From: Oakes, Ian
To: Bradford, Julie
Cc: Roberts, Anthony; Zachary, Aled
Subject: FW: Car reports PP3139GB/0197333 & 0207873
Date: 03 June 2014 10:44:58
Attachments: HAF091 Leachate Monitoring Borehole 5550 A4p.pdf
MS Hafod Oct 2013 (Cory Environmental) issue 02.pdf
HAFOD(LEACH)NOV2013.doc

EDRM / PR

From: ICraven@coryenvironmental.co.uk [mailto:ICraven@coryenvironmental.co.uk]
Sent: 02 June 2014 08:45
To: Oakes, Ian
Cc: AHamilton@coryenvironmental.co.uk; DWeston@coryenvironmental.co.uk; SConry@coryenvironmental.co.uk
Subject: Car reports PP3139GB/0197333 & 0207873

Ian
Further to our site meeting last week please find the outstanding information required from the two CAR reports detailed above:

- **Provide drill logs, depths and headwork details for the new monitoring points MP1a and MP2a**

Please note the head work on MP2a differs from the usual head works (with a monitoring point and a 63mm gas extraction point) as it has a pneumatic pump installed with associated 32mm leachate flow line and 2 x 10mm compressed air and breather pipes. Since we installed these monitoring points in November 2013, MP1a has developed a blockage of some sort. On 29th January 2014 we commission a camera survey to assess the status of the well. At about 10.05 m from the top we found the chamber had been blocked with plastic bags and a plastic bottle. We have been waiting until our tipping operations allowed us flat and level access to get a high suction vacuum tanker safely adjacent to this area. This has recently been achieved and we will now attempt to remove any material from within the chamber, in order to clear the blockage.

- **Provide VOC and CO monitoring data for the gas engine with respect to current performance**

Following the exceedence of VOC's in the annual emissions monitoring conducted on the 19th September 2013, various tuning exercises were carried out and parts replaced on the engine to try and get emissions back into compliance. However, a detailed boroscope of the engine meant that Cory took the decision to completely rebuild the top end of the engine, including piston, liners and turbos, ahead of schedule. This major rebuild commenced on 28th April 2014 and was completed on 21st May 2014. On the 27th May 2014 Catalyst Environmental completed the emissions monitoring retest and reported that the engine had passed all test parameters. A report will be forwarded to NRWas soon as the lab analysis and report is received by Cory.

1.

I will notify you of the date I can book the vacuum tanker for and you are more than welcome to attend should you wish.
Thanks

Kind regards

Ian Craven
NW Area Manager

Cory Environmental Resource Management
Bangor Road, Johnstown, Wrexham, LL14 6ET
TEL+44 (0)1978 843 025 MOB +44 (0)7740 023 758
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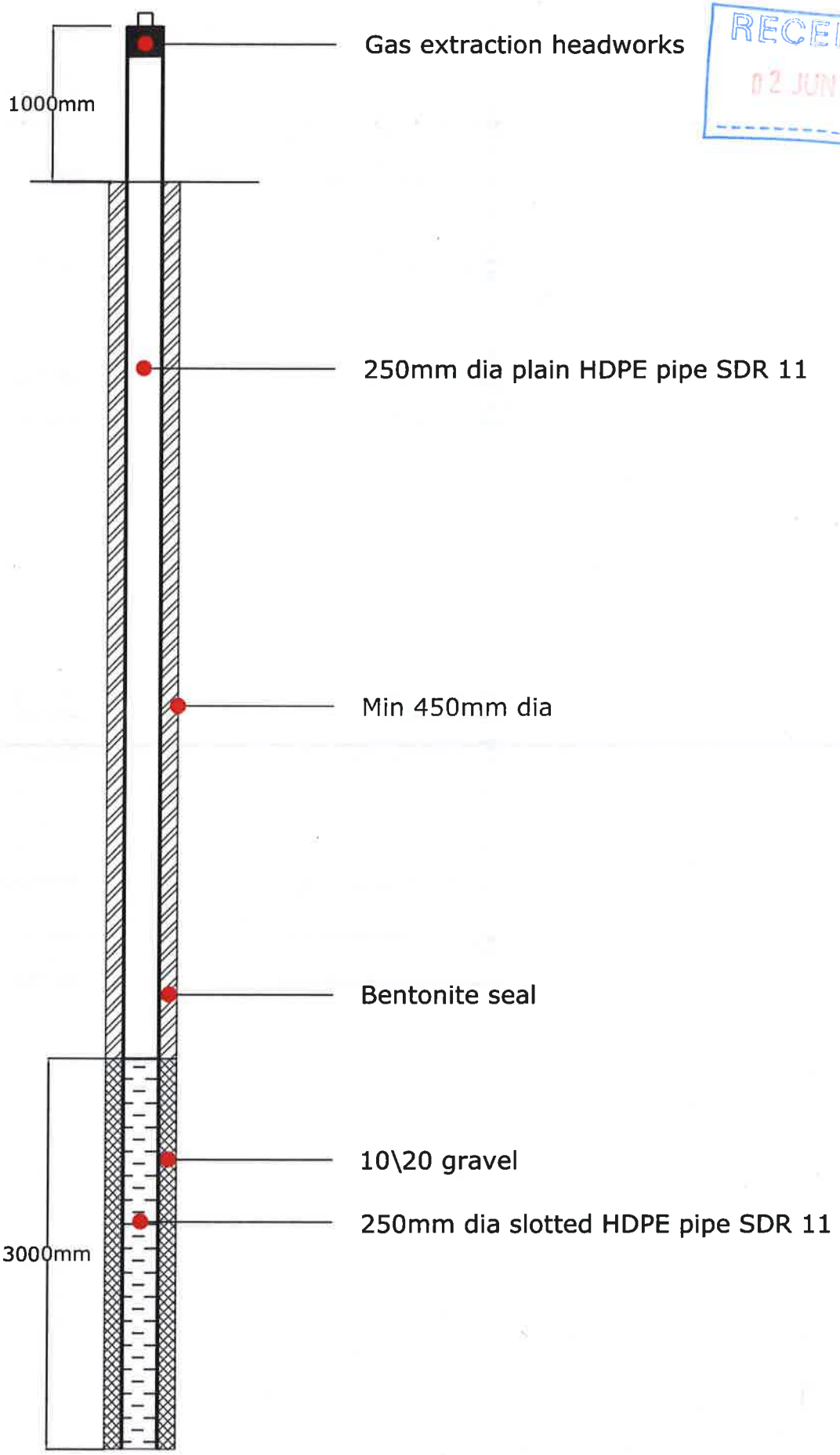


CORY
environmental
Greyfriars Business Park
Frank Foley Way, Greyfriars
Stafford, ST16 2ST
Tel: (01785 251555)

Site: HAFOD

Title: Leachate Monitoring Borehole For Re-drilled Locations

Drawn:	Date:	Scale @A4:	
TJG	29-10-13	not to scale	HAF091

DRILLING LOG

MAGPIE ENVIRONMENTAL DRILLING SERVICES LTD. SITE: HAFOD L.F.S. BOREHOLE NO: LW1 DATE: 05/11/2013

OPERATION	SIZE (MM)	FROM DEPTH (M)	TO DEPTH (M)	TOTAL
SET UP RIG				1.00
DRILL	450	0.00	31.80	31.80
INSTALL LINER	250	0.00	31.10	31.10
STANDING TIME				2.00
(WAITING FOR PEG				
SURVEY)				

DEPTH (M)	DESCRIPTION
0.00	DRY WASTE
12.00	DAMP WASTE
12.50	DRY WASTE
19.00	DAMP WASTE
29.00	WET WASTE
31.80	
	LINER INSTALLED WAS 250mm SDR11 HDPE

MATERIAL & DEPTH (M)
0.00
BENTONITE
28.00
GRAVEL
31.10

PREDICTED DEPTH (M)	ACTUAL DEPTH (M)	LEACHATE (MBGL)	END CAP/S	PERFORATED (M)	PLAIN (M)	CASING HEIGHT (MAGL)	GRAVEL (MBGL)	BENTONITE (MBGL)
31.80	31.80	12.00	TOP & BOTTOM	2.00	31.60	2.50	31.80-28.00	28.00-0.00

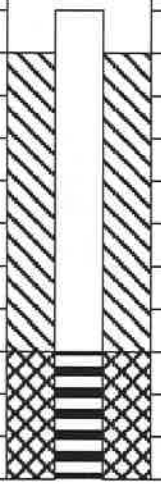
SIGNED: ..... (CLIENT). SIGNED: ..... (DRILLING OPERATOR).

DRILLING LOG

MAGPIE ENVIRONMENTAL DRILLING SERVICES LTD. SITE: HAFOD L.F.S. BOREHOLE NO: LW2 DATE: 06/11/2013

OPERATION	SIZE (MM)	FROM DEPTH (M)	TO DEPTH (M)	TOTAL
SET UP RIG				1.00
DRILL	450	0.00	25.80	25.80
INSTALL LINER	250	0.00	25.70	25.70

DEPTH (M)	DESCRIPTION	MATERIAL & DEPTH (M)
0.00	DRY WASTE	
10.00	DAMP WASTE	
12.00	DRY WASTE	0.00
16.00	DAMP WASTE	
23.00	WET WASTE	
25.80		
		BENTONITE
		21.70
	LINER INSTALLED WAS 250mm SDR11 HDPE	
		GRAVEL
		25.70



PREDICTED DEPTH (M)	ACTUAL DEPTH (M)	LEACHATE (MBGL)	END CAP/S	PERFORATED (M)	PLAIN (M)	CASING HEIGHT (MAGL)	GRAVEL (MBGL)	BENTONITE (MBGL)
25.80	25.80	10.00	TOP & BOTTOM	2.00	25.80	2.10	25.80-21.70	21.70-0.00

SIGNED: ..... (CLIENT). SIGNED: ..... (DRILLING OPERATOR).

MAGPIE

ENVIRONMENTAL DRILLING SERVICES LIMITED

METHOD STATEMENT FOR LEACHATE WELL DRILLING

CLIENT:	**Cory Environmental Ltd**

SITE:	**Hafod Quarry** **Bangor Road** **Johnstown** **Nr Wrexham** **LL14 6ET**

CONTRACT REF:	**4637 – Oct 2013**

Prepared by : ...Andy Bull MIIRSM... Position : ...Health & Safety Manager...

Signature : AB Bull **Date : 28/10/2013**

METHOD STATEMENT REVISION RECORD			
Date:	**Reference:**	**Comment:**	**Issued by:**
23/10/2013	**4637/MS/01**	**Issue 01**	**A Bull**
28/10/2013	**4637/MS/02**	**Issue 02**	**A Bull**

CONTENTS

1. METHOD STATEMENT

1.1 Scope of works

The scope of work involves the re-drilling of 2 no. existing leachate chambers (at Hafod Quarry Landfill Site), to the target pad depths of 32.5m and 24.9m below ground level. The chamber is made of concrete rings which have collapsed. The use of a bailing tool and incremental drilling will be utilised to help prevent penetration of the basal liner.

1.2 Access to Site and Operational Drilling Zone

Access to the working area will be via routes agreed by the client's supervisory staff. These routes will be strictly adhered to. Access to the "Operational Drilling Zone" will be by the drilling operatives only. The operational drilling zone will be a designated circular area of at least a radius of 10m from the centre of the borehole position. All persons other than the drilling operatives when drilling operations are underway should not enter the operational drilling zone (the drilling zone is a 10m radius from the borehole) unless advised to do so by the Foreman Driller. There is also zoning requirements in the immediate area around the borehole with regard to the Dangerous Substances and Explosive **Atmospheres Regulations (DSEAR). Zone 1 is a 1m radius in all directions from the edge of the borehole and drilling operatives must only enter this zone when absolutely necessary due to the increased risk of exposure to higher concentrations of landfill gas. Zone 2 is a 2.2m radius in all directions from the edge of the borehole (Type 3) and this zone is used for most drilling operations. For both zones personal gas monitors will be worn by all operatives.**

1.2 Site Storage

Excess equipment, materials and gas oil will be stored in a designated area, the location of which will be determined by the client. The gas oil will be stored in a fully bunded fuel bowser.

1.3 Setting Out

Setting out will be performed by the client's supervisory staff in conjunction with the appointed surveyor.

1.4 Working Hours

Working hours will normally be 07.30 - 17.30, Monday - Friday.

1.5 Rotary Barrel Auger Drilling Rig

The drilling rig will be a track mounted hydraulic rotary rig, operated by a competent (NVQ qualified) Foreman Driller together with one assistant. The rig will be supported by a MEDS Ltd 4 x 4 vehicle, telehandler, dumper and digger.

Daily and weekly checks on the drill rig and supporting plant and equipment will be carried out. Inspection sheets will be kept on site for audit purposes, and copies to sent to head office for audit and record keeping purposes.

1.6 Setting Up at Borehole Location

The rig will be set up at the borehole location using the hydraulically operated levelling jacks. Once the rig has been levelled by way of the jacks, the mast will be hydraulically raised and locked into position. The ancillary equipment will then be strategically assembled in preparation for the commencement of the drilling operation.

1.7 Drilling

Drilling will commence using the barrel auger which is connected to the rotary head by means of a threaded connector. As the depth of the borehole increases, threaded drill rods will be added between the core barrel and the drill head. The barrel auger will be rotated and a positive down thrust hydraulic pressure extended to gain penetration. On completion of each run (approximately 1 metre) the barrel auger is withdrawn from the borehole and the auger cleaning device placed to clean out the auger. The waste material is then placed in the dumper for disposal at the designated waste point.

As the well is advanced the barrel auger will be replaced with a flight auger and **then a bailing tool. The bailing tool is attached to the drill string via the same threaded connector. The bailing tool is then lowered into the base of the well and advanced until full, it is then returned to ground level and suspended directly above the dumper bucket. The locking mechanism of the hinged flaps at the bottom of the bailing tool is then released and the contents fall directly into the dumper bucket. This process is then repeated until the desired amount of material has been removed from the well, enabling the well casing to be installed to the required depth.**

Upon reaching 3 metres of the target depth, incremental drilling will be adopted. The auger/bailing tool will be advanced in increments as specified by the client – during this time the presence of vibration or basal liner materials within the drilling arisings will be very closely monitored to ensure that the basal liner is not breached.

Before any movement of the drill head is undertaken when loading or unloading drill rods into the rod carousel the safety screen is checked by the foreman driller. If visibility of the safety screen is poor (e.g. as a result of the sun shining on the camera and/or screen) then both the foreman driller and assistant driller will observe the coupling of the drill rods without the use of the safety screen.

To ensure that threaded joints are not unintentionally disengaged, all threaded couplings must be fully tightened using the hydraulic clamps. Additionally, anti-clockwise rotation must only be applied when absolutely necessary, e.g. if the drill string becomes jammed in the hole during clockwise rotation.

1.8 Borehole Installation

On completion of the drilling operation to target depth instructed by the client's supervisor, the well casing will be placed into the borehole by way of the rig winch. Slotted 250mm HDPE SDR 11 will be installed in a 3m section from target depth and then plain 250mm HDPE SDR 11 will be installed above the slotted section to ground level. The gravel pack will then be transported by the dumper and placed in the borehole up to the instructed level (ie 4m above target depth), whereupon the bentonite seal will be installed up to ground level.

1.9 Site Safety

Site safety will be in full compliance with the British Drilling Association's "Code of Safe Drilling Practice", our guidance note on the installation of gas wells and the client's site specific requirements.

1.9.1 Risk of Contact with moving parts of drill rig

All MEDS Drill Rigs will be adequately guarded to prevent the risk of contact with **moving parts of the drill rig. The guards will comply with the statutory requirements of Regulation 11 of the Provision and Use of Work Equipment Regulations and the DSEAR Regulations. All interlock and electrical switches on the guard will be located outside DESAR Zone 2 of a Type 3 borehole i.e. at least 2.2m away from the edge of the borehole. Guidance on Drill Rig guarding can be obtained from HSE guidance SIM 02/2011/04 "The Prevention of Entanglement in the Rotating Parts of Drilling and Piling Rigs"**

1.10 Environmental Considerations

In order to minimise any detrimental impact to the environment, the following control measures will be observed : -

Agreed access routes will be adhered to at all times to avoid excessive harm to animal and plant life. In order to prevent ground contamination all fuels and oils will be stored in bunded containers. Plant will be inspected at least daily for leaks and any spillages will be promptly contained and removed.

To avoid unnecessary noise, agreed working hours will be observed and items of plant turned off when not required. This will also minimise atmospheric pollution caused by exhaust emissions. Consideration will be given to those in the vicinity when selecting the drilling method with regard to the creation of noise and dust. Wells will be promptly installed and sealed to prevent gas/odour emissions. Care will be taken to avoid contamination of adjacent drainage systems.

Any surplus materials remaining following completion of works will be removed from site and used on subsequent projects.

2. PERSONAL PROTECTIVE AND SITE SAFETY EQUIPMENT ISSUED

4 No	3m 4277/4279 Respirators (EN405:2001) or FFP3V (EN149:2001)
4 No	Eye Guard EG240 Goggles
2 No	Safety Helmets
2 No	High Visibility Anoraks
4 No	High Visibility Vests
2 No	Wet Weather Coveralls
2 No	Ear Defenders
12 Pairs	Protective Gloves/Gauntlets "Red PVC P-Shield-50" gauntlet/knitwrist
12 Pairs	Microguard 1000 Disposable Suits with Hoods
2 Pairs	Safety Boots (with toe protection & steel midsole)
2 Tubes	Barrier Cream
2 No	Dry Powder Fire Extinguishers
1 No	Large Fire Blanket
1 No	First Aid Kit
1 No	Eye Wash Station
2 No	Gas Detection Meter / Alarm

All of the above items are stocked up or replaced as required.

3. GUIDANCE NOTES FOR THE INSTALLATION OF LANDFILL WELLS

3.1 Introduction

Landfill sites in general accept a wide range of waste, including domestic, commercial and industrial. As part of the natural degradation process of the waste materials, liquids and gases are produced. The liquids are known as leachates and represent water contaminated by a wide range of organic and inorganic substances, including weak organic acids, ammonia, chlorides, sulphates, metals etc. The liquids also contain micro-organisms including pathogens. The gases are essentially a mixture of methane and carbon dioxide which are produced over the main period of the site operation, and also exist following the site closure. In addition, a wide range of minor or trace constituents are present. In the early stages of degradation, Hydrogen can also be produced. Residual solid materials can be at any stage of decay from fresh to completely decayed, (stabilised).

3.2 Personnel and Responsibilities

The Supervisor / Foreman Driller shall be responsible for carrying out the full requirements of this guidance note.

3.3 Safety Equipment and Clothing

In addition to other items of safety equipment or clothing deemed necessary, the following equipment / materials will be provided :

3.3.1 Suitable protective clothing, including disposable overalls, face masks, gauntlets and safety goggles. In addition, a minimum of two dry powder fire extinguishers shall be available.

3.3.2 A First Aid Box containing at least the minimum content required by Health and Safety Legislation.

3.3.3 Hand wash basin, soap, clean water, hand towels and suitable bags for the disposal of consumable items of clothing etc.

3.4 Ignition Sources

3.4.1 All possible sources of ignition (i.e. motors, pumps etc.) must be sited as far as practicable from the top of the borehole or well.

3.4.2 The Foreman Driller must ensure that there is no smoking on any part of the landfill site other than designated smoking areas. Operatives must be made aware of the risks of ignition sources igniting landfill gases and combustible waste.

3.5 Accidents and Dangerous Occurrences

Health and Safety Legislation requires that a formal procedure be maintained for the recording and reporting of accidents and / or dangerous occurrences. Such **incidents should also be reported to the Engineer / Client at the earliest opportunity after the event.**

3.6 Working Procedure

3.6.1 The working area must be assessed to ensure adequate stability for the set up of the drilling rig.

3.6.2 The rig should be set up in such a manner that operatives will be standing up-wind of the boreholes and the drilling work.

3.6.3 All equipment and materials will be kept in an organised manner to ensure a safe working environment at all times.

3.7 Emergency Procedures

3.7.1 Major Gas Emission from Boreholes

Gas emissions from boreholes can be identified by continuous monitoring using gas detection equipment. Any alarm activations will indicate unsafe working conditions whereupon drilling of the borehole shall cease and all electrical / mechanical equipment switched off.

3.7.2 Interception of Leachate

If protective clothing fails to prevent skin contact with leachate, then the skin should be thoroughly swilled with clean water – followed by washing using anti-bacterial soap.

3.7.3 Fires

As a precaution against the ignition of any landfill gas, no fire is to be lit on or around the disposal site for any reason.

If a fire should occur :

3.7.3.1 Call the Fire Brigade - Dial 999 - ensure that the emergency services have clear knowledge of the site location and access route.

3.7.3.2 If practicable - all persons and equipment must be immediately removed from the vicinity of the fire.

3.7.3.3 If there is any danger from flammable liquids such as petrol or bottled gas.

PERSONNEL MUST KEEP CLEAR AND NOT TACKLE THE FIRE.

3.7.3.4 If there is no such danger, and it is safe to do so, the fire should be tackled using the dry powder fire extinguishers provided in accordance with the following : -

a. The jet is to be directed at the seat of the fire.
b. Personnel must stand "up wind", i.e. NOT IN THE SMOKE.

(Drilling operatives are trained in the use of fire extinguishers).

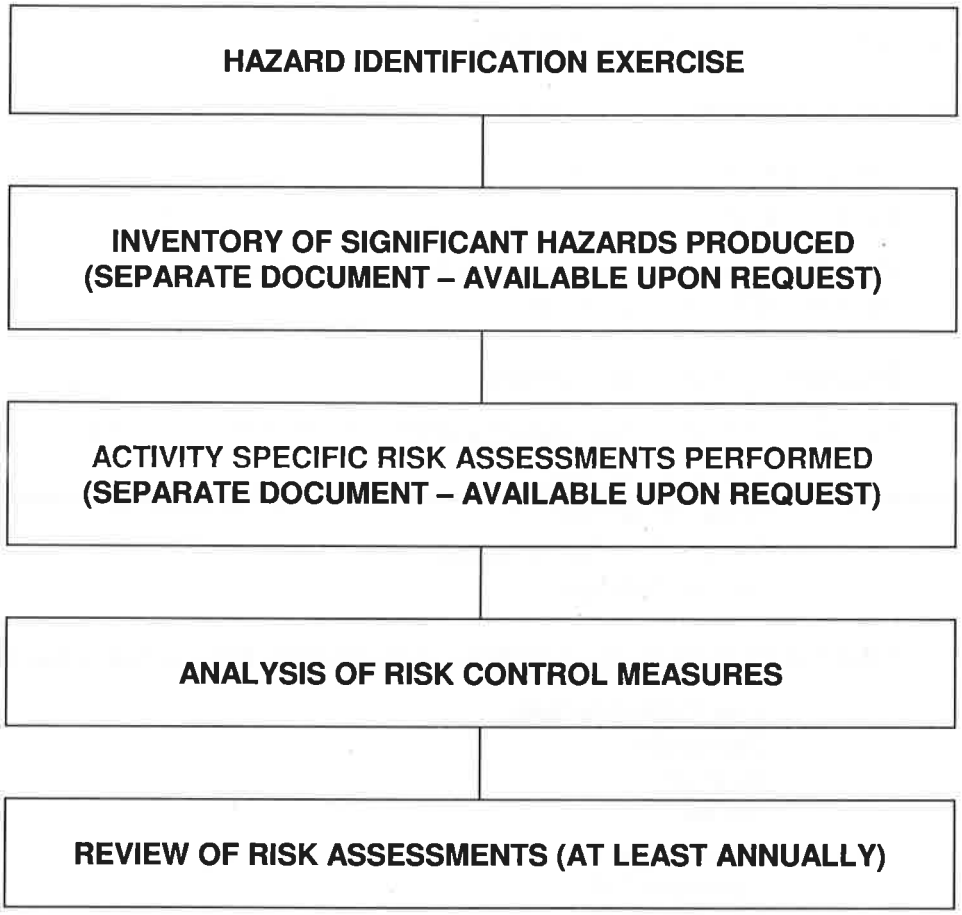
3.7.3.5 If attempts to put out the fire are not successful, personnel must stand well clear until the Fire Brigade arrives. The brigade must be given clear access to the fire. No vehicles or equipment should be placed so as to obstruct the Fire Brigade's activities.

3.7.3.6 Inform site supervisory staff as soon as possible.

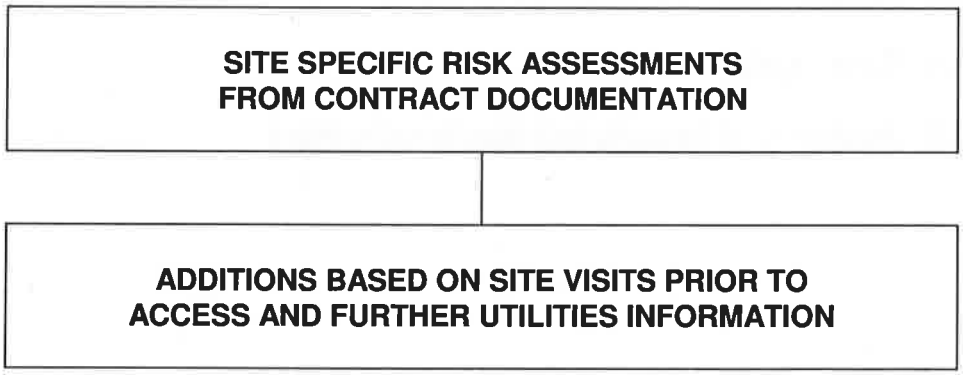
4. RISK ASSESSMENTS

4.1 Structure

4.1.1 Generic Assessments



4.1.2 Site Specific Assessments



4.2 Risk Assessment - Overview

4.2.1 Location

All investigation sites (general)

4.2.2 Description Of Activities

Rotary core drilling, rotary open drilling.

4.2.3 Description Of Hazards

4.2.3.1 Travel to and from sites.

4.2.3.2 Access routes :

Via existing roadways or private land by prior agreement - poor conditions of surface.

4.2.3.3 Equipment and Consumables

4.2.3.3.1 Standard non-specific plant will normally include :

Pressure Pumps
Water Bowsers
Single Tool Compressors
Secure Storage

4.2.3.3.2 Standard non-specific consumables will normally include :

Low Pressure Gas
Bentonite
Cement
Diesel
Lubricants
Hydraulic Oil
Paraffin Wax
Glass Sample Jars
Polythene Bags

4.2.3.4 Underground and Overhead Services

4.2.3.5 Road Traffic

4.2.3.6 Vandalism of Specific and Non-Specific Plant

cont.

4.3 Descriptions of Existing Precautions

4.3.1 General

All site staff have access to or have been issued with the following reference to safety :

BDA "Code of Safe Drilling Practice"

BDA "Guidance for Safe Intrusive Activities on Contaminated or Potentially Contaminated Land"

4.3.2 Travel To and From Site

Vehicles are routinely maintained and checked prior to release for travel to investigation sites. Vehicle specific written records are maintained. Staff are advised that before travelling, checks must be made to : -

Lights, indicators, brakes, brake-lights, steering, permissible loads, security of loads, tyres are checked for pressure and wear / damage, screen wipers, registration plates and that excessive levels of mud etc. are not present on the vehicle.

4.3.3 Access Routes

Prior to accessing a particular site, access routes are examined on foot (where appropriate) and hazards identified prior to vehicular access taking place. (See also section 4.5).

4.3.4 Equipment

4.3.4.1 Standard Non-Specific Plant

As a minimum general standard, protective clothing and equipment comprising of safety boots, coveralls, hard-hat and high visibility vest are provided and shall be worn on landfill sites by all personnel.

On specific advice from specific plant and equipment manufacturers, or as defined by the risk assessment, gloves, eye protection and ear defenders will be supplied and worn.

4.3.4.2 Standard and Non-Specific Consumables

C.O.S.H.H. Assessment Forms have been completed with reference to manufacturers data for the following substances :
Bentonite
Portland Cement
Diesel
Engine Oil
Fuel Oil
Petroleum-Based Greases
Hydraulic Oil.

4.4 Underground And Overhead Services

4.4.1 Underground

Service information is obtained where practicable, prior to the undertaking of any site investigation works. In addition, each cable percussion boring rig has a cable avoidance tool and standing instructions are in place to hand-dig inspection pits where there is any doubt as to the location of services. As a general rule, each investigation site is provided with at least one cable avoidance tool, in addition to the relevant service information. Site services information will be provided by the client's representative.

4.4.2 Overhead

Any potential overhead service hazards are identified prior to moving onto a particular site. Where possible, appropriate wayleaves are allowed for in final positioning. If it is not possible to allow the necessary wayleave, then the appropriate supplier is contacted for advise prior to the work progressing.

4.5 Road Traffic

Risk assessments of road traffic are carried out where necessary on a site-specific basis. Traffic control measures are carried out in accordance with the following :

Traffic Signs Manual, Chapter 8, Traffic Safety Measures and Signs for Road Works and Temporary Situations, HMSO 1991, and the guidance given in Safer Road Works Ahead, HMSO 1991.

Traffic proposals are also discussed with local highway authorities and Police, where appropriate.

4.6 Vandalism of Specific and Non-Specific Plant

Wherever possible, moveable plant is secured and immobilised overnight. All practical precautions are taken to make safe any plant that cannot be securely stored when unattended.

Engine covers are present on all rigs. Batteries are removed.

Rigs are anchored using drilling / boring tools. In areas where vandalism is deemed to be a high risk, rigs and equipment are removed to a secure compound overnight. General protective measures such as hoarding and fencing is used where appropriate with the relevant warning signs.

4.7 Exposure to Leptospira

Personal hygiene awareness and minimal hand- mouth contact with soils and water are emphasised.

4.8 Working at Height

Under no circumstances must any work be undertaken at height without an adequate safe system of work in place to prevent the risk of falling. A place is "at height" if a person could be injured falling from it, even if it is at or below ground level. An example of when there is a need to work at height during drilling operations is when a repair needs to take place on the drilling mast of the rig (e.g. a repair to a hydraulic hose). Even when the mast is lowered to its lowest position, climbing onto the rig to carry out the repair is not acceptable as this is deemed to be working at height. An example of an adequate control measure would be for the work to be carried out on a safe working platform with the use of specialist equipment such as a "cherry picker" or "scissor lift" or by utilising a natural working platform in the vicinity due to the existing topography and surrounding environment.

Where necessary the drilling rig will be removed from site to effect repairs that can not be safely undertaken on site.

4.9 Residual Risk

Following completion of the Risk Assessment for Landfill Drilling the overall residual risk has been deemed to be a LOW-MEDIUM risk for all on-site activities. This is provided that all laid down procedures are followed.

4.10 THE CONSTRUCTION (DESIGN AND MANAGEMENT) REGULATIONS 2007

Project Title: Cory/Hafod (Leachate Chambers) Contract Ref: 4637 – Oct 2013

The Construction (Design and Management) Regulations 2007 (CDM2007) came into force on 6 April 2007. They replace the Construction (Design and Management) Regulations 1994 (CDM1994) and the Construction (Health, Safety and Welfare) Regulations 1996 (CHSW).

4.10.1. Application of the CDM Regulations

The CDM Regulations 2007 apply to all construction work in Great Britain. The Regulations are divided into five parts and cover the following:

- **Part 1 matters of interpretation and application**
- **Part 2 general management duties which apply to all construction projects**
- **Part 3 additional management duties which apply to projects which are notifiable**
- **Part 4 all construction work carried out on construction sites, and covers physical safeguards which need to be provided to prevent danger**
- Part 5 issues of civil liability, transitional provisions and legislation amendments

4.10.2. Notification

Except where the project is for a domestic client, the Health and Safety Executive (HSE) must be notified of projects where construction work is expected to: last more than 30 working days; or involve more than 500 person days, e.g. 50 people working for over 10 days. Drilling operations on landfill and/or construction sites is classed as "construction work" under the CDM Regulations.

All days on which construction work takes place count towards the period of construction work. Holidays and weekends do not count if no construction work takes place on these days. Where a small project that is not notifiable requires a short extension, or short-term increase in the number of people, there is no need to notify HSE. However, if the work or the scope changes significantly so that it becomes notifiable, HSE should be informed.

1) Will the "construction work" last longer than 30 days?	**~~YES~~ / NO**
2) Will there be more than 500 person days worked on site?	**~~YES~~ / NO**

If the answer is 'yes' to either question, the project is notifiable to the HSE, and the additional management duties under Part 3 of the CDM Regulations are applicable to this project.

4.11 SITE SPECIFIC ASSESSMENT

PROJECT: Cory Environmental/Hafod (Leachate Chambers)

CONTRACT REF: 4637 – Oct 2013

(To be completed at the same time as the contract advice note is raised).

1)	Is Cable Percussion Boring required?	~~YES~~/NO
2)	Is Rotary Drilling required?	YES/~~NO~~
3)	Is Rotary Augering required?	YES /~~NO~~
4)	Is Conventional Pitting with Trenshore required?	~~YES~~ /NO
5)	Are there available details of the expected services?	~~YES~~ /NO
6)	Has a procedure for dealing with services been established?	~~YES~~ /NO
7)	Will the fuel arrangements differ from the following : - No combustible fuels other than gas oil for running machinery are expected to be used on site. Gas oil will be stored in barrels or a tank near to the site office or rig / drill site, Gas oil will be transported to rigs in purpose designed containers of up to 20 litres capacity of a specifically designated site fuel bowser of up to 1,000 litre capacity. A funnel or rotary hand pump will be used to prevent spillage during refuelling operations.	~~YES~~ /NO
8)	Will the LPG GAS arrangements differ from the following : - Bottled gas will be used to wax samples and to provide refreshment at the rig site. All gas bottles in use will be kept outside of buildings and the fittings regularly checked and if necessary replaced. Any gas rings in use must be sited in a safe manner and only be in use when attended. Gas bottles and rings (i.e. naked lights) will not be used on sites where methane is present or is suspected to be present.	~~YES~~ /NO
9)	Will the use of hazardous substances extend beyond : - Cement and bentonite are the only materials apart from fuel expected to be used that could present a hazard to health. Operators will wear gloves, goggles and a dust mask (optional) when these substances are being mixed. Storage of these personal items will normally be in a container held in the site office.	~~YES~~ /NO
If the answer to 7, 8 or 9 is 'YES', a site specific C.O.S.H.H. Statement on Hazardous Substances must be prepared.		
10)	Are there special situations of likely enhanced risk?	~~YES~~ /NO
11)	Will the work be in confined spaces or Tunnels etc?	~~YES~~ /NO
12)	Is landfill or contaminated land expected?	YES /~~NO~~
13)	Will any Cranes or Hiab lifts be used?	~~YES~~ /NO
14)	Will there be any scaffolding present?	~~YES~~ /NO
15)	Is any difficult excavation anticipated?	~~YES~~ /NO
16)	Will there be any excessive levels of noise?	~~YES~~ /NO
17)	Will the work involve any over-water operations?	~~YES~~ /NO
18)	Will the work have any impact upon Public Highways?	~~YES~~ /NO
19)	Other? - such as the storage and use of detonators and explosives should any blasting trials or geophysics be proposed.	~~YES~~ /NO
If the answer to any of Questions 10 - 19 is 'YES', appropriate separate assessments must be made before proceeding on site.		

It is the responsibility of the Supervising Engineer to ensure that all site personnel are issued with a copy of this form, and any additional Risk Assessments prior to the commencement of any work on site.