UNIVERSITY OF CAMBRIDGE
Department of Earth Sciences

Earth Sciences Safety Handbook

October 2015

Web version – October 2015

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UNIVERSITY OF CAMBRIDGE
Department of Earth Sciences

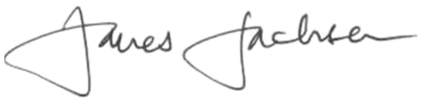
Department Safety Policy

General Statement:

It is the policy of the Department of Earth Sciences to continue to ensure, so far as is reasonably practicable, the health, safety and welfare of all its staff, students and any other persons who may use and/or visit the Department's premises or who may be affected by the activities of the Department. Compliance with legal obligations is the minimum standard.

The Department is committed to planning, implementing and reviewing its health and safety arrangements in order to achieve continual improvement in performance, the aim being to promote best practice in all areas of health, safety and the environment.

The maintenance of safe and healthy working conditions requires the active co-operation of everyone in the Department, each of whom has a duty to take care of his or her own safety and that of others. Every individual has a duty to co-operate in the attainment of safe working conditions by: taking care of their own health and safety and that of others; never interfering with safety equipment; familiarising themselves with the University Health and Safety policy; to attend the required health and safety education and training, and to bring situations that they believe to be dangerous or shortcomings in the safety arrangements to the attention of the Safety Committee.

Signed  Dated: 1 September 2015

Professor James Jackson

Head of Department

University Safety Policy at:

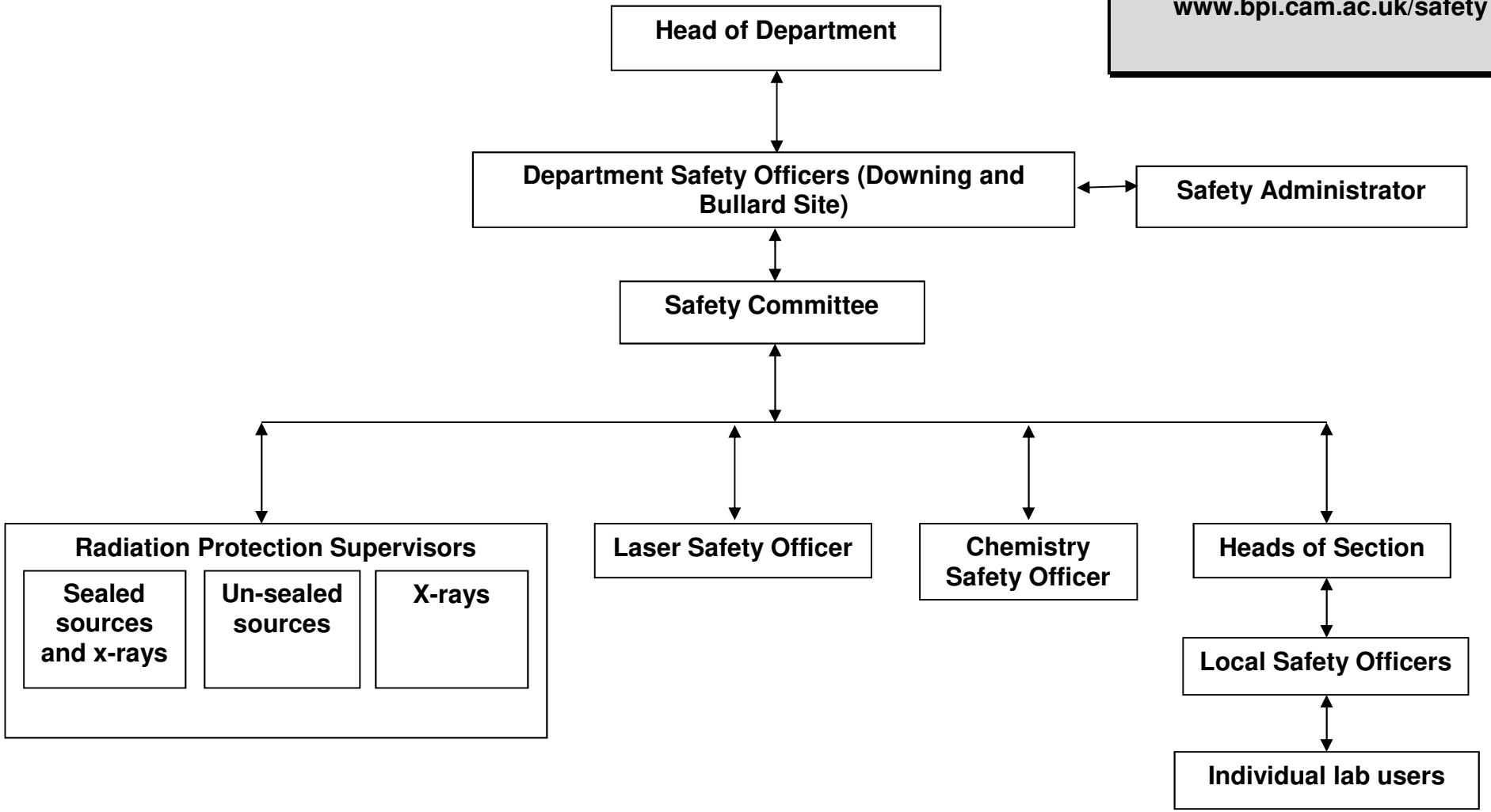
http://www.safety.admin.cam.ac.uk/publications/hsd016m-university-health-safety-policy

NO SMOKING POLICY

The Department of Earth Sciences operates a strict no-smoking policy in all of its buildings and outside adjacent to areas which present a particular fire hazard. Persons wishing to smoke are asked to do so away from doors and windows so as not to inconvenience occupants of buildings.

SAFETY ROLES

NB: BPI has separate Safety Tree
www.bpi.cam.ac.uk/safety



SAFETY RESPONSIBILITIES 01.10.2015

DEPARTMENT SAFETY COMMITTEE

Head of Department	Professor J A Jackson
Department Safety Officer, Committee Chair	Ms L H Matthews
Laser Safety Officer,	
Radiation Protection Supervisor (unsealed sources)	Dr I Farnan
Radiation Protection Supervisor (x-rays)	Dr G Lampronti
Radiation Protection Supervisor (sealed sources, x-rays)	Professor S A T Redfern
Safety Officer and Fire Manager, Bullard Labs	Mr D Simons
Fire Manager/Principal Technician	Mr M Walker
Department Administrator	Dr A Buckley
Chemistry Safety Officer	Dr J Day
Fieldwork	Dr M Edmonds
Sedgwick Museum Representative	Ms S Finney
Safety Administrator, Committee Secretary	Mrs C J Hobbs
Deputy Director, Health and Safety Division	Mr W Hudson
Graduate Representative	Mr Beng Thye Tan
Teaching	Dr D B Norman
Union Representative	Vacant

Bold type for a Committee member's role indicates a formal Department safety position.

HEADS OF SECTION

BP Institute (Madingley Rise)	Prof A Woods
BPI Colloids Interface Lab	Dr Stuart Clarke
BPI Fluids Lab	Dr Charlotte Gladstone
BPI Polymer Colloids Lab	Dr Alex Routh
Isotope Geochemistry	Prof M J Bickle
Palaeontology Processing	Prof N J Butterfield
Resonant Ultrasound Spectroscopy & High Temperature Lab	Prof M A Carpenter
Electron Probe Laboratory and Fieldwork	Dr M Edmonds
Radioactive Material Preparation, N M R Spectroscopy & Workshops	Dr I Farnan
Chemistry and Rock Processing	Dr S Gibson
Mineral Magnetism & Electron Microscopy	Dr R Harrison
Godwin and Sedimentary Labs	Prof D Hodell
Rock cutting and Thin Section Preparation	Prof M Holness
Sedgwick Museum and Brighton/Rock Store Buildings	Dr K McNamara
Ocean Geochemistry	Dr A Piotrowski
Photon Spectroscopy, Mechanical Analysis & X-rays	Prof S A T Redfern
Mill Lane Core Store	Dr J Rolfe
Radiocarbon Laboratory	Dr L Skinner
Marine Biogeochemistry	Dr A V Turchyn
Teaching	Dr D B Norman

Annual Report of Earth Sciences Department Safety Committee 2014 - 2015

The Department of Earth Sciences was audited by the University Safety Office in November 2014. Three safety officers including Deputy Director Will Hudson visited the Department for a full day, carrying out inspections and interviews with key members of staff with safety roles. Feedback from the audit report, written by Will, was excellent. Especially pleasing was the comment on our Fieldwork Safety: "I recommend that the Department of Earth Sciences' safety management system for fieldwork should be used as a template for the University".

Thank you to Celia Hobbs, Health and Safety Administrator, and Dudley Simons, Bullard Safety Officer for all their hard work in keeping the Department and its members safe. Thanks also to all Earth Sciences Safety Committee members for continuing to uphold our high standards of safety. We also appreciate our First Aiders for giving their time and care: many thanks go to Charlie Aldous, Jason Day, Rob Theodore, Andrew Stephenson, Marie Edmonds, Chris Parish, James Rolfe, Lucy Matthews and Sarah Finney. Newly qualified people joining the team are: Tim Beeson-Jones, Richard Alloway, Kirsty Reynolds, Joanna Starkie and Sandra Freshney. Charlie, Jason and Rob are specifically trained in how to deal with accidents involving HF acid.

There were nine reported accidents/incidents this year, with one being RIDDOR reportable.

In the academic year 2014-15, Earth Sciences held two 2-Day Outdoor First Aid for Fieldwork courses run by consultants Marlin Training, one in January, one in May. Both were fully attended with 12 participants on each course and feedback to Stuart was excellent. In the coming academic year 2015-16, for the first time we will be holding a 1-Day Refresher version of this course on 18th May 2016 (including some online learning) for those members of staff whose training will expire in 2016. This will allow participants to be re-certified for another three years. The full 2-Day Outdoor First Aid for Fieldwork courses will be run in January (13th and 14th) and May (19th and 20th) 2016.

The Annual Dept Safety Officers meeting took place in March 2014 and focussed on Local Exhaust Ventilation (LEV), Accident/Incident reporting, Pressure Vessels and Audit findings. Earth Sciences is up to date with the legal inspections required for LEV and Pressure Vessels. The new online Accident/Incident form is an improvement as it simplifies the paperwork required for this vital reporting.

During the last academic year there were 288 recorded attendances at safety training events/courses both within the Department and elsewhere across the University. Driving continues to be one the Department's most high-risk activities; this risk is mitigated by the strict enforcement of Advanced Driver Training for all members of staff who drive on taught field courses, with 18 people trained between July 2014 and Sept 2015. We now have 22 staff members currently qualified to drive undergraduates in minibuses and a further 17 qualified to drive people carriers.

This year the decision was taken to replace our contracted Oxygen Monitors (gaspods) with portable monitors. In consultation with John Hulme from the University Safety Office, the Department purchased Altair Gas Detectors which come pre-calibrated for 24 months.

All risk assessments were reviewed and re-signed by Heads of Section and Local safety Officers at the Annual Chemical Safety Review Meeting which occurs in October. Radiation monitors were tested as usual by the Safety Office in December. Annual Health Surveillance (for staff members identified as being at risk by their risk assessments) was carried out; this includes auditory tests and hand/arm vibration monitoring. The HoD accompanied me on a safety walk of the Godwin Labs (S104, S105, S105A, S105B S105C S106, S106A, S111). In addition, there was an external safety walk of S311, S315 and S206; all this year's safety walks demonstrated that the Department is complying with University safety standards.

Field Risk Assessments (FRAs), safety log books and feedback forms were completed for the 9 undergraduate taught field trips. I attended the Sedbergh Field course in 2014 and the Southwest Field Course in 2015 in my capacity as a trained minibus driver; it was gratifying to be able to witness our good safety policies being put into practice. Many more FRAs were completed for Part II (and Part III) Mapping Projects, and for various individual research trips. Members of the Department are commended for continuing to think carefully about their safety before their trips and completing their FRAs accordingly. Keep up the good work!

Lucy Matthews,
Department Safety Officer, September 2015

SAFETY ORGANISATION

The Head of Department has the duty and legal responsibility for the implementation of the University and Department Safety policy.

In order for the Head of Department, Prof James Jackson, to fulfil his obligations to carry out these responsibilities, he has delegated duties in writing to: the Department Safety Officers; Department Safety Administrator; Officers for Laser Safety, Chemistry, the Department Radiation Protection Supervisors, Fire Managers and the Head of each Section.

The Safety Officer and the Safety Administrator act as a focus for the flow of information to and from the Department. Within the Department, the flow of information to and from members of the Department is generally via the Heads of Sections or their Local Safety Officers.

Health, Safety and Environmental Committee

The Department has a committee to oversee the Department's policies on health, safety, and environmental matters, and to ensure their implementation and communication. The Department Safety Committee meets two to three times a year, ideally termly. Additional meetings may be called if required. Membership of the committee includes a Trades Union, and a Graduate students' representative.

The purpose of the Committee is:

- To receive safety reports from all sections of the Department, to decide on any action necessary, and to monitor its implementation.
- To advise the Head of Department on health and safety matters.
- To discuss and resolve any matter relevant to health and safety brought to its attention.
- To agree and review emergency procedures.
- To receive reports on safety inspections, and monitor the completion of recommended action.
- To receive reports of accidents and incidents and the results of investigations, and to agree action to be taken to prevent recurrence.
- To monitor completion of appropriate risk assessments.
- To ensure that information received from the University Safety Office and Safety Advisors regarding changes in health and safety regulations is acted upon.
- To review the Health and Safety Policy annually, and to approve additions and amendments as appropriate.

The Committee will consider any relevant matter brought to its attention from inside or outside the Department, and will make recommendations to the appropriate staff. Members of the Department wishing to raise a topic for discussion are invited to do so by the Safety Administrator at the time of planning the agenda for a meeting, but topics may be brought to the notice of the committee at any time.

Membership of the Committee and Agenda papers and Minutes of meetings are posted on the Safety pages of the Department website. Minutes are also distributed to the University Health and Safety Division and to all members of the committee.

Heads of Section

Heads of Section have specific additional responsibilities for safety. These are:

(a) to appoint, if necessary, suitably competent staff as Local Officers Responsible for Safety and to draw up the working procedures and codes of safe practice for their areas;

(b) to implement the Department Safety Policy in their section by ensuring that activities within their section comply with health and safety requirements, and that appropriate procedures are in place for: regular inspections and risk assessment, which may include Control of Substances Hazardous to Health (COSHH); risk assessments of new equipment before use and projects prior to their commencement; the evaluation of risk assessments and any remedial action to be taken;

(c) to ensure that workers in their area receive appropriate training, instruction, and supervision so as to safeguard as far as is reasonably practicable, the health, safety, and welfare of those workers;

(d) to seek advice, when necessary, from the Department Safety Committee, the Department Safety

Officers, the Department Safety Administrator, or Head of Department, and to bring to their attention any inadequacies of the system and any persons in their section who refuse to co-operate over implementing safety procedures or policy;

(e) to appoint a Deputy for Safety for any period of absence of more than two weeks;

(f) to take responsibility for Academic Visitors to the group, in ensuring that visitors are aware of, and comply with, the requirements of health and safety law and University and Department policies and practices;

(g) to ensure all training records are kept up to date.

Local Safety Officers

Within 'areas', the Head of Section may designate suitably competent academic staff members as Local Officers for Safety. Such officers carry the same responsibilities as all staff members but in addition they are expected to:

a) co-ordinate the risk assessments, use of laboratory, 'At Bench' training records and working out of hours forms for members of the various activities within their area;
b) carry out the general risk assessment for safety in their area; take action based on the assessment and revise it annually or whenever known changes occur, whichever is sooner;
c) ensure that safe systems of work and codes of safe practice are in place and are being adhered to;
d) co-operate with the Department Safety Officer, the Department Safety Administrator, and the Safety Committee, and seek their advice on appropriate occasions;
e) bring to the Head of Section's attention any unsafe practices and breaches of safety instructions in their area;
f) co-ordinate the reporting and investigation of all accidents or 'near misses' occurring in their area to the Department Safety Officer or Safety Administrator, and take any necessary action to avoid a recurrence.

Radiation Protection Supervisors and Laser Officer

The Radiation Protection Supervisors are statutory appointments made in writing by the Head of Department. Their role is to ensure all work with radiation complies with UK regulations and local rules. Further safety roles are also appointed by the Head of Department to ensure the safety of workers using specialised equipment or samples, and to maintain implementation of regulations, training and record keeping.

Supervision, training and information

All staff in a supervisory position must be familiar with the University Health and Safety Policy, and recognise that they have in this respect responsibility for those whom they supervise. This means promoting and practising good working standards, ensuring equipment is maintained in a safe condition, ensuring that instructions and training are in place, recorded and being followed, and reporting and investigating accidents in order to identify and implement remedial measures. Where students are involved, this person is the teaching officer connected with the teaching of undergraduate studies, or the academic supervisor for post-graduate research and teaching.

All staff in a supervisory position should be proactive in ensuring that all those under their supervision have an appropriate level of information, training, and supervision for the tasks they are required to undertake. Information and training given for lab work must be documented, dated and signed on the individual's 'At Bench' training record, with other training recorded on the individual's Personal Training Record, a copy of which is given on pp 50 - 52.

Teaching

On the spot responsibility for student safety in classes falls to the Teaching Officer in charge of the class. The Officer must ensure that the activity of practical classes and field trips is risk assessed and significant findings recorded, and that all equipment is safe and its use verified either by a test certificate or by demonstration, whether in the laboratory or outside the Department. Postgraduate students and casual demonstrators are not expected to carry responsibility for class safety. Nevertheless, they have responsibility as individuals to conduct their work safely and advise undergraduates of safe practices and point out to the Officer in charge any deviations from safe practice.

Involvement and example

Maintenance of safe and healthy working conditions requires the active involvement of ALL staff and students, each of whom has a duty of care for his or her own safety, and that of others, and to co-operate with the staff so as to enable them to carry out their responsibilities properly. It is also the aim of the Department that all its members, especially those in supervisory roles, lead by example and training to engage the commitment, and encourage, staff and students to develop an attitude of mind which embeds good safety practice as normal.

Competent advice

Each member of the academic staff is to seek competent advice when necessary, and to take particular care when he or she initiates some piece of work, referring to codes of practice and standards laid down in the University Guidance and Department Safety Manuals. He or she should refer to the Safety Officer or Safety Administrator, as appropriate, and through them to the University Safety Advisor when necessary.

Notification of hazards

All staff and students are to bring to the attention of supervisory staff any potential hazard of which they know or learn, whether in the course of work or arising from faults in equipment.

BPI Safety

Safety information for the BP Institute Laboratories is kept at <www.bpi.cam.ac.uk/safety> including policies, procedures, rules and guidelines covered during the difference inductions for the different labs. Blank risk assessment forms and other templates relevant to the BPI can also be found here.

EMERGENCY CONTACTS

In an emergency, call for help as follows:

IN WORKING HOURS

	Downing Site		Bullard Labs	
First Aiders	Charlie Aldous (HF)	33465	Richard Alloway	(7)65711
	Jason Day (HF)	65282	Tim Beeson Jones	(7)65716
	Marie Edmonds	33463	Sarah Finney	(3)61064
	Lucy Matthews	33470	Kirsty Reynolds	(3)37059
	Christopher Parish	33467/ 33436	DudleySimons	(3)37198
			Joanna Starkie	(7)65708
	James Rolfe	64914	Sandra Freshney	(7)65717
	Andrew Stephenson	33400		
	Rob Theodore (HF) (Museum)	33931/ 33456		

OR contact Reception/Switchboard on 33400 to arrange help immediately

Nearest other **First Aiders** are:	Anatomy Reception	33750	Astronomy Dept:	
	Physiology Reception	33899	Andrew Batey	66662
	Plant Sci Reception	33900	Mark Hurn	37537
	Chemistry Reception	36300	Debbie Peterson	66643
Safety Officer	Lucy Matthews	33470	Dudley Simons	37198
Dept Administrator	Andy Buckley	33421		
Principal Technician and Fire Manager	Martin Walker	33476	Dudley Simons	37198
Deputy Fire Manager	Charlie Aldous	33465	Andrew Pluck	37199/37198
Emergency Services: Fire/ambulance/ police	From any internal phone **1 999**		From any internal phone **1 999** If building alarm goes off	
University Security	**31818**		**31818**	
Site Porter	33864			

OUT OF WORKING HOURS

University Security Control Room: Emergency number 101
General number e.g. if any of the building alarms go off: 31818

WORKING OUTSIDE THE DEPT:
In an emergency contact: University Security +44 (0) 1223 331818

For a Field Trip emergency contact: Dr Morag Hunter on +44 (0)7843 959783

ON HEARING THE FIRE ALARM
EVACUATE THE BUILDING IMMEDIATELY

FIRE AND EMERGENCY EVACUATION PLAN

All buildings: Evacuate immediately when the fire alarm sounds

The intermittent or continuous sounding of the alert requires the evacuation of all buildings (Downing Site and Bullard Labs)

If you discover a fire:

1. Raise the alarm at the nearest manual break glass call point, which will operate the alarm system and activate the sirens to alert occupants to evacuate the building.
2. Call emergency services on 999 and tell them your location and address of building.
3. **Leave the building immediately** via your nearest fire exit and go straight to the designated Fire Assembly Point which is on the lawn outside Archaeology and Anthropology at Downing Site and main car parks at Bullard.
4. Shut off electrical equipment.
5. Shut doors and windows as you leave, **only** if safe to do so.
6. Do not use lifts.
7. Do not stop to collect personal belongings.
8. Assemble on the lawn outside Archaeology and Anthropology at Downing Site and designated car parks at Bullard.
9. Immediately report any missing person known to have been in the building to the Fire Manager or senior member of staff present.
10. **Do not re-enter the building** until given permission by Fire or Security Personnel.
11. Inform the Fire Service officer (who will on arrival assume responsibility for fighting the fire) about any special hazards to be taken into account in fighting the fire.
12. If the fire is small and contained (i.e. paper bin) and if you are trained and know which fire extinguisher to use you may try to put the fire out – **ONLY IF IT IS SAFE TO DO SO**. **If you are unsure, leave the building - do not put yourself or others at risk!**

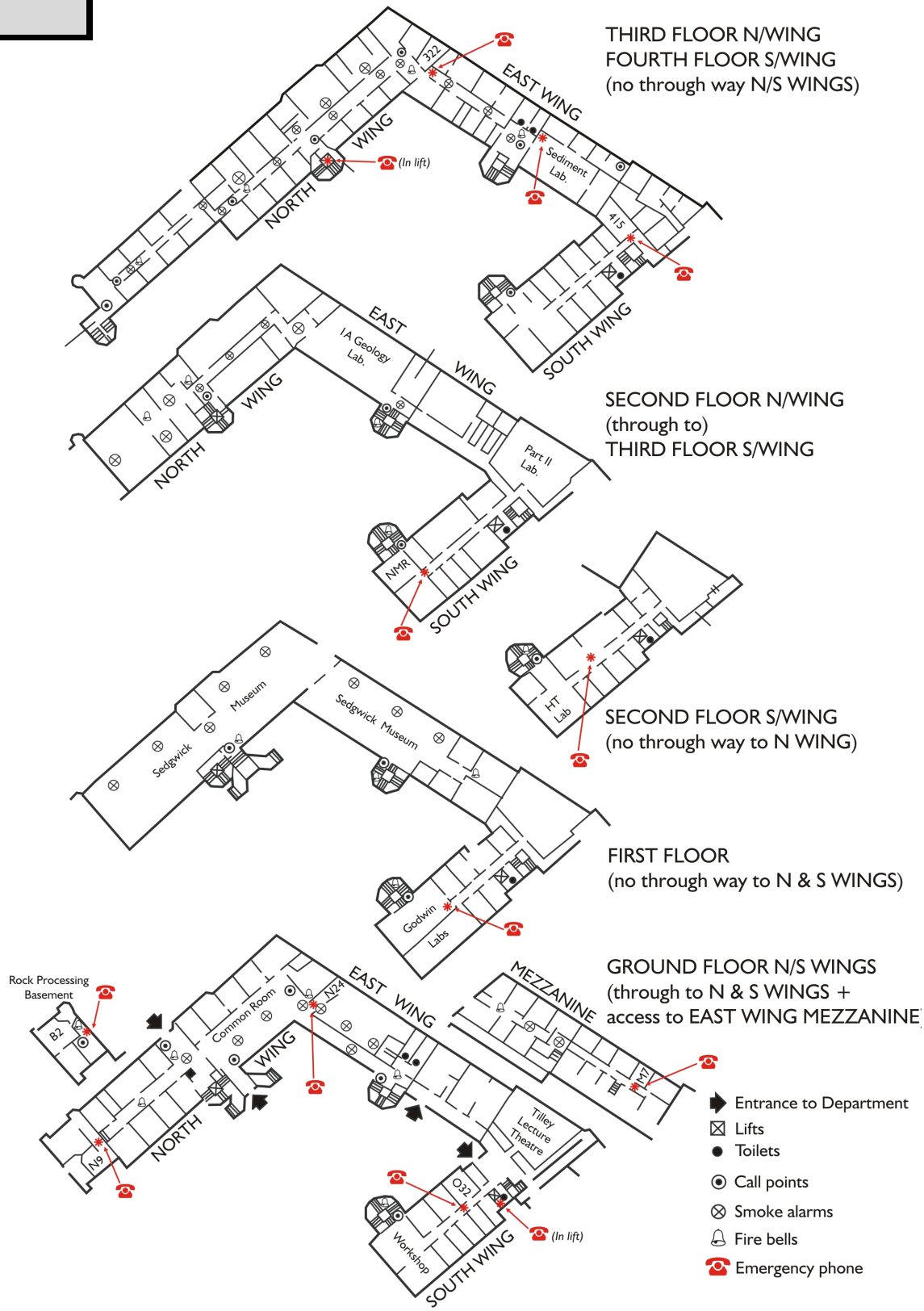
Disabilities: If an emergency evacuation of the building becomes necessary, assistance will be given to people with disabilities. If you are aware of anyone in this category, or invite any disabled visitors or guests, please inform the Department Health and Safety Officer before their visit. Staff and students are always responsible for their visitors, instructing them what to do in case of fire.

University Security personnel will respond in all fire situations. If you have to evacuate the building out of normal hours when there is no department fire team or management on site, go to the assembly point where you will come under their guidance. Senior members of Earth Sciences will be called to the site by them.

Do not wait to be told to leave. Do not assume it is a drill!

EMERGENCY PHONES (Downing Site)

DEPARTMENT OF EARTH SCIENCES
UNIVERSITY OF CAMBRIDGE



ACCIDENTS, INCIDENTS AND FIRST AID

What to do in the case of injury
Call a First Aider (see list p 9) or ring Reception (33400) for Downing Site. If no First Aider is available in working hours call one from a nearby Department. Names and numbers can be found in the University telephone directory. Out of working hours, call Security (31818).

Emergency phones are located around the Earth Sciences Dept on the Downing Site (see p 11).

If the **Emergency Services are required, dial 1-999** on any internal phone. For **Downing Site**, direct emergency services to the Department of Earth Sciences, specifying Downing Site, Tennis Court Road. Send someone to meet them at the entrance to the site.
For **Bullard Labs**, specify Madingley Road, next to Conduit Head Road and mention that current satnav systems using correct postcode, CB3 0EZ, misdirect vehicles to Huntingdon Road. Whoever places the call must give their own extension number or mobile number and emphasize that the call centre should ignore the 336633 (main University) number that shows up when the call is placed. Arrange for someone to meet them at the bottom of drive at Bullard and take them to the patient/casualty.

First aid boxes are available throughout the Department. Members must acquaint themselves with the position of the box nearest to their place of work. If items from the first aid box are used, please inform the Safety Administrator (Downing site) or Dudley Simons (Bullard) so they can be replaced.

Reporting Accidents and Incidents
All accidents, incidents, and dangerous occurrences in the Department or on University business (including field trips) must be reported as soon as practicable, preferably within 24 hours. If you are in the field, you should telephone the Department as soon as possible. All accidents, whether causing injury or not, **must** be reported on a University Accident and Incident Report Form (Part A) as soon as possible. The form needs to be completed either by the person concerned, the attending University Appointed First Aider, or by any other witness. The following people can help with completion of the form, which should then be given to one of them for processing:

Downing Site: Lucy Matthews (Safety Officer) or Celia Hobbs (Safety Administrator);
Bullard Labs: Dudley Simons or Gill Turner

To comply with the Data Protection Act 1998, **do not make any copies** of the completed form before you hand it over. Forms are in the first aid boxes, may be downloaded from the Department safety webpage, and are available from Lucy or Celia Downing Site and Gill or Dudley at Bullard. The University Safety Manual "First Aid Handbook" includes further details of accident reporting procedures.

Accidents involving damage to equipment must also be reported to the Principal Technician (Room S032), Downing Site, Dudley for Bullard. 'Near misses' must also be reported so that future accidents can be avoided.

Fieldwork
All fieldwork must be risk assessed and details on contacts, insurance and this risk assessment given to Lucy Matthews/Celia Hobbs. Accidents occurring in the field must be reported in the same way as those within the Department. Accident forms are provided in the green first aid kits and in the safety folders on taught undergraduate field trips.

The level of First Aid required for each field trip must be considered as part of the risk assessment. All leaders, demonstrators and research fieldworkers are strongly recommended to take part in a certificated 2-day Outdoor First Aid Course given by Marlin Training held in Earth Sciences twice a year. These courses are arranged through Lucy and Celia. First Aid training courses are also available through the University. First Aid kits and other items of safety equipment are available for loan from Lucy and Celia (S034/N018). People undertaking fieldwork abroad can obtain advice on first aid, vaccinations etc from the University Occupational Health Nurse at 16 Mill Lane. They can be contacted on (3)36594 or see the website http://www.admin.cam.ac.uk/offices/oh.

VISITORS AND CONTRACTORS

A safety leaflet showing the location of all exits and the fire assembly point is given to all visitors to the Downing Site as they register at Reception on arrival.

Visiting scholars or research workers must register their names with the Department Administrator. They must be provided with and read the Safety Policy and this Handbook, and any other information required for them to work safely and in accordance with UK Health and Safety law.

All contractors, service engineers and company representatives must report to Reception and identify a contact name in the Department. That contact person will be responsible for overseeing the conduct of the persons concerned whilst on site. The contact person must also ensure that they have drawn the attention of the visitor to any local conditions that may affect their health and safety and that any work carried out by them does not affect the health and safety of other Department users. Contractors are required to obtain permission to work from an authorised member of the Department. In the cases of Hot Work or Roof Access, the proper written permission must be obtained from Martin Walker at the Downing Site, Dudley Simons for Bullard, before work can commence.

Casual visitors are discouraged. Friends and relatives are the responsibility of the member of Department who invites them.

For **parties from schools or other organisations**, formal arrangements must be made for sufficient guides to ensure their safety. For all children (including those on work experience) entering the Department please refer to Children and Vulnerable Adults Safeguarding Policy http://www.hr.admin.cam.ac.uk/policies-procedures/children-and-vulnerable-adults-safeguarding-policy. For public events including Open Days, public lectures, etc., each event must be risk assessed to ensure suitable and sufficient arrangements have been made for the safety of all participants.

Sedgwick Museum visitors should not be let into the Department. It can cause visitors distress as they can become disorientated or trapped inside. Unsupervised visitors can also pose a security risk. If Museum visitors need to use the lift, e.g. for buggies or wheelchairs, please direct them to the intercom outside the Department Entrance and a member of Museum staff will come down to assist them. The only way into the museum without a University Swipe Card is by the outside steps.

LABORATORY FACILITIES

A separate handbook gives details of the main Department laboratory facilities available on the Downing Site.

The observance of safe practice is a condition of use of any Department facility, and it is the responsibility of all members of the Department to ensure that before using any facility they consult and have formal permission from the Head of Section and, if appropriate, the Local Safety Officer for the laboratory, who will arrange training or instruction in the safe use of that facility. All users must be properly acquainted with the operation of the equipment and with the emergency and safety procedures to be followed in its use. For all activities, a risk assessment must be carried out, and a Chemical Hazard Risk Assessment form completed if appropriate (see section on CHEMICAL SAFETY pages 21 - 22). Specific safety procedures also apply to work involving hydrofluoric acid, cryogenic liquefied gases, radioactive substances, x-rays, lasers, and ultraviolet light. Any member of Department whose work involves any of these must ensure they have a thorough knowledge of the current procedures and appendices involved, and have had any necessary health checks before starting work.

In the event of an accident causing personal injury, contact Reception for a First Aider or dial 1-999 for the Emergency Services.

If equipment is damaged, the staff member in charge must be informed immediately, and a University Incident Report Form filled in (available from the Department website and Lucy Matthews, S034, Downing Site or Dudley Simons, at Bullard). Appropriate emergency procedures must be followed. These will usually be referred to in the code of safe practice for the section and users must familiarise

themselves with them. **All accidents must be reported to the Safety Officer, Safety Administrator or Principal Technician as soon as possible.**

Visitors are not permitted to enter an experimental laboratory, unless authorised by the academic staff member in charge.

Periodic safety inspections of the whole building are organised by the Safety Officer, and the results are reported to the Department Safety Committee.

Safety Protocols for all areas are displayed on the wall of each laboratory, and risk assessments are kept in the safety file for each Section. These are living documents and are revised regularly, so users must ensure that they are aware of the current versions and must abide by their contents.

The full complement of Safety Protocols and appendices is available on the Safety section of the Department's website under the heading "Department Codes of Safe Practice". All forms and appendices to these Codes of Safe Practice are also available in the same way, and laboratory workers must abide by their contents.

ACCESS TO WORK SPECIFIC OR ADDITIONAL NEEDS

Forward planning is essential to ensure that all members of the Department can be confident of a safe and comfortable working environment. Any member of Earth Sciences having individual specific or additional needs, e.g. in regard to mobility, work station assessment, manual handling, allergy, etc., should contact Lucy Matthews or Celia Hobbs, Downing Site, and Dudley Simons at Bullard, so that any equipment or adjustment required can be arranged. Any injury or disability disclosed will be treated as confidential.

Useful contacts and websites include:

Lucy Matthews– Downing Site, room S034, tel 33470, email lhm29@cam.ac.uk or Celia Hobbs, room N018, tel 68347 and chob07@cam.ac.uk

Dudley Simons, Bullard Labs, tel 37198 drs1005@esc.cam.ac.uk

Occupational Health – 16 Mill Lane, Cambridge, tel (3)36594,
http://www.admin.cam.ac.uk/offices/oh

Disability Resource Centre – Keynes House, Trumpington Street, tel 32301,
http://www.cam.ac.uk/cambuniv/disability/.

SECURITY

University or College ID Cards should be carried at all times and made available upon the request of Security and Department personnel.

If you have not received a card, or have mislaid, damaged or have any other problem concerning your University card, contact Martin Walker (tel 33476) or Lucy Matthews (tel 33470) for Downing Site, or Gill Turner (tel 37191) for Madingley Rise, who will contact the Card Office.

A card entry system is fitted on the Main Entrance inner doors and the Museum side door on Downing Site. All entrances to the buildings at Madingley Rise have proximal card readers.

All visitors to the Department must sign in at Reception and wear a visitor's badge. If you see someone you do not recognise or 'looking lost' you have every right to ask who they are and offer help. Ask them who their supervisor is, or who they are looking for. Do not attempt to challenge anyone aggressively,

as you could put yourself or others in danger. If possible, make a note of their appearance and the time that you saw them, and report this to Martin Walker for Downing Site or the Bullard Safety Officer, Dudley Simons (37198) for Bullard Labs. If in doubt, contact Security on 31818.

Keep all rooms locked when unoccupied.

Do not leave bags or packages unattended, as they will be treated as suspicious. If you receive a suspicious package through the post, do not attempt to open it, but contact Security immediately.

If you see anything suspicious, whether a person, unattended package or bag, or anything else which gives you cause for concern, contact Martin or Dudley. Out of hours, call Security (31818).

Suspected Theft

If something goes missing in the Department and you suspect it has been stolen, report it immediately to Martin Walker or Dudley Simons, who will assist you in filling out a Missing Items Report.

Out of hours, report the loss directly to the police and obtain a crime number; report the incident to Martin or Dudley as soon as possible.

If there appears to have been a break-in or damage to the area, then also report the incident to Security, so the area can be made secure.

Please note that private items are not covered by the University Insurance.

There are now regular security patrols on both sites at night and vehicles must not be left overnight without clearing it with Martin or Dudley Simons in advance.

LIFTS

There are two lifts on Downing Site: North Wing and South Wing, and three lifts at Bullard: in the BP Institute, Wolfson Building and Brighton Building. Do not use any lifts outside normal working hours, or when there is no-one else working in the building.

Do not use any lift when the fire alarms are sounding. Assistance in evacuation will be given if required. Do **not** use any lift 'out of hours' at night or weekends in case of breakdown and do not travel in a lift with any pressurised gas cylinders or with dewars of cryogenic liquids or with bulk containers of hazardous substances.

OUT OF HOURS WORKING

Working hours for the Department of Earth Sciences at the Downing Site are: 08.45-13.00, and 14.00-17.00 and 08.00-17.00 at the Bullard Laboratories, Monday to Friday. Outside these hours and at all times at weekends, the following conditions apply:

Offices
If working in the Department late at night or at weekends, tell others of your plans and liaise with other people working late. Learn how the alarm system works. If you are nervous about leaving, phone Security on 31818: they will see you out of the building on one of their regular patrols. *(If you wish you can contact Security who will check in regularly with you but you must conform to their instructions.)*

Time and working restrictions also apply to areas remote from the Department: these are identified in the safety procedures of the individual area. The Head of Section and/or your Supervisor must also be informed of your intention.

Equipment and Laboratories
Checks before leaving work at night and at weekends
It is important to double check laboratories before leaving at night:

- as much apparatus as possible should be switched off and unplugged
- individual gas appliances should be turned off locally as well as at the main supply
- doors and windows should be closed.

Equipment running at night and at weekends
The permission of the academic staff member in charge of a facility must be obtained before apparatus is left running overnight. All appropriate procedures laid down in the Code of Safe Practice for the Section must be followed and a sign posted in a prominent position showing instructions for switching off the equipment in case of emergency.
Any equipment which may run overnight on mains electricity and which is plugged in to a socket must be labelled on the plug with a registered number. See section on Electrical Safety for details (p24).

Laboratories on Downing Site

(a) **Working in laboratories out of hours** is allowed only with the specific prior written permission of the Head of Section. Particular care must be taken when using any equipment, or electrical testing of equipment or buildings, changing any pressure line, and cylinders or prototype experimental work. **NOTE: Rock cutting out of hours is strictly forbidden.**

Out of hours, the research worker must be

- accompanied by another member of the Department whilst working in the laboratory and be fully aware of:
- safety procedures of the laboratory concerned and be able to turn off and make safe
- emergency exits
- location of first aid boxes
- location of a telephone in case of an emergency
- how to call for help in an emergency.

(b) **Out of hours Chemistry Laboratory use**
In addition to all points in part (a) above:

- The use of any of the chemistry facilities requires compliance with the regulations in the respective laboratory.
- There must be no use of HF acid or hydrazine hydrate.
- There must be no decanting of acids from large to small containers.
- There must be no movement of acids around the Department.

Laboratories at Bullard
The laboratories on site are controlled by their individual managers, who will agree rules with the Bullard Safety Officer, Dudley Simons, for any out-of-hours working and inform him when this is to occur. **Only low-risk assessment work will be allowed**. Running of lab equipment out of hours must be agreed beforehand with Dudley, who will ensure that the equipment is safe to be left running unattended and does not pose a risk. (An automatic time switch turns off power in all labs at 5 pm.)

OFFICE SAFETY
AND USE OF DISPLAY SCREEN EQUIPMENT (DSE)

The hazards and risks associated with office work are significant and should not be ignored.

(i) There are a number of physical hazards to avoid:

(a) trailing cables - put behind desks or use cable covers
(b) overloaded plug sockets - ask for more sockets
(c) shelves piled high with books/files - ask for more shelves, use bookends
(d) overstretching to reach items - get a step-stool.

(ii) The main, avoidable physical hazards associated with office work are those relating to long periods sitting, especially when combined with regular computer use: back strain; upper limb disorder also known as repetitive strain injury; eye strain.

(iii) To help with the above, simple arrangements can improve posture and reduce eye strain:

(a) Adjust the chair and screen so that your arms are about horizontal on to the keyboard and your eyes at the same height as the screen. Do not sit with your neck bent down – use a document holder to raise papers to screen level. A space in front of the keyboard may be helpful for resting the wrists whilst not typing.

(b) Make sure you have enough space underneath the desk to move your legs freely. Try to keep your feet flat on the floor with your ankles and knees forming 90º angles.

(c) Avoid excessive pressure on the backs of your legs/knees. A footrest may be helpful.

(d) Adjust the chair back to support your lower back. Do not sit for long periods in the same position: walk around and stretch gently, or do something else such as photocopying.

(e) Do not bend your wrists up when typing or overstretch your fingers.

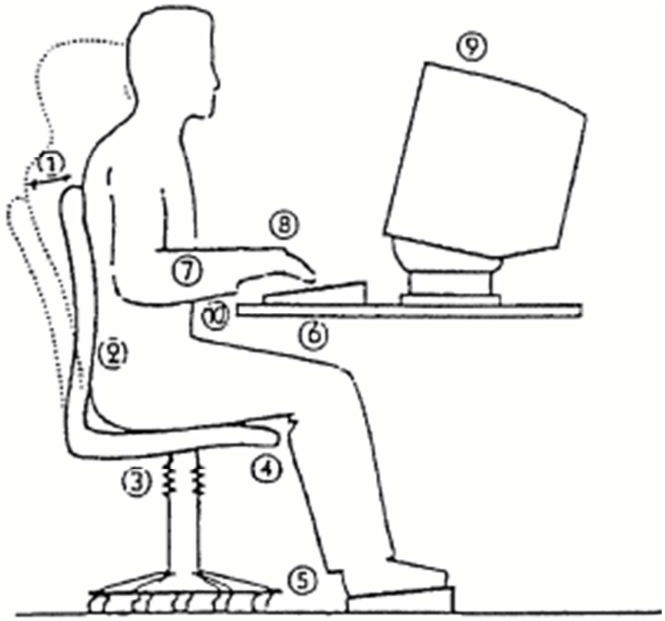
(f) Arrange your screen so it does not reflect bright lights and so that characters do not flicker or move. Use the brightness control to find a comfortable level for your eyes.

(g) Rest your eyes by looking away from the screen and focusing on a distant object and clean your screen regularly.

(h) Refer to the guidelines in the policy and procedure 'Working Safely with Display Screen Equipment', see: http://www.safety.admin.cam.ac.uk/publications/hsd116p-working-safely-dse-desktop-general-guidance and HSE guidelines at www.hse.gov.uk/pubns/indg36.pdf

(i) DSE users are advised to complete a Work Station Risk Assessment form to identify and address any potential problem areas. Frequent rest breaks are recommended i.e. a 30-second break from DSE use every 5 minutes is better than a longer break once an hour. To reduce eyestrain, look across the room at frequent intervals to allow your eyes to change focus.

(j) If you are having any problems with posture or eyes at your desk, seek help from Lucy Matthews at Downing Site or via Dudley Simons at the Bullard. They can also assist on the availability of eye tests and other DSE-use advice from Occupational Health.



① SEAT BACK ADJUSTABILITY

② GOOD LUMBAR SUPPORT

③ SEAT HEIGHT ADJUSTABILITY

④ NO EXCESS PRESSURE ON UNDERSIDE OF THIGHS AND BACK OF KNEES

⑤ FOOT SUPPORT IF NEEDED

⑥ SPACE FOR POSTURAL CHANGE; NO OBSTACLES UNDER DESK

⑦ FOREARMS APPROXIMATELY HORIZONTAL

⑧ MINIMAL EXTENSION, FLEXION OR DEVIATION OF WRISTS

⑨ SCREEN HEIGHT AND ANGLE SHOULD ALLOW COMFORTABLE HEAD POSITION

⑩ SPACE IN FRONT OF KEYBOARD TO SUPPORT HANDS/ WRISTS DURING PAUSES IN KEYING.

Workstation Risk Assessment Form

Workstation user:	Location:
Assessor:	Date of assessment:

COMPUTER	**Screen:**	
	Are the characters readable?	Yes ☐ No ☐
	Is the image stable?	Yes ☐ No ☐
	Can brightness and contrast be adjusted?	Yes ☐ No ☐
	Does the screen swivel and tilt?	Yes ☐ No ☐
	Is the screen free of glare and reflections?	Yes ☐ No ☐
Notes:		
	Keyboard and mouse:	
	Can the keyboard be tilted?	Yes ☐ No ☐
	Can a comfortable keying position be found?	Yes ☐ No ☐
	Can the hands be rested in front of the keyboard?	Yes ☐ No ☐
	Can the characters on the keys be read easily?	Yes ☐ No ☐
	Is the keyboard clean?	Yes ☐ No ☐
	Is the mouse positioned close to the user?	Yes ☐ No ☐
	Can a comfortable position be found when using the mouse?	Yes ☐ No ☐
Notes:		
	Software:	
	Is the software easy to use and suitable for the task?	Yes ☐ No ☐
FURNITURE	Is the work surface large enough?	Yes ☐ No ☐
	Is the surface free of reflections and glare?	Yes ☐ No ☐
	Is the chair suitable and stable?	Yes ☐ No ☐
	Do the adjustment mechanisms work?	Yes ☐ No ☐
	Are you comfortable?	Yes ☐ No ☐
Notes:		
ENVIRONMENT	Is there enough room to change position and move/stretch?	Yes ☐ No ☐
	Are the levels of heat, light and humidity comfortable?	Yes ☐ No ☐
	Is there a source of fresh air?	Yes ☐ No ☐
	Is the noise level acceptable?	Yes ☐ No ☐
Notes:		

HEALTH	Whilst using the computer, have you ever suffered from:	
	Eyestrain?	Yes ☐ No ☐
	Pain in the back/neck/shoulders?	Yes ☐ No ☐
	Pain in the arms (elbows/wrists/hands)?	Yes ☐ No ☐
	Pain elsewhere? (please specify)	Yes ☐ No ☐

If the answer to any **health issue** above is YES, has this been reported to the Safety Officer?	Yes ☐ No ☐
Has a doctor or Occupational Health been consulted?	Yes ☐ No ☐

WORKING PRACTICE	Have you read the guidance and best practice advice for DSE users?	Yes ☐ No ☐
	Have you installed interruption software?	Yes ☐ No ☐
	Do you know who to ask for further advice?	Yes ☐ No ☐

ACTIONS NEEDED TO REMEDY PROBLEMS

(Continue on separate sheet if necessary; write NONE if no action is required)

ACTIONS COMPLETED? User, Safety Officer or Line Manager to sign below.	Yes ☐ No ☐

Name:	Signature:	Date:

DECLARATION (For a self-assessment, the user should sign below)

The above assessment is, to the best of my knowledge, an accurate statement of the current state of my workstation.

Name:	Signature:	Date:

REVIEW DATE (normally, 12 months hence):

RISK ASSESSMENT

A risk assessment identifies potential hazards inherent in the task or experiment and recognises the likelihood of foreseeable accidents, injuries or near misses occurring. Realistic and practical precautions and control measures are then instigated to ensure the safety of those who may be exposed to these hazards. The person planning the experiment or operating the equipment must write the risk assessment. The ruling is that those who create risks must manage them responsibly. http://www.hse.gov.uk/risk/fivesteps.htm gives straightforward guidance on how to write a risk assessment.

Fieldwork
Individuals must write a Field Risk Assessment relevant to their field conditions at the planning stage of all their fieldwork. Assistance is available from Lucy Matthews and Celia Hobbs (Downing Site) and examples of possible hazards and relevant control measures can be found in the Field Risk Assessment on pp 30 – 33. Blank forms and the example Field Risk Assessment can be downloaded from http://www.esc.cam.ac.uk/resources/health-and-safety/safety-forms .

Laboratory Experiments
Heads of Sections (see p 4) are responsible for ensuring that risk assessments are in place for all experimental procedures carried out in the laboratories for which they are responsible. However, if you devise an experiment or procedure, you are responsible for writing the risk assessment. If any chemical substances are to be used, a Chemical Hazard Risk Assessment must be made, which lists details of all hazardous chemicals used. Risk assessments are reviewed annually by Heads of Section, Local Safety Officers and users, generally in October, or at any time there is a change in the procedure. Before use of any labs can be authorised by the Head of Section, all users must complete a Use of Laboratories Permission Form. As part of this process, users must check that risk assessments are in place and are valid for all procedures they intend to undertake or write new risk assessments. "At Bench Training" records provide a signed and dated record that all lab users have received comprehensive training in the techniques utilized in their chemical work.

All laboratory safety forms are available from Heads of Sections, Local Officers for Safety, and from Lucy Matthews (Downing site) and Dudley Simons (Bullard), or can be downloaded from the Safety pages of the Department website. (http://www.esc.cam.ac.uk/resources/health-and-safety/safety-forms).

CHEMICAL SAFETY

The University Chemical Safety Training Course is given by John Hulme, University Chemical/Physical Safety Advisor. This 3 hour safety course is held at intervals throughout the year and all members of Earth Sciences and visitors planning to use hazardous chemicals in their research must attend this course before any work commences in any Earth Sciences lab.

The Annual Chemical Safety Review of all Lab safety forms will be on Friday 9th October 2015, at 11 am in Harker seminar room II (Friday of Week 1, Michaelmas Term). Anyone unable to attend this chemical safety meeting but still needing to use hazardous chemicals or work in an Earth Sciences lab, please contact Lucy (lhm29@cam.ac.uk) to discuss the relevant safety measures and to arrange to attend the Chemical Safety Training Course at an alternative time.

CHEMICALS HAZARDOUS TO HEALTH (COSHH)

Please consult the Earth Sciences Chemistry Officer, Dr Jason Day (jafd2@cam.ac.uk) when planning new laboratory experiments using chemicals.

The COSHH Regulations require all individuals working with substances that can cause certain identifiable diseases or adverse health effects to be kept under health surveillance. For most workers this is confined to maintaining a record of a person's involvement in such work. Individuals who work with respiratory sensitizers, mercury, latex, arsenic and skin sensitizers will have additional health

surveillance arranged by the Occupational Health Service. These are available at http://www.safety.admin.cam.ac.uk/publications/hsd033c-coshh-health-record-form

As a precautionary measure the University also requires health surveillance for all individuals working with Nanoparticles. Therefore, all persons working with nanoparticles should use this health record form and register with the University's Occupational Health Service.

For further information on the criteria for health surveillance see the University's Hazardous Substances Policy - http://www.safety.admin.cam.ac.uk/publications/hsd002c-hazardous-substances-policy

Earth Sciences has specific regulations for use of the following chemicals:

Hydrofluoric acid
Only trained personnel may use HF. A University HF training course can be booked at the Safety Office website. Use is limited to designated boards. Anyone working with HF must be fully aware of the first aid measures to be taken in the event of an accident and have checked there is running water and a supply of 'in date' calcium gluconate gel to hand. Before starting any use of HF, ensure all safety measures and PPE are in place. You must alert an HF First Aider (page 9) to ensure help can be given immediately should a spillage occur. Never handle beakers or bottles containing HF outside normal working hours.
You must abide by the safety instructions for HF given in Appendix 3 of the Safety Protocols on the Department's website.

Hydrazine hydrate and hydroxylamine hydrochloride
A COSHH Health Record Form must be completed before you may use hydrazine hydrate (R43, R45) or hydroxylamine hydrochloride (R42, R43). These are available from your Local Safety Officer, Department Chemical Officer or from the Earth Sciences Safety Officer. Copies must be sent to Earth Sciences Safety Officer to be recorded and forwarded to the University Safety Office.

Also read the section on **Chemical Waste Disposal** on pages 25 -26 of this Safety Handbook.

PERSONAL PROTECTIVE EQUIPMENT

The Department provides appropriate PPE to protect employees who may be exposed to risks to their health and safety except where they have been adequately or more effectively controlled by other means. It is generally the employee's responsibility to use it in accordance with training and instructions, to keep it in good condition as appropriate, and to report any losses or defects which may occur.

Noise
Ear defenders and disposable ear-plugs are available in laboratories and workshops where noise from machinery/equipment may be excessive. Lucy Matthews or Dudley Simons should be contacted if a problem arises. Areas where ear protection is mandatory are clearly marked. Appropriate hearing protection is available in these areas, and new users will receive training in its use.

Eye protection
Safety glasses with high impact protection must be worn in all workshops. Prescription safety glasses can be provided for people who need them (contact Lucy Matthews, Downing Site, or Dudley Simons, Bullard Labs, for details). Goggles or face shields must be worn when working with chemicals to protect from splashes and the full-face shield must be worn when decanting liquid gases (see 'Appendix 6: Liquefied Gases' on the Health and Safety section of the Department website). Shielded glasses or goggles must be worn when making thin sections to avoid glass chips in the eyes. A special face and eye mask must be worn when welding.

If you need to use safety glasses, consider the person working next to you too!

Breathing protection
Suitable masks must be worn when working with wood or rock dust. Various types are available, as recommended by the manufacturers, and must be fitted to your face shape. Facemasks are a part of breathing protection and must be considered together with mechanical extraction and ventilation. A

bag valve mask for dealing with breathing difficulties in HF emergencies is kept in HF Crash Kit on 4th floor stairwell above the locker/storage cabinet (to be used only by an HF-trained University First Aider).

Hand protection
For all chemical work, ensure that you wear the right type of gloves for the job. Check they are not damaged and change them frequently. For some jobs, double gloves may be appropriate. Heavy-duty gloves are provided in the workshops for welding and heavy lifting etc. First Aiders must ensure they have disposable gloves in the first aid kits. Latex gloves are no longer permitted for use in the University, except where risk assessment has shown that other types are unsuitable. All users are asked to be aware of the possibility of latex allergies, which may occur as dermatitis or asthma. If these symptoms develop, please seek advice, initially from Lucy, Downing Site, or Dudley, Bullard Labs. Workers who are obliged to use latex gloves are required to have health surveillance, organised with Occupational Health.

Laboratory wear
Suitable laboratory coats must be worn for all chemistry work, workshops, welding, and any laboratory use requiring personal protection. For the ultra-clean geochemistry laboratories use the **full body suit type**: Tyvek® by DU PONT, classic and industrial model category III CE 0120 types 5 and 6.

Fieldwork
Hard hats must be worn in certain locations e.g. cliffs, quarries etc. Goggles or safety glasses must be worn when hammering rock. High-visibility vests are recommended for certain situations. (See complete list of requirements in 'Fieldwork Code of Safe Practice and Good Conduct'.)

MANUAL HANDLING

Anyone who needs to lift or move heavy objects should obtain advice on manual handling before beginning. Information is available on the internet as "Getting to Grips with Manual Handling": www.hse.gov.uk/pubns/indg143.pdf.

In-house manual handling courses are available, and anybody who has to lift or move heavy objects as part of their normal duties is expected to attend. (For further details, contact the Principal Technician, Martin Walker, Downing Site, S032.)

Arrangements for dealing with deliveries of heavy objects should be planned in advance. For substantial items of laboratory equipment, etc, the supplier should preferably accept full responsibility for installation in their final location (commitment to this should be obtained in advance in writing). Where this is not the case, it may be necessary to hire removals men. Where unloading of vans etc. is concerned, note that the University's personal accident cover extends only to University premises, and to circumstances where the University has been shown to be negligent in some way. **University personnel are not covered if they board a delivery or removals van.**

In the event of any anticipated difficulties regarding manual handling, Martin Walker should be consulted. Specialised lifting equipment must be used only by persons who have received suitable training in its use. Inform Martin Walker (mgw21 S032) if you bring any lifting equipment onto site as there is a statutory requirement to have all hoists, slings, chains, bolts and shackles etc. inspected.

WORKSHOP

Access to the workshops is by permission of workshop personnel only and no work may be undertaken in any workshop without asking them. Workshop staff must ensure that safe working practices are followed and allow only people classed as competent to use equipment and tools.

Permission may be given to borrow some hand tools. All tools used should be checked before use to see that they are in good condition. When handling sharp or heavy metal objects, safety gloves or gauntlets should always be worn.

ELECTRICAL SAFETY

Great care must be taken with all electrical wiring and connections. Leads should be as short and direct as possible. Only fused plug tops should be used with appropriate fuse ratings. Electrical wiring must be placed as far away as possible from water supply lines. All sockets and leads must be used within their power limits – generally not more than 13A, or approximately 3kW per socket outlet. Always plug extension leads directly into the wall socket.

Reel cables should be completely unrolled before use to prevent overheating of the cable. **Do not "piggy-back" extension leads**, as this reduces the earth connection and may give appliance users an electric shock. If there are insufficient wall sockets, see Martin Walker, Principal Technician (Downing Site, S032, or Dudley Simons, Bullard Labs).

All portable appliances must be PAT tested, labelled and recorded by Dudley Simons, the designated tester for the Department. This includes items such as kettles, radios, and mobile phone chargers brought in from home. Fan heaters are not allowed; use approved portable oil filled heaters. Any new electrical installations or changes to existing connections must be by persons competent in electrical practices and must be checked and approved by the designated person on site before use.

Chargers for calculators, laptops, phones etc should be turned off when not in use. Chargers have been found in drawers without the current switched off, which constitute an obvious fire risk. Any equipment left to charge must have the charger switched off overnight.

Items which are allowed to be left running overnight
The Head of Section or Local Safety Officer for the lab must register these items with Martin/Lucy or Dudley Simons. The green labels for the plugs and forms for registry are also obtained from Dudley. A risk assessment must be in place for these items. Running of equipment out of hours must be agreed beforehand by the Head of Section, who will ensure that the equipment is safe to be left running unattended and does not pose an added risk. Contact Dudley for the Wolfson Building at Bullard where an automatic time switch turns off power in all labs at 5pm.

COMPRESSED GASES AND CRYOGENS

Compressed gases may be transported and attached only by designated operators, trained in the correct procedures. Do not ride in the lift with pressurised gas cylinders or dewars of cryogenic liquids. Ensure containers of cryogens are operated only in adequately ventilated areas, as evaporating gases displace vital oxygen in the air. There are oxygen depletion monitors in the NMR lab, Bullard Chemistry labs and the Godwin Lab, which also has a carbon monoxide monitor: evacuate the area if these sound, and inform the emergency contact.

Do not attempt to change a gas cylinder yourself. Any suspected leaks must be reported immediately to the local Safety Officer, Head of Section, Martin Walker S032 Downing Site, or Dudley Simons, Bullard Labs, or emergency contact.

Ensure you have the necessary authority, training, personal protective equipment, and safety controls as given in individual risk assessments and laboratory procedures. See also “Appendix 6: Liquefied gases”, on the Department website’s Safety pages http://www.esc.cam.ac.uk/resources/health-and-safety/safety-appendices/liquified-gases

HIGH PRESSURE SYSTEMS

Never alter valves or pumps on high-pressure systems unless you have received full training and operational experience from the Local Safety Officer or Head of Section to the required level of competence. Always comply with the laboratory's risk assessments and safety protocols. Martin Walker should be informed of any equipment containing steam under pressure or other items where the PV product exceeds 250 bar litres. These must be registered with the University Safety Office, regularly inspected and have a written scheme of examination.

LASERS

The Laser Safety Officer, Dr I Farnan, must be consulted before installing a new laser. The laser safety policy and protocols are available on the Safety pages of the Department website. All intending new users of Class 3B or Class 4 lasers must register with Dr Farnan.

RADIATION

Earth Sciences is committed to keeping all doses from work involving ionizing radiation, X rays and radioactive materials (sealed and unsealed) as low as reasonably possible and well below maximum permitted levels. X-ray machines and all radioactive sources, standards, and spikes are used in conspicuously marked areas with restricted access and must be registered with Martin Walker (S032, Downing Site). The statutory appointment of Radiation Protection Supervisors (RPS) is made in writing by the Head of Department. Simon Redfern and Giulio Lampronti are RPSs for X-rays, with Simon also responsible for sealed sources; Ian Farnan is RPS for unsealed sources. The relevant Radiation Protection Supervisor must be involved in planning before changes are made or new experiments developed for radiation work as the RPSs are conversant with the regulations and their role is to ensure the provision of adequate facilities and arrangements for work with ionizing radiations including, where appropriate, the necessary engineering control measures, availability of suitable documented systems of work, personal protective equipment and personal dosimetry. No radioactive source can be purchased without financial provision being made for its disposal. The RPS for X-ray generators, Simon Redfern, will ensure that prior authorisation under Regulation 31 IRR99 (University Form IR014) and critical examination under Regulation 31 IRR99 (University Form IR014) are carried out for all new, altered or relocated equipment.

Risk assessment for new work must be carried out by the operator in conjunction with the relevant RPS. The forms and guidance are available at http://www.admin.cam.ac.uk/cam-only/offices/safety/radiation/ir/forms/index.html
All workers must be trained, registered and comply with the 'local rules'. The University Document 'Working Safely with Radiation Generators'
http://www.safety.admin.cam.ac.uk/files/hsd017r_march15.pdf has further information.

WATER SUPPLIES AND DRAINAGE

All unattended water-cooled apparatus must be protected against failure, either by using a thermal switch or, if impractical, by a water-flow control switch. A non-return on/off switch must always be fitted.

CHEMICAL WASTE DISPOSAL

To comply with the requirements of the Water Industry Act 1991, for wastewater discharges from University sites, **you must not in any circumstances empty down the drain mercury, or any contaminated waste product containing mercury waste, or any other chemical defined as unsuitable in the University Guidance for Discharges to Drains**. Failure to comply with effluent

discharge consent conditions could result in the Environment Agency taking legal action. Water discharged to drains is monitored on a monthly basis.

At the Bullard, no chemicals should be disposed of via the drains as they are monitored with the exception of water, diluted salt water, and diluted dyes. See Dudley Simons for further information.

If in any doubt as to the suitability of disposing of waste chemicals down the drain, please consult the Department Chemistry Officer, Dr Jason Day (jafd2@cam.ac.uk). In general:

1. HF must not be poured down drains, except for trace quantities involved in washing beakers etc, in which case a large excess of water should be used. For disposal of waste HF, see 4 below.

2. Other acids may be disposed of via the drains after dilution to <2% concentration, and rinsed away with excess water.

3. Some other chemicals may also be disposed of via the drains, for which the permission of the Local Officer for Safety should be sought. If in doubt, consult the **University Guidance for Discharges to Drains** at: http://www.environment.admin.cam.ac.uk/resource-bank/guidance-documents/emissions-drains and the Dept. Chemistry Officer.

4. The disposal of hazardous chemicals (including contaminated glassware, gloves, tissues etc) is arranged by the Department Chemistry Officer (Jason Day) for Downing Site, Dudley Simons for Bullard. Clearly marked containers must be used for such substances. See **Disposal of Laboratory and Chemical Waste Policy** at: http://www.safety.admin.cam.ac.uk/publications/hsd018c-disposal-chemical-and-laboratory-waste-policy

The Chemistry Officer/Dudley Simons will arrange for the collection and disposal of chemical wastes in accordance with University procedure.

ENVIRONMENTAL IMPACT

In aiming to minimise its environmental impact the Department of Earth Sciences fully complies with the University Policy on Environmental Issues and where it can, follows all environmental guidelines. The Department encourages staff, students and visiting researchers to play an active role in creating and maintaining a good working environment. Teaching, research and other activities are conducted with reference to current best practice and students also are encouraged to be aware of the environmental issues relating to their work and to use current best practice.

Environmental aims:

- To consider the environmental effects of building alterations within the premises;
- To use environmentally friendly cleaning materials where possible;
- To avoid using any substances/materials/processes which may have a harmful effect on the health of others;
- To minimise waste by recycling/use of recycled materials where practicable;
- To save electricity by turning off appliances when not being used;
- To save electricity by turning off lights whenever practicable;
- To make improvements on current practice where possible by regular Department reviews.

Environmental Coordinators: Celia Hobbs and Lucy Matthews (Downing Site), Dudley Simons (Bullard Labs and BPI).

RECYCLING FACILITIES

Development of facilities for the segregation and recycling of wastes is a key element of the University's waste strategy. The aim is to raise the efficiency of our waste management system, making it more sustainable. Improving opportunities for waste minimisation and recycling will reduce our environmental impact by reducing the amount of waste sent to landfill. A dry mixed recycling programme operates across the University, providing the University Estate the opportunity to combine all dry waste in a single collection bin. There are posters around the Department which detail what needs to go where.

Most of the Department's recycling facilities arranged by the Department are organised by the Environmental Coordinators: Dudley Simons, (Bullard Labs and BPI) Celia Hobbs and Lucy Matthews (Downing Site).

	Downing Site	**Bullard**
Paper, magazines, envelopes, catalogues, telephone directories*	Green recycling bins	Office bins or directly to external dark blue recycling bins
*University phone directory	NOT IN RECYCLING BINS. PLEASE SHRED UNIV DIRECTORY THEN RECYCLE	NOT IN RECYCLING BINS. PLEASE SHRED UNIV DIRECTORY THEN RECYCLE
Milk/juice cartons (tetrapaks)	Green recycling bins	Kitchen recycling bins
Large cardboard boxes	May be flatted and put directly in the blue recycling bins outside.	External blue recycling bins
Glass bottles and jars	Green recycling bins	Kitchen recycling bins
Drinking glasses	Landfill waste bins	Kitchen food waste bin
Aluminium cans	Aluminium recycling bins in the vending area next to the Common Room, or in the South Wing Entrance Hall, near the Tilley. (Can also be put in green recycling bins.)	Please place in the designated bin in the kitchen (Madingley Rise, Wolfson and BP buildings)
Cans, tins, metal jar lids	Green recycling bins	Kitchen recycling bins
Aerosols	Green recycling bins	Kitchen recycling bins
Plastic bottles, pots, trays, tubs, bags	Green recycling bins	Kitchen recycling bins
Food waste (inc tea bags!)	Landfill waste bins	Kitchen food waste bin
Polystyrene	Landfill waste bins	Kitchen food waste bin
Crockery	Landfill waste bins	Kitchen food waste bin
Pyrex	Landfill waste bins	Kitchen food waste bin
Batteries	Please place batteries in an envelope labelled 'Battery Disposals, Laundry Farm' and place in the UMS mail tray in reception. Lithium batteries are accepted but must be clearly labelled.	Please place batteries in an envelope labelled 'batteries for recycling' and place in the UMS mail tray in Gill's office. Lithium batteries are accepted but must be clearly labelled.
Printer and photocopier ink cartridges. Mobile phones (Downing Site).	Laserjet and inkjet cartridges (not Epson or compatibles), mobile and SMART phones, MP3 players and ereaders. Please ask Sylvia, or put these in the cardboard box in the corridor just past reception. **Please seal any leaky cartridges in a plastic bag**.	Please take **printer cartridges** to the box in the corridor outside Dudley's office in the Wolfson building at Bullard. **Please seal any leaky cartridges in a plastic bag**.
Computers and other IT equipment	Please contact the Computer officers.	See Dudley Simons for all redundant computers and other IT equipment
Fluorescent tubes and bulbs	Please contact Martin Walker/Charlie Aldous	Please contact Dudley Simons

INSURANCE

A full statement of the University Insurance is given at www.admin.cam.ac.uk/offices/insurance/.

However, there are a number of important **exclusions** from this cover:

- personal property, including computers, of members of the University and any visitors to the University
- theft from vehicles left unattended overnight
- theft from the open or from outbuildings
- wear and tear, damage caused by faulty or defective workmanship, operational error, corrosion, mechanical or electrical breakdown
- losses identified as a result of a stock-take
- museum artefacts and valuable objects

However, University Departments can buy insurance for specific items of equipment and special arrangements can be made where equipment is being taken for use in the field etc. To arrange cover please contact Andy Buckley (ab78@cam.ac.uk) and the Insurance Section stating the items to be insured and their value, allowing time for this to be processed.

Private work is not covered in any way by the University Insurance.

The University has Public Liability insurance, which covers the actions of employees and students of the University whilst they are engaged on University business. The cover is worldwide although the policy will only respond to claims brought under English Law. To obtain a letter confirming cover for employees or students making work related visits to other organisations, please contact the Insurance Section with information about the visit and confirmation from the department that appropriate risk management is in place. However, employees on sabbatical leave are not covered unless the department can show that the employee is directly working for the University during the period of leave.

Travel Insurance
University employees and registered graduate students travelling abroad on university business can apply for travel insurance through www.admin.cam.ac.uk/offices/insurance/travel. This ensures they and their accompanying family members have access to emergency services similar to those available in the UK with up to £5 million for medical and emergency travel and up to £5000 for lost or damaged baggage. See website for conditions.

This travel insurance does not provide any motor insurance. If you borrow, hire or buy a vehicle abroad you must arrange local, fully comprehensive motor insurance.

This insurance does not apply to research undertaken while on sabbatical.

Nuclear, biological and chemical attacks are excluded but it will cover terrorist attacks and travel to war zones if you contact the Insurance Section directly. An incidental holiday, excluding extreme sports, can be covered under the policy as long as the department agrees to the arrangement.

Travel insurance is arranged for all supervised department fieldtrips outside the UK for staff, undergraduates and volunteer workers.

Part II and Part III students must arrange their own travel, medical and personal accident insurance for mapping projects.

New research students carrying out fieldwork before they are registered or matriculate as research students of Cambridge University must also arrange their own insurance.

When students or staff provide their own insurance cover, they are advised to check the wording, and particularly the exclusions, to ensure that it meets their requirements.

Further details for Fieldwork Safety are given in the Fieldwork section (pages 29 – 37).

FIELDWORK

Planning for all fieldwork, including academic research trips, must include arranging **insurance**, writing a **field risk assessment** and giving **contact** details for those going on the trip from the Department. Those going abroad would be well-advised to consult the Foreign and Commonwealth Office for travel advice relating to their specific country @ https://www.gov.uk/foreign-travel-advice. Fieldwork abroad also needs a contact in the host country to comply with BS 8848 regulations. A template is included on the next page to help you, but any format giving full details is acceptable. Copies of this information must be given to the Department Safety Officer (Lucy Matthews) or Safety Administrator Celia Hobbs, and the student's supervisor (if an undergraduate or research student). Students must also have these documents agreed by their supervisor. Supervisors are responsible for seeing these are in place at the planning stage for all their Part II and III students' field mapping projects and for their research students as well as for their own fieldwork. In order to attend a field course, undergraduate fieldtrip participants must complete and return the confidential safety/medical form to reception together with payment for the trip. You must also read the Fieldwork Code of Safe Practice and Good Conduct on pages 35 – 36.

Record keeping is vital. Although these simple forms may seem like 'one task too many' as you prepare to leave for fieldwork, this written evidence is vital to protect yourself against a claim in any court action in the unlikely event of a serious accident. If someone dies in an accident, the Corporate Manslaughter Act of April 2008 makes 'gross breach of duty of care' an offence in failing to comply with the Health and Safety at Work Act 1974. This also applies to Driving at Work.

FIELDWORK INSURANCE

All our UK and overseas taught field courses have personal accident cover with Royal Sun Alliance, covering up to £20,000 for death or permanent total disablement.

Part II and Part III students must take out their own medical/personal accident cover for their mapping projects. New research students undertaking fieldwork before they are registered or matriculate as graduate students at Cambridge University must also arrange their own insurance. Always check the wording of your insurance policy, particularly the exclusions, to ensure that it meets your requirements. Students must indicate on their field risk assessment what insurance arrangements they have made.

For individual fieldwork, University employees and registered graduate students travelling abroad can apply for Cambridge University travel insurance through www.admin.cam.ac.uk/offices/insurance/travel. Check the website for conditions. College employees, e.g. research fellows, will need to make other travel insurance arrangements.

FIELDWORK SAFETY TRAINING

Wednesday 13 - Thursday 14 January 2016 – *(proposed, TBC)* **-** (first) 2 day Marlin Outdoor First Aid for Fieldwork Courses for field course leaders, demonstrators and research students.
Thursday 4 February 2016 - Annual Field Safety Review for Field Course Leaders at 13.00-14.00.
Thursday 25 February 2016 – 'Planning your Mapping Project Safely' for future Part IIs 13.00 - 14.00.
Friday 4 March 2016 - 'Part III Project Safety Induction' for future Part IIIs at 12.30 - 13.30.
Wednesday 18 May 2016 1 Day Marlin Refresher Course
Thursday 19 - Friday 20 May 2016 - (second) 2 day Marlin Outdoor First Aid for Fieldwork Courses for field course leaders, demonstrators and research students.
Thursday 9 June 2016 - Fieldwork Safety and First Aid Training Seminars: 10.00 - 13.00 IA Earth Scientists continuing with GSA/GSB next year and attending the Sedburgh Field Course. 14.00 - 17.00 IB Earth Scientists continuing to Part II and attending the Skye Field Trip and their Mapping Project.

DRIVING ON FIELDWORK

Drivers on fieldwork, whether using University vehicles, hire vehicles or their own car, must be suitably qualified and deposit a copy of their driving licence and relevant documents with Lucy Matthews/Celia Hobbs. They must also complete the relevant Department driving forms (see Driving at Work pages 38 - 48). Drivers on taught field courses take Advanced Driver Training. Stringent regulations exist for driving vehicles carrying undergraduates, so if you will be driving on a fieldtrip please contact Morag Hunter, Lucy or Celia well in advance.

Field Risk Assessment

Department of Earth Sciences
Downing Street, Cambridge CB2 3EQ
Tel: +44(0)1223 333400 Fax: +44(0)1223 333450
Bullard Labs**, Madingley Road, Cambridge CB3 0EZ**
Tel: +44(0)1223 337194/91; Fax: +44(0)1223 360779

CONTACT INFORMATION

Name	Status (i.e. undergraduate, academic)	Email	Mobile No.	Address

DATES OF TRIP	*FIELDWORK AREA/PURPOSE OF WORK*	*ADDRESS/PHONE IN FIELD*

NEXT OF KIN TO BE CONTACTED IN EMERGENCY (INCLUDING ONE IN THE UK IF POSSIBLE)			
Name (and relationship to you):	**Address:**	**Phone numbers:**	**Email:**
Name (and relationship to you):	**Address:**	**Phone numbers:**	**Email:**

CONTACT DETAILS IN HOST COUNTRY (for projects outside UK)			
Name of Host:	**Address:**	**Phone number:**	**Email:**

EMERGENCY/INSURANCE DETAILS		
Emergency services number for your country of work:	**Trip Insurance Policy No:**	**Insurance phone:**
If you have any medical conditions or take any medication which may affect safety in the field please give details. ***All information will be treated in the strictest confidence***		

CAMBRIDGE DEPARTMENT CONTACT DETAILS				
Name of Supervisor:		**Name of others on trip:** e.g. field assistants, supervisor, other Part II students staying in the area:		Andy Buckley +44 (0)1223 333421 Lucy Matthews +44 (0)1223 333470 Dudley Simons +44 (0)1223 337198 (Bullard) University Security +44 (0)1223 331818 (out of office hours) Emergency contact Morag Hunter +44 (0)7843 959783
Email:				
Phone no:				

Hazardous Situation/Activity	Potential Risk	Control Measures

Please use the information on the following pages as a guide to **select, delete, or add hazards and control measures**, as appropriate, for your particular fieldwork.

Travelling to and from the field area. Transport around the area during the trip. Embarkation/disembarkation from vehicles, especially at roadside.	Personal injury; damage to vehicles in traffic accident Cars approach from opposite direction to UK. Injuries to pedestrians.	Scheduled flights, trains, coaches Use professional drivers or maintain safe driving (driver training where appropriate) Use high viz vests and markers for road cut exposures Exercise on long haul flights to avoid deep vein thrombosis
Weather/climate: Extremes of temperature; high/low sunshine Rain/getting wet Sudden changes in weather or storms	 Heat stroke, dehydration/hypothermia sunburn Discomfort/hypothermia Reduction in visibility, lightning strikes	 Suitable clothing and sufficient water/carry thermal blanket Wear hat and sunscreen Carry waterproofs, extra warm layers, survival bag Know compass direction and terrain to ensure follow route out Leave mountain ridges immediately
Wildlife and vegetation: Insects, animals Plants may cause skin irritation	Bites, stings, attack by animals Lyme disease Rash on exposed skin	Maintain vigilance, wear long trousers and long sleeved shirts. Check for ticks and remove immediately. Rabies inoculations before travel increases time available for follow-up treatment.
Local factors - diseases and hygiene e.g. Weil's disease Dress code and behaviour	Sickness Could offend local customs leading to abuse	Immunisation, suitable medicines Ensure personal hygiene and always wash hands before eating. Use of anti-bacterial wash if limited clean water available Familiarise yourself with customs so you can behave and dress appropriately.
Accommodation: Hotel, field centre or camping	Fire Carbon monoxide poisoning Security	Familiarise yourself with the fire drill and escape route Do not use or refuel stove inside tent. Ensure good ventilation of cabin when using gas heaters and cooking facilities. Never leave gas heaters on overnight. Never cook in tent. Do not bring still smouldering embers into tent. Keep valuables out of sight.
Remote areas - getting help; coping with a problem...	Delay in rescue or treating illness or injury	Buddy system or contact arrangements. Use route cards. Mobile phone. 4 dept walkie-talkies available. Consider taking a First Aid training course or 2-day Fieldwork Safety and First Aid Course.

Hazardous Situation/Activity	Potential Risk	Control Measures

Please use the information on the following pages as a guide to **select, delete, or add hazards and control measures**, as appropriate, for your particular fieldwork.

Personal safety and First Aid provision:	Accidents Exacerbation of medical condition	Obtain basic first aid competence and carry first aid kits Maintenance of buddy system. Tell others of medical conditions and symptoms. Ensure tetanus injection is in date.
Lone Working:	Difficulty of calling for assistance in event of an accident	Carry a whistle Buddy system – details of mobile phone contact at regular time intervals if outside sight and sound of rest of field party.
Terrain: Rock faces, cliffs, screes, landslide steep/slippery/unstable slopes, caves. Rivers, streams and marshy areas, deep bogs, flash floods.	 Falling rocks, landslide. Slips, trips and falls Falling in water, getting wet and then cold, injury Slow walkers getting left behind	 Hard hats and walking boots with good tread and ankle support Do not climb unless you are sure it is safe. Take extra care when crossing streams. Be particularly careful when going to the assistance of someone who has fallen in. Maintain vigilance (do not camp) in wadis or areas liable to flooding
Coastal conditions: Rough sea, tides coming in, abnormal waves, rip tides, quicksands, cliff instability	Falling in sea, exit route cut off by tide. drowning	Throw lines may be a useful addition to safety equipment. Ensure knowledge of correct use Do not swim unless you have separate risk assessment covering the adequate life-saving facilities present.
Hammering rock samples	Eye damage by flying rock chips	Goggles, warn people nearby before hammering.
Carrying heavy rucksacks of samples	Back strain	Make more than one journey if necessary
Environmental impact: Litter, Fires, Sharp chippings	Environmental damage Fires Sharp chippings can damage animals' feet	"Carry it in, carry it out." Do not make fire unless you are sure it will be safe, and is allowed. Leave any rock shards tidied up inconspicuously.
Further hazards **Above suggestions do not cover all hazards. Consider further hazards applicable to your area.**		

Hazardous Situation/Activity	Potential Risk	Control Measures

Please use the information on the following pages as a guide to **select, delete, or add hazards and control measures**, as appropriate, for your particular fieldwork.

Hazardous Situation/Activity	Potential Risk	Control Measures

Please use the information on the following pages as a guide to **select, delete, or add hazards and control measures**, as appropriate, for your particular fieldwork.

Further hazards (continued)		

General Notes

General travel arrangements: passport, visa, money, insurance…...
Communication, especially in emergency: Use mobile phones in areas where reception is available. Have emergency numbers to hand.
Have a whistle readily to hand. The international distress call is six short blasts repeated at one minute intervals.
Daily monitoring and feedback; daily briefing and debriefing; rendezvous; cut-off times; route cards
Moderation with alcohol, etc.; getting enough sleep, fitness preparation, proper diet in run-up period
Adequate food and drink each day, including breakfast. Emergency water and food
N.B. Consider the Geologists' Association Fieldwork Code (http://www.geolsoc.org.uk/~/link.aspx?_id=0F5D9BDE-4E91-490C-8A66-B8E96B52377E&_z=z).

Signature

Supervisor's signature (if applicable)

Name
(Please print)

Name
(Please print)

Position:
(e.g. Academic, part II/ research student/post-doc)

Date:

Lucy Matthews (lhm29@cam.ac.uk) and Celia Hobbs (cjh91@hermes.cam.ac.uk) are happy to advise you on writing your risk assessment and can lend First Aid kits and other safety equipment for your trip: http://www.esc.cam.ac.uk/resources/health-and-safety/fieldwork-safety

Please make 2 copies of this form to be given to:
Lucy Matthews or Celia Hobbs and your supervisor.

UNDERGRADUATE FIELD COURSES

(a) All **drivers** of vehicles on our field courses will be asked to take the advanced drivers training course, particularly where drivers will be transporting students. Only those drivers who have successfully taken the course in the previous three years will be allowed to transport students.

(b) All **students** will be asked to read, sign and return the Department's safety statement before going on all our field courses, also indicating medical conditions which should be taken into account, e.g. epilepsy, diabetes etc. All students going to Sedbergh or Skye will be issued with the "Safety on Mountains" booklet free of charge. Students going to Arran will receive a Fieldwork Safety booklet.

(c) All **field guides** must include a section on safety, and field course leaders must underline aspects of safety at the beginning of their courses and as appropriate during the course.

(d) At a meeting of demonstrators before each course, the whole issue of safety on field courses must be emphasized.

(e) All **field course leaders and demonstrators** must have appropriate first aid training. Marlin Training runs 2 day Outdoor First Aid for Fieldwork courses for the Department, which cover essential skills. All field trip leaders, and as many demonstrators as is feasible, are advised to undertake this training. **Undergraduates** receive fieldwork safety and first aid training in April before their Cumbria and Skye Field Courses. Those undertaking **Part II Mapping Projects** also attend a Safety Seminar covering field safety and preparation of their field risk assessments scheduled for April.

(f) Field course **leaders** should arrange that there is a demonstrator at the rear of each party to ensure there are no stragglers.

(g) For the Arran field course, multiple copies of the student lists should be arranged so that each day each party leader has a ticked list of students in his group for roll calls during the day as necessary.

(h) All students must be advised verbally and in handouts about footwear and clothing for field courses.

(i) All courses must have first aid kits.

(j) On the mapping course a seminar on safety in the field and field training must be given in preparation for the Part II Mapping Project.

(k) A checklist of safety guidelines must be prepared for the leader of each course.

(l) There will be a **Safety Log Book** for each field trip. This will be written up on a daily basis, recording the time and contents of safety briefings, together with any incident, accident, or near-miss which has occurred. Books will be kept from one year to the next so that any potential hazards can be rectified. The person responsible for keeping the log during the trip will be a demonstrator nominated by the trip leader, but will not be the leader him/herself. At the end of the trip, a feedback form will be completed by the field trip leader, and this and the log book the book is returned to the Department Safety Officer (S034) or the Safety Administrator's office (N018) for safe-keeping.

(m) Details of a **contact** in your area or host country must be included on your risk assessment for all fieldwork.

(n) For overseas field trips in particular it is essential to have emergency contact numbers in the host country. This could also include local travel representatives, hospitals, traffic/tourist police, airline customer services, your hotels, and car hire. Field trip leaders are often well placed to provide this additional information.

FIELDWORK CODE OF SAFE PRACTICE AND GOOD CONDUCT

(a) Responsibilities and liabilities

Geological fieldwork is carried out in a variety of environments ranging from city streets to remote mountain peaks. Safe practice largely amounts to using common sense appropriate to the situation, along with awareness of any special hazards arising from what you are doing. Most fieldwork in the first two years is carried out as part of a large group, and the guidelines in this leaflet concentrate on such situations. The Earth Sciences Department will provide further safety and first aid guidance if you progress to Part IB and Part II Geological Sciences. It is your duty to attend the safety courses that are offered then.

In accordance with Health and Safety legislation, field party leaders will be following standard safety procedures and taking every reasonable care to ensure the safety of their group. However, this does not remove the duty of care from each individual for their own safety and that of other students and staff. You may even be held legally liable if accidents arise through your failure to obey instructions or meet obligations. In particular, it is your responsibility to stay in touch with the field party, not moving ahead of the leader unless directed and not leaving the party for any purpose without the leader's permission.

(b) Health, fitness and accidents

Fieldwork requires a level of fitness sufficient to walk 5-10 miles per day over paths and moorland, which can be steep, rugged and uneven. It is your responsibility to attain and maintain this basic fitness. If you have a disability or a medical condition, permanent or temporary, that might in any way affect your ability to carry out the fieldwork, it is your responsibility to inform the party leader in advance. Leaders will make reasonable efforts to accommodate individual problems, consistent with the progress and safety of the main party. Similarly, inform the leader if you or a colleague has any sort of accident or begins to feel ill in the field.

(c) Clothing and Equipment

It is your responsibility to ensure that your clothing, equipment and footwear are suitable for the range of conditions that you are likely to meet. Field party leaders will provide advance information. However, for the IA field trip to Arran you will need, in particular:

- walking boots: trainers are unsuitable;
- waterproof rain-jacket (with a hood) and over-trousers;
- loose-fitting trousers (not jeans, which provide ineffective insulation when wet);
- warm fleece top(s) or pullovers;
- warm (e.g. fleece) hat and gloves, sunhat, sunscreen, insect repellent;
- day sack: a rucksack, not a shoulder bag;
- hard hat and safety goggles. You will be provided with goggles, when required, on the IA trips (but will need to provide your own on subsequent trips) and a hardhat on all taught field trips;
- water bottle and whistle.

Field trip leaders may reasonably refuse to allow you to take part in a field day if you are unsuitably dressed for the prevailing weather and terrain conditions.

(d) Hazardous environments

Some fieldwork is done in environments that present particular potential hazards. Any risks to you and the rest of the party will be minimised if you take common-sense precautions.

Cliffs, quarry faces, and steep slopes*:* Rocks may fall down a cliff or face at any time, but particularly during and after rain. Keep away from under steep faces as far as possible; in such situations, it is essential to wear a protective helmet. Never work under a quarry overhang. Similarly, avoid the tops of quarry faces and cliffs; which are always prone to collapse. On slopes, do not work directly above another person and do not dislodge loose rocks, either by accident or for amusement. Rock climbing of any sort is forbidden on field trips.

Coasts*:* Party leaders will have checked tide tables, and you should obey their instructions about the timing and route for traversing a shore section. Take great care on slippery rocks, typically below high water mark, and on any shore with boulders or large pebbles. Helmets should be worn in such slippery and unstable areas, and when specifically instructed by leaders. Avoid areas of soft mud and sand. When the sea is rough, keep a safe distance beyond breaking waves. You should not cross tidal channels, or go swimming unless specific permission has been given by leaders.

Roads*:* Roadside exposures should not be viewed unless it is safe for all the party to do so. Post a lookout and wear high-visibility clothing. Avoid hammering and do not leave debris on the road or verge. Parties should walk facing the traffic, no more than two abreast at any time and in single file when appropriate.

***Working quarries and industrial sites**:* Leaders will have obtained prior permission for access. Obey any special precautions that are required; e.g. wearing helmets and safety goggles. Keep in a closely grouped party. Avoid all equipment and cables, and keep a sharp lookout for moving machinery.

***Old mines, caves**:* Do not enter any old mine workings or caves unless this has been approved by a party leader.

***Hammering**:* Unnecessary hammering is discouraged on all trips. Flying chips of rock and metal are a serious danger; geologists have lost eyes this way. Do not hammer unless you are sure that you can do so without endangering others, then only to collect the smallest sample necessary. Warn them of your intention - chips have been known to cause injury some metres from their origin. Wear either safety goggles or glasses, or ordinary glasses with unbreakable lenses. Never hit one hammer with another - they can shed lethal, metal flakes.

***Work in pairs**:* Some first and second year fieldwork is carried out in pairs, although as part of a larger party. In these situations, you will be directly responsible for your own safety and that of your partner. Never work alone.

***Safety handbook**:* Before the IA Easter field course, you will be issued with a fieldwork safety handbook, and are expected to familiarise yourself with basic safety precautions for working in remote or mountainous terrain. In particular, you should know the international distress signal of six blasts on a whistle *or* six shouts *or* six torch flashes *or* six waves, followed by a minute's pause.

(e) Conduct on field trips

Leaders aim to make each field trip a geologically rewarding and enjoyable experience for all students. Any disruptive behaviour on your part will distract both the leaders and your colleagues from this aim. You must therefore act in a civilised way throughout each field trip: failure to do so will reflect badly on the University and Department as well as yourself. You will be given one verbal warning and then the leader has the authority to ask you to leave the field trip. In such a case, you would be required to vacate your accommodation and bear your share of the field trip expenses, any money the department has advanced you and all associated travel costs. Your College will be informed. Some specific guidelines are:

***Attendance**:* You are expected to attend on all days of the field trip, unless special exceptions have been agreed prior to departure. Apart from good cause (which does not include hangovers), any student who declines to attend on part of any day will be deemed to have left the field trip. In such a case your College would be informed and you will be required to leave and pay costs as above.

Accommodation: Smoking is not allowed in any of the accommodation we use and boots must not be worn inside. You accept responsibility for the good order of the room or other accommodation to which you are allocated. **Hotels**: each hotel management is instructed to bill occupants for the costs of damage to a bedroom. Where damage to public areas occurs, the costs will be shared between those identified as responsible. **Chalets**: Any damage to your chalet by any member of the field trip will be paid for equally by those occupying the chalet.

Hotel rules: You must comply with hotel guidelines on late-evening conduct. These guidelines will vary from hotel to hotel, but will usually involve designated times for re-entry to the hotel, for closure of any residents' bar, and for quiet in rooms and corridors. Most hotels will insist that alcohol bought outside is not consumed within the hotel. In any case alcohol must not be consumed in bedrooms nor may parties be hosted there.

Mobile phones: You may bring a mobile phone on field trips provided that you obey the conditions for its use determined by the party leader. Generally, phones should be turned off during group teaching in the field or during the evening. They should be turned on, as a safety measure, during mapping in pairs, but you should be aware that mobile phone reception is poor to non-existent in many of the field areas we visit.

***Hazardous recreational activities**:* Rock climbing and caving are specifically forbidden on our field trips, even in your spare time. Some less hazardous activities may be permissible in your own time outside the working day, but you should consult leaders if you are in any doubt about their advisability. Whilst you, and not the leaders, will be primarily responsible for your safety during, for instance, swimming or hill walking, leaders may reasonably ask you not to take part if they think you are putting at risk the safety of yourself and others.

(f) Undertaking

Students are asked to read these notes carefully and to agree to observe the provisions they contain and any other instructions, verbal or written, given by the leader of the party. I have instructed the leaders of field parties that, if the verbal warning has been ignored, they must exclude from fieldwork anyone who is not properly equipped, who does not observe safe practice or good conduct, or who does not obey the instructions given by the party leader or by those to whom the party leader has delegated this duty.

J. A. Jackson, Head of Department

FAMILY MEMBERS ON FIELD TRIPS

The Department's policy on the presence of family members on Department field trips balances the requirements of health and safety legislation and the maintenance of academic standards with the legitimate need, in exceptional circumstances, for family members to accompany field trip participants.

1. In general, the presence of families is discouraged. Exceptional circumstances could include, for example, nursing mothers.

2. Family members cannot be considered in any way to be part of the field trip and are wholly the responsibility of the member of the Department concerned. Child care facilities are solely the responsibility of the member concerned.

3. They may, in exceptional circumstances, stay in the same accommodation as the field trip members, but the cost of their accommodation must be paid for separately.

4. Agreement to the presence of family members must be obtained in advance from both the course leader and the Department Safety Officer. An appropriate risk assessment must be made before permission can be given.

5. The contents of the risk assessment for the accommodation must be brought to the attention of, and discussed with, all concerned.

6. Children must be kept under parental supervision at all times without exception.

DRIVING AT WORK

The Department must comply with current DVLA driving legislation and work within the University Health & Safety Office's policy statement and guidance for 'Travel at Work' (HSD031M).

Driving on University Business includes drivers using department vehicles, hire vehicles or their own vehicle including bicycles. If you have any queries or wish to drive on field trips, please contact Morag Hunter, Lucy Matthews or Celia Hobbs.

1. All journeys are restricted to *bona fide* University/Department business. These could include, but are not restricted to, travel between University buildings, research fieldwork, visits to other academic institutions, collection of items purchased for the Department, transportation of Earth Sciences casualties to hospital.

2. In order to drive **any vehicle** on University Business, drivers must be suitably qualified and show their full driver's licence to Lucy Matthews/Celia Hobbs (Downing Site) or Dudley Simons (Bullard) each year. A copy of the licence will be retained on secure file. The Department requires all drivers to complete the driving forms, including a generic risk assessment, which covers them for regular journeys. It is the driver's responsibility to notify the Dept of any changes, such as endorsements, pending prosecutions, accidents or relevant changes to medical conditions, and the Department will usually ask drivers for online access to their DVLA driving record before driver training and/or driving on field trips. Certain changes may bar drivers from university insurance cover. Where extra hazards apply, such as driving alone ('lone working') or medical issues, an individual risk assessment should also be completed.

3. Anyone wishing to use their **own vehicle** must also complete a form showing that their insurance policy covers **business use** for them and their passengers, that their vehicle is taxed, and has a current MOT (if the vehicle is over 3 years old), and that their car has been regularly serviced. Cyclists must have personal liability insurance and regular maintenance to show their bike is roadworthy.

4. For fieldtrips, and other journeys where any **undergraduate students** are carried as passengers, drivers must:
    - have satisfactorily completed a recognised Advanced Driver Training course
    - be over 21 years of age if driving in UK
    - be over 25 years of age and at least post-doctoral status or equivalent if driving abroad
    - have driving experience within the U.K. for at least 2 years (or equivalent experience abroad if the trip is outside UK).

    The University insurance also requires **minibus** drivers to comply with DVLA requirements. In addition, minibus drivers should have:
    - no driving convictions other than one speeding offence
    - no involvement in a motor accident in the last 3 years

    Time expired convictions are disregarded.
    DVLA requires a D1 category on a full British licence to drive a minibus. (People carriers with 5-8 passengers do not have this D1 requirement.)

    Field risk assessments apply to driving on **field trips**, but drivers must also complete an individual risk assessment if extra hazards apply (see 2 above).

5. In special circumstances, with the agreement of the Head of Department, a driver who does not meet all the above criteria may be allowed to drive a hire vehicle, after an individual risk assessment has been made, recorded in the fieldtrip logbook and signed by the Field Trip Leader.

6. A Hire Vehicle Checklist and the Driving Protocol for using department vehicles are included on pages 45 - 48 and are also available on the Department Website (resources/health-and-safety/safety-forms).

7. All driving for the Department is done on a purely voluntary basis. No-one will be required to drive if they are unwilling to do so.

8. For drivers of minibuses, the Department has a number of "Section 19" minibus permits, which should be displayed in the front windscreen during each journey. This applies both to University-owned and to hired minibuses.

9. Where a casualty is being taken to the doctor/hospital, a University First Aider should, where possible, accompany him/her. An ambulance must be called if there is any doubt about transporting a casualty safely.

10. In the event of an accident involving a University vehicle, drivers must follow University procedure, a copy of which is kept in each vehicle.

11. All accidents occurring while on University business, whether in a University vehicle or another vehicle must also be reported as soon as possible to Martin Walker or Lucy Matthews (Downing Site), or Dudley Simons (Bullard Labs), and a University Incident Report completed.

12. Drivers may be considered to need further training due to inexperience and any breach of policy or rules may lead to withdrawal or suspension of any driver's authorisation to drive for the department or University.

13. Equipment left in unattended vehicles is not covered by the University's insurance; special arrangements should be made where equipment is being taken for use in the field etc.

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Confidential Driver Documentation for Driving on University Business

This form relates to anyone driving any vehicle on University business (their own, hired, or belonging to the University)

Insurance

- Drivers of **Cambridge University Vehicles** on university business are covered by the University insurance policy when the department holds a copy of their valid driving licence. Note: drivers are responsible for any fines or summonses incurred.
- **Hire cars:** University insurance **does not cover** hire vehicles. Separate insurance must be taken out with the vehicle provider.
- **Private vehicles:** If you drive your own car on University business your own insurance policy must cover you and your passengers for **"business use"** as you are **not** covered by the University insurance policy.

Name:	
Date:	

All drivers	
The driving licence has the correct name & address details and a copy has been taken.	YES/NO
Licence valid until: Date:	……/……/….
Have you had any accidents or committed any motoring offences in the last 3 years? (Time-expired convictions are disregarded.) Details: Your permission will be sought to take a copy of your online DVLA record before driver training sessions and/or driving on field trips.	YES/NO

Drivers must inform the Department (and DVLA) of any changes when they occur.

PTO

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To use your own car on University business

Please read and sign below to show that you accept the requirements and conditions specified by the University

Vehicle registration number: …….……	✓
I hold a current valid UK driving licence	
My personal insurance policy covers me and my passengers for business use	
My car has up-to-date vehicle tax	
My car has a current MOT (if applicable)	
My car is regularly serviced and maintained	
I understand and accept the generic Risk Assessment for Driving at Work and understand when I need to complete an Individual Risk Assessment Form	
I have received and read the University's Driving at Work guidelines and the Department of Earth Sciences Driving Policy	
I confirm that I will inform the Department if any of the above information changes	
Driver's signature: …… Date: …… Driver's name (please print): ……	

Documentation (originals) seen and checked by:

Signature: ……

Name (please print): ……

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Sept 15

GENERIC RISK ASSESSMENT
For Driving on University Business

This generic Risk Assessment will suffice for most journeys unless one or more of the following applies:

- You are a relatively inexperienced driver
- You have a medical condition which might affect your driving (in which case you should follow DVLA guidance)
- Your journey involves very long hours or you are travelling alone
- Aspects of your journey i.e. weather conditions, heavy loads, trailer or roof racks, off road driving etc. could affect your journey

If any of the above applies you must complete an **Individual Risk Assessment**

Hazard: **Road Traffic Accidents**

People at Risk: **Drivers, passengers, cyclists, pedestrians**

Control Measures:

It is the Driver's duty to:

- comply with the Road Traffic Act and Highway Code
- have an appropriate valid driving licence which will be checked annually by the Department
- plan routes in advance; check weather forecast; allow sufficient journey time; take regular breaks
- before leaving ensure correct adjustments for mirrors, seats, seat belts, lights etc; check tyre condition and check for visible defects
- have emergency contact numbers with them
- never use a mobile phone whilst driving
- never drive under the influence of alcohol or drugs.

Vehicles:

- must have up-to-date vehicle tax, a valid MOT (if applicable) and servicing should be carried out according to manufacturer's specification
- should carry emergency kits e.g. first aid kit, red triangle, fire extinguisher, fluorescent jacket
- AA and insurance company numbers are kept in the department vehicles
- No Smoking in Dept cars or vehicles hired for Field Courses.
- Booking procedures for Department vehicles must be followed to ensure insurance cover.
- Rules governing the presence of children on University premises will apply to car use on University business.

I declare that I understand and accept the Generic Risk Assessment for Driving on University Business.

Signed …… **Date** ……

Name (print) ……

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Driver's Individual Risk Assessment Form

This form is to be used if your journey is **outside the scope** included in the generic Risk Assessment Form

Consider if your journey is really necessary!

The Journey

- Plan your route, if possible avoiding high accident-risk roads and accident black spots
- Check the weather forecast: bad weather may affect road conditions, i.e. snow, ice, fog
- Allow time for unforeseen circumstances
- Schedule regular breaks – at least 15 minutes every 2 hours is advised
- Is there a viable alternative method of travel (i.e. train or bus)?

The Vehicle

- Is the vehicle suitable for the purpose intended?
- Is the vehicle well-maintained and in good condition?
- What load will be carried? Heavy loads will affect headlight setting and tyre pressures
- Drivers must be aware of how using roof racks or trailers might affect vehicle handling
- Ensure coats and bags are stowed correctly so that car occupants can get out easily

The Driver

- Is the driver fit for the task and does he/she have the necessary driving experience and confidence?
- Is the licence valid for driving the type of vehicle being used?
- Does the driver's insurance cover him/her for business use if using his/her own vehicle?
- Is there any medical history that may affect the driver's ability?
- Are there any special requirements?

This form is to be used if your journey is **outside the scope** included in the Generic Risk Assessment Form

Journey Details		
Date	**Destination**	**Brief outline of journey/activity**

Possible Hazards	
Are there any special hazards?	
Who might be exposed to them?	
What control measures are in place?	

Are there any other related Risk Assessments?	**Yes**	**No**
If YES, give details and attach a copy		

Emergency Contact Numbers:	**Name** …… No. ……	**Name** …… No. ……	**Name** …… No. ……
Completed by:	**Name** …… **Signature** ……		Date ……
Supervisor: (where applicable)	**Name** …… **Signature** ……		Date ……

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Hire Vehicle Checklist

Please complete this checklist before accepting the vehicle. Report any faults to Martin Walker or Lucy Matthews.

Vehicle Registration Number: _____

Potential Hazards	Observations	Location on Vehicle	Action	Initial
Is the external condition satisfactory? No dangerous projections or torn bodywork	Yes ☐ No ☐			
Are the tyres, including the spare, visually in good condition and apparently inflated correctly	Yes ☐ No ☐			
Is there a First Aid box in the vehicle?	Yes ☐ No ☐			
Is there a fire extinguisher in the vehicle?	Yes ☐ No ☐			
Are there any staff or students on your journey who need special consideration? e.g. Expectant mothers, partially sighted or hearing impaired	Yes ☐ No ☐			
Do all doors operate correctly, particularly the emergency exit	Yes ☐ No ☐			

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Potential Hazards	Observations	Location on vehicle	Action	Initial
How many seats are there?				
Are all the seats fitted with safety belts? Do not forget that it is obligatory to wear them	Yes ☐ No ☐			
Is there safe storage space for luggage?	Yes ☐ No ☐			
Are the windows and mirrors clean enough for driving and have you checked the washer reservoir	Yes ☐ No ☐			
Have you checked that all the lights are functioning?	Yes ☐ No ☐			

Comments

I agree that this vehicle is fit for purpose:

I agree to return the vehicle in the condition that it was received:

Completed by:

Name _____ *Signature* _____

Date:

DEPARTMENT DRIVING PROTOCOL: Bullard Vehicles

Contacts: **Dudley Simons** (for bookings, maintenance, repairs, faults)
Gill Turner (for bookings in Dudley's absence)

- Before using a department car you must produce your driving licence and a copy of the online DVLA driving record should be provided, which can be kept on file by the Bullard Safety Officer. Your licence will be checked annually but you must notify him of any speeding convictions or other motoring offences occurring in the meantime.
- Bullard Labs vehicles may be booked in the diary in Dudley's office where you also collect the keys; **you must log journey details when you return the vehicle,** entering outward and return mileage and specifying which grant is being used. Tell Dudley or Gill of any faults with the car and of any adjustments/repairs you made.
- Vehicle details are given below and you should comply with these as a condition of use.
- Personal motor insurance does not provide cover for University vehicles.
- If you ever need to transport chemicals in the Department car strict guidelines must be followed: please contact Dudley Simons for advice (drs1005@esc.cam.ac.uk or 37198).
- All vehicles must be returned in a clean condition. Muddy boots must not be used in the vehicles.

PEUGEOT ESTATE X915 GEB:

Please familiarise yourself with the controls etc. before driving this car and return it CLEAN with the tank at least half full!

- The handbook is in the driving door pocket – p.3 gives dashboard info "at a glance"
- This car runs on **diesel**
- To start the engine DO NOT DEPRESS THE ACCELERATOR. Turn the key 2 notches; if the engine is warm enough the pre-heat light does **not** come on and you can start immediately. If the pre-heat light comes on, wait for it to go out before operating the starter.
- The filler cap is opened by using the lever to the RH of the driving seat.
- A copy of the insurance certificate (+ University guidelines in the event of an accident) and the AA card are in the car.
- Remote locking is activated by using the button on the ignition key – small unlocks, large locks. You can also use the key in the lock in the normal way.
- Details of controls on steering wheel stalks are on p.7 of the handbook.

Booking Vehicles

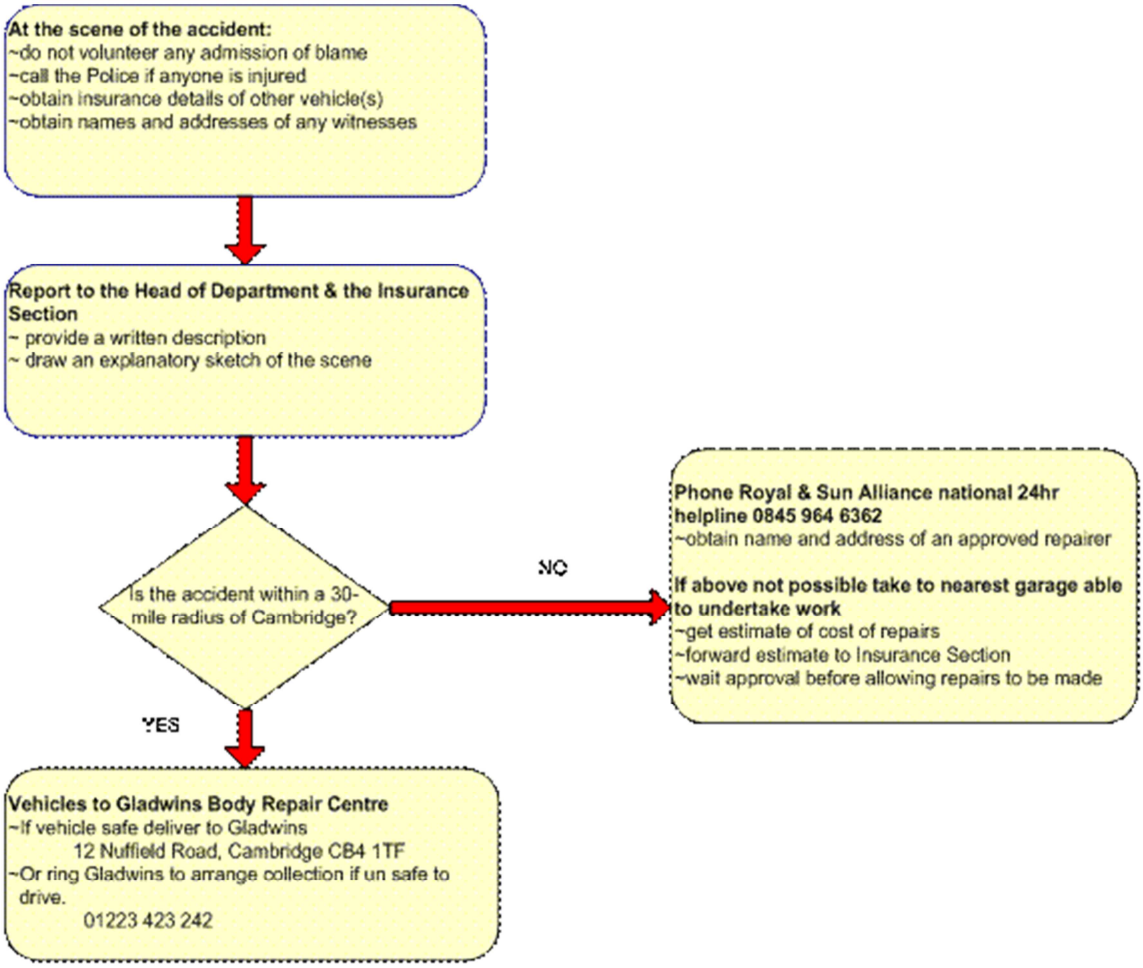
If you need to collect keys out of working hours or at a weekend, please make arrangements with Dudley Simons, otherwise you may not be able to get it. Allow time in your booking to clean the vehicle when you return it.

Use of Vehicle

- You may buy fuel at any filling station using the euroShell Card (a pin number is supplied) which is given to you with the keys. Please ask for a receipt. You may be asked for the registration.
- Please fill details on the mileage slip and leave with keys on your return.

- Familiarise yourself with the car's operation. Before driving it: look at the tyres, note bodywork damage and check lights, indicators, windscreen washer bottles, wipers, and seat belts. If you have any doubts about roadworthiness, do not use! Do not do repairs yourself: if you must make a temporary repair have the work checked by a garage as soon as possible, especially if safety could be affected.

- If you are involved in an accident, follow the procedure shown below, a copy of which is in the door pocket along with the insurance certificate. You must complete an insurance accident form that you can get from Dudley Simons.
- Any accidents and claims on department vehicles may affect your own vehicle insurance. You are responsible for any fines imposed for any traffic or parking offences.



Chipped or broken windscreens (UK only): Royal & Sun Alliance has a special 24-hr arrangement for the repair of all windscreens with Autoglass Windshields, Unit 2, Elizabeth Way, Cambridge (tel 01223 461890). If the vehicle is outside the Cambridge area, telephone the Autoglass Helpline on 0800 363636 for details of the nearest repairer. A copy of the vehicle insurance certificate **must be produced** at the time of repair. There is no policy excess for windscreen repair. Autoglass will invoice Royal & Sun Alliance direct for the cost of repairs.

Returning Vehicles

For other than local journeys, before you return a vehicle – please

- **Put it through a car wash** and **clean out the interior. No muddy boots in vehicle.**
- Leave the tank at least **half-full** - make a special journey if necessary.
- Remember to return the **keys, fuel card and mileage slip**. Evenings and weekends post them through letter box at front of Wolfson building and inform Dudley (drs1005@cam.ac.uk) or Gill (gt211@cam.ac.uk) by email.

TEACHING LABORATORIES CODE OF SAFE PRACTICE AND GOOD CONDUCT

For students:

1. General safety

- Food or drink must not be consumed in any laboratory, with the exception of water in a capped water bottle.
- All bags, coats and cycle helmets must be kept off the benches.
- To allow unobstructed passage around laboratories all students' personal possessions must be stowed under the benches or in the cubbyholes provided.
- If the **fire alarm** sounds, you will hear a very loud siren. On the instructions of the demonstrator in charge of the class, you must leave the building and assemble on the lawn by the Department of Archaeology & Anthropology. Do not stop to collect personal belongings and do not re-enter the building until the fire brigade has given the all-clear.

2. Equipment and practical material

- Have a minimum of possessions on the bench tops, and try to keep them in order so that the risk of knocking samples onto the floor is minimised.
- Bench lamps must be lifted by their bases, not by the arms. Lifting by the arms can damage the pivoting mechanism.
- When using microscopes and computers, check your seating position to ensure that you are at the correct height and, to avoid eye strain, look across the lab to allow your eyes to change focus every 20 minutes or so.
- Glass microscope slides must be treated with care. They are easily broken; some are irreplaceable, and all are expensive to replace.
- Handle ALL specimens with care. Many, especially the palaeontological material, are of museum display quality and are irreplaceable. **Do not mark or scratch them** unless you are specifically told you may do so.
- You will be instructed in the use of microscopes, and these instructions must be followed. Do not drag microscopes across the bench top; move them by safe lifting. Dragging the microscopes causes severe vibration, which leads to the optics becoming misaligned.
- Ensure that all specimens, microscope slides, etc. are returned to the correct tray or drawer after use, and that any microscopes and bench lights are turned off before you leave the lab.

For demonstrators:

- The Teaching Officer in charge of the course has overall on the spot responsibility for safety. Demonstrators are responsible as individuals for conducting their work safely, and advising students of safe working practices.
- The person at the top of the rota list for each session is deemed to be in charge of that session, and should report to the Teaching Officer in charge of the course any issues regarding class safety or any other problems that need attention.
- You will need to keep reminding students (at least in IA) about safe practice, particularly to keep bags, etc. off the benches and away from gangways – including the spaces between benches – so that you can walk around the room safely.
- Be aware that electric cables from microscopes and bench lamps may well be trailing down the backs of the benches and can provide a trip hazard. This is why we need the gangways to be clear of students' belongings.
- No food or drink to be consumed – lead by example.

Fire safety

If the fire alarm goes off, the person in charge of the class will instruct the students how to leave the building safely and will lead them to the Assembly point (the lawn in front of the Department of Archaeology & Anthropology), and will inform them when to return after the all-clear has been given.

PERSONAL TRAINING RECORD

Guidance on using the Personal Training Record

What safety training is required?

The Management of Health and Safety at Work Regulations require the University to provide adequate health and safety training on induction, when there is exposure to new or increased risks and to repeat the training periodically where appropriate.

Members of the University are required to attend any health and safety training which the University or their institution decides is needed to enable them to become competent in the health and safety aspects of their work.

Who should use the Record?

- The Personal Training Record is primarily intended for those who work in laboratories, workshops or similar areas where practical work is undertaken.
- It is intended for staff, including maintenance staff, office staff, assistant staff, academic and academic-related staff, other research workers and visitors, and students.
- The Induction Checklist issued by the Personnel Division can be used for those whose work does not involve a wide range of safety issues.

What is the function of the Record?

All safety induction, training courses and instruction received throughout an individual's time at the University should be recorded here.

- The holder can use it to identify any shortfalls in safety training, instruction and information if they are asked to carry out new work.
- It can be used during appraisals when considering training needs for staff development.
- The holder can also use it if they do similar work in a different Department as evidence that they have already received training and instruction, but they must also be familiar with any local rules or procedures.
- The Group Leader/Academic Supervisor can use the Record to ensure that everyone under their supervision has received the necessary training and instruction to work safely.
- Departments should include the Record as part of their training records system.

What to do with the Record

- The individual keeps the original of the Personal Training Record.
- After initial training, instruction and information has been provided and recorded, a copy of the document should be given to the Head of Section/Academic Supervisor/Local Safety Officer and to the Safety Officer (S034) / Safety Administrator (N018).
- Further training and instruction should be recorded on the Record. Further copies should be given annually (in June or July) to the Head of Section/Academic Supervisor and to the Safety Officer /Safety Administrator.
- When the individual leaves the Department, a copy of the Record must go to the Safety Officer / Safety Administrator.

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Personal Training Record

Please use this document to record any relevant safety documentation, safe-operating procedures (SOPs) or risk assessments for your work, which you have read or training which you have received. This document will also assist your supervisor or Head of Group to ensure that all their staff and students have received the necessary instruction and training to enable them to work safely.
Laboratory Users will also have a more specific 'At Bench' Training Record.

Employee/Student Name	Head of Section / Supervisor	Date Work Commenced

Technique / Area	**Received and read information (signature)**	**Received relevant training (signature)**	**Date and nature of training**	**Supervisor's or lab manager's signature**
General Issues	*Where not applicable enter N/A*	*Where not applicable enter N/A*	*e.g. University course/personal supervision/other*	
Safety Handbook, including Dept Safety Policy and Statement of Safety Organisation				
First Aid arrangements				
Reporting accidents and incidents				
Fire and security procedures				
Expectant mother policy				
Electrical safety, including inspection and testing				
Lone and out of hours working				
Use of ladders and work at height				
Use of computers, display screen equipment and posture				
Manual handling				
Laboratory Safety				
Waste disposal routes				
Selection and use of PPE				

Handling and spillages of chemicals				
Use of fume cupboards				
Carcinogens				
Toxins, poisons and controlled drugs				
Use of microbiological safety cabinets				
Liquid nitrogen and other cryogens				
Compressed gasses and gas cylinders				
Vacuum and pressure equipment				
Use of centrifuges				
Use of autoclaves				
Machine tools				
Use of light microscope, set-up and posture				
Radiation	*See Laser Officer or Radiation Protection Supervisor for Local Rules.*			
Lasers				
Sealed radioisotopes				
Un-sealed radioisotopes				
X-ray equipment				
Ultraviolet sources				
NMR				
Other Techniques				

Please keep this form for your records, and submit a photocopy to your Head of Section/Academic Supervisor/Local Safety Officer and to the Safety Officer/Safety

Administrator whilst you continue working in the Department, and submit a final copy when you leave.

HSE

Health and Safety Executive

Health and Safety Law

What you need to know

This is a web-friendly version of pocket card ISBN 978 0 7176 6350 7, published 04/09

All workers have a right to work in places where risks to their health and safety are properly controlled. Health and safety is about stopping you getting hurt at work or ill through work. Your employer is responsible for health and safety, but you must help.

What employers must do for you

1 Decide what could harm you in your job and the precautions to stop it. This is part of risk assessment.
2 In a way you can understand, explain how risks will be controlled and tell you who is responsible for this.
3 Consult and work with you and your health and safety representatives in protecting everyone from harm in the workplace.
4 Free of charge, give you the health and safety training you need to do your job.
5 Free of charge, provide you with any equipment and protective clothing you need, and ensure it is properly looked after.
6 Provide toilets, washing facilities and drinking water.
7 Provide adequate first-aid facilities.
8 Report major injuries and fatalities at work to our Incident Contact Centre: **0845 300 9923**. Report other injuries, diseases and dangerous incidents online at **www.hse.gov.uk**.
9 Have insurance that covers you in case you get hurt at work or ill through work. Display a hard copy or electronic copy of the current insurance certificate where you can easily read it.
10 Work with any other employers or contractors sharing the workplace or providing employees (such as agency workers), so that everyone's health and safety is protected.

What you must do

1 Follow the training you have received when using any work items your employer has given you.
2 Take reasonable care of your own and other people's health and safety.
3 Co-operate with your employer on health and safety.
4 Tell someone (your employer, supervisor, or health and safety representative) if you think the work or inadequate precautions are putting anyone's health and safety at serious risk.

If there's a problem

1 If you are worried about health and safety in your workplace, talk to your employer, supervisor, or health and safety representative.
2 You can also look at our website for general information about health and safety at work.
3 If, after talking with your employer, you are still worried, you can find the address of your local enforcing authority for health and safety and the Employment Medical Advisory Service via HSE's website: **www.hse.gov.uk**

Fire safety

You can get advice on fire safety from the Fire and Rescue Services or your workplace fire officer.

Employment rights

Find out more about your employment rights at: **www.direct.gov.uk**

This pocket card is available in priced packs from HSE Books, ISBN 978 0 7176 6350 7. A web version can be found at www.hse.gov.uk/pubns/law.pdf. The information in this pocket card is available in other formats.

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