

Oxford University Cave Club

50th Anniversary Expedition To The Picos De Europa

XITU 2011

2nd of July to 7th of Aug



*Formations in Snow Castle, Pozu del Xitu*



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## 1. INTRODUCTION

It all started fifty three years ago on 1st December 1957 when a group of Oxford University students descended GB cave in the Mendip Hills of England. With carbide lights to illuminate their way, they were ushering in a new era of adventurous sport within the university. Since that day, members of Oxford University Cave Club have been actively involved in original cave explorations both in the UK and around the world in locations as far flung as Peru, China and Uzbekistan. Throughout this time the club has maintained a lasting and impressive exploration history with the Picos de Europa Mountains in northern Spain.



*OUCC's first meet in the Mendips 2/11/1958.  
Richard Gowring and Peter Crabtree on the left, others unknown*

The first moves towards British cave exploration of the Picos de Europa began during the summer of 1960. The ideas had been there before, swimming around in private, but they surfaced in OUCC towards the end of the 1959/60 season. John Wilcock recalls tales from the past.

*"How different things were then, at the beginning of the swinging sixties! In Oxford University there were no mixed colleges. In the men's colleges, it was officially necessary to get permission to entertain a young lady in one's room, and the gates closed at 11pm (there were many "climbing-in" routes which improved rock climbing abilities). Scholastic gowns were supposed to be worn at all lectures, though the scientists never bothered. Caving activities were hampered by the fact that no undergraduate could keep a car within the City of Oxford, and most caving meets required the arrangement of coach transport. Moreover, there were few motorways, and the Severn Bridge, which was later to become such a boon to cavers of the south engaged in new explorations in the South Wales limestone, did not exist. Caving equipment and exploration techniques were quite primitive - wetsuits were unknown, and the days of rope ladders were not long gone (home-made steel wire ladders with magnesium alloy rungs were considered by members of OUCC to be the very latest thing).*

*Towards the end of July preparations became even more frantic, but at last 31st July 1961 arrived and we set off down the High, stopping outside the Mitre for press photographs. After a relatively uneventful journey across the Channel, the results of buying third hand vehicles became apparent - a seized brake cylinder pitted beyond repair, but the stop on a rubbish dump near Rouen did not prove disastrous since we were in northern France, where spares for Bedford army lorries seemed to be very readily obtainable, because of the legacy of the war (this was even more fortunate on the return trip, when the effects of 62-octane petrol from Galicia had taken its toll on the one-ton vehicle and turned its exhaust valves into split mushrooms). A stop to see the famous painted caves of Lascaux, then still open to the public, was enlivened by a complete refit of the three-ton lorry brake master cylinder.*

*After stocking up with local groceries we pointed our vehicles at the long steep mountain road. Up into the clouds we went, stopping from time to time to rest bottom gears and to admire the limestone shakeholes by the side of the unmetalled track. In thick cloud we came to the Vega de Enol, and with visibility reduced to a few yards the Refugio loomed up before us. In such weather it seemed churlish to forsake the warm and dry buildings for tents and lorries, and after two days of torrential rain the Refugio began to feel like home. At last, on the evening of the third day, the cloud began to move. Spellbound, we saw the valley floor; then the wooded slopes beyond - then the bare limestone hills above; ...and, at last, that fantastic row of pointed peaks, glowing pink in an alpine sunset, which haunts the memories of all who have followed the first expedition in 1961 to the Picos de Europa.”*



*OUENS61 First Oxford University Cave Club Expedition, summer 1961.  
Photo courtesy of the Oxford Mail*

Exactly 20 years later, during the summer of 1981 the Oxford University Cave Club expeditions to the Picos de Europa enjoyed what was arguably their finest hour. During this trip cavers reached a sump at the bottom of a cave called Pozu del Xitu which they had explored down to -1139 metres, making it the deepest cave explored by a British

team and the first to be explored below 1Km in depth. The story of this epic tale has been committed to legend by two Oxford University cavers Richard Gregson and David Rose in their book, "Beneath The Mountains".

The book went on to inspire further generations of cave explorers in the Picos and over the years many deep caves have been documented by OUCC. The long term goal of these expeditions has been to unite these deep caves into one giant system, a task much more complex than merely descending deep caves and last year a team of cave divers forged an underwater connection between Cueva Culiembro, the major resurgence cave in the Cares Gorge, with the bottom of Xitu, bringing this goal one tantalising step closer to becoming a reality.

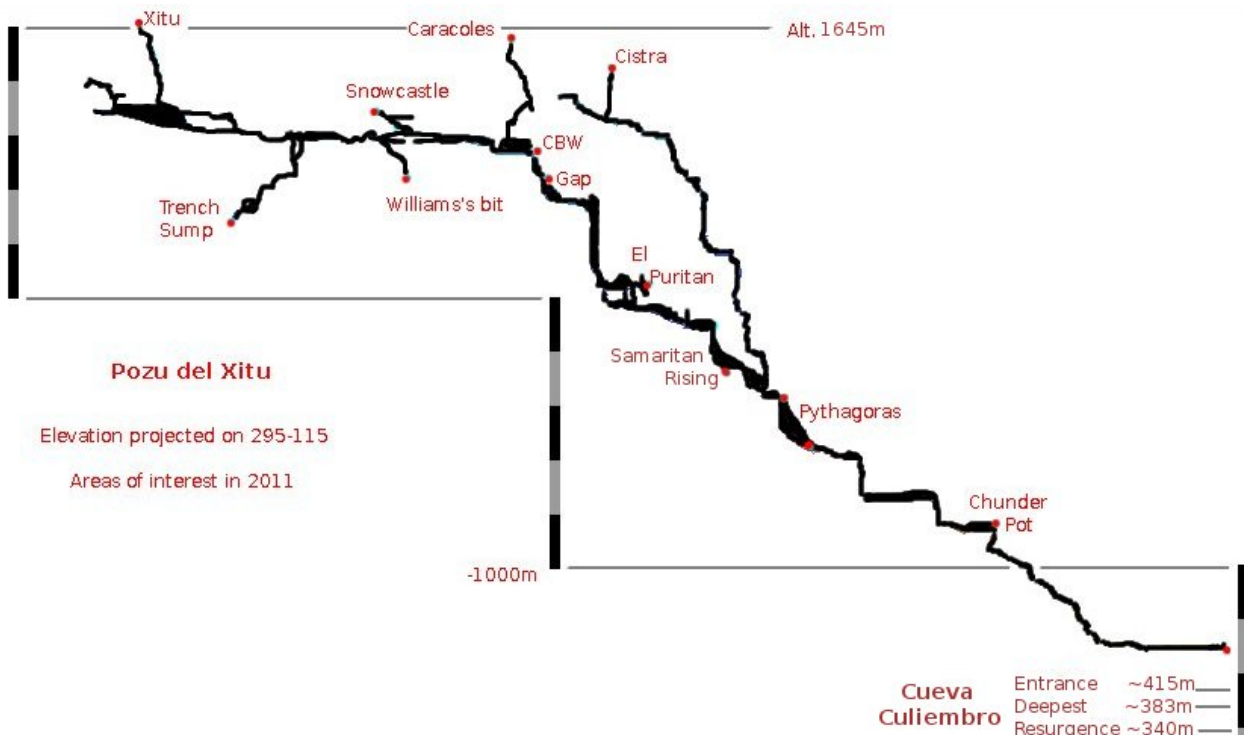
2011 will be the 50th anniversary of the first Oxford expedition to the Picos and the 30th anniversary of the exploration of Xitu. Despite the intervening 30 years several leads close to the bottom of Xitu have remained unexplored. It seems fitting that on this major anniversary we will return to this most significant of caves and with many generations of OUCC cavers celebrate the clubs long history in these mountains on an expedition that has potential to greatly increase our understanding of this fascinating area.

## 2. AIMS AND OBJECTIVES

The expedition aims can be broken down into three main areas. Within each area there is a list of objectives that appear in rough order of priority.

### 1. Dry leads in Pozu Del Xitu

- Investigate undescended pitch beyond 'Chunder Pot'.
- Investigate leads around 'Pythagoras Pitch'.
- Investigate leads in 'El Puritan'.
- Investigate possible continuations of 'CBW Series'.
- Investigate possible leads in 'Teresa Series'.
- Investigate possible leads in 'Trench Series'.
- Investigate possible leads in 'Williams Bit'.



### 2. Diving Objectives (To be undertaken by the two named cave divers only)

- Dive Stag Pool sump to complete the first through trip from Pozu del Xitu to Cueva Culiembro.
- Investigate leads beyond 'Stag Pool'.
- Investigate sump at the end of the 'Trench Series'.
- Investigate sump below the second 'Samaritans Pitch'.
- Investigate sump in 'Williams Bit'.

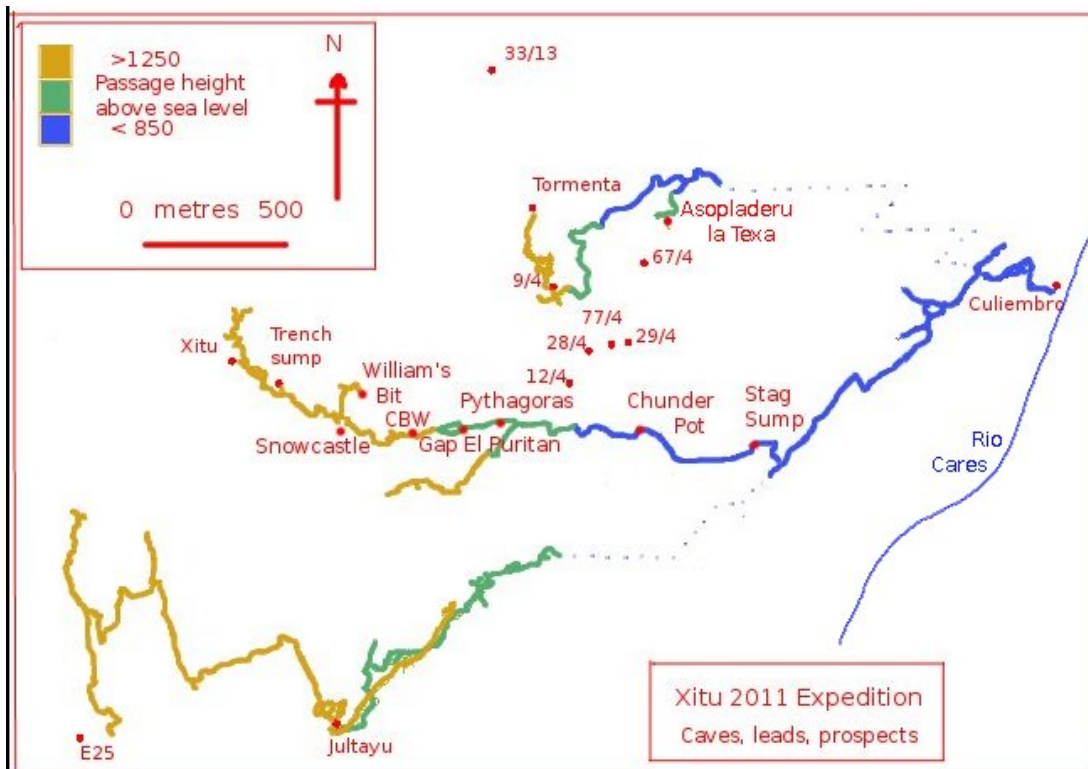




A cave diver returning from underwater explorations in a cave in the Picos de Europa

### 3. Prospecting

We will continue with the systematic location and documentation of cave entrances in the Ario area and explore entrances that appear to have potential to lead to new cave systems. Significant caves explored by the expedition will be surveyed to the highest reasonable standard. OUCC maintains a 'Shaft Bashing Guide' detailing all of the cave entrances and shafts around the Ario area. We will use this guide to determine the best areas to search for new entrances. The following is a list of entrances in the guide that we intend to revisit given sufficient time and resources.



9/4, about 25m deep to a climb leading to a hole that hasn't been investigated



12/4, about 15m deep, with a squeeze that needs widening, or a climb that needs ascending  
28/4, about 60m deep to a squeeze that needs widening  
29/4, about 25m deep to a draughting squeeze that needs widening  
35/4, undescended 30m shaft  
58/4, 5m undescended shaft with passage at the bottom  
67/4, strongly draughting, easily diggable choke  
77/4, about 40m deep with various leads including an undescended pitch  
33/13, large open shaft with visible draught, undescended  
E25, about 60m deep to diggable floor with apparent open space below, or possible climb.

*Area 4 Diorama by John Wilcock*

## Supplementary Objectives

### Conservation

There will be a strong focus on cave conservation. We will strive to make as little impact as possible on the caves we explore. Particular care will be taken around delicate calcite formations. We intend to document and photograph any formations discovered. We will use techniques developed in the UK to aid with conservation. These include: using tape to mark out narrow paths through delicate areas; requiring cavers passing close to delicate formations in an enclosed space to remove their boots; limiting the number of cavers passing delicate areas. We aim to recruit individuals with experience of cave conservation to come on expedition, or failing that to seek detailed advice before leaving the UK.



© Robbie Shone

*A caver taking care whilst passing calcite formations*

This year we will be implementing 'Leave No Trace' best practices to our procedures with regards to all waste produced by the expedition.

See the following web page for details: [http://www.Int.org/programs/principles\\_3.php](http://www.Int.org/programs/principles_3.php)

Latrines and/or cat-holes will be dug where necessary on the surface. All solid waste will be removed from the cave and disposed of accordingly on the surface. Liquid waste will be disposed of in accordance with LNT's advice with regards to travel in river canyons.

#### Surveying

The cave will be surveyed to the highest reasonable standard. This usually means surveying to British Cave Research Association Grade 5b. The club owns several sets of surveying equipment. These include a clinometer and a digital compass as well as either a tape measure or a laser distance and orientation measuring tool. Members on their first expedition will be trained in surveying techniques.

#### Photography

We aim to recruit accomplished cave photographers to aid with documentation of the cave. In particular we intend to document the exploration of new cave passage.

#### Dye tracing

We aim to carry out a dye trace from the sump at the end of the Trench Series. We will use an optical brightening agent here. Cotton wool detectors will be placed at the target sites to absorb the optical brightener, and later tested with a UV light. Target sites include, upstream of the Samaritans rising sump, downstream of the Samaritans rising sump, Stag Pool, Cueva Culiembro and Hoyo le Madre. The optical brightener is colourless, and considered non-toxic at the concentrations we will use, and so will not have an environmental impact.

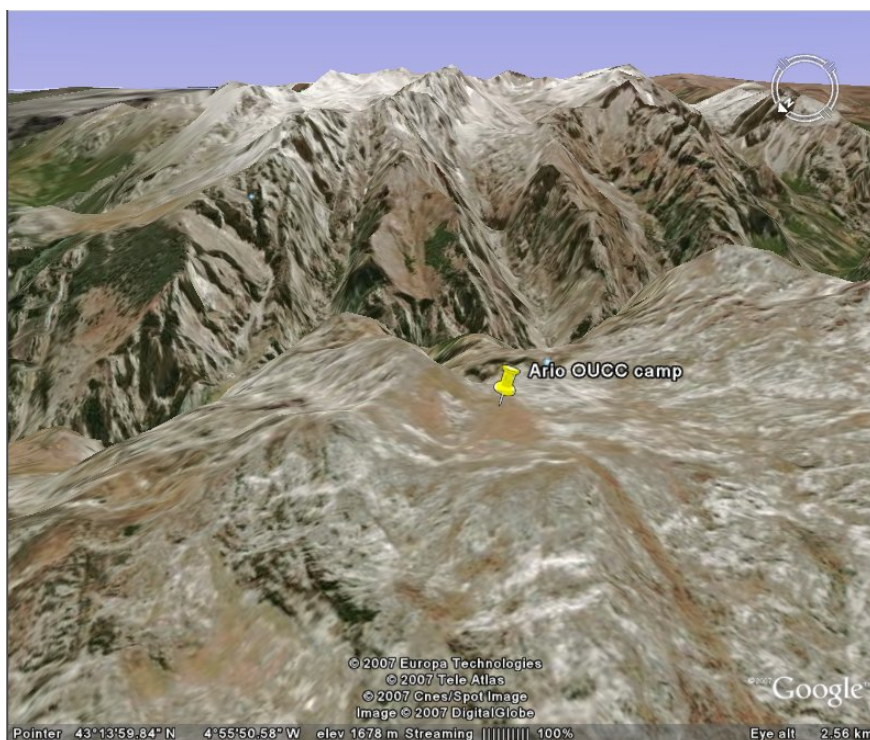
### 3. Logistics

#### Transport

The expedition equipment will be driven out to Spain. Previously the Gordon Foundation has supported our expeditions by lending us a Land Rover. For the last two years however this was not possible and if this proves to be the case again we will buy a vehicle and sell it after the expedition. The expedition owns a trailer, big enough to take all of the gear. The vehicle will cross to the continent via ferry from Dover to Calais, then drive down through France to northern Spain. Expedition members not travelling with the expedition vehicle will make their own way out, using public transport. The vehicle and equipment will be left at the Los Lagos car parks (the closest place to camp accessible by road). In previous years all equipment and food has been carried up the hill in rucksacks. This year we hope to arrange for a helicopter to airlift our equipment up to Ario at the start of expedition, a common practice used by Spanish caving expeditions in similar areas. This will save us approximately five days allowing us to concentrate our efforts on cave exploration rather than on establishing our high camp.

#### Food and Accommodation

As in previous years we will establish a surface camp at Vega de Ario. We will use an abandoned shepherds hut as a cooking, storage and general living area. Water is available from nearby springs. In the event that these dry up, as they have been known to during OUCC expeditions, we will collect snow from a nearby cave and melt it in the sun. Most food will be bought in the nearby town of Cangas de Onis; we will take out from Britain some food that is hard to obtain, or expensive, in Spain.



*Ario camp location, looking East across the Cares Gorge to the Central Massif.  
Image courtesy of Google Earth*

#### Permission

Permission to camp at Ario and leave a vehicle at Los Lagos will have to be obtained from the Picos De Europa National Park authorities. Permission to cave in the area will be sought from Federación d'Espeleoloxía del Principáu d'Asturies (FESPA). We have been in regular contact with a representative from FESPA. They are extremely keen that



we celebrate 50 years of exploratory caving in the Picos with an expedition this year and we hope to tie in our own plans with celebrations organised by them as well. In order to proceed with permission applications we need to confirm our insurance details, we hope to do this after our successful application to the OUEC has been confirmed. After this is done we envisage no further hold ups with regards to permission being granted.

### Caving

Cavers will use standard caving equipment, including as a minimum fleece undersuits, protective oversuits and helmets as well as SRT kits. Most cavers will use LED based lighting systems, and will always carry spare batteries as well as at least one backup lighting system. All cavers will carry a personal first aid kit at all times, and a full first aid kit will be maintained at the surface and underground camps.

All vertical drops in the caves will be rigged for descent and re-ascent using single rope technique (SRT). This is the safest and most efficient method for tackling vertical caves.

All cavers will be fully trained in SRT prior to expedition. A majority of expedition members will also be competent in safe rigging. More experienced members of the expedition are experts in this technique, and will provide support and direction where necessary.



*A caver climbing up a shaft in a cave in the Picos de Europa*

Once in place, ropes will be left in the caves for the duration of the expedition, or until the cave is bottomed. They will be checked regularly for wear and tear and replaced immediately if deemed to be in unsatisfactory condition. To continue exploration of the deep leads within Xitu we will need to establish an underground camp. The camp will require warm fibre-pile sleeping bags which we hope to hire from the Ghar Parau Foundation as in previous years. Foil-wrapped food sachets and high-energy foods such as nuts and chocolate will also be stored at such a camp within waterproof barrels. The previous camp within Xitu was barely satisfactory but very few places within the target depth for a camp offer a better alternative. During the rigging of the cave alternative camping areas will be inspected. Safety, comfort and a supply of water will be priorities in the choice of location.



*A typical underground camp in the caves of the Picos de Europa*

## Training

A UK National Governing Body training, assessment and accreditation scheme is only available for those individuals conducting commercial cave leadership activities. No such relevant system exists for ordinary sport and exploratory caving activities. In place of such a scheme caver training has long been undertaken via informal apprenticeships within caving clubs. Oxford University Cave Club has a long and distinguished history in this regard.

Training for less experienced cavers intending to join expedition in 2011 will take the form of practical sessions on safe and efficient movement through both horizontal and vertical caves, Single Rope Technique and basic self rescue procedures. The majority of this training will be undertaken underground in the Yorkshire Dales over several dedicated training weekends, but will also include ropework sessions and first aid training above ground in Oxford.

This training will be led by a core of highly skilled expedition cavers with decades of caving experience between them. New cavers intending to go on expedition will be expected to attend at least two training weekends in the Yorkshire Dales as well as regular attendance at skills session run in Oxford. They must be able to demonstrate successful mastery of basic Single Rope Technique manoeuvres required for personal progression and safety and this will be judged on an ongoing basis and verified by consensus amongst the clubs experienced cavers and the expedition leader. Whilst on expedition the apprenticeship will continue with ongoing mentoring and coaching over progressively longer and more technically demanding trips.

The exception to this training and accreditation approach is where cave diving is concerned. In this respect the expedition cave divers are both well qualified (according to the British Cave Diving Group's assessment for Qualified Diver) and experienced in both sport and exploration diving. No cave diving will be undertaken by any other member of this expedition without these qualifications and suitable experience.

## 4. Risk Assessment

### Above Ground

When walking in the mountains expedition members will carry plenty of water to avoid dehydration, appropriate clothing and survival gear. When walking off the main path from the car park at Los Lagos to camp at Ario a compass or GPS (also useful for logging cave entrances) will be carried.

Members will take appropriate hygiene precautions during the expedition, avoid dubious food and treat drinking water from a suspicious source by boiling or treating with iodine. Antibacterial hand wash will be available in the communal kitchen area. The greatest risk is road accidents. We will ensure expedition vehicles are roadworthy and drive with appropriate care.

### Underground

When risks are correctly managed and standard procedures followed, caving in the UK is a

very safe sport. However the remoteness of our expedition, and depth of the cave being explored, introduce a number of new risks to take into consideration. The most likely causes of an incident whilst caving are exhaustion and unfamiliarity with caving techniques. Exhaustion is something that all cavers, regardless of experience, must take care to avoid. All first time expedition members will receive extensive training in the UK. Members will become familiar with each others level of experience before departure, reducing the risk of cavers being sent on trips above their competency level. Care will be taken to ensure that less experienced cavers are always paired with someone with greater experience. All members will be encouraged to undertake fitness training prior to expedition. Cavers will build up the length and depth of their trips progressively to ensure sufficient physical and mental acclimatisation can take place.

All expedition members will have personal first aid kits and will carry these at all times whilst caving. In addition, all cavers will carry spare snack food, spare batteries, a spare light, a survival bag and knife. Gear will be checked regularly for faults, and we will take a supply of spare gear to allow people to replace equipment worn or damaged during the expedition.

All teams will leave "call outs" detailing the members of the team, their time into the cave, the expected time back, the proposed aims of the trip and a time by which a search should be mounted if they fail to return. Should an incident occur underground, the first line of response will be other expedition members. A rescue training weekend will be held before expedition. The club has detailed documentation on rescue techniques and procedures and all members will be familiar with this before departure. We will write an emergency management plan (EMP) and a full Risk Assessment and Management System (RAMS) which members will be familiar with prior to expedition. Copies of all these documents will be kept in the communal kitchen area at the surface camp.

All expedition members will receive basic first aid training before leaving the UK, and a number of will have or will attain a higher level of medical training (such as the Far From Help Wilderness Medicine course). A comprehensive medical kit will be kept at the surface camp, and a full field first aid kit will be taken down to underground camp.

A full risk assessment can be viewed at the following web address:

<http://www.oucc.org.uk/current/clubdocs/Risk%20assess%20OUCC%202009.pdf>

Further information on expedition incident management can be seen in our Expedition Rescue Guide, found here: <http://www.oucc.org.uk/current/clubdocs/rescue%20guide.pdf>





## 5. Expedition Budget

Members will be expected to meet their own travel costs. In the field everyone will pay a weekly amount into a kitty, to be used to purchase food, cooking fuel and general camp sundries. We aim for payments into this kitty to cover all field sustenance expenses. Based on previous experience, the weekly kitty payment has been set at £30 a week. Members will also pay a fixed cost towards the expedition provisionally set at £80 for students and £120 for those with jobs. Members contributions have been calculated based on 20 people spending two and a half weeks each on expedition.

Estimated Expenditure  
All amounts in GBP

<b>Travel</b>	
Purchase of Vehicle	2500
Fuel	500
Ferry	200
Tolls	100
Trailer repairs	200
Helicopter	1500
<b>Sub Total</b>	<b>5000</b>
<b>Equipment</b>	
Ropes and Rigging	800
2 x 24V Cordless Hammer Drills incl batteries	800
Surface Camp	300
Underground Camp	100
Dye Trace	100
<b>Sub Total</b>	<b>2100</b>
<b>Medical</b>	
Supplies	300
Training	500
<b>Sub Total</b>	<b>800</b>
<b>In field sustenance</b>	
Food	1000
Fuel	200
<b>Sub Total</b>	<b>1200</b>
<b>Publications</b>	
Prospectus	50

OUEC Bulletin	50
Report	50
OUCC Proceedings	100
<b>Sub Total</b>	<b>250</b>
Admin and Misc	100
Contingency 10% (9450)	945
<b>TOTAL</b>	<b>10395</b>

#### Estimated Income

Members contributions (based on 120 pounds per person (80 for students))	2500
Sale of vehicle after expedition	1000
Field contributions (30 pounds per person per week)	1500
Travel with expedition	800
<b>TOTAL</b>	<b>5800</b>

#### Summary

Expenditure	10395
Income	5800
<b>Amount to be raised</b>	<b>4595</b>

#### Typical Expenditure of an Expedition Member Based on a student spending 5 weeks in the field

Contribution to expo costs	80
Travel	130
Kitty contribution	150
Personal gear purchase / maintenance*	300
Insurance	30
<b>TOTAL</b>	<b>690</b>

\*This is an average value, members on their first expedition may have to spend more as they will need to buy their whole kit.



## 6. Fundraising

We will apply for funding from grant giving bodies such as the Ghar Parau Foundation and the Royal Geographical Society. We will approach companies for sponsorship: usually this is in the form of donated food. Oxford University Sports Federation suggested we approach them for a contribution to first aid and medical training. We will also seek discounts on caving equipment purchase from caving suppliers and manufacturers. We will support student members of the expedition in applying for grants from their colleges and from the A.C. Irvine Travel Fund.

## 7. Expedition Members

Here we present a provisional list of members. We intend to recruit more members to the expedition from within the undergraduate membership of the club. We have also extended a formal invite to members of Federación d'Espeleología del Principáu d'Asturies.

The Expedition Leader (Richard Gerrish) will have overall responsibility for the expedition, including oversight of all cave diving operations. Specific responsibility for the management of cave diving operations will be taken by the Dive Leader (Tony Seddon). These two will work closely with each other to ensure smooth integration of non-diving and diving activities.

### Expedition Leader - Richard Gerrish

(Overall responsibility for entire expedition)

Richard joined his first OUCC expedition in 1999 and since then has been involved with expeditions to Austria, Mexico, Malaysia and China including exploration of the first 1000m deep cave in China and the first descent of the world's second deepest underground shaft (Miao Keng 509m). Richard has worked in the Outdoor Education industry for over 6 years and has led numerous overseas expeditions with paying clients. He holds a current Vertical Rescue Qualification from the Professional Association of Climbing Instructors and recently worked as the Training Manager for Outward Bound in Hong Kong.

### Dive Leader - Tony Seddon

(Specific responsibility for all diving related activities.)

Tony went to Oxford in October '88 and took his finals in '92 at St Anne's College. His first expedition with OUCC was in 1989, then: '90, '91, '92, '93, '94, '98, '08 and '09. He has also caved in Abkhazia, Austria, Croatia, France, Iceland, Ireland, Mexico, Slovenia, Spain and Venezuela. He was the first British caver to descend to the then current deep point of Voronya in '05. He was a member of the first team to bottom Cueva Charco (Oaxaca province, -1278m, '03). Tony is also a cave diver. His first dive was in '89 and since then has been involved in explorations in the UK and in Spain. He is a qualified rebreather and nitrox diver and a member of the Cave Diving Group. Tony holds the Cave Instructor Certificate and has worked extensively in the Outdoor Education industry including time as a Centre Manager.

### Secretary - Fleur Loveridge

Fleur matriculated at St Edmunds Hall in 1995 and graduated in Geology in 1998. She has experience of 7 previous expeditions to the Picos and a number of expeditions to China, Yemen, New Zealand and Myanmar.

### Sponsorship Officer - Callum Braithwaite

Callum has caved in the UK and Europe and has been on a caving expedition to China in 2009.

### Medical Officer - Open

### Advisor to Medical Officer - James Jordan

James is a 3<sup>rd</sup> Year Medic at St Annes College and member of OUCC, he started caving in 2008 and has been on two expeditions to Spain.

### Gear Officer - Rosa Clements

Rosa studied maths at Somerville 2001-2005 and went on her first expedition in 2002, she



has been on 5 expeditions to the Picos in total.

#### Survey Coordinator - Martin Laverty

Martin went to Brasenose College in 1972 and his first expedition to the Picos was in 1973, he has been on "quite a few more" expeditions since...

#### Media Relations - David Rose

David read Modern History at Magdalen College 1978-81 and has worked ever since as an author, broadcaster and journalist. Now 51, he started caving in the Mendip Hills when he was 10. He was a member of seven consecutive OUCC expeditions to the Picos 1980-86 and played an active part in the exploration of Pozu del Xitu. With Richard Gregson, he co-wrote the book about OUCC's Picos discoveries in this era, *Beneath the Mountains* (London, Hodder & Stoughton, 1987). After a long hiatus in which he satisfied his desire for adventure with Alpine and Himalayan mountaineering, he returned to deep caving as a member of the OUCC expedition to Asopladeru la Texa in 2009, when he emerged after a 132 hour camping trip exploring the cave's furthest reaches on the eve of his 50th birthday.

#### Expedition Photographer - Robbie Shone

Robbie has been involved in expeditions to Crete, Greece, Malaysia and China and was on the OUCC expedition to the Picos in 2008. He is an award winning cave photographer and has had numerous photographs published in magazines around the world, his photos from the 2008 OUCC expedition appeared in the Sunday Mail Newspaper.

#### Web Guru - Nick Edwards

Nick graduated from Oriel College last year with a degree in Physics. A very accomplished caver, he took part in the OUCC expedition in 2008 and was leader in 2009.

#### Cave Diver - Hilary Greaves

Hilary started caving with OUCC in 1998. Her first caving expedition was with OUCC to the Picos in 1999. Since then she has been on 14 further caving expeditions, including 5 OUCC Picos expeditions. She was an Oxford undergraduate (reading Physics and Philosophy at Catz) and from October 2009 has been a Tutorial Fellow in Philosophy at Somerville College.

#### Steve Roberts

Steve has been caving for 31 years and has been on "10 (or is it 11)" Picos Expeditions. The first one was in 1983, he led in 1985 and the last one was in 2001. He has also caved in Mexico in 1994. He has been at Oxford University since 1981 (Postdoc /research fellow till 1992, then university lecturer, now professor). He is a Lecturer in Materials Science, Fellow and Tutor in Materials Science, St Edmund Hall and he is the President of OUCC.

#### Tom Evans

Tom started caving with OUCC during his first term at Oxford in 2004. He then went on to attend three expeditions from 2005 to 2007, the highlight being the 2005 expedition when he got to the limit of exploration, beyond 1000m in depth. He studied Biological Sciences at Merton College from 2004-2007. He has also worked as a field assistant affiliated to the Zoology department in 2008.

#### Chris Sinadinos

Chris has been on 5 expeditions to the Picos, in 2003, 2004, 2006, 2007 and 2009. He was an undergraduate at Oxford from 2002 to 2006 and active with OUCC during that

time. Currently he is based in Southampton and will be based in Barcelona from Jan 2011 onwards.

John Wilcock

John was an undergraduate at Oxford from 1958 – 1961, The Queen's College where he read Physics. He first went caving in 1953 with the White Rose Pothole Club. He was the OUCC Caving Leader of the OUENS 1961 Expedition (Leader was Mike Walker) for OUCC's first expedition to the Picos (see "How it all began"). He has been on Picos expeditions in 1961, 1985, 1986, 1989, 1992, 1995, 1998, 2001 and 2005. He has also served as the British Cave Research Association Chairman and Honorary Secretary for ten years)

Paul Mackrill

Paul started caving in the 70's. He went to Sheffield University and led an expedition to the Greek Astaken plateau in 1979. He has caved extensively in all the UK areas but was brought up on the Yorkshire pots. In 1990 he moved out to France and got to know the caves round Grenoble. He is a member of the rescue team and on the committee. He is still a very active caver and climber and made the first traverse of the Swiss 4000s in 1988. For his 50th birthday he linked the bottom of the Gouffre Berger to the top of Mont Blanc in 29 hours non stop.

Andrew Mawer

Andrew is a second year medic at St. Annes College. He is a strong caver who has been a member of OUCC for the last year.

Alex McEntyre

Alex is an Oxford Undergraduate and is new to caving.

Victoria Lim

Victoria is an Oxford Undergraduate and is new to caving.

Laurynas Pliusky

Laurynas is a Post Grad at Oxford and is new to caving.

## **Home and Field Agents**

Home Agent - Gavin Lowe

Gavin is a Professor of Computer Science; Fellow and Tutor in Computer Science at St Catherine's College. He has been on numerous expeditions to Spain and China.

Field Agent - Nacho Montero

Federación d'Espeleología del Principáu d'Asturies (FESPA)

## 8. References and Acknowledgments

1 Oxford University Cave Club, Expedition Shaft-Bashing Guide, Gavin Lowe, <http://users.comlab.ox.ac.uk/gavin.lowe/Caving/Spain/total.pdf>

2 BCRA Surveying Pages, British Cave Research Association, <http://www.bcra.org.uk/surveying/>

3 "The Survex Project" <http://survex.com/>

4 <http://www.gordon.foundation.btinternet.co.uk/>

5 Ghar Parau Foundation <http://bcra.org.uk/gpf/>

6 Oxford University Cave Club Expedition Rescue Guide, Gavin Lowe <http://www.oucc.org.uk/current/clubdocs/rescue%20guide.pdf>

7 Royal Geographical Society <http://www.rgs.org>

8 Leave No Trace Principles [http://www.lnt.org/programs/principles\\_3.php](http://www.lnt.org/programs/principles_3.php)

Further information on previous OUCC Spanish expeditions can be found on the OUCC website at <http://oucc.org.uk/expeditions/expeditions-spain.htm> and in the OUCC proceedings <http://oucc.org.uk/procs/procs.htm>