Wagons To Haul Through Hell

Big freighters had rumbled throughout the West ever since the days of the Santa Fe Trail, and through Nevada and California deserts since twenty-ox teams first tugged their wagon strings up Six Mile Canyon for the greater glory of Virginia City. But J. W. S. Perry needed wagons that could haul ten ton borax payloads from the heart of the West's worst desert, making 330 mile round trips on a relentless schedule without even minor breakdowns.

Such wagons did not exist.

John Searles over at Borax Lake had the nearest thing to them, a two-wagon train drawn by twenty mules that had been hauling borax down to Mojave since the late '70s. But Searles' road was a comparatively easy one half the length of that from Death Valley, and his two wagons together carried only 15 tons.

If Perry wanted wagons bigger than that, he would have to build them. And build them he did.

John Spears talked to Perry about the big wagons while the borax company was still using them, though by then they had been transferred to the Calicos. For a detailed account of their building, we must turn again to Spears' *Illustrated Sketches of Death Valley:*

"Mr. Perry obtained, by inspection or correspondence, the dimensions of all varieties of great wagons used by Pacific Coast freighters. With these and the load carried by each wagon spread out before him, he proceeded to design the wagons.

"The task he had set for himself was the building of ten wagons so large that any of them would carry at least ten tons. The reader familiar with railroads must have seen painted on the sides of freight cars: 'Capacity 28,000 Ibs.' 'Capacity 40,000 Ibs.' Rarely, 'Capacity 50,000 lbs.' Consider that these wagons for hauling borax out of Death Valley were to haul ten tons—that a train of two wagons was to carry a load for a modern, well-built freight car, and carry the load not over a smooth iron tramway, but up and down the rocky defiles and canyons of the Panamint Range. Because they were probably the largest wagons ever used, and because they were and still are so completely successful, space may be given to their dimensions in detail.

"The hind wheel was seven feet in diameter, its tire eight inches wide and an inch thick. The forward wheel was five feet in diameter, the tire like that on the rear. The hubs were 18 inches in diameter, 22 inches long. Spokes were of split oak, 5.5 inches wide at the butt, four inches wide at the point. The felloes (curved wood sections forming the wheel rim) were made double, each piece 4 x 4 inches in cross section, the two being edge-bolted together. The forward axle trees were solid steel bars, 3.25 inches square, the rear axles

3.5 inches square. Wagon beds were 16 feet long, four wide, six deep. The tread—the width across the wheels—was six feet. Each wagon weighed 7,800 pounds. The lot cost about $9,000, or $900 each.

"In building the desert freight train, the front wagon receives a tongue of ordinary length, while from the rear projects a little wrought-iron tongue about three feet long. The second wagon has a tongue, say six feet long with a stout vertical ring on the end which, when the two wagons are coupled, slides over the three foot tail of the front one. To hold the wagons together, a stout chain runs from the front axle of one to the front axle of the other.

"Two of these Death Valley wagons very often carried 45,000 pounds and sometimes 46,000 pounds of cargo, exclusive of water and feed for men and team, while their combined weight was 15,600 pounds, or about one-third of their load. All ten were in constant use for five years without a single breakdown. The works in Death Valley were then closed, but two of the wagons have been in constant use since and are at this date (1892) running from the Borate Mine in the Calico Mountains to the Atlantic & Pacific Railroad (present Santa Fe), where they bid fair to have an experience equal to the wonderful one-horse shay."

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Wherever and whenever that unknown genius of transportation first teamed twenty mules together, it was not in Death Valley. John Searles was hauling borax from his lake with twenty mules before Coleman started the Harmony Works. A twenty animal team with three wagons was shown at the loading dock of Smith Brothers' Teels Marsh borax refinery in a somewhat imaginative sketch of 1876. John Delameter claimed to have hauled a ten stamp gold mill from San Pedro to Frazier Mountain by twenty mule team in 1878. Twelve and more spans were harnessed together in early Arizona mining booms, when some particularly heavy machinery required moving.

And there is a picture from Nevada's White Pine excitement showing an 18 mule team of about 1870, remarkably like those of Death Valley, hauling 54,000 pounds of mining equipment in four wagons. The teamster rides the near wheeler, a swamper is up with the mules, the mules wear bells. Had that load required two more animals, they undoubtedly would have been added.

These are all recent. The first twenty mule team may have labored a thousand years ago and many thousand miles from the West. Tex Ewell read somewhere of a Spanish king who worked 10,000 head. Mules ran in chariot races of an Olympiad 100 years before the Christian era. Pliny, the natural historian, told of them hauling the beautiful marble of Pentelic to build Athena's great temple in ancient Greece. And especially the tale of one 80 year old mule, no longer able to work, still following the others as if wanting to help—a devotion so pleasing to the Athenians they gave it the keys to the grain market.

But if the twenty mule teams were not born in Death Valley, they were perfected there. Before, they often were a cumbersome makeshift for exceptionally heavy jobs. On the Death Valley-Mojave run they became smoothly functioning power plants with their own techniques, habits and traditions. They became the twenty mule teams.

Tex Ewell has worked with mules all his life, mule teaming for a good part of it. In his Rim Rock harness room, surrounded by bridles, bits, chains, saddles, aparejos, alforjas and miscellaneous harness, he told us about some of those habits and techniques, and led us through the intricacies of the twenty mule outfits, one of which he drove briefly.

The borax team (Tex told us) usually was 18 mules, two horses. Horses were used as wheelers because they had the weight to handle the wagon tongue on quick turns, not because they were smart. A dumb mule—if there is such a thing—is smarter than a smart horse. Wheel horses often were 1800 pounds, and mules seldom reach that weight. The teams I knew ran from about 1000 to 1300 pounds.

Next out from the wheelers were the pointers, their lead bars hooked directly to lug eyes on the pole. Ahead of them were the sixes, eights, tens, twelves, fourteens, sixteens, eighteens and the leaders. All these were hooked to a tapering (3/4 to 3/8 inch) iron chain, about 80 feet long, which ran the length of the team with ten feet allowed to each span. There were two tug chains on cach mule, fastened to singletrees. The singletrees were fastened to a spreader—or stretcher—and the spreader by a clevis to the main chain, which was called the fifth chain. The fifth chain was linked by a "monkey tail" to a one inch iron bar fastened to the front axle of the lead wagon and extending out under the wagon pole.

Desert harness for the mules was turnback, crupper, collar, hames. The wheel horses wore heavy breeching—called Pennsylvania breeching out here and California breeching in Pennsylvania! On our exhibition team we used blind bridles and straight bar bits, and all the mules wore bows of bells. When they were hauling in Death Valley I think they used bells only on the leaders, but all the old teamsters liked to have them, because the team would pull to the bells. It strikes a rhythm and I think with bells a team would walk a half a mile an hour farther. In the mountains you could hear them coming and pick a place to pass.

The left—or near—leader was the line mule. She was controlled by the jerk line and in turn controlled the whole team. I say "she" because the fine mule was usually a mare. The jerk line, usually a sash cord, was fastened to the line mule's bit and carried back through the hame rings to the pointers. From there it worked free, so you could whip it back and forth. A steady pull on the jerkline turned the line mule left. Several jerks pulled her right. The team was stopped by the brake and the Ford.

A jockey stick—about an inch in diameter and four or five feet long—was fastened to the hame ring of the line mule at one end and l the bit of the off—or right—leader at the other. Turning to the right, the jockey stick would push the off leader around. Turning to the left, it would pull her with the line mule. And the off leader wore a tieback from her bit to the tugs of the line mule, to keep her from running ahead and pushing the line mule over.

Where the going was rough—up hills, around turns—the teamster rode the near wheeler—always the near wheeler—in a deep seated, heavily padded saddle. Riding that way you could encourage your wheelers to work the pole, and the pointers would work harder, too, when they knew they were within reach of a whip.

When you made a turn—say the turn was right—you'd keep your line over as far left as you could. But as the mules moved around, the chain would be pulled closer and closer to the inside of the curve. But the pointers were trained to get over the chain when they saw the line mule start to make the turn, and they would start pulling at an angle —sometimes of 45 °—to take that chain away from the inside of the curve and keep the wagon going ahead through the wide arc of the turn. The pointers would work across the chain with the words "Gee" to the right and "Haw" to the left. But normally they wouldn't even have to be called over. They'd jump and start pulling.

When you made it around the curve and began to straighten out, they would gradually come in to the chain and bounce right back over where they belonged. Going up a steep

hill the leaders might be a dozen feet above you. That would bring the chain up high. But I've seen Sadie—one of the pointers on that exhibition twenty mule team—jump the chain when it was three feet off the ground, and land pulling. And she was a little mule, built close to the ground.

Sometimes the sixes and eights had to point too. Then you'd have a swamper alongside to put them over the chain, because they weren't used often enough to go over with the words from the saddle. Sometimes they singlepointed. That is, one pointer would pull at an angle to take the chain out while his mate stayed on his own side.

The animals between the pointers and leaders, the "swing teams," were usually crosstied. Each wore a strap from its bridle to its mate's hame ring to keep them from spreading out. The pointers and the sixes worked free, and I understand some teams wore no crossties and were trained to singlepoint well up into the twelves and fourteens.

On a curve going down grade, the only animal you'd put out would be one of the pointers. More than that and you'd be pulling against your brakes, and a single pointer and a wheel horse could throw the pole out as far as you needed. Going up grade you had the pull of all those mules ahead, and that's when you'd have to put your sixes, eights or tens over the chain.

Mules were usually matched up for size and color and sold by the span, frequently full brother and sister or brothers, at $350 to $500 a span. Those $1000 mules you read about—well, our line mule was insured for $10,000. But that was good advertising! Mules shouldn't do heavy freighting until five years old. Even then they'll be pretty well stove up at 12 or 14. But I think a mule will last ten years longer than a horse. He doesn't waste energy pawing and running off here and there.

You hear about mules being born mean. I never saw a mean mule that couldn't be traced to abuse. I've never been kicked by a mule who knew me long enough to have confidence in me. I think a mule appreciates kind treatment more than any other animal in the world and gets less of it . . .

Tex Ewell told us he had once checked journals of pioneer expeditions, and "you'll find 20 dead horses alongside the road before one dead mule." Mark Twain, in Roughing It describes how, in'difficult country, the horses on the stage coaches would be replaced with mules. A lot of the success the army had campaigning against the Apaches in the Southwest is credited to the endurance of mule pack trains. Tom Moore, famous army packmaster who served with General Crook in those campaigns held Tex's idea about them, as Charles F. Lummis quoted him:

"*Mules?* Pardner, I want you to remember that God made mules a-purpose! "

Excerpts from: **"20 Mule Team Days in Death Valley" by Harold O. Weight**