

RECEIVED

AUG 25 2021

PUBLIC SERVICE
COMMISSION

Ryan and Tara Hager

August 24, 2021

Via Federal Express (overnight)

Ms. Linda Bridwell
Executive Director
Public Service Commission
211 Sower Boulevard
Frankfort, KY 40602

Dear Ms. Bridwell,

My name is Ryan Hager and I am writing regarding the Green River Project (the "Green River Project") that is being reviewed by the Kentucky State Siting Board.

I am a neighboring landowner, farmer and resident of part of the Green River Project. I have requested a map regarding the Green River Project but have yet to receive one.

I was contacted approximately three (3) years ago by Rob Shulte with Orion Renewables. He met with me personally and was interested in leasing 1,000 acres of my land that lie to the northwest of the Rock Quarry on Highway 477 (this road leads to Webster, Kentucky from Irvington, Kentucky) to install solar panels.

After much discussion and questions asked, he offered me \$1,000,000 per year for a thirty (30) year contract. I told him that I was not interested. Could I have used \$1,000,000 per year? Absolutely! I could have possibly been debt free in a few short years. However, after hearing about the Green River Project and after much research on my own, it didn't take long to reach the decision not to sign a contract with Orion Renewables.

After a year or so had passed, it was clear to me that several neighboring landowners signed contracts on their farms to be part of the Green River Project. Mr. Roach, one of the landowners from whom I am currently leasing for crops, recently called to let me know he had signed a contract. After much discussion, Mr. Roach informed me that he knew nothing about the Green River Project other than the per acre payment that they have offered him.

Also, I recently learned that Nextera has purchased the Green River Project contracts from Orion Renewables and were laying out a new project to connect to the Guston sub station on Highway 79. I am also an adjoining property owner of the Meade Project that Community Energy is installing. I am losing 250 acres of rented farm land to the Meade Project as well. I am not happy about that project either but it does not affect my livelihood as much as the Green River Project in the Irvington-Webster area.

I am a fifth generation farmer and currently farm land in Meade, Breckinridge and Hardin counties. What really concerns me about the Green River Project is their intention to put 1,750 acres of solar panels in the most karst area in three counties, possibly the most karst area in the State of Kentucky.

In years past, the farm land in the Webster, Kentucky valley was not suitable to row crop because of the many sinkholes which made the land highly erodible. In the late 1980's, no-till practices were adopted by farmers which made the fertile land more suited for row crops. The no-till practices keep the top soil in place instead of allowing it to enter the sinkholes and disappear forever. All of the sinkholes in this area drain the water from each of the basins in the fields. Eventually, the drained water enters the Webster Cave Complex (see attachment) that is an underground river that handles thousands of acres of watershed before it empties into Sinking Creek. This cave complex is over ten (10) miles long (of what has been mapped so far), and I have been informed that the main trunk is larger than Mammoth Cave (see attachment). This cave system lies beneath part of the proposed Green River Project that is situated to the east of Highway 333 and leads to Webster, Kentucky from Highway 60. When I asked Mr. Shulte with Orion Renewables how they plan to keep run off and debris from a natural disaster out of the sinkholes, he became silent and offered no answer.

If any hazardous material or debris enters the sinkholes after a natural disaster with torrential rain fall, there would be no possible way to properly clean up the contamination and this would be detrimental to our water supply.

From 2010 to 2016, I farmed the land that lies along Highway 333 as well as the farm on Old Norton Lane. I can attest that those farms have several sinkholes per acre. Some are 15-20 feet deep (large enough to swallow a tractor) and others may be only a few feet deep. Several of the sinkholes are direct entrances to the cave system. The sinkholes in this particular area are not predictable. Sometimes the sinkholes look the same from year-to-year or they may transform from a hole the size of a five gallon bucket to a hole large enough to swallow a car. Each and every year, I experience new sinkholes that form where there were no previous indications of holes. Another concern I have is the shallow limestone in this area. A great deal of limestone is exposed to the surface across the land in this area. These are not small rocks; some are actually bed rock. When I spoke to the project manager of Community Energy, he informed me that on past projects, the steel I-beams are engineered to be driven 7-8 feet into the ground to account for wind load. I can guarantee that 7-8 feet deep in these fields will not be possible on probably over 50% of the beams that need to be driven to that depth. So, if that is the case, what will they do? It gives me great concern that if no one is monitoring these, that when they hit rock at four feet, the beam will be cut off and they will just move on to the next. They MUST be held accountable for proper installation. Most of these companies do not plan on owning these solar power generating plants once they make them operational. I believe that is because they do not want the responsibility for when something goes wrong and it just a matter of time before it does.

Ms. Linda Bridwell
August 24, 2021
Page 3

There are several other reasons why this is not a good project for our Kentucky counties and communities for environmental nor economic reasons but I assume (and hope) that the board is aware of those as well.

My purpose of this letter is to raise awareness of how karst this particular area really is. I cannot foresee how this project would be environmentally-friendly or a responsible spot for a solar power plant. I hope all members of the board will take some of this into consideration when reviewing this project. If our water supply becomes contaminated, generating solar electricity will be the least of our worries.

In summary, 1) this is disproportionately fertile soil that yields greater crop output—the PSC should take into account the broader economic good of the Commonwealth and seek to locate these projects in places where the losses to agricultural output would not be as great; and 2) the porous nature of the soils and limestone beneath them, which drain into the enormous Sinking Creek watershed do not seem to have been taken into account as this project has been proposed — either from a structural standpoint or from a hazardous waste standpoint.

At your convenience, I would be more than happy to answer any questions you may have or even personally show you some of the sinkholes on my private adjoining farms to further illustrate this concern.

Thank you for your time and consideration.

Sincerely,

A handwritten signature in blue ink that reads "Ryan Hager". The signature is written in a cursive, flowing style.

Ryan Hager

Enclosures

Attachments

KENTUCKY

SPELEOLOGICAL SURVEY

ANNUAL REPORT

VOL. 17 / JAN. 2011

COAL CENTRAL

A detailed look at the large, yet unexplored, entrances of western Kentucky

HART ATTACK!

A K55 survey weekend packed with surveying, ridgewalking and caving

WEBSTER CAVE

The first look at the maps of the 10+ miles and 9 years of surveying in this cave complex



Webster Cave Complex

by Chris Anderson, Ben Hutchins & Ben Tobin

Nestled in Sinking Creek Valley, surrounded by the 800 foot high ridge tops of central Breckenridge County, are the three known entrances of the Webster Cave System, the longest of a dozen or so caves that make up the Webster Cave Complex. From 2005 to 2013, 43 cavers were involved in 85 mapping trips into the cave, along with numerous other trips to check on the status of the Mulu Sump. For a detailed narrative of our efforts, please see the flatland Speleological Society News article from January 2017.

While there are still numerous leads left in the system, that article and these maps are the culmination of that work. Additionally, none of our work in the area would be feasible but for the kindness and hospitality of the many landowners in the area. For over 20 years, they have made our work in the caves of Webster possible. Our work is dedicated to them.

Curtis Beasley
Parks Grotto
by Chris Anderson



Jeff Gillette
Holmes Grotto, Holmes Hall
by Chris Anderson

Project Summary

Total Survey Trips: 85

Total Surveyed Length/Depth: 59,252.8 ft (10,275 mi)/ 93.5 ft

Webster Cave: 50739.4 ft (9,608 mi)/ 93.5 ft

Melody Hill Cave: 1641.2 ft/ 37.5 ft

Vanham's Sink/Born Hole: 1134.2 ft/ 28.1 ft

Park's Valley Cave: 526.4 ft/ 11.7 ft

Ba-ham Sink: 166.6 ft/ 27.3 ft

Cartographers (# of maps): Ben Hutchins (7), Ben Tobin (6), Andrea Crosby (3), Dave Lambert (2), Inhabana Kovarik (1), Melissa Hendrickson (1)

Surveyors (# of trips): Ben Hutchins (38), Chris Anderson (34), Ben Tobin (30), Pat Mudd (28), Mark Phillips (25), Andrea Crosby (16), Pat Brian (15), Dave Everton (11), Ty Spatt (9), Ryan Stidham (7), Jeff Gillette (6), Steve O'nan (5), Mike Springer (5), Melissa Hendrickson (4), Brian Sikofsky (3), Jonathan Kovarik (3), Scott Schouffracker (3), Chad Williams (3), Mike Drake (2), Curtis Beasley (2), Sean Lewis (2), Marie Hutchins (2), Adam Craig (2), Brian Mann (2), Ty Spatt (2), Heather Veerkamp (2), Mary Hicks (2), Goni Beckler (2), Ben Miller (2), Aaron Boler (1), Adam Baldrige (1), Tim Gorman (1), Tommy Rundall (1), Brandon Jackson (1), Ehn Goss (1), Ryan Boyce (1), Todd Armstrong (1), Bill Baus (1), Amy Budd (1), Stefan Papp (1), Erin Lyden (1), Amy Gem (1), Carl Bern (1), Evan Blackstock (1), Roger Harris (1), Pat Mudd (1), Pat Mueller (1), Carrie Crot (1), Pat Mudd (1)

Survey Methodology

The Webster Cave Complex Survey Group is currently conducting the third survey of the Webster Cave Complex. However, the current survey is more organized, methodical, and accurate. The following details summarize current survey methods:

- WCCSG surveys use Suunto compasses and clinometers.
- Distances are measured using a fiber glass tape and measurements are taken to the nearest 10th of a foot.
- Backsights are taken at all shots and a two-degree discrepancy between front-sights and backsights is allowed.
- To reduce survey error, survey loops are analyzed using COMPASS and a compass course is used to calibrate instruments although use of the compass course is admittedly used sporadically.

Survey data is stored in COMPASS, and the program is used to generate the filepaths for the Webster Cave Complex.

- Sketches are made and high quality scanned copies are filed. All original sketches are drawn 1/20 ft to the inch.
- Surveys are run using GPS readings have been taken to re-align cave surveys with the surface.

Cartographic Methods

The cartographic efforts of the WCCSG are producing quality maps of accuracy and detail meeting current standards of cave cartography. The following details summarize current WCCSG cartography methods:

- The cartography of the Webster Cave Complex is being completed in quadrants with a scale of 50 ft/in, allowing increased detail to be shown.
- Maps are created using Adobe Illustrator CS3, into which lineplots generated using COMPASS, an SVG exporter, and scanned sketches are imported directly into Illustrator.
- A map template provided by the Hong Kong Cave Exploration Society was modified for Webster Cave. We are greatly indebted to that group. The template included cave symbols as well as strokes and fill patterns.

Pat Mudd/matt Mudd
Multi-Sump, North Bore
by Chris Anderson

Kentucky Speleological Society

Acknowledgements

With much thanks and gratitude to the landowners, who have not only allowed us access to their caves, but who have also taken such pride and interest in the natural wonders that they own as well as our continuing efforts:























Jim and Angie Parks, Charles Vanlahr, Sammie Quiggins, Jonathan and Marinetta Vanlahr, Mr. and Mrs. Shilts, The Bashams, William Mays, Mr. and Mrs. Joe Mays, Mr. J.D. Tobin, Jr., Mr. Charles Smith

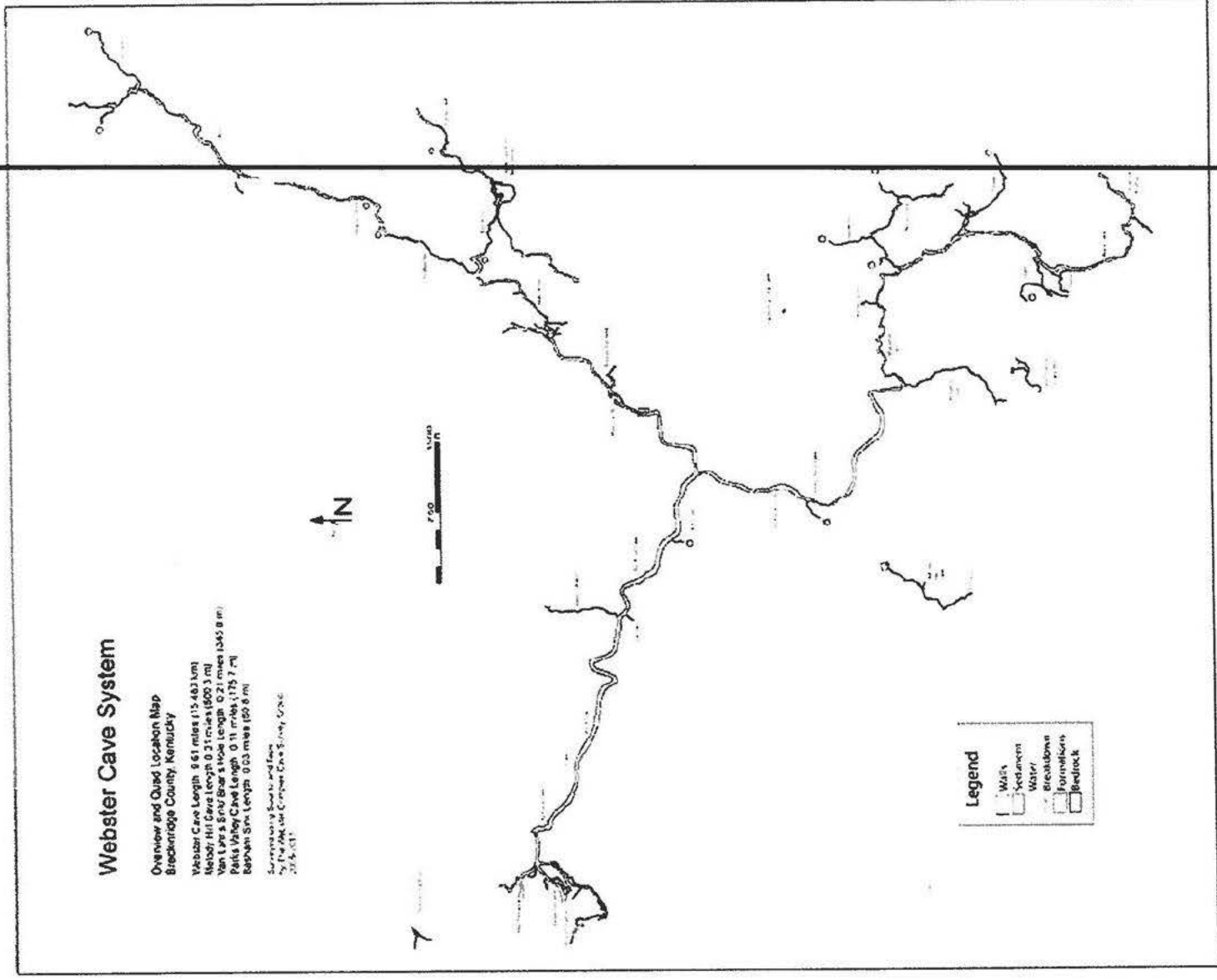
Special Thanks to Jim and Angie Parks, who graciously provided us with a wonderful fieldhouse for multiple years of the project. And to the Hutchins for graciously opening their house to dirty and weary cavers time and time again. Without all of your support, none of this would have been possible.

Index of Maps:

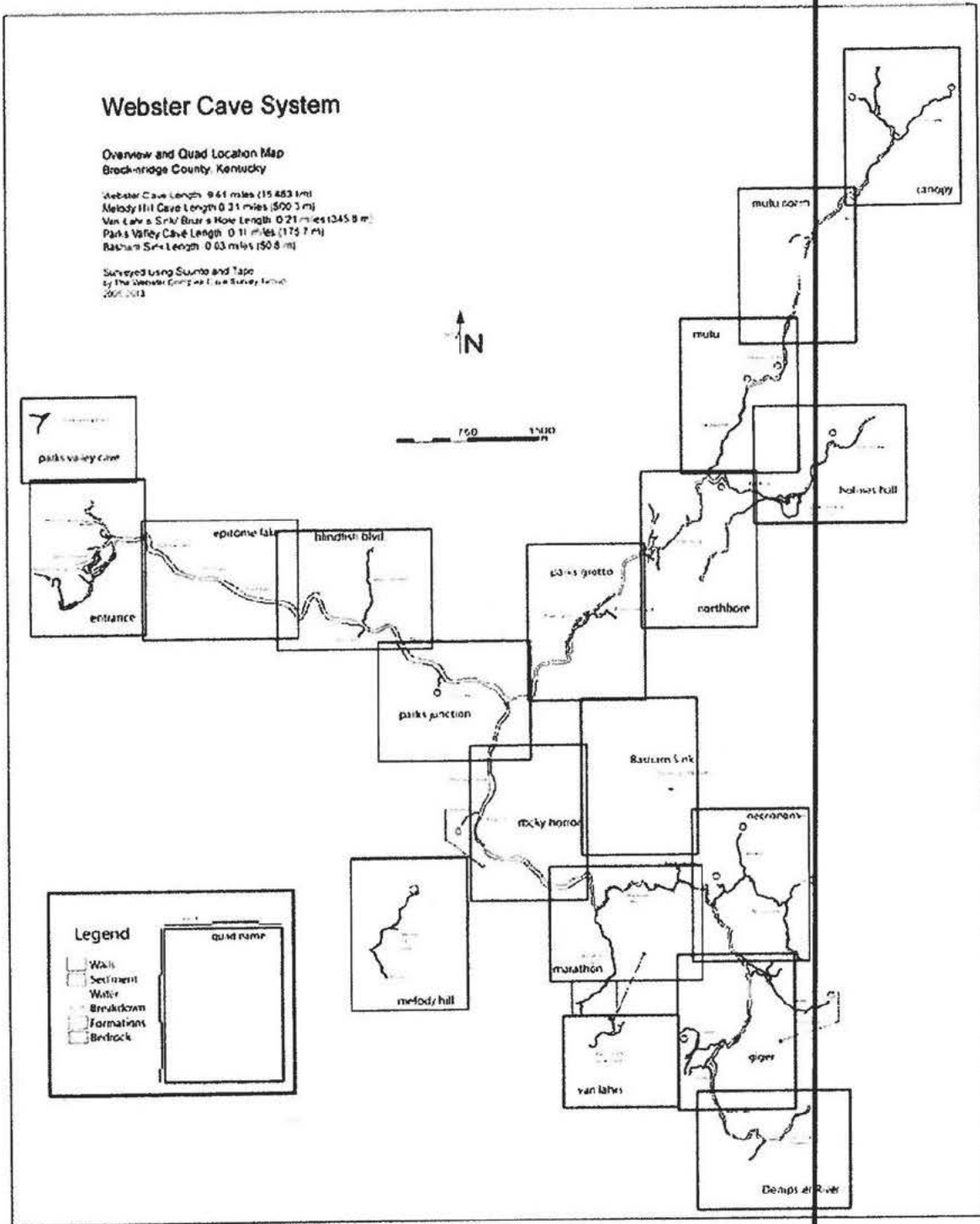
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|-----------------------------|------------------------------|
| 1. Webster System Overview | 11. Demoster River Quadrant |
| 2. Selected Profiles | 12. Park Grotto Quadrant |
| 3. Entrance Quadrant | 13. Northmore Quadrant |
| 4. Epitome Lake Quadrant | 14. Holmes Hall Quadrant |
| 5. Blindfish Blvd. Quadrant | 15. Mule Quadrant |
| 6. Parks Junction Quadrant | 16. Mule North Quadrant |
| 7. Rocky Horror Quadrant | 17. Cancopy Quadrant |
| 8. Marathon Crawl Quadrant | 18. Vanlahr/ Briar Hole Cave |
| 9. Necronom Quadrant | 19. Melody Hill Cave |
| 10. Giger Quadrant | 20. Park's Valley Cave |

Legend

 bedrock	 dripline	 bedrock column
 sediment	 intermittent flow	 fossils
 water	 water flow	 stalagmite/ stalagite
 sump	 ceiling height change	 flowstone
 ledge	 ceiling channel	 sodastraws
 ceiling height	 undercut ledge	 breakdown
 height above water depth below water	 t.i. too tight	 slope
	 unsurveyed passage	

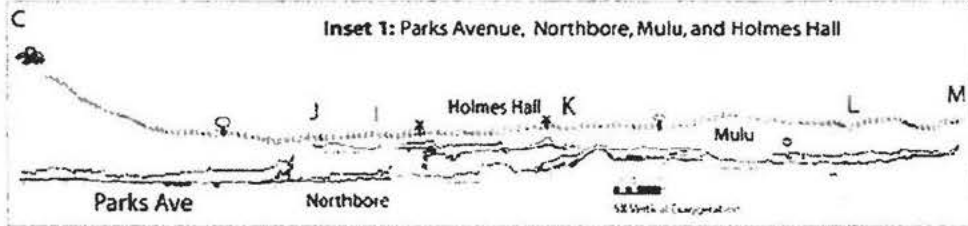


Kentucky Speleological Society

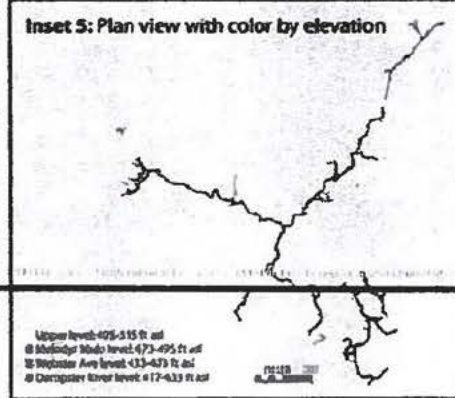
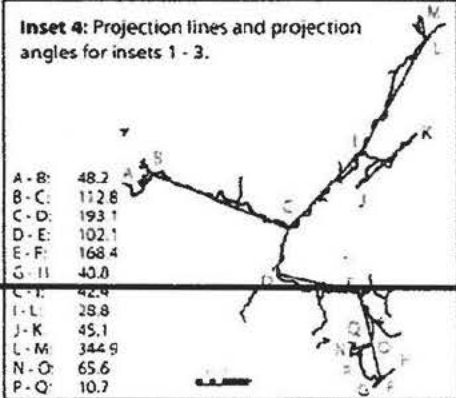
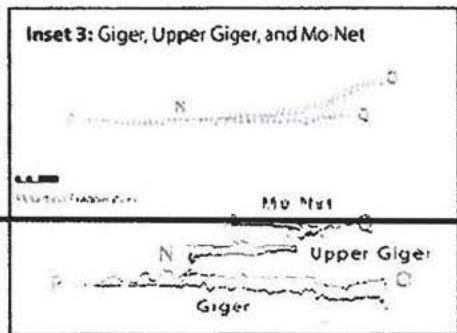
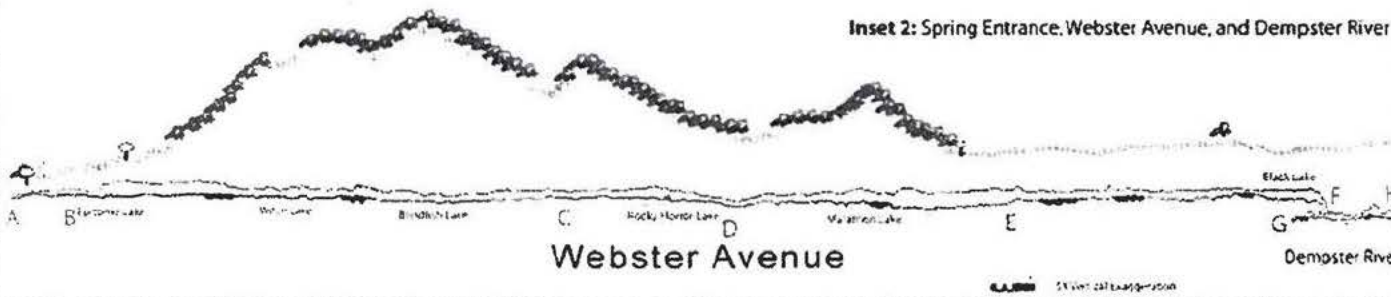


Webster Cave Selected Profiles

Breathitt County, Kentucky
 U.S. Geological Survey
 12/15/2011
 1:25,000 Scale



Inset 2: Spring Entrance, Webster Avenue, and Dempster River



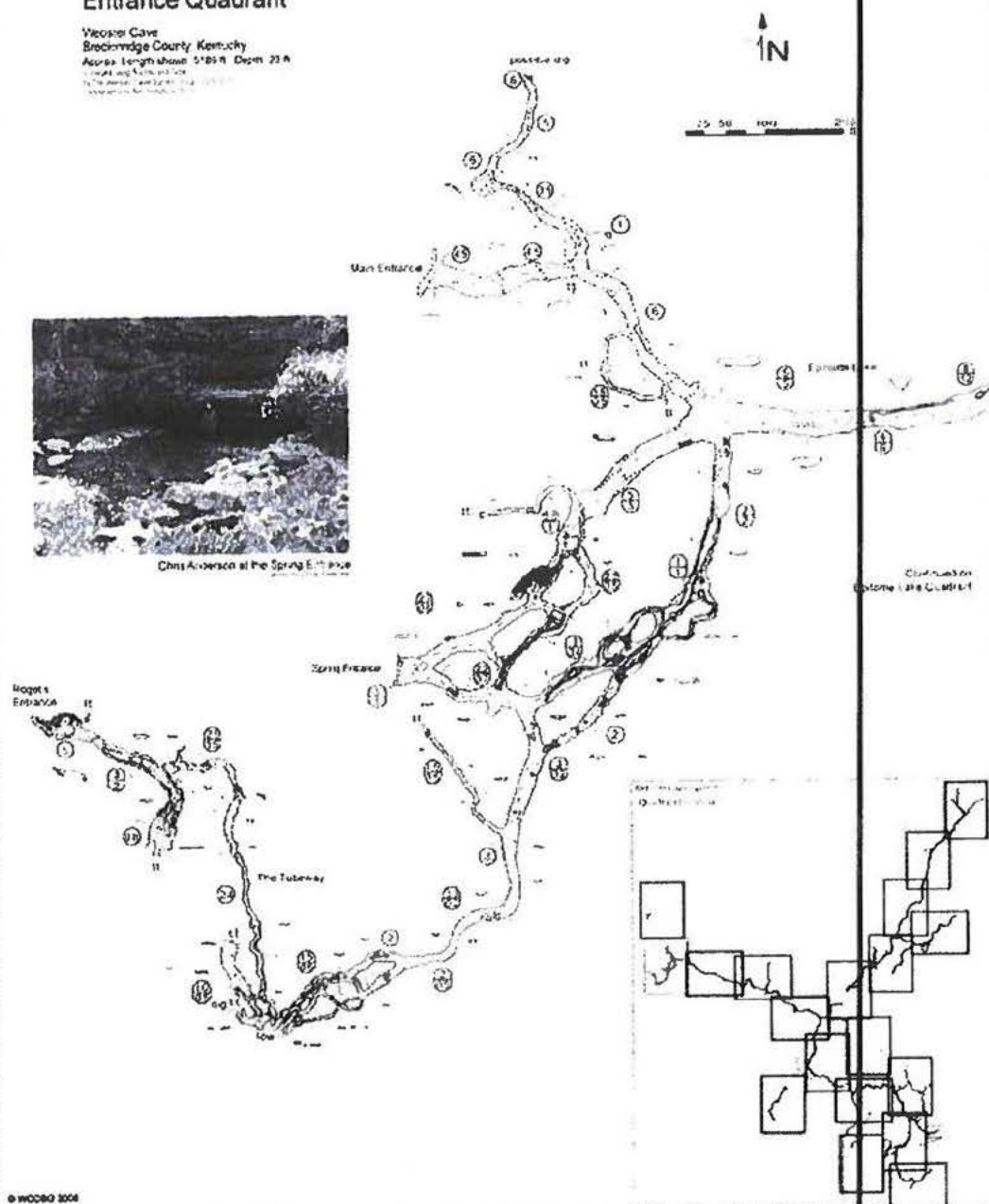
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Entrance Quadrant

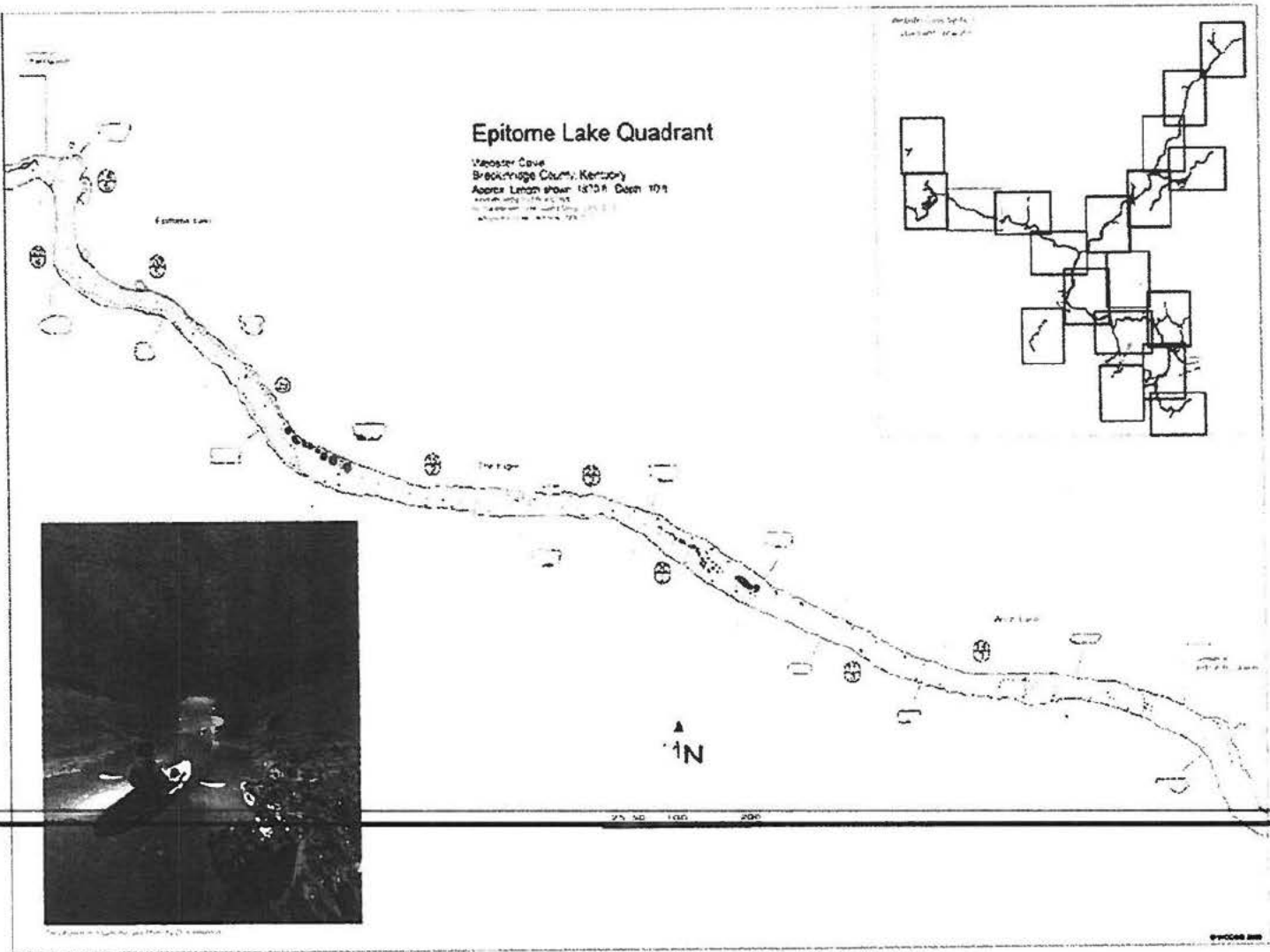
Weeks Cave
Brookridge County, Kentucky
Access length about 5100 ft. Depth 23 ft.
Cave No. 1000000000
By the American Speleological Society
www.kentucky-caves.com



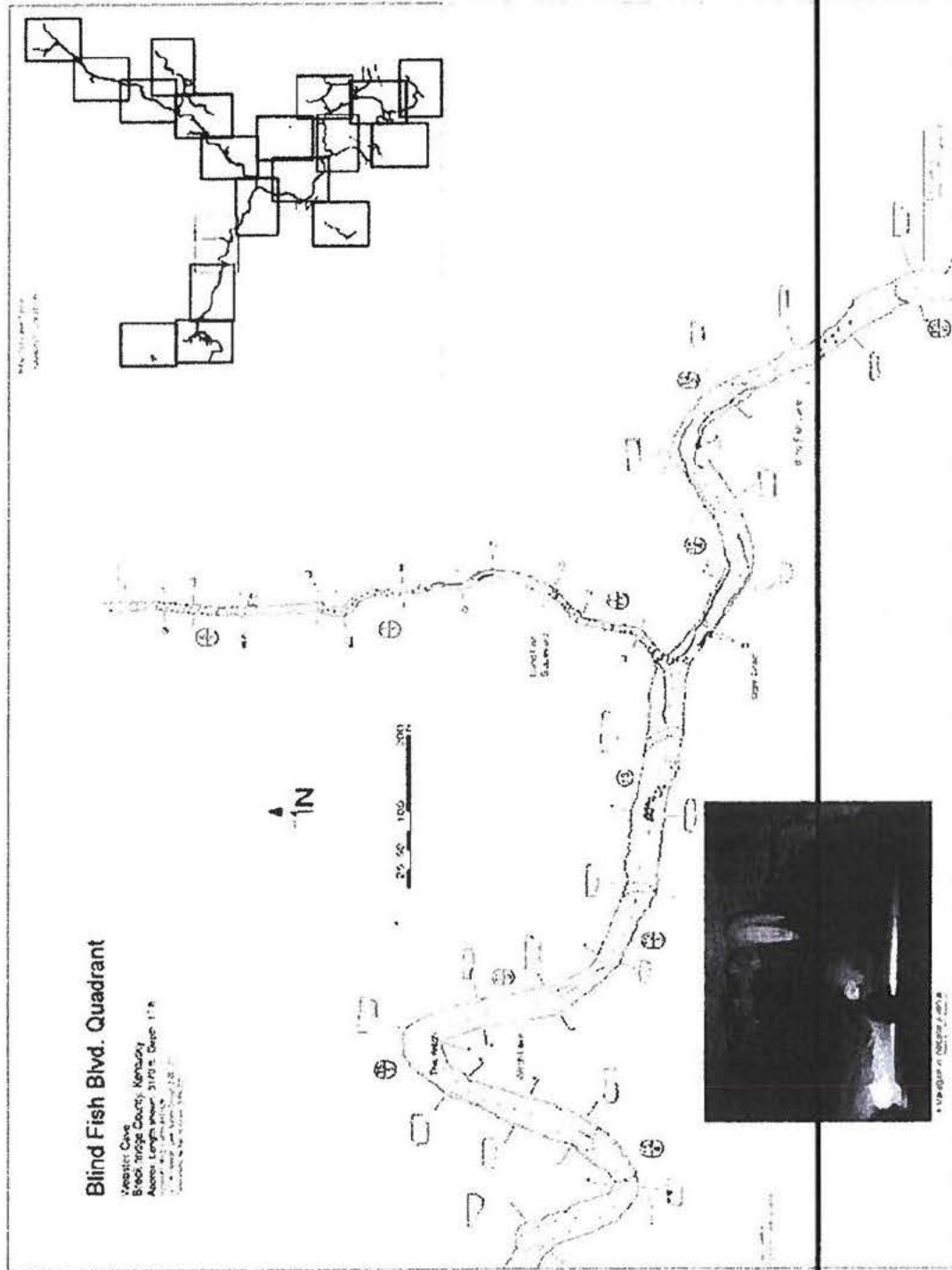
Chris Anderson at the Spring Entrance

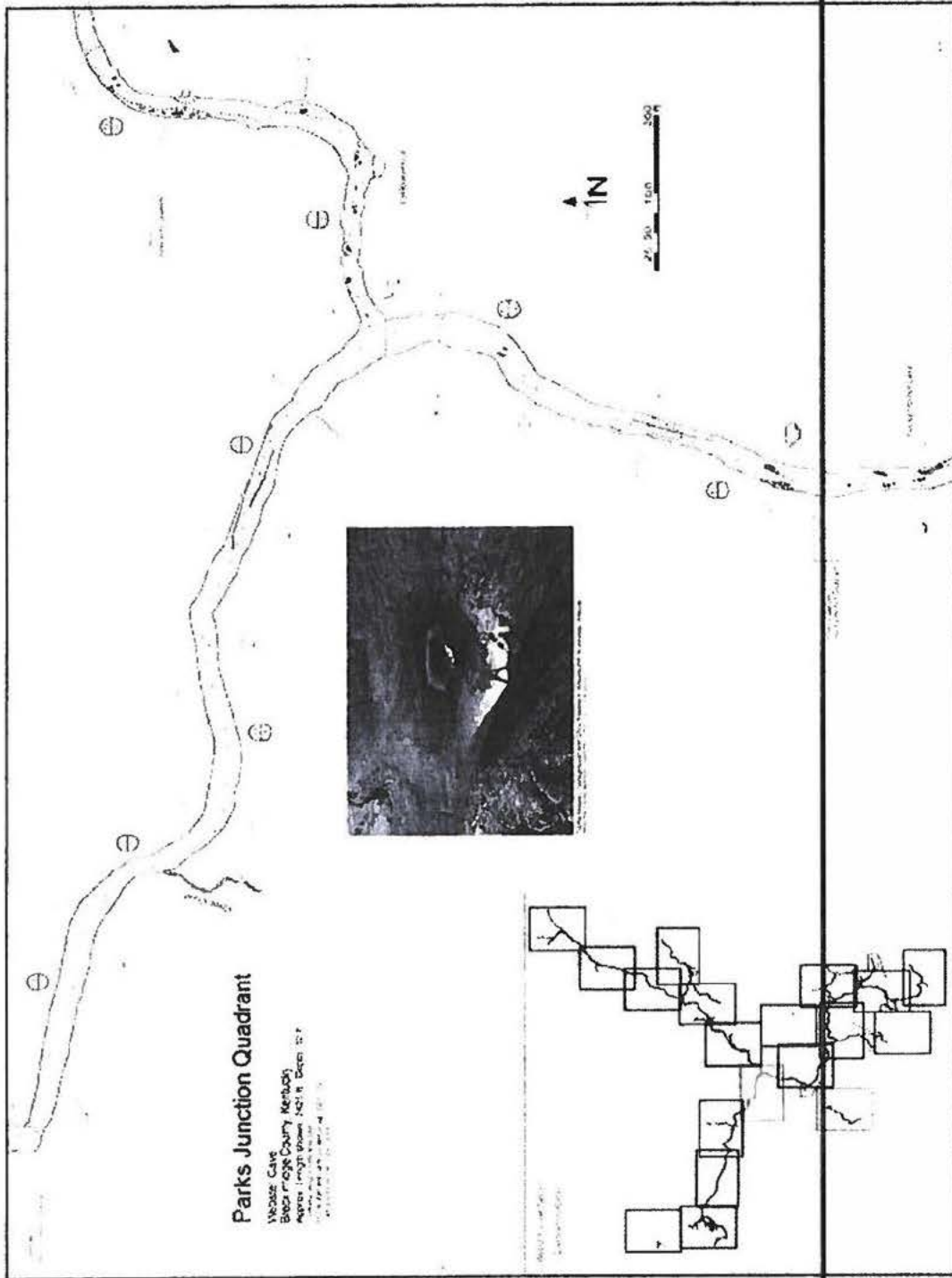


© WCCSO 2008

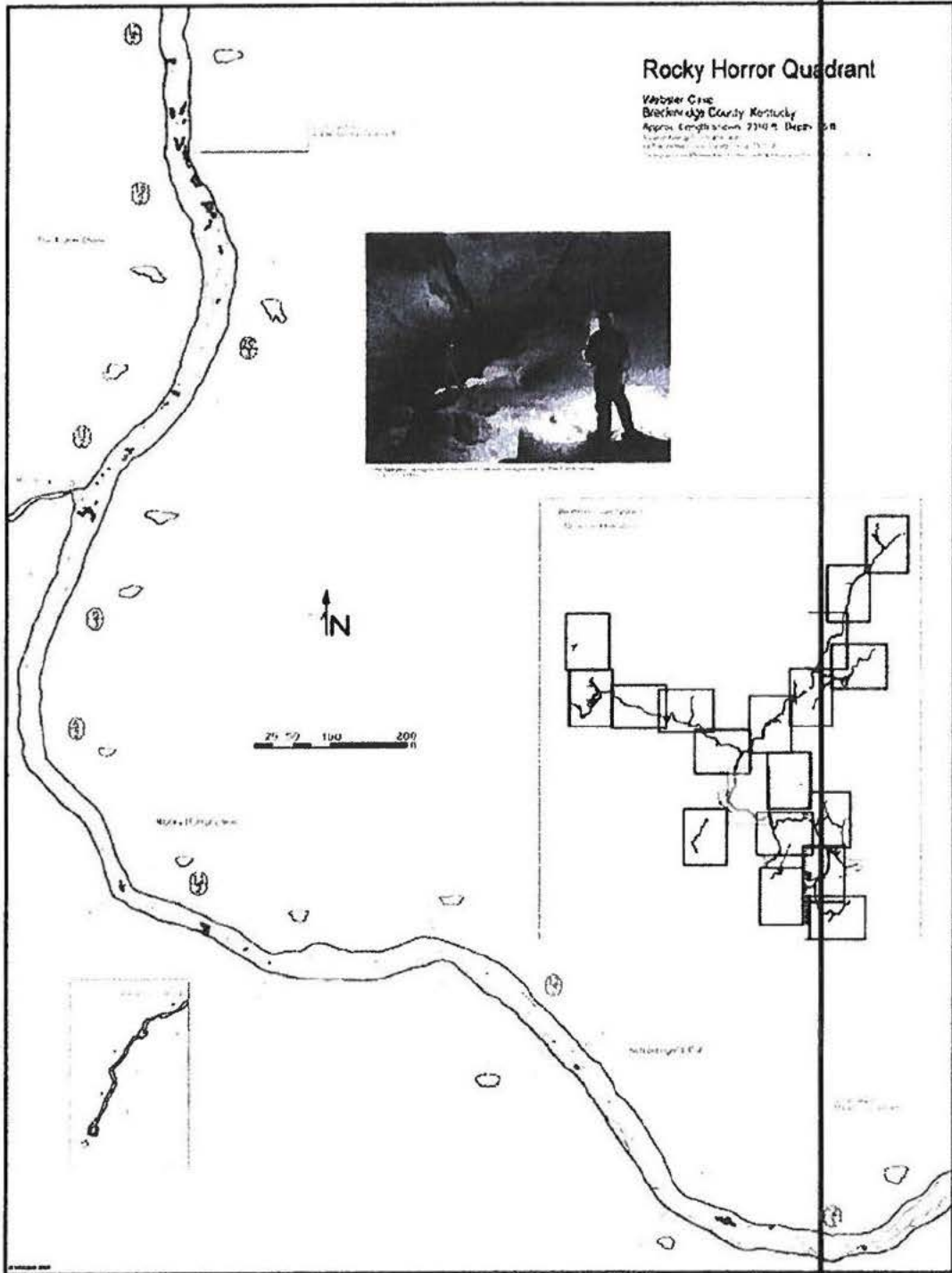


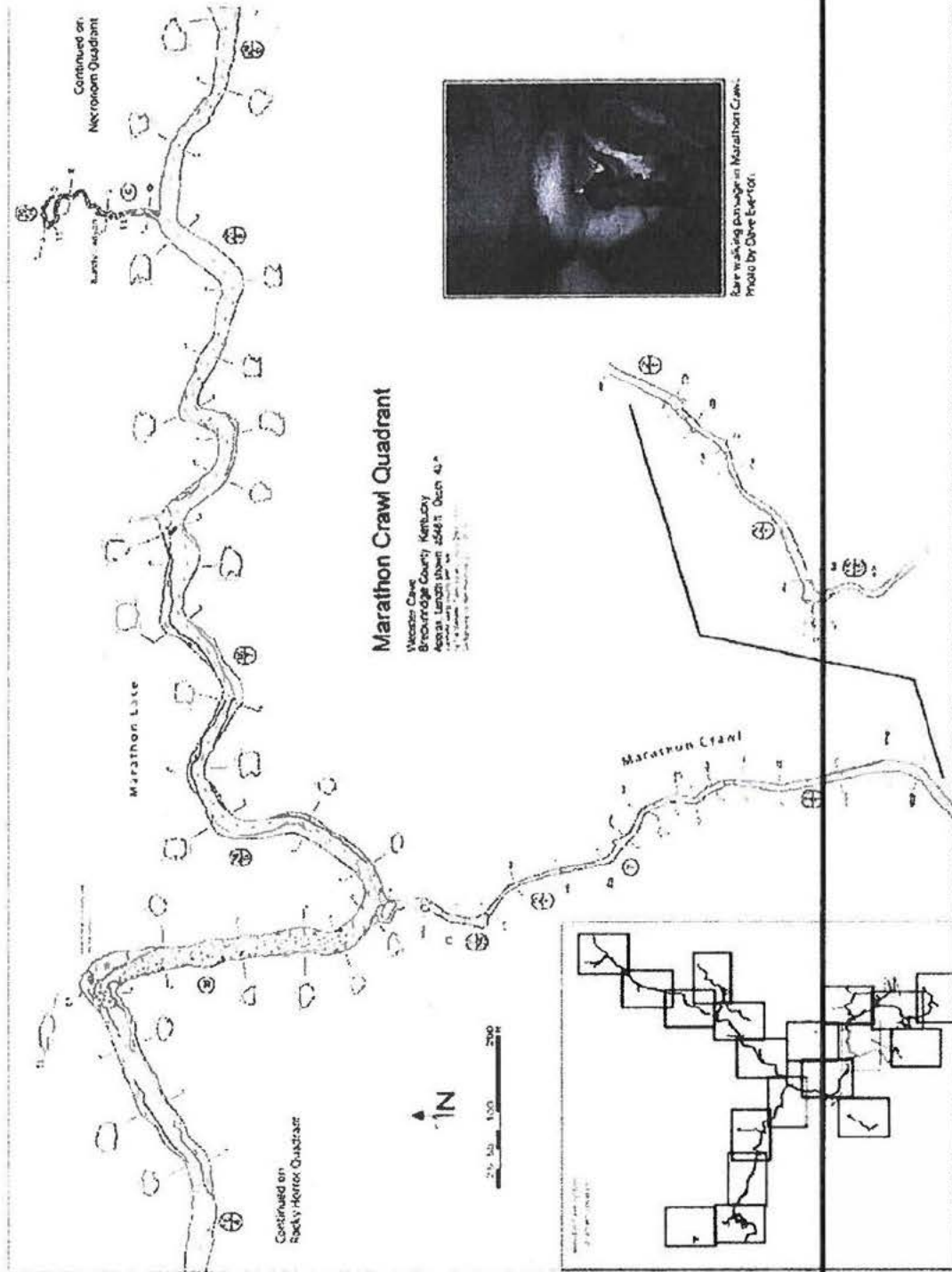
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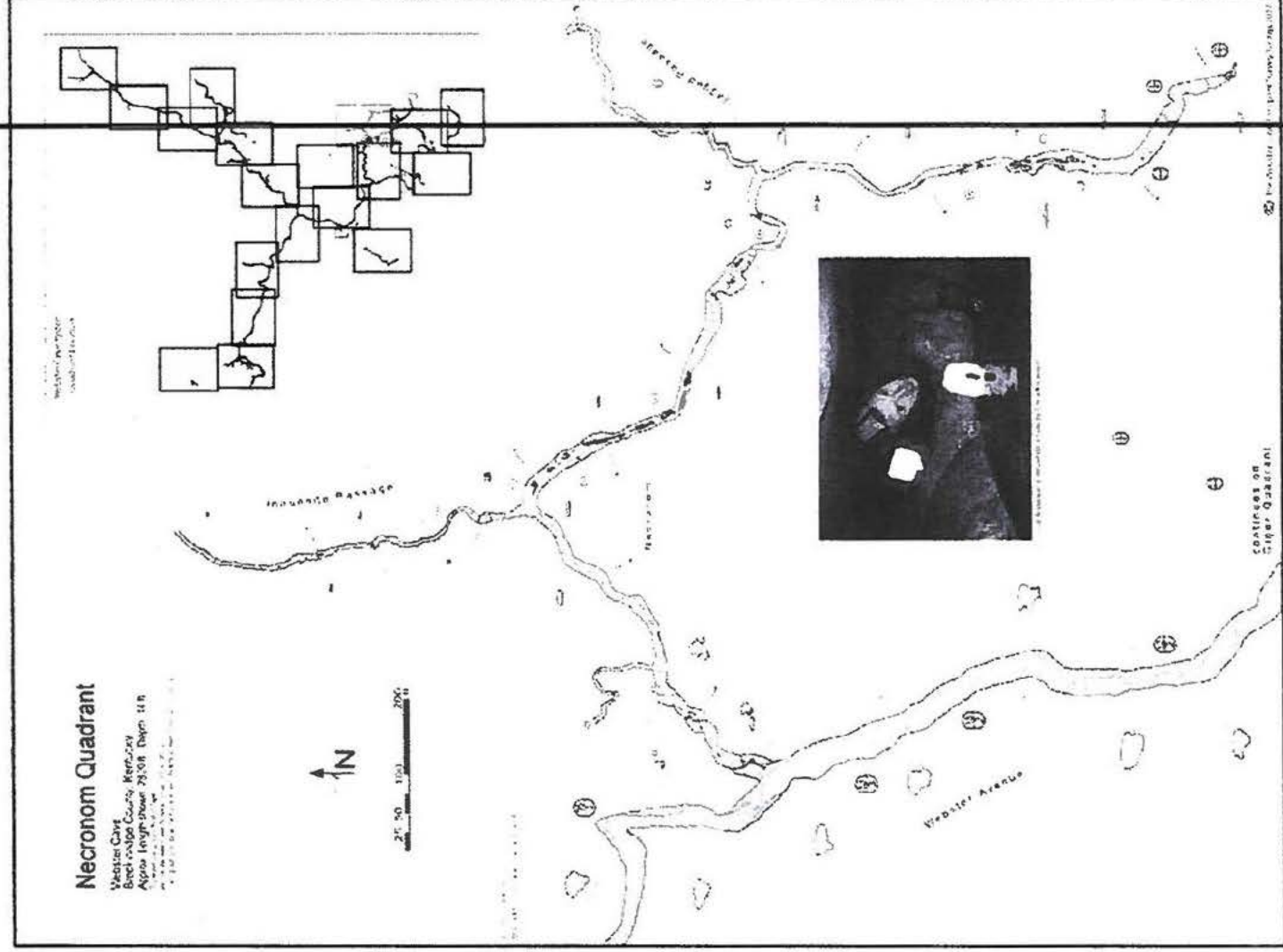


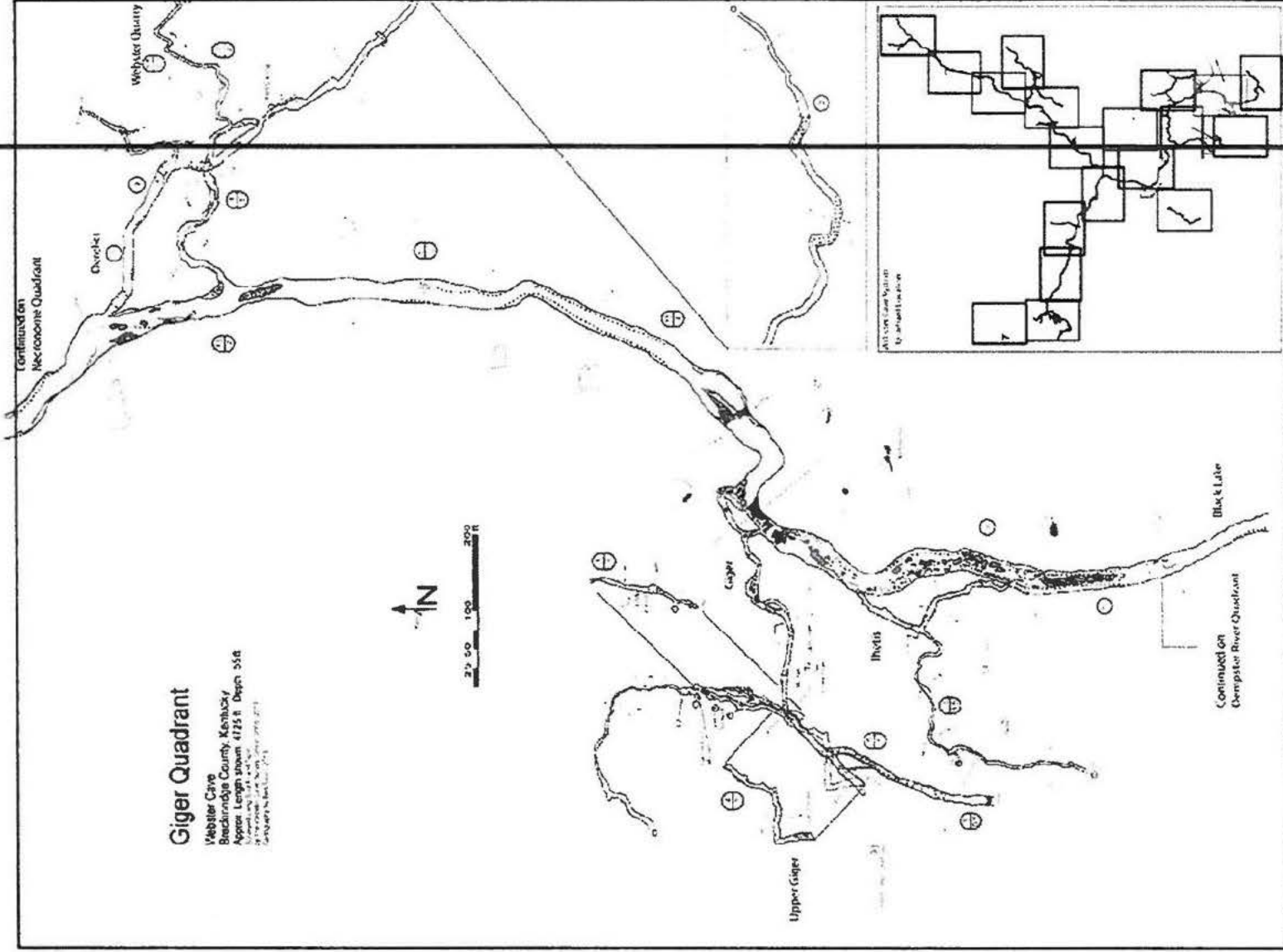
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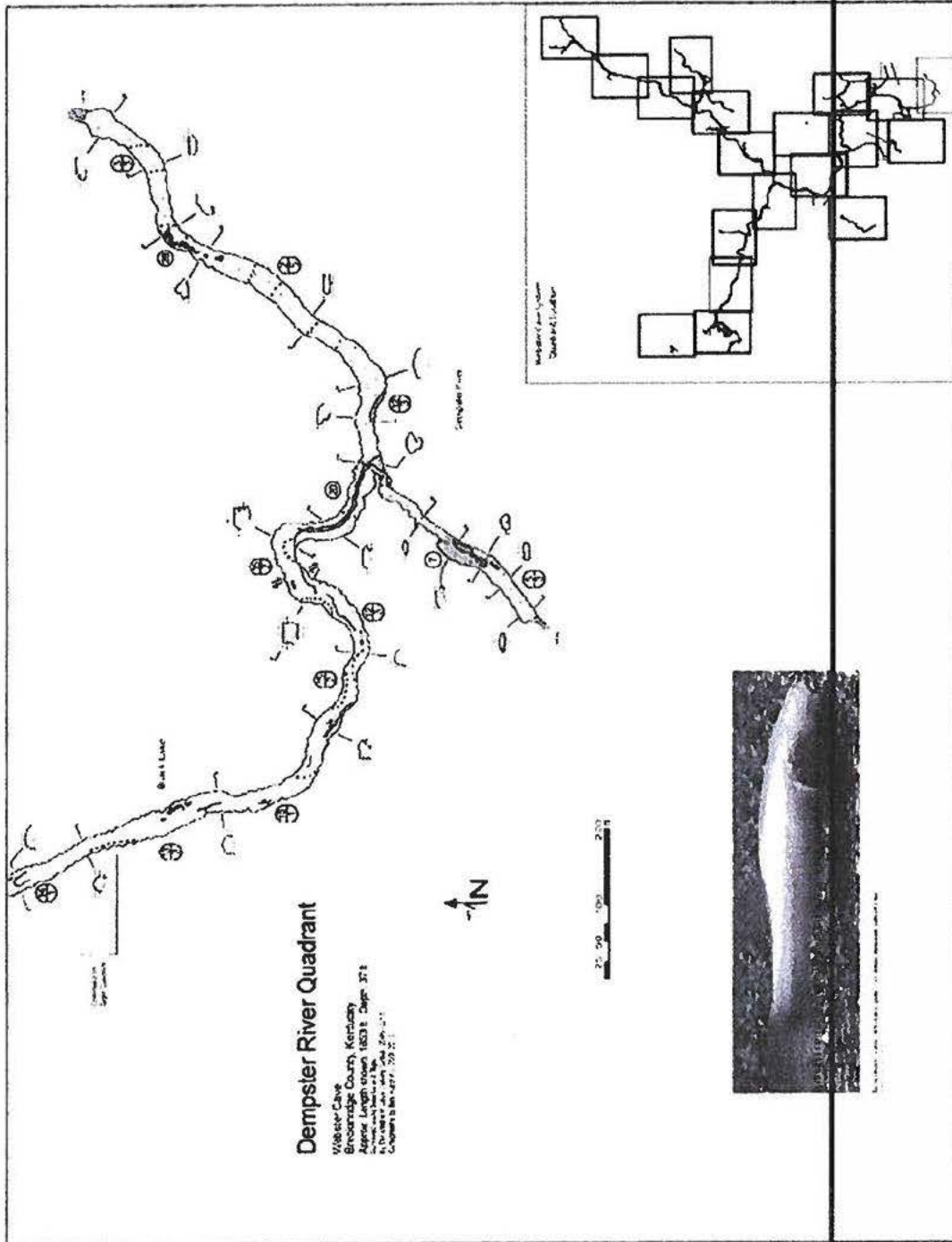


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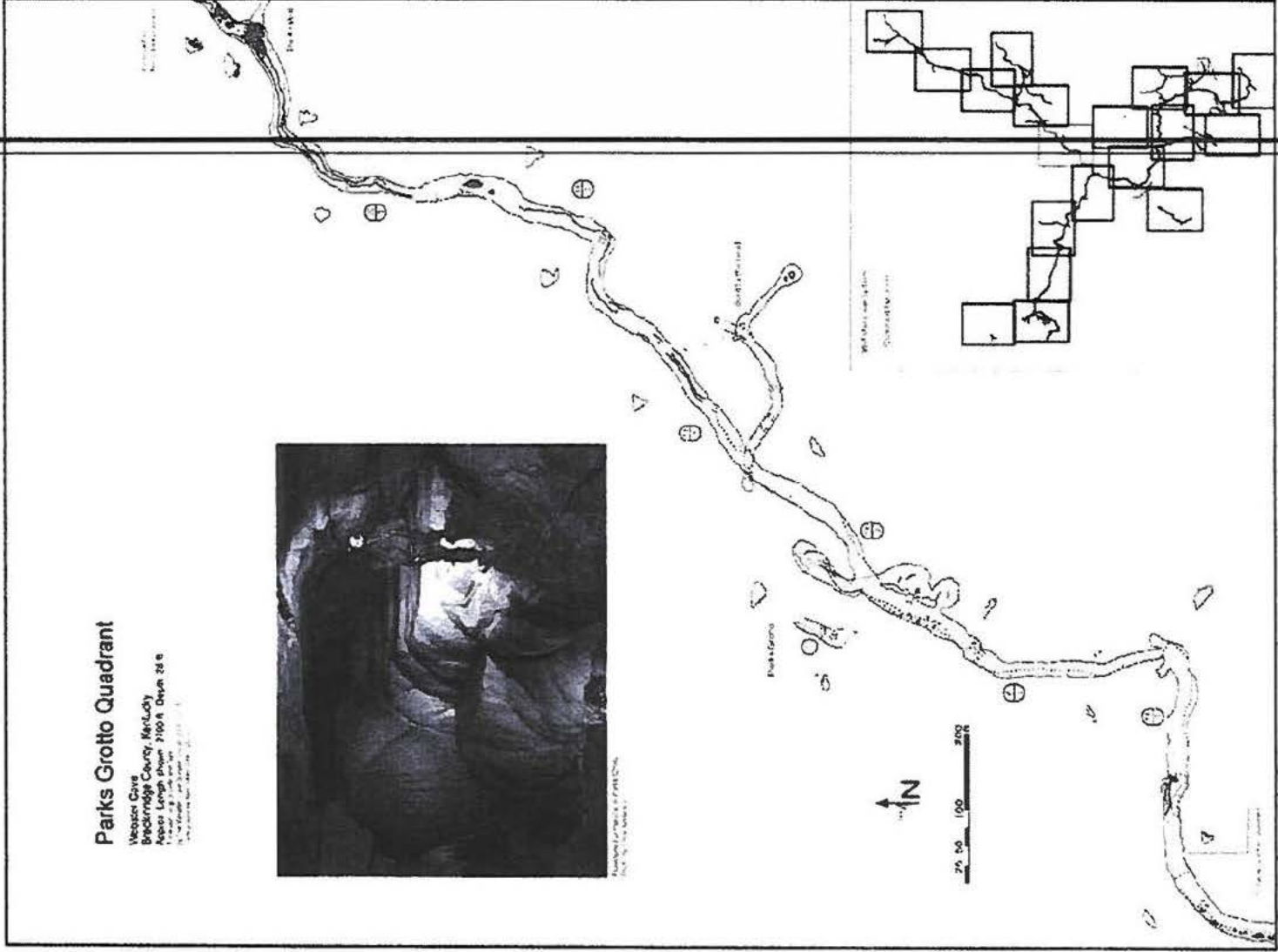


Parks Grotto Quadrant

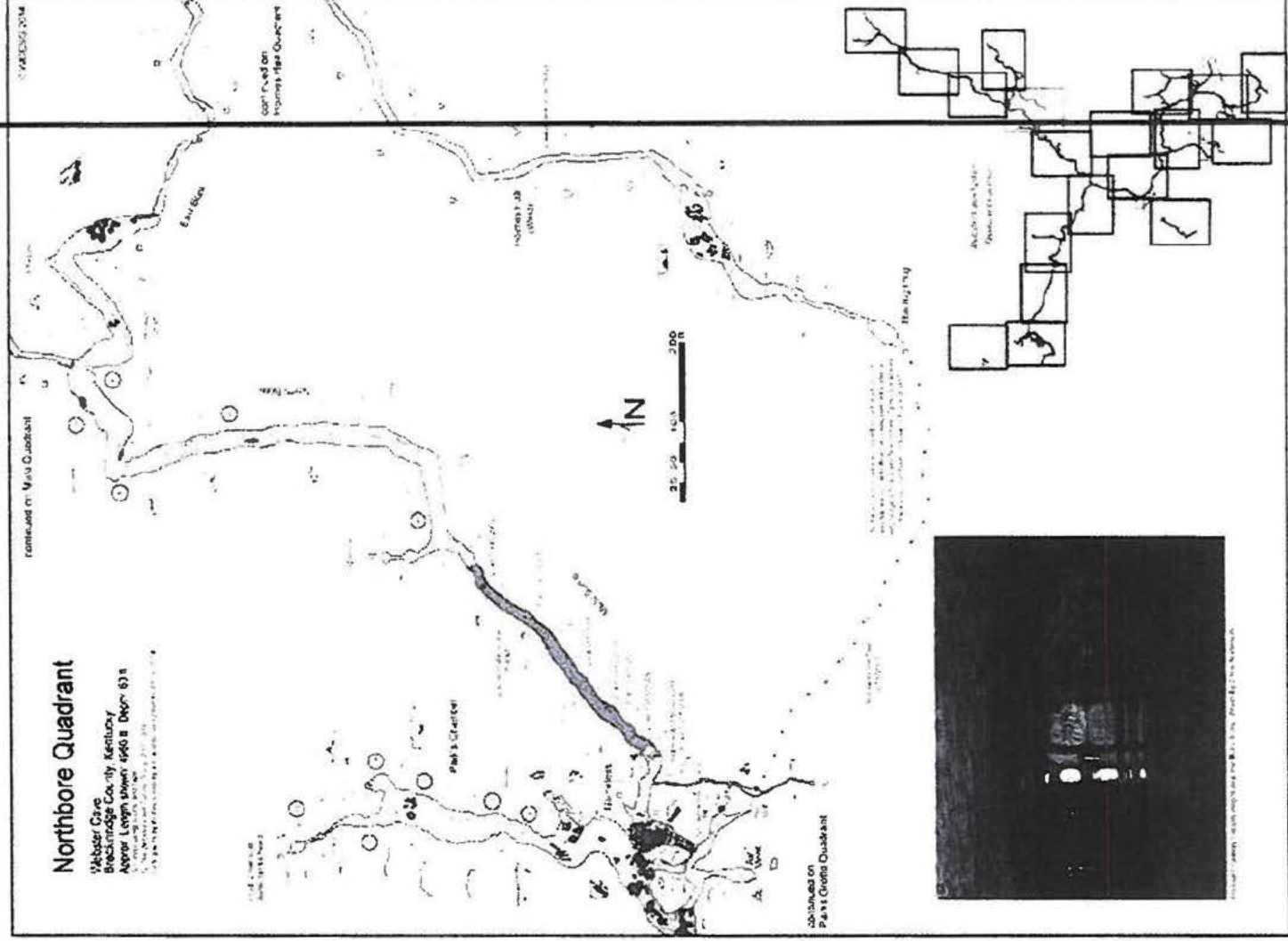
Weaver Cave
Buckingham County, Kentucky
Elevation 1,700 ft
1700 ft Open 24 h

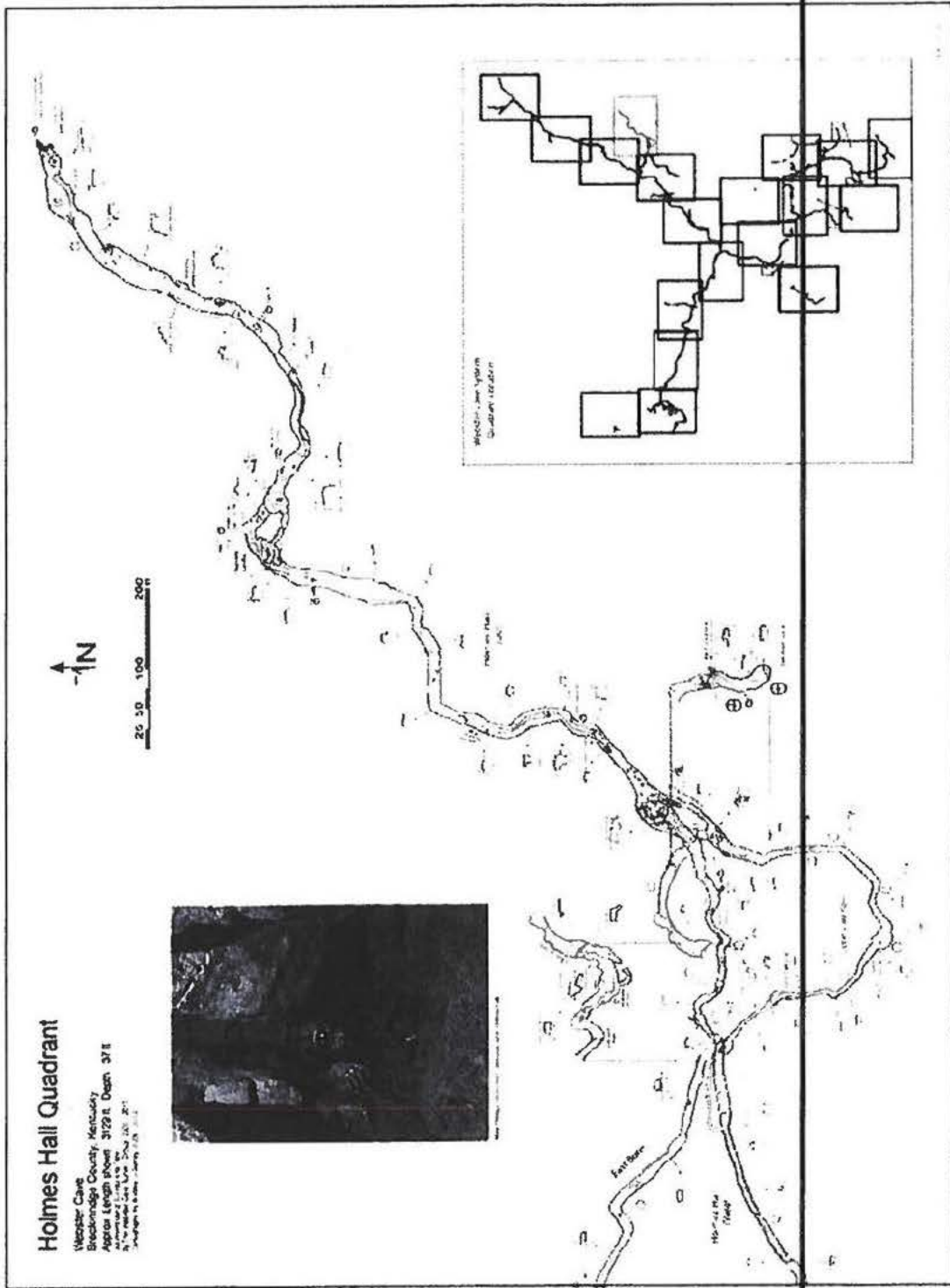


Photograph by Parks Dept.
Kentucky Dept. of Parks



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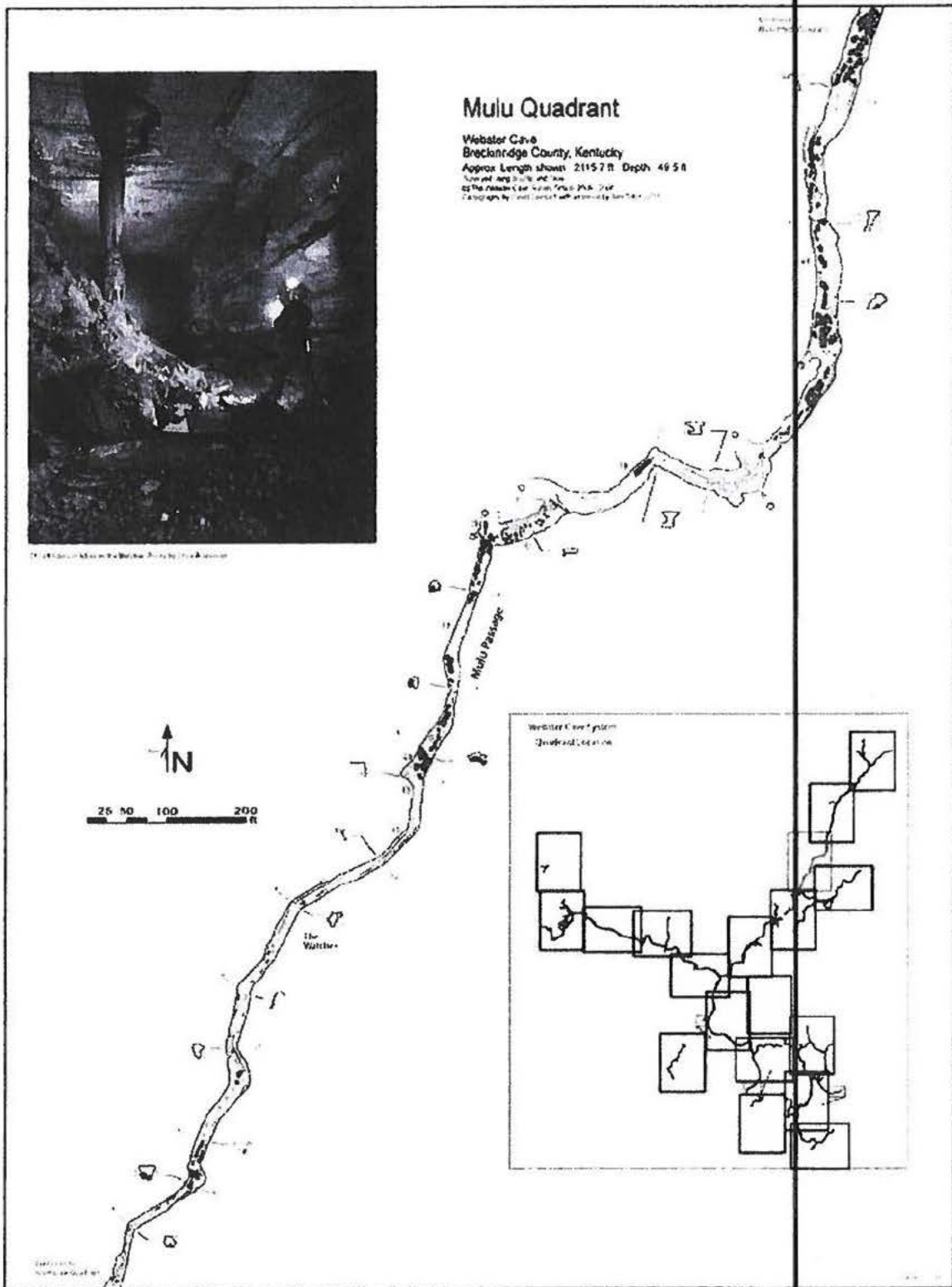
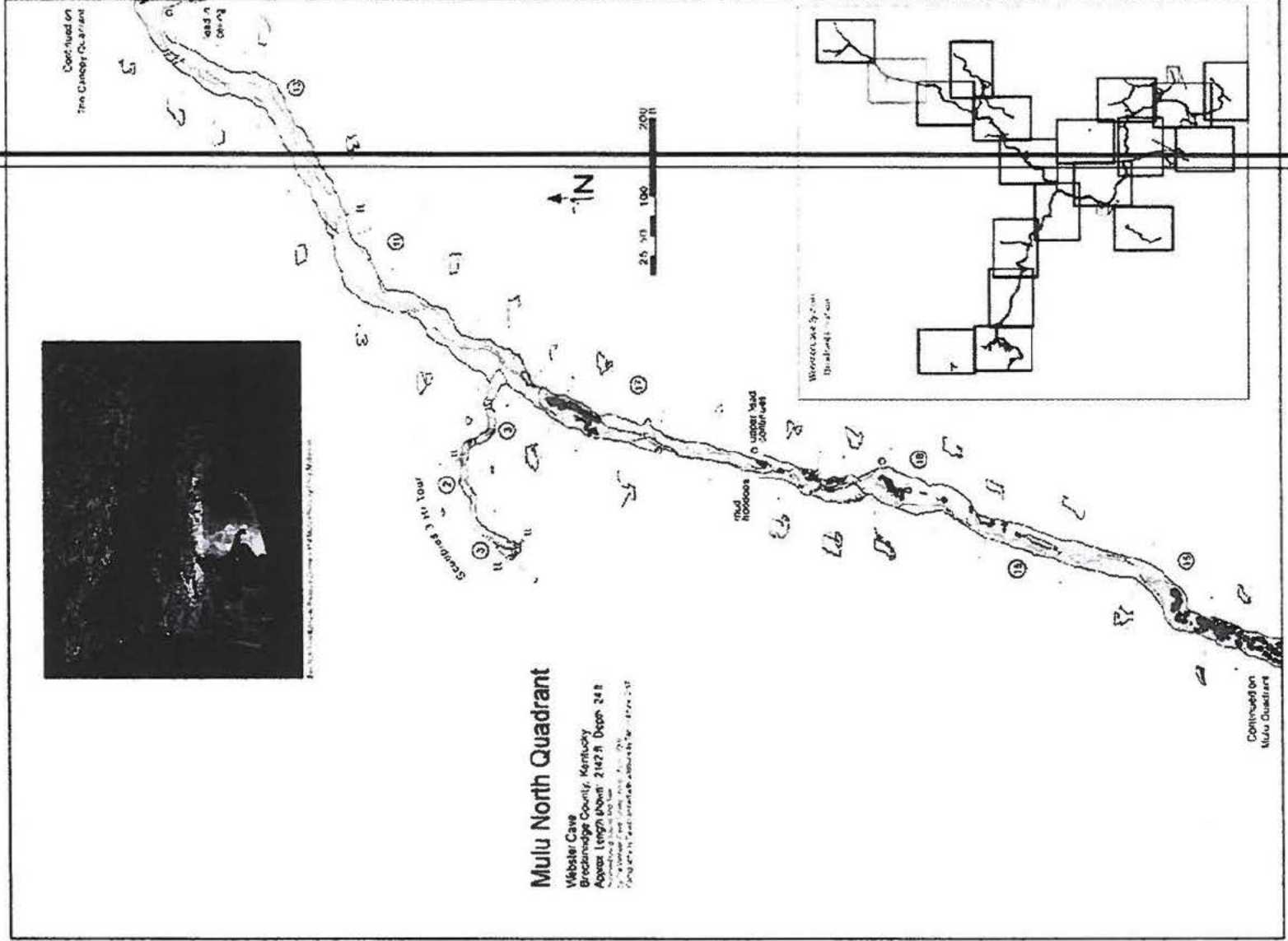
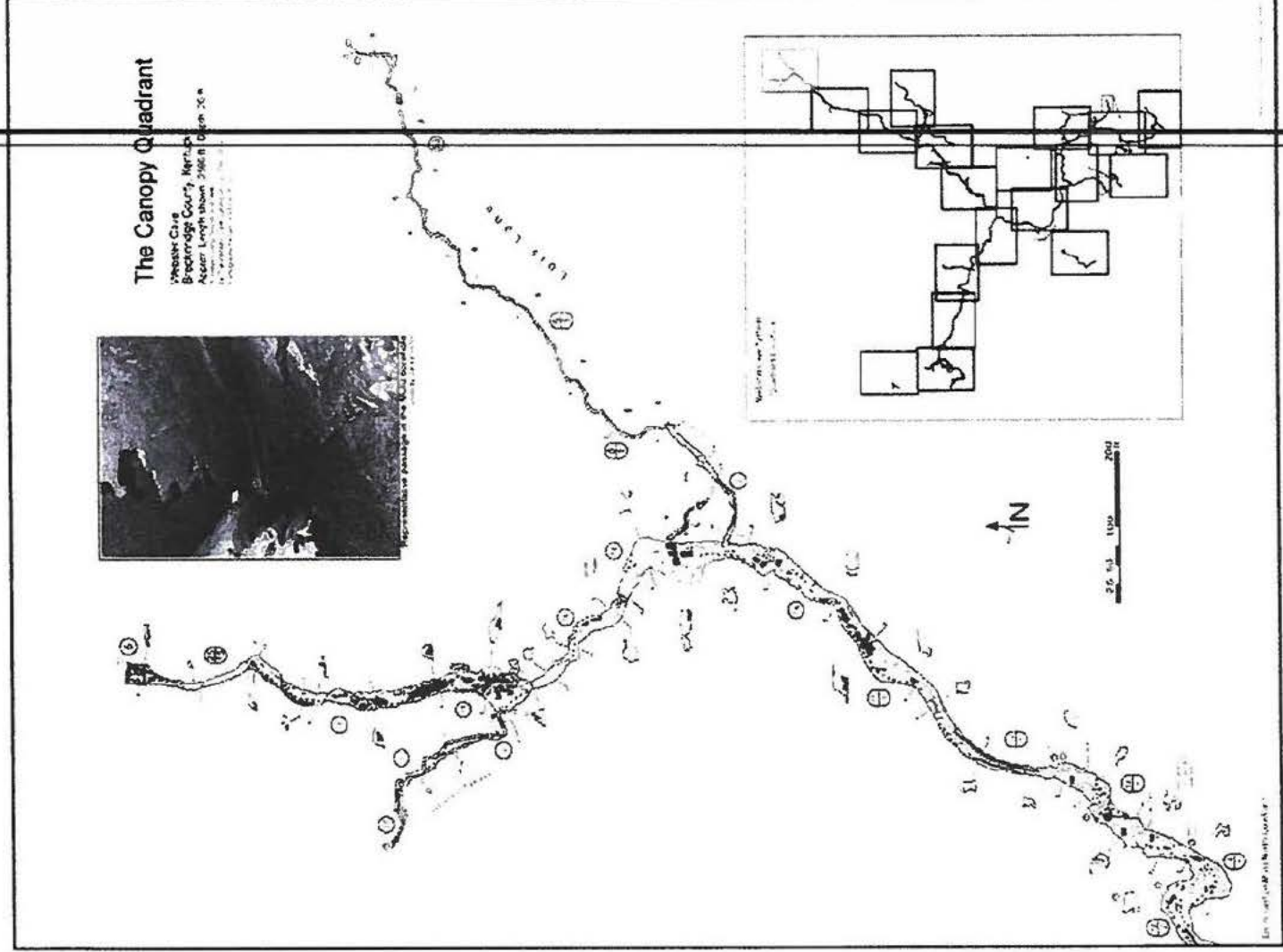


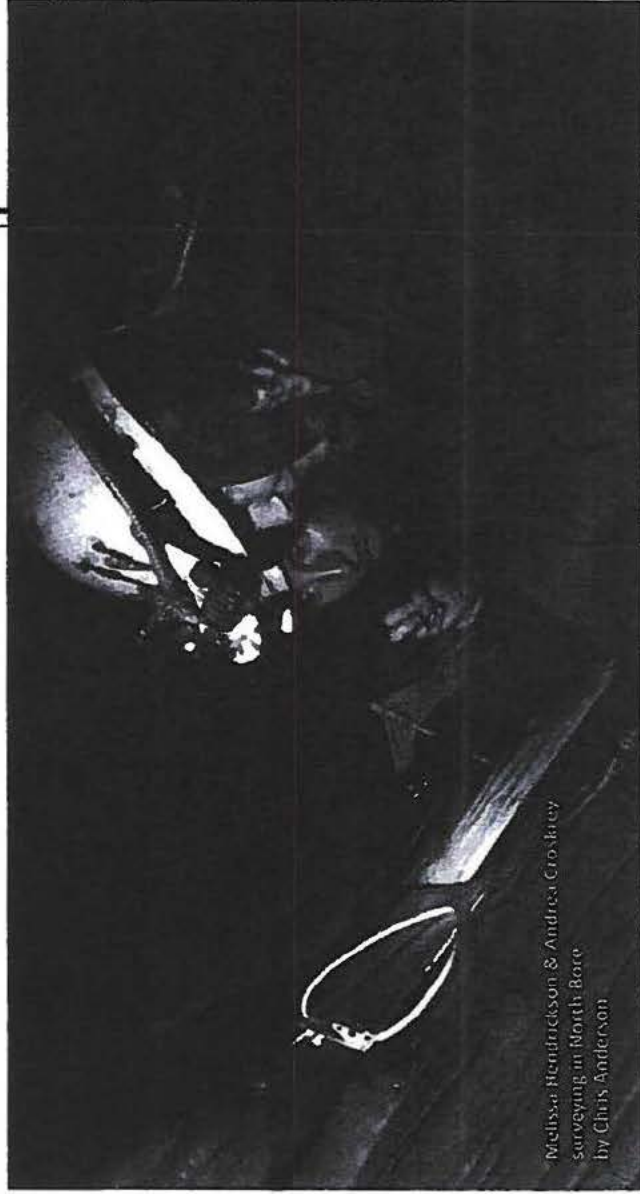
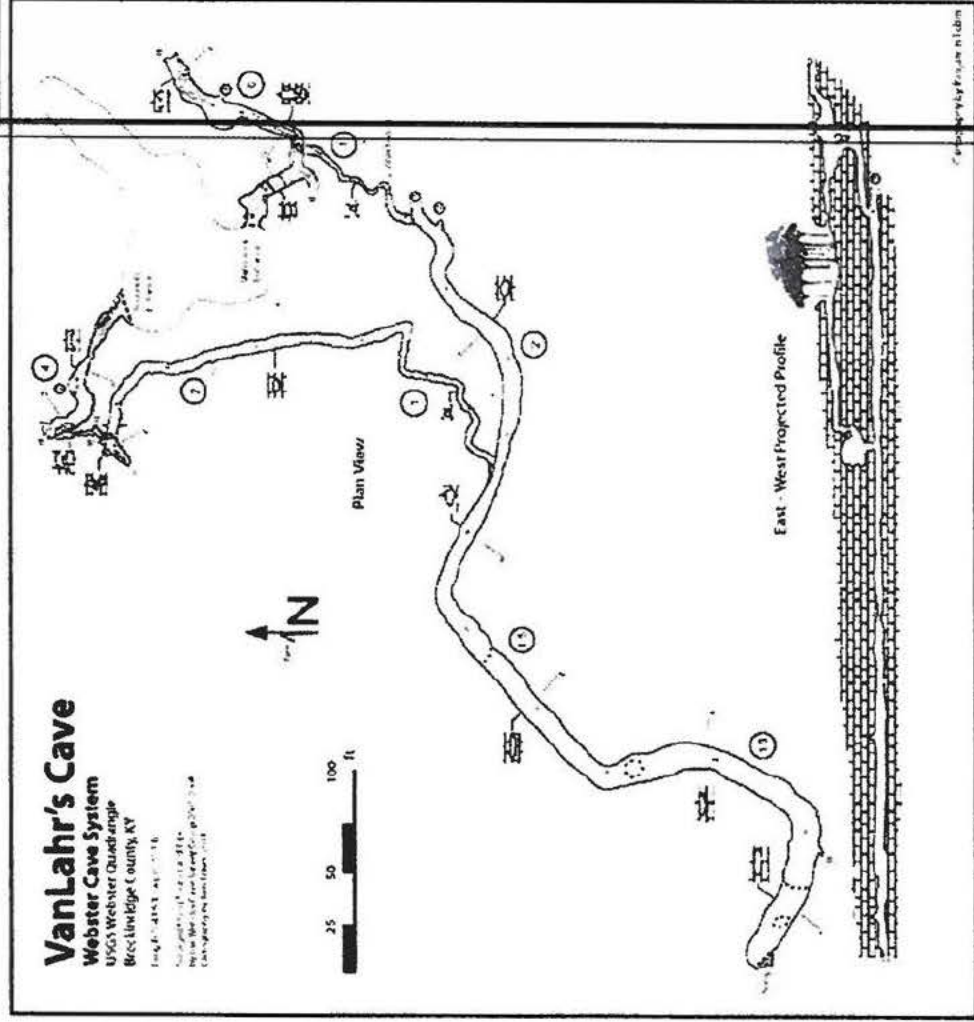


Fig. 1. Aerial Photograph of a Section of the Mulu River.



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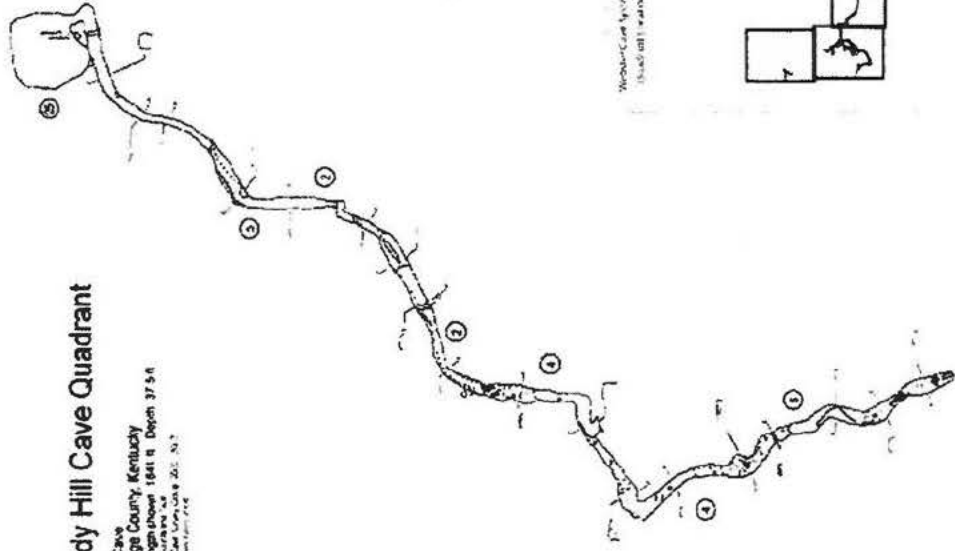




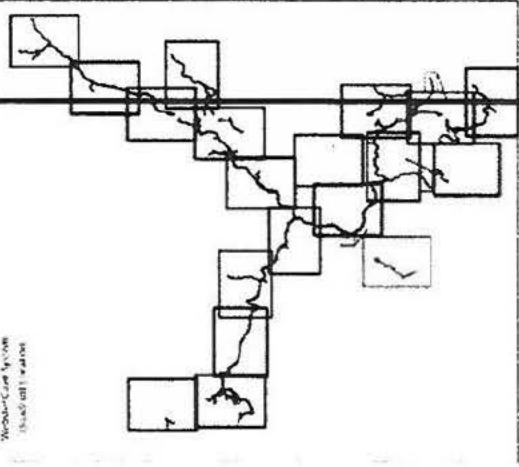
Kentucky Speleological Society

Melody Hill Cave Quadrant

Whisper Cave
Buckingham County, Kentucky
Approx. Length above 1841 ft. Depth 37.5 ft.
Explored and mapped by
The Melody Hill Cave Survey, 2012-2013
© 2013 by The Melody Hill Cave Survey



Whisper Cave Survey
© 2013 by The Melody Hill Cave Survey

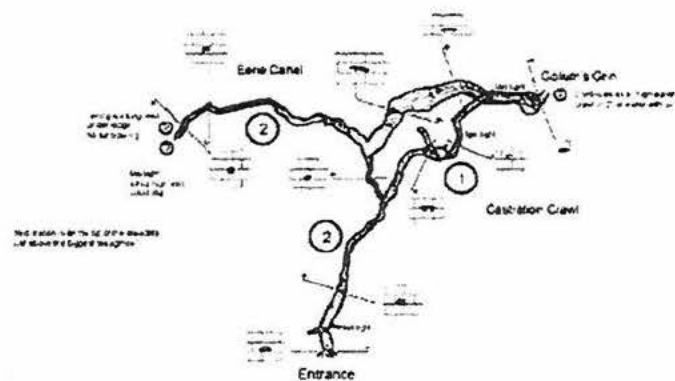


North-South Profile (2x vertical exaggeration)

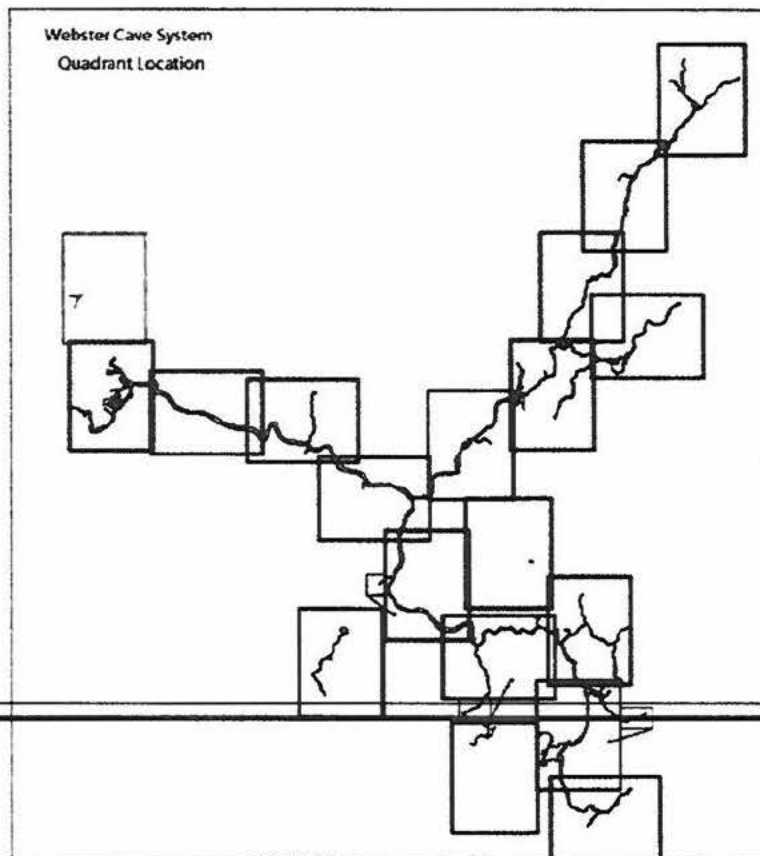


Park's Valley Cave Quadrant

Webster Cave
Breckinridge County, Kentucky
Approx. Length shown: 578 ft. Depth: 11 ft.
Surveyed using Sounto and Tape
by The Webster Cave Survey Group, 2007
Cartography by Andrea Cosley, 2007



25 50 100 200
ft



Cartography

Dana Bland, PVA
208 South Main Street
Hardinsburg, KY 40143
Office: 270-756-5154



Breckinridge County Property Valuation Administration

Print Date: 8/20/2021
Aerial Date: 2018 Flyover

Maps to be used
for identification
NOT for conveyance
1 inch = 1,056 feet



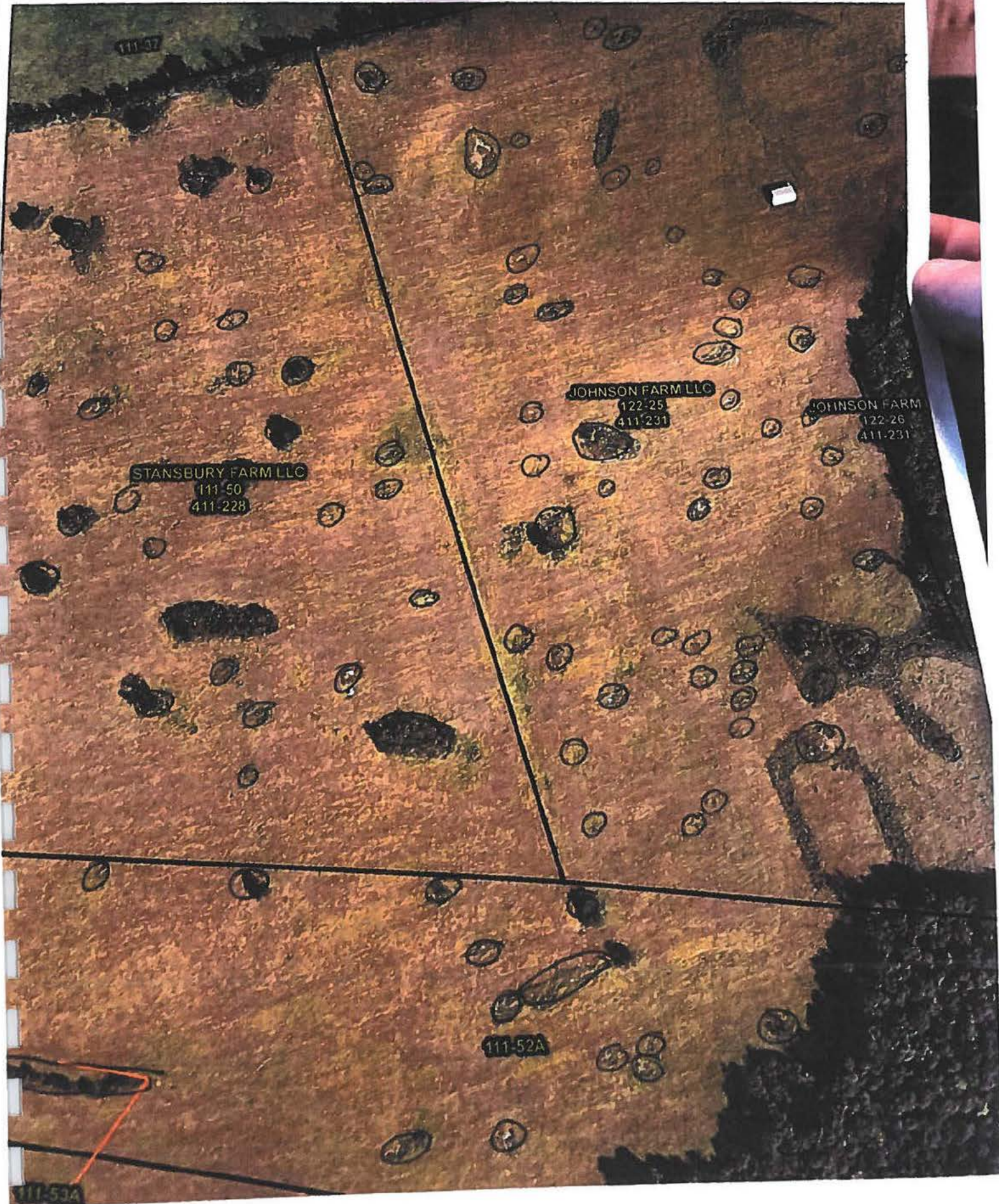
Dana Bland, PVA
208 South Main Street
Hardinsburg, KY 40143
Office: 270-756-5154



Breckinridge County Property Valuation Administration

Print Date: 8/20/2021
Aerial Date: 2018 Flyover

Maps to be used
for Identification o
NOT for conveyan
1 inch = 330 feet



Cartography

