

Dispatcher

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THE EAGLE MOUNTAIN RAILROAD

by DOUGLAS I. DUNCAN and ERIC SANDERS



This is Kaiser Steel Corporation's Eagle Mountain Iron Ore Mine! To the right are the present day workings; to the left are the earlier workings. In the center is the crushing plant, the beneficiation plant, the loading bin and the railroad yard. In the left foreground are the company offices, residences and community buildings, around which loaded trains head downgrade over the S-shaped right-of-way. (Kaiser Steel Corp. picture)

Hidden in the California desert is the industrial railway, Kaiser Steel Corporation's Eagle Mountain Railroad. Far from any populated area and crossed only by one major highway, the line is relatively unknown.

Constructed in 1946 and 1947 as an iron ore carrier, it extends from the Eagle Mountain, Riverside County, California, some fifty-one miles southwest to a connection with the Southern Pacific System at Ferrum. This major industrial railway winds through rocky desert ranges and sandy wastes, crosses long wooden trestles, and skirts the northern edge of one of Southern California's most wind-swept ranges --- the Chocolate Mountains.

With modern rail equipment operating over a well-maintained and steadily improving roadbed, the Eagle Mountain Railroad well serves its purpose as its two daily trains carry thousands of tons of high grade iron ore out of the mountains.

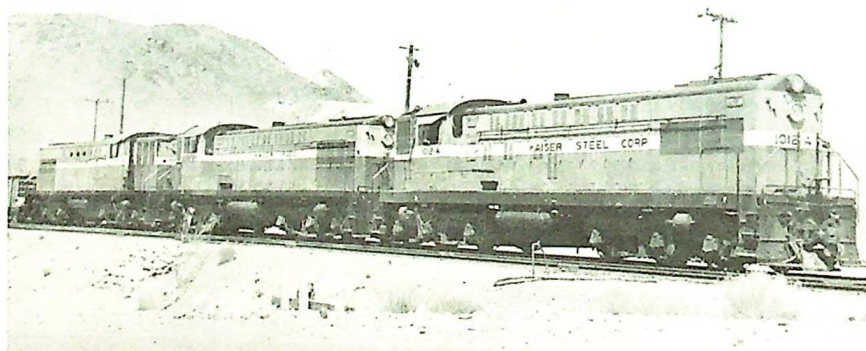
The heavy tonnage, grades, desert winds and flash floods call for expert operation --- and this the Eagle Mountain has! Railroaders with many years of mainline experience operate the trains with a

near perfect safety record.

Let's take a look at one of America's newest industrial lines.

The headquarters and shops are located at the Eagle Mountain Mine which is 12 miles northwest of Desert Center, the midway point between Indio and Blythe. Since its construction as the longest new railroad built in the United States in the last two decades, the roadbed is under constant improvement being rebuilt with heavier rail, new ties, tie plates and ballast. With the gradual increase in tonnage, it is not uncommon for train lengths to reach 100 cars --- each ore car having a capacity of 98½ tons. For such loads the company assigns five 1600 hp. Baldwin diesel-electric locomotives. Five of these six-wheel truck hood type units, the entire roster, have pulled 100 cars --- that's 8000 hp. pulling almost 12,500 tons --- and on a line with long grades in both directions.

Two crews, each working a five day week, operate the normal five day two eight hour schedules. Whenever a holiday intervenes or when the need arises extra runs

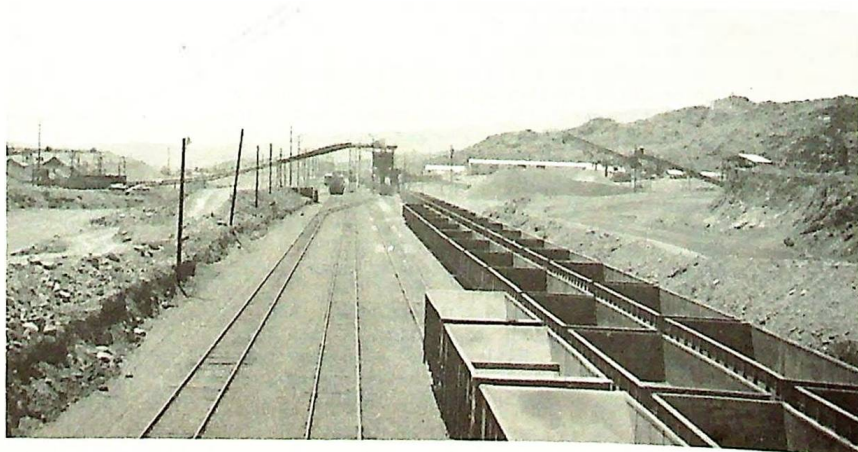


1. The trestle at MP 14.5
2. South of Eagle Mountain
3. The motive power
4. Eagle Mountain yard

Picture credits:

Eagle Mountain (front cover) and the trestle are courtesy of the Kaiser Steel Corp.

Other photos are by the staff.



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Dispatcher staff includes:

Editor:	Eric Sanders
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Associate Editor:	Richard Dodge
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EAGLE MOUNTAIN RAILROAD, Continued

are made on Saturdays. Operation is limited to one train at a time except when a work train is in service.

Revenue cars are new Southern Pacific gondolas, all (600 cars in pool) being designated for service between Kaiser's Fontana, California, steel plant and the mine. Cars are 29 feet long, weigh 26½ tons empty, and carry 98½ tons of ore. The cars have high sides, extra heavy underframes, steel wheels, 6½x12-inch journals, roller bearings, improved AB-Empty-Load brakes which react automatically to the weight of the load. They recently replaced 34 foot and 41 foot gondolas which carried 64 ¾ tons apiece. Hopper cars are used on occasion to transport iron ore direct to San Pedro dockside for export by freighter to the steel mills of Japan.

Company-owned rolling stock includes the aforementioned locomotives, two cabooses, one rail-jeep and miscellaneous work cars. Repair work, except for major overhaul, is carried on at the mine. The railway's two stall engine house is part of the mine's general repair facility.

The six-track yard at Eagle Mountain is over half a mile in length, and the Southern Pacific Ferrum yard on the shore of the Salton Sea is even larger.

Radio control, providing for mine to

train crew and cab to caboose communication, greatly facilitates operation.

The first train crew reports for duty at Eagle Mountain at twelve noon. In the ensuing eight hour period the crew completes all switching operations before and after and has made one round trip. The second crew checks in at 8 p.m. Actual round trip time varies with the load and operating conditions.

The mining operation is highly mechanized and the equipment used is of the most modern type. Cars are loaded individually from an overhead hopper and are moved by a combination of gravity and a cable car pull. Iron ore is brought from the mountainside deposit, in 64 ton loads, to the crushing plant. After being reduced to one-inch size it passes to the beneficiation plant. From there it travels by conveyor belt to the loading bin.

Leaving the yard at Milepost 51 trains travel south past the mine's administration buildings and make two sharp curves around 239 company-owned residences and community buildings. Traveling down the 2.15% grade on a hillside track, the line crosses the entrance road several times. From the wooden trestle at MP 49.2 the right-of-way gradually eases away from the Eagle Mountain Range, extending south-eastward down grade across a sandy tilted and eroded valley.

After climbing a 1% ascending grade and curving through a deep cut known as Telephone Pass (MP 45.5) the roadbed winds through other cuts and crosses several long curving fills. Then comes another valley and despite visual indications otherwise the 1% ascending grade continues, cutting through another arm of the range at Victory Pass (MP 42.5).

At Milepost 45.0 the Eagle Mountain Pumping Station is a short distance to the west. This station (and several others in the area) serves as a booster plant for the water line of the Metropolitan Water District. The greenery and the Spanish tile roof buildings offer a contrasting sight to the barren rock and sandy waste. Finally the line eases further and further from the foothills and gradually curves toward the southwest en-

tering the broad and long valley used by U.S. Highway 60-70, an important east-west route. To the southeast lies Desert Center. A short passing track named Entrance is encountered at MP 35.75. At this point the line extends further west. After a gradual approach to the highway, the line abruptly turns and crosses. This grade crossing, by far the most important on the railroad, features battery-operated crossing lights and flashing signals. Drifting sand sometimes obscures all but the rail at this point and vegetation is sparse. The track, for the most part, lies on a high embankment because even at this apparently safe location flash floods can and do wash out the line. Because of a slight downhill grade from either direction to the highway crossing, trains approach cautiously. Once having made the initial crossing the engineer widens on the throttle so the long ore trains will delay highway traffic for as short a time as possible.

Turning southeastward on a slightly ascending grade, the route passes between the Orocopia and Chuckwalla Mountain ranges. On the mountainside slag heaps identify little known mines --- Lost Pony, the Model and the Baumonk. The bunkhouses and mine workings of the Red Cloud Mine can be seen far to the east on the lower slopes of the Chuckwallas.

At the south end of a long shallow cut is the midway station, known as Summit (MP 25.0). A long passing track, a seven car siding (the latter used for storage of maintenance-of-way equipment) and the track crew supply headquarters complete the facilities --- that is, not counting the herd of ever-watchful dogs which check over all strangers. The grade from Milepost 25.0 at Summit to Milepost 4.0 is 2% descending and consequently rigid speed restrictions are enforced for the long ore trains.

From Summit the line generally heads in a southwest direction closely following the naturally carved arroyo of the Salton Creek. The forces of erosion are always at work and flash floods have frequently washed out the right-of-way in this section. Desert vegetation is particularly conspicuous in this area and on either side of the roadbed can be seen smoke trees, Palo Verde brush and the yellow blossoms of fragrant sage.

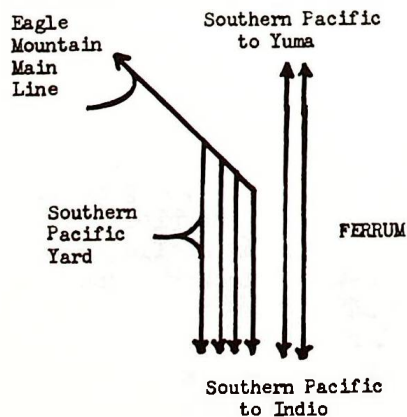
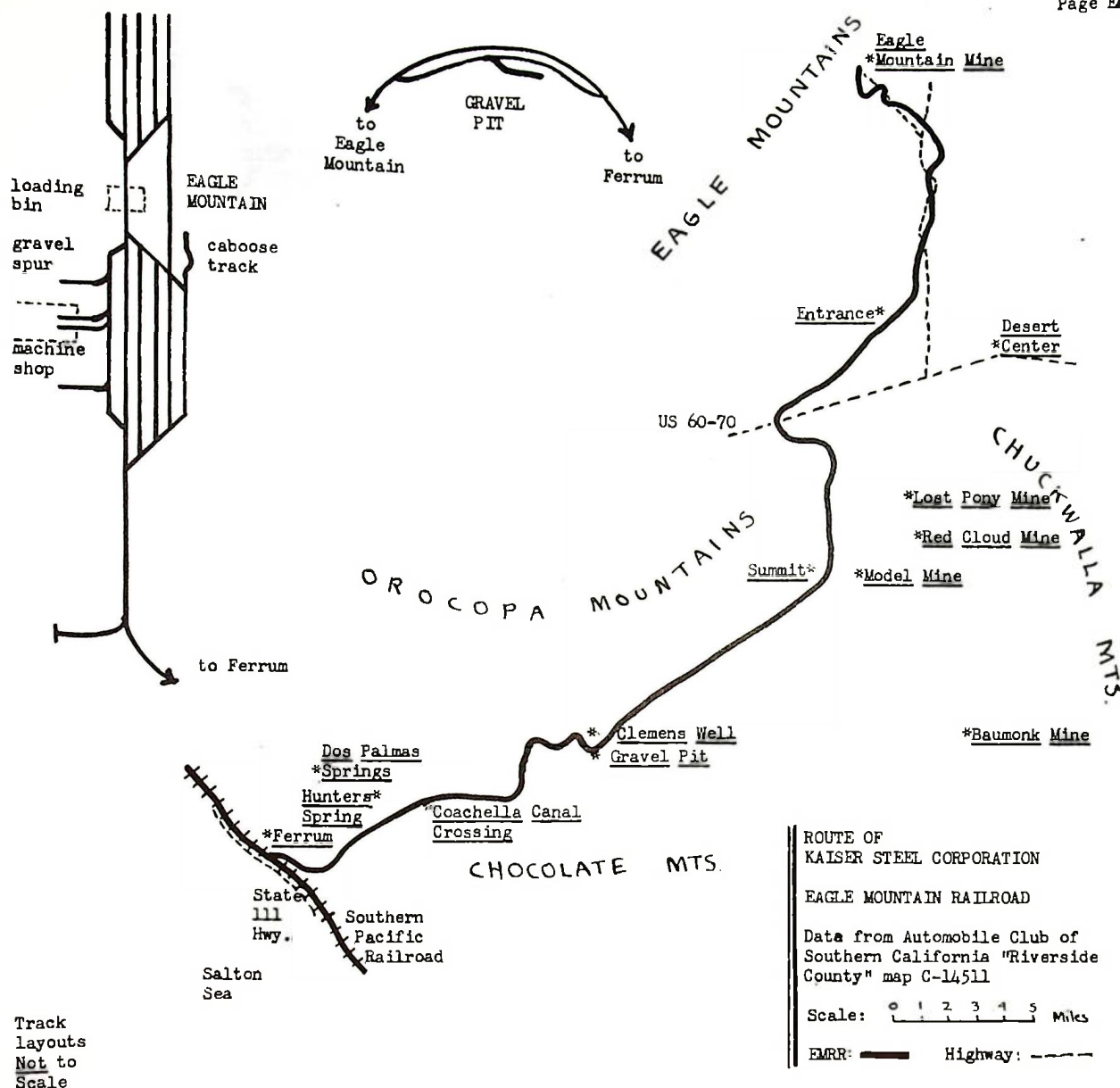
Ten miles beyond Summit, the company maintains a gravel pit. Here the line passes through a long train height cut, encounters a medium length passing track and then curves out across the scenic highlight of the Eagle Mountain Railroad --- a long curved wooden trestle spanning the ever-widening Salton Creek. The trestle is 500' long and some 40' high.

Curving west, the line enters a giant horseshoe curve, after which it returns to its southwest direction.

Coming upon the Dos Palmas foothill area, trains cross over the Coachella Canal, pass by numerous oases, the Bat Cave Buttes, the ancient beach line, and come within sight of California's largest inland water body, the Salton Sea. One oasis crossed by the railway is literally alive with green foliage and creatures of the desert. After crossing the Dos Palmas area the railroad makes a 45 degree curve southward and climbs over a sandy dune ridge which separates the foothills from the Salton Sea. The line again meets the Salton Creek as it dips into Ferrum Yard. To the north and to the south stretch the rails of Southern Pacific's Golden State and Sunset routes.

In 15 minutes time with the aid of radio control the Eagle Mountain crew uncouples the motive power and the cabooses, ties on to a waiting load of empties, and begins the return trip. And often even before the first round trip is completed the night comes and the locomotive headlight peers into the desert wastes.

Henry J. Kaiser enterprises are all alike in regard to their efficiency, safety record, and progressive-minded management. The Eagle Mountain Railroad is no exception. With its modern equipment and loyal personnel the line is destined to continue its efficient operation until the iron ore deposits play out --- and that time is not in the near future.



MILEPOSTS

51	Eagle Mountain
49.2	Trestle
45.5	Telephone Pass
42.5	Victory Pass
35.75	Entrance Siding (9 cars)
	US Highway 60/70 Crossing
25.0	Summit (7 car siding, also passing track)
15.0	Gravel Pit (58 car passing track, short spur)
14.5	Curved trestle (500' long, 40' high)
6.5	Coachella Canal crossing
3.0	Trestle 50'
2.0	Trestle 50'
1.0	Yard limit
0.0	Ferrum (S.F.)

ROSTER

Locomotives

No.	Class	Hp.	Builder	Purchased
1010A	DRS-6-6-15	1600	Baldwin	1948 New *
1010B	DRS-6-6-15	1600	Baldwin	1948 New
1012A	DRS-6-6-15	1600	Baldwin	1952 New
1012B	DRS-6-6-15	1600	Baldwin	1952 New
1020	DRS-6-6-15	1600	Baldwin	1958 **

* Road const. 1946 and 1947. Service began 1948.

** Purchased January, 1958, from Chesapeake & Ohio (#5533). Data as listed Railroad Magazine, 2-59, Class MTB-16; AS-616; C-C; Trac.Eff. 90,480; Weight 361,930; purchased in 1950.

Cabooses, work equipment, inspection cars

1905	caboose, 8-wheel, steel, blt.'53 KSC.
1918	caboose, 8-wheel, steel, blt.'53 KSC
1188	gondola
1461, 1468	flat cars
1518, 1522	air dump cars; manufactured by Western
1574	new Megor Air Dump
1735-1738	75 ton MW hopper cars
1905-1906	inspection cars
1919	rail jeep; Fairmont Hy-Rail
1920-1921	14 man gang cars - Fairmont

ADMINISTRATIVE PERSONNEL

Martin J. Hughes, mine manager
V. A. Fischer, general railroad foreman
Charlie Whiting, assistant general railroad foreman
Raymond E. Robinson, public relations, Fontana

ACKNOWLEDGMENT

The data in this issue was compiled from personal observation, from information supplied by Kaiser Steel officials listed above, from other employees, from news items, and from an article in the Southern Pacific Bulletin, September, 1958. All copy has been checked and has been approved for publication.

Dispatcher intends, when finances permit, to issue a supplementary sheet which will include more pictures and added mine information.

The Eagle Mountain experience was a happy one for the authors. The tour of the mine - chats with officials and employees - conversation at the dinner table - for all these things the authors are very grateful.

GRADES (Ferrum Bound). MP 51-46 2.15 descending; 46-25 1.00 ascending; 25-4 2.00 descending; 4-1 1.5 ascending; 1-0 2.00 descending

SPEED RESTRICTIONS

Light: 35 m.p.h.
Loaded - below 70 cars: 20 mph.
2% descending gradients
Loaded - 70 cars and over: 15 mph.
2% descending gradients
On long trestle: 15 mph.

MINE INFORMATION. Extracts from brochure, "A Description of the Operations of the Eagle Mountain Iron Ore Mine," by Martin J. Hughes, manager.

Not until 1942 when the Kaiser Steel Corporation built its plant at Fontana did the West Coast have a fully integrated steel operation. By 1958 four blast furnaces were in use. Coal comes from mines at Sunnyside, Utah, and Raton, New Mexico; limestone from Cushenbury, California.

Eagle Mountain Mine, an open pit mine, in 1957-58 produced a daily average of 15,000 tons of ore and 30,000 tons of waste. The iron ore zone varies from a quarter of a mile to $1\frac{1}{4}$ mile wide and extends a distance of over six miles in an east-west direction across the Northern part of the Eagle Mountains.

The Bald Eagle pit produced 4,600,000 tons of ore and is now at planned depth. The North-South pit, now being worked, was started in 1952.

The mine program includes the surveys, the mining plan, the actual mining, crushing, beneficiation, and then the loading into the cars.

Equipment includes two Bucyrus-Erie Model 50-R Rotary blast hole drills, Ingersoll-Rand drills, five electric shovels, 12 22-ton Euclid trucks, six 36-ton Kenworth trucks, and five 64 ton end dump semi-trailer trucks.

Present mining will extend from the apex at 1760' elevation down to 700' elevation. Haul roads are 70 feet wide.