[Radio scanning stations, crackles into doowop rendition of the hymn "Rock of Ages," and continues to play in the background.]

INTRO: Hello, everyone! Welcome to this episode of Rock of Ages. Rock of Ages will take on a different form as we all adapt to the challenges of this year. This project has been made possible by the diligent work, research, time, and vocal talents of the interpretive staff at Carlsbad Caverns National Park. Today, we rewind to 1985 and ascend to new heights in the cavern using a creative and colorful technique to reach places formerly considered unreachable. Sit back, try not to float away, and listen to our park's history. [Music fades to silence.]

NARRATOR: A group of Carlsbad Caverns employees gathers in the Big Room on the evening of December 15, 1985, after the park has closed for the day. There is a party-like atmosphere, enhanced by the hundreds of brightly colored balloons held by several of the observers. It has taken many nights of perseverance and infinite patience, but the intrepid explorers are finally ready to reap the fruits of their labor. Everyone waits with bated breath for cave specialist Ron Kerbo to ascend a rope dangling from a stalagmite two hundred fifty-five feet above their heads. Among the group is Tom Bemis, a young man who played a crucial role in making this daring feat possible. [Water drips in the background. Voice echoes in the cavern chamber.]

TOM BEMIS: Well, this here is the moment of truth. After months of planning and days of failed attempts to get into that hole up there, we're finally getting Ron Kerbo on rope to see if there's anything to it.

A couple months ago, I was down here in the Big Room and I saw Kerbo looking up at that hole in the ceiling there with a spotting scope. Since he's the Chief of Cave Resources, he's a busy man with a lot going on, so this must be a pretty big deal if he's taking the time. I've had my eye on this lead for a while, too, because of where it is right here at the intersection of these two fractures. There's a whole bunch of cave passage down here in the Big Room, so the hope is that we'll find more along these same fractures above us.

The problem was that the hole in the ceiling is almost impossible to get a person up into. No way would anyone rock climb up there, and no way could we convince the National Park Service to let us build a two hundred fify-five-foot scaffold to the ceiling. But, you know cavers. We see a problem like that as a challenge. If it's an impressive enough lead, we'll find a way to put someone in it. So, we did!

Sometimes inspiration comes from interesting places. The Many Adventures of Winnie the Pooh provided just the inspiration we needed. Pooh used balloons to lift himself up to get the honey out of a honey tree. Why not do something similar to explore leads way up in the ceiling? Balloons aren't a new idea. They've been used in cave exploration before, even here in Carlsbad Cavern. But it's been a few years since the climb at the Three Monkeys, and we have some more things figured out since then.

No amount of balloons in the world could possibly lift a honey bear, much less a human, but they could lift a rope using the right mechanism, if you had enough. This contraption here isn't the first device we tried; but we are as determined as Winnie the Pooh to find the caving version of honey: a virgin lead. There have been many hands on this balsawood frame; different players helped pick the

Episode 9 – "Up, Up, and Away!"

right shape and tether and getting just the right amount of lift. We learned at the Three Monkeys that fishing line is too weak to guide the frame, and we know that a hoop isn't going to cut it because of the shape of the opening up there. So, this is what we've come up with: a balsawood hook hanging from helium balloons, guided up around that stalagmite by parachute cord.

Along the way, we ran into the problem of lift. Latex balloons squeeze helium gas, which makes it just a little denser and heavier. We knew that we needed a lightweight container for the helium that would let the gas fill the space as efficiently as possible. I had an idea.

I was pretty adventurous as a kid. You know, like a lot of kids are. I liked to test the boundaries of what I could get away with. A friend and I wanted to make balloons once, and we came up with the idea that, since, you know, natural gas is lighter than air, we could fill dry cleaning bags with it, and they would float. This actually worked pretty successfully until my mother caught on to where all her dry cleaning bags [soft chuckle] were going off to. But, before she put an end to the balloons, they worked pretty well. They held onto the gas without leaking all over the place—if you seal them up right, that is. The natural gas gave them just enough lift to count as real balloons.

This was the idea I brought to the table for this operation. Unlike latex, the bags let the helium expand and aren't so heavy that they ruin the whole project. So, we've added them to the bundle and sent them up into the ceiling.

Now, here we are a little farther down the road, ready to send Kerbo up the rope to see if all this effort was for nothing. After several nights of prep work, and many, many balloons later, we have finally secured the climbing rope. All we can do now is hope the stalagmite anchor will hold and wait for word from the top.

[Caving gear rattling as climber approaches rope and secures ascenders.]

RON KERBOR: [Voice echoes in cavern chamber.] On rope!

[Rope feeding through ascender as Kerbo begins to climb. Fades into the distance as he goes higher. Water drips.]

RON KERBO: [Voice echoes long and deep as he shouts from a great distance.] IT GOES!!!

[Echo fades to silence.]

NARRATOR: The Spirit World was one of the biggest discoveries in the park's recent history, in no small part to the contraption carried high into the ceiling by little more than party balloons. Filled with glistening, ghostly white formations, blood red clay, this bizarre landscape is deserving of its name. Infrequent expeditions climbed the rope over the years to map the Spirit World. On October 31, 2013, the Spirit World revealed its final secret. Surveyors updating the original map noticed a ledge that had been overlooked in previous expeditions. "If it blows, it goes!" is a common mantra among cave explorers, and that ledge led to a passage large enough to drive a bus through. The explorers followed the passage until they suddenly emerged into another large room, which they aptly named Halloween Hall in honor of that fateful night. While the days of helium balloons may be over, imagination continues to push the boundaries and technology of cave exploration at Carlsbad Caverns National Park.

[Doowop rendition of the hymn "Rock of Ages" begins and continues to play in the background.]

OUTRO: We hope you enjoyed this episode of Rock of Ages. This episode featured the voices of rangers Gabe Montemayor as Tom Bemis, and Aubrey Brown as the Narrator. This episode was researched and written by Sally Carttar. Recording production was done by James Gunn and Anthony Mazzucco, music and audio engineering by Gabe Montemayor, with Abby Burlingame and Aubrey Brown at the creative helm. Join us soon for our next episode. Thanks for listening.... See ya next time ... and happy trails!

[Music fades to silence.]