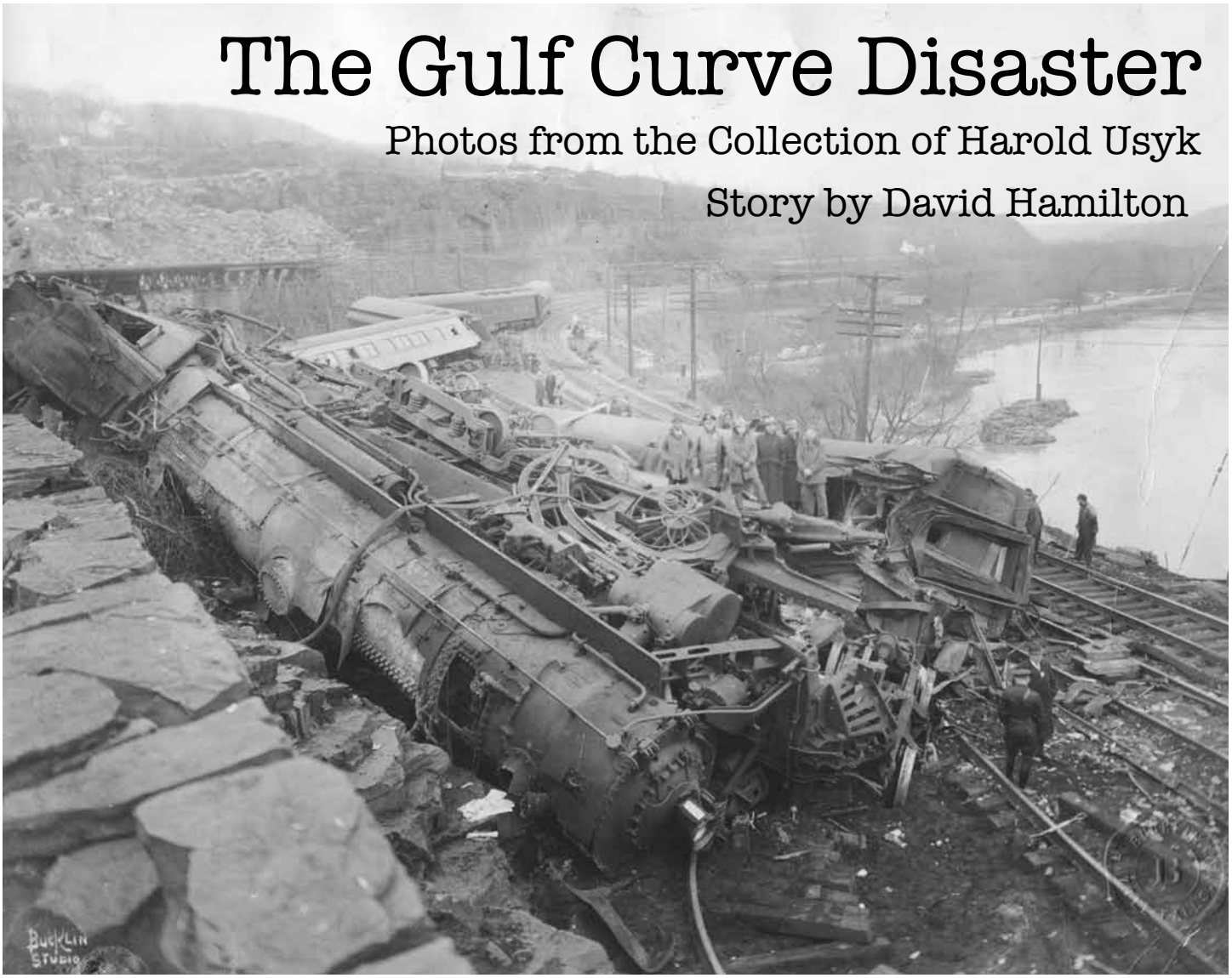
The Gulf Curve Disaster

Photos from the Collection of Harold Usyk

Story by David Hamilton



The story of the Gulf Curve wreck is probably familiar to many Key, Lock & Lantern members, as it has been told in many books about train accidents, and the above photo by Bucklin Studio has appeared in various publications over the years. This particular print was contributed by Harold Usyk, whose collection also includes a number of photos of the wreck that have not been widely published in the past. He has been kind enough to share some of them with us on the next few pages. While we don't wish to reinvent the wheel with a lengthy account of the wreck, we have included a brief narrative of the deadly accident for those who have not read about it before.

With its mainline following the light grades along river banks and the shores of the Great Lakes, the New York Central's advertising slogan, the "Water Level Route" is still in use today by its successors. And while the route includes long stretches of tangent track, in the places where the rivers wind their way through the hills, the railroad follows. On the Mohawk Division, there are numerous tight curves, with colorful local names such as "Big Nose," "Tribes Hill," and the infamous "Gulf Curve." It was on Gulf Curve that one of the worst disasters in the history of the New York Central took place.

Around 9:45 PM on Friday, April 19, 1940, New York Central train No. 19, the westbound *Lake Shore Limited*, arrived at Union Station in Albany, NY. Earlier in the evening, the yard hostler had readied locomotive No. 5315, a 4-6-4 Hudson type, for service and delivered it from the roundhouse to the station. Part of the servicing process had included testing the brakes and automatic train stop system, and checking the running gear and water level. When Mohawk Division engineer Jesse Earl climbed aboard, the No. 5315 had been serviced and inspected, and was ready to haul No. 19 west to Syracuse, NY.

In addition to the fresh engine and crew, several through cars off the Boston & Albany Railroad connection were added, bringing the total consist to two express & baggage cars, three coaches, a diner, and nine sleeping cars. Performing a well-practiced daily routine, the car knockers and air brake inspectors examined the rolling stock, while Pullman porters assisted the passengers who were boarding the sleepers for the overnight trip to Chicago. At 10:09 PM, conductor Charles Grattan gave the highball signal, and the *Lake Shore Limited* pulled out of Albany, twenty-one minutes late.

While New York Central engineers usually took pride in making up time on late trains, Jesse Earl was not going to stretch the speed limit on this trip. In addition to the regular fireman Joseph Smith, Road Foreman of Engines Andrew Bayreuther was riding in the cab. With his supervisor observing every move, the veteran engineer took care to make a running test of

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the brakes immediately upon departure, made a flawless stop at Schenectady, NY, and reduced his speed for Tribes Hill and Big Nose curves. The dispatcher's train sheet OS times showed that the *Lake Shore Limited* actually continued to lose time as it ran through the night.

The Mohawk Division is named for the river that it follows for much of its length across upstate New York, with the four track mainline closely paralleling its north shore. About 75 miles west of Albany, at Little Falls, the river takes a sharp bend through a gap in the foothills of the Adirondacks. With little room for deviation, the New York Central was forced to construct a seven degree, twenty-four minute curve at Milepost 216, known as the "Gulf Curve."

Passenger train speed around the curve was limited to 45 MPH, with a reminder notice to westbound engineers posted on a signal bridge about one mile east of the location, reading "Speed Limit, Gulf Curve, 45 Miles, Track No.1." If the crew of a train failed to heed this warning, the automatic signals located at Milepost 214 and 215 were both equipped to display green over yellow (proceed approaching the second signal not exceeding 30 MPH) as their most favorable aspect. This signal required the acknowledgement of a cab whistle by the engineer or the Automatic Train Stop system would apply the brakes and halt the forward progress of the train.

On the night of April 19th, New York Central train No. 17, the *Wolverine,* was running ahead of the *Lake Shore Limited* on Track No.1, the westbound passenger main. At about 10:49 PM, engineer Dyke on No. 17 rounded Gulf Curve at 43 MPH and took no exception to the condition of the track, confirming the observations of the section gang who had inspected it earlier in the day.

Just over thirty-five minutes later, the *Lake Shore* passed St. Johnsville, the last open station before Gulf Curve, rushing through the darkness at over 70 MPH. On

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At top right, Engine 5315 lies against the rock outcrop that stopped its northward slide. At center, a view of the wreckage of the cars that piled up against it. At bottom right, while recovery efforts continue, workers begin to repair the track. Gregorka Photo Service of Little Falls, NY.

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the rear of the train, Flagman Doran had made regular observations of the consist as it rounded the many curves along the river, with nothing unusual catching his eye. As No. 19 approached Gulf Curve, he took up a position on the rear platform to make a routine visual inspection of the train.

On the head end, signal 21421 came into view, displaying its green over yellow aspect. Both Smith and Bayreuther called out the signal, and Jesse Earl answered. He also acknowledged the cab whistle, forestalling the Automatic Train Stop system. According to Bayreuther, the engineer then briefly left his seat to check the water level on the tender of the 5315. When Earl sat down again, he responded to the ATS whistle for signal 21531, which also displayed green over yellow. He then made a 12-pound brake pipe reduction, but after only a few seconds passed, he released it.

Between the application of the air brakes and an ascending grade, the speed of the train was gradually reduced. However, the engine was beginning to enter Gulf Curve, and the *Lake Shore Limited* was

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Above, in a scene reminscent of railroad folk songs, the body of engineer Jesse Earl lies pinned in the wreckage, with his hand still on the throttle. Below, a steam crane begins the process of righting the derailed cars, some of which slid up East Main Street. Both photos by Gregorka Photo Service of Little Falls.

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still traveling at over 60 MPH. Alarmed at the high rate of speed, Bayreuther moved to the right side of the cab and saw that an inadequate brake pipe reduction had been made. He warned the engineer that his speed was too great, but Earl simply mumbled an unintelligible reply.

Even at 60 MPH, it seemed as though the *Lake Shore Limited* might safely make it around Gulf Curve without causing any damage more serious than some broken china in the diner. As the train entered the middle of the curve, though, it seemed as though the engineer suddenly realized where he was, and he reacted by quickly closing the throttle. As the slack of the heavyweight Pullman cars ran in, the rear wheels of the locomotive lifted off the rails, followed by the leading truck of the tender.

Rolling over on its right side, the engine slid across the two freight mains, until its momentum was checked by a small rock pinnacle that stood on the north side of the tracks. Sharp rock penetrated the firebox wrapper sheet, causing an explosion that blew out the crown sheet and grate bars, launching part of the ash pan across the river. The tender remained coupled and was deposited on top of the rocks.

Express car No. 8476, at the head end of the train, turned completely upside down and came to rest sideways against the locomotive. The second car, baggage car No. 8120, came uncoupled from the rest of the train, passed through the cloud of steam from the exploding boiler, and bounced along the ties for 300 feet before coming to a stop with only minor damage.

The third car, coach No. 2419, was launched across the freight mains and came to rest on its side, parallel to the express car. The following coach turned on its right side and slid up the adjacent East Main Street, passing beneath the Dolgeville Branch bridge.

The fifth car in the train was the Pullman *Red Ash*, and at first it seemed as though its occupants would have the same good fortune as that of the baggagemen who had remained unscathed in the second car.

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At top, rescuers at the scene were faced with a twisted mass of steel. Middle & bottom: the Pullman "Red Ash" remained upright, but its interior compartments were torn apart in the wreck. Gregorka Photo Service.

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Uncoupled from the train, the *Red Ash* continued westward on Track 1, derailed but still upright. However, as it passed the pileup, the wreckage of the other cars sliced through its roof and right side, destroying most of the compartments. The sixth car, the Pullman *Poplar Arch*, rolled on its right side, and joined the stack of cars piled up against the engine.

The seventh and eight cars in the train, the Pullman *Elkhart Valley* and *Poplar Dome*, plowed head-on into the side of the express car, coming to a jarring halt as they hit the solid wall of steel. New York Central diner No. 560 and Pullman *Lake Bruin* followed, landing accordion style across the freight mains, but largely remaining upright.

The eleventh car, Pullman *East Bernard,* derailed its lead truck as the *Lake Bruin* came to a sudden stop ahead of it, but the energy of the derailment had largely been dissipated. The remaining four cars stayed on the rails, coming to an abrupt halt that launched Flagman Doran from his position in the vestibule into the aisle of the rear coach.

The first rescuers to arrive on the scene found a truly horrifying sight, with some cars twisted into a tangled mass of steel

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At right, the "big hook" arrives to rerail cars, while caskets of the 31 victims of the disaster are gathered. Both photos by Gregorka Photo Service. Below, two steam cranes work together to remove the tangled wreckage of engine 5315. Photographer unknown.

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and others torn apart with their interior contents strewn about the tracks. The locomotive cab was crushed when it overturned and collided with the rocks, killing engineer Earl and fireman Smith. Road Foreman Bayreuther was seriously injured, but later recovered and was able to provide his account of the wreck to investigators.

Conductor Grattan and brakeman Sewak survived what must have been a terrifying ride in the Pullman *Red Ash,* but one New York Central porter and two Pullman porters were killed in the ensuing destruction. Passengers were trapped in crushed Pullman compartments and coaches that had rolled on their sides in the darkness. The following morning, when rescue efforts had turned into the recovery of bodies, it was determined that 26 passengers had been killed in the disaster, with another 47 injured. Four on-duty employees also received injuries of varying severity.

Shortly before dawn on April 20th, New York Central officials began to arrive at the scene, including the Master Mechanic, Division Engineer, and General Car Foreman. Over the next few days, detailed inspections were made of the track structure, signals, locomotive, and cars. Engine No. 5315 was returned to the West Albany shops for additional testing, but no defects were discovered, beyond what had been caused by the wreck. Over the next few weeks, investigators from the ICC and state Public Service Commission interviewed crew members and reviewed the results of the various inspections.

When it was issued less than two months later, the official ICC accident report concluded that the Gulf Curve derailment was caused by "excessive speed on a sharp curve combined with a run-in of slack resulting from the throttle being closed suddenly." In those days, there were no "human factors" investigations conducted to determine the probable cause an employee's actions, as is done by the NTSB today. In this case, blame for the accident was placed solely on engineer Earl, without any further consideration of what would cause an experienced engineer to act in a such an unexpected manner.

While observations made almost 75 years later are of course purely speculation, most modern railroaders are probably familiar with the type of scene that most likely played out in the cab on that night. While Jesse Earl would have taken care to comply with the rules, the presence of the Road Foreman would not have unnerved an engineer with his experience. On the contrary, having Andrew Bayreuther on the engine would likely have been a welcome break from the usual routine.

Engine crews rarely ride in silence, and on that night there was no doubt plenty of casual conversation in the cab of the No. 5315. An experienced engineer can practically make a familiar trip in his sleep, and Jesse Earl made a flawless run until reaching Little Falls. At this point, the formalities of the Road Foreman's ride had likely been completed, and friendly conversation was probably taking place as the veteran engineer skillfully handled with locomotive with only the slightest amount of effort and attention.

Even so, it is reasonable to expect that a brief discussion between crew members regarding the restrictions on Gulf Curve should have taken place as the train approached that location. However, according to Bayreuther's testimony, no such equivalent of today's "job briefing" took place. If a modern human factors review had been conducted as part of the investigation, it most likely would have revealed a loss of situational awareness on the part of all employees in the cab.

The standard practice for the operation of trains around Gulf Curve was for the engineer to leave the throttle open, and make a 15-pound brake pipe reduction sufficiently in advance for the speed to be reduced to 43 MPH as the train entered the curve. The fact that Jesse Earl acknowledged the ATS whistle and made a 12-pound brake pipe reduction, followed by a release of the brakes, indicates that he was alert and not somehow incapacitated. However, he may not have been aware of his precise location in relation to the curve (or was confused as to which curve he was approaching), or he may have misjudged his rate of speed.

The speed tapes recovered from No. 5315 indicated that the brakes were applied in the vicinity of signal 21531, about 3000 feet east of the curve, and then released about 2000 feet before the train entered it. At the speed that the *Lake Shore Limited*

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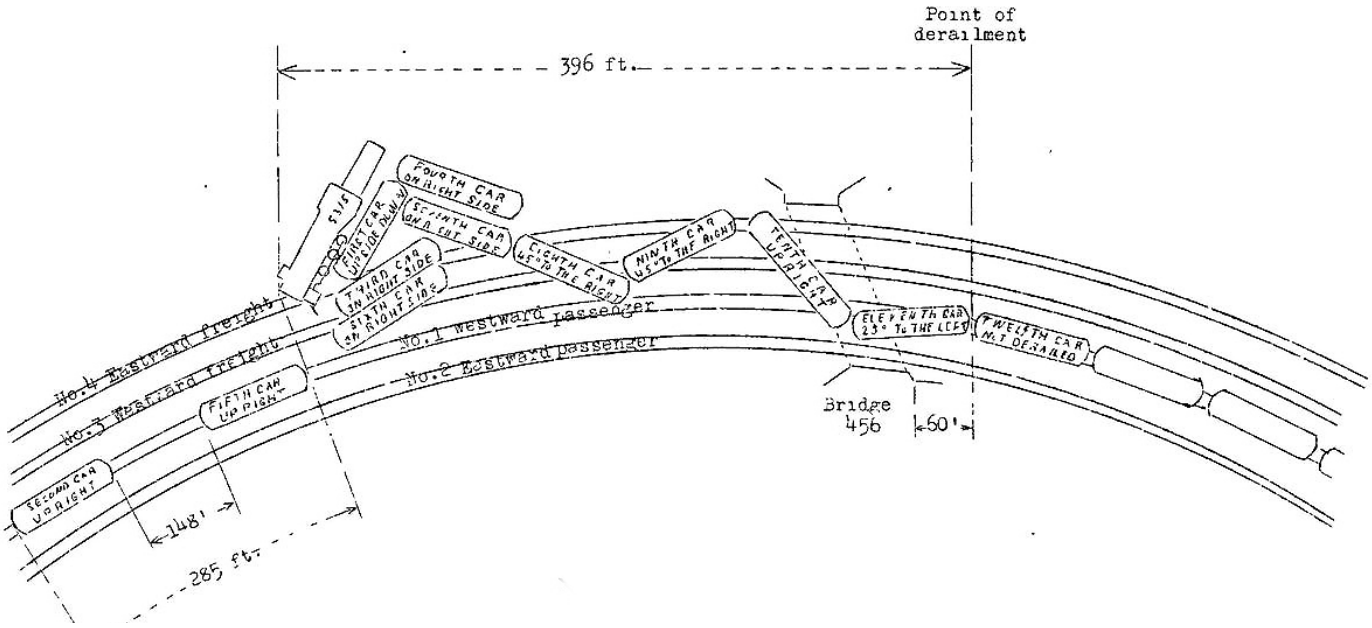

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was traveling, this meant that Gulf Curve was reached about thirty seconds after the first attempt to slow the train was made. Had Road Foreman Bayreuther been aware of his exact location as the train approached the curve, it seems likely that he would have raised an alarm at an earlier time.

Bayreuther also had twenty seconds from the moment that Earl released the brakes to take some type of action to stop the train. While this does not seem like much time, it is enough to step across the cab and grab the brake handle. With the train rapidly approaching the curve at over 60 MPH, a more drastic reaction than admonishing the engineer would have been expected, had he himself recognized the danger sufficiently in advance.

Based on these facts, it appears that none of the employees on the head end were initially aware of their exact location, or possibly the speed of the train, as it approached Gulf Curve. Acknowledging the ATS whistle, calling wayside signals, and even applying the brakes can be done as a matter of routine, without requiring any thought. The presence of a third man in the cab, combined with the complacency associated with making a familiar run, may have been the source of distraction to the crew that led to their disorientation.

It appears that Andrew Bayreuther was the first to realize that the *Lake Shore Limited* was about to enter Gulf Curve at an excessive rate of speed, but it was too late to do anything but shout a warning to the engineer. With only seconds to react and no time to fully consider his options, Jesse Earl closed the throttle in a "knee jerk" reaction. Whether the train would have safely rounded the curve without the resulting run-in of slack will never be known.

On modern railroads, current rule books call for frequent job briefings among crewmembers regarding changes in operating conditions and upcoming restrictions. When a signal indication requires a certain action to be taken, all employees in the cab are responsible for discussing the situation with the engineer, and ensuring his compliance. Accidents similar to the Gulf Curve wreck still occasionally happen, but far less frequently.

In 1947, the mainline through Little Falls was realigned, in a project to eliminate the sharp curve. The entire course of the Mohawk River was changed by blasting out rock on its south bank, and filling in the elbow that originally necessitated the construction of the curve. Today's Gulf Curve is a sweeping one degree, thirty minute spiral that doesn't require a speed restriction, although passenger trains must still slow to 55 MPH for other curves located immediately to the west.

The alignment of the original Gulf Curve is still visible from passing Amtrak trains, although it is has become increasingly obscured by vegetation in recent years. In addition, modern highway construction has brought about many changes to the area, and the location of the wreck is hardly recognizable today. However, a small monument erected by a local NRHS chapter at the intersection of Route 5 and River Road still serves as a reminder of the events of that tragic night.

References & Further Reading:

Interstate Commerce Commission. *Report of the Director, Bureau of Safety, Accident on the New York Central Railroad, Little Falls, NY, April 19, 1940, No. 2423*. Washington: 1940.

Taylor, David, & Lucinda Parker. *Night of Disaster: The New York Central Gulf Curve Wreck*. Utica: Artspace, 1989-2003.