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# BDA Audit Handbook

Version No. 2.3

 **BRITISH  
DRILLING  
ASSOCIATION**

0800 038 5969  
[audit@britishdrillingassociation.co.uk](mailto:audit@britishdrillingassociation.co.uk)  
[www.britishdrillingassociation.co.uk](http://www.britishdrillingassociation.co.uk)



Image Credit: Soil Engineering Geoservices

Welcome to the BDA Audit Handbook.

This handbook will clearly explain the audit procedure, clearly outline what you can expect from an audit and clarify the full audit process from bookings through to receiving your audit report. The handbook outlines the guidance, legislation, regulations and Standards that have been used to develop the audit and demonstrates that the system is fair and transparent.

Any additions or alterations to audit content that can change the outcome of a BDA audit will be determined by the Health and Safety Committee and/or the Technical and Standards Committee. These changes will then be ratified by the audit Steering Group and then communicated to the membership by the Training and Education Committee prior to any revised audit. Major changes or additions will always carry a 6-month notification period to allow members half a year to adequately prepare themselves for the required audit changes.

The audit is central to the BDA's mission of raising standards within the land drilling industry and on delivering our aims and objectives:

- Improve efficiency, health & safety awareness and standards in the industry
- Promote and support scientific research into drilling techniques
- Promote and support the training and education of all personnel involved in the drilling industry including drilling operatives, supervisors, apprentices and engineers
- Promote and support the establishment of new and relevant standardisation
- Establish and improve Codes of Practice
- Liaise with Government bodies and Institutions
- Disseminate information to interested parties
- Compile relevant statistical support
- To collaborate with other related associations both in the UK and abroad to advance our industry
- Promote the drilling industry
- Promote BDA members as exemplars

As a not-for-profit trade association, all funds are reinvested back into the BDA for the work it undertakes on members' behalf. The price of the BDA Audit covers the cost of administration and the Auditor's fee, is a small fraction of the cost of a drilling operation and an investment returned on many times over through the benefits of a job done professionally, safely and proudly.

**Paul McMann**

BDA Chair - January 2023

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# WHO?

## 1.1 AUDITORS

There are currently three approved, contracted auditors whom carry out the BDA audit:

### **Callum Allardyce (Land Drilling NVQ Ltd)**

#### **Experience**

Callum is a vastly experienced driller, with extensive knowledge of all drilling techniques, practices and legislation accrued over a decade in the geotechnical industry. Callum's eye for detail and his variety of on-site experiences means he is a thorough and fair assessor and auditor for VQs and audits.

#### **Relevant Qualifications**

- GQA PAA/VQ-set Level 3 Award in Assessing Competence in the Work Environment
- IOSH Safe Supervision of Geotechnical Sites
- Streetworks Excavation and Reinstatement Monitoring Signing, Lighting and Guarding
- BOSIET (Basic Offshore Safety Induction and Emergency Training)
- Wire Rope Inspection Training
- NVQ Level 2 Lead Driller

### **Lee Allardyce (Land Drilling NVQ Ltd)**

#### **Experience**

Lee is an A1 qualified assessor who has over 40 years' experience in the drilling industry including owning and operating two successful drilling companies. He has been auditing for over 17 years as well as running BDA Apprenticeship Courses. He has a wealth of knowledge of Cable Percussive, Dynamic Sampling, Rotary and Sonic drilling methods as well as holding all required qualifications for working Offshore.

#### **Relevant Qualifications**

- A1 NVQ Assessor
- NVQ Level 6 - Construction Contracting Operations Management
- IOSH Managing Safely
- Streetworks Excavation and Reinstatement Monitoring Signing, Lighting and Guarding
- CCNSG Safety Passport
- ENG 1 Seafarer Medical Certificate
- BOSIET (Basic Offshore Safety Induction and Emergency Training)
- NVQ Land Drilling – Lead Driller - Level 2

### **Andrew Frogley (A Frogley Contracting)**

#### **Experience**

Andy has been Assessing NVQs and Auditing drilling crews for almost 10 years. He is an accomplished driller with over 20 years' hands-on experience in mineral exploration, geotechnical and environmental works. Andy's strong knowledge of all drilling practices and procedures in a wide range of ground conditions and formations makes him an ideal Auditor.

#### **Relevant Qualifications**

- A1 NVQ Assessor
- LEEA Lifting Equipment and Accessory Inspector
- NVQ Land Drilling – Lead Driller - Level 2
- IOSH Safe Supervision of Geotechnical Sites
- IOSH Avoiding Danger from Underground Services

## 1.2 AUDIT MANAGER

The BDA Audit Management is a contracted service supplied by an independent third-party.

Quality Assurance of every BDA audit is supplied by the BDA Audit Management to ensure consistency of audits and the auditing process from all BDA auditors.

### **Keith Spires (Equipe Group)**

#### **Experience**

Keith has over 40 years' involvement in the drilling and geotechnics industry. He spent his formative years learning the drilling trade 'the conventional way' working his way up from Second Man to Driller. In 2006, he moved into Senior Management and has utilised his expertise and values in his work as an NVQ Assessor, Internal Quality Assurer and BDA Auditor. Keith has been a prominent figure in developing health and safety guidance for Land Drilling and promoting good practice across the entire UK industry.

#### **Relevant Qualifications**

- Edexcel Level 4 Internal Quality Assurance Assessment (V1)
- Edexcel Level 3 Assessing Candidates using a range of Methods (A1)
- Approved Assessor for NVQ Levels 1, 2 & 3 in Land Drilling, Level 3 Occupational Working Supervision
- LEEA Approved Lifting Inspector
- NVQ Level 2 Land Drilling - Lead Diller Rotary, Cable Percussion & Dynamic Sampling

## 1.3 AUDIT STEERING GROUP

The Audit Steering Group is an entirely voluntary group comprised of the Chairs of BDA Sub-committees, plus the BDA Audit Management, BDA General Manager and the BDA Chair.

The ASG convene on a quarterly basis to review the statistical feedback and analysis from the BDA audit and subsequently make recommendations on potential training and guidance to provide to the BDA membership. They also determine whether any changes or adjustments to audit content need to be made based on the audit statistics and any updates to industry guidance or legislation.

# WHAT?

## 2.1 CHECKLIST

Below is a non-exhaustive list of the items checked during the course of a BDA Audit:

### Industry qualifications / certifications:

- VQs in Land Drilling or Drilling Operations
- Construction Safety Card Scheme (CSCS) Card
- First Aid qualification
- Wire Rope Inspection Training
- Asbestos Awareness / Notifiable Non-Licensed Work with asbestos
- Manual Handling

### On-site health, safety & environment issues:

- Risk Assessments & Method Statements (RAMS)
  - Are they appropriate for the drilling being undertaken?
- Rig and equipment inspections
  - Are they in date, do they cover all aspects of the machine and equipment?
- Welfare facilities
  - Are they available and appropriate?
- COSHH assessment and management
  - Are they available and being followed?
- First Aid - kit inc. eye wash facilities
- Environmental control - Spill kit
- Provision of utility detection equipment (CAT & Genny) and qualified operator
  - If the drill crew are clearing services, they must be trained in how to use the equipment.
- Fire safety
- Vehicle access provisions
- Public access / protection of working area
  - Are adequate/appropriate protections in place?
- PPE

### Working to relevant legislation and guidance:

- |                                                           |                                                                      |
|-----------------------------------------------------------|----------------------------------------------------------------------|
| • HASAW 1974                                              | • Control of Substances Hazardous to Health Regulations 2002 (COSHH) |
| • Management of Health and Safety Regulations 1999 (MHSR) | • BS EN 16228 2014                                                   |
| • PUWER 1998                                              | • The Workplace (Health, Safety and Welfare) Regulations 1992        |



Image Credit: BH Drilling Services

### Drilling rig safety:

- Daily rig inspections
- Emergency engine stops
  - Are they all visible, accessible and working correctly?
- Guarding (rotating parts and hot/cold parts)
  - Are all dangerous parts guarded?

### Drilling rig compliance:

- Rig and equipment condition
- Compliant data plates and identification for equipment
- Winches / wire ropes / lifting equipment
  - Safe Working Loads, maximum line pulls, correct terminations, correct Thorough Examination certifications with all Unique IDs and SWLs listed
- Health and safety signs

### Drilling Operations:

- Choosing the right methods and equipment
- Mobilising sufficient resources
- Drilling / boring safely and efficiently
  - According to industry good practice and applicable Standards
- Logging, sampling and labelling to the standards
- Testing to the standards
- Equipment knowledge
- Backfill and reinstatement to specification

### SPT Calibration certification

### Training & CPD

### Good communication and working practices

### General good practice





# WHAT?

## 2.2 TECHNICAL QUALITY CONFORMANCE

After three years of the BDA audit enabling and encouraging gradual improvements to health and safety compliance, the audit will now look to increase expectations with regards to the quality of information, data and samples obtained by drillers during an audit. To this end, these aspects are now measurable parts of the audit, which can, if found to be significantly lacking, lead to non-conformances and non-achievements of audits being recorded.

These quality checks fall into six areas, with possible minor non-conformances being recorded across any and all of them. These are, as with the health and safety aspects of the audit, all assessed according to existing Standards, Regulations and Guidance. There are no areas which any qualified driller should not be aware of, as all relevant detail should have been covered within their Vocational Qualification assessment, or learned and understood as part of their ongoing continuous professional development. There are circa 25 to 30 possible minor non-conformances within the “technical” part of the audit, which may increase with time.

**From 1st October 2023, should any auditee accumulate 5 or more minor technical non-conformances within the updated Quality Conformance (General) section, they will record a general non-conformance of the entire audit, and they will fail to achieve audited status.** Their audit will then need to be repeated at a later date at repeat cost. The minors can be accrued across all parts, but no-one can non-conform based on any one single aspect.

Drillers are expected to be able to demonstrate all the technical aspects explained below, regardless of specific instructions of the project. For example, if the engineer is labelling samples on the project, we will still expect the driller to be able to competently demonstrate how they would label a sample according to the standards, before handing it to the engineer.

### Measurement

We will expect every driller to have a legible, accurate borehole measuring tape and a working water-level dip meter and use them accordingly.

There are four possible minors in this section:

- **MINOR:** Lack of borehole measuring tape,
- **MINOR:** Lack of working water-level dip meter,
- **MINOR:** Failure to utilise the borehole measuring tape correctly and accurately,
- **MINOR:** Failure to utilise the water-level dip meter correctly and accurately.

### Record Keeping (Driller's Daily Report)

The Driller's Daily Report (borehole log) should be completed for every type of borehole, this includes dynamic sampling, and these must be legible and complete with full information about the borehole. The log should be completed fully in line with BDA expectations (full details published on the BDA website September 2023).

There are two possible minors and one possible major in this section:

- **MAJOR:** Borehole log not being completed,
- **MINOR:** Log not being accurately completed in line with BDA expectations (Note: There are potentially 19 things that need to be included),
- **MINOR:** Log illegible or misleading.

### Sampling according to BS EN ISO 22475-1

All sampling must be conducted according to BS EN ISO 22475-1 to ensure the highest possible sample quality is obtained and preserved, in the best condition possible. The technical questions will check that samples are placed in the correct containers, liners, boxes, bags tubs (not sandwich bags) etc. They will also check that samples are protected immediately to maintain the sample condition and that the correct sample is being taken in the correct manner regarding the stratum being sampled. We would also expect the driller to know the quality of sample they are being asked to obtain by each sampling method.

There are six possible minors in this section:

- **MINOR:** Inappropriate sampling method or technique being used for the given strata (or if specified by the engineer, the driller's awareness of whether the method is inappropriate),
- **MINOR:** Failure to collect samples without risk of contamination,
- **MINOR:** Failure to collect samples without risk of losing fines (where applicable),
- **MINOR:** Failure to place samples into appropriate containers and/or sealing them correctly (where applicable),
- **MINOR:** Failure to adequately protect samples from vibration, shock, heat, coldness and/or temperature changes,
- **MINOR:** Lack of knowledge of sample class obtainable using their current sampling method.





Image Credit: BH Drilling Services

### Testing according to BS EN ISO 22476

All testing must be conducted to its given Standard and must be recorded correctly on the drilling log. The audit will particularly focus on the Standard Penetration Test and assess the driller's knowledge and application of BS EN ISO 22476. Questions will assess whether self-penetration has been measured and recorded, rod straightness, whether the equipment's certification is in date, the condition of shoes/cones being used, whether spares are available and whether the test is being carried out accurately.

There are five possible minors and one possible major in this section:

- **MINOR:** Lack of correct roll pins, dampeners and designated locking pin (where applicable)
- **MAJOR:** Lack of a valid, in-date energy efficiency certificate
- **MINOR:** SPT equipment in inappropriate condition (damaged shoes/cones, no spares, incorrect rods being used)
- **MINOR:** Failure to check straightness of rods
- **MINOR:** Failure to record straightness of rods
- **MINOR:** Failure to conduct SPT to 22476-3 requirements (Note: There are potentially eight things that need to be included).

### Labelling according to BS EN ISO 22475-1

All labelling must be completed as per the given Standard – BS EN ISO 22475-1. This includes more than one means of identification on each sample, the details included on the label and if the label is sufficiently legible. Full details on guidance for labelling was published on the BDA website in September 2023.

There will be three possible minors in this section:

- **MINOR:** Incomplete content on labelling (Note: There are six things that need to be included),
- **MINOR:** Failure to ensure samples carry more than one means of identification (i.e. two labels, one inside the container, one outside),
- **MINOR:** Sample label illegible.

### Installation and Reinstatement

Where installs or reinstatement of boreholes are witnessed, or an earlier example of one observed, it is expected that they are completed correctly.

There are three possible minors for installations and seven possible minors for reinstatement in this section:

- **MINOR:** Failure to complete install according to specification (i.e. correct level, sealed, sufficient filters where required, gas tap fitted where required),
- **MINOR:** Failure to accurately measure and report depths and levels of installations,
- **MINOR:** Failure to appropriately protect installation (drainage, security cover, no trip hazard, no surface water ingress),
- **MINOR:** If backfilled, failure to utilise arisings,
- **MINOR:** If backfilled, failure to compact arisings,
- **MINOR:** If grouted, failure to grout from the base of the borehole,
- **MINOR:** If grouted, failure to utilise suitable grout mixer,
- **MINOR:** If grouted, failure to monitor and comply with mixing requirements,
- **MINOR:** Failure to remove all spoil,
- **MINOR:** Failure to leave borehole area as found (clean, tidy, no waste remaining).

All of the above non-conformances have been witnessed during the last 18 months of audit data collection and hence the need for improvement identified by the BDA Technical and Standards Committee. It is important to note that the audit will not be reducing its focus on health and safety aspects, but expanding the audit remit to raise standards for technical aspects as well.

Currently, the above only applies to auditees undertaking a Ground Investigation audit, not Geothermal or Waterwell. However, increased focus on the technical aspects of Geothermal and Waterwell drilling will be addresses, following the implementation of the questions into the GI audit.



# 2.3 SPECIFIC GUIDANCE

Based on the findings on the most frequently logged non-conformances, the BDA is keen to provide further, specific guidance to its members in order to ensure greater adherence to industry Standards and regulations. Below is guidance on rotary guarding, certification for Thorough Examinations and Factors of Safety for wire ropes.



**Above:** Large, unnecessary gap that permits access to dangerous parts.



**Above:** Due to machine setup, guard starts more than 500mm from floor. Either adjust setup, or extend guard.



**Above:** Rubber infill used to extend guard down and accomodate flush system.

## ROTARY GUARDING

Full guidance on rotary guarding can be found on the BDA website, however for the purposes of the BDA audit, the expectations can be summarised as below:

- The guard must not be easy to bypass or disable.
- The guard must have a working Restricted Operating Mode (ROM) system that governs the controls when open, or there must be no rotation with it open.
- To re-engage full operational rotation there must be a deliberate action with the guard closed.
- The guard must fully enclose the dangerous moving parts of the drilling machine from 500mm from the floor/drilling platform to 1600mm above the floor/drilling platform, or to such a height that access is prevented.
  - Any gaps present must serve a specific purpose or form a fundamental requirement for the operation of the machine.
  - Any gaps present must be small enough and/or positioned in such a way that no dangerous points can be reached at arm’s length.
  - If the bottom of the guard starts more than 500mm from the floor/ drilling platform in order to accommodate a flush system, this can be mitigated in various ways, two of those ways are:
    1. A static object such as outer nonrotating casing in the borehole can be used to cover the 500mm gap. However, the casing must be inserted with the guard 500mm from the floor and when proceeding with the borehole progression, the casing and guard must overlap so that there is no easily accessible gap between the two above the 500mm height.
    2. The guard can be extended by attaching additional guarding media, such as Polycarbonate sheet, conveyor belt rubber or other substantial media by fixing it on to the existing guarding to infill any gap.



**Above:** 100% compliant guard; extends to within 500mm from the floor, fully encompasses the string and is wide enough for all dangerous parts to be at least arms-length away.

Below is the decision-making flowchart that BDA auditors work to when determining if guarding is compliant with audit requirements.

**Height of guard (500mm from floor or drilling platform / extends 1600mm from floor or drilling platform):**

	Guard is within 500mm of the floor / does extend 1600mm above the floor	Guard is not within 500mm of the floor / does not extend 1600mm above the floor
You can’t touch a dangerous part at arms-length	Fully compliant	Minor: Design must be improved, but can be corrected post-audit
You can touch a dangerous part at arms-length	Observation: Recommend design is revisited to fully prevent contact where practicable	Major: Design must be improved, must be resolved immediately

**Any gaps between 500mm and 1600mm:**

	There is a functional reason for gap	There is no functional reason for gap
You can’t touch a dangerous part at arms-length	Observation: Recommend design is revisited to eliminate gap or gap made as small as is practicable	Minor: Design must be improved, but can be corrected post-audit
You can touch a dangerous part at arms-length	Major: Design must be improved, must be resolved immediately	Major: Design must be improved, must be resolved immediately



## 2.3 SPECIFIC GUIDANCE CONT.

### THOROUGH EXAMINATION CERTIFICATION

Although 100% of drilling machines put forward for audit have carried some form of Thorough Examination certification, a very large percentage frequently have incorrect or missing information. Below is guidance on avoiding the most common issues found:

- Ensure ALL winches, ropes and accessories have unique ID numbers that are either stamped onto them directly or carry an appropriate label. This includes both winches on cable percussion drilling machines and both winches **MUST** be identifiable.
- Ensure ALL of these Unique IDs are listed on the Thorough Examination certification.
- Ensure ALL line pulls for ALL winches are listed on the certification.
- Ensure ALL Safe Working Loads (SWL) (or Working Load Limits) are listed for ALL ropes and accessories.
- If a wire rope has a Factor of Safety (FoS) applied to give it's SWL, this FoS **MUST** be listed on the certificate, ideally alongside the Minimum Breaking Load (MBL).
- The SWL of all ropes and accessories **SHOULD** be greater than the line pull of the winch they are being used with. There are exceptions to this whereby an accessory may be sacrificial or may be repeatedly lifting a specific known load (i.e. an SPT hammer or the wire rope for the setup winch on a cable percussion drilling machine). In this scenario, the SWL should be greater than the given load, but may not have to be greater than the pull of the winch.
- Finally, ensure that items are being Thoroughly Examined at the correct intervals. Machinery (and items permanently fixed to it) should be examined once every twelve months. Accessories (items that are detachable from the machinery without use of a tool) should be examined every 6 months.



### FACTORS OF SAFETY FOR WIRE ROPES

All ropes on rotary drilling machines **CAN** have a Factor of Safety (FoS) of 3:1 applied, thanks to a stipulation within BS EN 16228. However, often third-party companies assigned to carry out Thorough Examinations on drilling equipment are not aware of this Standard and immediately apply a FoS of 5:1 when producing certification, resulting in a lower SWL being listed. This means that often wire ropes on rotary drilling machines are technically safe to use, however their certification says otherwise as their unintentionally lowered SWL is then less than the pull of the winch. Audit guidance regarding this is as below:

- Ensure ALL SWLs listed on certification have their applied FoS stated, along with the MBL.
- Ensure ALL wire ropes on rotary machines have their SWL calculated using 3:1, not 5:1.
- For all wire ropes on rotary drilling machines, ask that BS EN 16228 is listed on the certificate for reference.



## 2.4 AUDIT FINDINGS

BDA auditors will conduct the audit against specific audit criteria in order to determine audit findings. Audit findings provide factual evidence collected by auditors to indicate conformity or non-conformity with an aspect of the audit criteria.

Individual audit findings and subsequent reports will include notes on conformity and good practices along with their supporting evidence, opportunities for improvement, and any recommendations to the auditee.

Non-conformities and their supporting audit evidence will be recorded. Non-conformities will be graded depending on the context of the organisation and its risks. This grading will be qualitative (e.g. non-conformity and major non-conformity). They will be reviewed with the auditee in order to obtain acknowledgement that the audit evidence is accurate and that the non-conformities are understood.

At the end of an audit visit, there are four potential outcomes:

1. Audit achieved
2. Audit not yet achieved (pending rectification of specified minor non-conformance)
3. Audit terminated (when a major non-conformance has been recorded)
4. Audit not achieved (when audits are unable to be completed, but no major non-conformance has been logged – i.e. no drilling is witnessed on the day of audit).

Every attempt will be made to resolve any diverging opinions concerning the audit evidence or findings with any unresolved issues recorded in the audit report. Audit reports will be forwarded to the line manager of the auditee following submission by the auditor and internal verification by the Audit Manager.

### OBSERVATION

DEFINED AS: *An opportunity for improvement or recommendations to the auditee.*

EXAMPLE: *SPT rod straightness being checked and documented.*

### MINOR NON-CONFORMITY

DEFINED AS: *A deviation from current standards which if left unrectified could lead to a hazard to the health or safety of personnel or the environment or to a sub-standard quality of work.*

EXAMPLE: *Samples not being stored in line with BS EN ISO 22475.*

### MAJOR NON-CONFORMITY

DEFINED AS: *A deviation from the current standards which presents an immediate hazard to the health or safety of personnel or the environment, a potential breach of legal duty and where rectification cannot be immediately achieved.*

EXAMPLE: *Engine emergency stop not working correctly.*

- In these circumstances it is the BDA's right to terminate the audit and inform the project manager and record the findings on the audit report. Non-achievement of audit owing to a major non-conformity cannot be rectified at a later date, it must be re-assessed when the auditee has resolved the issue.

## 2.5 AUDIT REMIT

All Audits will be carried out and any subsequent non-conformances will be noted according to adherence with the latest and current list of Standards, Guidance, Legislation and Regulations provided here.

### HEALTH & SAFETY

- First Aid at Work Regulations
- Health and Safety at Work Act
- UK Specification for Ground Investigation (Yellow Book)
- Health and Safety Executive Guidance Number 47 (HSG47) Avoiding Danger from Underground Services
- Construction Design and Management Regulations (CDM)
- The Provision and Use of Work Equipment Regulations (PUWER)
- The Workplace (Health, Safety and Welfare) Regulations
- The Management of Health and Safety at Work Regulations
- The Control of Substances Hazardous to Health Regulations (COSHH)
- The Working at Height Regulations
- Personal Protective Equipment at Work Regulations
- The Regulatory Reform (Fire Safety) Order (England & Wales) or Fire (Scotland) Act

### TECHNICAL

- BS 5930 - Code of practice for ground investigations
- BS EN ISO 22475 – Sampling methods and groundwater measurements
- BS 22475-2 - Qualification criteria for enterprises and personnel
- BS 22475-3 - Conformity assessment of enterprises and personnel by third party
- BS EN ISO 14688 – Identification and classification of soil
- BS EN ISO 14689 - Identification and classification of rock
- BS EN 16228-1:2014 - Drilling and foundation equipment — Safety Part 1: Common requirements
- BS EN 16228-1:2014 - Drilling and foundation equipment — Safety Part 2: Mobile drill rigs for civil and geo-technical engineering, quarrying and mining
- BS EN ISO 22476 - Field testing
- BS EN ISO 22282 – Geohydraulic testing
- BS EN ISO 18674 – Geotechnical monitoring by field instrumentation



# WHERE?

## 3.1 LOCATION

BDA audits can be carried out on any working site across the UK & Ireland, but additional costs may apply to visits outside the mainland. Audits are also only completed provided that access to the working site is not in contravention with any contracts entered into by the Contractor being audited and their Client.

All sites on which a BDA audit is to be carried out must comply with current legislation and guidance, and the BDA auditor will only assess within a safe working environment.

Auditors must be advised prior to audit of any parking restriction of the auditor's transport and proved suitable alternative arrangements where necessary. In circumstances where the BDA audit location cannot be accessed by normal road-going private cars, the company arranging the BDA audit will ensure suitable arrangements are in place for transport to the BDA audit location.

Where there are site-specific, specialist PPE requirements for all operatives and visitors to site, these specialist PPE items will be supplied to the BDA auditor by the auditees' company.

Audits can only be carried out on live, working sites with real-time drilling activities taking place. The auditee must be observed drilling and progressing a borehole during the visit, whether sampling or open-holing.

BDA audits can be carried out during night shifts and in the marine environment, however any such audits will be subject to an enhanced rate of BDA audit cost and increased timescale to complete. These costs and timescales will be agreed with BDA Audit Management prior to the BDA audit taking place.





# WHEN?

## 4.1 AUDIT PROCESS

### 1. Pre-Audit

- A company decides it needs its drilling teams to be audited
- After collecting all relevant paperwork and certifications (Front & Back of VQ Certificate, Front & Back of CSCS Card, First Aid Certificate and Wire Rope Inspection training certificate – Rotary and CP Lead Drillers only), a representative from the company fills in the registration form or contacts the BDA audit Management office to organise multiple audits
- During registration, applicants are offered the opportunity to obtain an MP Connect / BDA audit card endorsed with the CSCS confirmation of CSCS health and safety test achievement.
- On completion of the registration form, the representative either uses a credit card to pay for the audit(s) immediately, or arranges for other immediate payment
- The BDA audit office ensures all pre-audit paperwork is present and sufficient
- Once all paperwork is received and payment has been processed, the BDA audit office confirms the location of the auditee's next working site
- The audit is assigned
- The assigned auditor will contact the auditee or employer directly to arrange a time and date that the audit will be completed
- The auditor will contact the auditee immediately prior to the audit to request any additional details regarding access to site, special requirements i.e. PPE, time and site inductions

### 2. Audit

- The auditor arrives on site and offers the auditee the opportunity to undergo the CSCS health and safety test, before commencing with the BDA audit
- If any deviations from industry good practice are identified, they are shared with the auditee and noted as observations by the auditor within the report
- If any non-conformities have been identified, they are shared with the auditee and discussed immediately. If required, the auditor will then agree with the auditee the timescale within which the non-conformities will need to be rectified for the audit to be achieved
- If a major non-conformity is identified, the auditor will immediately ask that the drilling is paused and will then offer the auditee the opportunity to immediately correct the non-conformance, if possible. Only if the auditee and/or employer is unable to immediately rectify the major non-conformity will the auditor report a major non-conformance and the audit be deemed 'NOT ACHIEVED'.
- *Note: A number of questions asked during the audit are for BDA information-gathering purposes only and do not effect the audit outcome.*

### 3. Post-Audit

- Where minor non-conformities have been identified for rectification, the auditor shall ensure that all required evidence has been collected to close out the non-conformities. In order to achieve this, the auditee/employer can request a provisional copy of the incomplete audit report.
- The Auditee and/or their Employer must then provide evidence to the Auditor as proof that the non-conformities have been rectified in the previously agreed and specified timescale (no more than 21 days from point of Audit)
- If non-conformities are not rectified and supporting evidence provided to the Auditor within the agreed timescale, the audit is marked as 'NOT ACHIEVED'
- If evidence of rectification is received, the Auditor will close out the non-conformities within the Audit Report and mark it as 'ACHIEVED – Subject to quality assurance' and submit to the BDA Audit Manager for Quality Assurance
- The BDA Audit Manager has seven days to complete quality assurance before the report is formally presented to the Auditee and employer
- If the Auditee has achieved audited status, then a completed copy of the audit report will be sent to the Auditee and Employer along with a .JPEG copy of the auditee's audit card
- The Auditee will then receive an email/SMS notification prompting them to download the Cardskipper App to their smartphone which will display their official BDA audit card
- If the Auditee has not achieved audited status, then a completed copy of the audit report identifying the non-conformities will be sent to the Auditee and Employer. Once these non-conformances are corrected, the Auditee will be invited to start the Audit process again

### Audit Report

The official Audit Report formatting will follow the internationally recognised RAG system to identify the findings of the audit. The audit report will contain all of the below:

- If identified: A list of Auditor observations concerning deviations from industry recognised good practice. The BDA would expect that actions would be taken to improve on all auditor observations ahead of any future, repeat audits. These observations will be identified in **GREEN**. **OBSERVATION**
- If identified: A list of all minor non-conformances. These non-conformances are deemed to not be an immediate health and safety risk, however are deviations from established industry Standards, Guidance, Legislation and Regulations. These non-conformances will be identified in **AMBER**. Some minor-non-conformities will be required to be rectified prior to audited status being granted; if this is the case, the auditee will be notified and the non-conformity will be listed at the end of the report. Some minor non-conformities are deviations from standards, however cannot be rectified post-audit and thus will remain on the audit report. **MINOR**
- If identified: A list of all major non-conformances. Major non-conformances are deviations from established industry Standards, Guidance, Legislation and Regulations which either pose an immediate health and safety hazard, or, in certain scenarios, compromise the technical accuracy of the drilling operation. These non-conformances will be identified in **RED**. **MAJOR**
- Photographic evidence to support all findings from the audit



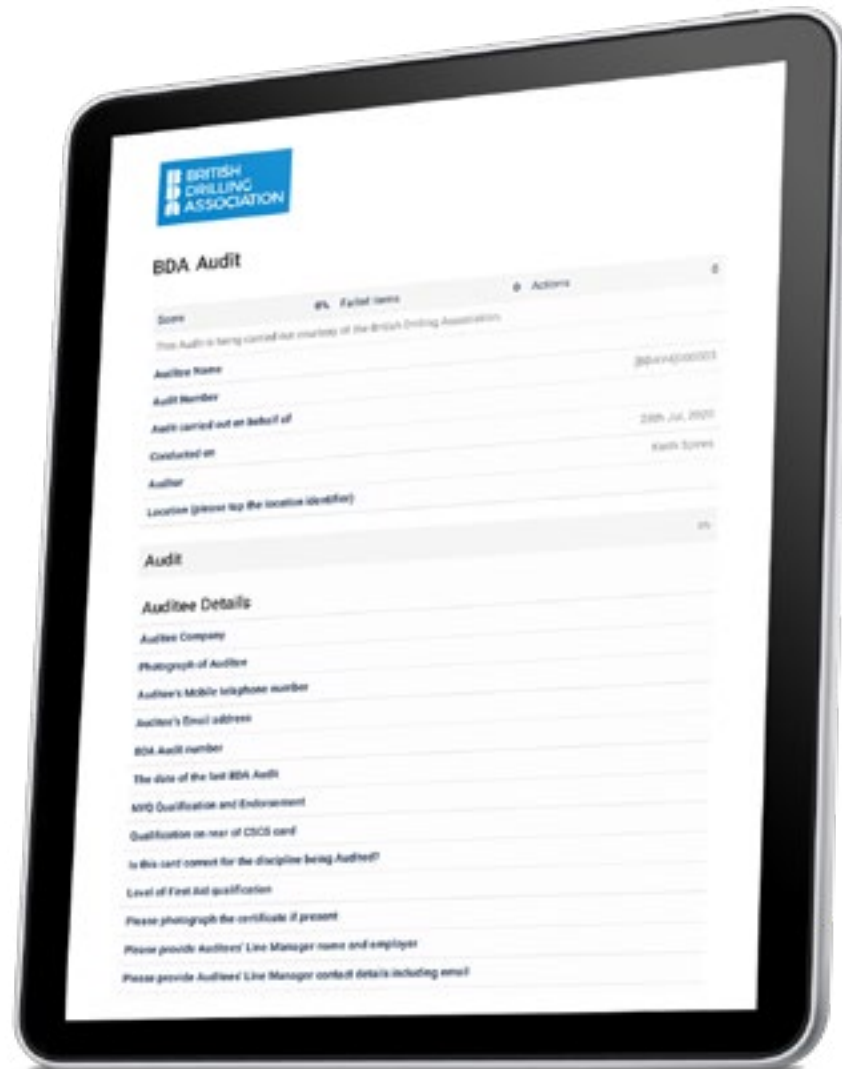


## 4.2 QUALITY ASSURANCE

The purpose of the Quality Assurance provided by the BDA Audit Manager is to ensure all BDA audits are carried out to the same specification and standard. The BDA Audit Manager cannot alter the result of an audit without consultation and agreement with the Auditor, however, they can request additional evidence and information from the Auditee/Employer to support the Auditor.

On 1st May 2021, the BDA Audit was accredited by the Mineral Products Qualification Council. Following the awarding of the accreditation, the assessment and quality assurance of the audit is now externally verified by an industry-recognised training and assessment body, bringing the audit fully in line with ISO 9001.

The BDA Audit also provides a robust annual competency assessment, as outlined in BS EN 22475-2.



## 4.3 BDA AUDIT CARD & MP AWARDS CSCS CARD



### BDA Audit Card

The BDA no longer issue physical audit cards but instead issue an e-card (digital card), alongside a watermarked digital image copy for office use.

Developed in partnership with Swedish digital communication experts, Cardskipper, the e-card system creates a secure environment for the Auditee's data and allows for greatly improved control, management and communication between the BDA and individual Auditees, whilst also reducing the environmental impact associated with the creation and use of plastic cards.

This cutting edge digital system provides each Auditee with their own Audit e-card which can be downloaded direct to their smart device via the free, secure Cardskipper app. The app is free to download from Apple and Android stores and offers additional communication features between the BDA, BDA Audit Management and the auditee, such as sending Safety Alerts, industry related news, standards updates, renewal reminders and any changes to BDA audit content.

### MP Awards CSCS Card

Thanks to partnership with MPQC for accreditation purposes, the BDA audit team are also now permitted to administer CSCS health and safety assessments on behalf of MPQC. This means if you don't have a valid CSCS card, or you have an operative whose card has expired, they can now take a touch-screen CSCS H&S test before their audit takes place.

If they pass this test, alongside their BDA audit card, auditees will also receive a digital MP Awards CSCS card that links to both the MP Connect system that lists all qualifications present for the auditee in MP's database, and also the CSCS database to verify their in-date CSCS health and safety test. However, should they fail the H&S test, they will also fail their audit.

There is no extra cost for this and is a free benefit of being a BDA Member and undertaking an annual BDA audit. However, you will need to opt in to this service when completing the application forms.



DELIVERING THE BDA AUDIT CARDS IN PARTNERSHIP WITH





# WHY?

## 5.1 TIMELINE

In 1992 the British Drilling Association (BDA) introduced an accreditation to assess competence of all member land drilling operatives against industry standards and regulations. The development of this accreditation and it's successor, the BDA Audit, can be marked against time:

1995

BS EN 791:1995 Drill rigs. Safety – the original standard for drill rig safety is published.

1998

Provision Use of Work Equipment Regulations (PUWER) and Lifting Operations & Lifting Equipment Regulations (LOLER) are published providing the requirement for safe, suitable and routinely inspected work equipment; protection against dangerous moving, & temperature affected parts.

2000

Vocational Qualification (VQ) in Land Drilling is introduced to demonstrate competence under assessment.

2006

BDA Audit officially replaces BDA Accreditation.

2007

The Construction (Design and Management) Regulations 2007 are published, outlining that "Employees are expected to have the appropriate qualifications and experience for the assigned tasks".

2011

British Standard 22475:2011 Parts II and III stipulate qualification and audit criteria for enterprises and personnel working in the ground investigation and testing industry.

2012

Institute of Civil Engineers (ICE) publishes the Second Edition of the UK Specification for Ground Investigation (Yellow Book). This industry specification states the requirement for operatives to be adequately trained and and third-party audited in order to demonstrate competence.

2014

BS EN 16228 - Drilling & foundation equipment safety supersedes BS EN 791:1995 taking into consideration current state of the art knowledge of drilling machines and their safety performance from a manufacturer and operator perspective and the respective requirement.

2015

Construction (Design and Management) Regulations 2015 (CDM, 2015) are released, reinforcing the expectation of employees to have the appropriate qualifications and experience for the assigned task.

2015

BDA Audit is digitalised and updated to reflect changing legislation. Audits are now completed via tablet computers.

2020

BDA Audit adds independent management and Quality Assurance to improve standard of Auditing and ensure consistency.

2021

BDA Audit is awarded third-party accreditation by industry awarding body, the Mineral Products Qualification Council (MPQC).

## 5.2 ORIGINS OF BDA AUDIT

- In 1974 the Health & Safety at Work Act (HASAWA) legislated all people carrying out work must be trained to carry out their role. This was further enforced by CDM, 2007 "Employees are expected to have the appropriate qualifications and experience for the assigned tasks" and reiterated in the 2015 version.

• *Employers must demonstrate their workforce satisfy this legal demand at all times.*

- In 2000, Vocational Qualifications (VQs) in Land Drilling were introduced to create a minimum standard for which drilling operatives could be trained and assessed against across the spectrum of near shore and off-shore construction drilling disciplines.

• *This award is recognised as the minimum standard of training by the BDA and is promoted through specification by clients and contractors as the only method to demonstrate competence.*

- The BDA Audit contributes to the demonstration of compliance with BS 22475 Parts 2 and 3, the Yellow Book and CDM, 2015 and was developed to improve on the successful raising of the safety bar created during the BDA Accreditation scheme, simultaneously introducing ongoing competence post-VQs.

## 5.3 SUMMARY

- If anything goes wrong during, or as a result of, the works involved in a project (injury, engineering failure, inaccurate/poor data, fatality etc), competence of all those involved can be questioned by either HSE, the police or a judge.
- If Employers or Clients cannot prove that the people employed to carry out work are competent to carry out the job, they now become culpable in any suspected Breach of Legislation.
- Failure to demonstrate this fundamental requirement can result in a personal prosecution to the worker, the employer or both together. With potential unlimited fines and custodial sentences available for inditable breaches, protection against the direct and indirect implications is paramount.
- The BDA Audit offers a third party, independent assurance to assist demonstration of legal obligations and compliance with industry standards, guidance and good practice.
- The BDA Audit is the only competence scheme which enables clients, consultants and contractors to comply with BS 22475 Parts 2 and 3.



Image Credit: Eijkelkamp Fraste



# APPEALS & COMPLAINTS

## 6.1 APPEALS

An appeal is defined as either:

- An appeal against a decision made by the BDA Audit Management or a BDA Auditor regarding the acceptance of an Auditee's evidence/results of an Audit, either as part of an external verification function or an external examination function. (In this instance an appeal will not necessarily involve re-assessing the evidence), or
- An appeal against a decision regarding reasonable adjustments and special considerations, or
- An appeal against decisions relating to any action to be taken against an Auditee or a BDA Auditor following an investigation into malpractice or maladministration.

Auditees/Employers wishing to implement the appeals procedure should first discuss the case with the BDA Auditor who carried out the initial Audit. The BDA Audit Manager will endeavour to resolve the matter to the mutual satisfaction of the candidate and/or candidate employer, the Auditor, and the BDA.

Appeals must be made in writing and sent to BDA Audit Management within seven working days.

Should the Auditee/Employer not be satisfied with the outcome, they must appeal in writing to the Appeals Panel of the BDA Audit within seven working days of receiving the decision.

### The Appeals Panel

The Appeals Panel will include:

- BDA Audit Steering Group
- A non-involved BDA Auditor

The Appeals Panel will consider the appeal and will inform the Auditee/ Employer of the decision within 28 working days.



Image Credit: Eijkelkamp Fraste

## 6.2 COMPLAINTS

Complaints may include, for example:

- Conversations/communication with BDA Auditors or Management which do not meet your expectations
- Poor/difficult relationships with the Auditor or Audit Manager, affecting Audit delivery or assessment
- Incorrect or confusing communication or advice

Complaints should not include any assessment/accreditation issues

### How to submit a complaint?

Complaints may be submitted by email, telephone or letter. However, should your complaint involve a third party which the BDA works with, the BDA Audit Management will ask you to ensure the complaint is made as a written complaint and your details may be disclosed to the third party as part its investigation process. The BDA Audit Management will not investigate complaints involving a third party without this process being understood and adhered to.

### Escalation of Complaint

If the Complainant is still dissatisfied following the decision of the BDA Audit Management they can also refer the complaint to the appropriate regulatory authority e.g. Ofqual or SQA.

**To view the full BDA Audit Complaints Procedure, please contact the BDA Audit Office directly.**

## WITH THANKS TO

The BDA would like to thank the below for their efforts, collaboration and contributions in the creation of this document:

### Image Contributions

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- BDA Chair - Paul McMann
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## BDA Audit Handbook

### Version 2.1 (September 2021)

Updates to:

- 4.1: Audit Process
  - Colour coding system
  - 'Information only' questions

### Version 2.2 (January 2023)

Updates to:

- 1.1: Auditors
- 1.3: Audit Steering Group
- 2.2: Specific Guidance
  - Rotary guarding
  - Thorough Examination Certification
  - Factors of Safety for Wire Ropes
- 3.1: Location
- 4.3: MP Awards CSCS Card

### Version 2.3 (October 2023)

Updates to:

- 2.2: Technical Quality Conformance
  - Full details on minors



### Contact Us

0800 0385 969

[audit@britishdrillingassociation.co.uk](mailto:audit@britishdrillingassociation.co.uk)

[www.britishdrillingassociation.co.uk](http://www.britishdrillingassociation.co.uk)