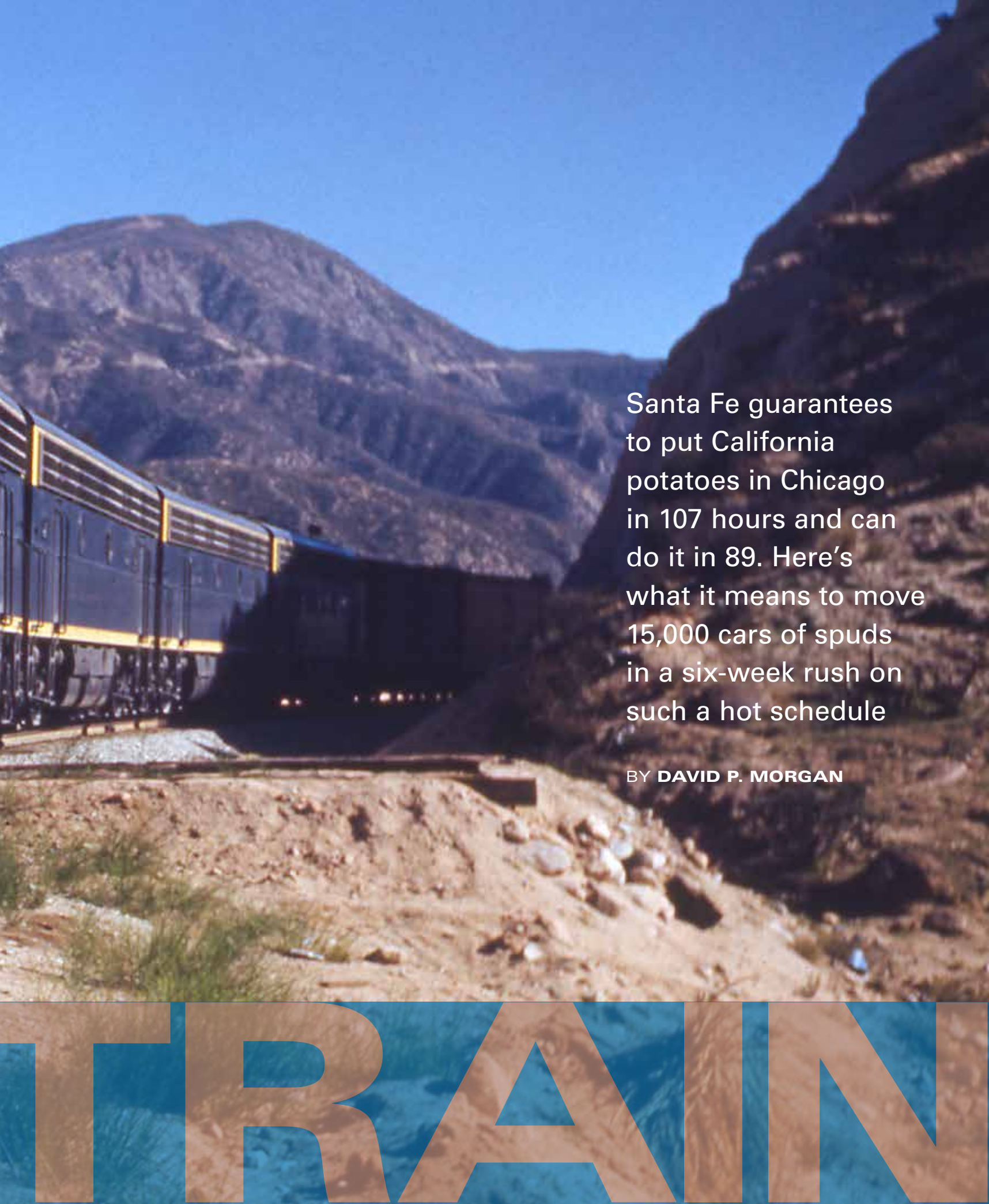




CASE HISTORY OF A

SPUD



Santa Fe guarantees to put California potatoes in Chicago in 107 hours and can do it in 89. Here's what it means to move 15,000 cars of spuds in a six-week rush on such a hot schedule

BY DAVID P. MORGAN

TRAIN



Above: Alco S2 switcher 2358 jockeys refrigerator cars at a loading shed in Kern County, Calif. When filled with potatoes, the cars will be taken to Bakersfield for expedited movement east.

Santa Fe

Preceding pages: Looking like Extra 261 East but originating in Southern California, not the Central Valley, four-unit F7 No. 241 climbs Cajon Pass with reefers loaded with perishables.

Krambles-Peterson Archive

What is Extra 261 East?

As of 8:52 a.m., June 4, 1953, it is white flags flapping over the cab windows of a 6,000 h.p. Electro-Motive diesel dressed in blue and yellow and wearing the Santa Fe cross on its nose . . . 3,574 tons on the wheel report: 66 yellow reefers and a dull-red caboosé . . . and a two-unit diesel helper idling behind the hack as the tonnage ahead on track 19 lies alongside the icing platforms in the warmth of morning at Bakersfield, Calif. Extra 261 East is men and machines and lading awaiting the highball for a 2,195-mile, 107-hour straight shot to Chicago. It is sacks of washed potatoes stacked up behind thick sealed doors; it is conductor Charlie Harding picking up his waybills; it is 96 cylinders kept alive on a diet of diesel oil — it is tension impatient for release.

For the Santa Fe this is the payoff of the annual movement of potatoes out of Kern County at the foot of the San Joaquin Valley — yet the spadework began months ago when the railroad's agricultural agent, H. E. Adams, nosed his green Buick into the fields to buttonhole big ranchers. Hank was after potato production estimates for the 1953 season, and before he was through he had contacted the growers' association and field men of the U.S. Department of Agriculture. The advance picture he

sent to Chicago headquarters was that Kern County would harvest 50,000 acres of early potatoes (26 percent more than in 1952), equivalent to 15,000 carloads if Santa Fe's solicitors managed to get an even split of the traffic with the Southern Pacific. Back east in Chicago, traffic and operating men went into a huddle over Hank's estimate, then pulled 7,500 refrigerator cars out of the pool for empty movement to Bakersfield.

Gradually, then briskly as the spring deadline loomed, the natural pace of a seasonal perishable rush began to pick up along the 2,200-mile length of the Santa Fe. There were icing stations to brief; diesels to call out; reefers to clean, inspect, and store; tariffs to file. All down the line it was the old yet ever new story of preparation, then waiting . . .

. . . And then the fields were populated. First the machines: the beaters rolled down the long rows of green plants, slicing off the vines — and behind them pocket-sized Caterpillars came along dragging the mechanical diggers, potatoes bobbing to the surface in their wake. Behind each digger, some 40 pickers moved in to pick up the spuds, then set their loaded sacks aside for loading on the stake trucks which raised the dust between field and packing shed from dawn until dusk. At the sheds



the potatoes were dumped into baths, then rolled on conveyor belts under the quick, sure eyes of women — some of them bobby-soxers, some of them grandmothers — who threw out the culls, the bruised and overripe spuds. The belts disgorged their load into 100-pound sacks which were quickly sewed up at the top, then trucked across the platform and into the waiting reefers, 360 sacks to the car. Doors swung shut, seals were snapped on — and Santa Fe took over.

BAKERSFIELD'S ICEBOX

Black, silver-striped yard engines and Geeps gunned out of Bakersfield on pickup runs. At each of 25 packing sheds and way stations the diesels reached into the sidings to pull out the loaded reefers and replace them with empties.

Bakersfield, assembly yard for the Kern County spud rush, came into the picture as the pickup crews spotted their cars beside the long ice docks. Icing — remember the familiar scenes of sled crews cutting the big blocks out of frozen lakes in the winter, then storing them for summer use? And recall the photos of men atop the ice docks pushing the blocks into the bunkers of waiting refrigerator cars? Well, forget them, because Bakersfield is a push-button operation, a gigantic mechanized icebox that can freeze 720 tons of ice a day, load 3,500 tons a day, and store up to 28,000 tons. The 300-pound blocks — it takes 38 to ice a car — move out of the storage rooms and up onto the docks in an endless chain. Up there the ice is gobbled up and digested by a machine rolling along a 12-foot-gauge track, a Link-Belt creation operated by one man that can dump more than 10,000

pounds of crushed ice into a reefer in 75 seconds flat. Bakersfield ice dock boasts three of these electric loaders and when they're working together the Santa Fe allows but 30 seconds to ice a car.

From the ice docks, the yellow cars were assembled into trains, up to 12 of them a day, and on June 4, Extra 261 East was one of them. Between its diesel units, fore and aft, are something like 4 or 5 million potatoes, and at 8:53 a.m. they're rolling. The road diesel up front pulls the entire train, helper and all, out of the yard and past the passenger station, over several grade crossings, and up to Kern Junction where the Santa Fe takes to SP rails for the climb over Tehachapi to Mojave. Once the caboose clears the tower, the leash is taken off 9,000 diesel horsepower and Extra 261 East heads for the mountains in high gear.

This is the payoff. Chicago is nearly 2,200 miles away on a guaranteed schedule of 107 hours, which means the Santa Fe stands to foot the bill if the spuds spoil or miss a good market because the train is late. It means that the railroad could shell out \$18,000 on a delayed movement of 100 cars, which explains why it could get these potatoes to Chicago in 89 hours if it had to because of a late departure or unexpected delays en route.

Green acres of cotton and alfalfa staked out by oil-well derricks soon give way to desertlands as Tehachapi looms ominously in the distance. The line begins to noticeably lift and there's a deafening roar in the steel caboose as the exhaust of the diesel helper behind reverberates inside tunnel No. ½. The grade stiffens; 2 percent is common, 2.5 is frequent. Before diesels it took four big 2-10-2s to take a train of this size over the hump.

Above: Each standard 40-foot, ice-cooled reefer holds 360 sacks of potatoes. The five sacks here total 500 lbs.

Middle: The yellow reefers have their bunkers filled with ice at Bakersfield before heading to Chicago.

Two photos, Santa Fe



Just as on the spud train in author Morgan's article, a 5011-class 2-10-4 helps four F7s lift loaded reefers up-grade about 15 miles east of Belen, N.Mex., in July 1957.

Ed Gerlits

This is centralized traffic control territory, and at Bealville Extra 261 East goes into the hole for SP's *San Joaquin Daylight*. At 10:20 the train is stopped; three minutes later the radio speaker in the caboose announces that the passenger train is nearing the east siding switch. Conductor Harding swings up into the cupola and waves a white flag at the helper engineer, who opens up his locomotive just enough to hold the back end of the train on the grade. . . . Three black diesels and a swish of orange-and-red cars slip by. . . . The radio mutters, "OK, let's go." . . . Harding gives a highball to the helper and the train is moving again at 10:26.

The long yellow train coils on up into the mountain, clinging to its walls and boring through tunnels where there is no other choice. The wheel-slip light in the helper's cab flashes on as its drivers fight for a grip on rails left greasy by freshly oiled reefer journal boxes, but 3,574 tons keep rolling — up, up, up to the summit. The top is reached after 3½ hours and 49 miles of the roughest kind of western mountain railroading. The helper cuts off, wyes, and returns to Bakersfield; Extra 261 East makes a brake test and is under way down the steep slope into Mojave.

Once out of Mojave, where Santa Fe trains regain home rails, it's a straight and level run of 71½ miles to Barstow, and crews figure it takes just 85 minutes to wheel a load of spuds across it.

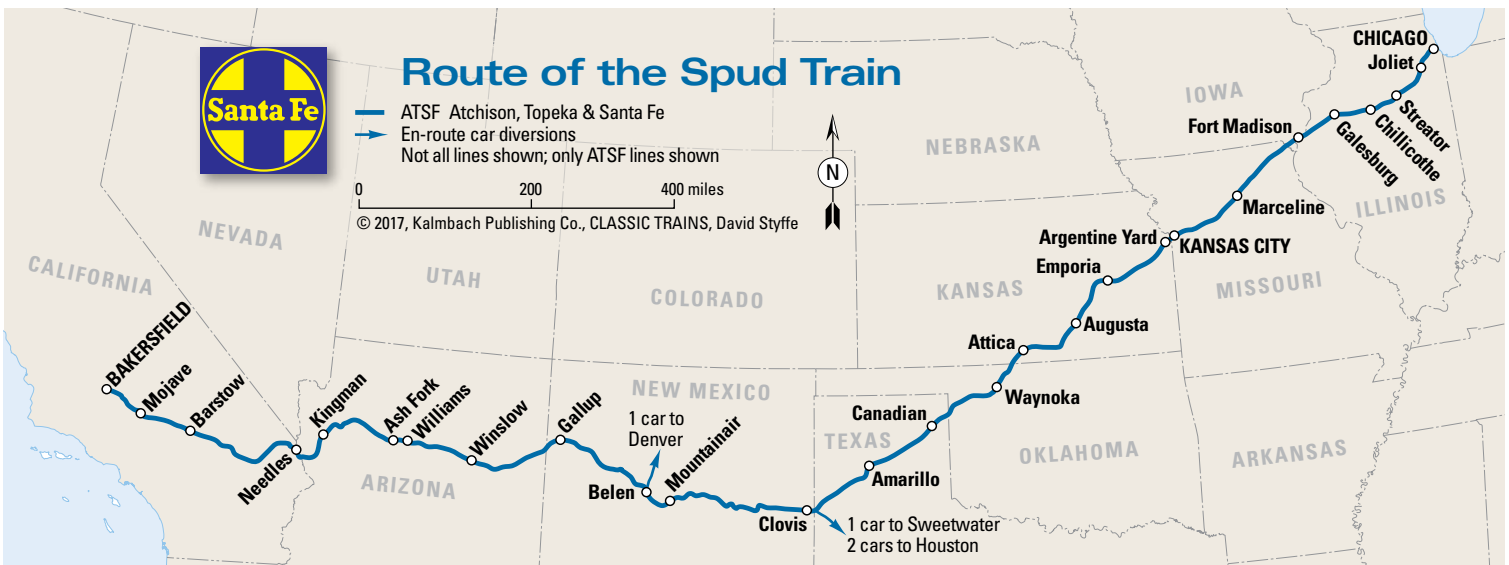
The sun hikes on across the sky as Extra 261 East noses into Barstow, and a starry night blankets its run over the desert to Needles and the Colorado River. Now the four units on the head end have their work cut out for them because the 149.7 miles ahead to Seligman rise on a consistent

1.42 percent grade except for an intermediate breather of 12 miles from Louise to Walapai. The throttle is in the last notch, the speedometer needle sticks to 14 mph, the load-indicating meter reads 675 amperes D.C., and all the desert hears the sustained roar of four V-16 engines yelling their heads off. This is four units — 110,000 pounds' worth of drawbar pull — at work on more than 3,500 tons of train. The same units could take up to 4,700 tons unassisted; with steam, 2,900 tons was the limit for two fat 2-10-2s.

66 CARS, 23 DESTINATIONS

What is Extra 261 East? Is it just wide-open diesels on a long grade with 3,574 tons in tow and green signals ahead? That is the train as the operating men see it — but to the traffic boys the tale of Extra 261 East is tied up in the bundle of waybills that rests on the conductor's desk back in the caboose. To them the train is 66 refrigerator cars billed for 23 different destinations: for Grand Rapids and Pittsburgh and Brooklyn and Des Moines, for Fort Williams, Ontario, and Waterville, Ohio. The train is also 66 individual contracts between shipper and railroad to move perishables in car-load lots so far for so much. For instance, on a car of spuds billed from Shafter, Calif., to Kansas City, the freight charge totals \$447.23 plus \$79.35 for refrigeration.

Refrigeration is important on a big perishable handler like Santa Fe, so much so that the road has a separate department to take care of it. For example, the icing instructions on Extra 261 East call for the majority of the cars to be initially iced at Bakersfield and re-iced at all ice docks en route:



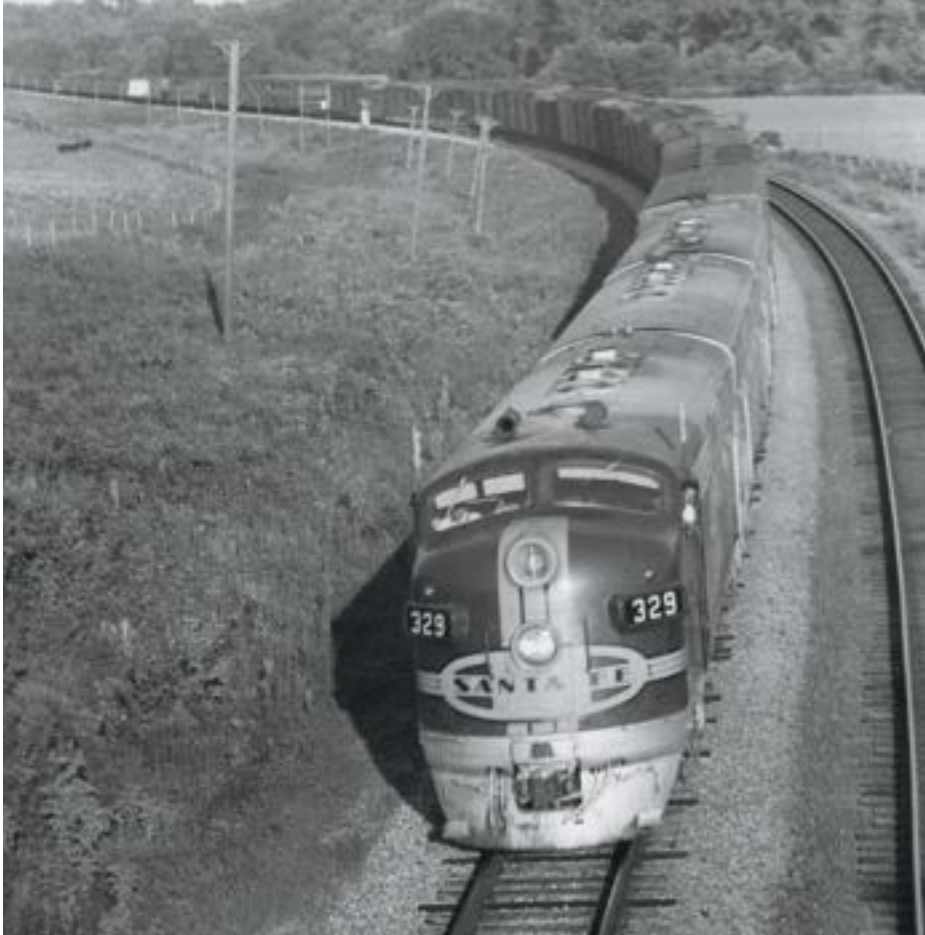
Needles, Calif.; Belen, N.Mex.; Waynoka, Okla.; and Argentine, Kans. But there are a handful of exceptions. One shipper requests ice at Bakersfield but none thereafter; another wants initial icing at Needles; still others ask for re-icing at every other dock only. The variations arise from the quality of the spuds, the mileage they're making, their disposition, and from plain old shipper whim. Certain Department of Agriculture tests have shown that an en route temperature of 55 degrees will keep early potatoes marketable, but most shippers prefer full icing to insure a steady 38 to 40 degrees. Santa Fe itself is impartial. It'll keep the bunkers full if you like, or run the spuds east under "standard ventilation" — no ice at all (but leaving the roof hatches open when the weather outside is above freezing) — which is the way potato-chip manufacturers like their cars handled.

One refrigerator car in the consist of Extra 261 East isn't carrying spuds and it has not a cube of

ice, yet its lading of frozen strawberries billed for Jersey City is being cooled at 8 degrees below zero. The reefer is SFRD No. 3150, a 50-foot, 125-ton car (the average reefer loaded with spuds weighs 53 tons) dubbed an MTC, for mechanical temperature control. At one end of it a 6-cylinder, 52 h.p. diesel engine fed by fuel tanks suspended beneath the car is hammering away, operating a Trane Company refrigerating unit. Prior to the Santa Fe's purchase of 30 such mechanical reefers, frozen foods (such as syrup, citrus concentrate, etc.) had to be handled in standard reefers kept cool by ice and 30 percent salt. But not the 3150. Its refrigerating plant (which takes up only slightly more space than one ice bunker) will operate up to 12 days without attention, and by simply turning a knob on a panel located outside the car you can take the interior temperature down to 50 below.

This is the 3150's first revenue trip and it's running like a Hamilton watch.

Top: A trainload of Kern County potatoes rounds a horseshoe curve east of Ash Fork, Ariz., on a rugged section of main line that the Santa Fe bypassed in 1960.
Santa Fe



An A-B-B set of dual-service, Warbonnet-painted F7s like the one that took over Morgan's spud train at Argentine Yard hustles a freight extra west toward Galesburg, Ill., in August '53.

Kennel DeSoltar

BUSY TIME AT BELEN

Afternoon, June 5, and a Baldwin 2,000 h.p. helper is leaning on the tail of the train as it fights up the 2 percent grade out of Ash Fork, Ariz. The long yellow ribbon of reefers is pulled and shoved up through wooded terrain and around horseshoe curves. The speed is slow, steady, relentless.

The helper cuts off and Extra 261 East is out of Williams at 3:50, across the Arizona Divide at 4:53, through Flagstaff at 5:06, into Winslow at 6:25 p.m.

The first diversion occurs at Belen. As the potato train has been climbing mountains and crossing the desert, the shippers back in Bakersfield have been watching the market, checking where prices on early spuds are breaking, where they're holding. Then, if a man felt he had billed his car to a bad market, he simply called his local Santa Fe agent, who in turn wired ahead with the request that the car be rerouted. Diversion is a standard railroad service on perishable lading, and a shipper can divert the same reefer up to four times free of charge. At Belen, one car is diverted to Denver.

Belen is busy. The diesel units take on fuel, as they do three times between Bakersfield and Kansas City, and engine and train crews change, as they do 17 times from California to Chicago. Practically the entire train is re-iced. And finally an enormous 2-10-4, No. 5022, couples on to help the extra up to Mountainair, 41 miles and a lot of 1.25 percent grade away. At 6:03 a.m., June 6, the train is moving, and once the tandem of steam and diesel hits its stride the reefers ride upgrade at 45 mph.

Extra 261 East is now running over what Santa Fe calls its Southern District, a line of more moderate gradients than the northern route over Raton

Pass used by the streamliners and a line where traffic is expedited by one of the most advanced installations of centralized traffic control in the U.S. The sidings are miles long and trains can enter or leave them at 40 mph. Nonstop meets are common. Indeed, tonnage trains pass at such speed that the stranger feels obliged to check an operating timecard to be sure he's not on double track.

At Clovis there are two more diversions, one car for Sweetwater, Texas, and two for Houston, and the train is away at 2:32 p.m. Into Amarillo at 4:45, remove one car for local delivery, leave at 5:02. Dusk settles over Texas, but a phenomenon in the distance — heavy rain and a dust storm simultaneously — threatens the cool calm of late afternoon. Then just west of Canadian, Extra 261 East finds a red block, stops and flags on through to find another red. The sky darkens and rain begins to fall. And at the west end of the yard at Canadian two cars are lying on their sides!

The yard men say a tornado hit two hours ago, overturned four cars in the yard, and roared eastward along the main line snapping signal masts like toothpicks. The extra stands in the rain from 7:45 until 10:46 while westbound trains clear and two sections of the *Grand Canyon* slide past and into the uncertain darkness ahead. Finally the reefers move, but it's touch and go all the way into Waynoka, Okla., because not only must the train stop at each signal and flag through but a halt must also be made at each power switch to insure that it's lined for the main stem. It's a helpless feeling to be deep in CTC territory after a storm has knocked out the dispatcher's control over both signals and switches, but the trains, proceeding cautiously and



relying on the rule book, are moving. First the passenger trains, then the perishables.

ARGENTINE ENGINE CHANGE

Extra 261 East clears Waynoka at 5 o'clock, June 7, Emporia at 11:39, and comes to rest in Argentine Yard in Kansas City, Kans., at 2:20 p.m. Some 1,747 miles after it coupled on in Bakersfield the blue-and-yellow diesel with the cross on its nose is taken off. It has fought up 2.5 percent grades at a walk, then stretched out the slack across the plains at 55 mph. It has brought its tonnage downgrade without air, its dynamic brake screaming like a buzz saw, and it has hauled its trains past uncountable fuel and water plugs without so much as a flap of its white flags. In return for its effort, the Santa Fe will give it a quick inspection, fill its tanks, and dispatch it west to California with more tonnage.

Meanwhile, Fairbanks-Morse yard engines are cutting the potato train apart, for at Argentine cars must be re-iced, diverted, and removed for local delivery. The yard's push-button hump-retarder facility is loaded with westbound classification work, so the FMs flat-switch the spuds. To fill out on tonnage, 30 reefers are added: 1 car of onions, 1 of lemons, 9 of potatoes, and 19 loaded with oranges.

The power out of Argentine is three-unit F7 No. 328, geared for 85 mph and fitted with steam generators for optional passenger service, and wearing stainless steel with red paint splashed over the cab.

At 5 p.m. its air horns sound off and the spuds are on their last lap, off over the Santa Fe's speedway to Chicago. It's no race track at the start, though, for it takes about an hour to move tonnage from Argentine through Kansas City. The tracks

hug the Kaw River, tighten up in 15-mph curves, thread past Union Station, then begin to climb between concrete retaining walls that funnel the line out of town. It's a headache — a forest of signals to obey, passenger trains to keep clear of, grades and curves to compensate for — but the engineer of Extra 328 East does a deft job of it and by 6:30 the train is bowling along.

Yet another night falls as potatoes and onions and oranges and lemons are hauled across northern Missouri and into Illinois. Chillicothe, Streator, and Joliet fall behind the markers.

Extra 328 East is "dead" at Corwith Yard, Chicago, at 12:45 p.m., June 8. The journey of 2,195½ miles from Bakersfield has been covered in 97 hours 38 minutes without straining. But the Santa Fe's work is not quite done. Once again, yard engines go to work. First the cars whose contents will be auctioned off next day are removed because they must be downtown and on display by 6 a.m. Next come the reefers billed for the Chicago Produce Terminal, the team tracks where the potatoes may be reloaded onto trucks for local delivery. Finally the through cars are blocked into transfer runs to eastern connecting lines. Their deadline is 3 a.m.

Santa Fe President Fred Gurley recently remarked, "We feel very strongly that a schedule is a pledge to the shippers."

Santa Fe Extras 261 and 328 East have kept that promise. ■

DAVID P. MORGAN joined the TRAINS staff in 1948, became editor in 1953, and retired as editor/publisher in 1987. Widely regarded as America's greatest 20th century railroad writer, he died in 1990 at age 62.

A spud train rolls east between Ash Fork and Williams, Ariz., in 1953. Ahead of the caboose are perhaps 4 or 5 million "hot" potatoes.

Santa Fe