

XLINKS' MOROCCO-UK POWER PROJECT

Environmental Statement

Volume 2, Appendix 1.7: Badger Survey (Public)

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XLINKS' MOROCCO – UK POWER PROJECT

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Glossary

Term	Meaning
Alverdiscott Substation	The existing National Grid Electricity Transmission substation at Alverdiscott, Devon, which comprises 400 kV and 132 kV electrical substation equipment.
Applicant	Xlinks 1 Limited.
Converter Site	The Converter Site is proposed to be located to the immediate west of the existing Alverdiscott Substation Site in north Devon. The Converter Site would contain two converter stations (known as Bipole 1 and Bipole 2) and associated infrastructure, buildings and landscaping.
Converter station	Part of an electrical transmission and distribution system. Converter stations convert electricity from Direct Current to Alternating Current, or vice versa.
Dung Pit	The normal method of excretion for badger is to defecate into a small scrape or pit, which is left uncovered.
Environmental Impact Assessment	The process of identifying and assessing the significant effects likely to arise from a project. This requires consideration of the likely changes to the environment, where these arise as a consequence of a project, through comparison with the existing and projected future baseline conditions.
Foraging Areas	An area which shows signs of foraging activity. Most often occurs as some form of 'snuffle holes' and rooting up of turf or ground cover, overturning of dried cow manure, when in search of earthworms. Other foraging evidence may appear as holes left from digging out wasp or bee nests, or in arable areas, "rolling" of cereal crops.
HVDC Cables	The High Voltage Direct Current cables which would bring electricity to the UK converter stations from the Moroccan converter stations.
Intertidal area	The area between Mean High Water Springs and Mean Low Water Springs.
Landfall	The proposed area in which the offshore cables make landfall in the United Kingdom (come on shore) and the transitional area between the offshore cabling and the onshore cabling. This term applies to the entire landfall area at Cornborough Range, Devon, between Mean Low Water Springs and the transition joint bays inclusive of all construction works, including the offshore and onshore cable routes, and landfall compound(s).
Latrine	Collective names for a series of dung pits within an area. These are used by badger social groups to demarcate their territory and may be used for other behavioural purposes. Latrines are therefore an important part of badger social life.
Offshore Cable Corridor	The proposed corridor within which the offshore cables are proposed to be located, which is situated within the UK Exclusive Economic Zone.
Onshore HVDC Cable Corridor	The proposed corridor within which the onshore High Voltage Direct Current cables would be located.
Prints	Badger Prints. These can be detected where badger have crossed areas of bare ground and are easily distinguishable from other mammal prints.
Proposed Development	The element of Xlinks' Morocco-UK Power Project within the UK. The Proposed Development covers all works required to construct and operate the offshore cables (from the UK Exclusive Economic Zone to Landfall), Landfall, onshore Direct Current and Alternating Current cables, converter stations, and highways improvements.
Runs	A less frequently used route, which may only be visible where it crosses some obstacle, such as a bank, a hedge or a fence. Badger hair can sometimes be collected along tracks and runs where they have pushed under barbed wire fences.
Sett	A sett is defined as 'any structure or place, which displays signs indicating current use by a badger'.

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Term	Meaning
Tracks	A main arterial route frequently used by badger. May be clearly visible over a considerable distance, even along flat, even ground.
Xlinks' Morocco UK Power Project	The overall scheme from Morocco to the national grid, including all onshore and offshore elements of the transmission network and the generation site in Morocco (referred to as the 'Project').

Acronyms

Acronym	Meaning
ES	Environmental Statement
HVDC	High Voltage Direct Current

Units

Units	Meaning
km	Kilometre
ha	Hectares
m	Metres

1 BADGER REPORT

1.1 Introduction

To protect the welfare of badgers, information pertaining to the location of badgers identified following desk based research and field surveys have been removed. A separate version of this technical report containing confidential data is available upon request to those with a legitimate need to view this information.

- 1.1.1 This document forms Volume 2, Appendix 1.7: Badger Survey of the Environmental Statement (ES) prepared for the United Kingdom (UK) elements of Xlinks' Morocco-UK Power Project (the 'Project'). For ease of reference, the UK elements of the Project are referred to as the 'Proposed Development, which is the focus of the Environmental Statement (ES). The ES presents the findings of the Environmental Impact Assessment process for the Proposed Development.
- 1.1.2 This document presents the results of the badger (*Meles meles*) survey undertaken in 2022 and 2023 to inform Volume 2, Chapter 1: Onshore Ecology and Nature Conservation of the ES.
- 1.1.3 The survey aimed to:
- undertake a field-based review of all accessible parts of the proposed Onshore HVDC Cable Corridor and Converter Site, with a nominal 100 m buffer strip on either side to search for and record any badger field signs present; and
 - assess and interpret any field signs identified.
- 1.1.4 The surveys and desk-based assessments undertaken as part of this review and subsequent report, including the Ecological Appraisal Notes, are prepared in accordance with the British Standard for Biodiversity Code of Practice for Planning and Development (BS42020:2013).

Site Location

- 1.1.5 The Onshore Infrastructure Area is located in north Devon and includes the Landfall, Onshore HVDC Cable Corridor, HVAC Cable Corridors and Converter Site. The Onshore HVDC Cable Corridor is approximately 14.5 km in length and the Converter Site is approximately 39.5 ha. The HVAC Cable Corridors are situated within the boundaries of the Converter Site and Alverdiscott Substation Site.
- 1.1.6 The Onshore HVDC Cable Corridor passes through a mixture of pastoral and arable farmland, with fields bounded by Devon hedgerows, and occasionally crossing small watercourses in wooded valleys. The route also crosses the tidal Torridge estuary.
- 1.1.7 The Onshore Infrastructure Area is shown on **Figure 1.1** to **Figure 1.12** of this report below. Aerial imaging was also reviewed to assess the site in relation to its context in the wider landscape.
- 1.1.8 It is important to note that the areas surveyed and reported in this document relate to the Onshore Infrastructure Area footprint understood at the time that the surveys were undertaken (2022 and 2023). This does not completely tie up with the footprint of the current (2024) Onshore Infrastructure Area.

1.2 Study Area

1.2.1 The onshore ecology and nature conservation study area is detailed within Volume 2, Chapter 1: Onshore Ecology and Nature Conservation. The study area includes the following:

- Locally designated sites, including Local Nature Reserves and Local Wildlife Sites (LWSs), and less mobile species located within 2 km of the Onshore Infrastructure Area.
- Nationally designated sites, including Sites of Special Scientific Interest (SSSIs) and National Nature Reserves, and records of particularly mobile protected or otherwise notable species (e.g. bats and otters) located within 5 km of the Onshore Infrastructure Area.
- Internationally designated sites located within 12 km of the Onshore Infrastructure Area.

1.2.2 The onshore ecology and nature conservation study area is presented in Volume 2, Figure 1.1 of the ES (see Volume 2, Figures).

1.3 Survey Area

1.3.1 The survey area is defined as the area within which each survey has been undertaken and is based on species or site-specific guidance on the extent of survey required. The area subject to badger surveys is defined as a 100 m buffer around the Onshore Infrastructure Area, as shown on **Figure 1.1** to **Figure 1.12**.

Contextual Data

1.3.2 Owing to the iterative design process of the Proposed Development, some surveys were undertaken further than 100 m from the Onshore Infrastructure Area. These surveys may have been located within, or within the buffer of, previous iterations of the Onshore Infrastructure Area boundaries. Nevertheless, information from these surveys have been included in this technical report because they provide context regarding the ecological sensitivity of the wider area and to inform Volume 2, Chapter 1: Onshore Ecology and Nature Conservation of the ES (where relevant). Any contextual information (based on survey data collected from outside the survey area) is shown on **Figure 1.1** to **Figure 1.12**.

1.4 Relevant Legislation

1.4.1 Badger are protected under the Protection of Badger Act 1992. This act is based on the need to protect badger from baiting and deliberate harm or injury. The act makes it an offence to:

- wilfully kill, injure, take, possess or cruelly ill-treat a badger, or attempt to do so; and
- intentionally or recklessly interfere with a sett. Sett interference includes disturbing badger whilst they are occupying a sett, as well as damaging or destroying a sett or obstructing access routes.

1.5 Methodology

Field Survey

- 1.5.1 Surveys of all areas along the Onshore HVDC Cable Corridor and Converter Site were undertaken by an experienced badger worker and assistants.
- 1.5.2 Field surveys covered the Onshore HVDC Cable Corridor and a 100 m buffer to either side of it. In addition, the entire Converter Site and areas adjacent to it (not current 2024 Converter Site) were inspected for badger field signs.
- 1.5.3 The surveys complied with guidance provided by the Animal and Plant Health Agency guidance on surveying for badger (“Module 1: Supporting Skills for Badger Vaccination” Animal and Plant Health Agency 2022, especially sections 3, Badger Ecology and Field Signs, 4, Reading and Producing Survey Maps, 5, Surveying methods and habitat types and 6, Survey Maps: Recording Badger Setts and Field Signs).
- 1.5.4 The survey area was broadly 50 m beyond the Onshore HVDC Cable Corridor and around proposed compounds and the Converter Site, as shown in **Figure 1.1** to **Figure 1.12** of this report below.
- 1.5.5 Badger surveys can be undertaken at any time of the year as badger are active year-round. However, surveys in winter periods sometimes have the advantage that reduced vegetation make some badger signs more visible.
- 1.5.6 In this case, the badger survey was undertaken in February, April and July 2022, with further site visits undertaken in March, April and June of 2023. All areas where access permission was available were visited.
- 1.5.7 The badger survey is carried out by searching for and recording all distinctive field signs left by badger. In general, all field boundary features are walked (on both sides if they are hedges or other features where both sides are not visible). Where woodland is surveyed, all boundary areas are inspected and any potential runs are followed into woodland areas to identify setts, if present. The following are the main forms of evidence searched for and recorded, if found.

Setts

- 1.5.8 A sett is defined as ‘any structure or place, which displays signs indicating current use by a badger’. English Nature (now Natural England) has, in the past, interpreted ‘current use’ as having been used at any point in the last 12 months, although current guidance (Guidance on ‘Current Use’ in the Definition of a Badger Sett, Natural England Guidance Note, June 2009) suggests that a more accurate approach should be based on review of field signs at the sett.
- 1.5.9 The current guidance indicates that it is important to understand that a badger sett is protected by the legislation if it ‘displays signs indicating current use by a badger’ and is therefore protected as long as such signs remain present. Natural England indicates that in practice, this could potentially be for several weeks after the last actual occupation of the sett by a badger. However, Natural England notes that it is not sufficient under the Act to demonstrate that a sett is not occupied by a badger to exempt it from protection under the Act, if the sett still displays signs otherwise indicative of current use.

- 1.5.10 Natural England indicates that a sett is likely to fall outside the definition of a sett in the Act if the field evidence available indicates that it is not in use by badger; e.g. absence of badger field signs, debris in sett entrances, etc. In practice, such a sett may have been unused for several weeks.
- 1.5.11 Setts can be large structures with numerous entrances/exits or single hole setts. Setts are assessed on the basis of their size, location and form. With regard to Natural England's advice shown above, to establish relatively recent badger activity, and to confirm that the structure really is a sett, spoil heaps are inspected for badger hair or footprints. Activity is gauged by general demeanour, with fresh spoil and unobstructed holes. Such setts are categorised as the following.
- Well used: being clear of any debris or vegetation, or obviously in regular use, and may or may not have been excavated recently. This type of sett would be classed as being in current use, based on Natural England guidance.
 - Partially used: not in regular use and having debris such as leaves and twigs in the entrance or having moss and/or other plants growing in or around the entrance. Partially used holes could be in regular use after a minimal amount of clearance. This type of sett would require further review to understand its status under the Act as it could, at a later visit, display fresh evidence suggesting it is in use by badger, or may more clearly show that the sett is no longer in use by badger.
 - Disused: not been in use for some time, are partially or completely blocked, and could not be used without a considerable amount of clearance. If the hole has been disused for some time, all that may be visible is a depression in the ground where the hole used to be, and remains of the spoil heap, which may be covered in moss or plants. This type of sett would not be considered as a badger sett in terms of the Act, based on Natural England's guidance. However, locations of such setts should be noted, as they may become used again by badger in the future, as local badger territorial holdings change, or as new social groups migrate into and colonise areas.
- 1.5.12 Setts are generally classified as one of four types.
- Main: Normally the focal point sett of a social group of badger. Generally always occupied, main setts usually have several active holes with radiating tracks, latrines and other signs of activity. The actual number of holes can vary greatly, depending on social group size and soil conditions.
 - Annexe: A secondary sett, close to the main sett. Will normally be connected to the sett with very obvious tracks. Annexes may not be occupied constantly, even when the main sett is very active.
 - Subsidiary: Occurring at a greater distance from the main sett, and not as clearly linked to it as an annexe. These setts will fall clearly within the territory of a social group and may be seasonally used by badger.
 - Outlier: less frequently used, these setts may be colonised by other species when not in use by badger. Outliers may represent a temporary sett, or a habitation for migrating individuals, or those excluded from a social group.

Dung Pits

- 1.5.13 The normal method of excretion for badger is to defecate into a small scrape or pit, which is left uncovered.

Latrines

- 1.5.14 Collective names for a series of dung pits within an area. These are used by badger social groups to demarcate their territory and may be used for other behavioural purposes. Latrines are therefore an important part of badger social life.

Tracks

- 1.5.15 A main arterial route frequently used by badger. May be clearly visible over a considerable distance, even along flat, even ground.

Runs

- 1.5.16 A less frequently used route, which may only be visible where it crosses some obstacle, such as a bank, a hedge or a fence. Badger hair can sometimes be collected along tracks and runs where they have pushed under barbed wire fences.

Foraging Areas

- 1.5.17 An area which shows signs of foraging activity. Most often occurs as some form of 'snuffle holes' and rooting up of turf or ground cover, overturning of dried cow manure, when in search of earthworms. Other foraging evidence may appear as holes left from digging out wasp or bee nests, or in arable areas, "rolling" of cereal crops.

Prints

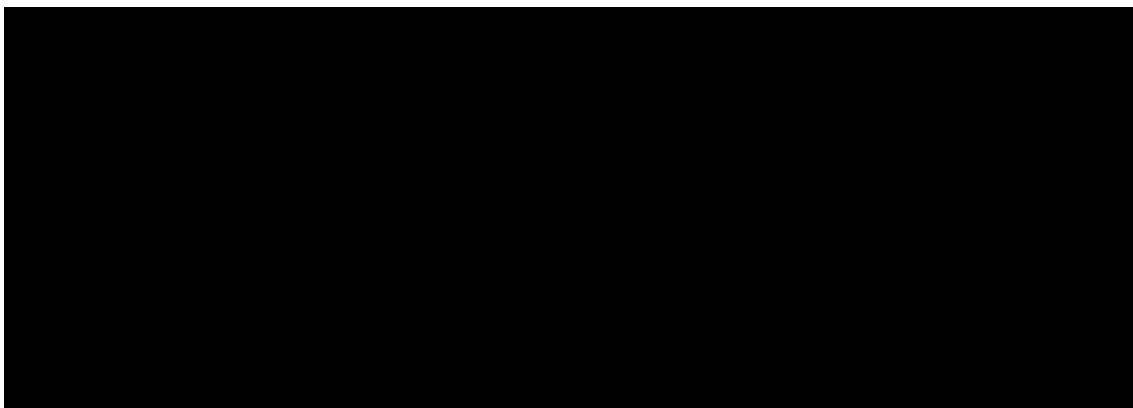
- 1.5.18 Can be detected where badger have crossed areas of bare ground and are easily distinguishable from other mammal prints.

Limitations

Survey

1.5.19

1.5.20



Accurate Lifespan of Ecological Data

- 1.5.21 The majority of ecological data remains valid for only short periods due to the inherently transient nature of the subject. The survey results contained in this report are considered accurate for two years, assuming no significant considerable changes to the site conditions.
- 1.5.22 In all cases, it has been possible for an experienced ecologist to revisit and re-assess areas initially surveyed more than 2 years ago and has found the previous results to still be valid, they have been retained in this report, or the results updated with latest findings where relevant new evidence has been found.
- 1.5.23 Site specific surveys used to inform Volume 2, Chapter 1: Onshore Ecology and Nature Conservation of the ES were undertaken between 2021 and 2024. CIEEMs Advice Note: On the lifespan of ecological reports and surveys (CIEEM, 2019) recommends that surveys exceeding three years in age are likely to require updating, whilst surveys undertaken between 18 months and three years prior to application may require site visits pre-construction to review the validity of survey findings. Therefore, in accordance with CIEEM guidance, site specific surveys undertaken over 18 months prior to the submission will be updated, where required (following a site review to confirm the validity of survey findings by a suitably qualified ecologist). Those surveys undertaken over three years will be supplemented by further surveys (if the Development Consent Order is granted) to be completed pre-construction.

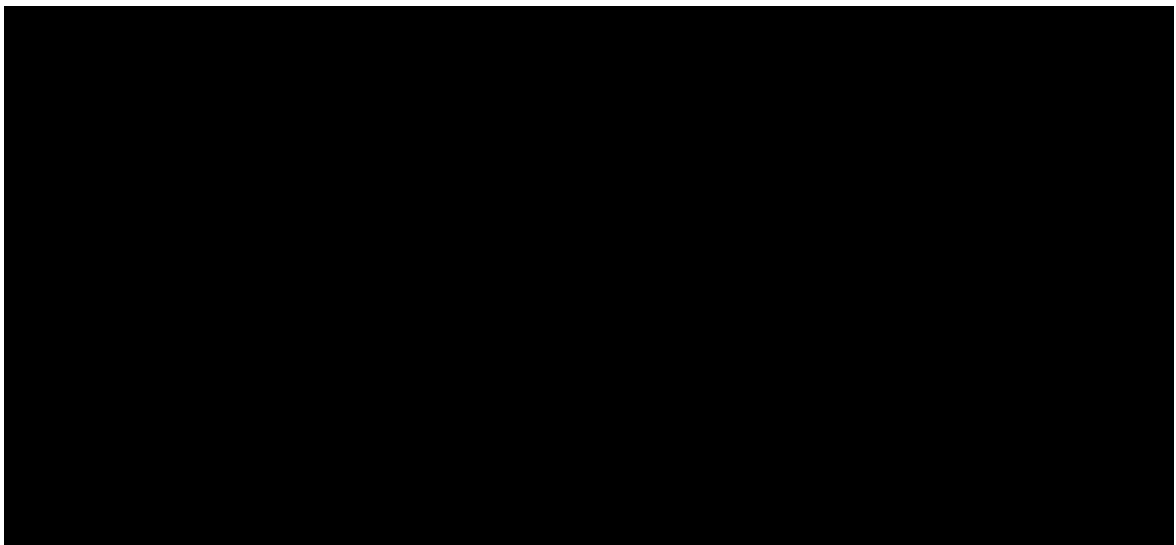
1.6 Site-specific Surveys

1.6.1

1.6.2

1.6.3

1.6.4



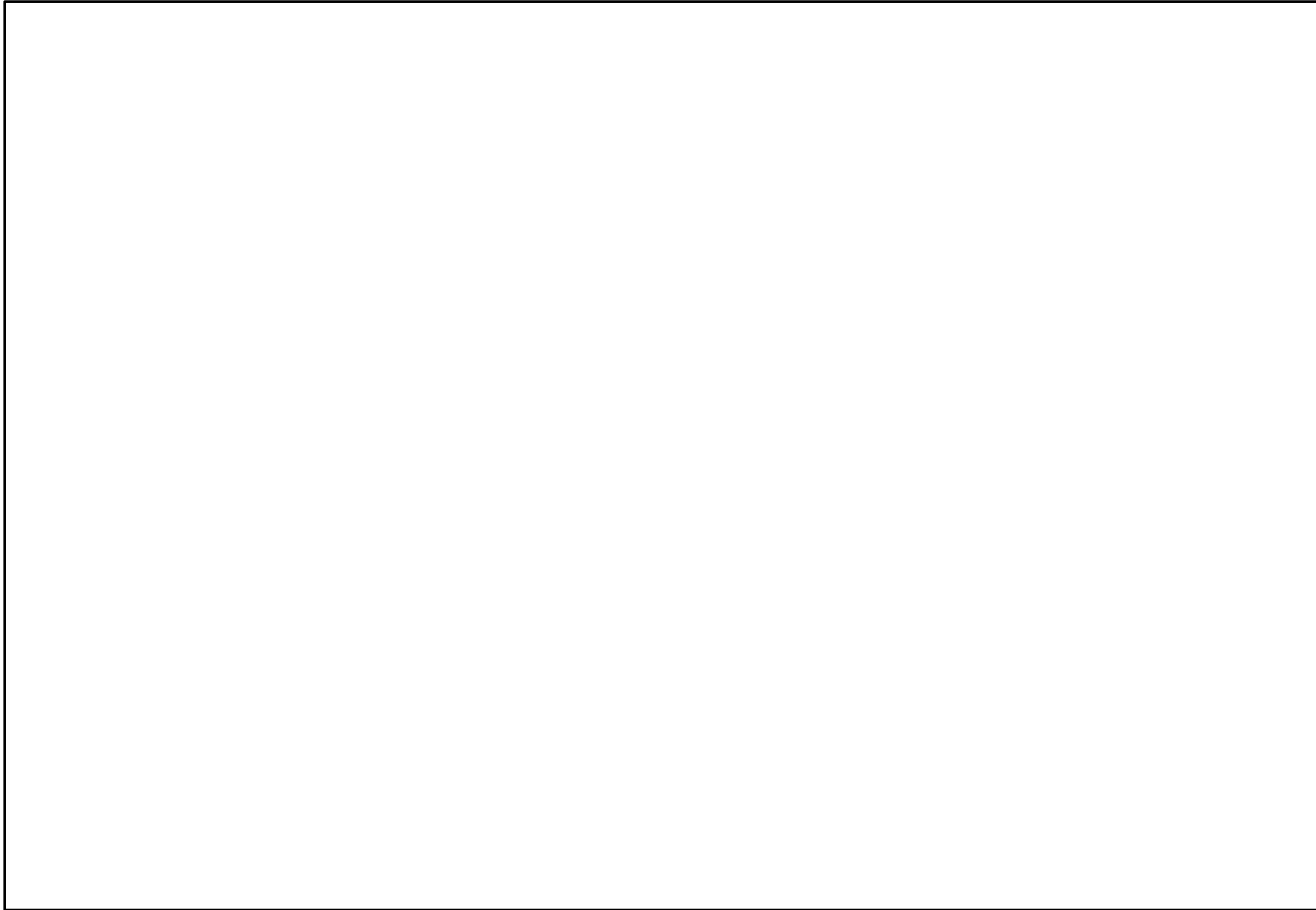


Figure 1.1: Badger survey results (sheet 1) (removed – confidential information)

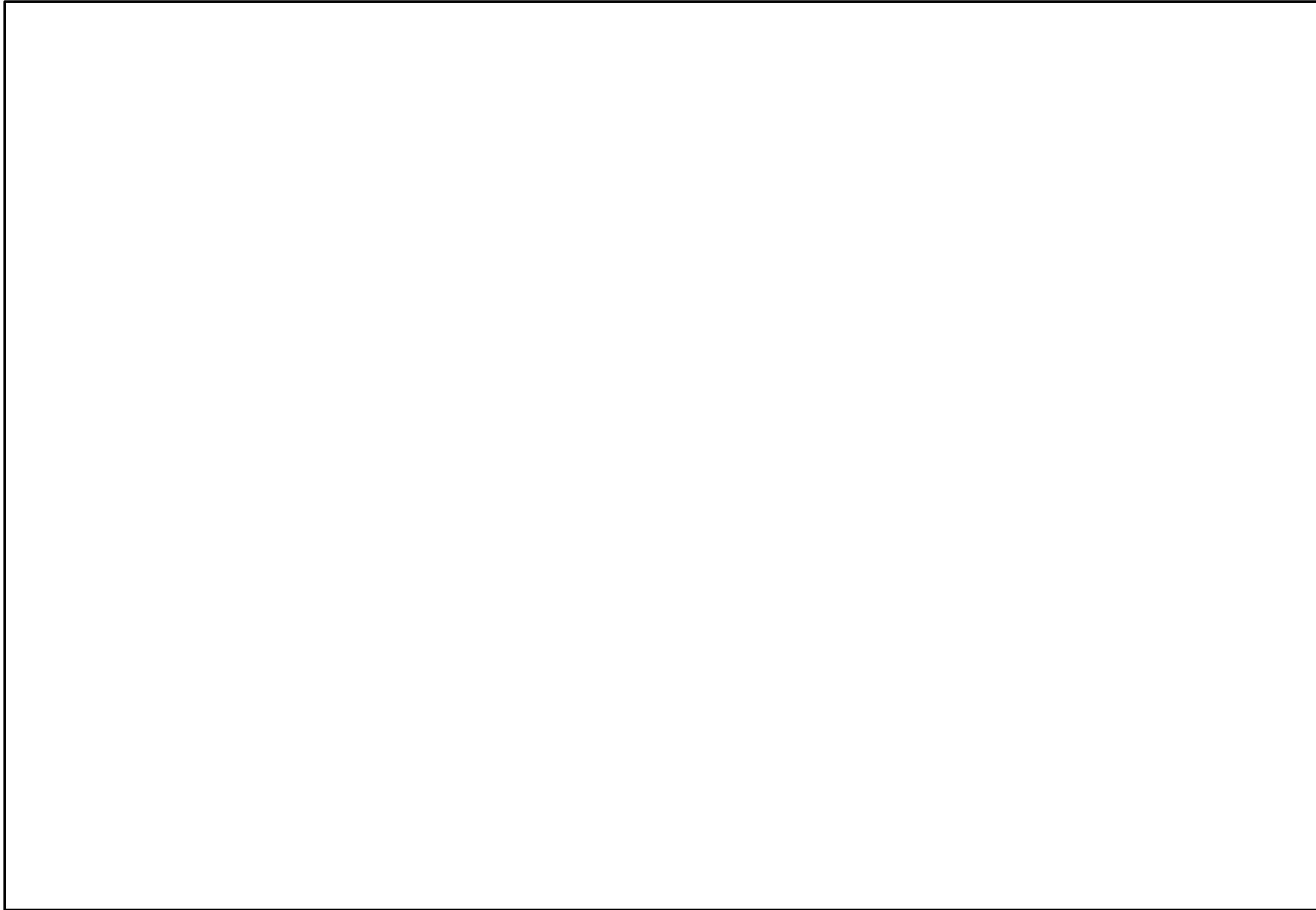


Figure 1.2: Badger survey results (sheet 2) (removed – confidential information)

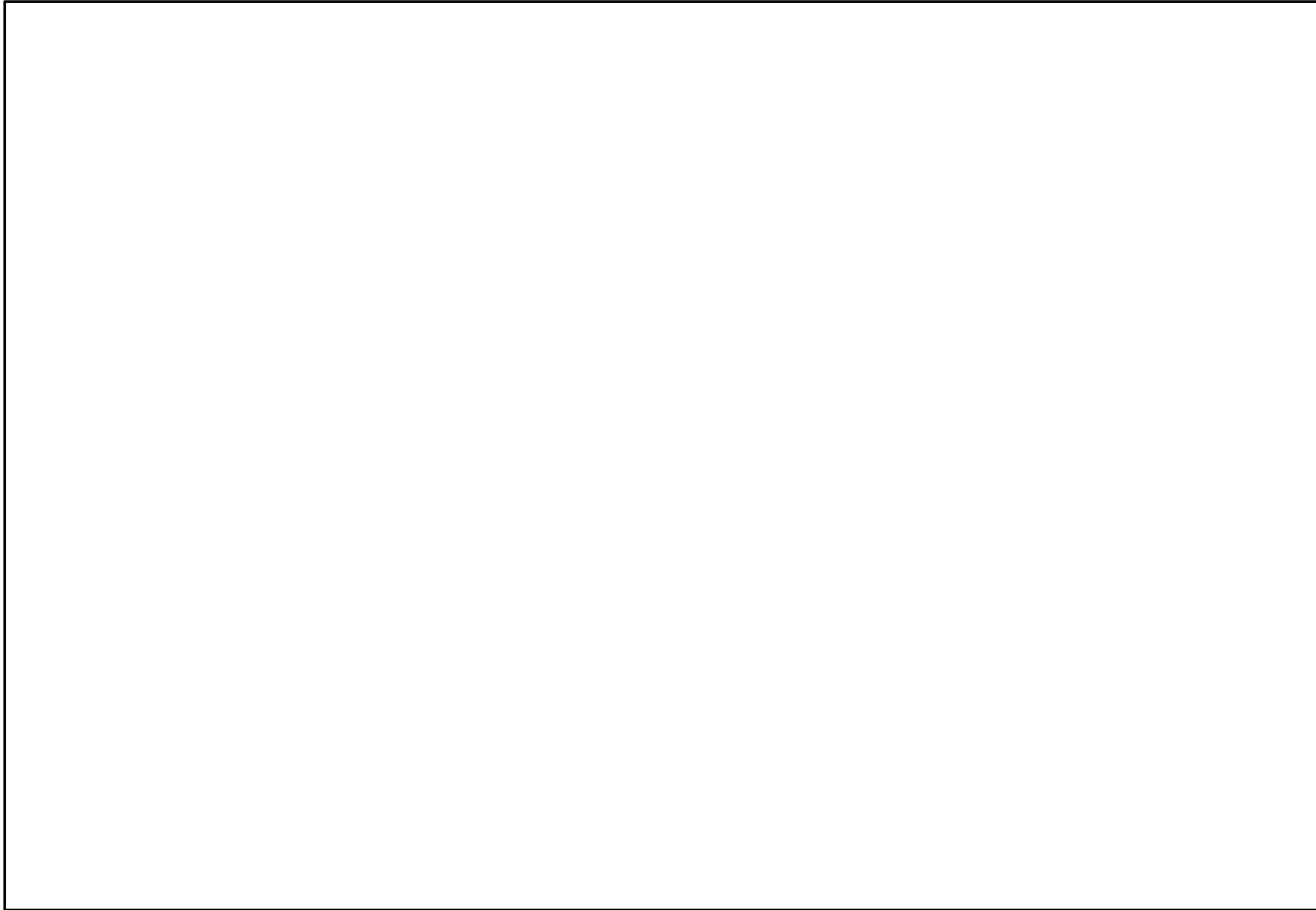


Figure 1.3: Badger survey results (sheet 3) (removed – confidential information)

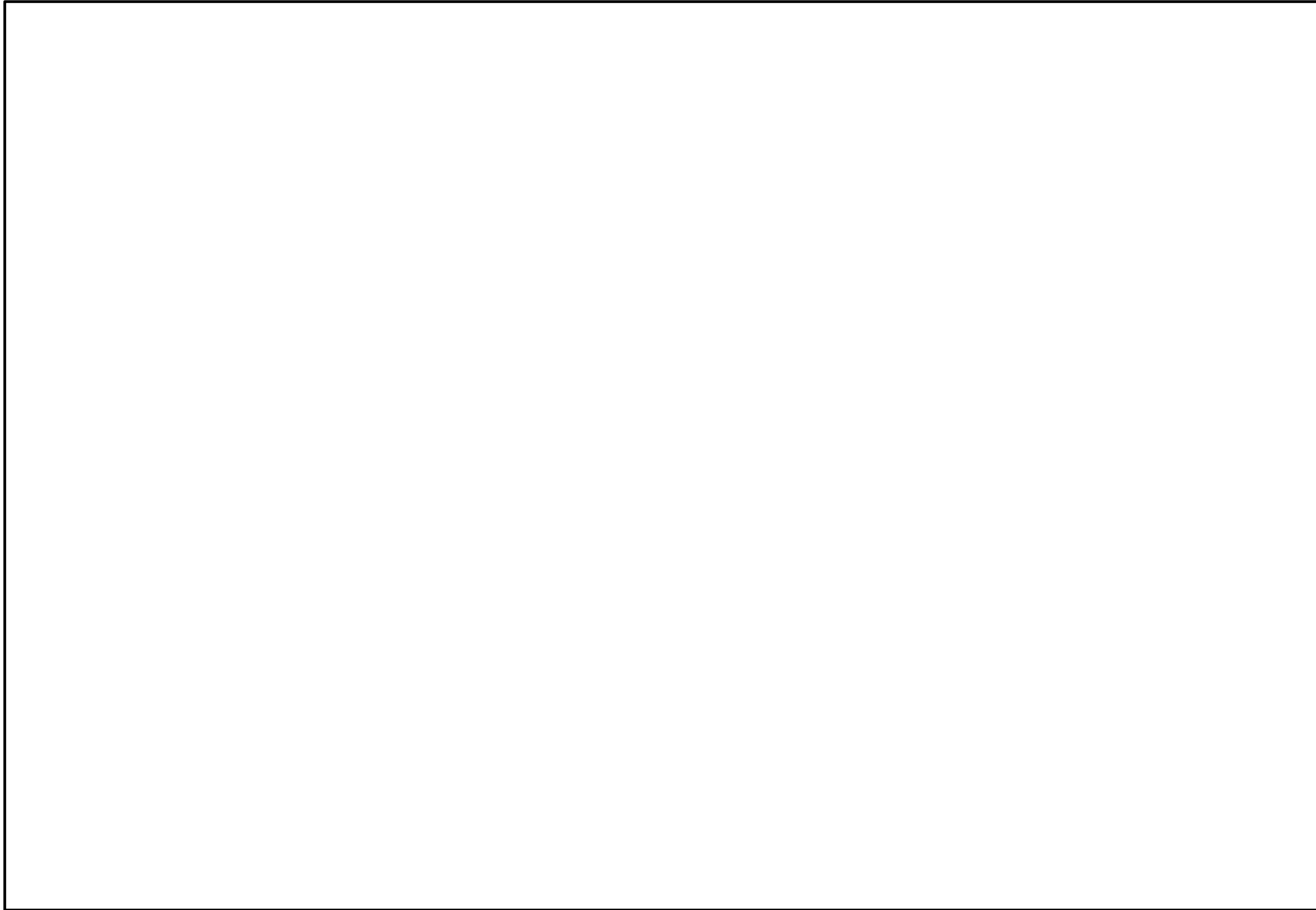


Figure 1.4: Badger survey results (sheet 4) (removed – confidential information)

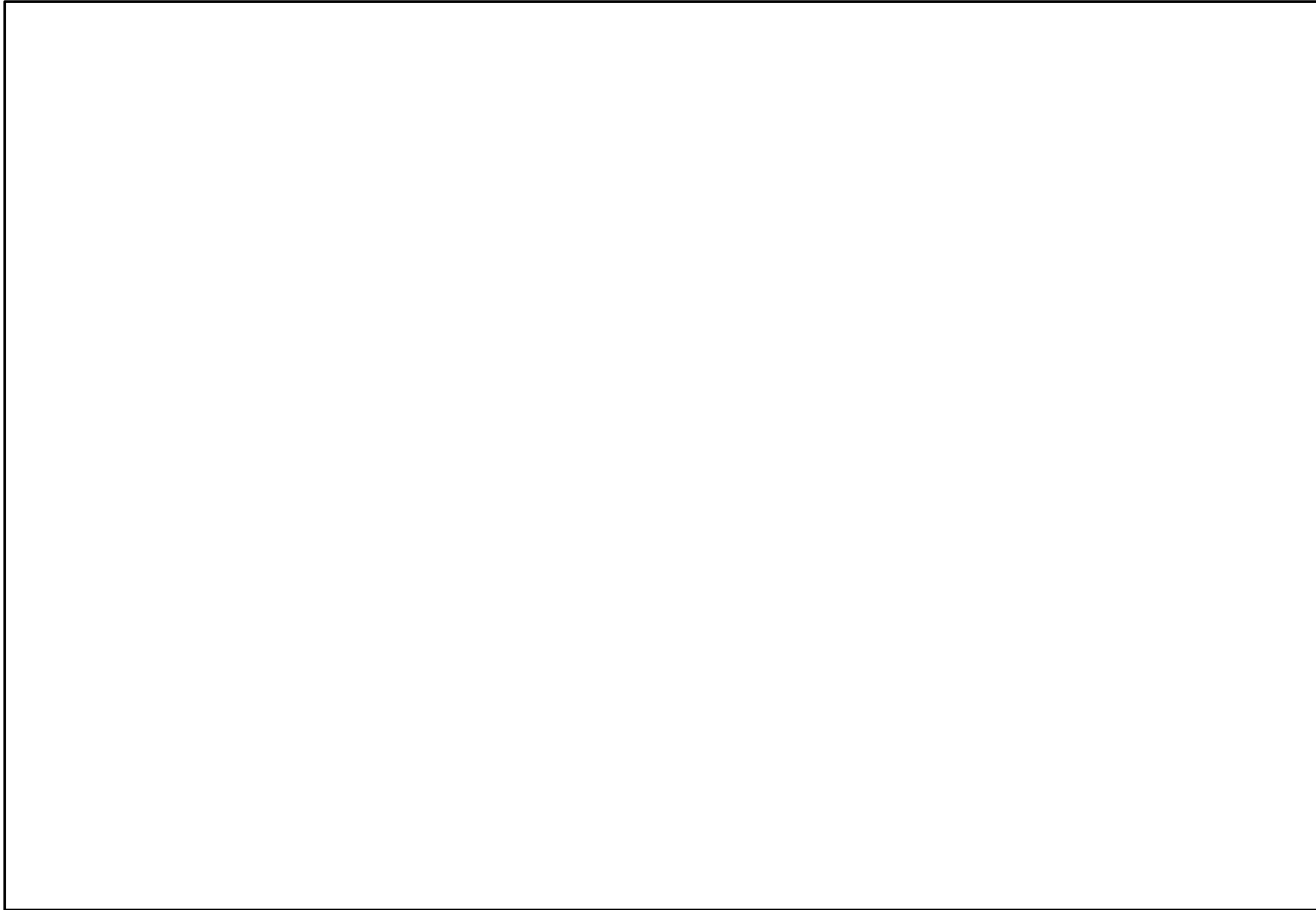


Figure 1.5: Badger survey results (sheet 5) (removed – confidential information)

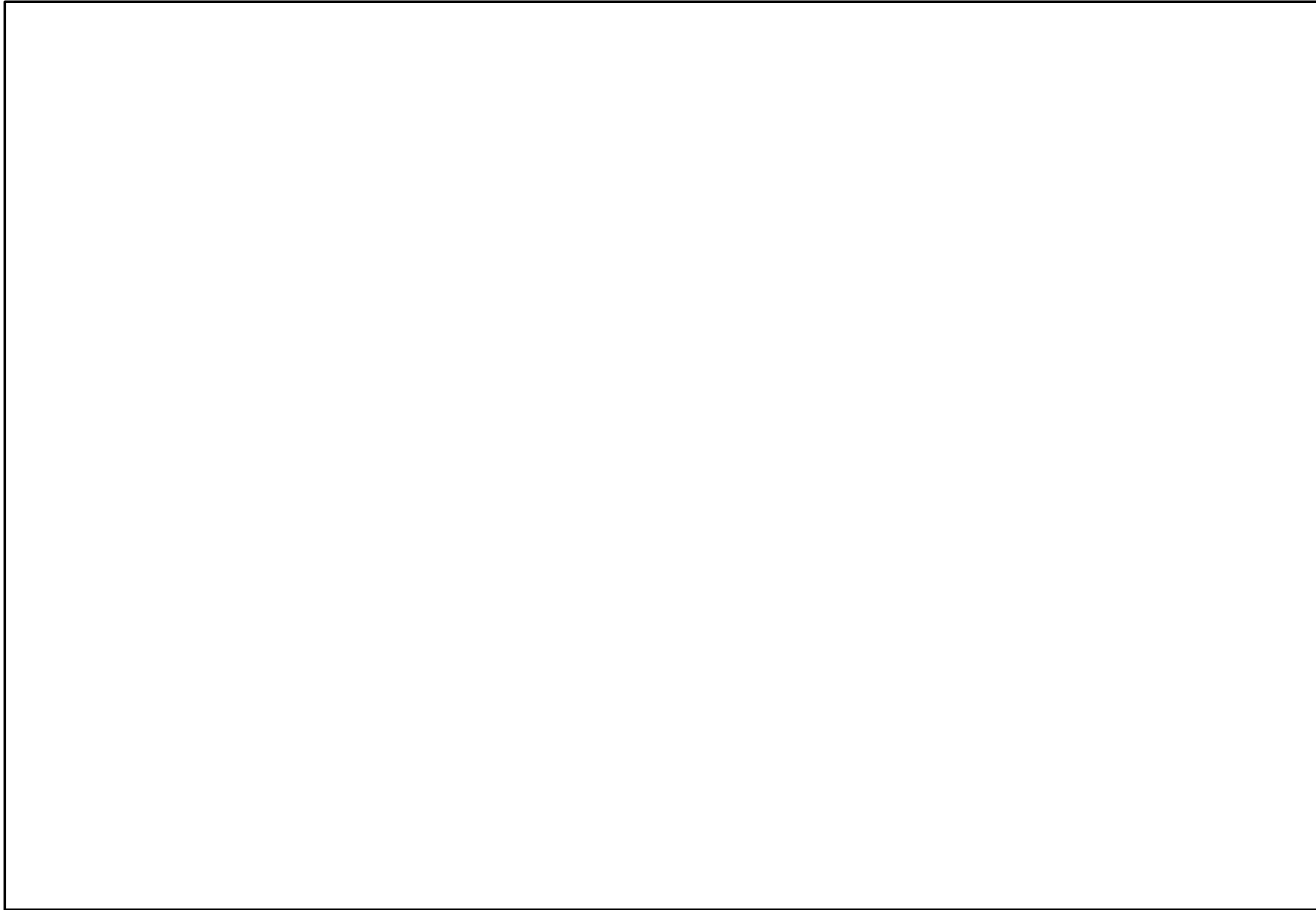


Figure 1.6: Badger survey results (sheet 6) (removed – confidential information)

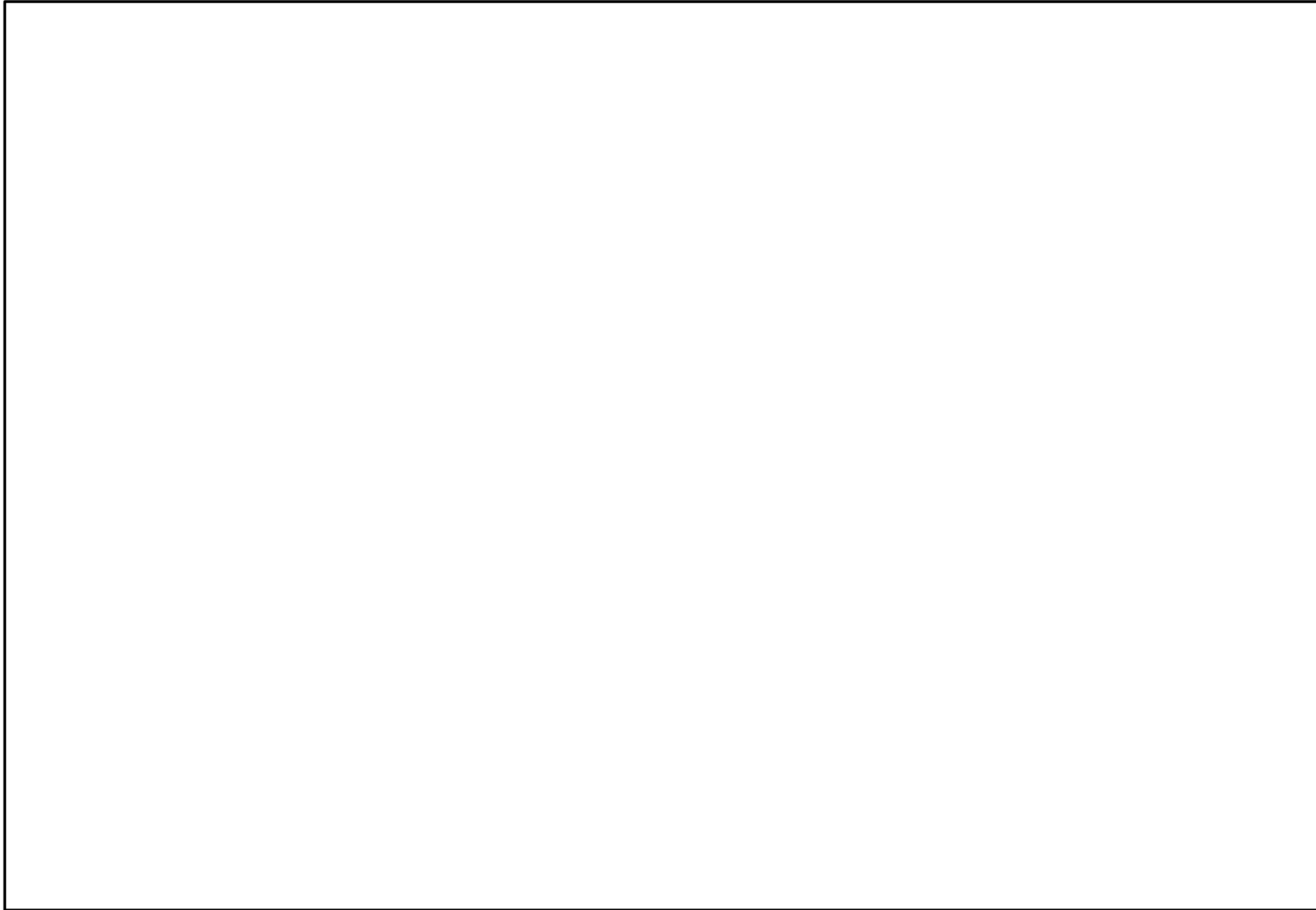


Figure 1.7: Badger survey results (sheet 7) (removed – confidential information)

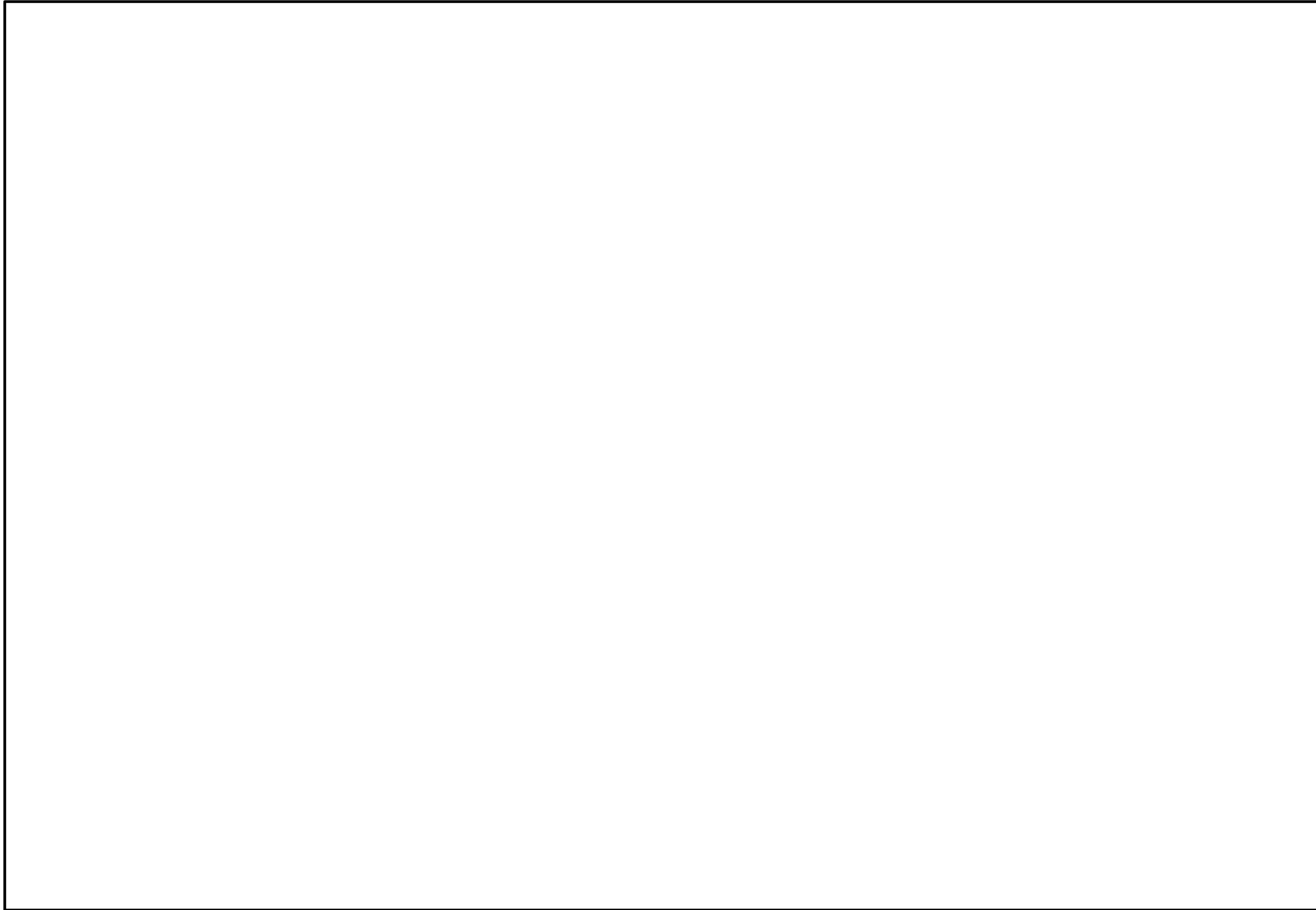


Figure 1.8: Badger survey results (sheet 8) (removed – confidential information)

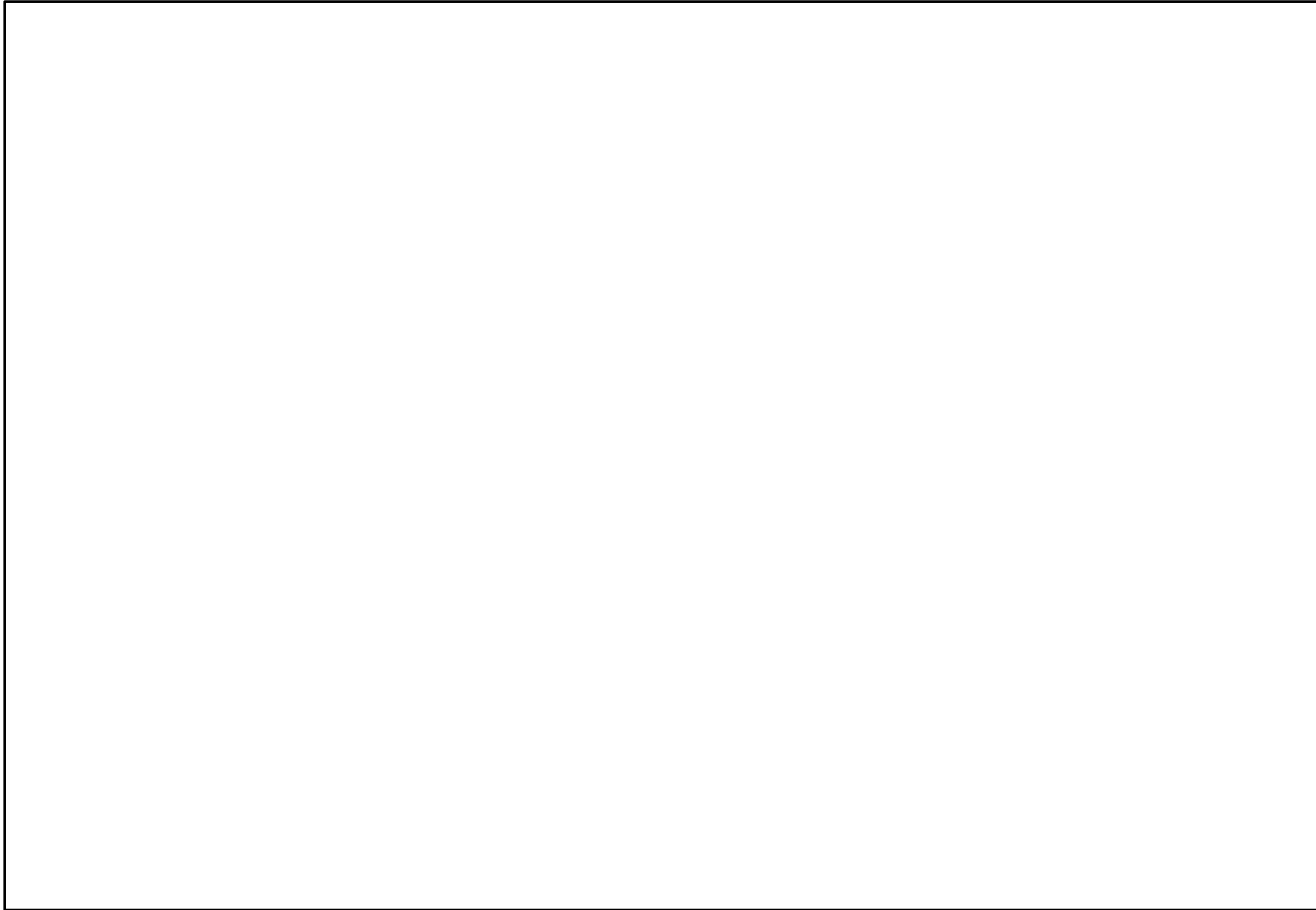


Figure 1.9: Badger survey results (sheet 9) (removed – confidential information)

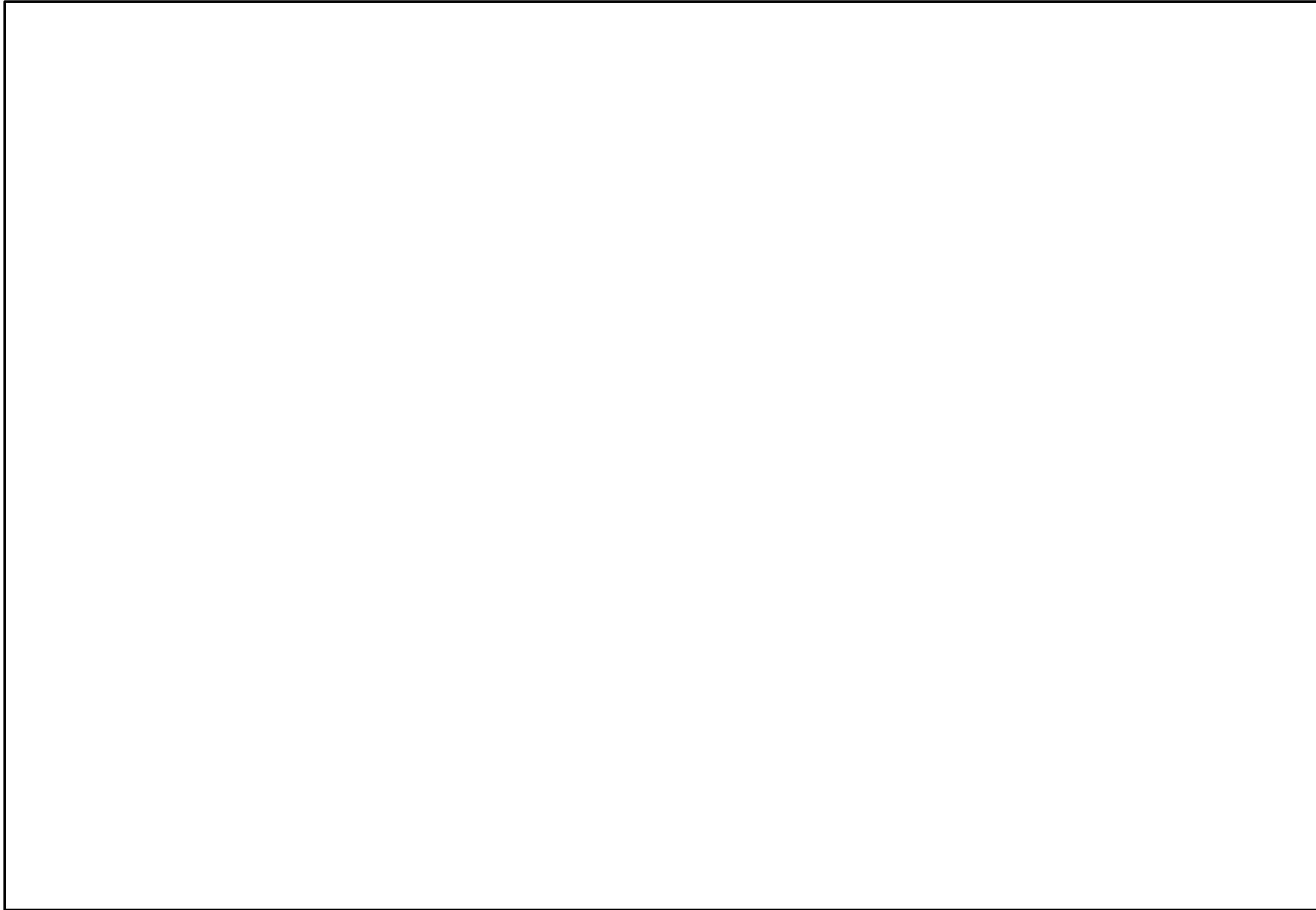


Figure 1.10: Badger survey results (sheet 10) (removed – confidential information)

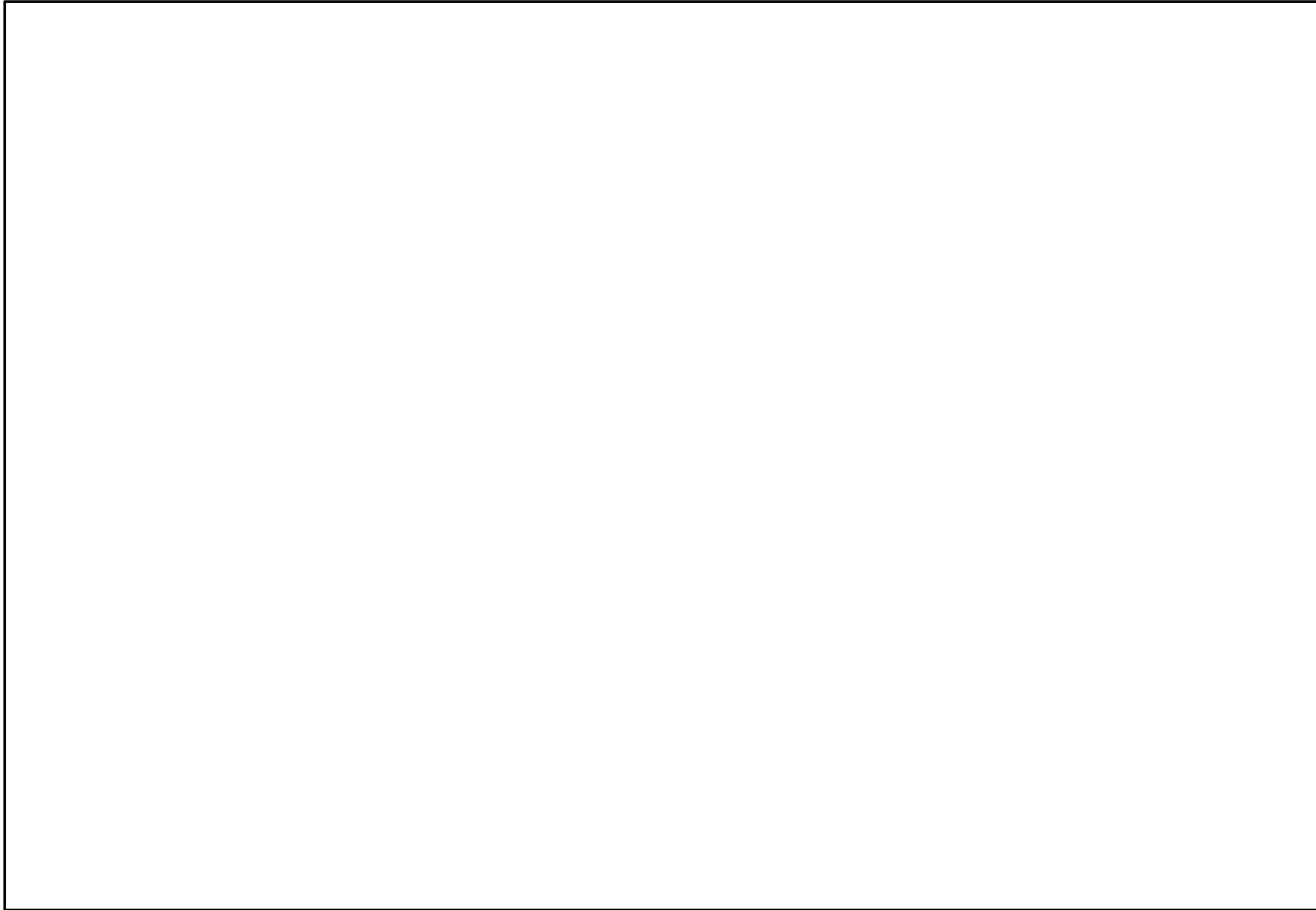


Figure 1.11: Badger survey results (sheet 11) (removed – confidential information)

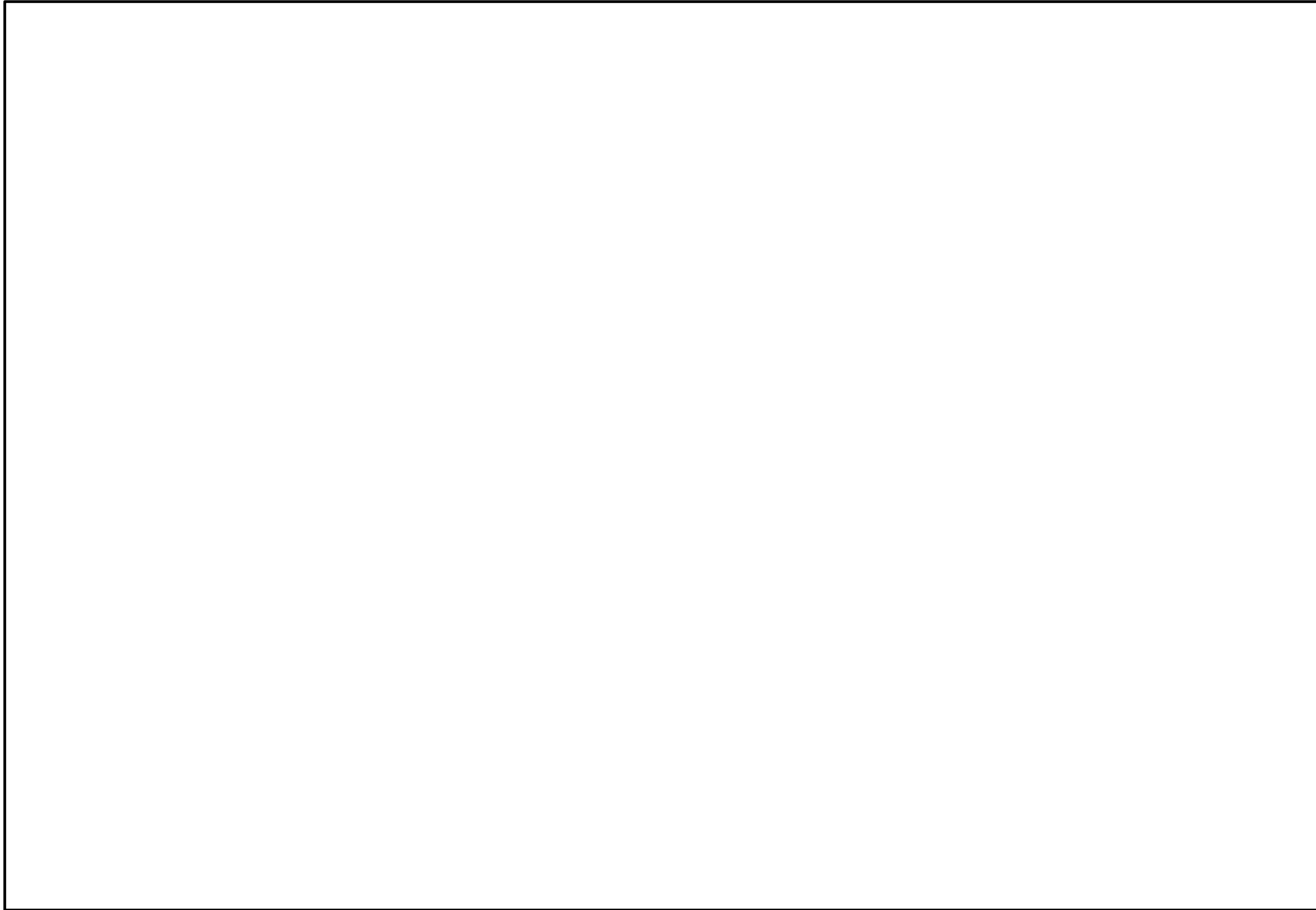


Figure 1.12: Badger survey results (sheet 12) (removed – confidential information)

1.7 Summary

Conservation and Status of Badger

- 1.7.1 Badger in England are protected under the Protection of Badger Act 1992 (as amended). This legislation is primarily aimed at the welfare of badger, rather than for nature conservation, as badger are not a rare or threatened species. However, with relevance to development activities, the Act makes an offence of:
- wilfully killing, injuring, taking, possessing or cruelly ill-treating a badger;
 - attempting to do any of the above; and
 - intentionally or recklessly interfering with a sett.
- 1.7.2 Sett interference includes damaging or destroying a sett, obstructing access to it, and disturbing a badger whilst it is occupying a sett. A sett is defined as 'any structure or place which displays signs indicating current use by a badger'.
- 1.7.3 Natural England has previously provided guidance on the definition of 'current use'. They indicate that in practice, this could potentially be for several weeks after the last actual occupation of the sett by a badger. However, Natural England notes that it is not sufficient under the Act to demonstrate that a sett is not occupied by a badger to exempt it from protection under the Act, if the sett still displays signs otherwise indicative of current use.
- 1.7.4 Natural England indicates that a sett is likely to fall outside the definition of a sett in the Act if the field evidence available indicates that it is not in use by badger; e.g. absence of badger field signs, debris in sett entrances, etc. In practice, such a sett may have been unused for several weeks.
- 1.7.5 In addition, guidance is also provided on the likely definition of disturbance to a badger occupying a sett. It is Natural England's view that disturbance to a badger occupying a sett would need to be of a level significantly more than badger are known to commonly tolerate. This means development activity with hand tools or machinery, vegetation removal over or adjacent to setts and clearing out ditches/watercourses where badger setts are present are unlikely to represent disturbing activities.
- 1.7.6 However, actions which would be likely to cause damage to a sett tunnel or chamber or obstruct access to a sett entrance would be considered to be interference and would require licensing under Section 10 of the Act. Licenses can be issued to allow disturbance or damage to badger setts for a number of purposes, including prevention of damage to land or other property, agricultural or forestry operations, preventing the spread of disease, development and scientific or educational purposes, or conservation.

Badger Activity

1.7.7



1.7.8

1.7.9

1.7.10

1.7.11



1.8 References

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