1 6.6 4.5 4.2 5.4 6.1 0.2	2.5 <0.1 <0.1 <0.3 0.3 0.3 3.0 1.6 1.1 5.8 1.6 1.6 1.6 4.5 5.4 0.2	8.3 21.1 21.3 20.7 21.0 3.7 1.1 19.7 9.3 7.5 4.9 0.3 0.5 1.5 20.6	7.3 20.6 21.2 21.2 21.1 19.1 10.3 20.8 17.6 4.1 14.7 11.9 2.2 2.2 2.1.0	14.0 7.6 0.8 6.3 3.9 22.4 28 2 9.5 0.6 24.9 0.2 2.9 10.0 9.9 11.2			10.5 21.7 21.5 21.0 21.3 66.7 91.9 25.0 16.6 92.1 83.4 98.5 53.4 46.6 21.3	9.8 20.6 21.2 21.2 21.4 27.1 57.8 23.2 19.5 77.9 42.8 54.0 43.2 45.6 22.2	0.00 0.00 0.00 13.44 23.97 0.13 0.02 19.42 0.15 2.73 4.75 3.86 0.06	0.35 0.00 0.00 0.00 0.01 0.85 0.15 0.01 1.44 0.00 0.05 0.45 0.53 0.02	CS2 CS1 CS1 CS1 CS4 CS5 CS2 CS1 CS5 CS2 CS1 CS2 CS3 CS4 CS4 CS4

Page 2 of 2

Appendix G Borehole Logs ١

2



	-	rt B 10	mass							evis Pow				ß	<u>H101</u>
Contract Re				Start			Ground	Level (m TB	BM)	National Gri	d Co ordinat	e	Sheet		_
_	3108			End	12 01			<u>21</u>					<u> </u>		of
	·	and In site			Water	Backfill & Instru mentation			I	Description of	of Strata			Depth (Thick	Materi Graphi
Depth	No	Туре	Res	ults	_ ≥ į	Back Ins men				_				ness)	Legen
0 00 0 40		- B					MADI CLAY sub an	(reworked) (gular with o	Sand 1 Scassona	s medium G	ravel is fine ular to sub ar	grey sandy f to medium an ngular gravel	gravelly gular to	(0 70)	
- 0 70	2	D					MADI		compri	ang soft are	w clightly s	lty CLAY (rev	vorked)	0 70	
1 20 1 65	3	SPT	N	=3			with o	ccasional she	ells	sing son gre	ey siigntiy si	Ity CLAY (rev	vorkea)	-	
1 70	4	D		-	Ŷ										
					¥									(2 30)	
2 00 2 45	5	SPT	N	=4	-		:							-	
2 70	6	D													
3 00 3 50	7	U ₍₁₀₀₎	6 bl	ows			Soft b	prown mottle	d grey C	LAY				3 00	
3 50	8	D												-	
- 	9	SPT	N	=1										(2 50)	
F	l Boring	Progress	and W	ater Oh	servatio	ns			Chisellir					L	<u> </u>
Date	Time	Borel	nole C	Casing Depth	Boreho Diame (mm	ole ter	Water Depth	From	То	Duration (hh mm)		General			
05/01/10		20		1 60	150		2 00	18 00	18 30	01 00	1 Piezome	tric pipe 1055n	nm abov	e ground	level
Method				Plan					Drilled		All dimensi Logged	ons in metres	Scale Checke	1 25	AG

Contract				D	-			Client		-	¥		Boreho		
		rt B10	mass								wer Ltd			B	BH101
Contract Re								d Level (m T	BM)	National (Grid Co ordi	nate	Sheet		
	<u>3108</u>	<u>826</u>		End	120			21							of
San Depth		nd In sit	tu Tests Res	ults	Water	Backfill & Instru			I	Descriptio	on of Strata			Depth (Thick ness)	Materia Graphi Legen
4 70	10	D					Soft	brown mott h from previo	led grey us sheet)	CLAY (.	ístratum text	copied from lay	er at m	-	
														-	
5 00 5 50	11	U ₍₁₀₀₎	8 bl	ows										, ,	
5 50	12	D					Soft	brown mottle	ed grey s	slightly silt	TY CLAY			5 50	
									0,		-			-	
6 00 6 45	13	SPT	N	=2										- 	
														• •	
														-	
														-	
7 00	14	D												-	
7 50 8 00	15	U ₍₁₀₀₎	5 bl	ows										-	
8 00	16	D					n.							-	
8 50	17	D													
	_													(7.00)	×
		Progres Bore		ater Ob Casıng	servati Bore	nole	Water	- From	Chiselli To	Duratio		General	Rema	arks	
Date	Time	De	pth I	Depth	(mr		Depth	From	10	(hh mn	n)				
								<u> </u>				ensions in metres	Scale	1 2	
Method			ission	Plan Used		•	ndo 3(Drilled By	RS	Logge By	d APrzewieslik	Checke By	ed	AG

		rt Bioi	mass Pow					Nevis Pow			B	H10
Contract Ref			Start				Level (m TBM)	National Gr	id Co ordinate	Sheet		
3	<u>310</u>	826	End	12 0			21	1				of
Sam	ples a	and In situ	1 Tests	Water	Backfill & Instru			Dagametra	ofStrata		Depth (Thick	Mater Grapl
Depth	No	Туре	Results	Ĩ	3ackf Inst			Description	or Strata		ness)	Lege
9 00 9 45	18	SPT	N=2			Soft b	rown mottled gre	y slightly silty	CLAY (stratum text c	opied from	[8
						layer a	t m depth from pr	evious sheet)			[<u></u>
											-	<u> </u>
											ŀ	<u></u>
											ŀ	×
											ŀ	<u></u>
											[<u> </u>
-10.00	10	n				Í					╞	<u> </u>
10 00	19	D									ł	<u></u>
											ŀ	<u></u>
						Í					ŀ	
						Í					[<u>[</u>
10 50 11 00	20	U ₍₁₀₀₎	5 blows			Í					Ļ	×
						Í					}	x
						Í					ŀ	×
						Í					ŀ	<u> </u>
11 00	21	D				Í					F	
						Í					t	<u></u>
						Í					[<u> </u>
						Í					ŀ	
						Í					\mathbf{F}	<u> </u>
											ŀ	×
						Í					ŀ	<u></u>
						Í					Į	
-											L	×
12 00 12 50	22	U ₍₁₀₀₎	13 blows		[]	1					\mathbf{F}	×
					;]					ł	×
					<u> </u>	1					ŀ	<u></u>
•					[1					12 50	
12 50	23	D			:	Very d	lense reddish bro	wn and dark g	rey slightly clayey fine	to coarse		00
					<u>: </u>	and co	gular to rounded (nglomerate	JRAVEL and	COBBLES of sandstone	e quartzite	-	6°00
					[1	<i>J</i>				├	n ?'
					;]					-	2000
-					EĦ	1					-	0 0
•					: 1	1					[م مر ا
]					}					-	
-	l					1					-	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
	1	I			8 .	1					I	<u>5 6</u> 7
В	oring	Progress	and Water O	oservati	ons		Chise	ling		1 D -		
	Time	Boreh	ole Casing	Bore	10le	Water	From To	Duration (bh mm)	Genera	al Rema	ILLE	
		Dep	th Depth	Diam (mn	n)	Depth		(hh mm)				
			Pla				Dnlled		All dimensions in metr	es Scale Checke	1 25	AG
Method			1.01									

Contract	[033	mai	rt Riai	mass P	0.110	r Dl	ant		Ch	ent	N	evis Pov	vor I td		Boreho		BH10
Contract		poi						Grou	ind Le	vel (m Tł			nd Co ordin	ate	Sheet	D	-
		108	826			12 01				21	,						of
5			ınd In sıtu													Depth	Mate
Depth		No	Туре	Resul	ts –	Water	Backfull & Instru mentation]	Description	of Strata			(Thick ness)	Grap Lege
13 50 13 13 50 14		24 25	SPT B	N=120)*		Ī	' Ve	ry dei	ise reddi	sh brow	n and dark	grey slight	y clayey fine to of sandstone q	coarse		00
15 50 14		25						and	d con	glomerate	strati	um text cop	ned from l	ayer at m dept	h from	-	600
							B	pre	evious	sheet)						ļ	þ 00°
							H									ŀ	8
																ļ	° D
								1								ŀ	Q G
								1								ļ.	BR
								1								-	000
								1								-	805
								1								-	600
15 00 15 15 00 15		26 27	SPT(c) B	N=69	*			1								(5 30)	10
15 00 15		21						1								(5.50)	3
								1								[00
								1								ŀ	
								1								[000
								1								ł	800 00 00 00 00 00 00 00 00 00 00 00 00
-								1								F	000
								1								ł	00
16 20		28	D					1								-	000
								1								ŀ	000
16 50 16	88	29	SPT(c)	N=67	*			1								ŀ	
																[
								1								-	L02
17 00 17	50	30	В				Ē	1								-	800 C
																-	104
							İ									-	D'o
]								ł	000
								}								[1 - 7
17 80		-31-						De	escript	ion on ne	xt sheet					17 80	
		L			<u> </u>]									
	Be	oring	Progress	and Wate	er Obs						Chiselli	ng		General	Darra		
Date	-	Time	Boreh	1	-	Boreh	ole ter	Wate Dep		From	То	Duration (hh mm)		General		ai KS	
	+		Dep		pth	<u>(</u> mm	<u> </u>	Dep	<u></u>	<u> </u>			1				
				1													
														nsions in metres	Scale	1 2	
Method				ssion	Plant Used		_	<u>nd</u> o			Drilled By	RS	Logged By	d APrzewiesłik	Check By	ed	A

Contract								Client			Boreho		
		rt Bior	nass						Nevis Pow			B	H101
Contract Ref				Start				d Level (m TBM)	National Gr	id Co ordinate	Sheet		
	3108	<u>826</u>		End	12 0			21					of
Sam	ples a	ind In situ	Tests		Water	Backfill & Instru	ation		D (Depth	Materia Graphi
Depth	No	Туре	Re	sults	Ň	Backf	ment		Description	of Strata		(Thick ness)	Legen
18 00 18 26	32	SPT_	N=	=120*			Gene	rally very weak (lo sionally mottled gre	cally weak) in	distinctly laminated r	eddish brown	(0 50)	
							(Mer	cia Mudstone Grou	ip Zone II) (sti	atum text copied fro	om layer at m	18 30	
		+			†			h from previous she			/	-	
												-	
												F	
												F	
												-	
												-	
						ŀ						-	
												F	
												-	
												F	
												ŀ	
												-	
												-	
												-	
												r	
												-	
												-	
												-	
												-	
]								
												-	
-												-	
												ŀ	
												-	
							<u> </u>						<u> </u>
R	oring	Progress	and W	vater Oh	servati	ons		Chise	lling	_			
		Boreh		Casing	Borel Diam		Water		Duration	Gene	ral Rema	ırks	
Date	Time	Dept		Depth	(mr	n)	Depth	From To) (hh mm)				·
			1										
										All dimensions in me	etres Scale	1 25	

RSK RSK STATS GEOCONSULT LTD GROUP PLC

BOREHOLE LOG

Contract R		rt Bio						Level (m TE		vis Pow	d Co ordinat	e	Sheet	<u> </u>	H102
Johnaer R	310	826		End)1 10)1 10		2 1					Blicer		of
 		and In sit	n Tests	Ling		28	5						-	Depth	Mater
	No	r – – – – – – – – – – – – – – – – – – –	Res	ulto	Water	Backfill Instru	Sman		D	escription of	of Strata			(Thick	Graph
$\frac{\text{Depth}}{0\ 00\ 0\ 40}$		Type B	Res		F	Ba	Ě MADE	GROUNT		was soft he	our mottled	grey sandy	amarallar	ness)	Leger
000040							CLAY sub rou	reworked) Inded pumic) Sand a ce with oc	is fine Gra casional ang	vel is fine sular to sub a	to coarse any ingular cobbles	gular to	(0 40)	
								Decasional t nd rootlets	fragments	s of metal a	nd timber (Occasional plai	nts with	0 40	\bigotimes
0 40 1 00	2	В					MADE	E GROUNE CLAY (rew	comprises	sing soft b	rown mottle	d grey silty	slightly	-	\bigotimes
							Sanay		orked)					-	\bigotimes
														[\bigotimes
														\mathbf{F}	\bigotimes
														-	\bigotimes
														ļ	\bigotimes
1 20 1 65	3	SPT	N N	=2										ŀ	\bigotimes
														ŀ	\bigotimes
															\bigotimes
														(2 60)	\bigotimes
														ľ	\bigotimes
2 00 2 45	4	U(100)	5 Ы	lows										-	\bigotimes
2 00 2 45		U(100)	50	10w5										-	\bigotimes
															\bigotimes
														-	\bigotimes
2 50	5	D												-	\otimes
														[\bigotimes
														F	\bigotimes
														3 00	\bigotimes
3 00	6	SPT	N	=0			Soft br	own mottle	d grey silt	ty CLAY (p	ossibly rewo	rked)		r r	<u> </u>
														-	<u> </u>
															<u> </u>
														-	
														ŀ	×
3 70	7	D												ļ.	<u></u>
														ŀ	
4 00-4 45	8	U(100)	4 bi	lows										ļ.	
														ŀ	<u> </u>
					_									<u> </u>	<u> </u>
		<u> </u>	<u> </u>											[<u>[</u>
	Borin	g Progres							Chisellin	<u> </u>		General	Rem	arks	
Date	Tım	e Bore De		Casing Depth	Bore Dian	neter meter	Water Depth	From	То	Duration (hh mm)					
			<u>p</u>	<u>o opui</u>				20 00	20 60	02 00	1 Piezom	etric pipe 914m	ım above	ground	level
												sions in metres	Scale	1 2	
Method				Plan	t			I	Drilled		Logged		Checke	ed	A

GINT_LIBRARY_V8_03 GLBICABLE PERCUSSION LOG | 310826 NEWPORT BIOMASS GPJ v8_03 | 31/03/10 15 11 | AP RSK STATS Geoconsult Ltd The Old School Stillhouse Lane Bedminster Binstol BS3 4ER Tai M17 047 047 447 447 447

		por	t Bioi						lient		evis Pow			Boreho		<u>H102</u>
Contract					Start	21 0	1 10	Ground I	Level (m T	BM)	National Gri	d Co ordina	ate	Sheet		
	<u>3</u> 1	108	26		End		<u>1 10</u>		21				· •			of
5	Sampl	les ar	nd In situ	ı Tests		Water	Backfill & Instru mentation				_				Depth	Mater
Depth		No	Туре	Resi	ults	Ma	linst				Description	of Strata			(Thick ness)	Graph Leger
4 50	-+	9	D			1	<u></u> н	Soft br	own mott	led grey	silty CLAY	(possibly re	worked) (str	ratum text		x
								copied	fi om laye	r at m dej	oth fiom prev	nous sheet)				<u></u>
															-	<u> </u>
															ŀ	×
5 00 5 45		10	SPT	N=	.1										-	<u>x </u>
5 00 5 4.	,	10	SPI	19-	-1										-	5
															ŀ	[- <u>-</u> -
															ł	<u> </u> ₹
															ŀ	<u></u>
															1	
															[<u> </u>
5 70		11	D												L	<u> </u>
		[ł	[<u>x</u>
6 00 6 45			тт	£ 1.1											F	<u> </u>
00004	'	12	U(100)	6 blo	ows										ŀ	<u> </u>
															(6 50)	<u> </u>
															-	<u>_</u>
			1												1	
6 50		13	D												[<u> </u>
															[<u> </u>
															-	<u></u>
															-	
7 00		14	D												-	<u>[</u>
. / 00		'													-	×
															-	<u></u>
•															[
																<u> </u>
7 50 7 95	5	15	SPT	N=	=0										-	<u> </u>
															-	
															ŀ	<u></u>
															-	<u> </u>
8 00		16	D												1	Ľ
															[<u> </u>
																<u></u>
															-	
															\mathbf{F}	<u>[</u>
															ŀ	×
8 70		17	D												ŀ	×
-															[<u>×</u>
															I	×_
	Bor	rıng l	Progress	and Wa	ter Ob	servati	ons			Chiselli	ng			1 D	1	
Date	Τ—	ıme	Boreh	ole C	asıng	Borel Diam	nde	Water	From	То	Duration	1	Genera	i Kema	arks	
	+		Dep	th D	epth	(mr	n)	Depth			(hh mm)		•			
									,				sions in metre		1 25	
Method					Plant					Drilled		Logged		Checke	.a	AG

Contract Ne	wp	ort	Bior	nass Pov	ver P	lant		lient	N	levis Pov	ver Ltd	Boreho		H10
Contract R			_	Start				Level (m T	BM)	National G	rıd Co ordınate	Sheet	_	
	310)82	6	End	26	<u>01 10</u>		21					_	of
Sa	mples	s and	In situ	Tests	ter	u &	IO						Depth	Mate
Depth	N	-	ype	Results	Water	Backfill & Instru	Certral 1			Description	of Strata		(Thick ness)	Grap Leg
9 00 9 45	18		J ₍₁₀₀₎	10 blows			Soft bi	own mottl	ed grey	silty CLAY	(possibly reworked)	(stratum text	11033)	x
							copied	from layer	at m de	epth from pre	evious sheet)	,	[
													ŀ	×
			ĺ										9 50	É-×
9 50	19		D				Soft br	own mottle	ed grey	silty slightl	y sandy CLAY (possib	oly reworked)		<u> </u>
		1					Sand is	fine to me	dium				(0 50)	<u> </u>
													-	
													10 00	
10 00	20		D				Grey s	lty CLAY	(possibl	e reworked)			-	×
													ŀ	×
													ŀ	<u></u>
													[
10 50 10 9	5 2	1 5	SPT	N=2									ŀ	
													ŀ	É
													t	Ľ <u>,</u>
_													(2 00)	×
													}	
													ŀ	<u></u>
													[×
11 40	22	2	D										ŀ	×
													ŀ	É
													t	ř
													 	<u> </u>
12 00 12 4	5 23	3 τ	J ₍₁₀₀₎	16 blows			Brown	mottled gr	ev sand	v CLAY (no	ossibly reworked)		12 00	<u> </u>
			-(100)				2.000	monio Bi	•)	, chin de	ission for the state of the sta		ł	
													[
													-	<u> </u>
12 50	24	4	D										(1 10)	
	[[E
			ļ										ŀ	
													ŀ	E
-	ļ												13 10	
13 10	2:	5	D				Grey s	ulty CLAY	(possib	ly reworked)		-	×
		_ _											(0 40)	x
													13 50	<u> </u>
	Born			and Water C	hserve:	tions		1	Chisell	1ng				
· · · · · · · · · · · · · · · · · · ·			Boreh		Bor	ehole neter	Water	E	To	Duration	1 1	eral Rema	arks	
Date	Tin	le	Dept			m)	Depth	From		(hh mm)				
]						
								1						
											All dimensions in m	netres Scale	1 25	5
Method				Pla	nt				Drilled	<u> </u>	Logged	Check		
Used	Cab	ole n	ercus	sion Us	ed	Da	ndo 200	0 1	By	RS	By APrzew	reslik By		A

Contract	lew	po i	rt Bio	mass I	Pow	er Pl	ant		Client		vis Pow	er Ltd		Boreh		BH10
Contract	Ref				Start	21 0	1 10	Ground	Level (m T		National Gri		ate	Sheet		
	3	108	326		End	260			21							of
5	Samp	oles a	nd In site	u Tests		Water	Backfill & Instru mentation			n	escription	ofStrata			Depth (Thick	Mater Grap
Depth		No	Туре	Resu		M	Back Ins				-				ness)	Lege
13 50 13 13 50 14	80 00	26 27	SPT B	N=98	8*			Dense coarse	becoming angular to	very dens	se reddish nded GRAV	brown and EL and C	dark grey, OBBLES o	medium to	-	00
								quartz	ate and cong	lomerate			se gravel and		ł	
									onic only us				e gruter une		-	200°
-															È.	80
															-	e Do
		i													t	p &
															-	600
															ţ	000
															-	00
								1							ŀ	000
15 00 15	45	28	SPT(c)	N=3	1		:目								ŀ	000
							:目								ł	800
															}	ŝ
15 50 16	00	29	в]								0 G
															-	0 00
															ł	6
-															<u> </u>	802
							: []	1							ł	000
															-	0 0
		• •			_										(6 00)	200
16 50 16 16 50 17	95	30 31	SPT(c) B	N=3	2		: [ł	
							• н								ļ	6 20
															+	2000 2000
-							:目								F	6
								}							}	600
																00
	ĺ														+	000
								1							Ţ	600
	ĺ														ł	600
							: 目_	<u> </u>								620
	Bo	ring	Progress	and Wat	er Obs	ervatio	ons			Chiselling				10		
Date		 [ime	Boreh	ole Ca	sıng	Boreh Diame	ole ter	Water	From	То	Duration (hh mm)		Gener	al Rem	arks	
	\vdash		Dep	th De	pth	(mn)) 	Depth								
												All dimer	isions in met	tres Scale	1_25	5
Method Used		-			Plant Used		Dai			Drilled		Logged By		Check		AG

		rt Bi	oma	ss Pow						IS Pow			L	B	H10
Contract Re		0.0		4			1	l Level (m TI	BM) N	ational Grie	d Co ordina	te	Sheet		
	310			End		1 10		21					<u> </u>		of
Sa	nples	and In s	atu Tes	sts	Water	Backfill & Instru			De	scription of	f Strata			Depth (Thick	Mater Grap
Depth	No	Туре		Results	3									ness)	Lege
18 00 18 49 18 00 18 50 19 50 19 86 20 00) 33	SPT(c) B		N=40			Gene	e angular to zite and cong Some clay a <i>tum text copie</i>	eak (locall)	ded GRAV etween med her at m dep y weak) ind y weak) ind	EL and CC	dark grey med DBLES of sar rse gravel and d evious sheet)	isobbles	<u>19 50</u> 	
													ŀ		
						1									
	I	L			'	•							I		
	Borng		ehole	Water O Casing	bservat Bore		Water	-∦	Chiselling	Duration		General	Rema	rks	
Date	Time		epth	Depth	Dian (m	neter	Depth	From	То	(hh mm)					
	· <u> </u>		<u> </u>			~	<u> </u>								
				<u> </u>								sions in metres	Scale	1 25	
Method				Pla	at			1	Drilled		Logged		Checke	ł	

Contract F			mass	Start				Level (m TE		VIS Pow	d Co ordinate		Sheet		BH103
Contract F	310	876			08 0 15 0			1 Level (m 1 E		vational Gri	a Co ordinate		Sneet		- 6
				End				14							of Materi
Depth	No	and In su	Resu	ilts	Water	Backfill & Instru				escription of				(Thick ness)	Graph
							MAD (rewo	E GROUND orked) Grave ounded	compris l is reddi	ang soft bro sh brown ar	own mottled ad grey fine to	grey gravelly o medium an	CLAY gular to		
0 30	1	D					sub ro	occasional veg	getation a	nd rootlets				[
0 50 1 20	2	В													
														(2 00)	
1 20 1 65	3	SPT	N=	2											
1 50	4	D													
1 50 2 00	5	В												-	
2 00 2 45	6	U(100)	10 blo 100% red					brown mottlec leposits	l grey CL	AY with rai	re black pock	tets of pseudo	fibrous	2.00	
2.50	7	D												- - -	
2 50 2 50 3 00	8	B	:											-	
3 00 3 45	9	SPT	N=	2		-								- 	
3 50 3 50 4 00	10 11	D B												-	
4 00-4 45	12	U ₍₁₀₀₎	12 blo 30% rec												
			3070100	overy										-	
	Boring	Progres	s and Wa	ter Oh	servati	ons			Chiselling	2					
Date	Time	Bore	hole Ca	ising epth	Borel Diam (mr	nole eter	Water Depth	From	To	Duration (hh mm)		General			1
											1 riezomet	пс ріре 104m	iii adove	ground I	evel
											All dimensio	ons in metres	Scale	1 25	<u></u>
 Method				Plan	t				rilled		Logged		Checke		AG

Contract Ne	ewpo	rt B10	mass Pow	er P	lant		Client	N	evis Pow	er Ltd		E	BH1 (
Contract R			Start				d Level (m T	BM)	National Gr	d Co ordinate	Sheet		
	310	826	End	15 (<u>)1 10</u>		14						of
Sa	mples a	and In sit	tu Tests	ter	2 1 2							Depth	Mat
Depth	No	Туре	Results	Water	Backfill & Instru]	Description	of Strata		(Thick ness)	Gra Leg
4 50 4 50 5 00	13 14	D B		1		Soft	brown mottle	ed grey C	LAY with ra	re black pockets of pseudo	fibrous		=
4 50 5 00	14	Б				peat sheet	deposits <i>(st</i>	ratum tex	t copied fro	m layer at m depth from p	orevious	ŀ	
												-	
												-	
5 00 5 45	15	SPT	N=1									ļ.	E
												ŀ	<u>[</u>
												ŀ	1
												ł	
												[
												ļ	<u> </u>
												F	
												ŀ	<u> </u>
6 00	16	D B										[
6 00 6 50	17	В										ļ	
												-	
												-	
6 50 6 95	18	U(100)	11 blows									(9 20)	
		(,	40% recovery									[
												[<u> </u>
												-	<u> </u>
7 00	19	D										F	F
												F	
		1										[===
												ŀ	[- <u>-</u> -
7 50 8 00	20	в										ŀ	E
1 20 0 00	1											ł	
												[[
												[
8 00 8 45	21	SPT	N=9									_	
0 00 0 45	21		N-9									ł	
												ł	
												Į	[
												F	E
												F	<u>[</u>
												ŀ	<u> </u>
												<u>}</u>	
			<u> </u>									ſ	[
	Boring	Progres	s and Water Ob	servat	ions		-	Chisellu	ng				
Date	Time	Bore	hole Casing	Bore Dian	ehole neter	Water	From	То	Duration (hh mm)	General	кета	arks	
		De	pth Depth	(m	im)	Depth		+					
										All dimensions in metres	Scale	1 2:	5
Method			Plan	ı. t	l.			Drilled		Logged	Check	ed	5 A
Used	Cabl	e nerci	ussion Used	1	Da	ndo 3(By	AJ	By APrzewieshk	By		



Contract Ref			mass Pow				Level (m TBM)		Grid Co ordinate	Sheet		<u>H10</u>
	3108	826	End	150			14					of
	-	nd In sit	· · · · ·								Depth	Mate
Depth	No	Туре	Results	Water	Backfill & Instru mentation			Descripti	on of Strata		(Thick ness)	Grap
9 00	22	D			р <u>а</u> ́ з	Soft b	rown mottled gr	ev CLAY wit	h rare black pockets of ps	eudo fibrous		
9 00 9 50	23	В				peat c	leposits (stratur	n text copied	from layer at m depth fr	om previous	-	2-2
1						sheet))				†	E
-				1							-	
t I				[t	<u>F</u>
9 50 9 95	24	U(100)	14 blows								F	[
-			30% recovery								-	[-]-
-											F	
-											ł	
t l											f	F
10 00	25	D				Í					F	<u> </u>
t						Í					F	⊨
ł				1							t	[
ŀ						Í					ł	
t .											ŀ	<u>⊧</u>
10 50 11 00	26	В		1							F	[
		-				Í					F	
ŀ											ŀ	<u> </u>
<u> </u>						Í					ŀ	[
-											ŀ	<u>└</u>
11 00 11 45	27	SPT	N=5								┝	
		211									11 20	[- <u>-</u>
ŀ						Verv	soft light grey mo	ottled brown s	andy CLAY		1120	====
-							son ngin groy in				ŀ	
-											F	
-											F	
•											F	
r i						i					ł	
1											F	[- <u>-</u> -
F											1	<u></u>
12 00 12 50	27	В									(1 70)	<u></u> _
r 12 00	28	D									t	[- <u>-</u> -
_											t	
[ſ	<u> </u>
[ſ	
12 50 12 95	30	U(100)	18 blows			3					[
[100% recovery	1		}					[
[}					[
					F	1					12 90	<u> </u>
L					FЦ	Dense	becoming very	dense reddi	sh brown and dark grey	SAND and		0.0
13 00	31	D			「目		VEL Sand is r	neatum to condeten	oarse Gravel is medium a quartzite and conglomer	to coarse	ļ	60
ļ.					ΕĦ	suo ai	Barar to sub rou	mana sanusion	e quarene and congromer		Ļ	0 0
ļ					E	1					ŀ	βO
-						1					ŀ	60
L					<u> </u>	1						ليح
<u></u> в.	omec	Progress	s and Water Ob	envote	me		Chu	selling				
		Bore		Boreh	iole	Water		Durati	Gener	al Rema	arks	
Date 7	Time	Doren	-	Diame (mn	eter	Depth	From	To (hh m		······································		
					<u>´</u>	<u></u>						
		l										
									All dimensions in met	tres Scale	1 25	

RSK RSK STATS GEOCONSULT LTD GROUP PLC

BOREHOLE LOG

Contract	wno	rt Rio	mass Pow	or Pl	lant		Chent	Na	vis Pow	or I td	Borehole	BH1
Contract Re			Start	_		-	d Level (m T			d Co ordinate	Sheet	
	310	826	End	15 0		1	14	Í				of
Sar	nples	= and In sit	u Tests	ter	11 & I						[]	Depth Mat
Depth	No	Type	Results	Water	Backfill & Instru			Ľ	escription (of Strata		Thick Gra ness) Leg
13 50 14 00 - - - - - - - - - - - - - - - - - -		B SPT(c)	N=42			Dens GRA sub a	VEL Sand angular to	1s mediu sub round	im to coars ed sandstor	prown and dark grey SAN e Gravel is medium to ne quartzite and conglor oth from previous sheet)	coarse [$\mathcal{O}_{\mathcal{O}_{\mathcal{O}_{\mathcal{O}_{\mathcal{O}}}}} = \mathcal{O}_{\mathcal{O}_{\mathcal{O}_{\mathcal{O}}}} = \mathcal{O}_{\mathcal{O}_{\mathcal{O}}} = \mathcal{O}_{\mathcal{O}} = \mathcal{O} = \mathcal{O}_{\mathcal{O}} = \mathcal{O}_{\mathcal{O}} = \mathcal{O}_{\mathcal{O}} = \mathcal{O}_{\mathcal{O}} = \mathcal{O}_{\mathcal{O}} = \mathcal{O}_{\mathcal{O}} = \mathcal{O} = \mathcal{O}_{\mathcal{O}} = \mathcal{O} = \mathcal{O}_{\mathcal{O}} = \mathcal{O} = $
- - - - - - - - - - - - - - - - - - -		D B SPT(c)	N=45									4 60) 4 60) 4 60)
16 00	37	D										
16 50 17 00) 36	В									- - - - -	
17 00 17 45	5 37	SPT(c)	N=38									
f - - -						to c	e to coarse	angular to	sub angular	very very sandy GRAVEL mudstone with occasional n bbles of sandstone quartz	Gravel	00000
	Boring	g Progress	s and Water Ob	servati	ons			Chisellin	g	Comment		
Date	Time	Borel	Ų	Boref Diam (mn	eter	Water Depth		То	Duration (hh mm)	General		KS
Method			Plan	t				Dnlled			Scale Checked	1 25
Method			ssion Plan		L	ndo 3		Drilled By	AJ	Logged By APrzewieslik	Checked By	A



	-	rt Bio	mass								evis Pow			01	B	H10.
Contract Ref		000		Start				Ground	Level (m TBM	1)	National Gri	d Co ordina	te	Sheet		
		826		End	<u>15 (</u>				14							of
		and In sit			Water	Backfill & Instru	otatioi			I	Description of	of Strata			Depth (Thick	Mater Graph
Depth	No	••	Res	sults	^				<u> </u>		-				ness)	Leger
18 00 18 00 18 50	40 41	D B				•••••••		is fine to coa	to coarse ang arse sub round omerate (strati	ular to led to	sub angular rounded co	mudstone w bbles of sa	indy GRAVEL with occasional indstone quart in depth from p	medium zite and	-	000000
18 50 18 81	42	SPT(c)	N=	114*											- - -	
19 00	43	D													- (3 25)	
19 50 20 00	44	В													- - - -	
20 00 20 45	45	SPT(c)	N=	=38											-	
								Genera	ally very weak	(loca	lly weak) in	distinctly lat	minated reddisl	h brown	- <u>20 75</u>	
21 00 21 00 21 50	46 47	D B						(Merci Weak MUDS	a Mudstone G	roup 2 veak)	one II) reddish brow		ally mottled gro		21 00	
	 	+			+-	-									21 50	
-															-	
	oring Fime	Progress Boreh Dep	iole (ater Ob Casing Depth	Bore Diam (mi	hole eter		Water Depth	Cr From	To	Duration (hh mm)		General	Rema	arks	
Method				Plant					Dri			All dimens	ions in metres	Scale	1 25	;

Contract		_						Client					Boreho	le	
Nev	wpo	rt B10	mass P							evis Pow	er Ltd			B	H10
Contract Re	f		St	tart	18 0	1 10	Ground	l Level (m T	BM)	National Gri	d Co ordina	ate	Sheet		
	3108	826	E	nd	<u>22</u> 0	1 10		16							of
Sam	nples a	and In su	tu Tests		er	1 & 1								Depth	Mater
Depth		Туре	Result		Water	Backfill & Instru mentation]	Description of	of Strata			(Thick ness)	Graph Lege
		Type				β Β	ΜΔΓ	F GROUN	D compr	rsing soft red	dich brown	n mottled grey	mavelly	ness)	XXX
							CLA'	Y Gravel	is white	stained bro	wn fine to	o medium ang	ular to	ŀ	\bigotimes
							sub a	ngular pumi	ce and da	rk grey tabula with rootlets	r medium r	nudstone		F	\bigotimes
0 30	1	D						vecasional v	egetation	with footiets				[\bigotimes
														ŀ	\bigotimes
0 60 1 20	2	в												(1 35)	\bigotimes
0 00 1 20	1	-			[]										\bigotimes
														ŀ	\bigotimes
														Ĺ	\boxtimes
														-	\bigotimes
1 20 1 65	3	SPT	N=3											ŀ	\bigotimes
120105		5.1												- 1 35	\bigotimes
							Soft	brown mottle	ed grey sl	ightly sandy (CLAY San	d is fine to medu	um	Ī	
							Í							Ļ	<u>[</u>
1 70	4	D												ļ	
1 70 2 00	5	B												ł	
														-	
2 00 2 45	6	U(100)	10 blow	vs										[<u></u>
			100% reco	overy										[
	1		1			i E								ļ	<u></u>
														\mathbf{F}	
2 50	7	D												ŀ	
2 50 3 00	8	B												Į	<u></u>
		ł													
														ŀ	<u> </u>
3 00 3 45	9	SPT	N=2											╞	
														(3 65)	
		ļ	-											[[
														ŀ	
3 50	10	D												ŀ	
3 50-4 00	11	B												+	<u> </u>
														ŀ	
			1											[E
4 00 4 45	12	U(100)	10 blow	ue.										-	<u> </u>
4 00 4 45	12	U(100)	100% reco											ŀ	
														t	
	-						 							[
		Ĺ	<u> </u>				I							1	<u> </u>
r		Progres	s and Wate	r Obe	ervatu	ons	<u> </u>		Chiselli			~			
		Bore			Boreh	ole	Water			Duration		General	Rema	arks	
Date	Time	De	1	-	Diame (mn	n)	Depth	From	To	(hh mm)	1 Piezon	netric pipe 1084r	nm abov	e ground	level
												- P.P. 100 M		6 	
								11							
											All dimen	sions in metres	Scale	1 25	5
Method				Plant					Drilled		Logged		Checke		A
Used (Cable	<u>e percu</u>	Ission	Used		_Da	ndo 30	00	By	AJ	By	APrzewieslik	By		A



		ort Bio	omass Pow						is Pow			1	B	BH1(
Contract R						Ground	Level (m TBM)) Na	ational Gri	d Co ordina	ate	Sheet		
	310	826	End		01 10	<u> </u>	16							of
Sa	mples	and In si	tu Tests	ter	Backfill & Instru mentation								Depth	Mate
Depth	No	Туре	Results	Water	Instr			Des	scription	of Strata			(Thick ness)	Grap Lege
4 50	13				E E	Soft h	rown mottled a	rev cho	htly sand	CLAVS	and is fine to i	neduum		
4 50 5 00	14	B				(stratu	im text copied fr	om laye	er at m de	oth from pr	evious sheet)	nculuin	-	
									_				F	
													F	
_													5 00	
5 00 5 45	15	SPT	N=2			Soft b	rown mottled gr	ey CLA	Y				_	
													-	<u></u>
													ŀ	
			ļ										ł	[]
	ł			Ì									ŀ	1
		1											ł	[
													t	<u> </u>
													[[
	l	_		[Ĺ	1
6 00 6 00 6 50	16	D B											ŀ	[
0000000													-	<u> </u>
													ŀ	<u>[</u>
													ŀ	<u>F</u>
6 50 6 95	18	U(100)	4 blows	1	12								ł	[
			0% recovery										f	
													[[
7 00	19	D											\vdash	
/ 00	19		1			ł							ŀ	
													ŀ	F==
				·									ŀ	
													Ī	<u>F</u>
7 50 8 00	20	В	ł										{	<u></u>
													-	
													-	
													F	
8 00 8 45	21	SPT	N=0										(6 15)	<u>[</u> -
														<u> </u>
						•							-	
													ŀ	[
				{									ł	<u> </u>
]										-	[- <u>-</u> -
			1										ŀ	
													ſ	[-]-
								17						
		Bore	s and Water Ob	Bore	hole	Water		selling	Duration		General	Rema	arks	
Date	Time	De De	-	Diam (mr	n)	Depth	From	То	(hh mm)					
				l		1								
										All dimen	sions in metres	Scale	1 25	;
Method			Plan				Drille	1		Logged		Checke		A

RSK RSK STATS GEOCONSULT LTD GROUP PLC

BOREHOLE LOG

		ort Bio	mass Pow						vis Pow			<u>l</u>	BH1
Contract Re		00(Start			Ground I	Level (m TB	SM) [National Gri	d Co ordinate	Sheet		_
		826	End	22 01 1			16					_	of
Sa	mples	and In su	tu Tests	Water Backfill & Instru	tation			л	escription	of Strata		Depth (Thick	Ma Gra
Depth	No	Туре	Results	Back V	ment			D	escription	JI Strata		ness)	
9 00	22	D				Soft b	own mottle	d grey (CLAY (stre	atum text copied fro	m layer at m	[<u>F-</u>
9 00 9 50	23	В				depth f	rom previoi	is sheet)				[<u> </u>
													<u>+-</u> -
					Ц							ŀ	E-
9 50 10 00	24	U(100)	4 blows		Ħ							ł	<u> </u>
	·	-(100)	0% recovery		Ħ							ł	
					Ħ							t	
					H							[[
												Ļ	
10 00	25	D	1		Ħ							ł	[
		1			Ħ							ŀ	
					Ħ							ł	[
					Ħ							ł	E
10 50 11 00	0 26	В										t	[
		}			Ħ							[E
					Ħ							ļ	<u> </u>
					Ħ							}	
11 00 11 4:	5 27	SPT	N=2		Ħ							\vdash	
1100114:	<i>, 21</i>	ori										11 15	<u></u>
		1			Ħ	Dark g	rey black sli pseudo fibr	ightly silt	y slightly sa	ndy peaty CLAY Sar	nd is medium	ŀ	=
						i cat is	trong olfact	tory evide	ence of pot	ential rotting vegetati	on associated	F	<u> </u>
					Ħ	with p	eat deposi	ts Gas	haze noted	d above casing du	ring borehole	[
					₿	constru	CHOIL					ł	
					目							ł	[
					Ħ							(1 35)	
					Ħ							ł	
12 00	28	D	{		B							F	
12 00 12 5	0 29	B			Ħ							[
			1										
					Ħ							} .	
12 50 12 9:	5 30	SPT	N=24			Madan	n dence ha	omina .	env dense	coarse sub angular to	wh roundad	12 50	<u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u></u>
12 30 12 9.	- ⁵⁰	511	11-24			GRAV	EL Gravel	is sandsto	one quartzit	e and conglomerate	suo rounded	ŀ	0
		1							-	-		ł	
•					•••	1						t	po
_	1	1										Ĺ	00
13 00	31	D		HE								ŀ	
				∄	1							(1 50)	00
					3							+`,	þ 1
. –												ŀ	0
		.1	L							·····		<u> </u>	<u> </u>
	Born	g Progres	s and Water Ob	servations				Chiselling				1	
		Bore		Borehole Diameter	T	Water	From	То	Duration	Gene	eral Rema	arks	
Date	Tım	e De	pth Depth	(mm)		Depth		10	(hh mm)				
	_												
ļ				1					}				
	·			L						All dimensions in m		1 2	5
Method	-		Plan	t			r	Drilled		Logged	Check		



	_	rt Bioi	nass Pow					evis Pow			B	H10
Contract Ref		976				Ground I	Level (m TBM)	National Gr	id Co ordinate	Sheet		
		826	End	-	110		16	<u> </u>				of
		and In situ		Water	Backfill & Instru mentation			Description	of Strata		Depth (Thick	Graph
Depth	No	••	Results		Bach			_			ness)	Leger
13 50 14 00	32	В			₿	Mediui GRAV	m dense becoming EL Gravel is sand	very dense	coarse sub angular to te and conglomerate (sub rounded	-	00
					Ħ	copied	from layer at m de	pth from prev	nous sheet)	on anam text	ŀ	
					且						Į.	00
14 00 14 30	33	SPT(c)	N=87*		Ħ	Verv d	lense dark grev S	AND and GR	AVEL Sand is medium	m Gravel 1s	14 00	5.5
					E	mediun	n to coarse sub a	ngular to sub	rounded sandstone q	uartzite and	t	00
					Ħ		merate				ļ	. ~
					Ħ						F	<u>م</u>
					Ħ						t i	60
					B						ŀ	00
					臣]					ŀ	00
15.00					Ħ	1					ļ	00
15 00 15 00 15 50	34 35	D B			Ħ	1					ŀ	00
					臣						ŀ	00
					B	}					ŀ	م م
15 50 15 73	36	SPT(c)	N=145*		Ħ	1					ł	
					Ħ.	1					ļ.	0°
					Ē						ŀ	$\circ O$
					Ħ	1					ŀ	
16 00 16 00 16 50	37 38	D B			Ħ	1					F I	00
					B						ł	
					Ħ						ţ.	00
16 50 17 00	38	в			Ħ		casional cobbles				ŀ	0 0
10 20 17 00	50						Lasional COUDICS				ł	
											(5 60)	
					B]					}	ο G
17 00 17 23	39	SPT(c)	N=156*		Ħ	1					t l	00
					Ħ	1					-	°°
												00
					۲ <u>ا</u>	1					[50
					Ħ	1					-	20
					Ħ	1					ţ	
						1					-	50
		L				J						<u> </u>
_		Boreh	and Water Ob	Borel	nole	Water	Chiselli	ng Duration	Gener	al Rema	arks	
Date 7	Time	Dept	-	Diam (nur	n)	Depth	From To	(hh mm)				
									All dumongroups on an	tras Socia	1.20	
Method			Plan				Drilled			tres Scale Checke		AG
Method Used C		e percus			 Dar	ndo 300			All dimensions in met Logged By APrzewie	Checke	<u>1 25</u> ed	



Contract								Chent					Borehol		
		rt Bio	mass							evis Pow				B	H10
Contract Ref				Start	18 0	1 10	Groun	d Level (m T	BM)	National Gri	d Co ordina	te	Sheet		
	<u>310</u>	826		End	22 0	1 10		<u> </u>					<u> </u>		of
Sam	ples	and In si	tu Tests		Water	fill & Tru attor				Deservet	6.64			Depth	Mate Grap
Depth	No	Туре	Re	sults	Ĩ	Backt Inst			1	Description of	of Strata			(Thick ness)	Lege
18 00 18 00 18 50 18 50 18 73	40 41 42	D B SPT(c)	N=	:161 *		Contract of the section of the	Very medi cong sheet	um to coars lomerate <i>(st</i>	e sub an	igular to sub	rounded sa	d is medium G undstone quartz <i>m depth fiom p</i>	zite and		
19 20 19 50 20 00	43	DB					Very	stuff to ha	urd reddu	sh brown gr	avelly CLA	AY Gravel 15	fine to	19 60	
20 00 20 23	45	SPT	N=	=152*			medi	um angular i	to sub ang	gular mudstor	e			(1 00)	
		•	·			<u> </u>									
	Time	_	ehole	Vater Ob Casing Depth	Boreh Diamo (mn	nole eter	Water Depth	From	Chisellin To	ng Duration (hh mm)		General	Rema	rks	
											All dimen	sions in metres	Scale	1 25	
Method	· · · · · ·	I		Plan			_		Drilled	l	Logged		Checke		
Used (Cabl	e perci	ussion	Use	d	Da	<u>ndo 3(</u>	000	By	AJ	By	APrzewieslik	By		A

RSK RSK STATS GEOCONSULT LTD GROUP PLC

			mass P							evis Pow				B	H10
Contract R	.ef 3108	274	1		14 01		Ground	Level (m T)	BM)	National Gri	id Co ordina	ite	Sheet		c
				End	21 01			19				<u> </u>	<u></u>		of Mater
Sa Depth	No	and In su Type	u Tests Resul	ts	Water	Instru mentation			1	Description	of Strata			Depth (Thick ness)	
					<u> </u>		MADE	E GROUNE angular GR	O compris AVEL (sing white sta Gravel is pun	uned brown	fine to medium	n angular	(0 40)	
0 40		В					MADE		Decompre	sing soft br	our mottle	d grey slightly	gravelly	0 40	
0 40 0 90	2	B					CLAY	(reworked)) Gravel	is fine to me	dium angul	ar to sub angula	ar	(0 60)	
														1 00	
1 00 1 50	3	U ₍₁₀₀₎	6 blow	VS			MADE (rewor	E GROUN ked)	VD com	prising sof	t brown	mottled grey	CLAY	-	
														-	
1 50	4	D													
- _														(1 70)	
2 00 2 45	5	SPT	N=3	•										-	
2 70	6	D					Soft br	own mottle	d grey C	LAY				2 70	
- - - 3 00 3 50	7	U ₍₁₀₀₎	5 blow	vs		:								-	
·		C(100)	5 0101											- (1 30)	
														-	
														- - -	
4 00 4 45	8	SPT	N=2				Soft br	own mottle	d grev si	ty CLAY	<u></u>			4.00	
									<u>, , , , , , , , , , , , , , , , , , , </u>					 - -	
														<u> </u>	× × ×
T		Bore	s and Wate		Boreho	le	Water	2	Chisellir	ng Duration		General	Rema	arks	
Date 09/02/10	Time	Dej 19	oth De 00	- 1	Diamet (mm) 50	er	Depth 8 55	From	То	(hh mm)	1 Piezom	etric pipe 1008	mm abov	e ground	level
17/02/10 24/02/10		19 19			50 50		8 24 8 08								
			l,	Plant				II	Drilled		All dimen Logged	sions in metres	Scale Checke	1 25	AG

		rt Bioi	mass Pow	er Plan				vis Pow		BH1
Contract R			Start	14 01 1		l Level (m Tl	BM)	National Gri	d Co ordinate Sheet	
	3108		End	21 01 1		19				of
		ind In situ		Water Backfill & Instru	tation		D	escription (of Strata	Depth Ma (Thick Gra
Depth	No	Туре	Results	Bach	men	<u> </u>		-		ness) Le
4 50	9	D			Soft denth	brown mottle from previo	d grey silt us sheet)	y CLAY (s	tratum text copied from layer at m	
					···· / ···	J F	,			
5 00 5 50	10	U(100)	5 blows							
		U(100)	5 010W3							
					r					
5 50	11	D								
										(3 50)
-										
6 00	12	SPT	N=0							
•										
-										
-										
-										
-										
- -										
7 00	13	D								
7 50	14	U(100)	7 blows		Verv	soft brown n	nottled gre	V CLAY		7 50 -
7 50	15	U ₍₁₀₀₎ B					U			[臣
-										
-										
_ _										
-										(1 50)
-										
-										
-										
L										
- 				-						-[[]
										9 00
	Boring	Progress	and Water Ob	servations			Chiselling	<u></u>	Company 1 Day	
Date	Time	Borel	nole Casing	Borehole Diameter	Water	From	То	Duration	General Rem	arks
		Dep	th Depth	(mm)	Depth			(hh mm)		
						11				
								1		
Mather						╢,	Drilled	l	All dimensions in metres Scale	<u>1 25</u>
Method Used	~	e percu	Plan Use		ando 20		Drilled By	RS	Logged Check By APrzewieshk By	ted



Contract		ho		mass P				Ground	Level (m		National G	rid Co ordin		She		BH10
Contract		100	826			14 01 21 01	1	GIOUNO	1 Level (m			na Co ordin	ale	Sne	ฮเ	۰£
					nd						<u> </u>					of
			ind In situ			Water	Backfill & Instru mentation				Description	of Strata			Depth (Thick	(Grap
Depth	- 1	No	Туре	Result	ts	15	bac. In men								ness)	
9 00 9 45	;	16	SPT	N=1				Soft depos	grey silty its	CLAY v	with rare poo	ckets of bla	ick pseudo	fibrous pe	at	
-								acpos	10						F	<u></u>
•															ł	<u></u>
															[Ē
-	- 1														ŀ	<u> </u>
-															ŀ	Ĕ <u>~</u>
-		ļ													ŀ	×
-															ł	<u></u>
10 00		17	D												[
-															ŀ	
-															ŀ	Ĕ <u></u>
															ŀ	×
10 50 11	00	18	U(100)	8 blow	s										t	
-															Ĺ	<u></u>
															ł	
-															ŀ	
-															F	
															[
11 20	1	19	D												ŀ	ţ,
						1									ŀ	<u> </u>
-															ł	[<u> </u>
-															t	<u> </u>
-															[×
-															-	×
12 00 12	45	20	SPT	N=1											(6 00)	<u> </u>
•															ŀ	
															[<u> </u>
-															ŀ	
-															r	×
•															ŀ	<u></u>
-															[<u> </u>
-															Ļ	
13 00		21	D												╞	É
-		~ 1						1							ŀ	×
						[]							Ĺ	<u> </u>
-						!									ŀ	<u></u>
	1					<u> </u> [1								<u> </u>
	Bo	ring		and Wate	_	servation	ns			Chisell			Gener	al Ren	narke	
Date	т	Ime	Boreh			Boreho Diamet	er	Water Depth	From	То	Duration (hh mm)					
	+		Dept	th Dep	<i>J</i> u1	(mm)		Depin	╢────	+		1				
										<u> </u>			isions in me			5
Method					Plant					Drilled		Logged		Chee		AC

RSK RSK STATS GEOCONSULT LTD GROUP PLC

BOREHOLE LOG

Contract Ref			mass Pow			Ground	Level (m TH		evis Pow	d Co ordinate	Sheet		BH1
	3108	826	End	14 0 21 0		Ciouna	19	5101)			Sheer		of
		ind In situ				1			I			Depth	
Depth	No	Туре	Results	Water	Backfill & Instru mentation				Description	of Strata		(Thick	Gra
13 50 14 00	22	U(100)	40 blows	<u> </u>			rou alta C	1 4 7	with more mod	kets of black pseudo	fbroug post	ness)	Le
15 50 14 00		U(100)	40 010 W3			deposi	ts <i>(stratum</i>	text cop	ned from laye	er at m depth from pre	evious sheet)	ŀ	
												[ř -
					[目	1						-	×
]						-	x
					[目	1						r	<u></u>
14 20	23	D											
					Ë	1						ŀ	
					E							ŀ	
					に目]						[<u></u>
					E	1						\mathbf{F}	Ľ
					E]						15 00	<u></u>
15 00 15 45 15 00 15 50	24 25	SPT B	N=7		目	Dense	reddish bro	own an	d dark grey	fine to coarse su	ub angular to		निष्
13 00 13 30	25	в			E	and co	unded GRA	vel in	a grey clay m	atrix Gravel is sandst	one quartzite	-	آ م
						1	-					ŀ	29
					E	1						t	6
						1						[<u>Б</u>
												+	<u> </u>
					: []	1						ŀ	6-1
						1						(2 00)	0-0
					:目	}						\mathbf{F}	6
					I I	1						ł	
					: []	1						[
16 50 16 95	26	SPT	N=25]						+	
10201095					[目	1						ł	p D
					目	}						[6 6
						1						+	1
					:	Dense	becoming	very de	ense reddish	brown and dark gre	y medium to	17 00	00
					; F	coarse	angular to te and cong	sub roi	unded GRAV	EL and COBBLES	of sandstone	[∼
17 30	27	D				quanza	te una cong	,ioniciai	~			\mathbf{F}	۰ ď
17 30	² /				: []	}						ŀ	9
					E	1						[64
						1						-	5
					: E]						<u> </u>	p d
						1						ſ	64
		Progress	and Water Ob	Comote	005			Chisell					_
		Boreh		Borel	nole	Water			Duration	Gene Gene	ral Rem	arks	
Date	Time	Dep	-	Diam (mr		Depth	From	То	(hh mm)				
				<u> </u>			II	L		All dimensions in m		12	5
Method Used		percus	Plan Used		•	1do 200		Drilled By	RS	Logged By APrzewi	eslik By	cu	

BOREHOLE LOG

_

Contract Ref	<u> </u>		mass Pow Start				Level (m TBM)	evis Pow	d Co ordinate	Sheet	BH10
	3108	826	End)1 10)1 10		19	INational Off		Sheet	of
	_			-		<u> </u>	1/	<u> </u>		<u></u>	
Depth	nes a	nd In siti Type	Results	Water	Backfill & Instru			Description	of Strata		Depth Mater (Thick Graph ness) Leger
18 00 18 15 18 00 18 50	28 29	SPT B	N=250*			Dense	becoming very de	ense reddish	brown and dark grey n EL and COBBLES of s	nedium to	1 00
						quartz	ite and conglomera previous sheet)	te (stratum t	ext copied from layer a	t m depth	
19 00 19 50 19 00 19 45	30 31	B SPT	N=39								
20 00 20 50	32	В									
20 80	33	D				Very	weak indistinctly reen MUDSTONE	laminated rec	ddish brown occasionally	y mottled	20 80 000
21 00 21 15	34	SPT	N=200*			(Merci	a Mudstone Group	Zone II)			(1 20)
											22 00
22 00 22 20 22 48	35 36	D SPT	N=120*			\mudste Firm (\gravel	one locally stiff) reddisl	brown occas	depth Assumed to be v sionally mottled grey gree in sub rounded mudstone	/	22 09 24. 22 26
В	oring		and Water Ob				Chiselli	ng	Genera	1 D am/	arko.
Date	Time	Boreh Dep		Borel Diam (mr	eter	Water Depth	From To	Duration (hh mm)			ш К5
									All dimensions in metre	s Scale	1 25

Contract Re			mass Pow Start			Ground	Level (m T		vis Pow	d Co ordinate		Sheet		BH1
	 3108	826	End	11 01		o.ou.u						Sheet		of
		nd In site		<u> </u>				<u></u>					Depth	T .
Depth	No	Type	Results	Water	Backfill			D	escription of	of Strata			(Thick ness)	Gra
		- 58-			н	MADI	E GROUNI	D comprisi	ng dark gre	ev slightly cla	yey sandy GR/	VEL	-	\mathbf{X}
						Gravel	is fine to n	nedium an	gular to sub	angular	j.j.		-	\bigotimes
0 50 1 20	1	в											(1 35)	\bigotimes
_													-	\bigotimes
1 20 1 65	2	SPT	N=4										-	\bigotimes
1 50 2 00	3	в				Soft bi deposi	rown mottle	ed grey CL	AY with o	ccasional blac	k pseudo fibrou	is peat	-	E
-						aspect							-	
- 2 00 - 2 00 2 45	4 5	D SPT	N=6			Li	ght brown	nseudo fib	orous peat c	ienosits			-	E
2 10 2 50	6	D	N=0				Succession	pseudo no	orous pour c	ieposits.			-	
2 50 3 00	7	В				Tr	aces of pse	udo fiborc	ous peat dep	osits			-	[=-
- 3 00	8	D					1	-	. r				-	[
3 00 3 45	9	SPT	N=2										-	[
3 50 4 00	10	в											-	[
-													-	[=-
- 4 00 - 4 00-4 45	11 12	D SPT	N=2										-	F
4 50 4 50	13	в												F=-
		Ъ											-	<u> </u>
5 00	14	D											-	<u> </u>
5 00 5 45	15	SPT	N=1										-	
-													_	<u> </u>
- 6 00	16	D											-	[
6 00 6 50	17	B												
6 50 6 95	18	SPT	N=1										-	F
-													: (11 35)	[=
-														<u> </u>
7 50	19	D											-	F
7 50 8 00	20	B											_	F
8 00 8 45	21	SPT	N=1										-	F
-													-	<u> </u>
•				_										
														[]
	Boring	Progress	and Water Ob	servatio	ns			Chiselling	 g				1	
Date	Time	Borel	nole Casing	Boreho Diame	ole ter	Water	From	To	Duration	(General H	kema	rks	
06/01/10	16 06	Dep 17 5		(mm 150)	Depth 11 30		<u> </u>	(hh mm)		<u> </u>			
07/01/10	08 05	17 5		150		10 00								
										All dimension	ons in metres	Scale	1 50	
Method		L	Plan	<u> </u>	1		Чт,	Drilled		Logged	and in meneo	Checke		,



Contract Ref		rt Bio		Pow Start			Ground	Level (m TE		vis Pow National Gri	d Co ordinate		Sheet	<u></u>	<u>8H10</u>
		826		End	11 01										of
Sam	ples a	and In sit	u Tests		er									Depth	Mate
Depth	No	Туре	Res	ults	Water	Backfill			D	escription of	of Strata			(Thick ness)	Grapl Lege
9 00 9 00 9 50	22 23	D B					Soft b depos	rown mottleo its (stratum	d grey CL text copie	AY with oc ed from laye	casional blac	k pseudo fibro	us peat sheet)	-	
9 50 9 95	24	SPT	N=	=2			-		-		fiborous pea	-		ŧ	
								-				-		Ē	
10 00	25	D													E
10 50 11 00	26	в													
- - -														Ē	
- 11 00 11 45	27	U ₍₁₀₀₎													
-														E	===
- - - 															<u> </u>
12 00 12 00 12 50	28 29	D B													臣
12 50 12 95	30	SPT	N=	36										- 12 70	
-	.						Grave	l is sub ang	ular to su	ub rounded	e to medium S Occasional	AND and GR angular cobble	AVEL es with	-	000
13 00	31	D					lenses	of grey silty	peat depo	osits				ļ t	
13 50 14 00	32	в													00
14 00 14 45	33	SPT(c)	N=	42										-	00
14 00 14 45	35	5P1(C)	IN-	43										(3 30)	00
														Ę	00
15 00	34	D												E E	00
15 00 15 50	35	B													00
15 50 15 95	36	SPT(c)	N=	20											00
• 16 00	37	D					Dense	reddish bro	wn and o	dark grey i	nedium to co	oarse sub ang	ular to	<u>- 16 00</u> -	00
-							rounde	ed GRAVEI	and CC	OBBLES C	Fravel and co	bbles are san	dstone		000
- 16 50 17 00	38	В													
- - 17 00 17 45	39	SPT(c)	N=	40										È- E	
-														-	
															0 00
								n	Chicoller					·····	<u>m -)</u>
	oring Time	Progress Borel		ater Ob asıng	Boreh Diame		Water	From	Chiselling To	Duration	(General	Rema	arks	
		Dep	th E	Depth	(mm)	Depth		10	(hh mm)					
Method	-			Plan					Drilled		All dimension	ons in metres	Scale Checke	1 50) A(

		rt Bio	mass Pov						vis Pow		ä		<u> </u>	H1
Contract Re		001				Ground	Level (m Th	BM) 1	National Gri	d Co ordın	ate	Sheet		
	310		End											of
	÷	and In sit		Water	Backfill			п	escription (of Strata			Depth (Thick	Mat Gra
Depth	No	Туре	Results	3	Ba(ness)	Leg
18 00 18 50 18 50 18 50 18 50 19 00 19 50 20 00 20 00 20 45 20 70 20 70 21 00	42 43 44 45 45 46	D SPT(c) D SPT(c) D B 	N=34			quartz from p Hard	nte and cong	glomerate et) wn occas	(stratum t	tled grey	coarse sub- cobbles are s from layer a	t m depth	(4 70)	
	Boring	Progree	s and Water (bservatio	ns		1	Chisellin	σ					
T		Bore		Boreho	ole	Water			Duration		Genera	l Rema	arks	
Date	Tume	Dej				Depth	From	To	(hh mm)	All dumor	isions in metre	s Scale	1 5	
Method			Pla	 ant				Drilled	<u> </u>	Logged		s Scale Checke	<u>150</u> ed	, A
		e percu		sed	Da	1do 30		By	AJ	By	APrzewiesli	~		



		rt Bio	mass							vis Pow				BH	<u>10'</u>
Contract R	ef 3108	276					Ground	Level (m TBM)		ational Gri	d Co ordina	ite	Sheet	~	
			T	End	<u>150</u>		1							of	later
Sa Depth	No	ind In sit		ults	Water	Backfill			De	escription of	of Strata			(Thick G	raph eger
0 00 0 50	1	B B					CLAY	E GROUND con (reworked) S unded with occas	and 19	fine Gra	vel is fine	to coarse	angular to	(1 20)	
1 20 1 65	3	SPT	N	=2			MADI (rewoi	E GROUND rked)	comp	nsing soft	brown	mottled gre	y CLAY		
1 80	4	D												(1 30)	\bigotimes
2 00 2 45	5	U ₍₁₀₀₎	5 bl	ows											\bigotimes
2 50	6	D					Soft bi	rown mottled gre	y slig	htly sılty Cl	LAY (possi	bly reworked)	2 50	\propto
2 80	7	D													- <u>×</u>
3 00	8	SPT	N	=0											
3 80	9	D													× · · · · · · · · · · · · · · · · · · ·
4 00-4 45	10	U ₍₁₀₀₎	5 bl	ows											
	Boring	Progress	and W	ater Ob				Chis	selling			Ganara	1 D	arleo	
Date	Tume	Dep	oth I	Casing Depth	Boreh Diame (mn	eter 1)	Water Depth	From	Го	Duration (hh mm)		Genera		11 KS	
12/01/10 13/01/10	08 00 15 36			5 00 16 65	15(15(4 00 7 00								
Method				Plant				Drille			All dimens	sions in metre	s Scale Checke	1 25	AG

		rt Bioi	mass Pow						evis Pow			D	BH
Contract Re						Ground 1	Level (m T	BM)	National Gri	d Co ordinate	Sheet		
	3108	826	End	15 0		<u> </u>							of
San	nples a	nd In siti	ı Tests	Water	Backfill				Description of	of Strata		Depth (Thick	
Depth	No	Туре	Results	×	Bac							ness)	I
4 50	11	D				Soft b	rown mot m text copi	ttled gre	y slightly s laver at m dep	Ity CLAY (possibly re oth from previous sheet)	worked)	\mathbf{F}	F.
						(·····	j				ł	4
												[x
5 00 5 45	12	SPT	N=4									F	x
												Į	F
												ł	×
												t	4
												ŀ	LA L
												Ł	T R
5 80	13	D										F	F
6 00 6 45	14	U(100)	4 blows									╞	F
												ļ.	T.
												-	-
												ţ	-
												F	-
												Ì	-
												ŀ	-
_													-
												-	-
												ļ	- F
7 50	15	SPT	N=0									(10 00))-
												[T R
												ŀ	-
<u> </u>												Ĺ	
												-	F
												ŀ	-
												-	
8 50	16	D										ļ.	F
												ŀ	-
·												[-
													1-
H	Boring	-	and Water Ob					Chiselli	··· · · · · · · · · · · · · · · · · ·	General	Rem	arks	-
Date	Time	Boreh Dep		Boreh Diame (mr	eter	Water Depth	From	То	Duration (hh mm)			uins	
				(<u>, 1</u>		<u> </u>		-				
										All dimensions in matrice	Scale	1 25	
Method			Plan	I			<u>ا</u>	Dniled		All dimensions in metres	scale	1 23	3



		rt Bio	mass Pow					Nevis Pow		<u> </u>	B	BH10
Contract Re			Start			Ground	Level (m TBM)	National Gr	id Co ordinate	Sheet		
	310	826	End	15 01	1 10			1				of
Sar	nples	and In site	1 Tests	Water	kfill			Dogometro	of Strata		Depth	Mate Grap
Depth	No	Туре	Results	Ň	Backfill			Description	oi Siraia		(Thick ness)	Lege
9 00 9 45	17	U(100)	7 blows	1-1		Soft	brown mottled g	rey slightly s	alty CLAY (possibly re-	worked)	t i	×
						(strati	um text copied from	n layer at m de	pth from previous sheet)		[<u>⊨</u> _
											ŀ	<u> </u>
											ŀ	<u> </u>
9 50	18	D									ŀ	Ě
	1										[<u> </u>
											Ļ	x
											ŀ	<u> </u>
-											F	<u> </u>
											ł	Ĕ <u> </u>
10 20	19	D									Ĺ	<u> </u>
											ł	
10 50 10 95	20	SPT	N=3								ŀ	<u>ج</u>
											ŀ	
											1	É- <u>-</u> ×
	1										ļ	<u> </u>
-											F	<u></u>
											ŀ	<u> </u>
											F	<u> </u>
											[<u> </u>
11 40	21	D				1					ļ	<u> </u>
											ł	<u> </u>
											ŀ	<u></u>
											Į	<u> </u>
- 12 00 12 45			1011								L	<u> </u>
12 00 12 45	22	U(100)	10 blows								ŀ	Ĕ- <u>·</u> ×
				1 1							ŀ	×
											t	<u> </u>
10.50						~ ^					12 50	
12 50	23	D				Soft g	rey siightiy silty sli	gntly sandy CI	LAY (possibly reworked)		ŀ	<u> </u>
											(0 50)	<u> </u>
											t	<u> </u>
-										•	13 00	
						Reddi sub-ro	sh brown and da ounded GRAVEL 11	ark grey med nagrev clav m	dium to coarse sub-ang atrix	gular to	ŀ	<u> </u>
						540-10					ŀ	- <u> </u>
											ŀ	
											(1 00)	
								<u> </u>	· · · · · ·			
I	Boring		and Water Ob	servatio		Water	Chisel		General	Rema	arks	
Date	Time	Boreh Dep		Diame (mm	ter	Water Depth	From To	Duration (hh mm)				
							╢━━━・┼┈╶━		1			
				ł								
									All dimensions in metres	Scale	1 25	
Method			Plan	F .			Drilled		Logged	Checke	.1	A

Contract Ref	<u>p</u>	- 2101	nass Pow Start			Ground I	.evel (m T		vis Pow Vational Gri	d Co ordinate	Sheet		BH
3	108	26	End	15 0									of
Samp	oles a	nd In situ	Tests	Water	liii							Depth	M
Depth	No	Туре	Results	¶ §	Backfill			D	escription of	of Strata		(Thick ness)	
13 50 13 50 13 95	24 25	D SPT	N=9			sub rou	nded GRA	and dark VEL in a from previo	grey clay	lium to coarse sub-any matrix <i>(stratum text copi</i>	gular to red from	- -	0.1.1.0.1
14 00 14 50	26	В				coarse	becoming sub-angula te and cong	ar to round	e reddish i ded GRAV	rrown and dark grey me EL and COBBLES of sa	edium to indstone	14 00 - - - -	1 0 00 000 00 00 00 00 00 00 00 00 00 00
15 00 15 45 15 00 15 50	27 28	SPT B	N=44										
- - - - - - - - - - - - - - - - - - -	29 30	SPT(c) B	N=43									(5 50)	BUCORDON DAGE DE
17 50	31	D										- - - - - - -	
l						ـــــــــــــــــــــــــــــــــــــ		<u> </u>				1	<u>تط</u>
	Fime	Boreh	-	Boreh Diamo	ole	Water	From	Chiselling To	Duration (hh mm)	General	Rem	arks	
		Dep	th Depth	(mn	<u>u .</u>	Depth							
										All dimensions in metres	Scale	1 2	



											BUREH			
Contract				-				Client	NI		T / 1	Boreho		
		rt Bio	mass Po			_			Nevis P			01	В	H107
Contract Ref		016	Sta				Jround	Level (m TBM)	Nationa	u Grid (Co ordinate	Sheet		c.
	8108		End		-									of
		and In sit		Water		Backfill			Descript	tion of	Strata		(Thick	Materia Graphic
Depth 18 00 18 34	No 32	Type SPT	Results N=79*		-	Bŝ	D	. h	-		wn and dark grey me		ness)	
18 50	33	D	11-13				coarse quartz	sub angular to	rounded GI	RAVEL	and COBBLES of sa copied from layer at	indstone		
19 50 19 90	34	SPT	N=61*				mediu congle	um to coarse sub omerate	-angular to	sub ro	EL Sand is medium (unded sandstone quart	zite and	19 50 (0 50) 20 00	
20 40	35	D					grey g	reen MUDSTON na Mudstone Grou	E		sh brown occasionally	moned	- - - (1 30)	
21 00 21 36	36	SPT	N=71*										21 30	
В	oring		and Water					Chis	elling		General	Remo	rke	· · ·
Date	Time	Borel Dep		B Diar	ehol mete nm)	er l	Water Depth	From T	o Dural (hh m		General	<u></u>	u KS 	
										A	all dimensions in metres	Scale	1 25	AGS

GINT LIBRARY_V8_03 GLBICABLE PERCUSSION LOG | 310826_NEWPORT BIOMASS GPJ_v6_03 | 31/03/10_15 14 | AP RSK STATS Geoconsult Ltd_The Old School Stitlihouse Lane Bedminster Bristol BS3 4EB_Tel_0117 947 1006 Fax_0117 947 1009 Web_v

Contract R			mass Pow			Ground I	Level (m T		vis Pow	d Co ordinate	Sheet		<u>BH</u>
	 3108	326	End	23 01		0.000.00					Shield		of
Sa		nd In sit		1 7		1						Depth	
Depth	No	Туре	Results	Water	Backfill			D	escription	of Strata		(Thick ness)	Gr
		- 7 F -			H	MADE	GROUNE) compris	ng grey fine	e to medium angular to	sub angular	11035)	\mathbf{x}
						GRAV	EL	-		U	U	(0 35)	\bigotimes
0 30	1	D										0 35	\boxtimes
						Soft bi rare pse	own mottl eudo fibrou	ed grey s is peat de	lightly silty posits	CLAY (possibly rewo	orked) with	ţ	
0 60 1 20	2	в										ŀ	
												-	F
-												ļ	F
1 20 1 65	3	SPT	N=4									ŀ	
120103		μI	144	Į Į Į								ŀ	
				1								F	<u>_</u>
1.65												(2 65)	×
1 65 1 65 2 00	4 5	D B										Ĺ	
												-	
2 00 2 45	6	U(100)	3 blows									F	
			0% recovery									\mathbf{F}	
												-	5
2 50	7	D										F	<u>_</u>
2 50 3 00	8	B										ŀ	<u></u>
				1								[<u></u>
												3 00	
3 00 3 45	15	SPT	N=4			Soft be	coming fir	m brown i	nottled grey	silty CLAY (possibly re	eworked)	-	
												-	<u>x</u>
												ţ	<u> </u>
3 50	10	D										ł	
3 50 4 00	11	В										[<u></u>
												ł	<u></u>
												-	<u>_</u>
4 00-4 45	12	U ₍₁₀₀₎	10 blows 100% recovery									F	<u>x</u> _
												ŀ	<u>_</u>
<u> </u>													
				<u> </u>					<u> </u>			I	<u> </u>
	Boring	Progress	and Water Ob					Chisellin	g	Gener	al Rema	arka	
Date	Time	Bore		Boreh	ter	Water	From	То	Duration (hh mm)				
21/01/10	16 05	2 1	5 3 00	(mm 150		Depth 1 50							
22/01/10	16 05			150		13 75							
										All dimensions in metr	res Scale	1 2	5
Method			Plant	L			L	l Drilled		Logged	Check		5



		rt Bio	mass Pow						evis Pow		<u> </u>		E	BH108
Contract R			1			Ground	Level (m 1	BM)	National Gri	d Co ordinate		Sheet		
	310	<u>826</u>	End	T	1 10	<u> </u>							.	of
Sa	amples	and In si	tu Tests	Water	Backfill			г	Description	of Strata			Depth (Thick	Mater Graph
Depth	No	L	Results	≥	Bac								ness)	Legen
4 50 4 50 5 00	13 14	D B				Soft b	becoming fi	rm brown wed from h	mottled gre	y silty CLAY pth from prev	(possibly rev	vorked)	-	
						(sirun	im text cop	icu ji om it	iyer ai mae _i	pingromprevi	ious sneety		-	×
													È.	
5 00 5 45	9	SPT	N=4										F	
													F	<u> </u>
													[
													ŀ	
													Ł	
													ŀ	
													ł	
6 00	1.												Ĺ	
6 00 6 50	16 17	D B											ŀ	
													ļ	×
													ŀ	×
6 50 6 95	18	U(100)	10 blows										ŀ	
			100% recovery										[<u> </u>
													ŀ	×
													Ľ	<u> </u>
7 00	19	D											ŀ	
													ļ.	
														<u> </u>
7 50 8 00	20	В											(9 00)	
													[<u></u>
													ŀ	x
													Ĺ	
8 00 8 45	21	SPT	N=4										-	
	1												t	<u>×</u>
													ŀ	
													ŀ	
													[
													F	<u> </u>
		<u> </u>											<u> </u>	<u> </u>
	Borne	Progress	s and Water Ob	servati	ons		II	Chisellin	σ			·· ·		
Data		Bore		Borel Diam		Water	From	То	Duration		General	Rema	arks	
Date	Time	Dej		(mr	n)	Depth		10	(hh mm)					
								i						
										A 11 1				
Method			Plan	L t			Ш т	Drilled	<u> </u>	All dimensio	ons in metres	Scale Checke	<u>125</u> ed	AG
Used	Cabl	e percu			Da	ndo 30(By	AJ		APrzewieslik	By		100

New	vpo	rt B10	mass	Pow	er Pla	ant				vis Pow	er Ltd			B	BH1
Contract Ref				Start			Ground	Level (m Tł	BM) N	Vational Gri	d Co ordina	ite	Sheet	·	
3	3108	<u>326</u>		End	23 01	10									of
Sam	ples a	ind In sit	tu Tests		Water	Backfill			P		-			Depth	Mat Gra
Depth	No	Туре	Res	ults	Ĩ	Bacl			D	escription of	of Strata			(Thick ness)	Leg
9 00 9 00 9 50	22 23	D B					Soft b	ecoming firm	n brown r	nottled grey	y silty CLA	Y (possibly evious sheet	reworked)		<u>×</u> ,
200230		-					(317414	т нехт сорн	a from ta	yer ai mae _l	pin jrom pr	evious sneei)	ŀ	×
														ŀ	<u></u>
														[<u>_</u>
9 50 9 95	24	U	10 b 100% r	lows ecovery										\mathbf{F}	<u> </u>
														╞	
														[<u> </u>
10 00	25	D												-	Ę,
10 00	23	D												F	<u> </u>
														t	
	'													-	<u></u>
10 50 11 00	26	в												ŀ	, ,
		_												ŀ	<u> </u>
														[<u>[</u>]
														-	Ĕ.
11 00 11 45	27	SPT	N=	=13										╞	<u> </u>
					₽Ţ									t	<u>F</u> ,
					Ť										
														÷	
														-	
														[
														ŀ	×
														12 00	×,
12 00 12 00 12 50	28 29	D B					Grey r	nottled brow	vn slightly	sandy CLA	AY (possibl	y reworked)) with black	-	
12 00 12 50	29						pseudo	o norous pe	at deposits	j				-	
														ŀ	
														[
12 50 12 95	30	U ₍₁₀₀₎		lows ecovery										ŀ	
														ŀ	F_
														(1 75)	<u> </u>
														Ĺ	
														ŀ	
13 20	31	D												ŀ	
									·····						[
	I	L	l		1									I	
В	oring	Progres	s and W	ater Ob	servatio	ns	1	1	Chiselling	 g		C	-1 D	1	
	Time	Bore	hole (Casing	Boreho Diame	ole ter	Water	From	То	Duration (hh mm)	l	Gener	al Rema	ILKS	
	1 1110	De	pth I	Depth	(mm		Depth								
											A 11				
Method				Plan	l t			 T	Drilled	<u> </u>	All dimen	sions in met	res Scale Checke	<u>12</u>	
	ahla	e <u>pe</u> rcu	Ission	Usec		Dai	<u>1do 30(</u>		By	AJ	By	APrzewies		~	ļ

		rt Bioi	mass				Crownell	Loval (TT		evis Pow			hact	D	BH10
Contract Ref		826		Start	18 01		Ground	Level (m TE	5M)	national Gri	d Co ordinate	S	heet		- 6
				End	23 01	_	T								of
		and In situ			Water	Backfill			Γ	Description	of Strata			Depth (Thick	Grap
Depth	No		Res	ults	5	Ba				-				ness)	Lege
13 50 14 00	32	В					Grey n	nottled brow	vn slightl at deposi	y sandy CLA	AY (possibly rewo text copied from	orked) with b	olack lenth	-	
					Ŧ		from p	revious shee	et)	·		•	-	13 75	
							Very c mediur	lense reddis n Gravel is	sh brown fine to	and dark gr coarse sub	rey SAND and Gi angular to sub ro	RAVEL Sau unded sands	nd is tone	t	
14 00 14 23	22	SPT(c)	N-1	188*			quartzi	te and congl	lomerate		-			14 00	
14 00 14 23	33	SFI(C)	IN-	100			Gravel	is fine to c	ish browi coarse s	n and dark ub angular te	grey GRAVEL o sub rounded sar	and COBBI	LES rtzite	}	6
							and co	nglomerate		-				t	000
														-	200
														-	8
					1									t	B
														-	0
														l	000
15 00	34	D												ŀ	6
15 00 15 50	35	B												[000
														ŀ	DO
														ŀ	000
15 50 15 73	36	SPT(c)	N=	188*										[000
														-	3
														-	
16.00														[p D
16 00	37	D												-	p06
															300
														[602
16 50 17 00	38	в												-	805
															0
														(5.90)	000
														(5 80)	500
17 00 17 31	39	SPT(c)	N=	106*										-	0
														-	e De
														-	0 6
														-	2 87
														-	Ġ,
															04
														-	00
			1 117						Church						<i>لمم</i> ط
		Progress Boreh		ater Ob Casing	Boreho	le	Water		Chisellir	Duration	Ger	neral Ro	ema	ırks	
Date 7	Гіте	Dep		Depth	Diamet (mm)	er	Depth	From	То 	(hh mm)			· · · ·		
											All dimensions	n metrec So	ale	1 24	
Method				Plan							All dimensions in	n metres Sc	ale	<u>125</u> d	<u>,</u>

		rt B10	mass Po						evis Pow			B	H1
Contract Re		~ ~ ~	Sta			Ground I	Level (m T	BM)	National Gri	d Co ordinate	Sheet		
	310	826	En	T									of
	·	and In sit		Water	Backfill			r	Description of	of Strata		Depth (Thick	Ma Gra
Depth	No		Results	8	Bae							ness)	Le
18 00 18 00 18 50		D B SPT(c)	N=97*			Gravel and co	is fine to	coarse s	ub angular to	grey GRAVEL and b sub rounded sandsto ed from layer at m	one quartzite		
- - - - - - - - - - - - - - - - - - -	42	D	N-97.									-	Das Daves
19 50 20 00		в										-	
- - - - -						Gravel	b hard redo is fine to m a Mudstone	nedium ai	n mottled g ngular to sub	rey green slightly gra angular mudstone	velly CLAY	- 19 80 - - -	
20 50 21 00) 46	В										- (1 70) -	
21 00	47	D										21 50	
- - - -													- - - -
•	_											<u> </u>	
								· · · - · · · · · ·					
	Boring	g Progres	s and Water	Observati	ons			Chisellin	ng	<u> </u>			
Date	Time	Bore	hole Casu	ng Borel Diam	hole eter	Water	From	То	Duration (hh mm)	Gene	ral Rema	1TKS	
			oth Dept	th (m	n)	Depth						. –	_
								_		All dimensions in me		1 25	;
Method		e percu		Plant Jsed	n	<u>ndo</u> 300		Drilled By	AJ	Logged By APrzewi	eshk By	ed	



		rt Bio	mass		_			• • • =		evis Pow				B	H109
Contract R		o n ∠					Ground	Level (m Th	BM)	National Gr	id Co ordina	ite	Sheet		c
	3108			End	<u>19 01</u>	_	1								of Materia
Sa Depth	mples a	nd In su Type	tu Tests Resi	ılts	Water	Backfill]	Description	of Strata			Depth (Thick ness)	
0 30 0 60 1 20	1	D B					Sand	E GROUNI 18 medium onal cobbles	Gravel	sıng dark gro	ey slıghtly c dıum angu	layey sandy lar to sub a	y GRAVEL angular with	-	
1 20 1 65	3	SPT	N=	4										[(1 75) 	
1 70 1 70 2 00	4 5	D B					Soft b black	rown mottle pseudo fibro	d grey s	ilty CLAY (j deposits	oossibly rew	orked) with	h occasional	<u>175</u>	
2 00 2 45	6	U ₍₁₀₀₎	8 blo 100% re											-	× × × ×
2 50 2 50 3 00	7 8	D B												- - -	
3 00 3 45	9	SPT	N=	2										-	
3 50 3 50 4 00	10 11	D B			-									-	
4 00 4 45	12	U(100)	8 blo 100% re											- - -	
	Boring	-	s and Wa			_			Chisellu	ng		Ganar	al Rema		
Date 14/01/10	Time	Bore De 17	pth D	epth 00	Boreho Diamet (mm) 150	er	Water Depth 13 00	From	То	Duration (hh mm)					
Method				Plant Used			1do 30(Drilled By		All diment Logged By	sions in met	res Scale Checke	1 25 d	AGS

Contract	ewpo	rt Bio	mass Powe	er Pl	ant		Client	Ne	vis Pow	er Ltd	Boreho		8H1(
Contract R						Ground	Level (m TI			d Co ordinate	Sheet		
	310	826	End	19 01	10		182 - marca						of
S		and In si	tu Tests	L L	====	r					•	Depth	1
Depth	No		Results	Water	Backfill			D	escription of	of Strata		(Thick	
4 50	13	D D	Kesuits		В	Soft b	own mottle	d grav cil	ty CLAV (n	ossibly reworked) with oc	acional	ness)	
4 50 5 00	14	B				black	oseudo fibro	ous peat c	leposits <i>(sti</i>	ratum text copied from lay	er at m	-	
						depth j	from previo	us sheet)					Ě-,
												-	
5 00 5 45	15	SPT	N=1									-	×
												-	
												-	
													×
												-	
												ŀ	<u> </u>
												Ł	<u> </u>
6 00 6 00 6 50	16 17	D B										F	×
5 55 0 20									0			-	
												t	
			0.1									(9 65)	
6 50 6 95	18	U ₍₁₀₀₎	8 blows 100% recovery									(9 65)	
												[[×
7 00	19	D										╞	Ĕ
												ŀ	<u> </u>
												-	
												\mathbf{F}	×
7 50 8 00	20	В										Ľ	
												ŀ	<u></u>
												$\frac{1}{1}$	
												L	×
8 00 8 45	21	SPT	N=7									-	
												ŀ	É_×
												t	Ě
												[×
												ŀ	<u> </u>
				₽								ŀ	
:			·									[<u> </u>
									. <u> </u>				<u> </u>
	Boring	g Progres	s and Water Obs	servatio	ons			Chiselling	g	<u> </u>	Darre		
Date	Time	Bore	hole Casing	Boreh Diame	ole eter	Water	From	То	Duration (hh mm)	General	<u>kema</u>	ILLE	
		De	pth Depth	(mn)	Depth			(
Method			Plant				U	Drilled		All dimensions in metres Logged	Scale Checke	<u>125</u>	
Used			ussion Used		_	1do 300		By	AJ	By APrzewieslik	By	~~*	A



		rt Bio	mass Po						evis Pow			R	H109
Contract Ref							ound	Level (m TBM)	National Gr	Id Co ordinate	Sheet		
3	108	<u>826</u>	En	d 1	9 01	10			<u> </u>				of
Samp	oles a	nd In sit	u Tests		Water	Backfill	_		Deservet	ofStrata	_	Depth	Mater Graph
Depth	No	Туре	Results		M	Bac			Description	oi Sitala		(Thick ness)	Legen
9 00 9 00 9 50	22 23	D B				S	oft b	rown mottled grey	silty CLAY (possibly reworked) with oc	casional	-	×
900950	25	Б				D d	epth j	from previous shee	t deposits (st	ratum text copied from lay	ver at m	ļ	×
												ł	
												ŀ	
9 50 9 95	24	U(100)	14 blows 100% recov									[
			100% 1000									ŀ	
												ŀ	
												f	<u></u>
10 00	25	D										[<u> </u>
												[[<u> </u>
												-	Ľ <u> </u>
												-	<u></u>
10 50 11 00	26	В										-	
													<u> </u>
												[[
												-	Ĕ <u></u>
-11 00 11 45	27	SPT	N=6									-	
	'	511										ŀ	<u></u>
												ľ	<u> </u>
											·	11 40	<u> </u>
.						E n	ark seudo	grey black slightly o fibrous peat depos	sandy CLAY	Y (possibly reworked) with	h black	-	
							(pear depor				ŀ	
												ŀ	
												[
-12.00	10											ŀ	
12 00 12 00 12 50	28 29	D B											<u></u>
												(1 60)	
												t	
												[<u> </u>
12 50 12 95	30	U(100)	17 blows 100% recov									ŀ	<u> </u>
				-								\mathbf{F}	<u> </u>
					,							ŀ	
·					Ż I							13 00	
13 00	31	D				V	ery o	dense fine to medu ccasional cobbles	m angular to	sub-angular SAND and GF	RAVEL	-	0.0
						Ň	101 0	ceasional coddles				\mathbf{F}	ь <i>0</i> ,
. [[ŀ	6 0 I
				_ 1								L	<u>.</u>
Bo	oring		and Water		vations Borehole		to	Chısell		General	Rema	arks	
Date 7	Гıme	Bore Der		⁶⁵ [Diameter (mm)	Wa Wa		From To	Duration (hh mm)				
				**	Tunni		-						
										All dimensions in metres	Scale	1 25	;
Method				lant		_		Drilled			Checke		

Contract		mo	rt Rio	mas	s Pow	er Pl	ant		Client	N	evis Pow	er Ltd	Borehol	e BH	1
Contract								Ground	d Level (m T			d Co ordinate	Sheet		_
	3	108	826		End	19 01				,				of	
			nd In sit	u Tes	ts	T								Depth M	= la
Dept	h	No	Туре	R	esults	Water	Backfill				Description	of Strata		(Thick G ness) L	ira
13 50 14		32	B SPT(c)		19/50 r 10mm			with	dense fine t occasional c ous sheet)	to mediu obbles (m angular to (stratum text o	sub-angular SAND and G copied from layer at m dep	RAVEL th from		1.0.10
- - - - - - - - - - - - - - - - - - -	5 50	34 35	D B												0, 0
15 50 1	5 58	36	SPT(c)		25/50 or 5mm									0 0 a o 0 a	0.0
16 00 - - - - 16 50 1'	7 00	37	D B											D D C D D D D D	4.0
- - - - - -	716	39	SPT(c)	N	=281*									(750) $\begin{array}{c} \circ & 0 \\ \circ & 0 \\ \end{array}$ $\begin{array}{c} \circ & 0 \\ \circ & \circ \end{array}$ $\begin{array}{c} \circ & 0 \\ \circ & \circ \end{array}$ $\begin{array}{c} \circ & 0 \\ \circ & \circ \end{array}$ $\begin{array}{c} \circ & 0 \\ \circ & 0 \end{array}$ $\begin{array}{c} \circ & 0 \\ \circ & 0 \end{array}$ $\begin{array}{c} \circ & 0 \end{array}$ $\begin{array}{c} \circ & 0 \end{array}$ $\begin{array}{c} \circ & 0 \\ \circ & 0 \end{array}$ $\begin{array}{c} & 0 \end{array} \end{array}$ $\begin{array}{c} \circ & 0 \end{array}$ $\begin{array}{c} \circ & 0 \end{array}$ $\begin{array}{c} \circ & 0 \end{array}$ $\begin{array}{c} \circ & 0 \end{array}$ $\begin{array}{c} & 0 \end{array} \end{array}$ $\begin{array}{c} & 0 \end{array}$ $\begin{array}{c} & \circ & 0 \end{array}$	
-													-	0	2
	 	orino	Progress	sand	Water Ob	Serveti			-	Chiselli	ing				_
Date		Time	Bore	hole	Casing	Boreh Diame	ole eter	Water	From	То	Duration (hh mm)	General	Rema	rks	
			Dep	oth	Depth	(mr	<u>ı)</u>	Depth					1		
Mathad		-			Diore	 •				Dalled		All dimensions in metres	Scale	1 25	
Method			e percu		Plant Used		Da-	1do 30		Drilled By	AJ	Logged By APrzewieslik	Checked By	1	



Nev	vpo	rt Bioi	mass						Nevis Pow	ver Ltd		B	H10
Contract Ref							Ground	Level (m TBM)	National Gr	id Co ordinate	Sheet		
	<u>810</u>	<u>826</u>		End	190	1 10							of
Sam	ples	and In situ	Tests		Water	III						Depth	Mater
Depth	No	Туре	Res	ults	Wa	Backfill			Description	of Strata		(Thick ness)	Graph Leger
18 00 18 00 18 50	40 41	DB			-		Very	dense fine to med	um angular to	sub angular SAND and (copied from layer at m de	GRAVEL	-	2.0.
10 00 10 50							previo	us sheet)	(stratum text)	copied from layer at m ac	epin jrom	ŀ	00
												t i	ØØ
18 50 18 65	42	SPT(c)	N=2	200*								-	00
													00
												}	00
												Ľ	00
19 00	43	D										ŀ	00
												ţ	00
												}	00
19 50 20 00	44	в										ţ	
												$\left \right $	a
												Į	00
20 00 20 23	45	SPT(c)	N=1	76*								F	000
20 00 20 23			14-1									ţ	
												ŀ	00
												20.50	00
							Very v (Merc	veak reddish brow a Mudstone Grou	n mottled grey	green MUDSTONE		}	
20 70 20 70 21 00	46 47	D B							-			ţ	
20 70 21 00	 * ′											ŀ	
21 00 21 16	48	SPT	N=2	244*								t	
												(1 50)	
												ţ	
												ŀ	
												İ.	
					:							ŀ	
	L_	$\lfloor \rfloor$			<u> </u>							22 00	
			_	-								ŀ	
												ļ	
												ŀ	
	·	чL 			1	·	· · · · · · ·			1		·	
B	oring	Progress Boreh		ater Ob Casıng	Borel	nole	Water	Chise		General	Rema	arks	
Date	Time	Dept		asing Depth	Diam (mr	eter	Depth	From To	Duration (hh mm)	<u> </u>			
						T							
						1							
Method				Plant				Dniled		All dimensions in metres	Scale Checke	<u>1 25</u>	
	'ahl	e percus		Used	1	Da.	1do 300		AJ	By APrzewieshi			AG

BOREHOLE LOG

Contract R		rt Bio	mass				Ground	Level (m TI		evis Pow National Gri				Sheet	B	BH11(
Contract IC	3108	826		End	22 01		Ground		5141)			atç		Sheet		of
Sa		and In sit	n Tests		1 1		<u> </u>		I					<u> </u>		Mater
Depth	No	Туре		sults	Water	Backfill			Ι	Description	of Strata				(Thick ness)	Graph Leger
							MAD	E GROUND) compris	ing white sta	uned browr	fine to n	nedium	angular		×
0 10 0 60	1	В					to sub	angular GR.	AVEL (Gravel is puni	ice				(0 60)	
0 60	2	D					MADI	E GROUNE) compri	sing soft bro	wn mnottle	d grey s	lightly g	gravelly	0.60	
							CLAY	Gravel is f	ine to me	edium angula	r to sub ang	gular			(0 60)	
-															-	\bigotimes
1 20 1 65	3	SPT	N	=2			Soft b	rown mottle	d grey si	Ity CLAY w	th occasion	nal black	pseudo	fibrous	1 20	
							peat								F	
															-	×
															-	×
1 80	4	D													-	
2 00 2 50	5	U(100)	4 b)	lows											-	<u></u>
															-	<u> </u>
																<u> </u>
2 50	6	D													F	×
															F	<u> </u>
																[* [*
3 00	7	SPT	N	=0											-	<u>*</u>
															[<u> </u>
															-	<u> </u>
															-	
															-	<u> </u>
3 70	8	D													ŀ	×
-	10														ŀ	
4 00-4 60 4 00	10 9	B U ₍₁₀₀₎	6 bi	lows											-	<u> </u>
					_										-	×
																×
	Boring	Progres	s and W	ater Ob	servatio	ons			Chisellir				1			
Date	Time	Bore	hole (Casing	Boreh Diame	ole ter	Water	From	То	Duration (hh mm)	L	Gen		Rema	ILKS	
18/01/10		De	· · · · · ·	Depth 4 00	(mm 150	·	Depth 4 00			,,						
Method				Plan	 +				Drilled		All dimer		netres	Scale Checke	<u>1 25</u>	5
	Cabl	e percu	ission	Used		Dai	ndo 20(Зу	RS	By	APrzev	wieslik	By		A

GINT LIBRARY V8_03 GLBICABLE PERCUSSION LOG | 310026 NEWPORT BIOMASS GPJ V8_03 | 31/03/10 15 15 | AP RSK STATS Geoconsult Ltd The Old School Stillhouse Lane Bedminster Bristol BS3 4EB Tel 0117 947 1006 Fax 0117 947



		rt B10	111111111111111111111111111111111111111							evis Pow				D	BH110
Contract R		01					Ground I	Level (m T	BM)	National Gri	d Co ordina	ate	Sheet		
	3108			End	22 0									,	of
Sa Depth	amples a	and In si	tu Tests Res	ults	Water	Backfill			Γ	Description of	of Strata			Depth (Thick ness)	Materi Graph Legen
· · · · · · · · · · · · · · · · · · ·							Soft br peat (s	rown mottl stratum tex	led grey sil xt copied fi	ty CLAY wi rom layer at	ith occasion m depth fre	nal black pseudom previous si	do fibrous heet)	-	
5 00 5 45	11	SPT	N=	=2										- - - -	
5 70	12	D												- - -	
6 00 6 50	13	U(100)	7 ble	ows										- - - -	
6 50	14	D												-	
700	15	D												- (12 00) -	
7 50 7 95	16	SPT	N=	=2										- - - -	
8 40	17	D													
	Boring	Progres	s and Wa						Chisellin	g		Genera	1 D	ntro	
Date	Time	Bore De		asing Depth	Boreh Diam (mn	nole eter n)	Water Depth	From	То	Duration (hh mm)				11 KS 	
											All dimen	isions in metre	s Scale	1 25	;

		rt B10	mass Pow						evis Pow			B	BH1
Contract Re						Ground I	Level (m Tl	BM)	National Gri	d Co ordinate	Sheet		
	3108	<u>826</u>	End	22 01	. 10								of
Sar	nples a	ind In si	tu Tests	Water	cfill				D	6.04		Depth (Thurk	Ma Gra
Depth	No	Туре	Results	Ř	Backfill				Description of	or Strata		(Thick ness)	
9 00 9 50	18	U(100)	11 blows			Soft br	own mottle	d grey s	alty CLAY wi	th occasional black pseu m depth from previous s	do fibrous	-	<u>×</u> _
						peat (s	iraium iexi	copiea	jrom layer al	m depin from previous s	neel)	-	<u></u>
												-	<u></u>
												-	
												-	<u></u>
												-	
_												_	<u>×</u>
10 00	19	D										-	<u></u>
												-	<u></u>
													<u></u>
10.50												-	
10 50	20	SPT	N=0									-	<u>É-</u>
												-	<u> </u>
													<u>k</u>
_												-	<u></u>
												-	
												-	<u> </u>
												-	Ê
11 40	21	D										-	Ĕ.
-												-	×
												-	
	1											-	<u>ل</u> ج
12 00 12 50	22	U(100)	16 blows									-	<u> </u>
		~(100)										-	
												-	É-
-												-	
12 50	23	D										-	×
		_	•									ŀ	<u></u>
-		l											
-	l l											-	
-												-	[
												13 20	Ľ
13 20	24	D				Dense	reddish br	own and	d dark grey	medium to coarse sub-	angular to	-	0
-						conglo	merate	w-aiki-		navoi-is-sainistorio _que	a cente_ditu_		07
L		I	L										<u>ا</u> مينا ا
	Boring		s and Water O					Chisell		Genera	Rema	rke	
Date	Time		hole Casing	Boreh	ter	Water	From	То	Duration (hh mm)				
		De	pth Depth	(mm)	Depth							
			Pla							All dimensions in metre	es Scale	1 25	5
Method								Drilled		Logged	Checke		4



Ne Contract R	-	rt Bio	mass			_	Ground			VIS POW Vational Gri				heet	D	H11
Contract R	ef 310	876		Start	18 01 22 01		Ground	Level (m TBM	ן ע	vational Gri	u Co ordina	ne	S	neet		~f
-				End	T								<u> </u>		Depth	of Mater
Depth	No	1	Res	sults	Water	Backfill				escription of					(Thick ness)	Grapl Lege
13 50 13 9 13 50 14 0 		SPT B	N	=5			Dense sub rot conglo <i>sheet</i>)	reddish brown unded SAND merate <i>(stratu</i>	and G and G <i>um text</i>	dark grey f RAVEL C <i>copied froi</i>	medium to Gravel is si <i>m layer at</i>	coarse s indistone <i>m</i> depth	sub-angula quartzite from prev	ur to and prous		0 0 10 0 10 0 10 0 00 0 0 0 0 0 0 0 0 0
15 00 15 34	4 27	SPT	N=	79*												00000
15 50 16 0	0 28	В					Dense rounde conglo	reddish browr od GRAVEL merate	and and	dark grey i COBBLES	medium to of sand	coarse s lstone	sub-angula quartzite	r to and	<u>15 50</u> - - - - -	
16 50 16 8 16 50 17 0 	8 29 0 30	SPT(c) B	N=	65*											- - - - - - - - - - - - - - - - - - -	
	Borne	Progress	and W						ısellıng						-	
Date	Time	Bore	hole C	Casing Depth	Boreho Diamet (mm)	le er	Water Depth	From	To	Duration (hh mm)		Gene	eral Re	ema	ırks	
										1	All dimen	sions in m	netres Sca	ale	1 25	

		ort B	ioma	ss Pow				1 1 / 17		evis Pow			BH	11
Contract Re		826		1		i	Ground	Level (m TI	3M)	National Grid	d Co ordinate	Sheet	r	~
				End	22 01		<u> </u>					<u></u>	of Depth N	_
			situ Te		Water	Backfill			1	Description of	of Strata		Thick C	Gra
Depth 18 00 18 45	No 5 31			Results N=50		В	Dense	reddish bro	our and	dark grev i	neduum to coarse sub			Leg
18 00 18 50	32	B					congle congle sheet)	omerate (str	EL and and and and and and and and and and	COBBLES xt copied from	nedium to coarse sub a of sandstone quar <i>n layer at m depth fron</i>	ngini to t tzite and n previous		60,00,00,00,00,000
19 50 19 95 19 50 19 90	5 33) 34	SPT(B	c)	N=44									C	00
19 80 20 10			-	N=100*							10000		19 90 Ø	
19 90	35	D					Very v (Merc	weak reddish 1a Mudstone	n brown Group Z	mottled grey Zone II)	green MUDSTONE	F		_
												ŀ		_
													^(0 90) E	_
												ŀ		
														=
	+		-+-		┽╴╴┦		1						<u>20 80 </u>	
					_							- - - - - - - - - - - - - - - - - - -		
	Borin	g Prog	ress and	l Water Ob	servatio	ns	-		Chiselli	ng		1.D	.1	_
Date	Tım	e	orehole Depth	Casing Depth	Boreho Diame (mm	ole ter	Water Depth	From	То	Duration (hh mm)	Genera	l Remai	KS	
			- opu1		(1111)	<u>, </u>	20pm				All dimensions in metre	es Scale	1 25	

RSK STATS GEOCONSULT LTD WINDOW SAMPLE LOG

		rt B10m	ass	~	er Plant				evis Power				SBI
Contract Re				Date		Groun			National Grid (Co ordinate	Sheet		
	<u>3108</u>	326			05 01 10		1						of
Progress	_		1	ples / To	ests	Let L	Backfill & Instru mentation		Decorupt	tion of Strata		Depth (Thick	Mat Gra
Window R	un	Depth	No	Туре	Results	Wa	Back Ins ment		_			ness)	Leg
F ♦	Ę							MADE GR	OUND compri VEL Gravel	ising dark grey sligh is fine to medium	tly clayey	0 20	\bigotimes
000 100 (127mm du								sub angular	vegetation with		Burran to	Ę	\bigotimes
100% rec	Ē							MADE GR	OUND compri	ising soft brown mo	ttled grey	Ē	\bigotimes
[_ -	- [slightly silty	clay (reworked	1)		<u>(1 60)</u>	\bigotimes
F 100 200	, Ę											E F	\bigotimes
(102mm dia 80% rec	a) [F 1 80	\bigotimes
EY	E							No recovery	from 1 80m t	to 7 10m depth Assu	med to be	-	
È ੈ	Ę							signuy siity	ciay with occas	sional peat deposits		ļ	
2 00 3 00 (102mm du								1					
0% rec	Ē						E	1				ŀ	
<u>⊧</u> ↓	- [Ϊ	1				F E	
300 400	ξĒ							1				ŧ	
(92mm dia 0% rec) [E					E	
├Y	- [-						Ϊ					E	
{	Ę											(5 30)	
(92mm dia													Z
0% rec	F											Ę	
	- F											-	
500 600 (57mm dia	, E												
0% rec	Ĩ											Ē	
├── ┟ ── ┟ ──	- F											F	
600 700	, Ę											-	
6 00 7 00 (57mm dia 0% rec) [-	
FY	F											7 10	
	Ę							Soft brown n	nottled grey slig	ghtly silty CLAY		-	<u> </u>
7 00 8 00 (46mm dia												[(0 90)	<u> </u>
90% rec	Ē											F 8 00	× ,
	Ē												<u>-</u>
Ę	Ē											F	
Ę	Ę											Ę	
[Г		L				<u> </u>	I				<u>r</u>	L
	Drilling	Progress a				117-4			Gen	eral Remarks			
Date	Time	Borehol Depth (m)		Casing Depth (m)	Borehole Diameter (mm)	Water Depth (m)							
			\top					ezometric pipe	1145mm abov	e ground level			
		Ļ		1.51					ons in metres	Scale	1 50		73-
Method 7 Used		ed wind mpling	ow	Plant Used		lo Tei		Drilled By	NR	Logged By APrzewiesh	Check k By	ed	A

RSK STATS GEOCONSULT LTD WINDOW SAMPLE LOG

		Bioma	ass	Powe	r Plant				evis Power				<u>SB</u>
Contract R				Date		Groun		(m TBM)	National Grid (Co ordinate	Sheet		
	31082				05 01 10	<u> </u>		9				1	of
Progres	s		Sam	ples / Te	sts	ter	Backfill & Instru		Decomment	ion of Strata		Depth (Thick	Ma Gra
Window I	Run I	Depth	No	Туре	Results	Ma	Back		Descript	ion of Strata		ness)	Le
								MADE GR	ROUND compri	sing dark grey slig is fine to medium	thtly clayey	0 20	\bigotimes
0 00 1 0	po E							sub angular				E	\otimes
(127mm d 100% re								MADE GR clay (rewor	OUND comprisi	ng soft brown mottle	ed grey silty	F	\otimes
. <u> </u>	E	ļ										F(1 70)	\otimes
Ť												Ē	\otimes
1 00 2 0 (127mm c	ila)											Ē	\otimes
90% re								4				<u>= 1,90</u>	\bigotimes
	<u>-</u>						E	No recover	y between 1 9m	to 7 70m depth Ass	sumed to be	Ē	
2 00 3 (1				ţ	
(102mm c 0% rec												E	
Y	È					Ť	注目	1				Ē	
†	Ē						E	1				E	
3 00 4 0 (102mm d	ila)							1				ŧ	
0% гес												É	
	— F							1				F	
T 40050	₀₀ E							1				Ē	
(92mm d 0% rec	ia)						:	1				E (5.00)	
¥	E											(5 80)	Z
	— F						:	1				E	
5 00 6 ((92mm d	00											Ē	
0% rec												Ē	
<u> </u>	— E											F	
7	no E											ŧ	
6 00 7 0 (57mm d 0% rec	ia) [ŧ	
	Ē											F	
	— E											Ę	
7 00 8	00 E											ŧ	
(57mm d 30% re	c							Soft brown	mottled grey silt			7 70	~
<u> </u>	F							Son blown	motiled giey sill			8 00	
	Ę											É	
	F											F	
•	Ę									·		F	
				· ··· ·			<u> </u>			···		• • •	<u> </u>
r	Drilling F	Progress an	nd W	ater Obs	Borehole	Water	-		Gen	eral Remark	S		
Date	Time	Depth (m)	Î	Casing Depth (m)	Diameter (mm)	Depth (m)	$\ $		1466	a around land			
05/01/10	- <u>-</u>	8 00				3 00	· ۱	iezometric pip	e 1466mm abov	e ground level			
									sions in metres	Scale	1 50		
Method	Tracks	ed windo)W	Plant				Drilled		Logged	Check	ed	

RSK STATS GEOCONSULT LTD WINDOW SAMPLE LOG GROUP PLC

Contract Ref				owe Date	er Plant	Groun	d Level	(m TBM)	evis Powe		Sheet		SBH
	31082	6		ale	05 01 10		u Lever		Inational Office		Sheet		of 1
Progress	1002	_	ample									Depth	
Window Ru	ın D		No T	- T	Results	Water	Backfill & Instru mentation		Descrip	tion of Strata		(Thick ness)	Grapi
0 00 1 00 (102mm dia 100% rec								sandy GRA	VEL Gravel	Ising dark grey sli is fine to medium ing soft brown mott	angular to	<u>- 0 30</u>	
1 00 2 00 (102mm dia 100% rec												F(1 70) 2 00	
2 00 3 00 (102mm dia 0% rec								No recover CLAY	y from 2 0m to	7 4m depth Assume	ed to be silty		
3 00 4 00 (92mm dia) 0% rec													
4 00 5 00 (92mm dia) 0% rec												(5 40)	zci
5 00 6 00 (57mm dia) 0% rec												• • • • • •	
6 00 7 00 (57mm dia) 0% rec													
↑ 7 00 8 00 (46mm dia) 60% rec								Soft brown	mottled grey sil	ty CLAY		7 <u>40</u> (0 60) <u>8 00</u>	
	rıllıng Pr Tıme	Deress and Borehole Depth (m)	Wate Cas Dej (n	ing oth	servations Borehole Diameter (mm)	Water Depth (m)		ezometric pip	Gen e 1128mm abov	eral Remark	ζS		
	racked							All dimens	sions in metres	Scale	1 50		

RSK STATS GEOCONSULT LTD WINDOW SAMPLE LOG

Contract New	wport	Bioma	iss]	Pow	er Plant		Che		N	evis Power	·Ltd		ow Samp	SB
Contract Re	f			Date		Groun	d Lev	vel ((m TBM)	National Grid G	Co ordinate	Sheet	t	
	31082	6			05 01 10			2 ()				1	of
Progress			Samp	les / T	ests	er	N II &	tion					Depth	Ma
Window R	un D	Depth	No	Туре	Results	Water	Backfill & Instru	menta			ion of Strata		(Thick ness)	Grand Grand
•	F								MADE GR	OUND compri	sing dark grey s is fine to mediui	lightly clayey	0.20	\boxtimes
0 00 1 00 (127mm dia	a) [sub angular		ng soft brown mo	•	/t –	\otimes
100% rec	É								clay (rework		ng son brown mo	tiled grey sitty	F	\otimes
	— F												F(1 70)	×X
100 200													Ē	\otimes
(127mm dia 90% rec	a) [Ę	\otimes
<u> </u>	- E	ļ							No recovery	y from 1 90m t	o 7 60m depth A	ssumed to be	<u> 190</u> -	
1 2 00 3 00	, E								silty clay				E	
(102mm dia 90% rec	a)												E	
Y	E						•	•					-	
-	Ę												ŧ	
3 00 4 00 (92mm dia))												ł	ł
0% rec	Ę						Ē							
	- [E E	
4 00 5 00 (92mm dia														
0% rec	"												[(5 70]) Z
<u> </u>	- F												F	
500 600	o F												Ē	
(57mm dia 0% rec	"F												ŀ	
	— E												E	
† 600-700													Ē	
(46mm dia 0% rec	ŵ E												E	
<u> </u>	È												e E	
t 🛉	È												Ē	
7 00 8 00 (46mm dia	a) [0.01				7 60	
40% rec	Ē								Soft brown	mottled grey silt	Y CLAY		F 8 00	
L														
•	Ē												Ę	
			I			k						· · · · · · · · · · · · · · · · · · ·		
		Borehole	TC	asing	Borehole	Water	$-\parallel$			Gen	eral Remar	:ks		
Date	Time	Depth (m)		epth (m)	Diameter (mm)	Depth (m)	$- _1$	Pı	ezometric pip	e 1112mm abov	e ground level			
									- •					
			1											
							╟		All dimens	ions in metres	Scale	1 50		
Method ' Used		d windo ipling	w	Plan Used		do Te			Drilled By	NR	Logged By APrzew	neslik By	ked	

RSK STATS GEOCONSULT LTD WINDOW SAMPLE LOG GROUP PLC

Contract						Client Windo						ow Sample		
Newpo	ort Bion	iass	Powe	er Plant			N	evis Power	Ltd		-	SBH5		
Contract Ref			Date		Ground	d Leve	(m TBM)	National Grid (Co ordinate	Sheet				
310	826			05 01 10		1	7				1	of 1		
Progress		Sam	ples / T	ests	er	11 & 11 &					Depth	Materia		
Window Run	Depth	No	Туре	Results	Water	Backfill & Instru		Descript	tion of Strata		(Thick ness)	Graphic Legend		
E							MADE G	ROUND compri	sing dark grey sligh	ntly clayey		\boxtimes		
0 00 1 00							sandy GR		is fine to medium	angular to	<u>+ 0 40</u>	XXX		
(127mm dia) 100% rec							MADE GR clay (rewor	OUND comprise	ing soft brown mottled	d grey silty	F			
. ¥ _ [city (iewo	Kou)			[[(1 50)]			
†														
1 00 2 00 (102mm dia)											E	\bigotimes		
90% rec											<u> 1 90</u>			
							No recover silty clay	ry from 1 90m t	to 2 00m depth Assu	med to be	<u>+2.00</u>	<u></u>		
2 00 3 00								mottled grey silt	IY CLAY		(0 90)			
(102mm dia) 90% rec											E			
. Y _ [ry from 2 90m t	o 6 10m depth Assu	med to be	<u>290</u>	<u> </u>		
							silty clay				Ę			
3 00 4 00 (92mm dia)]				Ę			
0% rec						E					Ē			
											Ē			
4 00 5 00											(3 20)	ZCL		
(57mm dia) 0% rec											ŧ			
. Y [E			
T 500 600											E			
(57mm dia) 0% rec											E			
V F											[
							Soft brown	mottled grey silt	ty CLAY		<u>- 6 10</u> -	x		
6 00 7 00 (46mm dia)											E (0 90)			
10% rec											Ę			
· \							No recover	ry from 7 00m t	o 7 40m depth Assu	med to be	7 00	<u>×</u>		
T							silty clay	-	-		7 40	ZCL		
(46mm dia) 40% rec							Soft brown	mottled grey silt	ty CLAY		(0 60)			
Y											8 00	<u> </u>		
Ę											Ē			
Ę											Ē			
ŀ											Ę			
			<u> </u>				·I				····			
Drillin	ng Progress a		/ater Ob Casing	servations Borehole	Water	_		Gen	eral Remarks	5				
Date Tim		~ `	Depth (m)		Depth (m)	-	<u> </u>		<u> </u>					
						- [,] F	iezometric pi	e 1087mm abov	e ground level					
								sions in metres	Scale	1 50				
	cked wind sampling	low	Plant Used		o Ter		Drilled By	NR	Logged By APrzewiesł	Checke Ik By	ed	AGS		

RSK STATS GEOCONSULT LTD WINDOW SAMPLE LOG

Contract	wnarf	Rioma	ee I	Pow	er Plant		Clien		evis Powei	r Ltd	Windo	w Samp	ie SBH
Contract Re				Date			1 Leve	l (m TBM)	National Grid		Sheet		
Connuorra		6		Juie	06 01 10	Ground		. ,	I valional Grid	eo orumate	Sheet	1	c
	31082				06 01 10			1	L			<u> </u>	of
Progress	3	<u>-</u>	Samp	les / T	ests	<u>e</u>	S III &		P	60		Depth	
Window R	lun I	Depth []	No	Туре	Results	Water	Backfill & Instru		Descrip	tion of Strata		(Thick ness)	Leg
								MADE GR	ROUND compr	ising dark grey sli	ightly clayey	0 20	\boxtimes
0 00 1 0								sandy GRA	AVEL Gravel	is fine to medium	angular to	<u>040</u>	<u> </u>
(127mm di 100% rec								MADE GR	OUND compris	sing soft brown slig	shtly gravelly	F	Ľ
10076160	Ē							clay (rewor				E	<u></u>
	- F							Soft brown	mottled grey sli	ghtly sılty CLAY		(1 50)	
Т	. F											È Í	<u> </u>
1 00 2 0 (127mm di												F	[x
90% rec												E . aa	<u> </u>
Y	E							No recover	v from 1.90m	to 2 00m depth As	sumed to be	$\frac{190}{2.00}$	
₽	ŀ							silty clay	-	-		'	Ě.,
2 00 3 0								Soft brown	mottled grey sli	ghtly sılty CLAY		(0 90)	x
(102mm di 90% rec												E	<u> </u>
	E							·				<u> 2 90</u>	[- <u>-</u> ×
	-						[y from 2 90m	to 3 00m depth As	ssumed to be	ᢔᢃ᠊ᡂ	x
T	ļ							Soft brown	mottled area al	ghtly silty CLAY]	3 40	
3 00 4 0 (102mm di										to 7 00m depth As	sumed to be	+	<u>* </u>
40% rec							1	silty clay	y nom y tom		sumed to be	E	
<u> </u>	E						11	}				E	
A	Ł							1				È.	
400 50	0 F						[]	1				ţ	
(102mm di 0% rec	a) F						1 目	1				E	1
078 ICC ₩	E						;目]				E	
·	— F			İ								(3 60)	
Т	_											F(3.00)	ZC
5 00 6 0 (57mm di												F	
0% rec	É											E	
Y	_ Ł											Ł	
A	ţ			1								ŀ	
600 70												F	
(57mm di 0% rec	a) [E	
¥	Ę											7 00	
								Soft brown	mottled grey sli	ghtly sılty CLAY		-	×
700 80	ωĒ							No recover	v from 7 20m	to 8 00m depth As	sumed to be	7 30	<u>⊨</u> _*
(57mm di	a) [silty clay	J 11011 / JUII	to o com deput. As		E (0 70)	
30% rec	ţ							-					ZC
												8 00	┨───
	E											E	
	ţ						ł					ţ.	
<u>_</u>				——			-	-				i	-
	F												<u> </u>
		Progress and	d We	tor Ob	servations		Π_						
		Borehole	Ca	sing	Borehole	Water	-		Gen	eral Remarl	ks		
Date	Time	Depth (m)		epth m)	Diameter (mm)	Depth (m)			e 1364mm abov	a ground lavel			
							1''	rezonneu te pip		e ground level			
		1											
		l	1										
											4 80		
Method	Tracks	duanda		Plant				All dimens	sions in metres	Scale	1 50 Check		
Method	I LACKE	ed windo npling	w	Used				By		Logged	Luneck	cu	A

RSK STATS GEOCONSULT LTD WINDOW SAMPLE LOG

Contract											Window Sample			
	ort Bion	ass			<u></u>			levis Power		SBH				
Contract Ref)826		Date		Ground	1 Level	(m TBM)	National Grid	co ordinate	Sheet	1	. 1		
	1820	<u> </u>	ples / Te	06 01 10	<u> </u>							of 1		
Progress		1			ater	Backfill & Instru mentation		Descrip	tion of Strata		Depth (Thick	Graph		
Window Run	Depth	No	Туре	Results	<u>≥</u>	Bac In					ness)	Legen		
1							∖sandy GR.	AVEL Gravel	ising dark grey sligh is fine to medium	angular to	0 20	₩		
0 00 1 00 (127mm dia)						ļ	sub angula MADE G		ising soft brown me	ottled grev	Ē	\bigotimes		
100% rec ▼							slightly silt	y clay (reworked	d)	8)	È	\bigotimes		
	-										E(1 90)	\bigotimes		
1 00 2 00 (102mm dia)											È	\bigotimes		
100% rec											ŀ			
_ _	-					E					F 2 10	\bigotimes		
T 200 300							No recove silty clay	ry from 2 10m	to 7 00m depth Assu	imed to be	Ē			
(102mm dia) 90% rec											ţ			
Y							1				Ę			
≜					11		1				ŧ			
3 00 4 00 (102mm dia)					₹						È			
0% rec											Ę			
											F			
4 00 5 00 (57mm dia)											(4 90)	ZCL		
0% rec						١Ì					È			
											È			
500 600														
(57mm dıa) 0% rec											ļ			
											Ę			
6 00 700											É			
(46mm dia) 5% rec											-			
											7 00			
≜								mottled grey sil	-		7 30	×		
7 00 8 00 (46mm dia)							No recover silty clay	ry from 7 30m t	to 8 00m depth Assu	umed to be	(0 70)			
30% rec′											8 00	ZCL		
	-							••				-		
											Ę			
-														
ŀ						<u> </u>	l			<u> </u>	<u>ł</u>	L		
Dnllı	ng Progress a							Gan	eral Remarks					
Date Tim	e Borehol Depth (m)	I	Casing Depth (m)	Borehole Diameter (mm)	Water Depth (m))				
06/01/10	8 00				3 50	- I P	ezometric pi	be 1085mm abov	e ground level					
									<u> </u>					
Method Tra							All dimen	sions in metres	Scale	1 50				

RSK RSK STATS GEOCONSULT LTD WINDOW SAMPLE LOG

Contract Ne	wport	Biomass	Pow	er Plant		Client	N	evis Powei	r Ltd	Windo	w Samp	le SBH
Contract Re			Date		Groun	d Level	(m TBM)	National Grid		Sheet		
	31082	5		06 01 10		1	8				1	of 1
Progress	3	Sam	ples / T	ests		1 & 1 1					Depth	Mater
Window R	lun D	epth No	Туре	Results	Water	Backfill & Instru mentation		Descript	tion of Strata		(Thick ness)	Grapl Lege
A			11				MADE GR	OUND compr	ising dark grey sligh	tly clayey	- 0 20	\boxtimes
0 00 1 0							sandy GRA	VEL Gravel	is fine to medium a	angular to	F	\bigotimes
(127mm di 100% rec							MADE GR	OUND compr clay (reworked	ising soft brown mo	ttled grey	E	
Y	E						singhtiy siny	ciay (reworked	,,		E (1 80)	\otimes
†	Ē										E	\bigotimes
1 00 2 0 (127mm di	ia) [È	\otimes
100% rec	È	1									È	
								y from 2 00m t	to 2 20m depth Assur	med to be	2 00 2 20	
2 00 3 0							Soft brown	mottled grey sil	tv CLAY	/	-	× ×
(102mm di 80% rec									, . <u> </u>		E (0 80)	×
!	_ [-						Norra	. from 2.00	a 2 70m dand 4	mad +- 1	<u> </u>	×
1	Ē				Ā	21目:	No recover silty clay	7 rrom 3 00m t	to 3 70m depth Assur	neu to be	E (0 70)	zc
3 00 4 0 (102mm di 30% rec	ia) 🕻										3 70	
30% rec	Ē						Soft brown	mottled grey sil	ty CLAY		4 00	×
	— F						No recover silty clay	y from 4 00m t	to 7 00m depth Assur	med to be	:	
4 00 5 0 (102mm di							sity clay				ŀ	
0% rec											È	
	- F										È.	
	È											ĺ
	Ē					. 🗆					(3 00)	ZC
	E										Ł	
≜	E										E	
6 00 7 0 (57mm dia	0 a)										ŀ	
0% rec	Ê										[
<u> </u>	— F						Soft brown	mottled grey silt	ty CLAY		7 00 7 20	x
700 80							No recover silty clay	from 7 20m t	o 8 00m depth Assur	ned to be	ŀ	<u> </u>
(57mm dia 20% rec							sitty ciay				¢(0 80)	ZC
<u> </u>	Ę										8 00	
	Ē										Ē	
	F										Ę	
	Ę										- <u> </u>	
	t		· · ·			-11	•				·	·
	Drilling Pro	ogress and W Borehole	ater Ob	servations Borehole	Water	_		Gen	eral Remarks			
Date	Time		Depth (m)	Diameter (mm)	Depth (m)		ezometric pin	e 727mm above	ground level			
06/01/10		8 00			3 30		ezometric pip	. /2/mm a00Ve	Broand IEACI			
						1						
								ions in metres	Scale	1 50		
Method Used		window pling	Plant Used		in Tei	rier	Drilled By	NR	Logged By APrzewiesli	Check k By	ea	A