

Critique of the Sierra de Sel Wind Farm Environmental Impact Study

Summary

This critique by the *Matienzo Caves Project* (MCP) addresses the Environmental Impact Study (EIS) for the proposed 10-generator wind farm on the Sierra de Sel, an area of high-level limestone karst. After thorough review of the 1,271-page document, it is evident that the project is fundamentally unsuitable for this location due to the complex, three-dimensional nature of karst environments. The study significantly underestimates the impact on the underground ecosystem, which extends far beyond the surface footprint of the project.

The document's primary failing is its insufficient consideration of the interconnected underground networks of fissures, caves, and water systems that define karst landscapes. This critique calls for the implementation of "Alternativa Cero" (the no-build option), which was prematurely dismissed in the EIS, as the only appropriate course of action for this ecologically sensitive area.

Resources

The [publication notice](#) in the BOC

The EIS can be downloaded from [here](#) or from the [Matienzo Caves Project website](#).

Fundamental Issues with Site Selection

The Sierra de Sel represents one of the most pristine and remote areas of high-level limestone karst in the region. The magnificent landscape showcased on the document's cover and throughout Annex 11 portrays only the surface beauty, while failing to acknowledge the complex underground network that makes this ecosystem uniquely vulnerable to industrial development.

Limestone karst is not merely a surface to build upon—it is a three-dimensional environment extending hundreds of meters downward and kilometers laterally through networks of fissures, chambers, and underground streams. These features create a delicate ecosystem that cannot be adequately protected during large-scale construction activities.

Spain possesses numerous non-karst areas more suitable for wind farm development. The proposed industrialization of this natural landscape contradicts the document's opening claim that "The use of renewable energy undoubtedly contributes to preserving the environment..." When the development itself requires irreversible destruction of a sensitive karst ecosystem, this statement becomes fundamentally untrue.

Inadequate Local Environmental Assessment

A significant weakness in the EIS is its reliance on regional rather than local environmental data:

1. **Climate data:** The study inappropriately uses temperature and precipitation information from Seve Ballesteros Airport at sea level, despite the wind farm being situated at approximately 700m altitude, creating a fundamentally flawed baseline for environmental analysis.
2. **Geological assessment:** While the document acknowledges the presence of karst features, it fails to adequately assess their extent and significance, focusing primarily on surface impacts rather than the three-dimensional nature of the environment.
3. **Hydrological analysis:** The study examines main rivers at base level rather than conducting comprehensive analysis of the high-level project area where construction will occur. This approach misses critical hydrological connections unique to karst environments.
4. **Water sources:** Despite acknowledging 65 water supply points within a 10km radius (30 within 5km), the document fails to map these points or include them in the shapefile folder, obscuring potential impacts on water resources.
5. **Archaeology:** Despite an annex "Archaeological Survey Report" being mentioned as attached, there is no such document. That generally thorough survey is hidden in the "Cultural Heritage Impact Report" which is not indexed as an annex. Additional to that report, the alternative 2 track, at a sharp bend, is only 145m from the entrance to BIC archaeological site Cueva Cobrantes. It is estimated that the track

may be only 80m above the roof of the large passage as it passes over the cave. Cueva Entrambascuevas 2 which runs under the alternative 3 track to Fuente Pico is also at risk. See Annex 2.

The bat study stands as a rare exception where local data was appropriately collected and analyzed.

Critical Underground Hydrology Concerns

The EIS demonstrates a profound lack of understanding regarding where water sinking into cracks and dolines on this high ground ultimately resurfaces. The document relies on supposition rather than evidence-based assessment. Water entering this karst system likely emerges at one or more springs around the margins, potentially including:

- The "Pozo Azul" (Nacimiento del río Clarín, MCP site 0115) at San Miguel, Voto. (Annex 4)
- Springs in Ogarrio, Ruesga. (Annex 4)

A cave (#0239) in San Miguel that has been dived to depths exceeding 73m (approximately 20m below sea level) potentially indicating a deep and extensive freshwater reservoir that could be compromised by surface activities. The IGME website information is incomplete, showing only regional-scale underground water bodies without the necessary fine detail for the Sierra de Sel.

No water tracing studies have been conducted by the promoter from high-level sink holes, leaving only conjecture about most drainage patterns. This represents a serious methodological flaw in the impact assessment. Any alteration to surface drainage through road building and generator platforms will inevitably modify underground drainage patterns by blocking existing routes and opening new ones, potentially causing springs to stop flowing and creating unpredictable new outflows. The resurgences at risk (as far as members of the Matienzo Caves Project know) are shown on figures 1a and 1b.

One major underground system is the Sumidero de Monticueva. This flows from east to west and passes under generator 8, alternative 1. According to the cave survey (figure 2) the cave ends at a sump. There may be other feeders to the system that will bring in water from further afield. The approximate known route of the underground water is shown in blue on figures 1a and 1b.

Caves and resurgences at risk are shown in Annexes 1, 2 and 3 with selected cave surveys in Annex 4.



Figure 1a Southern area. 500m grid. Alternatives 1 (red) and 3 (green) are shown. **Caves at risk** are highlighted and the approximate Sumidero de Monticueva underground water route is shown in blue. See Annexes 1, 2 and 3 for details.

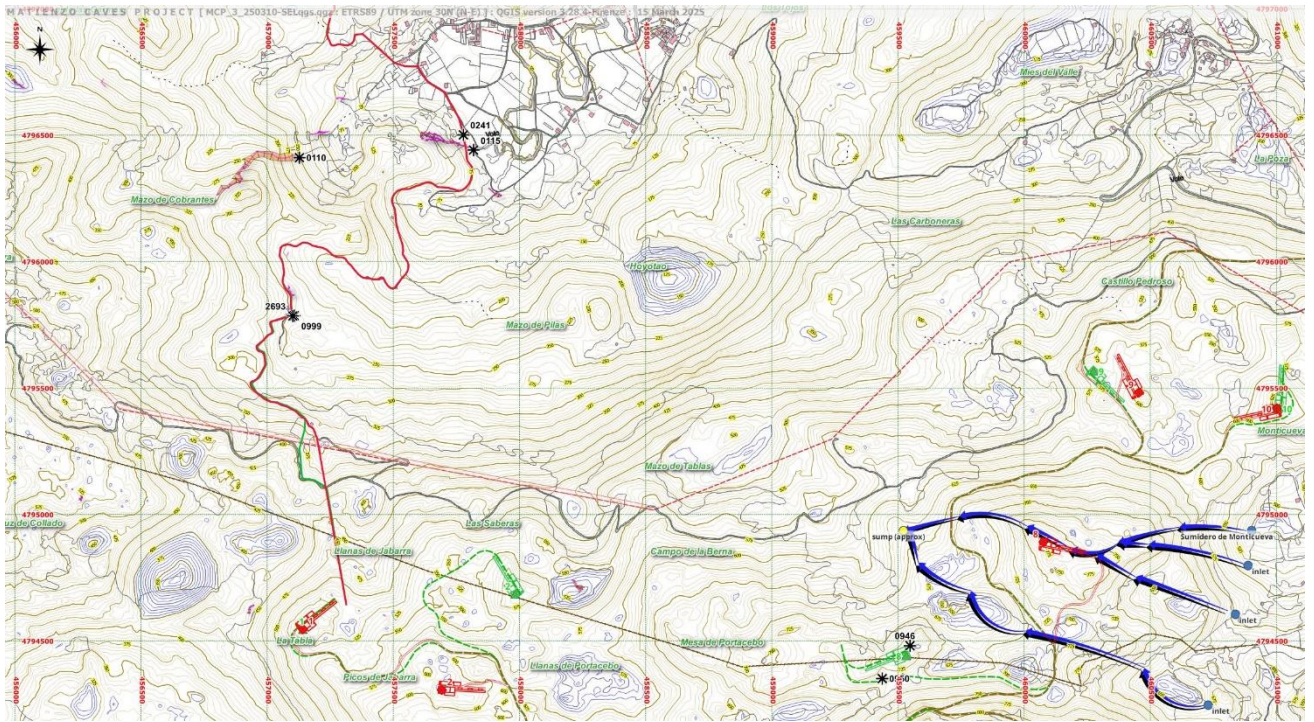


Figure 1b Northern area. 500m grid. Alternatives 1 (red) and 3 (green) are shown. **Caves at risk** are highlighted and the approximate Sumidero de Monticueva underground water route is shown in blue. See annexes 1, 2 and 3 for details.

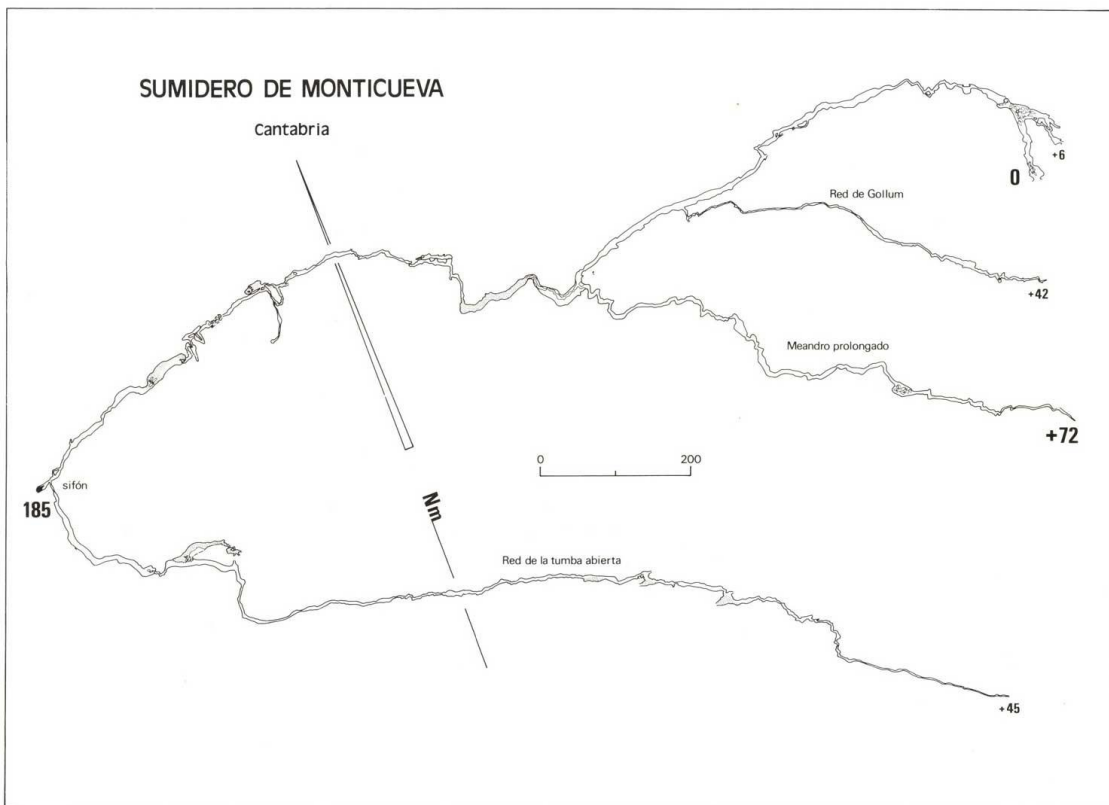


Figure 2 Sumidero de Monticueva. The underground flow is shown in blue on figures 1a and 1b.

Incomplete Assessment of Cave Systems

The EIS's list of caves on pages 102-103 includes only those at a regional distance from the proposed wind farm, with Cueva de Cobrantes and the Sumidero de Monticueva being the only exceptions. This analysis fails to account for local caves that would be directly impacted by the project.

The document also incorrectly identifies the closest Lugar de Interés Geológico (LIG) as the Marismas de Santoña. In reality, the Matienzo polje LIG extends to within 1.4km of generator 1 in all alternatives - significantly closer than acknowledged.

The document admits on page 136 that "these caves, a subterranean manifestation of the karst relief described, must be highly developed, judging by the large number of entrances and chasms observed," yet fails to conduct the necessary detailed investigation of these features.

Due to vegetation and difficult terrain, the surface has not been thoroughly searched for cave entrances. There is a high probability that unexplored caves containing wildlife, natural drainage patterns, and archaeological resources exist within the proposed wind farm area, as briefly acknowledged on page 188.

Neglected Underground Biodiversity

The EIS completely overlooks underground wildlife, including the cave-dwelling isopod crustacean *Cantabroniscus*, which is endemic to this region. This species has been documented multiple times in caves around Matienzo, including in at least six photographed instances. (More details and photos of this crustacean can be found in annex 5.)

This omission exemplifies the document's surface-focused approach that fails to consider the full ecological complexity of karst environments. Table 51 (page 195) lists environmental factors potentially affected by the project but mentions only surface features, neglecting the underground fissures and caves that define karst systems.

Construction and Infrastructure Impacts

The proposed development includes:

- Ten generators positioned on high points
- Underground cables running approximately 6.4km in trenches 1.2m deep and 1m wide
- Six-meter wide access roads with minimum 60m diameter bends
- "Areas of maneuver" measuring 100m × 80m for each generator (a massive 8,000 square meters per turbine)
- Additional land clearing areas of 107m × 7m per generator

These construction elements would irreversibly alter both surface and subsurface karst formations. The document's assurances about "minimizing impact" and "restoring the landscape" are contradicted by its own descriptions of "clearing and lowering of the natural terrain."

The access route from the San Pantaleón - Ampuero road at kilometer 8.2 would require substantial upgrading of existing tracks and roads, further extending the project's environmental footprint.

Where the track drops into San Miguel close to the "Pozo Azul" (Nacimiento del Río Clarion. #0115), it passes over the cave passage behind the entrance pool. This area must be thoroughly re-assessed as an access and cable route for alternatives 1 and 3 as the passage comes close to the surface. (See Annexes 1 and 4.)

Misrepresented Decommissioning Outcomes

The EIS's claims about decommissioning are particularly misleading. Pages 247-248 state: "The restoration of the area to its pre-project conditions will have a positive impact on the relief once the civil works dismantling and environmental restoration are completed."



This assertion is fundamentally impossible. Limestone formations will have been altered or removed, and fissures and shafts filled with sediments or concrete. The document itself contains photographs showing the current terrain that clearly illustrate the impossibility of genuine restoration.

Furthermore, the decommissioning section states that "No alterations to the drainage and surface runoff network in the project implementation area are expected during the decommissioning phase," suggesting that drainage modifications will remain permanently, contradicting claims of restoration.

The document also fails to address the long-term fate of sediments that will have entered the karst system during the project's operational life.

Impacts on Hydrology and Hydrogeology

The EIS acknowledges ten negative impacts on hydrology and hydrogeology during the construction phase (page 208), yet dismisses deep groundwater contamination without adequately addressing certain local water contamination.

The document's reassurances about activities not significantly altering groundwater flows contradict basic principles of karst hydrology. Water will inevitably be diverted down new openings or dolines, or additional water sent into existing sinks. These changes have the potential to create new underground routes or block existing ones with sediment, permanently altering drainage patterns and damaging the ecosystem.

The operational phase will introduce additional risks, including "management of waste that could cause occasional and accidental contamination of the area's waterways," potentially affecting underground environments and drinking water sources.

Insufficient Stakeholder Consultation

The preparers of the EIS appear to have conducted minimal research on local underground hydrology, ecosystems, and springs. The Federación Cantabra de Espeleología, which oversees caving activities throughout Cantabria, could have provided valuable information about known caves, shafts, and resurgences associated with the Sierra de Sel and surrounding areas. Local knowledge also appears to have been inadequately integrated into the assessment. The information shared in this document is acknowledged as also being incomplete.

Conclusion

The designation of this high-level limestone area as having "low landscape assessment" reveals a fundamental misunderstanding of karst environments. The landscape cannot be isolated from the underground systems it helps to form—it is merely the visible component of an integrated ecosystem where "the whole is greater than the sum of its parts."

The Sierra de Sel wind farm project proposes industrial development in one of the most remote and pristine areas of high-level limestone karst in Cantabria. The environmental costs far outweigh the benefits, particularly when Spain has ample non-karst areas better suited for wind energy development.

The "Alternativa Cero" described on pages 73-74 of the EIS and dismissed by the proposer is, in fact, the only responsible option. This alternative would preserve the natural state of the countryside, allowing the ecosystem to thrive and people to enjoy it through recreation - a significant social benefit in itself.

No amount of mitigation can adequately address the fundamental incompatibility of major industrial development with the delicate, three-dimensional nature of karst environments. The Sierra de Sel deserves protection, not industrialization.

Juan Corrin (NIE Y5528443-Q)
on behalf of the
[Matienzo Caves Project](#)
15/3/2025



Annex 1 - List of affected Karst features (caves, shafts, resurgences) due to Alternative 1

Alternative	Phase	code	name	area	Ayuntamiento	East	North	Altitude	Feature	Summary	Consequences	web details
1, 2, 3	all	5153	Lluriangos, Fuente de	Ogarrio	Ruesga	457539	4793004	163	cave passages with water	Impenetrable resurgence.	altered water flows + pollution	https://matienzocaves.org.uk/descrip/5153.htm
1, 2, 3	all	0287	Campuvijo, Cueva de	Ogarrio	Ruesga	456564	4793078	123	resurgence cave + passages	Length 925m Water is thought to come from the Sumidero de Monticueva to east of the project area.	altered water flows + pollution	https://matienzocaves.org.uk/descrip/0287.htm
1, 2, 3	all	0286	Mazo 5, Cueva del	Ogarrio	Ruesga	456468	4793001	127	resurgence cave + passages	Part of the resurgence complex in this area.	altered water flows + pollution	https://matienzocaves.org.uk/descrip/0286.htm
1, 2, 3	all	5137	Coverón, Surgencia del	Ogarrio	Ruesga	456424	4792996	120	resurgence cave + passages	Part of the resurgence complex in this area.	altered water flows + pollution	https://matienzocaves.org.uk/descrip/5137.htm
1, 2, 3	all	0284	caves	Ogarrio	Ruesga	456148	4793221	130	resurgence caves (incompletely documented)	Length 90m A group of 4 caves.	altered water flows + pollution	https://matienzocaves.org.uk/descrip/0284.htm
1, 2, 3	all	4275	resurgence	Ogarrio	Ruesga	456212	4793305	133	resurgence		altered water flows + pollution	https://matienzocaves.org.uk/descrip/4275.htm
1, 2, 3	all	2693	shaft	Caburrao	Voto	457102	4795785	220	shaft with cave	Length 114m; Depth 23m Leads into a chamber well decorated with helictites. There are inaccuracies in placing the track line, the cave survey and the entrance position but the following points should be noted: The roof of the known cave passage under the track is at a depth of about 14m. Heavy vehicle traffic vibrations will may destroy the delicate helictites and other formations. There may be unknown passages	at risk	https://matienzocaves.org.uk/descrip/2693.htm

Alternative	Phase	code	name	area	Ayuntamiento	East	North	Altitude	Feature	Summary	Consequences	web details
										that come much closer to the surface.		
1, 2, 3	construction	0999	cave (AD-60)	Caburrao	Voto	457108	4795786	245	cave	Length 25m; Depth 3m - A small cave with old bottles.	at risk	https://matienzocaves.org.uk/descrip/0999.htm
1, 3	construction	0241	cave	San Miguel	Voto	457778	4796501	60	cave	Length 3m Small cave chamber.	Destroyed / blocked.	https://matienzocaves.org.uk/descrip/0241.htm
1, 3	all	0115	Nacimiento del Rio Clarin	San Miguel	Voto	457818	4796441	55	resurgence with explored cave passage(s)	Length 577m; Depth 4m - Resurgence which we believe is a drinking water supply. The entrance pool has been dived and the cave passage beyond explored on various levels. Some of the passages (and possibly unexplored routes) come close to the surface. Heavy vehicles could collapse the roof, potentially harming operators and damage the water supply.	Possible danger to life. Cave survey (annex 4); depth of cave passage; weight of traffic all need considering as the track passes over the cave.	https://matienzocaves.org.uk/descrip/0115.htm
1, 2, 3	all	-	Sumidero de Monticueva	Monticueva	Voto / Ruesga	460902	4794936	498	Extensive and deep cave system.	Will feed a major resurgence, either #0115 at San Miguel or #0287 at Ogarrio. The cave passes under the wind farm project.	altered water flows + pollution	See https://matienzocaves.org.uk/descrip/0287.htm

Annex 2 - List of affected Karst features (caves, shafts, resurgences) due to Alternative 2

Alternative	Phase	code	name	area	Ayuntamiento	East	North	Altitude	Feature	Summary	Consequences	web details
1, 2, 3	all	5153	Lluriangos, Fuente de	Ogarrio	Ruesga	457539	4793004	163	cave passages with water	Impenetrable resurgence.	altered water flows + pollution	https://matienzocaves.org.uk/descrip/5153.htm
1, 2, 3	all	0287	Campuvijo, Cueva de	Ogarrio	Ruesga	456564	4793078	123	resurgence cave + passages	Length 925m Water is thought to come from the Sumidero de Monticueva to east of the project area.	altered water flows + pollution	https://matienzocaves.org.uk/descrip/0287.htm
1, 2, 3	all	0286	Mazo 5, Cueva del	Ogarrio	Ruesga	456468	4793001	127	resurgence cave + passages	Part of the resurgence complex in this area.	altered water flows + pollution	https://matienzocaves.org.uk/descrip/0286.htm
1, 2, 3	all	5137	Coverón, Surgencia del	Ogarrio	Ruesga	456424	4792996	120	resurgence cave + passages	Part of the resurgence complex in this area.	altered water flows + pollution	https://matienzocaves.org.uk/descrip/5137.htm
1, 2, 3	all	0284	caves	Ogarrio	Ruesga	456148	4793221	130	resurgence caves (incompletely documented)	Length 90m A group of 4 caves.	altered water flows + pollution	https://matienzocaves.org.uk/descrip/0284.htm
1, 2, 3	all	4275	resurgence	Ogarrio	Ruesga	456212	4793305	133	resurgence		altered water flows + pollution	https://matienzocaves.org.uk/descrip/4275.htm
1, 2, 3	all	2693	shaft	Caburrao	Voto	457102	4795785	220	shaft with cave	Length 114m; Depth 23m - Leads into a chamber well decorated with helictites. There are inaccuracies in placing the track line, the cave survey and the entrance position but the following points should be noted: The roof of the known cave passage under the track is at a depth	at risk	https://matienzocaves.org.uk/descrip/2693.htm

Alternative	Phase	code	name	area	Ayuntamiento	East	North	Altitude	Feature	Summary	Consequences	web details
										of about 14m. Heavy vehicle traffic vibrations will may destroy the delicate helictites and other formations. There may be unknown passages that come much closer to the surface.		
1, 2, 3	construction	0999	cave (AD-60)	Caburrao	Voto	457108	4795786	245	cave	Length 25m; Depth 3m - A small cave with old bottles.	at risk	https://matienzocaves.org.uk/descrip/0999.htm
2	all	0422	Entrambascuevas 2	San Pantaleón de Aras	Voto	458036	4798464	263		Length 205m This well decorated and archaeologically significant cave passes under the proposed route for alternative 3.	damaged	https://matienzocaves.org.uk/descrip/0422.htm
2	all	0110	Cobrante, Cueva de	San Miguel	Voto	457128	4796411	149	large, decorated, archaeological cave (BIC). See Annex 4.	Length 472m The track passes over the cave. Possible vibrations from heavy vehicles may damage cave.	at risk	https://matienzocaves.org.uk/descrip/0110.htm
1, 2, 3	All	-	Sumidero de Monticueva	Monticueva	Voto / Ruesga	460902	4794936	498	Extensive and deep cave system.	Will feed a major resurgence, either #0115 at San Miguel or #0287 at Ogarrío. Passes under the wind farm project.	altered water flows + pollution	See https://matienzocaves.org.uk/descrip/0287.htm

Annex 3 - List of affected Karst features (caves, shafts, resurgences) due to Alternative 3

Alternative	Phase	code	name	area	Ayuntamiento	East	North	Altitude	Feature	Summary	Consequences	web details
1, 2, 3	all	5153	Lluriangos, Fuente de	Ogarrio	Ruesga	457539	4793004	163	cave passages with water	Impenetrable resurgence.	altered water flows + pollution	https://matienzocaves.org.uk/descrip/5153.htm
1, 2, 3	all	0287	Campuvijo, Cueva de	Ogarrio	Ruesga	456564	4793078	123	resurgence cave + passages	Length 925m Water is thought to come from the Sumidero de Monticueva to east of the project area.	altered water flows + pollution	https://matienzocaves.org.uk/descrip/0287.htm
1, 2, 3	all	0286	Mazo 5, Cueva del	Ogarrio	Ruesga	456468	4793001	127	resurgence cave + passages	Part of the resurgence complex in this area.	altered water flows + pollution	https://matienzocaves.org.uk/descrip/0286.htm
1, 2, 3	all	5137	Coverón, Surgencia del	Ogarrio	Ruesga	456424	4792996	120	resurgence cave + passages	Part of the resurgence complex in this area.	altered water flows + pollution	https://matienzocaves.org.uk/descrip/5137.htm
1, 2, 3	all	0284	caves	Ogarrio	Ruesga	456148	4793221	130	resurgence caves (incompletely documented)	Length 90m A group of 4 caves.	altered water flows + pollution	https://matienzocaves.org.uk/descrip/0284.htm
1, 2, 3	all	4275	resurgence	Ogarrio	Ruesga	456212	4793305	133	resurgence		altered water flows + pollution	https://matienzocaves.org.uk/descrip/4275.htm
3	construction	0950	shaft	Mentera	Ruesga	459438	4794351	715	shaft	Length 39m; Depth 39m - Approximate grid reference.	destroyed / blocked	https://matienzocaves.org.uk/descrip/0950.htm
1, 2, 3	all	2693	shaft	Caburrao	Voto	457102	4795785	220	shaft with cave	Length 114m; Depth 23m - Leads into a chamber well decorated with helictites. There are inaccuracies in placing the track line, the cave survey and the entrance position but the following points should be noted: The roof of the known cave passage under the track is at a depth of about 14m. Heavy vehicle traffic vibrations will may destroy the delicate helictites and other formations. There may be unknown passages that come much closer to the surface.	at risk	https://matienzocaves.org.uk/descrip/2693.htm
1, 2, 3	construction	0999	cave (AD-60)	Caburrao	Voto	457108	4795786	245	cave	Length 25m; Depth 3m - A small cave with old bottles.	at risk	https://matienzocaves.org.uk/descrip/0999.htm

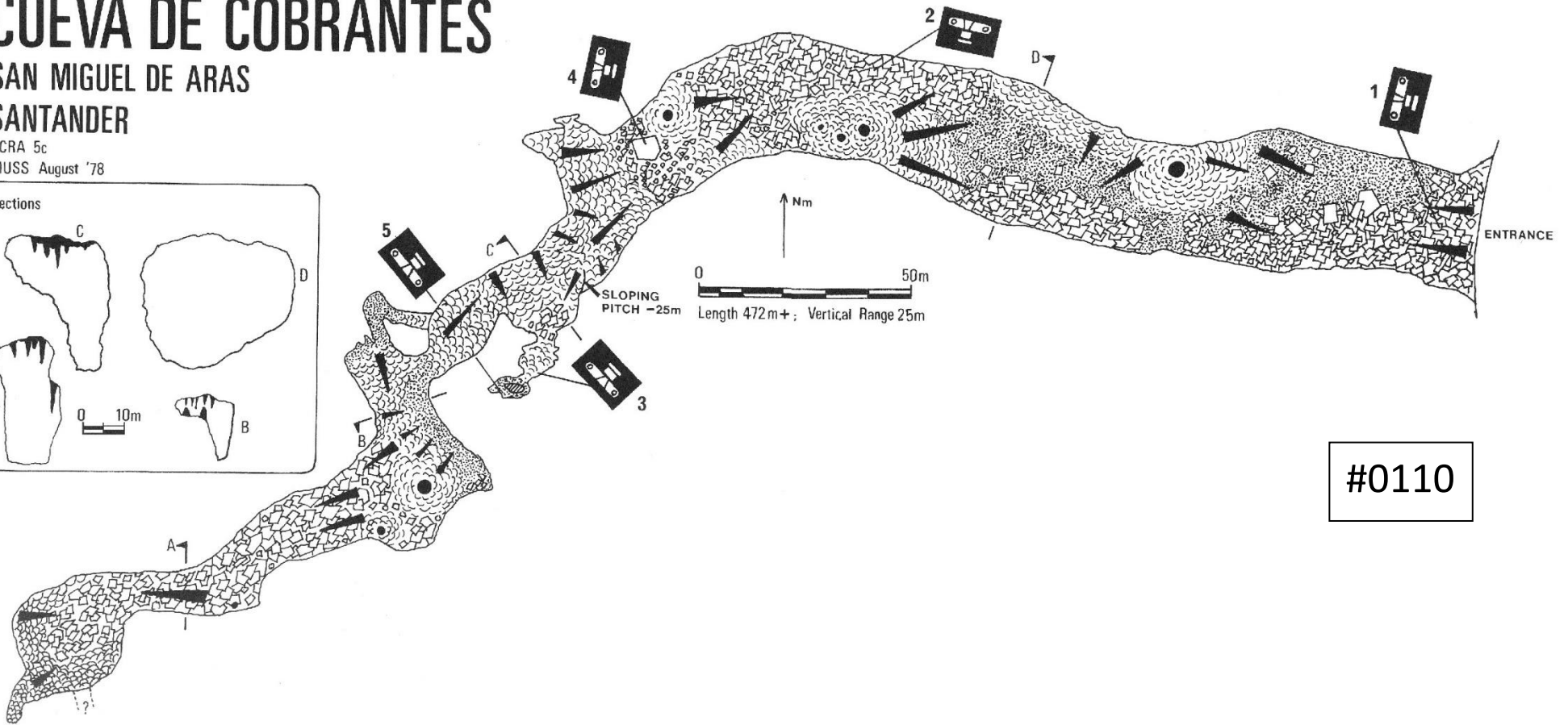
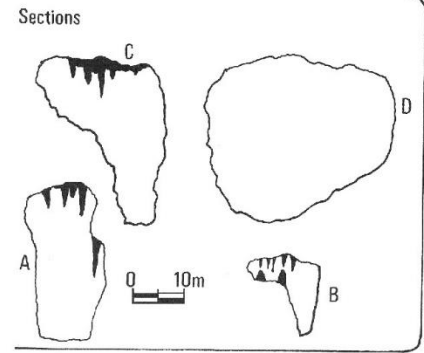
Alternative	Phase	code	name	area	Ayuntamiento	East	North	Altitude	Feature	Summary	Consequences	web details
3	construction	0946	shaft	Mentera	Voto	459548	4794481	733	shaft	Length 37m; Depth 37m Approximate grid reference.	Destroyed / blocked	https://matienzocaves.org.uk/descrip/946.htm
1, 3	construction	0241	cave	San Miguel	Voto	457778	4796501	60	cave	Length 3m Small cave chamber.	Destroyed / blocked.	https://matienzocaves.org.uk/descrip/0241.htm
1, 3	all	0115	Nacimiento del Rio Clarin	San Miguel	Voto	457818	4796441	55	resurgence with explored cave passage(s)	Length 577m; Depth 4m - Resurgence which we believe is a drinking water supply. The entrance pool has been dived and the cave passage beyond explored on various levels. Some of the passages (and possibly unexplored routes) come close to the surface. Heavy vehicles could collapse the roof, potentially harming operators and damage the water supply.	Possible danger to life. Cave survey (annex 4); depth of cave passage; weight of traffic all need considering as the track passes over the cave.	https://matienzocaves.org.uk/descrip/0115.htm

CUEVA DE COBRANTES

SAN MIGUEL DE ARAS

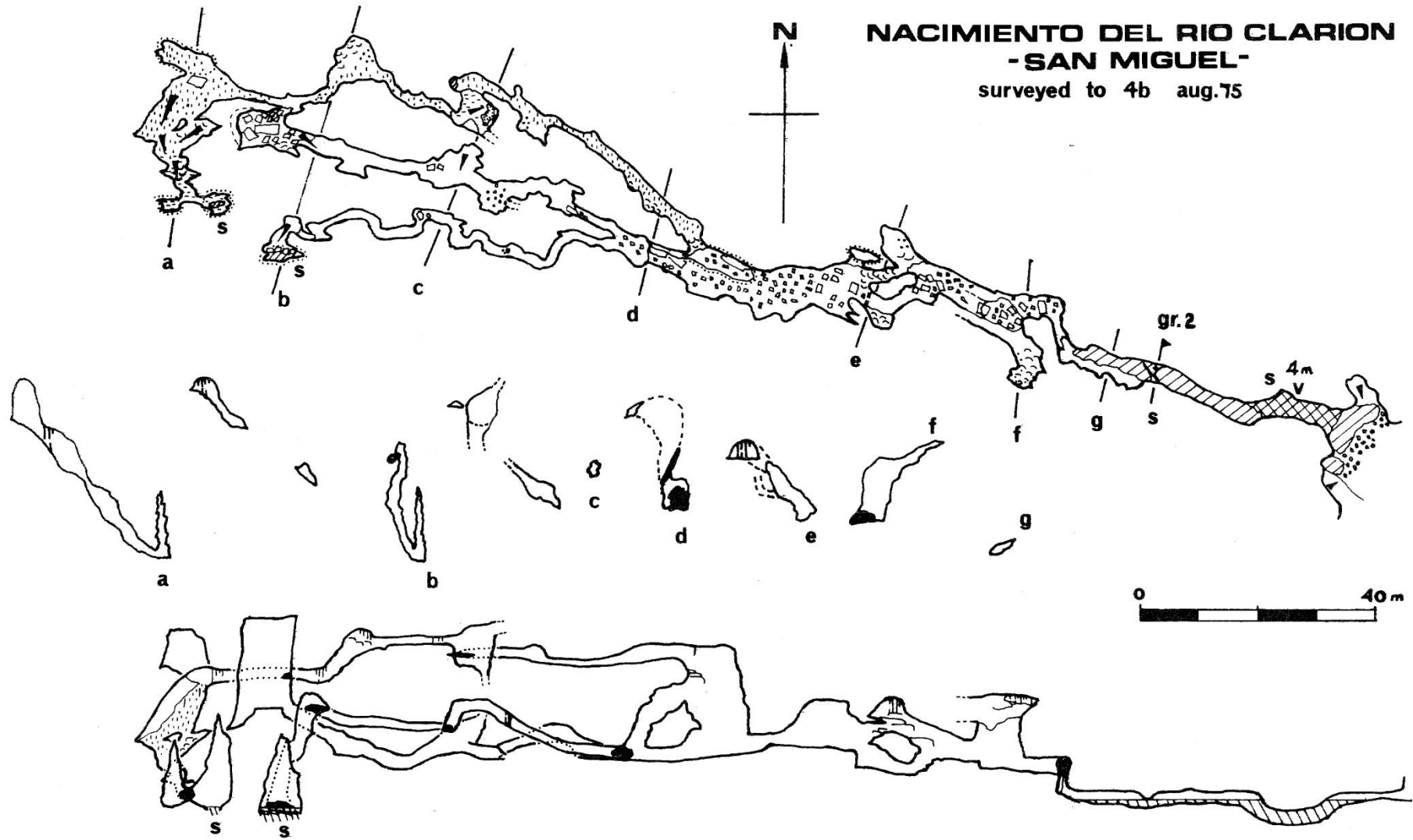
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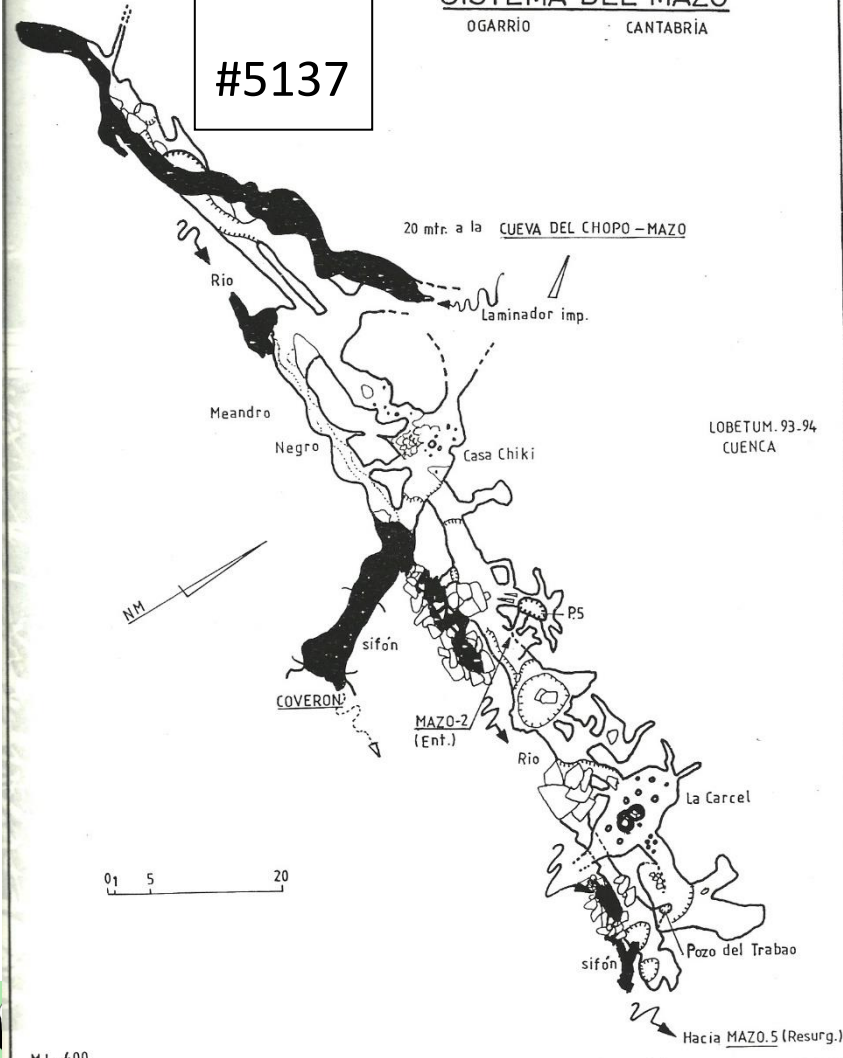
#0115



#5136
#5137

SISTEMA DEL MAZO

OGARRIO CANTABRIA



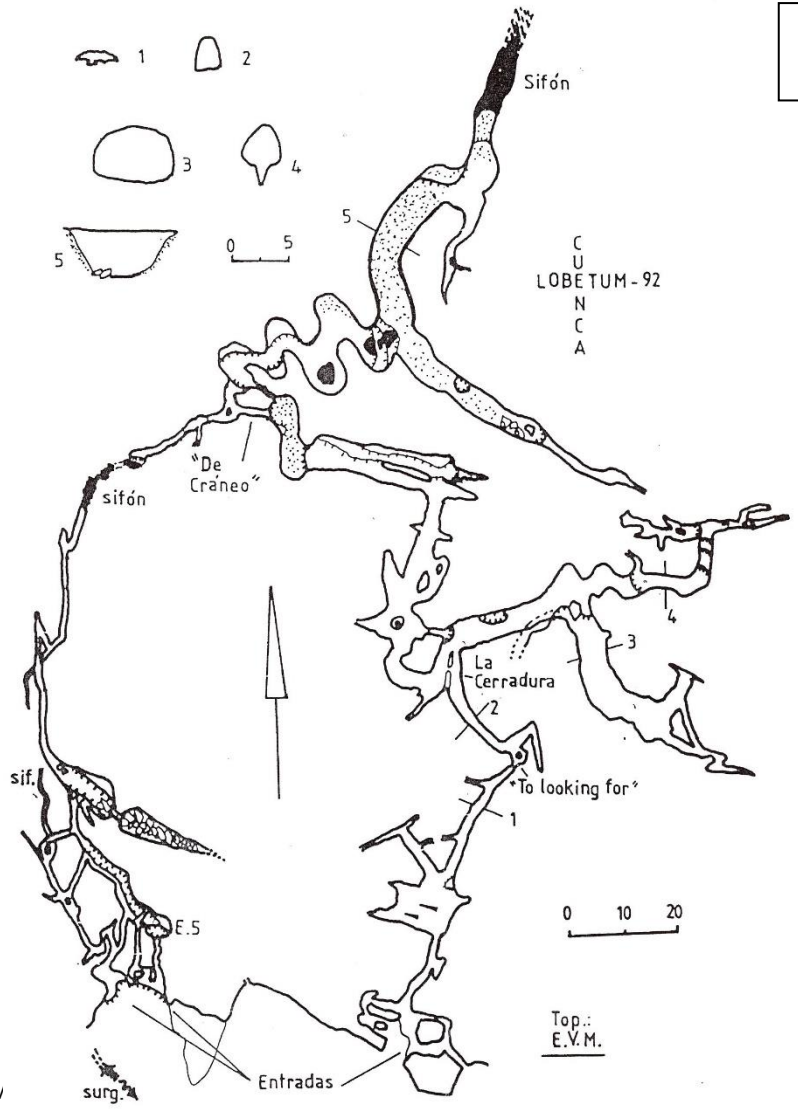
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s/SierradeSel

CUEVA DE CAMPUVIJO

OGARRIO CANTABRIA

#0287



Annex 5 – Cantabroniscus

A request for information to AI Claude about this crustacean came back with the information below

Cantabroniscus primitivus is a fascinating cave-dwelling isopod crustacean endemic to the Cantabrian Mountains in northern Spain.

Biology and Classification

- It belongs to the family Trichoniscidae within the suborder Oniscidea (terrestrial isopods or woodlice)
- It's considered a relict species with primitive characteristics, reflected in its species name "primitivus"
- It's the only species in its genus (Cantabroniscus)

Habitat and Distribution

- Found exclusively in limestone caves of the Cantabrian Mountains in northern Spain
- Inhabits subterranean aquatic environments, particularly in karst systems
- Restricted to a very limited geographical range, making it extremely endemic

Adaptations

- Like many cave organisms, it displays troglomorphic adaptations including:
 - Lack of pigmentation (typically appearing whitish or translucent)
 - Reduced or absent eyes
 - Elongated appendages for sensing its environment
 - Slow metabolism adapted to the resource-limited cave environment

Conservation Status

- Due to its extremely limited range and specialized habitat requirements, it's considered vulnerable to environmental changes
- Threats include groundwater pollution, disturbance of cave systems, and climate change impacts on the karst hydrology

This species represents an important example of specialized evolution in subterranean environments and is of significant interest to biospeleologists.

Cantabroniscus has been photographed at least 6 times in different caves in and around Matienzo.



Above: Cantabroniscus in Orillonzuco (#1162) Photo: Juan Corrin



Above: Cantabroniscus in Cueva de Fresnedo 2 (#0841) Photo: Simon Cornhill

El Proyecto de Cuevas de Matienzo

El [Proyecto de Cuevas de Matienzo](#) es una iniciativa de larga trayectoria dedicada a explorar, documentar y preservar los extensos sistemas de cuevas en y alrededor de la depresión de Matienzo en el norte de España desde la década de 1960. Operando con permisos oficiales del Gobierno de Cantabria, el proyecto realiza expediciones sistemáticas que han documentado miles de cuevas, creando un archivo digital y físico integral de topografías, fotografías, descripciones de cuevas y datos geológicos.

El proyecto sirve como un centro de colaboración internacional donde espeleólogos experimentados y novatos trabajan juntos para ampliar el conocimiento de estas formaciones kársticas únicas, promoviendo la conservación de cuevas y apoyando la investigación científica en campos como la arqueología, hidrología, biología y cambio climático.

A través de su sitio web interactivo, el Proyecto de Cuevas de Matienzo hace sus hallazgos accesibles al público, permitiendo a investigadores y entusiastas de todo el mundo beneficiarse de sus sesenta y cinco años de exploración espeleológica, mientras crea conciencia sobre la importancia de proteger estos frágiles ecosistemas subterráneos.

The Matienzo Caves Project

The [Matienzo Caves Project](#) is a long-standing initiative dedicated to exploring, documenting, and preserving the extensive cave systems in and around the Matienzo depression of northern Spain since the 1960s. Operating with official permits from the Cantabrian Government, the project conducts systematic expeditions that have documented thousands of caves, creating a comprehensive digital and physical archive of surveys, photographs, cave descriptions and geological data.

The project serves as an international collaborative hub where experienced and novice cavers work together to expand knowledge of these unique karst formations while promoting cave conservation and supporting scientific research in fields such as archaeology, hydrology, biology and climate change.

Through its interactive website, the Matienzo Caves Project makes its findings publicly accessible, allowing researchers and enthusiasts worldwide to benefit from its sixty-five years of speleological exploration while raising awareness about the importance of protecting these fragile underground ecosystems.

