The Speleograph

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Ozark Caverns

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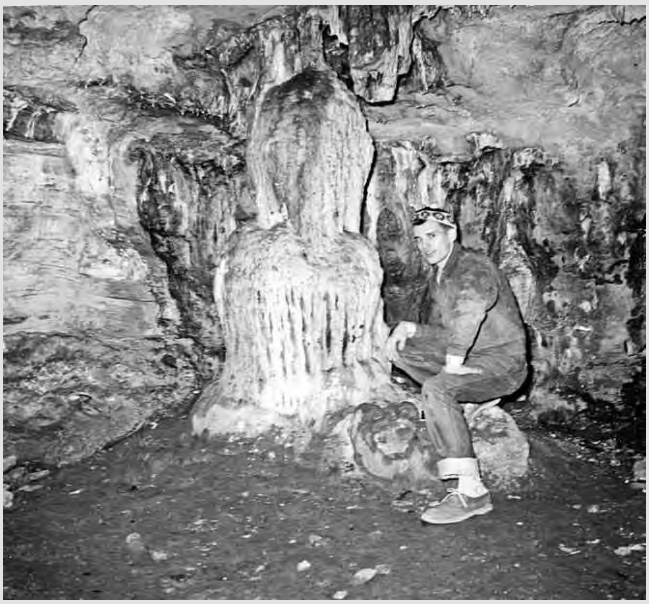
CAVES IN THE LAKE OF THE OZARKS BUSINESS JOURNAL

By the late Dwight Weaver

As most readers probably know I have been a columnist for the Lake of the Ozarks Business Journal for the past 15 years. I provide an illustrated historical vignette each month dedicated to subjects of historical interest to Lake of the Ozark area readers. Occasionally I have written columns that feature or mention various local caves along with a photograph for each installment. These are articles that have not been published in the Speleograph so I thought I would reprint some of them for LOG-Speleograph readers. Two of the recent columns follow – one that features Natural Bridge Cave in Cole County and one that features Bat Cave found in Miller County near the Tavern Creek-Osage River Confluence. These columns are related because the series I am currently writing takes readers on a boat trip down the Osage from Bagnell Dam to the Missouri River. Along the way I describe features of historical and geological interest. They are reprinted here just as they were published in the Business Journal with only minor edits. (In previous Business Journal installments I also took readers on a boat trip from the 60-mile mark of Lake of the Ozarks to the Monegaw Bluff area upstream on the Osage River beyond Truman Dam and there are also caves and features of historic and geologic interest on that journey.)

THE FOUNTAIN



In last month's column we visited the old Rock Island Railroad Bridge spanning the Osage 40 miles downstream from Bagnell Dam. It was abandoned decades ago. The little hamlet of Hoecker south of the bridge is extinct. As you journey down the Osage from Bagnell you quickly find yourself embedded in the topography with muddy riverbanks on both sides often well above your head. This often blocks your view of the surrounding land except for distant hills and bluffs making it difficult to determine exactly where you are with regard to more familiar landmarks of the countryside.

The small early settlement of Hoecker, where a son of Joseph Hoecker once operated a general merchandise store, never amounted to much. The settlement came into existence in 1904 and its post office closed in 1921. It had a school, a few houses, Joseph's business and a building that served as a railroad depot. St. Elizabeth is six miles away, Meta seven miles away. Today, downstream about two miles is the Osage Tavern State Wildlife Area with a campground. Adjacent and high on the bluff is the inaccessible Bat Cave with its huge entrance. The town of Henley, which is closest to the bridge, is noted for having a splendid natural arch and bridge as well as Natural Bridge Cave. This author explored and mapped the modest sized cave more than 50 years ago and is in the photo at age 16, a photo taken by my late caving buddy Bob Rothwell. The photo features a stalagmite column known as The Fountain. When I was there as a teenager the land owner told me the stalagmite column had an opening containing water that people drank from. At the time, the hole and pool contained a dipper people used for drinking. Because my flashlight revealed bat droppings and even small critters in the water and was therefore contaminated, we did not take a drink.

2020 Goodwin Work Summary

2020 started out with the cave being full of water; however the sinkhole itself had dried out by mid- April.

The main reasons for getting a large Excavator with a Breaker in April were:

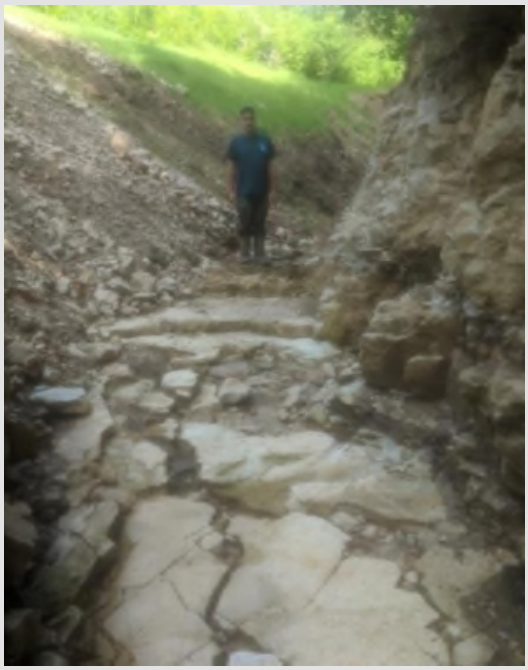
1. Break up the rock located at the bottom of the road going down into the sinkhole in order to be able to move the road in the future to allow the MCKC to safely access more of the buried trash.

The MCKC tried to break up this large rock with an excavator's bucket in October 2019, but were only partially successful

2. Remove some of the rock on the east side of the sinkhole in order to allow any water from the waterfall to flow over rock instead of on soil. It is unknown how many tons of soil have had been washed into the cave over the years because water was eroding the soil away.

3. Divert the water flowing over the waterfall further away from the base of Lancaster Road.

The water leaving the waterfall can now flow over rock instead of eroding away the soil



Then on June 9, everything changed again. I have been observing the Goodwin sinkhole for over 8 years now. I have tried to observe the sinkhole during the peak water flow during heavy rains. While I have been close a few times, I was there just after the peak flow had ended. **This time I finally got to observe**

the peak flow of water into the sinkhole. Over 90 acres drains into the sinkhole**.**

I arrived at the sinkhole at around 6 in the morning, after it had been raining for several hours. There was a good amount of water coming over the waterfall and it had started to fill up the cave.

After a while there was a cloudburst and then suddenly the waterfall changed from a peaceful setting (previous photo) into an angry raging river (photos below).

I have no idea what the flow rate of the water was, but it had to be at least thousands of gallons per minute. The force of the falling water made waves which were up to about 1 - 2 feet high. *In this picture you are looking at the base of Lancaster Road. There was so much water coming over the waterfall, that some of it was eroding the base of Lancaster Road.*

This is how full the sinkhole eventually got. The water level got to within about 5 feet of the bottom of the road leading down into the sinkhole.

The water had really started to recede fast. **I have never seen the water drop this fast before. This tells me that all the work we have been doing is helping.**

Looking down from the top of the waterfall into the sinkhole. This was as full as the sinkhole got.

Looking down the waterfall into the sinkhole 5 hours after the previous picture was taken. *The red arrow is pointing towards the bent grass (this is how high the water level got).*

On June 13, 2020 I noticed several large rocks which had been moved by the force of the water. These ranged in size from approximately 1 ½ cubic feet (225 pounds) up to approximately 3.00 cubic feet in size (450 pounds).

This is the area directly across from the waterfall. *This hillside used to be fairly evenly shaped, however the rushing water and the associated wave action ate away at the hillside.* The erosive action of the water over the waterfall and the ensuing 1 - 2 foot waves in the plunge pool resulted in a lot of erosive action in the sinkhole and at the base of Lancaster Road. ***To reduce the impacts of this erosive action in the future we need to armor some of the sinkhole directly opposite of the waterfall and along with the base of Lancaster Road.***

The red arrow is pointing to a steering shaft and steering wheel. *This, may be from one of the vehicles which was dumped in the sinkhole.*

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On August 1 we had four people working in the cave and we were finally able to remove the tire (*over 4 years since it was first discovered*) which was blocking access further back into the cave and which reduced the rate at which water could drain from the cave.

A very happy caver and student from the Missouri Science and Technology University.

American Green Frog in the cave.

Between August 1 and October 11, we were able to have a workday every other weekend in the cave. We were able to make some great progress in the cave. However it still was very slow going. We were even able to construct (with lots of rocks) a walking path back into the cave, so we would not need to use a kayak to get back into the cave (if the water level was low enough in the cave).

On October 15 and 16 we had some heavy equipment working at the sinkhole. Originally I was hoping to work for a few more days, but could only get equipment on those days. On October 15 the MCKC concentrated on removing sediment that had been washed into the cave over the last few years. The MCKC had 2 mini-excavators, a larger excavator and a dump truck working. The MCKC was able to remove 195 tons that day.

On October 16, we concentrated on removing additional trash laden material out of the sinkhole. On that day MCKC removed 555 tons of clean fill. We sorted thru the material removing trash, tires and metal prior to being placed into dump trucks. In a field, the material was spread out and more trash, tires and metal were removed.

Trash, metal and tires were removed before the material was loaded onto dump trucks.

The material removed from the sinkhole was later spread out and additional trash, tires and metal was removed.

Just some of the trash, tires and metal collected in October 2020.

The disturbed area was seeded and mulched. The rains returned several hours later. As of October 30, the cave was partially filled with water again.

The winter wheat was already growing by December 3.

Overall 2020 was a very successful year at the sinkhole and cave even after a slow start. The MCKC ended up having 33 workdays with 136 volunteers. The MCKC removed 750 tons of clean fill and 680 pounds of trash. Additional trash, metal and tires were also stockpiled on site. Unfortunately 2020 ended like 2020 began, with water in the cave.

We plan to keep building on the great progress we made this year in 2021. I hope to finally open up the cave and remove all the trash in the sinkhole and cave. However, the ability to accomplish that also depends on 3 factors, the weather needs to cooperate, having enough funding and enough volunteers.

December 8, 2020

Klaus Leidenfrost

Goodwin Sinkhole Restoration Project Manager

Missouri Caves and Karst Conservancy

Year removed	Tons of clean fill (Estimated)	Tons of trash laden material	Tons of trash	Tons of Metal (Recycled)	Tons of tires
2012	None	None	21.88	1.25	7.37
2013	350	94.64	7.94	More stockpiled.	More stockpiled.
2014	2,847.5	48.34	0.65	More stockpiled.	More stockpiled.
2015	675	None	1.66	2.215	More stockpiled.
2016	570	None	0.54	More stockpiled.	More stockpiled.
2017	735	None	0.53	More stockpiled.	2.83
2018	480	None	0.32	More Stockpiled.	More Stockpiled.

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2018	480	None	0.32	More Stockpiled.	More Stockpiled.
2019	150	None	0.49	0.17	More Stockpiled.
2020	750	None	0.34	More Stockpiled.	More Stockpiled.
Removed to	6,557.5	142.98	34.35	3.635	10.2
Remaining	Unknown	Unknown	Unknown	Unknown	Unknown

# Workdays	# of Volunteers
30 (2012 & 2013)	562 (2012 & 2013)
24 (2014)	150 (2014)
16 (2015)	97 (2015)
21 (2016)	153 (2016)
31 (2017)	78 (2017)
18 (2018)	53 (2018)
15 (2019)	57 (2019)
33 (2020)	136 (2020)
188 total	1,286 total

BAT CAVE

In this month's column we are going to spend another installment on geographic features of interest in the Hoecker/Rock Island Bridge/Tavern Creek –Osage River confluence area. You cannot boat down the Osage past the confluence in late fall, winter or early spring when the foliage is largely off the trees without noticing the huge entrance to Bat Cave in the bluff. Folklore says that in the 1920s, bat guano was mined from the cave and shipped out by railroad. No documentation has yet been found by this author to confirm the story but it makes sense because there was a cottage industry of guano mining in Missouri in the 1920s and early 1930s. Flower growers in major metropolitan areas wanted high quality fertilizer at this point in time and the railroad was close to the cave. But the miners had to have long ladders to reach the cave entrance which is over 50 feet above the talus slope. Today the cave is off limits to exploration because it protects an endangered species of bat but in the 1960s before entry to the cave was restricted it was explored by Missouri cavers and found to consist of three large rooms that eat up about 600 feet of passage. The photo shows several extension ladders lashed together to make the scary and risky climb. The photo was taken by the author's caving companion, the late Paul Johnson. Roping down from the bluff top was impossible because the cave roof extends too far out over the floor of the cave entrance. There are other caves close by including Lantern Cave with several hundred feet of passage. The views from the entrances to these two caves is spectacular. The name of Tavern Creek is said to be a corruption of the word "cavern" because a variety of caves can be found along the Tavern in Miller County.

Story donated by the late H. Dwight Weaver

The quiz below was done by the late Kerry Rowland many many years ago. He was a long-time caver and member of Lake Ozarks Grotto. He was also one of the founding members of the MCKC.

(The Grotto takes no responsibility for the contents of this quiz!)

1. Where did the carbide lamp first gain widespread use as a light source?

   (A) - by coon hunters (B) - by natural gas workers (C) - by miners

2. How much carbide does the average lamp require per filling?
   (A) – one lump (B) – two lumps (C) – about half a base full (D) – stuff 'er full

3. If you should manage to overfill a lamp, and the contents turn to something resembling reinforced concrete, what is the best way to remove the stuff?
   (A) – a strong stream of water and/or a blunt instrument (B) – a pocketknife
   (C) – a tactical nuclear weapon

4. The key to successful carbide lamp operation is?
   (A) – a good vocabulary of cuss words (B) – cleanliness (C) – godliness

5. A small blue flame or one that comes out of the tip at an angle is usually a good indicator of what?
   (A) – impending doom (B) – bad karma (C) – out of carbide (D) – plugged tip

6. The proper method of using a tip cleaner is:
   (A) – gently force one wire straight through the tip
   (B) – shove in a coupla wires an' ream that mother out (C) – tip cleaners aren't tools, but merely a form of cave jewelry

7. A good time to replace your tip is when?
   (A) – you knock the tip out of the lamp and can't tell the difference (B) – when you have to turn the water feed very high to get a decent flame
   (C) – when you hit age 65

8. The purpose of a felt in a lamp is?
   (A) – to cause problems when you least expect or need them
   (B) – to serve as an emergency handkerchief (C) – to prevent water or carbide from entering the gas delivery tube

9. If you are caving and start having lamp problems, what should you do?
   (A) – whack your lamp soundly on the nearest solid object (B) – take a lamp from the caver you just whacked on the head with your lamp (C) – sit down and check your lamp's systems out thoroughly until you locate the problem

10. A flame that pulsates or gets bigger when you turn the lamp down usually means what?
    (A) – the caver in front of you had beans for lunch (impending doom)
    (B) – you are probably out of water
    (C) – your 500 Brumley Tech school bonds just fell 60 points

11. The minimum extra parts and tools a carbide caver should carry are?
    (A) – a pair of pliers, tip cleaner, spare tip, gasket and flint
    (B) – a can of beer, cigarettes and a copy of Playboy
    (C) – a hammer to take care of that %#@¢*]+ lamp once and for all

12. What should you say to a caver who asks you, "Hey man, got an extra dump bag?"
    (A) – say "Sure." and hand him a bag in which you've already taken a healthy dump
    (B) – nonchalantly tell the fool to dump his lamp In his pocket
    (C) – give him a ration about being ill-equipped and
    give him a bag or let him use yours

13. What is the best way to clean an excessively dirty or corroded lamp?
    (A) – soak it in a solution of Lime-Away (B) – bake in a 375° oven for 25-30 minutes

14. When is the best time to clean your lamp?
    (A) – 1996 (B) – never (C) – Within 12 hours of
    your last cave trip (D) – in the middle of a 1500' watercrawl

15. The best repair material for a cracked or punctured brass carbide lamp is?
    (A) – cave mud (B) – lead or silver solder (C) – chewing gum (D) – duct tape

16. A lamp that suddenly erupts into flames like a napalm bomb is a sure sign of what?
    (A) – sabotage (B) – a loose base or missing gasket (C) – a leaking gasoline storage tank nearby
    (D) – an extra-good batch of carbide

17. Which of the following is most important to a carbide caver?
    (A) – beer (B) – food (C) - sex (D) – a clean reflector

18. Now that you've finished this kwiz, the best use for it is:
    (A) – as a blotter to absorb some of the B.S. that's been flowing around here for the past 10 minutes
    (B) – emergency TP on your next caving trip
    (C) – liner for the bottom of your birdcage
    (D) – tack it up above that remote corner where you dump your cave gear after each trip as a reminder to clean your %#@¢*]+ carbide lamp

Answers for this quiz are located on toward the end of this publication.

Goodwin Workday 10/16/20

Gary & I arrived at the sinkhole just before 9 am. Klaus was there already working. There was a mini-excavator, a track hoe and two dump trucks. All had been working on the previous day. Thirteen loads of dirt had been taken out of the sinkhole and taken to a farmer's field in the neighborhood. It had been a while since we had been to the farmer's field and picked trash from the dirt piles, so Gary got instructions from Klaus on how to get there. Well, he said go about two miles – there will be an open gate – if you come to a T, you went too far. Well, those instructions did not work for us….. We turned around, thinking we may have passed the open gate. We saw a dump truck coming toward us. We waited until he passed and turned around and followed him down the road to an open gate. There we go…..

The dirt piles from the day before, did not have much trash visible. The piles they were bringing from today, were a different story. So much trash – metal, glass, shop rags, plastic bottles, a small motor, a fender, and some things that we didn't know what they were! We started filling trash bags. The dump trucks just kept coming. When they dumped on the lower end of the field, in one single pile, we knew that load probably didn't have very much trash in it. But when they spread their load (as best they could), we knew that there would be a lot of trash. Lucky us!

Some time after noon, we stopped for lunch – Klaus had told us that we needed to bring our own lunch! We thought we would have deserved a free lunch at best……but that wasn't going to happen. We got out our sandwiches – Gary had peanut butter & jelly, I had peanut butter (no jelly on that bread for me!). Gary had a Ding Dong, I had none.

Klaus and Gary with a truck full of trash

Back to work, filling more trash bags. We began to hope the dump trucks would stop but they just kept coming. Too many times, they dumped dirt for us! We started to cheer when they dumped the load away from us. Around 2 pm, Klaus called my cell phone which would not let me answer the call. It just kept ringing….. I called Klaus back. He asked how we were doing and I told him we were "dead." I had told one of the dump truck drivers earlier that Klaus was killing us! Klaus said not to overdo it – but I think we already did. Close to 3 pm, we called it quits, and headed for the sinkhole with all our filled trash bags and metal in the back of our truck.

At the sinkhole, work was winding down. Klaus had been trying to pick out trash as they were loading it on the trucks. He was having trouble keeping up and even enlisted Jean Knoll to come and help him. Klaus told us that they had hauled 37 loads today! No wonder we couldn't keep up with the dirt piles! Klaus and Gary went down to the cave entrance so Gary could get some pictures of what had been done. The guy with the mini excavator was loading it when we were leaving. We left around 4 pm.

Alberta digging for gold

When we got home, there was a message on our answering machine from Klaus that the next load coming had a lot of trash in it! O.K., I am not even going to comment on that one!

– Alberta Zumwalt

Below are the answers to the Carbide Quiz from Kerry Rowland

1. (C) - by miners

2. (C) – about half a base full

3. (A) – a strong stream of water and/or a blunt Instrument.

4. (B) – cleanliness

5. (D) – plugged tip.

6. (A) – gently force one wire straight through the tip

7. (B) – when you have to turn the water feed very high to get a decent flame

8. (C) – to prevent water or carbide from entering the gas delivery tube.

9. (C) – sit down and check your lamp's systems out thoroughly until you locate the problem

10. (B) – you are probably out of water

11. (A) – a pair of pliers, tip cleaner, spare tip, gasket and flint.

12. (C) – give him a ration about being ill-equipped and give him a bag or let him use yours.

13. (A) – soak it in a solution of Lime-A-Way.

14. (C) – Within 12 hours of your last cave trip

15. (B) – lead or silver solder

16. (B) – a loose base or missing gasket

17. (D) – a clean reflector.

18. (D) – tack it up above that remote corner where you dump your cave gear after each trip as a reminder to clean your %#@¢*]+ carbide lamp!

AND REMEMBER…….K. R. IS WATCHING YOU!!!!!!!!

From our Grotto Family to yours

Merry Christmas and a Happy New Year