

# DEAD DOG DISPATCH TRI-STATE GROTTO



CAVING TIPS:  
WHEN FREECLIMBING,  
ALWAYS MAINTAIN  
THREE POINTS OF  
SUPPORT

**DRAWING BY DAVID HACKLEY (JULY 1990)**

**VOL. #36**

**ISS. #3**

**MAR**

**2021**

**#21**

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Payment of DUES can be made at MONTHLY MEETINGS  
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**\*\* The cover this month was sketched by David Hackley. It was published in the Dead Dog Dispatch in Vol. #5, Iss. #7, July, 1990.**

**\*\*\*\* Don't forget, the JONES QUARRY BOOKLET is ALMOST GONE! There are 10 left! If you are interested in purchasing a copy of the BOOKLET, contact BOB BENNETT 304-821-4621(H) or 304-671-0344(C) E-MAIL at [gimpycaver@comcast.net](mailto:gimpycaver@comcast.net)**  
**The copy will cost \$6.00 each plus the cost of shipping!**

**\*\*\*\*\*10 LEFT!\*\*\*\*\***

**WE NEED EVERYONE TO KEEP THINKING ABOUT VOLUNTEERING FOR AN OPEN POSITION. WE STILL HAVE 4 POSITIONS OPEN!**  
**PLEASE GIVE IT SOME THOUGHT. WE NEED YOUR SUPPORT!**



**DEAD DOG DISPATCH**

**V.#35**

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**2021**

**#22**

# CAVING EVENTS

## 2021

MAR 1 --- Peanut Lovers Day  
**MAR 10 --- TSG Meeting – 7pm**  
**MAR 14 --- DAYLIGHT SAVING TIME STARTS**  
MAR 14 --- National Potato Chip Day  
MAR 14 --- PII Day  
MAR 14 --- Dr Latterell – Birthday – (Molers)  
MAR 17 --- St Patrick's Day  
MAR 19 --- SPRING EQUINOX  
MAR 19 --- Let's Laugh Day  
MAR 21 --- Absolutely Incredible Kid Day  
MAR 22 --- National Goof Off Day  
MAR 22 --- World Water Day  
MAR 25 --- MD Day  
APR 1 --- All Fools Day  
APR 2 --- GOOD FRIDAY  
APR 2 --- PB & J Day  
APR 3 --- World Party Day  
**APR 4 --- EASTER**  
APR 5 --- Geologists Day  
APR 6 --- New Beers Day  
APR 7 --- National Beer Day  
APR 10 --- National Siblings Day  
APR 12 --- National Grilled Cheese Day  
**APR 14 --- TSG meeting – 7pm**  
APR 15 --- TAX DAY  
APR 17 --- Bat Appreciation Day  
APR 20 --- Husband Day  
APR 22 --- Earth Day  
APR 22 --- Jelly Bean Day  
APR 30 --- Arbor Day  
MAY 1 --- May Day  
MAY 1 --- Batman Day  
MAY 2 --- Brothers & Sisters Day  
MAY 4 --- MAY THE 4<sup>TH</sup> BE WITH YOU!  
MAY 5 --- Childrens Day  
MAY 5 --- SINKHOLE de MAYO  
MAY 8 --- National Train Day  
MAY 9 --- Mothers Day  
**MAY 12 --- TSG meeting – 7pm**  
MAY 15 --- Armed Forces Day  
MAY 15 --- Peace Officers Day  
MAY 23 --- Lucky Penny Day  
MAY 25 --- National Wine Day

MAY 28 --- National Hamburger Day  
MAY 31 --- MEMORIAL DAY  
JUN 9 --- TSG Meeting – 7PM  
JUN 11-13 --- Bubble Weekend  
JUN 14 --- Flag Day  
JUN 19 --- Juneteenth Day  
JUN 20 --- Summer Solstice  
JUN 20 --- Fathers Day  
JUN 23 --- Lucky Penny Day  
JUN 28-JUL 2 --- NSS Convention – Weed, CA  
JUN 29 --- International Mud Day

# CAVE BUCKS

**CAVE BUCKS is a voluntary donation for cave purchases. The money is collected at each monthly meeting and sent to the Conservancy of choice. The money SHOULD NEVER be kept past the week it is collected.**

Month of MAR ----- **\$00.00**

**TOTAL TO DATE: ----- \$7529.81**

GREAT JOB EVERYONE! Let's continue the giving!

**Keep It Coming!**

# WEBSITE & CAVING LINKS

Tri State Grotto ----- [www.tristategrotto.net/](http://www.tristategrotto.net/)  
VAR ----- <http://var.caves.org/index.php>  
NSS ----- [www.caves.org/](http://www.caves.org/)  
NSS Convention 2020 ----- <https://nss2020.caves.org/>  
NSS Convention 2021 ----- <http://nss2021.caves.org/>  
OTR ----- [www.otr.org/](http://www.otr.org/)  
MAR ----- [www.caves.org/region/mar/](http://www.caves.org/region/mar/)  
WVCC ----- [www.wvcc.net/](http://www.wvcc.net/)  
Bob's Web Site ----- [www.tristategrotto.net/Bob/](http://www.tristategrotto.net/Bob/)

**DEAD DOG DISPATCH**

**V.#35**

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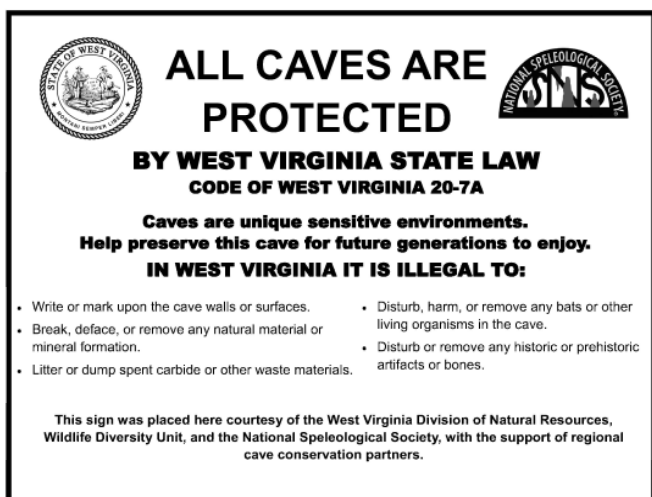
Rock Climbing Knots Friction -----  
[www.chockstone.org/TechTips/prusik.htm#Bachman/](http://www.chockstone.org/TechTips/prusik.htm#Bachman/)  
 Tri-State Grotto MySpace -----  
[www.myspace.com/tristategrotto/](http://www.myspace.com/tristategrotto/)  
 Animated Knots by Grog-[www.animatedknots.com/](http://www.animatedknots.com/)  
 Crystal Grottoes Caverns  
[www.crystalgrottoescaverns.com](http://www.crystalgrottoescaverns.com)  
 Silers Cave -----  
<https://www.karst.org/index.php/category/preserves/silers-cave-preserve/>



## MARCH BIRTHDAYS

Mason Griffin, Kevin Mulligan, David Craig  
 Sanbower, Eliza Marie Vis,

**Happy Birthday!**



If anyone knows of a cave, local or otherwise, that you might think that needs or can use a cave protection sign let Jeff Hajenga know ([Jeff.J.Hajenga@wv.gov](mailto:Jeff.J.Hajenga@wv.gov)) or 304-919-1852

## Fruit Fly Cave, Jefferson Co, WV

I recently moved to Shepherdstown, WV. The town itself is quite charming, but naturally pretty much the first thing I did was scour the hills for anything remotely cave like. I was able to find a couple of small rock shelters and muddy crevices and even a cave complete with a fire pit and a sofa chair and some surprisingly tasteful graffiti. I had a great time looking for them, but I knew there must be some that I was missing. Fortunately Bob Bennett reached out and offered to give me a proper introduction to the area's caves. It was a delightful trip. Bob pointed out 4 caves that I had walked right past and even gave directions to several others and a few funny stories to go with each of them. I now have lots of new passage to explore and am very much looking forward to getting into it. Thank you, Bob!

Kai Hanson



Kai & Christal in Fruit Fly (BB)



# Caving Safely, Having Fun, and Surveying Lots of Cave: The Story of “Team Sarah” and the Sarah Furnace Cave Survey

by Bert Ashbrook

For nearly 70 years, cavers have known that Sarah Furnace Cave was a big cave. But no one knew *how* big. There had never been a map of the cave, and no one had ever claimed to have reached the end of the cave. So, in 2019, after the Mid-Atlantic Karst Conservancy acquired the cave, a group of cavers set out to completely explore and map Sarah Furnace Cave. This is their story.

**Geologic Background.** Sarah Furnace Cave is one of western Pennsylvania’s classic Vanport Limestone maze caves. Here, the limestone is flat-lying and overlain by one to two feet of Buhrstone iron ore. Three sets of joints in the rock have been enlarged by dissolution at the contact between the limestone and the ore. These form an intricate network of crawlways averaging 2-3 feet high with clay floors and iron ore ceilings. In places, all three sets of joints form passages spaced every ten feet, resulting in one of the densest maze caves on earth. Will White has theorized that periodic flooding from the nearby Allegheny River (when it was hundreds of feet higher than today) was responsible for the dissolution that formed the cave.

**Mining History.** Sarah Furnace Cave is named after the nearby iron furnace that operated from 1860 to 1867. The furnace itself was named for Sarah Power Plumer, wife of the original furnace owner. Fuel for the furnace came from the Lower Kittanning coal found about 40 feet stratigraphically above the cave, which was deep mined and made into coke for the furnace. A separate and unconnected deep mine was used to extract the other major ingredients used in iron making, iron ore and limestone flux. The iron miners followed Sarah’s joint-controlled cave passages, enlarging them as they went and removing the ore from the ceiling. The mine tunnels are easily distinguishable from the natural cave passages; they are stoopways made wider and taller by the removal of the limestone and ore. They often contain mine gob and sometimes have mine timbers, stone support pillars, and unstable ceilings. Today, the furnace itself is long gone,

but one of the iron mine drifts serves as the cave’s only entrance.



*Heart-Shaped Column in Sarah Furnace Cave  
(photo by Jeff Jahn)*

**Mineralogy.** Despite the mining and over a century of spelunker visits, Sarah remains well-decorated for those willing to stray off the beaten path. In addition to common calcite formations (flowstone, stalactites, stalagmites, columns, etc.), the cave contains gypsum and gypsum needles, aragonite and aragonite needles, helictites, anthodites, manganese dioxide crust on the rim of pools, and a variety of very weird looking materials that we think must come from the iron.

**Biology.** Sarah Furnace Cave is thought to have been a significant bat hibernaculum, before White Nose Syndrome. Now, the bats are outnumbered by the porcupines who use the cave. Their hystricine droppings appear to support a food chain within the cave. Dr. Hazel Barton of the

University of Akron has already conducted a microbiology study in the cave, and MAKC hopes to host other scientific studies of the cave once the pandemic is past.



*Gypsum Needles in Sarah Furnace Cave  
(photo by Ed Epp)*

**Previous Survey Attempts.** Will White's *Caves of Western Pennsylvania* characterized Sarah Furnace Cave (then known as Porter's Cave) in this way: "[T]he areal extent of the cave[] is not known, and although one may find ends to specific passages, the 'end' of the cave is not, at present, definable . . . it is possible to crawl for several hours without crossing one's path." In the 1980s, Northwest Pennsylvania Cave Survey leader Ed Frank estimated that the cave had nearly 40 miles of passage, based on a 10-foot by 10-foot grid of passages covering a 1000-foot by 1000-foot area. Until recently, that was the only information known about the extent of the cave.



*Chris Hill, Bert Ashbrook, Hunter Wodzinski, Johanna  
Neller in Sarah Furnace Cave  
(photo by Hazel Barton)*

Surveying Sarah's small crawlways is no piece of cake.

In the 1950s, the Pittsburgh Grotto attempted to survey the cave using Bruntons, but the attempt failed due to suspected magnetic anomalies from the iron ore. In the 1980s, the Northwest Pennsylvania Cave Survey made perhaps the most progress of any mapping project, but in the end the cave proved too complex and the project failed to attract enough surveyors. Another small group tried to survey the cave in the early 1990s, but their failure was likely due to the scale of the project and access problems. As a result, there has never been a map of Sarah Furnace Cave despite nearly 70 years of exploration by organized cavers.

**The Cave is Saved.** Kim and Tom Metzgar had had their eye on Sarah Furnace Cave for nearly 40 years. In 2019 a new landowner was willing to subdivide the surrounding 201-acre parcel, and the Mid-Atlantic Karst Conservancy was able to purchase 20 acres of land including the cave entrance. The Mid-Appalachian Region of the NSS made a major donation toward that purchase. MAKC named the property the Barbara Schomer Preserve, after a dedicated volunteer and supporter. Since its purchase, MAKC has adopted a management plan for the Preserve (see it at [karst.org](http://karst.org)) and has begun making surface improvements. The Commonwealth has plans to reclaim an area of the preserve that was surface mined for coal.

**"Team Sarah."** MAKC wanted a better understanding of the cave resources it had purchased. Key to that understanding would be a map of the cave, which would require a new survey effort. Although access to the cave would no longer be a problem, the new surveys would still need to address the other issues that had stymied prior mapping attempts: Sarah's size and complexity, finding enough surveyors, and keeping them coming back. It was plain that mapping her seemingly endless maze of interconnected crawlways would be too big a project for any small group to finish. Instead, the survey would need to recruit many cave surveyors for a sustained, years-long, effort. But there are few cavers (let alone cave surveyors) in and around northwestern Pennsylvania, so the survey would need to recruit more broadly, and would



need to turn sport cavers into cave surveyors. Even then, we would need to keep cavers coming back to a convoluted maze where they would spend hours on end crawling without the ability to even stand up. “Team Sarah” was created to address these issues.

**Solving Problems.** It’s easy to get cavers excited to come and see a big cave that has only recently been opened for access. Team Sarah has leveraged that enthusiasm by never running tourist trips. If cavers want us to take them in the cave, it has to be on a survey trip. And we don’t accept any excuses: if you didn’t know how to survey, we’ll teach you! To be sure, that survey training has made for some low-survey-footage trips, but those trips are an investment in the project’s future: many formerly new surveyors now form the core of Team Sarah. Loaning new surveyors our personal Distos has also been key, because struggling to learn to read a Suunto in a crawlway will often guarantee that a new surveyor will never return.



*Team Sarah Sketching Seminar, Tom G., Eric S., Amanda S., Christian G., Johanna N., Dwight L., Aron S., Bert A., Red S., Cole Y., Dave F., Caitlin C., Hazel B., Katie S.  
(photo by Dwight Kempf)*

Getting cavers to come survey is only half the battle. Team Sarah uses several techniques to keep them coming back, eventually turning them into project cavers. One way is to follow a “survey as you go” ethic. No one gets to “scoop” unsurveyed passage. That way, every survey team gets the thrill of pushing the map beyond where it’s ever been, instead of only doing “mop-up” survey. Another way is producing a working map after every trip, so that surveyors can see the

progress that they are making. The working map has the added benefits of helping us navigate through the maze, and of helping to find tie-in stations for each successive survey. Another motivator is friendly competition with other caves to be the longest in the state -- size matters to Team Sarah! Finally, we prioritize having fun over getting lots of survey complete.

Team Sarah soon had lots of surveyors, but that led to a new problem: our chronic shortage of good sketchers.

On-the-job training and shadowing produced several good sketchers, but not enough to satisfy the demand. So in 2020, we held a full-day sketching seminar, including “classroom” sessions and in-cave exercises led by experienced “instructors.” Our nine new sketching “graduates” have alleviated or sketched shortage.

As momentum built, Team Sarah ran into another problem: a lack of survey instruments. Even with all of Team Sarah members’ personally-owned Distos, Suuntos, and Bruntons (yes, we even resorted to using Bruntons!), we still had trips where there were not enough instruments to go around. The solution was applying for grants from the NSS Sara Corrie (U.S. exploration) Fund and the Cleveland Grotto Science Fund. With their help, we have purchased four DistoX2 instruments for use in the project. Rumor has it that Santa Claus also delivered new Distos to several Team Sarah members.



*Jeff Jahn sketching on BAB survey  
(photo by Hunter Wodzinski)*

MAKC and Tom Metzgar serve a critical role as Team Sarah's surface support crew. They have fixed the access drive so that we can get cars closer to the cave entrance. MAKC permits Team Sarah to camp on the preserve. And most impressively, Tom (with occasional volunteer help) has constructed a switchback trail to the entrance that replaced a steep, slippery, handline trail that was genuinely dangerous in the rain and snow.



*Hunter Wodzinski in the Root Room 2, Sarah Furnace Cave  
(photo by Hazel Barton)*

COVID-19 has been one of Team Sarah's most difficult challenges. For three months in the spring of 2020, we shut down the project, until MAKC allowed a restricted reopening. As we were adjusting our trips to those restrictions, the pandemic worsened in the fall of 2020 and we were forced to adapt again. Our current approach, informed by consulting with MAKC and Team Sarah member Dr. Hazel Barton, is to allow trips by self-selected "survey pods." These are groups (relatives, household members, coworkers, or

friends that monitor each other's quarantine exposure) that have chosen to accept the risk of caving with one another. Per MAKC rules, survey pods do not congregate with other pods while in the cave.

To be sure, the pandemic has hurt our ability to welcome new cavers to Team Sarah. But by the same token, it has made Team members cherish the chance to go caving and surveying. Indeed, on our most recent trip, we put five survey pods into the cave, and had a record-breaking day for survey footage.

**Results.** MAKC's "Team Sarah" has made over 50 survey trips into the cave in less than two years. More than 70 different cavers have participated, many of whom we have taught to survey and to sketch. We've taken over 2800 survey shots, with an average shot length of 8.1 feet. Sarah Furnace Cave has now reached 3.6 miles of survey, and a vertical extent of 20 feet. That is good enough to be the third longest in the Commonwealth (for the moment), behind Laurel Caverns (4.1 miles) and behind Sarah's Vanport cousin, Harlansburg Cave (4.8 miles). With over 100 going leads, we won't stay number three for long!

Team Sarah expects to welcome more cavers to the fold once the pandemic restrictions are lifted. Meanwhile, email [caving.ashbrook@comcast.net](mailto:caving.ashbrook@comcast.net) if you want to join our listserv.

**(The report and map were used with the permission from Bert Ashbrook, the author.)**



Match at top border of sheet 2







# CAVIN CALENDAR

## MARCH 7TH - APRIL 17TH



Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Mar 7	Mar 8	Mar 9	<b>Mar 10</b>  Meeting 7pm Virtual	Mar 11	Mar 12	Mar 13
<b>Mar 14</b> DAYLIGHT SAVING TIME BEGINS National Potato Chip Day Pi Day Dr Latterell Birthday (Molers)	Mar 15	Mar 16	<b>Mar 17</b>  Happy St. Patrick's Day!	Mar 18	<b>Mar 19</b> Let's Laugh Day  EQUINOX	Mar 20
<b>Mar 21</b>  EQUINOX	<b>Mar 22</b> National Goof Off Day World Water Day	Mar 23	Mar 24	<b>Mar 25</b> MD Day	Mar 26	Mar 27
Mar 28	Mar 29	Mar 30	Mar 31	<b>Apr 1</b> All Fools Day	<b>Apr 2</b> GOOD FRIDAY	<b>Apr 3</b> World Party Day
<b>Apr 4</b>  EASTER	<b>Apr 5</b> Geologists Day	Apr 6	<b>Apr 7</b> National Beer Day	Apr 8	Apr 9	<b>Apr 10</b> National Siblings Day
Apr 11	<b>Apr 12</b> National Grilled Cheese Day	Apr 13	<b>Apr 14</b>  Meeting 7pm Virtual	<b>Apr 15</b> Tax Day	Apr 16	<b>Apr 17</b>  Bat Appreciation Day



# AD DOG DISPATCH



*Fruit Fly Cave (BB)*



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