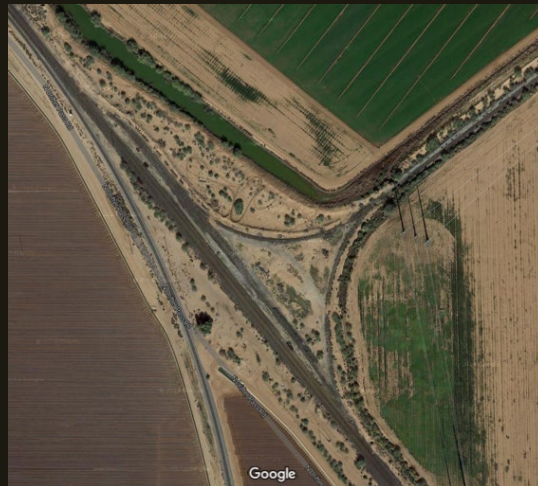




On a map, Magma, Arizona, looks like a simple rail crossing, but I was surprised how much more interesting it turned out to be. We'll explore Magma chronologically and from south to north, starting with the eastern of the two lines that exit the bottom of the below satellite image, which is the Phoenix & Eastern Railroad. The P&E was chartered in 1901 to construct a line 185 miles from Phoenix to Benson, Arizona, on the Southern Pacific Sunset Route (1881) east of Tucson, via the Gila River, and to access prime copper mining country along the route. The P&E had the backing of the Atchison, Topeka & Santa Fe Railway, which was seeking to expand its operations in southern Arizona. Construction began in 1902 at Phoenix, at the southern terminus of the AT&SF's Santa Fe, Prescott & Phoenix Railway (1895) and progressed southeast through this location at Magma then east along the Gila River and finally southeast along the river to reach its terminus at Winkelman, a mining center on the Gila River, in 1904. The P&E never reached Benson; its final length was 95 miles. The SFP&P operated trains on the P&E (1904) between Phoenix and Winkelman from 1904 to 1907, when the P&E became a subsidiary of the Southern Pacific (in exchange for SP concessions to the AT&SF in northern California). The SP ran trains under its then-new Arizona Eastern Railroad, which purchased the P&E (1904) from the SP in 1945. The entire AE system, including the P&E (1904) trackage, was merged into the SP in 1955. At some point between 1955 and 1986 the SP sold the portion of the P&E (1904) southeast of Magma (this location, including the track in the photo) to Kennecott Mining Company, which in turn sold the line to the short line the Copper Basin Railway in 1986. The CB was owned by Rail Management Corporation from 1986 until 2006, when ASARCO (originally organized in 1899 as American Smelting and Refining Company) purchased the CB. This southeastward view of the P&E (1904) is now the beginning of CB trackage.







Northwestward view at same location as previous, with the P&E (1904), now CB, in the foreground splitting into sidings at Magma. For reference in later photos, note the cars stored on the main P&E track in the distance.





Same view as previous, with close-up of the siding switch cross-over. Note all bolted track.





Now we've moved a few steps farther north, same car on the P&E mainline in the distance. There are two sidings, the farther of the two has a switch that goes to a wye. The wye is for the Magma Arizona Railroad, which is the next chapter in the history of Magma. The Magma Copper Company built the narrow gauge MA in 1915 to connect copper mines at Superior, Arizona, to the P&E at this junction, which then became "Magma." The MA was converted to standard gauge in 1923. Some trivia: the MA was the last industrial short line railroad in the US to use steam power. The Australian mining giant Broken Hill Proprietary Company purchased the Magma Copper Company in 1996 and suspended rail operations in 1997. The MA is currently owned by Resolution Copper, a subsidiary of London-based Rio Tinto Group, which has indicated that the railroad may be re-opened if and when mining resumes.





Another northwestward view of the MA wye. The P&E siding is in the foreground and the MA siding veers right to a switch with the southern leg of the MA wye.





Southeastward view at about the same location as previous, from right to left the P&E (1904) mainline, the P&E siding, and the MA (1915n) siding with a switch to the south leg of the MA wye.





Southward of the south leg of the MA wye. In 1923, these rails were either moved farther apart to standard gauge and or replaced with heavier rail on standard gauge. Note the slight dog-leg in the track, not great construction.





A closer look at same location as previous shows some green copper ore that fell onto the tracks of the south leg of the MA wye at Magma.





Both legs of the MA wye at Magma, with the MA siding and P&E mainline and siding in distance.





The converging legs of the MA wye, north leg in the foreground.





The apex of the MA wye, with the MA siding and P&E mainline and siding in distance.





Northeastward view of the apex of the MA wye and the beginning of the MA, built in 1915 as a narrow gauge road.





Northeastward view of the MA just past the apex of the MA wye. Note the heavy growth of mesquite. From here, the MA grade continues 30 miles northeast to Superior.





Looking south, this is the northern leg of the MA wye, where it joins the MA siding. Between here and the south leg of the wye, barely discernable in the distance, the MA siding has a switch to split the siding into two sidings, the second being rusty track just to the right. There are two more tracks on the far right (west) on a higher fill grade, those are the P&E siding and mainline. Note how rusty the MA sidings and wye are from disuse. From 1915 to 1923, this must have been a busy place, as cargo and people had to be transferred from the narrow gauge trains on the MA siding to standard gauge trains on the P&E (Arizona Eastern at the time) siding.





A few steps back from the previous, showing the switch for the northern leg of the MA wye, where it joins the eastern of the two MA sidings. The P&E siding and mainline are to the far right (west).





Northwestward view of the northern leg of the MA wye, where it joins the MA siding, with the second MA siding and the P&E siding and mainline to the left (west). Note the same stored car we've been seeing on the P&E mainline. Note also in the distance another track on lighter gray gravel ballast, the Southern Pacific (1924) line discussed below.





A little farther north, looking south at the switch where the MA siding joins the P&E siding. The switch with the yellow diamond sign in the left distance is where the two MA sidings converge to a single track. The P&E mainline is to the right (west) of the P&E siding and a new line is at the far right with fresher-looking gray granite ballast. That line is the last chapter in the railroad history recorded at Magma, the Southern Pacific's 1924 Phoenix connection.





A little farther north, looking south. The close rusty track is the P&E siding. The P&E mainline is to the right (west) with the car on it that we saw from a distance. The SP's 1924 Phoenix connection is at the far right.

In the middle 1920's, the SP built two new lines to replace the Maricopa & Phoenix Railroad (1887), which was a branch off the SP's Sunset Route mainline and SP's only access to Phoenix. One of the SP's new lines was a connection completed in 1926 west of Phoenix, from the SP mainline near Yuma to Phoenix using the Arizona Eastern (1910) line for the part near Phoenix. The second of the SP's new lines was the connection completed in 1924 east of Phoenix, seen at far right above. The 1924 line used the P&E grade from Phoenix to Magma, a route that had been an Arizona Eastern property since 1910. At Magma, the SP route veered south on a new grade to re-connect to SP's Sunset Route. The veer to the south can be seen in the distance. The two new SP lines built in the middle 1920's constitutes a second mainline parallel to the Sunset Route and goes through Phoenix.





Now that we have the history at Magma, let's explore farther north again. This westward view at the north end of Magma shows the P&E (1904) mainline in the foreground and the SP (1924) Phoenix connection in the distance, south of the southward veer (previous location). Note the very flat topography used now for agriculture. A large region around and south of Phoenix was a lake in the Pleistocene; the lake dried leaving a flat lakebed now being captured by the Gila River.





The closest track is the MA (1915n) siding, beyond which is the P&E (1904) siding, the P&E mainline, and the SP (1924) Phoenix connection where it veers south, away from the P&E alignment.





Southward view of the SP (1924) Phoenix connection where it veers south. Note the fresh granite ballast, rust-free welded rails, and clips (in addition to spikes) of a modern, active line. From here, the 1924 SP route continues 30 miles to the SP (1881) mainline.





Now let's continue exploring Magma to the north. Looking south, from left (east) to right: the P&E siding, the P&E mainline with the same stored cars, and the shiny 1924 SP Phoenix connection veering south in the distance.





Same location as previous photo, looking north; from left (west) to right: the shiny 1924 SP Phoenix connection, the P&E mainline with the same stored cars, and the P&E siding.





Now we are just north of the stored cars, looking north. In the foreground, the rusty P&E siding joins the P&E mainline (with the stored cars just behind the viewer), and on the far left the 1924 SP Phoenix connection has a double switch to the P&E.





Same location as previous photo, looking north; from left (west) to right: the shiny 1924 SP Phoenix connection, the P&E mainline, and the switch to the rusty P&E siding. The double track in the distance extends one mile north from Magma, where the P&E mainline merges with the SP line.





Southward view 2 miles north of Magma, where the 1924 SP Phoenix connection is built on the 1904 P&E grade.





Northward view, same location as previous 2 miles north of Magma. From here, the P&E (1904) grade, sporting its 1924 and subsequent SP upgrades (the welded rail came later than 1924), continues 40 miles to Phoenix.