

March 1995

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# **VICTORIA AND ALBERT CAVES**

## **North Yorkshire**

### **Archaeological Survey**

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The following project report is commissioned by the Yorkshire Dales  
National Park

**VICTORIA AND ALBERT CAVES**  
**North Yorkshire**

**Archaeological Survey**

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## 1. ACKNOWLEDGEMENTS

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## **2. EXECUTIVE SUMMARY**

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The Lancaster University Archaeological Unit (LUAU), at the request of the Yorkshire Dales National Park, undertook a level 3 archaeological survey (LUAU 1994) of the Victoria and Albert Caves, near Langcliffe North Yorks, between 31st October and 2nd December 1994.

The fieldwork comprised a detailed total station survey to produce an interpretative hachure and contour survey of the caves and their environs. It also systematically captured three-dimensional data of the cave internal surfaces for the production of isometric computer models and selected profiles through the cave. The cave was photographically recorded in conjunction with the digital survey

A gazetteer of selected site components was produced to provide description and interpretation in relation to the occupational history of the caves and the history of exploration.

The results of the survey were presented using 2D and 3D Computer Aided Draughting (CAD) techniques within a hachure format, a contour format and also a computer generated isometric format. The production of the detailed surface model provides the most precise and objective record of the cave surfaces that is possible with modern techniques to cover the eventuality of any further disturbance or natural collapse. It will also facilitate the management and consolidation of the caves by the Yorkshire Dales National Park.

No documentary research was included within the project brief, but the assimilation of selected sources provided by Tom Lord was incorporated within the report and gazetteer.

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### **3. INTRODUCTION**

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The Lancaster University Archaeological Unit (LUAU) has undertaken a level 3 survey (LUAU 1993) of the Victoria and Albert Caves, near Langcliffe, North Yorks, between 31st October and 2nd December 1994, at the request of the Yorkshire Dales National Park (August 26 1994, B614802, Appendix 1). Victoria and Albert caves are located on Kings Scar limestone escarpment (SD 83846505 and 83806510 respectively) above Settle, between 410m and 421m AOD. The caves are in the ownership of the Yorkshire Dales National Park and Victoria Cave is scheduled as an ancient monument (SM 13246). The archaeologically more significant of the two is Victoria Cave, by virtue of intense archaeological investigations undertaken within it: It was originally part of a subterranean water course, but its entrance had progressively become choked by the build up of frost fractured detritus around the entrance until its discovery by Joseph Jackson and Michael Horner in 1837. It then became the subject of major excavations between 1870 and 1878 by Professor Boyd-Dawkins and latterly by R.H.Tiddeman, which continued through Roman and Palaeolithic human occupation levels to a last inter-glacial hyaena occupation of the cave and mid-Pleistocene cave sediments.

The aim of the survey was to provide a full mitigation level survey in advance of conservation works, which will be necessary to make the cave safe for the visiting public. An additional aim was to provide an accurate framework for the assimilation of primary and secondary documentary sources resultant from an extended recent history of archaeological investigation. Previous surveys have been undertaken by Alan King in conjunction with excavations within and immediately outside the cave.

An LUAU project design (appendix 2) provided for the recording of the cave environs at 1:200, which was to include all topographic features and archaeological/geological remains. Relief was to be indicated by hachuring and contouring which should have a vertical contour interval of 1.0m.

The cave surveys were required at 1:20 and were to define the limits of archaeological intervention and any visible archaeological features. The form of both caves was to be recorded in close detail to enable the production of a three dimensional isometric model. The results of the fieldwork were to be produced and output via a three dimensional CAD system (Microstation) for the isometric modelling and a two dimensional CAD system for plans and sections (FastCAD).

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## 4. SURVEY METHODOLOGY

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The work was undertaken by two experienced archaeological surveyors using Carl Zeiss REC ELTA RL and ELTA 3 total stations. The survey control for the survey was accurately tied into the Ordnance Survey National Grid by closed traverse with respect to Langcliffe triangulation point and then a primary control was established over the extent of the survey area again by closed traverse. The accuracy of the control was systematically checked and found to be no worse than  $\pm 0.15\text{m}$  with respect to the National Grid and better than  $\pm 0.03\text{m}$  with respect to the internal control.

For the hachure and contour survey of the cave environs, a Carl Zeiss ELTA 3 total station was used to capture the detail points which were located along all significant topographic and archaeological features. These were then digitally transferred to a PC based survey package and crude site plots were generated. The archaeological and topographic detail was drawn up in the field with respect to the survey points marked on the ground. The digital survey data was transferred, via a DXF file format, into a CAD system (FastCAD) and the site edits were then drawn up onto the raw survey data. The archaeological drawings were then digitally superimposed with base topographic data digitised from OS 1:10,000 mapping. The final site plans were generated using a Hewlett Packard Draftmaster A0 plotter.

For the interior of the caves a reflectorless REC ELTA RL total station was used, making it possible to record the intricate detail of the cave walls without the need to place a prism on the point of detail. The accuracy of the method is slightly lower than using a conventional total station ( $\pm 0.006\text{m}$ ) but is considerably faster and can record detail up to 150m away that would otherwise be totally inaccessible. Using this instrument it was possible to record 1250 points every day and thus made it economically feasible to accurately model the interior of the cave. The cave plans were generated using a similar hand edited methodology as for the cave environs plans.

The production of five profiles through Victoria cave and three through Albert cave was verbally agreed with the National Park archaeologist. These were generated by recording a large number of closely located detail points along specific section lines and the raw XYZ data was converted into a profile format using in-house software (profile1) for subsequent hand verification. The hand drawn edits were then digitally input into a 2D CAD system.

The contour and isometric representations of the site are output formats of a digital terrain model (DTM) that was produced for the interior surfaces of the caves. The source data for the DTM were 11,200 spot heights that were surveyed using the reflectorless total station, on an approximate 1m grid across the whole cave interior; this also included raw data from the cave plan survey. The digital data was processed using the DGM3 modelling package, which generated a DTM of each surface and the resultant isometric mesh surfaces were transferred as DXF files into FastCAD 3D for the Albert cave model and into Microstation for the Victoria cave model. The FastCAD 3D package is a fast and economic method of modelling the surfaces, however it can not render the model. To save on the overall costs of the programme the more expensive modelling procedure was reserved for Victoria as outlined within the project variation of 9th November.

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Although not required within the project brief, a by-product of the modelling process was the production of a contoured floor surface of each cave at 1:50 using 0.1m contour vertical intervals, which is provided at no additional expense to the client.

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## 5. HISTORY OF INVESTIGATION

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Victoria cave has been the subject of considerable investigative research, from the last century through to the present day; however much of it has not been fully published.

### 5.1 Discovery

The discovery of Victoria cave by M Horner and J Jackson, occurred in 1837 (Brown 1925). The cave at this time was a narrow passage extending from the north side of the present cave mouth (VA23), through to the central block (VA7) and on to a terminus at VA15. Coins and other finds were discovered on a stalagmite flow stone surface and from a 'dark earth' Romano-British deposit on the north side of what is now chamber A. Following this discovery there was sporadic activity chiefly by J Jackson (Boyd-Dawkins 1874, 84-; Denny (1860), 60; Smith 1865, 218) until the start of excavations in 1870.

### 5.2 1870-8 excavations

The Boyd-Dawkins/Tiddeman excavations were undertaken between 1870 and 1878, initially by the Settle Cave Exploration Committee and subsequently by the British Association (Jackson 1938). The first stage of the excavations was the removal of the frost-fractured talus and scree at the front of the cave. This revealed considerable Romano-British deposits (0.6m thick) at a depth of 0.6m below relatively recent scree deposits. Beneath the Romano-British layers was a human occupation level that is presently believed to be late Upper Palaeolithic (Boyd-Dawkin's Neolithic horizon). The Palaeolithic layers partly overlay an extremely thick deposit of limestone scree, which was probably produced immediately following the last glacial retreat, when intense freezing and thawing could potentially result in this extent of frost fracturing. The scree overlay a bed of glacially worn boulder till, which was the morainal remains of a Devensian ice sheet (Tiddeman 1875 and 1876). Any external cave deposits from earlier glacial periods were probably removed by ice action during this last glacial period.

Inside the cave, excavations revealed a contrasting stratigraphic sequence; upper human occupation layers overlay a deep bed of laminated clays which was formed during the Devensian glacial episode. This in part overlay a deep, lower cave earth deposit which externally had been truncated by the Devensian ice sheet and it was reasoned by Tiddeman (1876) that it was deposited during the last interglacial period. The upper part of this deposit was largely sterile but in part overlay a bone bed and an earlier deposit of occupational Lower cave earth. The occupational deposit and bone bed contained a rich late Pleistocene 'Hippopotamus faunal' assemblage as defined by Sutcliffe (1960):

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**Fauna of the Lower Cave Earth in Victoria Cave (After Gascoyne et al 1981, 653)**


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<u>Species Identified</u>	<u>Common Name</u>
<i>Ursus arctos</i>	Brown Bear
<i>Crocuta crocuta</i>	Spotted Hyaena
<i>Panthera leo</i>	Lion
<i>Palaeoloxodon antiquus</i>	Straight-tusked elephant
<i>Dicerorhinus hemitoechus</i>	Narrow-nosed rhinocerus
<i>Hippopotamous amphibius</i>	Hippopotamous
<i>Megalocerus giganteus</i>	Giant deer
<i>Cervus elaphus</i>	Red deer
<i>Bos or Bisob sp.</i>	a bovine

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The faunal stratigraphic deposits appear to reflect a Hyaena occupation of the cave, during the last interglacial, which has been dated by  $^{230}\text{Th}/^{234}\text{U}$  methods to during or before the interval  $135\pm 8$  to  $114\pm 5$  KaBP (Gascoyne *et al* 1981, 654).

The present form of the cave and associated earthworks is largely attributable to these excavations. The gully in between the spoil mounds VA1 and VA3b was the product of the external excavations. The spoil mound VA4 was possibly the result of early excavations; the mound is directly in front of the original Jackson cave aperture. The more extensive spoil mounds extending along the cave slope VA1 and VA2 were produced by a later phase of excavation following the removal of the cave mouth talus deposit.

Internally the excavations were concentrated within chamber A (VA6) and extended to the aperture of cave VA14. From here an excavation trench was extended north-east (VA13) until excessive water levels forced the abandonment of this trench. A second parallel trench (VA12) was excavated adjacent to the central block which ended up at the end of chamber B (VA10).

Excavations were initiated into the area of chamber B and the cave adjacent to VA6 was excavated to a level of 416.2m. There is an irregular section at the western edge of the deposit reflecting the limit of these excavations. It is possible that the strata of VA6 (upper level) has not been subject to exploration. Excavations along passage VA8 were initiated in the hope of providing a point of access for removal of spoil, but when it was discovered that the passage was too narrow for human or wheelbarrow egress these were abandoned and the passage was backfilled (T Lord Pers Comm).

### 5.3 Later Interventions

Subsequent to the main 1870/8 excavations, there have been minor investigations in localised areas of the cave and environs. In the 1930's Tom Lord undertook explorations on the eastern side of the central block (*III*), this primarily involved cutting back the trenches of the 1870-4 excavations, at the southern extent of trench VA12 (T Lord pers comm). This revealed Pleistocene sediments and the recovery of last interglacial mammals within stalagmite flowstone. He also undertook excavations outside the original cave entrance (*V*), which revealed Romano-British horizons. The area of his excavation may have become buried beneath the spoil of later excavations (*VI*). Although the results of these explorations have not been published, the records are presently with Tom Lord.

In 1977 and 1978 Alan King undertook fieldwork and excavations both inside and outside the cave. He produced a plan of the cave and cleaned back a 1870/4 excavation trench adjacent to the entrance of cave passage VA14 (*I*). Alan King also undertook the excavation of a trench (*VI*) outside the entrance of the narrow passage VA8; the spoil from this excavation was deposited to the south overlying the area of Tom Lord's trench (*V*).

Gascoyne cut samples from a flow stone (sample 77151, Gascoyne 1992, 626) from the locality of Alan King's internal cave excavation (*III*) and using Uranium series dating methods was able to measure the formation period for this flow stone. This assay was determined as between 170 KaBP and 300 KaBP, although there was a significant growth hiatus between 220KaBP and 250KaB. Although there was stalagmite formation over an extended period there is no evidence of any mammalian activity until the last interglacial period and it is believed that this is because the entrance was blocked prior to this period (Tom Lord pers comm). The cessation of stalagmite formation may be attributable to considerable roof collapse which occurred prior to the deposition of the last interglacial mammalian strata.

In about 1980 Angela Rae cleaned back the north-eastern section (*II*) of the 1870-4 excavation trench VA10 in an attempt to identify bone material from within stalagmite flow stone to enable the calibration of Uranium-series dating methods (T Lord pers comm). To this end the exploration was unsuccessful; although some stalagmite dates were produced, unfortunately the results of the investigation have not been published.

Also in about 1980, Peter Smart of Bristol University is believed to have undertaken some Electron Spin Resonance dating from samples of laminated clay taken from an area to the west of the central block (*IV*). Further details of this work would be useful.

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## 6. SITE ASSESSMENT

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### 6.1 Victoria Cave

#### 6.1.1 Archaeological Perspective

Victoria cave is of enormous archaeological significance from the perspective of climatological studies, Pleistocene fauna, and early post-glacial settlement. However, this significance largely reflects the extensive and intensive excavations undertaken during the last century. Very few caves have been excavated as comprehensively; and within the present conservational climate it is unlikely that any others will be investigated to this extent. The evidence for the Pleistocene and Palaeolithic occupations is almost entirely dependant upon excavated finds, (mainly bone material), the excavations producing no evidence of deliberately constructed features from these occupations. Although it could be argued that the artefactual evidence suggests that the Romano-British occupation was more intensive there was again little evidence of structural features. In any case Romano-British deposits from Victoria Cave have either been excavated within Victoria Cave or have been overlain by excavated spoil outside the cave. It is therefore not particularly surprising that, despite detailed exploration of the surface evidence in the course of the three week fieldwork season, no structural features relating to these occupations were identified.

Unlike most level 3 archaeological surveys, the aim of this recording project was not to map extant, exposed surface archaeological features but to provide the topographical and geomorphological context for excavation data already generated and that which will ultimately follow. It was also to provide a mitigation record of the cave morphology and extant stratigraphy in advance of conservation works. The aims defined within the project brief are as follows:

1. To record the state of the cave complex and provide a detailed, pre-intervention record.
2. To identify archaeological and geological features and the location of previous archaeological and other scientific interventions
3. To produce 3D wire-frame models of the caves which will provide a basis for the preparation of detailed consolidation and interpretation/access specifications and assist in the examination of the visual impact of any intervention.
4. To provide information for display and interpretation purposes.

In this context the prime role of the present archaeological assessment was to define the condition of the archaeological strata, and to identify areas which retain the greatest potential for undisturbed deposits.

#### 6.1.2 Archaeological Surface Evidence

As outlined above, little evidence of former occupation survives on the surface; however, a surface exposure of faunal remains was identified at SD 83834,65062 and SD 83835,65064. Both locations are within the sectional edge of stratified deposit VA9. As required within



the brief, the finds were not disturbed and it was consequently not possible to make a faunal identification. The altitude of the find spots (*c* 418.7m AOD) would equate with Palaeolithic deposits found elsewhere within the cave.

### **6.1.3 General condition**

It would be fair to conclude that the cave has been badly affected by human intervention since its 1837 discovery. The combination of archaeological over-enthusiasm and intense visitor pressure has contributed to significant geological and archaeological damage. The 1870-8 excavations concentrated within chamber A and this area has been excavated down to the level of major roof collapse detritus at an altitude as low as 411m AOD. The original strata were, in places, up to the level of the cave roof (418.7m AOD) and therefore testify to the excavation of a considerable depth of deposits (7.7m). Most of the archaeological stratigraphy has now been destroyed and the surviving deposits, towards the lower part of the chamber, are patchy and sterile. In chamber B the excavation was less intensive, however the excavated section to the south-west of VA9 has involved the removal of stalagmite floor surfaces and most of the Palaeolithic deposits. The trenches (VA12 & VA13) between chambers D and B, have resulted in considerable disturbance to the stratified deposits, however there is likely to be a survival of earlier deposits within this locality.

Although visitor pressure cannot compete in scale with the 19th century excavation work, it has contributed to an on-going erosion over the years. There are presently very few intact stalactites remaining, in marked contrast to Albert cave where a considerable number of stalactites survive, particularly at its north-eastern end. To an extent this dearth of stalactites may have been exacerbated by the various roof falls which have occurred over the years, early accounts of the Victoria cave, however, describe many stalactites (Brown 1925, 6) and there are many scars, particularly in chamber B, where stalactites have been broken off.

Recently the cave has become popular for climbing and it is described in detail in many of the climbing guides (Desroy 1985, 47-8). As a result there are numerous belay bolts drilled into the rock faces as testament to this activity. Climbing results in the removal of loose and frost fractured rock from the faces, which restricts the potential risk to visitor from falling rock but increases the decay of the geological cave fabric.

### **6.1.4 Stratigraphic Survival**

There are three areas where there appears to be a reasonable possibility of stratigraphic survival. The first of these VA7 is a narrow deposit (1.4m wide) between the outcrop and a large fallen roof block. Its upper level is at an altitude of 418.8m AOD and is over 3m thick with respect to the floor level of trench VA12. This was a part of the original narrow chamber that extended from the original cave entrance (VA23) to its terminus at VA15. This was the area where Jackson and Horner originally found Romano-British artefacts prior to the 1870-8 excavations and there is a reasonable possibility that Romano-British deposits as well as the Palaeolithic strata survive.

The second stratigraphic survival is VA9; this deposit has been truncated by excavations on either side and survives as a raised island. The deposit is defined between the northern cave wall and the central block and is only 7.4m x 5.7m in extent. The altitude of the upper surface is 419.2m AOD, which is the highest stratified deposit surviving within the cave. It is possible that the deposit has been artificially raised by backfill, in the same way that passage VA8 has been. The existence of the faunal remains, however, eroding out of its

south-west section would suggest that there are previously unexcavated deposits within this locality. The majority of the Romano-British finds were found either outside the entrance or in the main chamber (Branigan *et al* 1991, 107). Consequently there may not be extant Romano-British deposits within this area of chamber B; but it is evident, however, that this deposit contains significant Palaeolithic material. There are also a number of flowstone floors within this deposit and it would appear to be one of the more significant extant stratified deposits.

The last stratigraphic survival is within cave passage VA11; the present upper surface is a stalagmite flowstone floor, which is still forming. The passage is longer than 15.8m and up to 4.3m wide; the furthest north-east extent of the passage is too low for human access, but with a lower floor in antiquity the passage may have been usable. The visible depth of the floor would suggest that it has formed over a considerable period and would exclude the survival of later occupational debris. In any case the upper surface altitude is only 417.7m AOD, which is markedly below other later deposits. In 1980 Angela Rae cleaned back the north-eastern section (II) of the 1870-4 excavation trench VA10 in an attempt to produce a calibrated Uranium series date. Although in the eventuality it proved impossible to produce a calibration, a possible approximate date of *c* 40ka BP was produced for one of the flowstone floors (T Lord pers comm). If confirmed this would appear to exclude the possibility of pre-Devensian occupation from this locality, but the floor may seal Pleistocene occupational deposits.

## 6.2 Albert Cave

Albert Cave has been subject to considerably less antiquarian, archaeological and visitor pressure by comparison with Victoria Cave and consequently is in a relatively good condition, with stalactites largely intact, in marked contrast to those of Victoria cave, which have been destroyed and removed during the period since its discovery. The excavations have concentrated at the south-western end of the cave and the deposits at the north-eastern end of the cave remain undisturbed. The talus and other deposits at the entrance to the cave were truncated during the excavations, but otherwise are undisturbed and may overlie occupation deposits.

The excavation of the cave interior has exposed a boulder-strewn surface to a depth of 419.8m AOD, which is only 1.2m below the level of undisturbed strata (VA19). The excavation does not appear to have bottomed onto natural; the strata extends beneath a low cave roof level that was exposed by the excavation at the north-eastern end of the trench. The excavations are unpublished and there is no knowledge of whether the excavations produced any evidence of occupation (T Lord pers comm). Therefore despite the condition of the stratified deposits the archaeological potential of the cave is presently uncertain.

## 6.3 Victoria and Albert Cave Environs

### 6.3.1 Cave VA21

The cave is remote from the main communication routes and visitor *focii*, and it consequently is not subject to visitor pressure. There is no evidence of any archaeological intervention and the cave deposits appear to be undisturbed. Despite the condition of the deposits there is no evidence at present of any occupational activity within the cave and its archaeological potential is therefore unknown.

### 6.3.2 Cave VA22

This is a narrow cave that is at least 21.7m long but only 1.6m wide; the furthest extent is unknown because it becomes inaccessible beyond that point. It is immediately adjacent to the main path leading to Victoria Cave and consequently receives a significant amount of visitor pressure. The upper surfaces of the exposed strata have been disturbed as a result; however there is no evidence of archaeological intervention and in that respect the archaeological deposits are in a good condition. However, there is no evidence at present of any occupational activity within the cave and its archaeological potential is therefore unknown.

### 6.3.3 Victoria Cave Spoil heaps

There is a complex of spoil heaps extending out from the aperture of Victoria Cave, which largely reflects the scale of internal and external intervention. The location and upper level of the spoil heaps would presumably reflect the various stages of excavation. In practice it is unlikely that spoil would have been barrowed unnecessarily upslope once it had been removed from the cave mouth and therefore the altitude of the spoil upper surface will reflect the floor level of the cave aperture at any particular stage. The lowest spoil heap (VA2, altitude 410.5m AOD) is also the most remote from the cave mouth and may be a product of the latest episode of the 1870-8 cave exploration, once the cave opening had been reduced to its present level.

Spoil heaps VA1 and VA3b have a similar upper level (413.0m AOD) and may have been a product of the same episode of excavation. The two spoil heaps are divided by a narrow access gully which may have been excavated after the deposition of the spoil heaps to allow access to the cave, and the removal of spoil from it. These two spoil heaps contain the largest volume of spoil and therefore probably relate to the most intensive phase of the 1870-8 excavations.

Spoil heap VA3a is at an altitude of *c* 416m AOD and was probably the product of an earlier phase of the 1870-8 excavations before the cave mouth had been excavated fully.

Spoil heap VA4 has an upper altitude of 418.5m AOD and is adjacent to the original aperture of the cave (VA23) and therefore may possibly reflect very early excavations, by Jackson, prior to the advent of the 1870-8 excavations, which were started further to the south-east. However, the spoil heap is also immediately adjacent to the area of Tom Lords excavation undertaken during the 1930's and may be a product of, or have been augmented by, these interventions.

Spoil heap VA5 is a small spoil heap with an upper level of 420m AOD which is adjacent to the 1977 excavations of Alan King and it is likely that this was produced by those same excavations.

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## 7. GAZETTEER OF FEATURES

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**Feature No:** 1  
**Location:** Victoria Cave Environs - SD 83826501  
**Feature Type:** Spoil Heap  
**Dimensions:** 31m x 6.1m (upper surface) x c. 6m depth  
**Description:** An excavation spoil heap from the 1870-8 excavations which overlies an area of natural scree. Photographs taken prior to the excavations show the marked absence of the spoil heaps and that the scree was largely undisturbed in the course of the excavations. The spoil heap upper surface is at c 412m AOD and this spoil heap probably relates to later episodes of excavation following the clearing of the substantial talus deposits at the mouth of the cave.

**Condition:** The spoil heap is in a good, largely undisturbed condition, although there is limited pedestrian disturbance at the northern end.

**Feature No:** 2  
**Location:** Victoria Cave Environs  
**Feature Type:** Spoil Heap  
**Dimensions:** 10m x 2.4m (upper surface) x 4m depth  
**Description:** A small spoil heap on the steep slopes in front of the cave produced during the excavations of 1870-8. Its upper level is c 410m AOD and is up to 2m below the adjacent spoil heap VA1 and must again relate to a later period of excavation, following the clearing of the substantial talus deposits at the mouth of the cave. It is partly overlain by the lower of VA3 spoil heaps

**Condition:** It has been disturbed by a footpath coming up from the northern end of the main wall side footpath, but otherwise is in a good condition.

**Feature No:** 3  
**Location:** Victoria Cave Environs - SD 83816503,  
SD 8381165026  
**Feature Type:** Spoil Heap \*  
**Dimensions:** a: 13.4m x 3.8m b: 13.9m x 4.01m  
**Altitude:** a: 416m AOD b: 413.0m AOD  
**Description:** A pair of adjacent spoil heaps on a steep crag side slope and was produced during the excavations of 1870-8. The upper surface of the higher spoil heap is c 416.0m, which would suggest that it was the product of an earlier episode of excavation before the cave aperture had been completely cleared. The altitude of the upper surface of the lower spoil heap is 413.0m AOD and therefore may relate to a later stage of the excavations.

**Condition:** Good, relatively undisturbed condition

**Feature No:** 4

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**Location:** Victoria Cave Environs - SD 8381365040  
**Feature Type:** Spoil Heap  
**Dimensions:** 5.0m x 4.5m

**Description:** A small, somewhat irregular spoil heap which has an upper level at about 418.0m AOD and presumably does not relate to the later episodes of the 1870-8 excavations. It could however be a product of either an early phase of the 1870-8 excavations, because it is at the same altitude as the original cave entrance. Alternatively it could be a product of the excavations by Tom Lord in the 1930's which were undertaken with this area (v).

**Condition:** Relatively good condition

**Feature No:** 5  
**Location:** Victoria Cave Environs - SD 8381365050  
**Feature Type:** Spoil Heap and excavation trench  
**Dimensions:** Upper surface spoil heap: 4.5m x 3.1m

**Description:** A small spoil heap adjacent to a trench excavated by Alan King in 1977, which is at the entrance of cave passage VA8. The spoil heap has an upper altitude of 419.2m and is not well placed to have been used during the 1870-8 excavations and therefore it is most probable that this was the product of the 1977 excavations.

The excavation trench was orientated south-west/north-east, extending out from the entrance of the passage. The extant rock outcrops closely define the area available for excavation, however the edges of the former trench are not particularly well-defined at present. The results of these excavations have not been fully published and the detailed results are not known to the author.

**Condition:** Good overall condition

**Feature No:** 6  
**Location:** Victoria Cave, Chamber A  
**Feature Type:** Excavation Area  
**Dimensions:** Altitude: c.411m to 416.0m

**Description:** The present boulder strewn surface of the main section of chamber A was the main area of the 1870-8 excavations. The lowest level of the cave in this area is at c 411.0m AOD. The present ground surface is covered with the irregular rock material following considerable roof collapse which occurred prior to the last interglacial period of hyaena occupation. There appears to be bedrock protruding in places though the collapsed boulder material and it would appear that this is genuinely close to the lower limit of the cave. In the lower sections of the area there is some of the lower laminated clays surviving, where as in the higher sections, adjacent to the central block are exposed deposits of the upper laminated clays. There are no human occupation layers surviving within this area of chamber A.

**Condition:** The area has been extensively excavated and there are only very limited amounts of extant archaeological deposits.

**Feature No:** 7  
**Location:** Victoria Cave, Central Block

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**Feature Type:** Archaeological Occupation Deposit  
**Dimensions:** 7.0m x 1.4m x at least 3.0m thick (with respect to floor level of trench VA12)  
**Altitude:** Upper surface - 418.8m

**Description:** An intact stratigraphic deposit sandwiched between an upright cave wall and a fallen roof block; it has been truncated at each end by the 1870-4 excavations. The exposed section on the western side is up to 2.5m in depth. The large block to the south of VA5 is resting on pre-laminated clays and would appear to be a collapsed roof section. There is some relatively ancient graphiti, adjacent to the top of this fallen block, which would suggest that the top of the block has been exposed at least since the end of the 1870-8 excavations. This stratified deposit is on the line of the original cave section discovered by Jackson/Horner in 1937. The narrow chamber, as then, extended from the low cave mouth at VA23, through this section to VA15. This is the only surviving section of that original surface. Romano-British finds have been discovered along this passage and at about this level (418.8m AOD) and there is a possibility that this represents an undisturbed block of stratigraphy and may still include Romano-British deposits.

**Condition:** This block of stratigraphy represents one of the best survivals of post 1870-4 strata within the cave and may even incorporate some Romano-British levels. It is presently protected to the south by a large detached, fallen roof block

**Feature No:** 8  
**Location:** Victoria Cave, Chamber B  
**Feature Type:** Cave Passage  
**Dimensions:** 9.1m x 1.1m

**Description:** A narrow cave passage which provides access between chamber B and the outside; it is however almost too narrow for human passage. It was excavated during the 1870-4 excavations in order to provide an outlet for spoil during the excavation of chamber B. However, the excavation of the passage was abandoned as soon as it was discovered that it could not be used by wheel barrows. The present relatively high altitude of the upper level of this passage floor is probably attributable to backfill rather than undisturbed strata (Tom Lord pers comm).

**Condition:** Disturbed backfill deposit, overlaying possible Pleistocene stratigraphy, truncated at the eastern end by the 1870-4 excavations of chamber B.

**Feature No:** 9  
**Location:** Victoria Cave, Chamber B  
**Feature Type:** Archaeological Occupation Deposit  
**Dimensions:** 7.4m x 5.7m  
**Altitude:** Upper surface - 419.2m

**Description:** A substantial deposit of upper cave earth within chamber B; it is truncated to the south-west and north-east by the 1870-8 excavations. The level of the upper surface of the deposit is 419.2m AOD and there is a possibility that it was not significantly disturbed during the earlier excavations and may even contain intact Romano-British deposits (Tom Lord pers comm). The section at the south-west end contains disturbed, out of situ blocks of flowstone, and there is an insitu element of flowstone in the north-east section at a level of c 418.2m AOD suggesting that there is a flow stone floor at about 1.0m below the present surface. A large roof fallen block protrudes from the upper surface of the deposit. Faunal

remains have become exposed from the south-western section of the extant deposit (at about SD 83836.7, 65065.3); they were specifically left undisturbed as required within the brief and it has therefore not been possible to identify the faunal species.

**Condition:** The condition of the deposit is relatively good, by comparison with other more comprehensively excavated areas of the cave. It may incorporate extant later stratigraphic deposits.

**Feature No:** 10  
**Location:** Victoria Cave - Chamber B  
**Feature Type:** Excavation Trench  
**Dimensions:** 3.5m x 4.7m depth of trench c3.0m with respect to VAC 9  
**Altitude:** Trench floor - 416.4

**Description:** During the 1870/8 excavations Tiddeman excavated a trench around the eastern side of the central block (VAC12) and was able to connect Chambers A/D to B. VAC10 is that connection point; it cuts through a series of flowstone floors which are exposed in the north-east /south-west section edges of this trench. One of these floors is still forming in the adjacent passage VAC 11. Excavation and section recording by Angel Rae was undertaken at the north-east section of this trench (*II*) and was able to produce a Uranium series date for one of the buried flowstone floors of about *c* 40ka (Tom Lord pers comm).

**Condition:** The excavation has caused considerable damage to the strata in this immediate locality. There is however extant archaeological stratigraphy on either side (VA9 & VA11) which is in relatively good condition.

**Feature No:** 11  
**Location:** Victoria Cave  
**Feature Type:** Cave Passage  
**Dimensions:** > 15.8m x 4.3m  
**Altitude:** At south-western aperture - 417.7m

**Description:** A cave passage extending from the end of chamber B. It presently has a flowstone stalagmite floor, which is still forming. The floor level is close to the cave ceiling, and human passage is presently difficult. The cave passage has not been explored and the archaeological stratigraphy is on present knowledge undisturbed. The adjacent excavation trench VA10 has cut through this stratigraphy which would appear to incorporate more than one flow stone floor surface. It was not possible to survey using an instrument, within the tight confines of this passage, and therefore there is only height information available at the south-western entrance.

**Condition:** The archaeological stratigraphy is sealed by a stalagmite floor, providing excellent preservation of these deposits.

**Feature No:** 12  
**Location:** Victoria Cave  
**Feature Type:** Excavation Trench  
**Dimensions:** 15.6m x 3.08m

**Altitude:** **Lowest altitude - 414.6m**

**Description:** A trench excavated by Tiddeman during the 1870-8 excavations, following the abandonment of the adjacent trench VA13. It provided the connection between chambers A and B and was excavated in an attempt to identify lower deposits, possibly relating to an earlier interglacial. No earlier interglacial episode was identified, however it appears that the bedrock floor was not reached during the excavation of this trench.

This trench is divided from the adjacent trench VA12 by a large clay ridge.

**Condition:** By virtue of the excavation considerable disturbance has taken place to the local stratigraphy, however there is likely to be extant archaeological stratigraphy beneath the present lower limit of the trench.

**Feature No:** **13**

**Location:** **Victoria Cave**

**Feature Type:** **Excavation Trench**

**Dimensions:** **15.1m x 1.7m**

**Altitude:** **Lowest altitude - 414.2m**

**Description:** A trench excavated by Tiddeman during the 1870-8 excavations in an attempt to identify lower deposits, possibly relating to an earlier interglacial. The excavation was abandoned because of flooding and even now there are considerable amounts of standing water within the area. A very narrow side passage was exposed at the northern end of the trench. This trench is divided from the adjacent trench VA12 by a large clay ridge.

**Condition:** By virtue of the excavation considerable disturbance has taken place to the local stratigraphy, however there is likely to be extant archaeological stratigraphy beneath the present lower limit of the trench and also adjacent to the narrow trench.

**Feature No:** **14**

**Location:** **Victoria Cave - Chamber D**

**Feature Type:** **Cave passage**

**Dimensions:** **> 19.5m x 2.05m**

**Altitude:** **414.6m - 411.1m AOD**

**Description:** This is the line of a former stream passage, and becomes impassable to humans after c 22m. It may have been a nesting area for Hyaenas during the last interglacial occupation (Tom Lord pers comm) as they tend to seek out isolated enclosed spaces for nesting and the cave was apparently open at the time of this occupation. There is, however, no definitive faunal evidence of such an occupation at present.

**Condition:** It is not known by the author to what extent the cave was disturbed by the 1870-8 excavations.

**Feature No:** **15**

**Location:** **Victoria Cave - SD 8384865062**

**Feature Type:** **Southern end of trench VA12**

**Altitude:** **414.7m AOD**

**Description:** This is the location of the end of the original passage that extended over the top of the central block; it also coincide with the south-western end of trench VA12. It is at the edge of a section of cave bedding plane which provides the roof of trench VA12. The area has been extensively disturbed by the 1870-8 excavations and also excavations by Tom



Lord in the 1930's (III). There is nevertheless intact archaeological stratigraphy beneath the floor of the trenches at this point.

**Condition:** The location has been stratigraphically disturbed but there is probably intact Pleistocene strata still preserved beneath the present level.

**Feature No:** 16  
**Location:** Albert Cave Environs  
**Feature Type:** Spoil Heap  
**Dimensions:** 6.4m x 3.1m  
**Altitude:** 420.4m AOD

**Description:** A spoil heap adjacent to the entrance of Albert Cave, the altitude of the upper surface is similar to that of the cave entrance and it is clear that this was produced during the excavation of the cave.

**Condition:** The spoil heap is largely undisturbed.

**Feature No:** 17  
**Location:** Albert Cave  
**Feature Type:** Cave entrance talus  
**Altitude:** Top of talus deposit - 421.5m  
Trench floor adjacent to talus deposit - 420.7m

**Description:** A substantial deposit of talus and frost fractured material at the entrance of Albert cave. The material is mainly large blocks and is in places partly overgrown with turf. The north-east side has been truncated by an excavation within the cave. the height difference between the top and base of the truncated section of the talus is 0.8m.

**Condition:** The talus material produced by frost fracturing may protect archaeological deposits, similar to those recorded at the entrance of Victoria Cave.

**Feature No:** 18  
**Location:** Albert Cave  
**Feature Type:** Excavation Trench  
**Dimensions:** 14.6m x 2.5m  
**Altitude:** Lowest point - 419.8m

**Description:** The south-west section of the cave has been excavated to a maximum depth of 419.8m AOD which is 1.2m below the top of the excavation north-east section. The excavation is unpublished and it is not known either who undertook the excavations and when (Tom Lord pers comm). There is also no knowledge of the excavations producing any evidence of occupation. There is intact archaeological stratigraphy beneath the lowest point of the excavation, and there is a passage extending at a low level beneath a low cave roof level from the north-eastern end of the excavation trench.

**Condition:** Despite the antiquarian disturbance there is potentially significant extant archaeological deposits beneath the present trench floor level. It is possible that the excavations were abandoned because no evidence of faunal or human occupation was identified.

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**Feature No:** 19  
**Location:** Albert cave  
**Feature Type:** Archaeological Cave Deposit  
**Dimensions:**

**Description:** The deposits at the back (north-east) end of the cave are largely undisturbed. The upper surface is very undulating and in places there are flowstone stalagmites on the surface which are testament to the condition of the strata. Where the deposits have been cut by excavation (VA18) or by natural processes (VA20) there is evidence that the stratigraphy has a depth of at the very least 1.0m.

**Condition:** Very good undisturbed stratigraphy

**Feature No:** 20  
**Location:** Albert Cave  
**Feature Type:** Drain Hole  
**Dimensions:** 1.6m x 1.0m  
**Altitude:** Upper level: 419.2m

**Description:** An irregular, straight sided hole through clay soils, leading to a small stream passage. This would appear to be a natural feature, largely formed by water erosion. The reason for the vertical sides is that the upper level coincides with a stalagmite floor and the resilience of this calcareous deposits to further erosion has restricted the upper expansion of the hole.

**Condition:** Good

**Feature No:** 21  
**Location:** Victoria and Albert Cave Environs  
**Feature Type:** Cave  
**Dimensions:** >13.2m x 2.7m

**Description:** The cave has a moderate slope extending down from the cave entrance to a steep scarp slope that leads to a stream sink hole. The cave is remote from the main paths and it is not visible from the area of Victoria Cave; consequently it has received few visitors and has not been subject to visitor erosion. There is no evidence of spoil outside the entrance and there is no evidence of artificial disturbance within the cave and it would appear that it has not been subject to antiquarian activity.

**Condition:** The strata have not been disturbed by either visitor pressure or antiquarian activity and any archaeological strata is likely to be in a good condition.

**Feature No:** 22  
**Location:** Victoria and Albert Cave Environs  
**Feature Type:** Cave  
**Dimensions:** > 21.7m x 1.6m

**Description:** A narrow cave which contains relatively intact cave strata. Its aperture is adjacent to the main path to Victoria Cave and it has consequently received a significant number of visitors; visitor erosion has caused a limited amount of strata damage. There is no spoil in front of the cave aperture and there is no evidence of antiquarian activity within the cave.

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**Condition:** Despite the visitor erosion, the cave has not been disturbed by excavation and may contain intact archaeological stratigraphy.

**Feature No:** 23  
**Location:** Victoria Cave  
**Feature Type:** Cave Entrance  
**Dimensions:** 5.3m x 1.6m  
**Altitude:** c.420m AOD

**Description:** This is the location of the former cave entrance, prior to the excavations of 1870-8. It was the aperture used by Horner when he discovered the cave and was the aperture used during the Romano-British occupation of the cave. Significant Romano-British deposits were identified both immediately outside and within the narrow cave passage that extended from this opening. There used to be an upstanding block defining the southern edge of the cave entrance, however this collapsed following the 19th century excavations.

**Condition:** The character and form of the cave aperture has changed enormously, because of the collapse of the upstanding block and the excavation of the adjacent cave floor deposits. The former cave entrance is now exposed and substantially raised above the present cave floor.

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## **APPENDIX 1**

## **SURVEY DRAWINGS**

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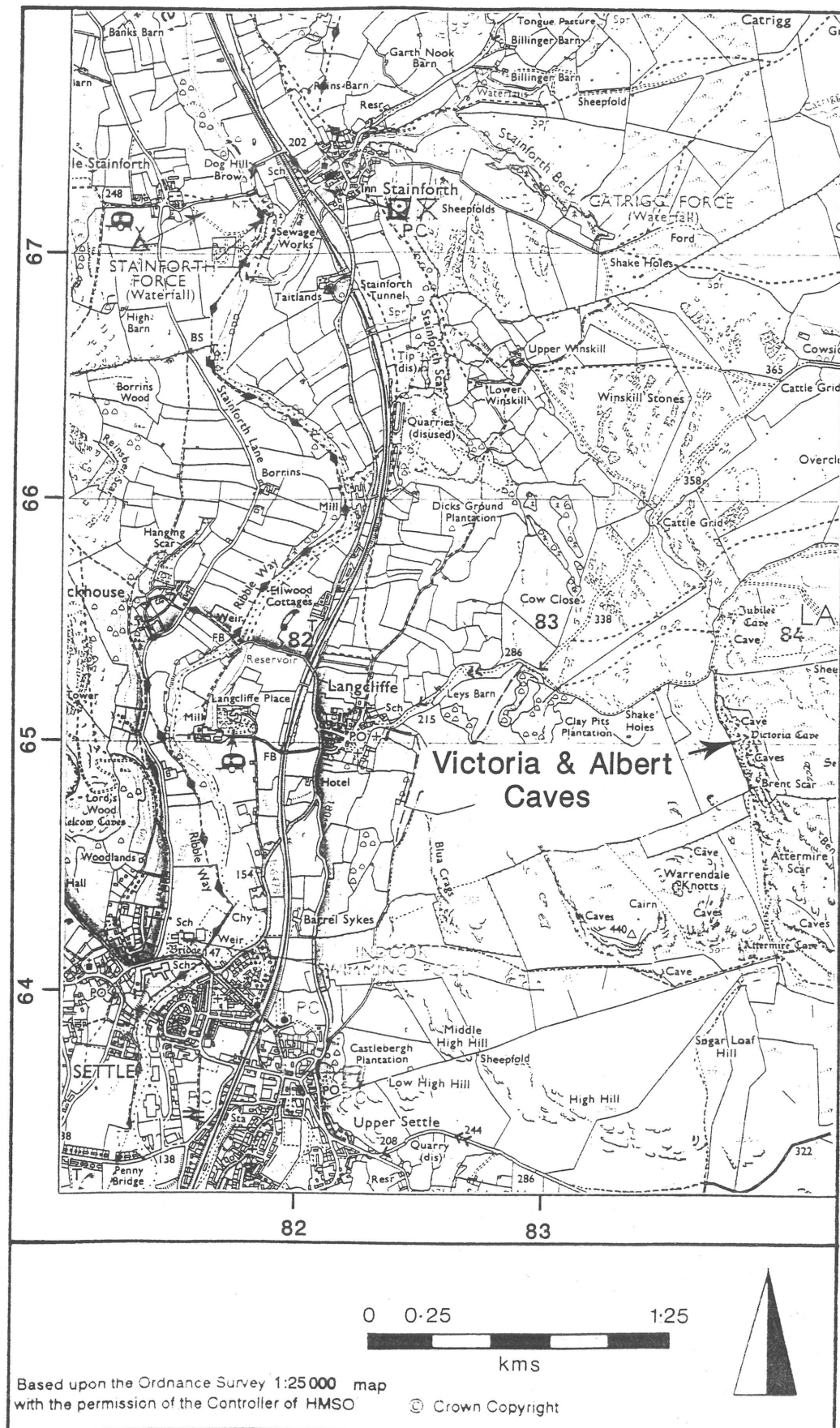


Fig.1 Victoria and Albert Caves site location plan



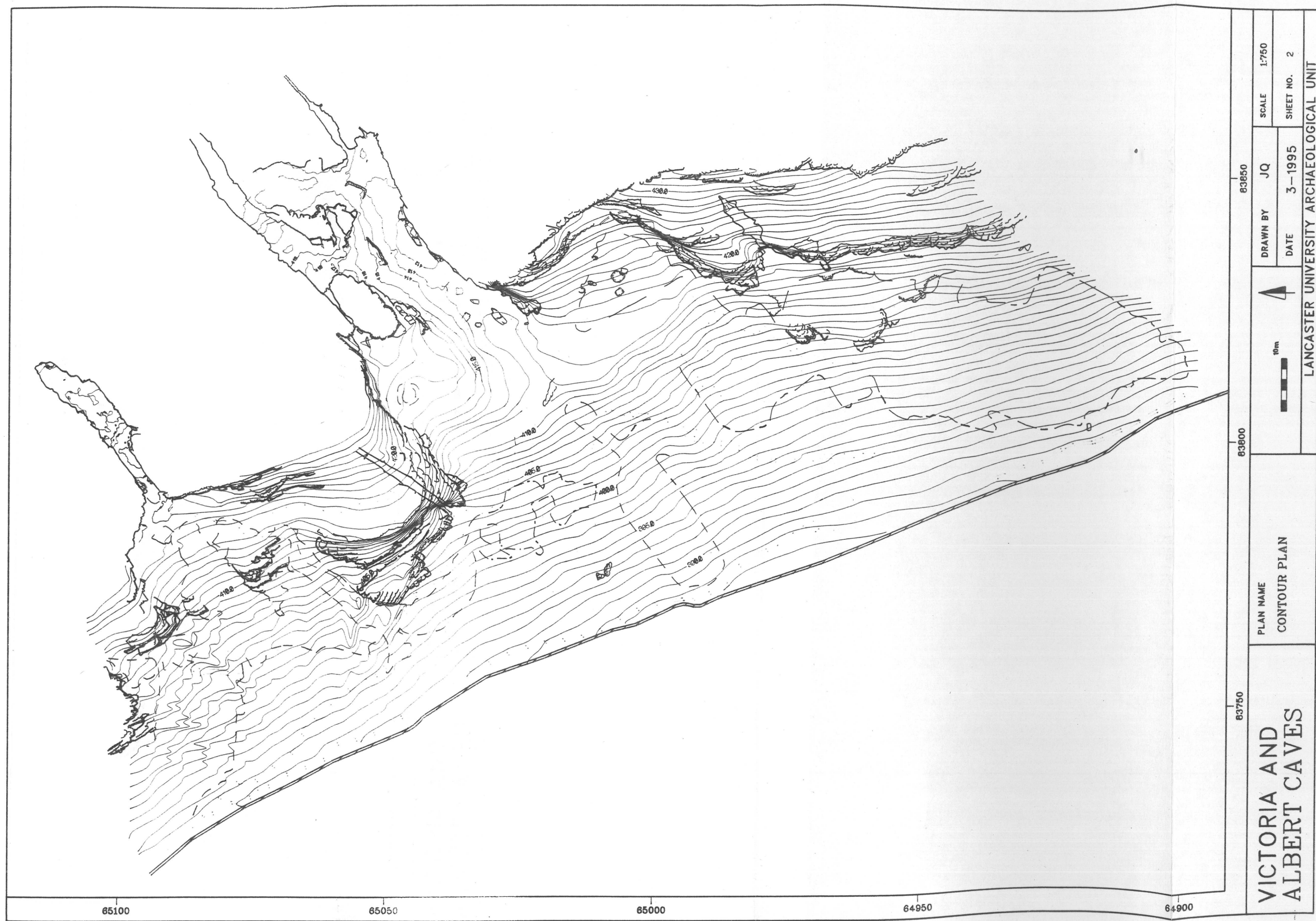


Fig 2 General contour map of cave environs

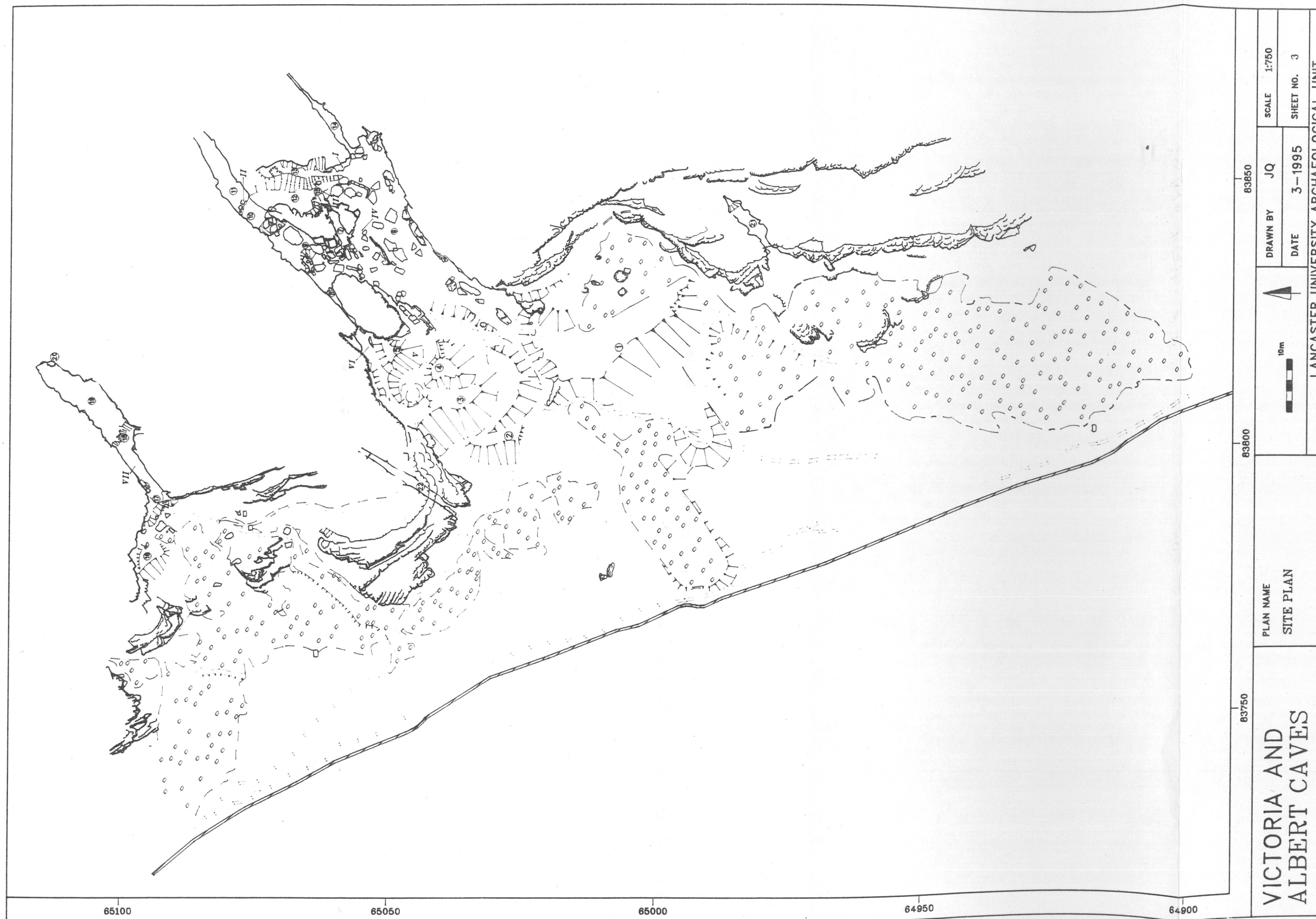
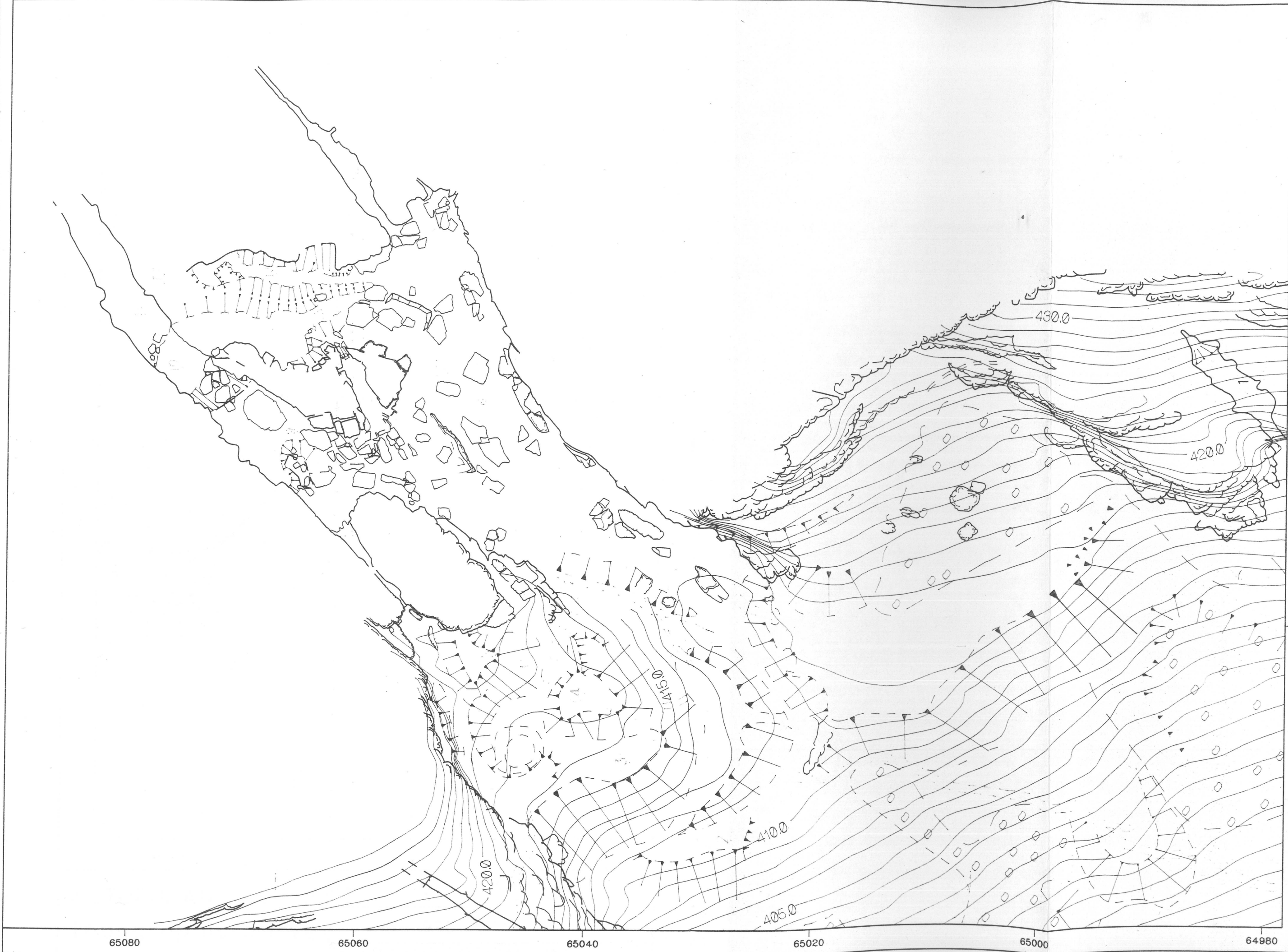


Fig 3 General hachure map of cave environs







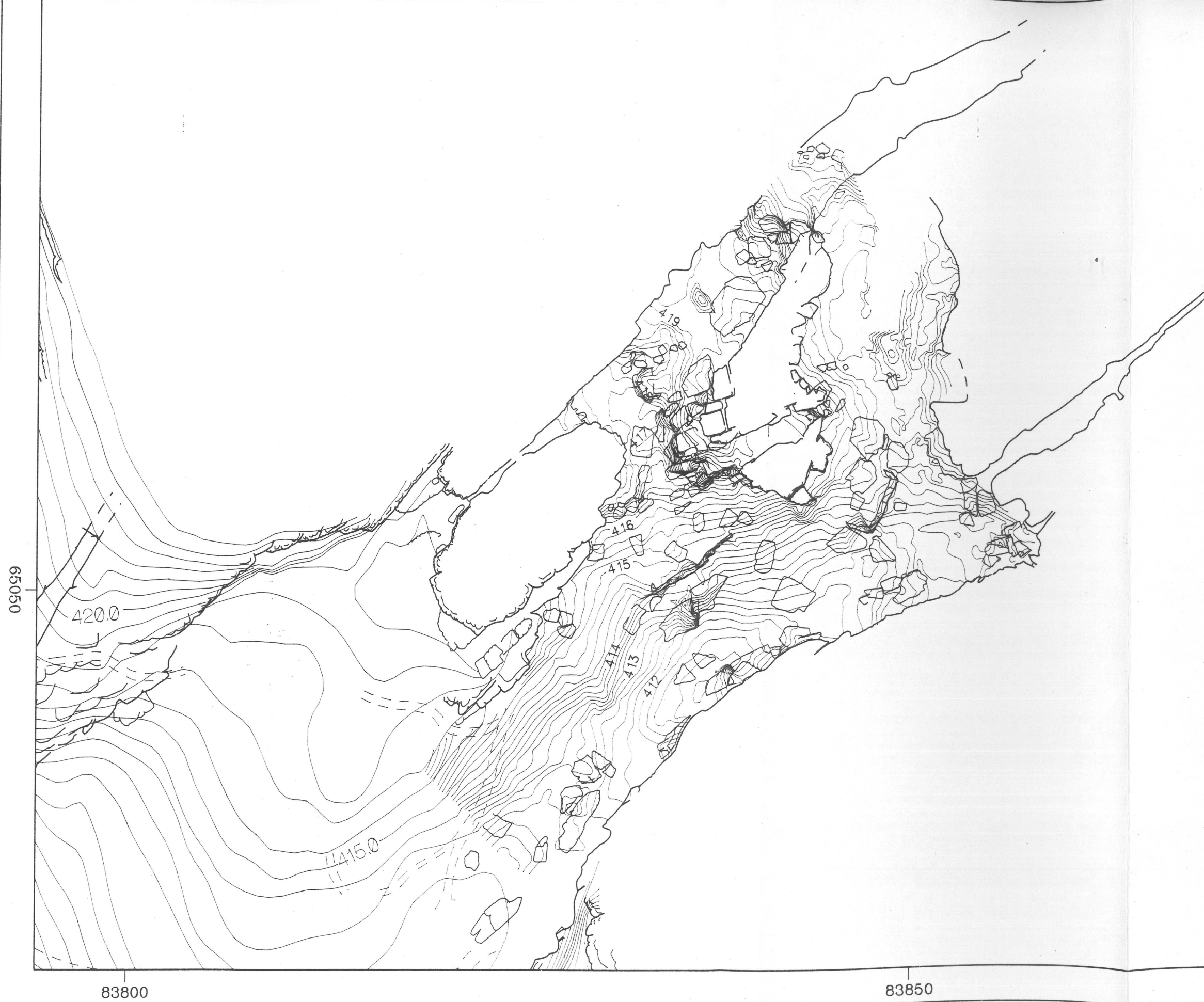
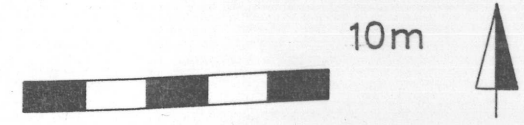
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			DATE 3-1995		SHEET NO. 4
			LANCASTER UNIVERSITY ARCHAEOLOGICAL UNIT		

Fig 4 Hachure and contour map of Victoria Cave area



VICTORIA AND ALBERT CAVES  
Topographic Survey

PLAN NAME  
Victoria Cave



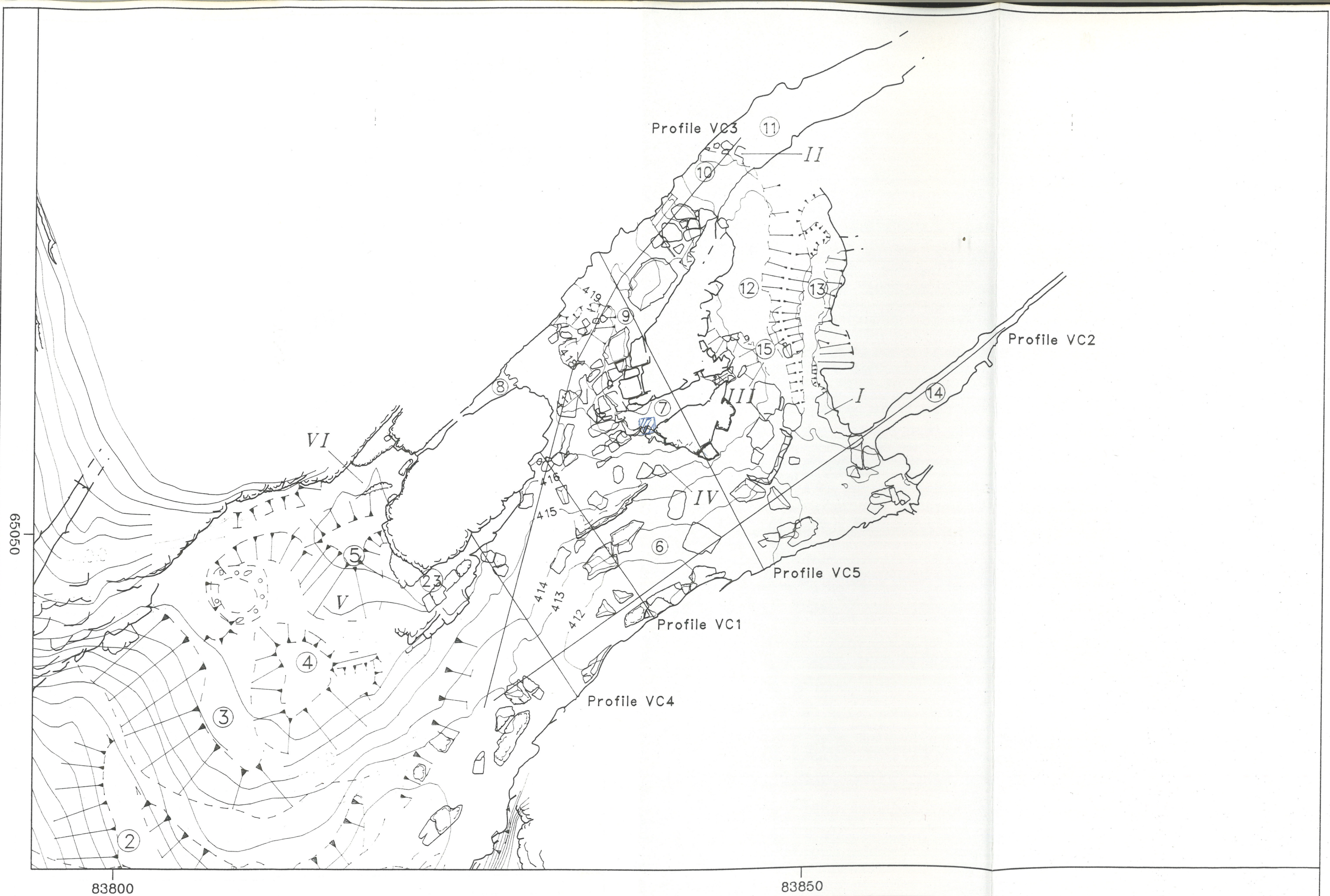
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LANCASTER UNIVERSITY ARCHAEOLOGICAL UNIT

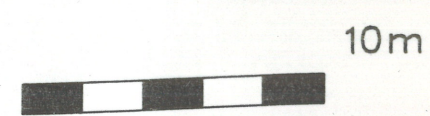
Fig 5 Contour Map of Victoria Cave





# VICTORIA AND ALBERT CAVES Topographic Survey

PLAN NAME  
Victoria Cave



DRAWN BY JQ

SCALE 1:125 at A1  
1:250 at A3

DATE 3-1995

SHEET NO. 6

LANCASTER UNIVERSITY ARCHAEOLOGICAL UNIT

Fig 6 Hachure and 1m contour map of Victoria Cave



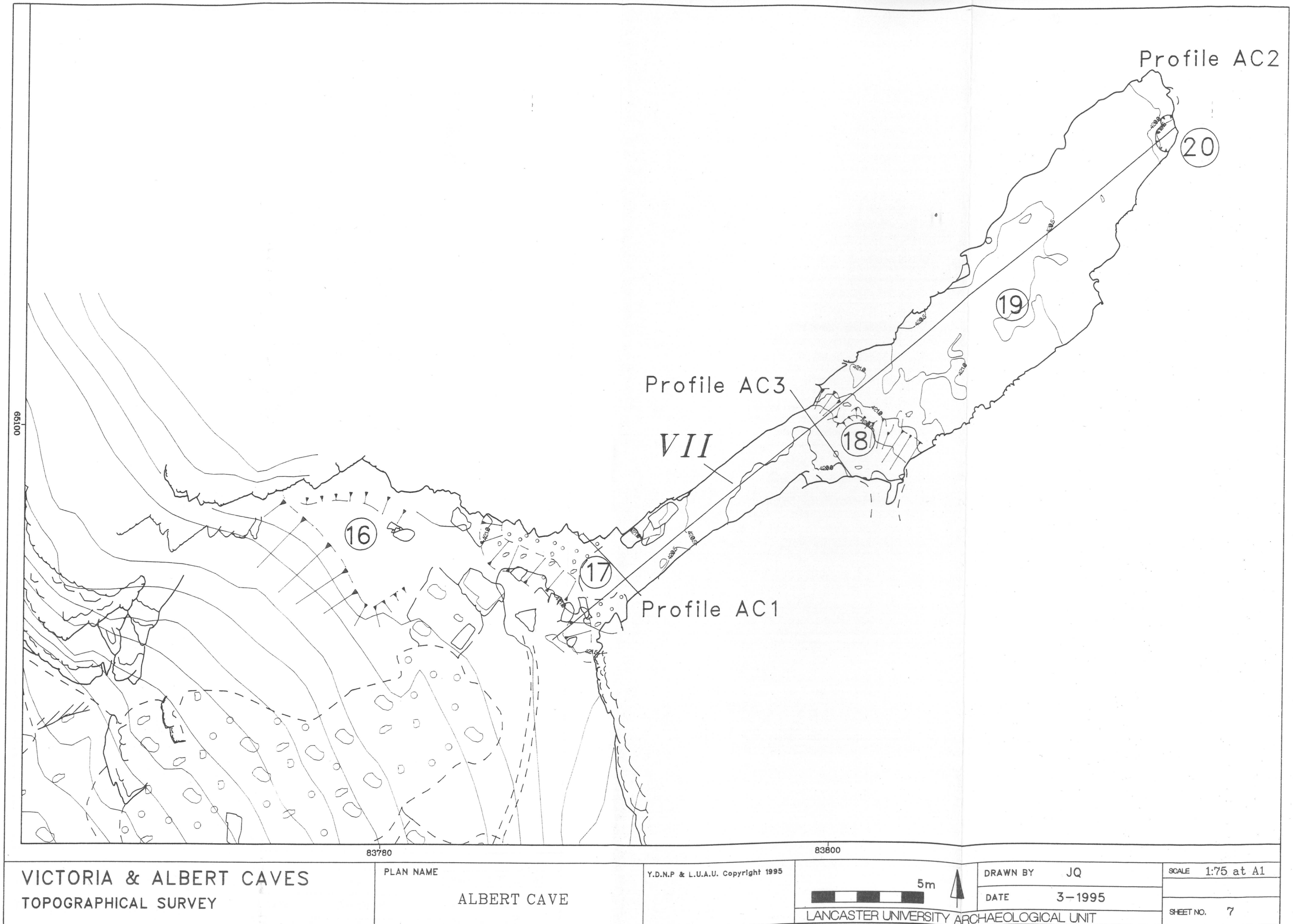
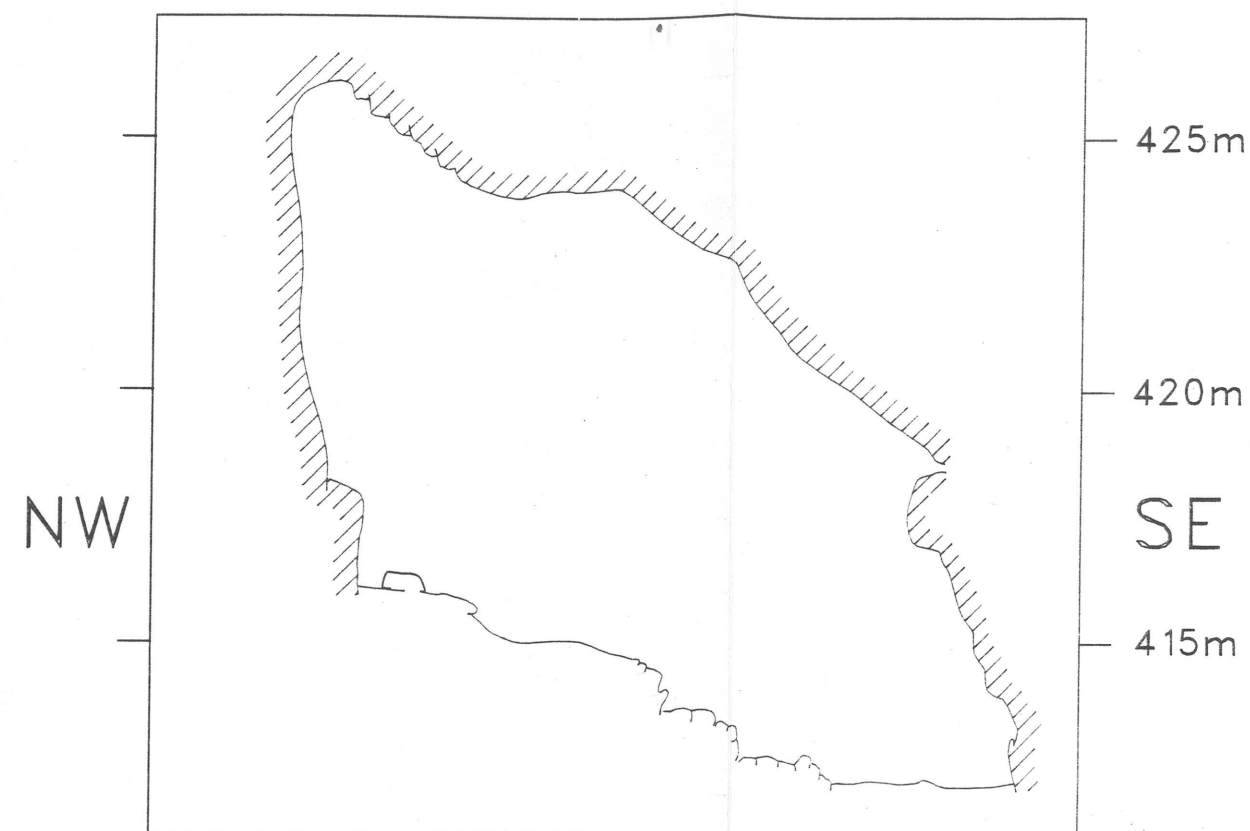
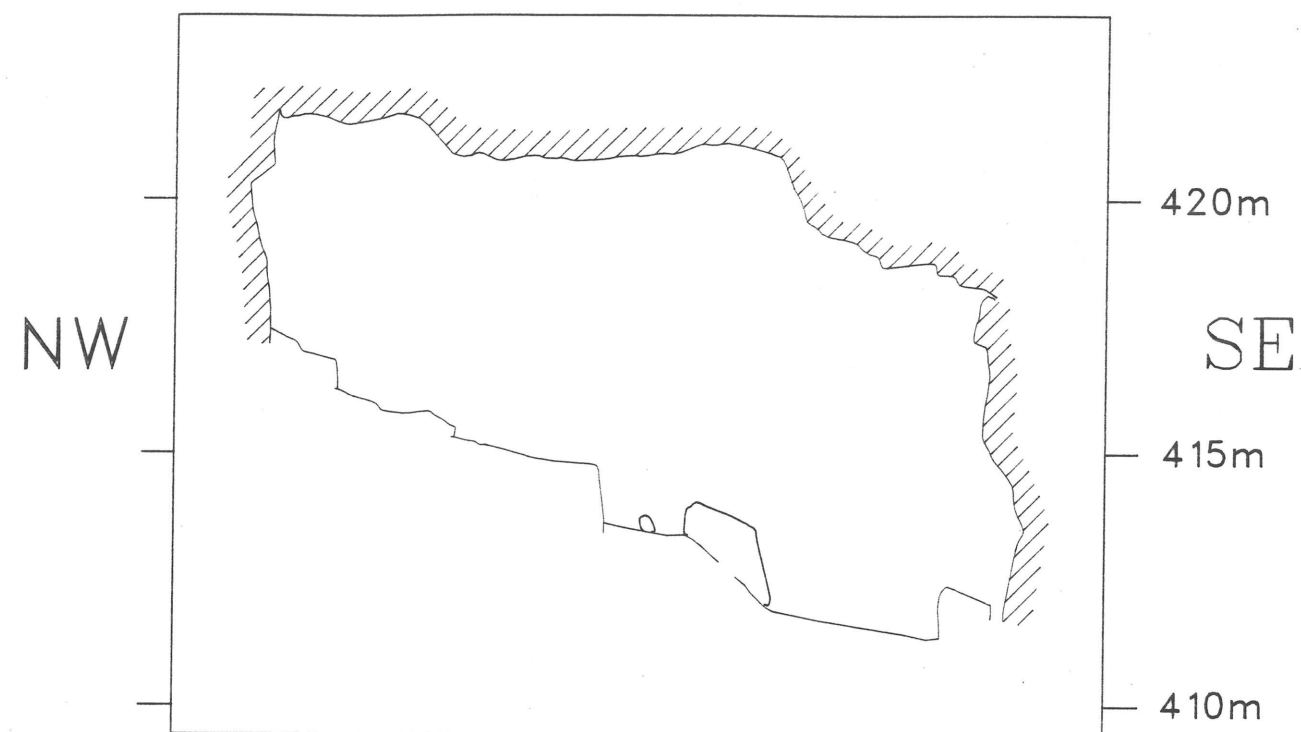


Fig 7 Hachure and 1m contour map of *Albert Cave*





Key

 Limestone

 Soil matrix

VICTORIA & ALBERT CAVES  
TOPOGRAPHICAL SURVEY

PLAN NAME

VICTORIA CAVE PROFILES

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 5m

LANCASTER UNIVERSITY ARCHAEOLOGICAL UNIT

DRAWN BY JQ

DATE 3-1995

SCALE 1:150

SHEET NO. 9

Fig 9 Victoria Cave profiles VC1 and VC4



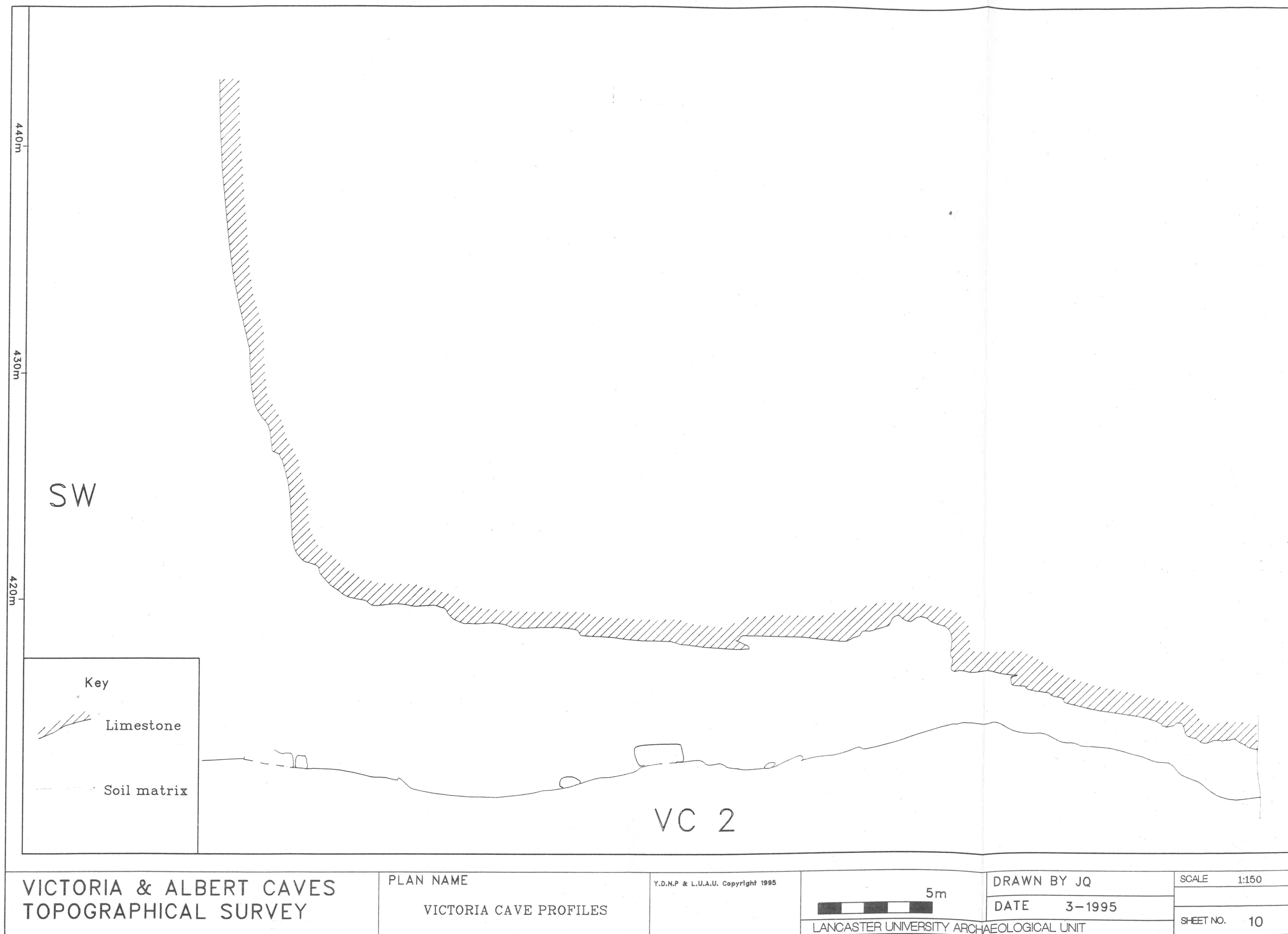
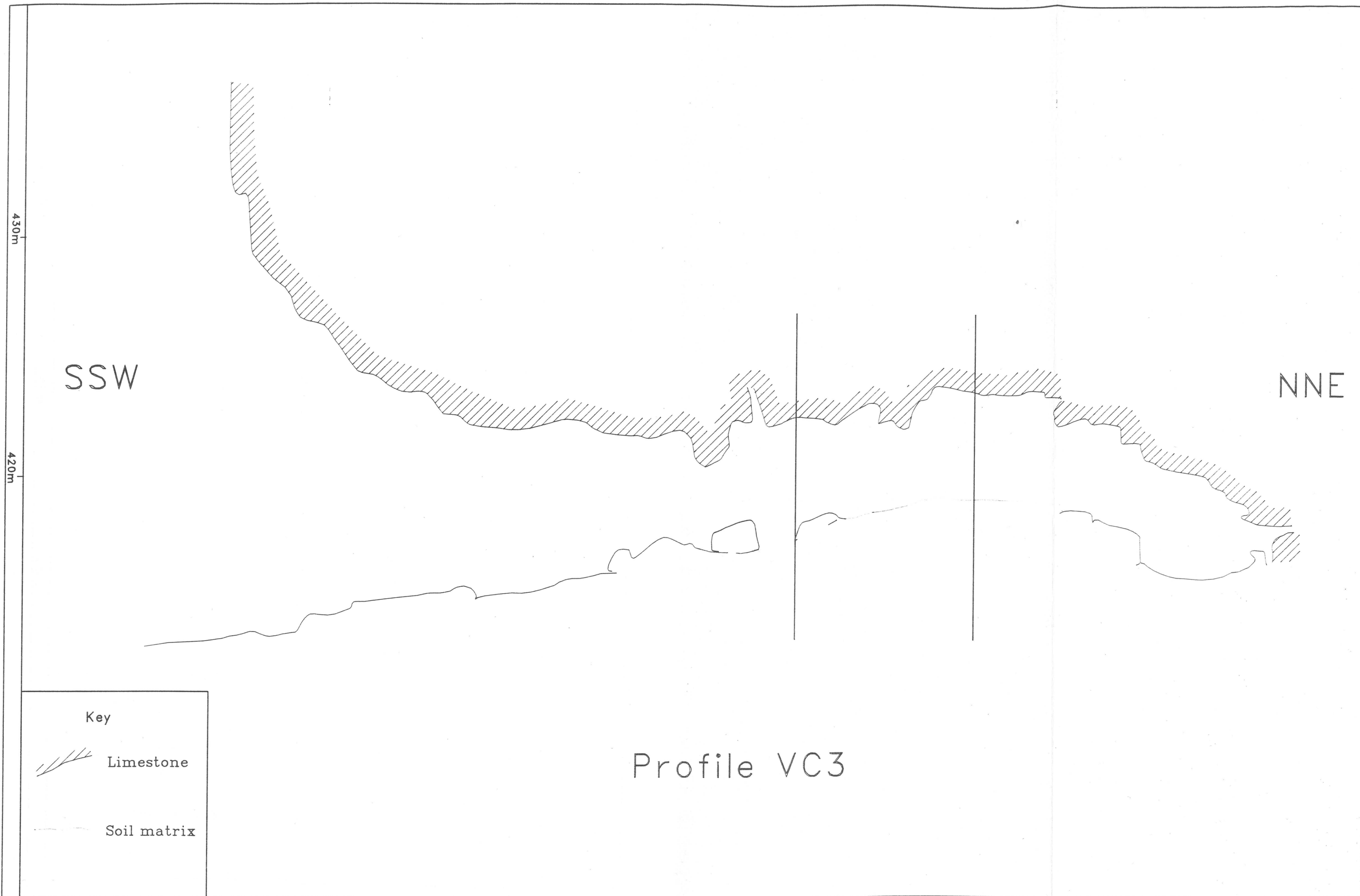


Fig 10 Victoria Cave profile VC2




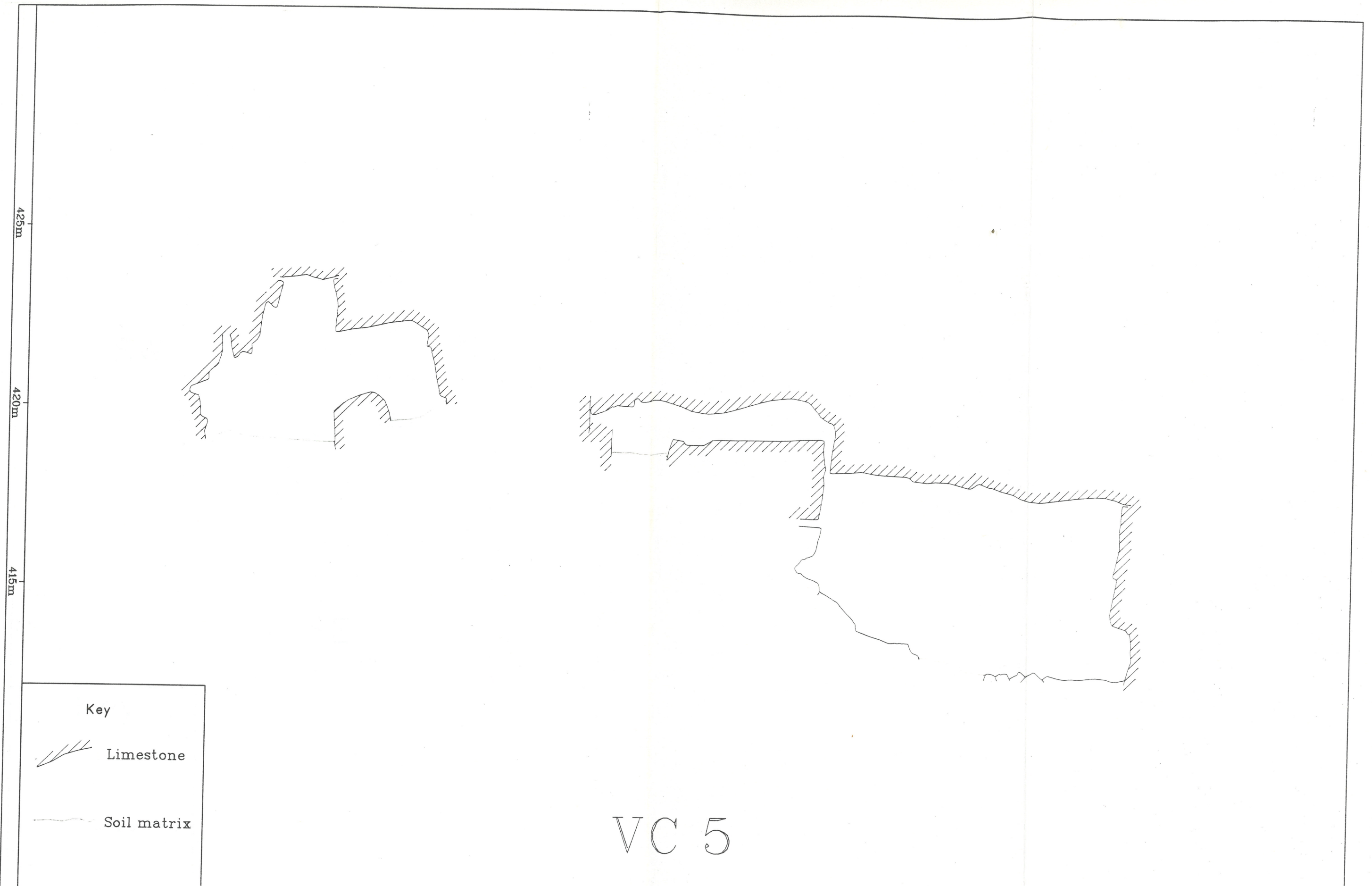
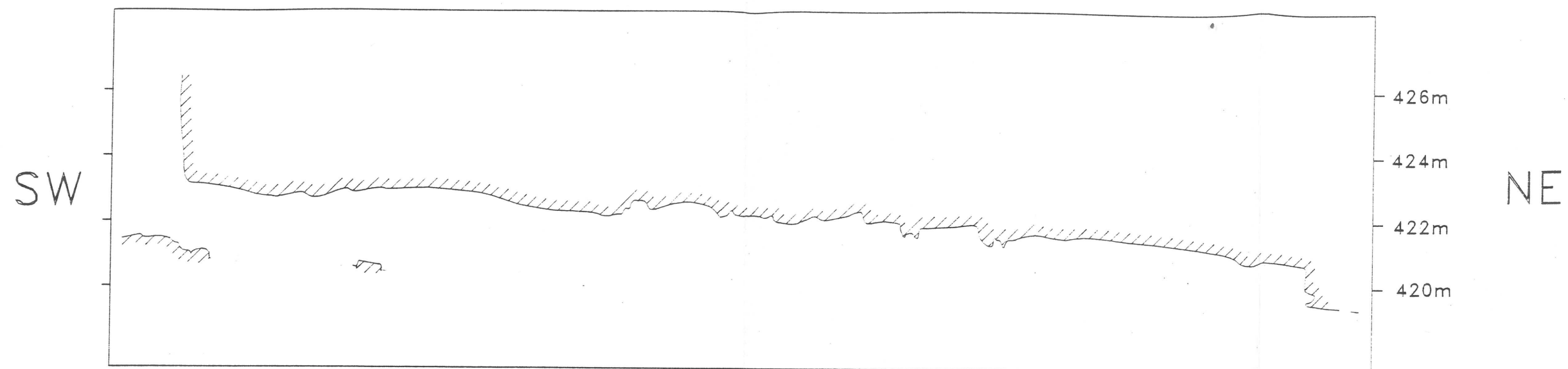
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			LANCASTER UNIVERSITY ARCHAEOLOGICAL UNIT			SHEET NO. 11

Fig 11 Victoria Cave profile VC3

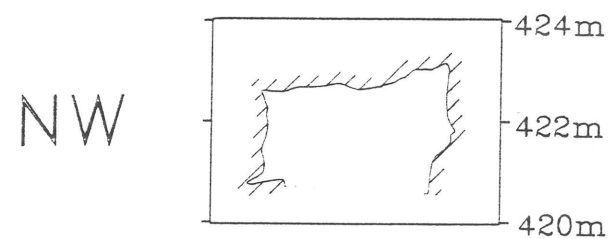


VICTORIA & ALBERT CAVES TOPOGRAPHICAL SURVEY	PLAN NAME VICTORIA CAVE PROFILES	Y.D.N.P. & L.U.A.U. Copyright 1995	2m		DRAWN BY JQ	SCALE 1:100
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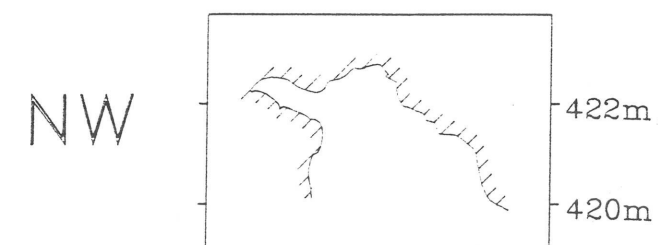
Fig 12 Victoria Cave profile VC5



AC 2



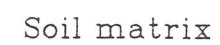
AC 1



AC 3

### Key

 Limestone

 Soil matrix

VICTORIA & ALBERT CAVES  
TOPOGRAPHICAL SURVEY

PLAN NAME

ALBERT CAVE PROFILES

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5m



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DATE 3-1995

SCALE 1:150

SHEET NO. 13

Fig 13 Albert Cave profile AC1, AC2 & AC3

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## **APPENDIX 2**

### **PROJECT BRIEF**

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## **APPENDIX 3**

## **PROJECT DESIGN**

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