

REC'D  
PUBLIC UTILITIES DIVISION  
STATE OF CALIFORNIA

MAY 17 9 24 AM '72

FILE NO.

**RULES COMPLIANCE - THE  
KEY TO ACCIDENT PREVENTION**

RECEIVED

MAY 17 1972

TRANSPORTATION - SAFETY

SPEED TABLE

| TIME PER KILOMETER | TIME PER MILE | MILES PER HOUR |
|--------------------|---------------|----------------|
| 1'03"              | 1'42".....    | 35             |
| 1'05"              | 1'45".....    | 34             |
| 1'08"              | 1'49".....    | 33             |
| 1'10"              | 1'52".....    | 32             |
| 1'12"              | 1'56".....    | 31             |
| 1'15"              | 2'00".....    | 30             |
| 1'17"              | 2'04".....    | 29             |
| 1'20"              | 2'08".....    | 28             |
| 1'23"              | 2'13".....    | 27             |
| 1'26"              | 2'18".....    | 26             |
| 1'29"              | 2'24".....    | 25             |
| 1'33"              | 2'30".....    | 24             |
| 1'37"              | 2'36".....    | 23             |
| 1'41"              | 2'43".....    | 22             |
| 1'46"              | 2'51".....    | 21             |
| 1'52"              | 3'00".....    | 20             |
| 1'57"              | 3'09".....    | 19             |
| 2'04"              | 3'20".....    | 18             |
| 2'11"              | 3'31".....    | 17             |
| 2'20"              | 3'45".....    | 16             |
| 2'29"              | 4'00".....    | 15             |
| 3'06"              | 5'00".....    | 12             |
| 3'44"              | 6'00".....    | 10             |
| 4'40"              | 7'30".....    | 8              |
| 6'13"              | 10'00".....   | 6              |

**SAN DIEGO & ARIZONA  
EASTERN RAILWAY  
COMPANY**

**TIMETABLE**

**91**

EFFECTIVE MAY 14, 1972

AT 12:01 A.M.

PACIFIC STANDARD TIME

FOR THE GOVERNMENT AND INFORMATION  
OF EMPLOYEES ONLY, WHO MUST ALSO  
CARRY COPY OF CURRENT ISSUE  
OF SPECIAL INSTRUCTIONS

R. G. THRUSTON

Vice President and General Manager

W. T. HARRAL

Superintendent

CHIEF TRAIN DISPATCHER

E. A. NIGHSWONGER

**TIMETABLE NO. 91—MAY 14, 1972**

| East-ward             | Mile Post<br>or<br>Kilometer Post |   | Station<br>Number        | Distance from<br>El Centro | West-ward             |                   |
|-----------------------|-----------------------------------|---|--------------------------|----------------------------|-----------------------|-------------------|
| Second<br>Class       |                                   |   |                          |                            | Second<br>Class       |                   |
| <b>452</b><br>Freight |                                   |   |                          |                            | <b>451</b><br>Freight |                   |
| Leave<br>Daily        |                                   | <b>STATIONS</b><br>Siding Capacities and Facilities |                          |                            | Arrive<br>Daily       |                   |
| <b>AM</b><br>7.30     | 1.1                               | R   | SAN DIEGO BKYPQ          | 48540                      | 147.0                 | <b>PM</b><br>5.20 |
|                       | 4.8                               | Yard Limits   | Twelfth St. Natl. City P | 48370                      | 143.3                 |                   |
|                       | 7.4                               |   | CHULA VISTA JCT. P       | 48350                      | 140.7                 |                   |
| 7.52                  | 9.1                               |   | CHULA VISTA              | 48340                      | 139.0                 | 4.56              |
| 7.56                  | 11.1                              |   | PALM CITY P              | 48320                      | 137.0                 | 4.51              |
| 8.05                  | 15.5                              |   | TO-R                     | SAN YSIDRO KPQ             | 48310                 | 132.6             |
| 8.20                  | K 0.1                             | R   | TIJUANA P                | 48270                      | 131.9                 | 4.30              |
| 8.25                  | K 4.1                             |   | AGUA CALIENTE            | 48260                      | 129.6                 | 4.25              |
| 9.05                  | K 33.9                            |   | REDONDO P                | 48220                      | 111.5                 | 3.45              |
| 9.45                  | K 59.9                            | Yd.Lmts.<br>R                                       | TECATE P                 | 48210                      | 95.3                  | 3.05              |
| 10.04                 | 60.3                              |   | DIVISION P               | 48190                      | 87.8                  | 2.43              |
| 10.20                 | 65.8                              | Yd.Lmts.<br>TO                                      | CAMPO P                  | 48180                      | 82.3                  | 2.30              |
| 11.04                 | 84.5                              | 1967  | HIPASS P                 | 48150                      | 63.6                  | 1.46              |
| 11.27                 | 92.9                              |   | JACUMBA P                | 48140                      | 55.2                  | 1.23              |
| 11.29                 | 94.0                              | 1631  | TITUS P                  | 48130                      | 54.1                  | 1.21              |
|                       | 96.0                              |   | DUBBERS                  | 48125                      | 52.1                  |                   |
| <b>PM</b><br>12.01    | 102.3                             |   | TUNNEL 15 SPUR P         | 48115                      | 45.8                  | 12.47             |
| 12.25                 | 109.7                             | 2563  | DOS CABEZAS P            | 48110                      | 38.4                  | 12.25<br>PM       |
| 12.56                 | 122.5                             | 2022  | COYOTE WELLS P           | 48105                      | 25.6                  | 11.53<br>AM       |
| 1.11                  | 130.0                             | Yd.Lmts.<br>TO                                      | PLASTER CITY P           | 48080                      | 18.1                  | 11.37             |
| 1.31                  | 139.8                             | Yd.Lmts.  | SEELEY P                 | 48060                      | 8.3                   | 11.17             |
| 1.50<br>PM            | 148.1                             | Yd.Lmts.<br>TO-R                                    | EL CENTRO BKYPQ          | 48000                      | 0.0                   | 11.01<br>AM       |
| Arrive<br>Daily       |                                   |   | (147.0)                  |                            |                       | Leave<br>Daily    |
| <b>452</b>            |                                   |   |                          |                            |                       | <b>451</b>        |

**RULE S-72.** Exception: No. 452 is superior to No. 451.

| East-ward   | Mile Post<br>Location | Station<br>Number         | West-ward                     |      |
|---|-----------------------|---------------------------|-------------------------------|------|
| Second<br>Class                                     |                       |                           | Distance<br>from<br>MIP 12.00 |      |
| <b>CORONADO BRANCH</b>                              |                       |                           |                               |      |
| <b>STATIONS</b><br>Siding Capacities and Facilities |                       |                           |                               |      |
|   | 4.8                   | TWELFTH ST., Natl. City P | 48370                         | 7.2  |
|   | 5.7                   | 24th St. Natl. City       | 48410                         | 6.3  |
|   | 7.4                   | F STREET JCT.             | 48420                         | 4.6  |
|   | 9.9                   | SALT WORKS                | 48440                         | 2.1  |
|   | 12.00                 | END OF BRANCH             | ....                          | 0.00 |
|   |                       | (7.2)                     |                               |      |

| East-ward   | Mile Post<br>Location | Station<br>Number | West-ward                    |       |      |
|---|-----------------------|-------------------|------------------------------|-------|------|
| Second<br>Class                                     |                       |                   | Distance<br>from<br>El Cajon |       |      |
| <b>LA MESA BRANCH</b>                               |                       |                   |                              |       |      |
| <b>STATIONS</b><br>Siding Capacities and Facilities |                       |                   |                              |       |      |
|   | 1.1                   | R                 | SAN DIEGO BKYPQ              | 48540 | 15.7 |
|   | 10.3                  | Yard Limits       | LEMON GROVE                  | 48620 | 6.5  |
|   | 12.3                  |                   | LA MESA                      | 48630 | 4.5  |
|   | 15.3                  |                   | GROSSMONT                    | 48640 | 1.5  |
|   | 16.8                  |                   | EL CAJON                     | 48650 | 0.0  |
|   |                       | (15.7)            |                              |       |      |

| <b>ADDITIONAL STATIONS</b>                          |              |                               |                |
|---|--------------|-------------------------------|----------------|
| Capacity and<br>Direction of<br>Entry into<br>Spurs | Mile<br>Post | Name                          | Station<br>No. |
| .. W  | 5.8          | Bahia Vista-Natl. City.(Spur) | 48360          |
| 2690 W  | 10.1         | Otay.....(Spur)               | 48330          |
| .. W  | 13.0         | Baird-Roll.....(Spurs)        | 48315          |
| 160 E   | K 5.9        | Standard.....(Spur)           | 48250          |
| 1144 E  | K 13.6       | Garcia.....(Spur)             | 48240          |
| .. W  | K 33.9       | Redondo.....(Spur)            | 48220          |
| <b>Coronado Branch</b>                              |              |                               |                |
| .. E  | 8.2          | Rohr.....(Spur)               | 48430          |
| <b>La Mesa Branch</b>                               |              |                               |                |
| .. E-W  | 7.2          | Encanto.....(Spurs)           | 48610          |



**RULE A.** Employes must know they have in their possession copy of Rules and Regulations of the Transportation Department effective January 1, 1969.

List of holidays under definition of HOLIDAYS on Page 10 of The Rules and Regulations Of The Transportation Department are revised to read: \*

- New Year's Day, January 1,
- Washington's Birthday, Third Monday in February,
- Decoration Day, Last Monday in May,
- Independence Day, July 4,
- Labor Day, First Monday in September,
- Thanksgiving Day, Fourth Thursday in November,
- Christmas Day, December 25.

**RULE 2.** "Brakemen, firemen and switchmen with less than ninety days service are not required to carry, while on duty, a reliable railroad grade watch and watch certificate.

**RULES 10-G, 10-H and 10-I.** When unattended red flags or red lights, yellow signals, red CONDITIONAL STOP signs and yellow PROCEED PREPARED TO STOP signs are displayed between siding switches, they must be duplicated to right of track in direction of approach. If clearance between siding and main track does not permit display of these signals to right of track in direction of approach, signals may be displayed to left of track in direction of approach. Display of these signals to the left of track in direction of approach must be respected as though they were displayed in accordance with these rules.

**RULE 10-G.** First paragraph is revised to read:  
 "When an unattended red flag or red light is displayed to the right of main track in direction of approach, train, after stopping, must be preceded for a distance of one-half mile from point where flag or light is displayed, by a flagman who must carefully examine track and structures."

**RULE 10-H.** First sentence is revised to read:  
 "When a yellow flag is required it will be displayed to right of track in direction of approach one-half mile from structure or track over which speed of trains must be restricted."

**RULE 10-I.** First paragraph, last sentence, is revised to read:  
 "A yellow sign reading 'PROCEED PREPARED TO STOP' will be displayed one-half mile in advance of the red sign."

**RULE 10-J.** Second paragraph is revised to read:  
 "Speed signs that prescribe reduction in speed will be located two miles from initial point of restriction, and where used to authorize increase in speed will be located at point where higher speed commences. Speed may be increased as soon as rear of train has passed speed sign. Where such signs are not used to authorize an increase in speed, limit of restriction will be shown in timetable."

Fourth paragraph is revised to read:  
 "Certain speed signs have the word "SIGNAL" above the figures. Such signs in advance of signal indicate the speed that must not be exceeded while engine is passing signal two miles beyond the speed sign, unless signal can plainly be seen to be displaying green aspect."

**RULE 14-(1).** Where there are multiple public crossings not more than one-fourth mile apart, sign bearing letter "X" located one-fourth mile in advance of first crossing will display a figure which represents the number of crossings involved.

Whistle signal under provisions of Rule 14(1) must be sounded until engine has passed over last crossing.

**RULE 15:** First and second paragraphs are revised to read:  
 "Explosion of a torpedo is a signal to proceed with caution for one-half mile.

"When a torpedo is exploded in the vicinity of a yellow flag displayed in accordance with Rule 10-H, train must proceed expecting to find an unattended red flag or red light displayed one-half mile beyond the torpedo and yellow flag."

**RULE 21.** First paragraph is revised to read: "Trains must be identified by engine number on lead unit when practicable. Only the number designated for identification will be continuously illuminated when engine is so equipped."

**RULE 30.** Engine bell must be rung continuously between the following points:

San Diego and east end of Tunnel 2; Tecate and Campo; MP 96 and MP 106; and on branches.

**RULE S-72.** Westward regular trains are superior to trains of the same class in the opposite direction, except as noted on page 2.

**RULE 82-A.** Regular trains will operate on the T&TRY by timetable authority and no train orders will be issued effecting the movement of such trains on the T&TRY.

Crew operating as No. 452 will assume schedule and leave San Diego without clearance.

**RULE 83-B.** All trains may register by ticket at San Ysidro, Tijuana and Tecate.

**RULE 93.** Yard limits in which the provisions of Rule 93 will apply are established at the following stations:

| West MP | East MP                                |
|---------|--|
|         | San Diego..... K-15 (24.9)             |
|         | " (Coronado Branch)..... End of Branch |
|         | " (La Mesa Branch)..... End of Branch  |
| K58.9   | Tecate..... K62.2                      |
| 64.58   | Campo..... 66.94                       |
| 128.50  | Plaster City..... 131.90               |
| 138.50  | Seeley..... 141.90                     |
| 147.20  | El Centro..... End of SD&AE Track      |

**RULE 97.** Will not apply on T&T Ry.

**RULE 98. RAILROAD CROSSINGS NOT INTERLOCKED:** At following grade crossings trains will stop not less than 50 feet nor farther than 500 feet from crossing and will proceed only on signal from flagman:

Crossing at Chula Vista. Exception—San Diego-El Centro line trains will expect to find the main track blocked and will pass over the crossing not to exceed 15 MPH.

Cars must not be kicked or shoved over railroad crossings not protected by interlocking, unless movement is properly protected.

**RULE 99-C.** Will apply between Campo and El Centro.

**RULE 101.** "If any member of crew has reason to believe train has passed over defect in track or roadbed, train dispatcher and opposing or following trains must be immediately notified of condition encountered from first available means of communication. If means of communication is not immediately available, or if train dispatcher cannot afford appropriate protection, train involved must afford protection."

**RULE 102. Add:** "At any time a moving train with a helper engine has emergency application of air brakes for any cause, before proceeding an inspection of train must be made on both sides to determine all wheels are on rail and no damage or defects in track exist which will interfere with safe movement of train."

**RULE 103-A.** Trains moving under conditions that may require them to stop, must, where possible, stop to clear public grade crossings. When not possible to stop clear of such crossings and train cannot proceed immediately, crews on other than passenger trains must cut these crossings within ten minutes unless no vehicles are waiting at or closely approaching the crossing. Public crossings must be left open until it is known that trains are ready to depart. Crews required to pick up, set out or perform switching operations must, when track room exists, stop their trains back a sufficient distance to avoid blocking public crossings when coupling trains and while charging train lines. When recoupling at public crossings, trains shall be moved promptly consistent with safety.

Switching movements over public grade crossings should be avoided when ever possible. If not possible, such crossings must be cleared frequently to allow vehicles to pass and must not be occupied continuously for longer than 10 minutes unless it can be seen that no vehicles are waiting at or closely approaching the crossing.

## SPECIAL INSTRUCTIONS

Cars or locomotives must not be left standing nor switches left open within the controlling circuits of automatic gate protection devices unless timeout features are provided to allow the gate arms to rise.

**San Diego:** At Fifth and Eighth Avenues, do not enter intersection until crossing signals have been operating twenty (20) seconds unless protected by a flagman. Do not kick or drop cars over crossing.

On L Street, maximum speed permitted over street crossings is 5 MPH. Engines and cars must be brought to stop before crossing 12th Avenue and movement across street protected by a flagman.

**Otay:** Movements on spur track across Main Street must be brought to a stop and be protected by a flagman.

## CORONADO BRANCH

**National City:** Do not enter 13th Street crossing in excess of 5 MPH.

## LA MESA BRANCH

**Lemon Grove:** At Broadway, approach crossing prepared to stop but not to exceed five (5) MPH.

**La Mesa:** At La Mesa Blvd., Allison and University Aves.

**El Cajon:** At Main Street; traffic signals are pre-empted by train movements. Before entering crossing, wait not to exceed twenty (20) seconds for display of white light on signal case or mast, which will indicate traffic stopped on those streets. Do NOT leave cars between insulated joints.

**El Cajon:** At Fletcher Parkway, traffic signals are pre-empted by train movements and will show flashing red signal on Marshall Avenue indicating traffic stopped on Fletcher Parkway.

**RULE 104.** The normal position of junction switches at Twelfth St., National City and Chula Vista Jct. is for the San Diego-El Centro main track.

**RULE 105.** Capacity of sidings column indicates length of train in feet that can be accommodated between fouling points.

**RULE 221.** Trains must obtain clearance before leaving:  
San Ysidro ..... Eastward trains

Tijuana, Tecate and Campo are designated as permissive block stations.

Permissive block station cards may be issued at Tijuana, Tecate or Campo by the agent or telegrapher which will authorize movement of extra trains between these stations.

The agent or telegrapher at Tijuana, Tecate or Campo must not issue a permissive block station card to an extra train while another train is occupying that block.

When necessary to issue a permissive block station card, it must be filled out correctly, showing thereon the station, date, train addressed, station between where such movement is authorized, time issued, and then signed by the agent or telegrapher. Before delivery is made to the conductor or engineer of the train, the agent or telegrapher must transmit the contents of the permissive block station card to the next permissive block station by telegraph or telephone. Agent or telegrapher at that station must acknowledge and then arrange to stop and hold all trains from entering the block at that station until the extra train so authorized has cleared the block and the conductor and engineer have delivered their copies of the permissive block station card to the agent or telegrapher at one of the limits of the block.

**RULE 505. PROTECTIVE DEVICE INDICATOR.** Semaphore type indicators protect Bridge 102.29 and are located at MP 102.2 and MP 102.3. When indicators display red aspect, train must stop and then proceed with caution to Bridge 102.29 where train will stop and member of train crew

must immediately call train dispatcher or any open station and report that indicator displays red aspect. Train will await arrival of maintenance man who will inspect bridge and will authorize train to proceed if safe to do so.

**RULE 822. Add:** "When train is starting, stopping, or moving slowly, employes on train must maintain a secure position to avoid personal injury from possible slack action."

**RULE 824.** Any time an angle cock is closed in the train where the brake pipe pressure is lower than it is elsewhere, the resultant equalization will raise the brake pipe pressure at that point sufficient to release the AB or ABD valve. Equalizing the air in the brake pipe will cause release of brakes throughout the cars, therefore, it is imperative that when cars are set out, regardless of the air brake equipment, a sufficient number of hand brakes must be applied and brake pipe pressure completely depleted by opening angle cock and leaving the angle cock in open position.

**RULE 827.** On freight and mixed trains between KP 14 and KP 19 and between Redondo and Coyote Wells, a member of crew must observe track to rear of train for evidence of derailment or any other condition requiring immediate stopping of train.

Engines running light on descending grade without dynamic brake in operation must stop a sufficient length of time to permit wheel heat radiation if there is indication of overheating. Stop need not be made if in the judgment of engineer it is safe to proceed.

**RULE 872.** Enginemen when taking charge of engines at San Diego or El Centro will consider engines as having been amply supplied with fuel, sand, water, tools, supplies and flagging equipment in serviceable condition.

**RULE 883.** Light engines must not be left unattended between Redondo and Coyote Wells, unless protected by derailed or inside switch.

First sentence in first paragraph of Rule 883 is revised to read as follows: "When an engine is left without an employe in charge it must, when practicable, be placed on track affording protection against entry to main track; hand brakes must be fully applied, wheel secured with blocking chain or if not available other suitable blocking material, reverse lever removed from control stand, generator field switch off, engine isolated and cab doors locked."

**RULE 958.** First paragraph of Rule 958 is revised, as follows: "Employes shall identify the radio station from which they are calling by prefacing their call with the railroad name, for example: 'SP Caboose Train Second 802 calling SP Engine Second 802, over and to answer a call, announce, for example: 'This is SP Caboose, Train Second 802, over.'"

**RULE 962.** The first sentence of Rule 962 is modified to read as follows: Radio communication system may be used in lieu of hand, flag, or lamp signals prescribed by Rule 12.

## AIR BRAKE RULES

**RULE 2.** Enginemen when taking charge of engine at San Diego or El Centro will consider that condensation has been drained from reservoirs, and from moisture and dirt collectors; sanders are operating properly, and engine wheels have been properly inspected for flat spots.

**RULE 2-A.** On departure from locomotive maintenance facility, engineer must determine by making running air brake test that the independent and automatic brakes are operating effectively.

**RULE 2-B.** First sentence in second paragraph is revised as follows:  
When going from power to dynamic braking proceed as follows.

- (1) Assure that throttle is in idle position.
- (2) Move selector lever to "OFF" position.

- (3) Pause 10 seconds.
- (4) Move selector lever to "B" or braking position.
- (5) Use throttle to control strength of dynamic braking as needed.

Dynamic brake on head end of freight trains must not exceed three 8-axle units, four 6-axle units, six 4-axle units, or any combination thereof which totals 24 axles, except dynamic brake on EF415A, EP415A, EF415-B and EP415B classes is limited to five units.

If the minimum 24-axle limit cannot be adhered to due to units in the consist not having dynamic brake cutout switches, then such units must be isolated prior to using dynamic brake.

When dynamic brake and automatic air brake are used together, the independent brake valve handle must be depressed and held in release position a sufficient time to ensure engine brakes are released.

**RULE 3.** A full independent brake application on road locomotive classes EP 636, GF 628, GF 630, GF 633, EF 623, EF 630, EF 636, EF 850B results in a brake cylinder pressure of 72 psi. This brake cylinder pressure must be maintained to provide braking power at very low speeds or when stopped. Under no circumstances must self lapping portions of independent brake valve be changed except to obtain brake cylinder pressure of 72 psi from a full independent brake application.

**RULE 11.** Cars equipped with brake cylinder release valve may have one or two operating release rods. Operating rods connected to brake cylinder release valve may be identified by stencil reading "Br.Cyl.Rel." or by a diamond shaped stencil or by noting that ends of release rod form a small closed circle. Air brakes can be released on cars equipped with a brake cylinder release valve by a hard momentary pull on release rod after brake pipe pressure has been depleted.

**RULE 12.** Rules require that when cars are set out and a sufficient number of hand brakes are applied brake pipe pressure must be depleted by opening angle cock. This method of securing cars is applicable to cars equipped with AB air brake equipment or cars equipped with the latest type of air brake equipment, the ABD valve.

**RULE 13.** Second paragraph is revised to read: "In case the trouble cannot be corrected or complete air failure occurs from any cause, train must not be moved. Train dispatcher must be promptly notified."

Sixth paragraph, is revised to read: "Should the compressor or main reservoir on the lead engine fail the train must be stopped, automatic brakes left applied, dead engine feature cut in and control of the brakes transferred to the second engine. The train must not be moved beyond the next point where an engine with suitable air equipment can be placed in the lead."

Seventh paragraph is cancelled in its entirety."

**RULE 17.** If at any time in engineer's judgment use of retaining valves is required, stop will be made and retaining valves turned up in accordance with his request.

Retaining valves must be used on freight and mixed on descending grades

Hipass to Jacumba  
MP 106.71 to Coyote Wells

as follows:

**Without dynamic brake in operation:**

One retaining valve for each 80 tons in train. If gross tonnage exceeds 80 tons per operative brake, retaining valves must be used on all cars and speed must not exceed 15 MPH.

**With dynamic brake in operation:**

| Permissible Tons Per Unit Without Retaining Valves* |        |                              |        |        |
|---|--------|------------------------------|--------|--------|
| Basic Dynamic Brake                                 |        | Extended Range Dynamic Brake |        |        |
| 4-Axle  | 6-Axle | 4-Axle                       | 6-Axle | 8-Axle |

With dynamic brake in operation but **Without** pressure maintaining system of braking . . . . . 600 900 725 1075 1450

With dynamic brake in operation and **With** pressure maintaining system of braking . . . . . 1500 2250 1800 2700 3600

If permissible tonnage is exceeded, one retaining valve must be used for each 150 tons in excess thereof.

\*If any unit having basic dynamic brake is operated with units having extended range dynamic brake, all units must use tonnage authorized for units having basic dynamic brake.

Locomotive classes AF 628, AF 630, EF 425, EF 623, EF 625, EF 630, EF 636, GF 425 (except units 6700-6727), GF 628, GF 630, GF 633, EF 850B and GF 850 are equipped with extended range dynamic brake.

**RULE 22. Add:** "When two or more trains or engines are working at locations where Mechanical Department forces are not on duty, employes must not couple air hoses or go on, under or between cars for the purpose of making repairs until a member of the crew has notified employes on other trains or engines in the immediate vicinity and yardmaster, where assigned, that work is about to be performed and complete understanding had to prevent movement on the affected track."

**RULE 23.** The following series of cars are equipped with ABEL Brake system which has automatic changeover feature to provide proper brake function when car is loaded and when empty:

|                  |                    |
|------------------|--------------------|
| SSW 75700-75799  | Gondolas           |
| SSW 78500-78599  | Hoppers (Open Top) |
| SP 333500-334399 | Gondolas           |
| SP 337500-337599 | Gondolas           |
| SP 345000-345669 | Gondolas           |
| SP 354000-354399 | Gondolas           |
| SP 463500-464999 | Hoppers (Open Top) |
| SP 467500-467549 | Hoppers (Open Top) |
| SP 480000-480193 | Hoppers (Open Top) |
| SP 491000-491059 | Hoppers (Covered)  |
| SP 492000-492039 | Hoppers (Covered)  |
| SP 500604        | Flat Car           |
| SP 590000-590099 | Flat Cars          |

**RULE 24-F.** Air must be cut in on all cars west of engine when handling cars on Commercial Street east of 16th Street, San Diego.

**RULE 25.** Will apply to westward trains at Hipass and to eastward trains at MP 83.5 and Culvert 106.71, except trains with dynamic brakes in operation and not required to stop for other reasons will make a running test at these locations as follows:

Engineer will make reduction of approximately 7 pounds, wait for slack to adjust itself, then add 3 pounds before releasing. Trainmen will note reduction on caboose gage and, following buildup in pressure when brakes are released, give proceed signal.

**Tecafe:** Trains will make running test one-half mile after leaving station.



**SPECIAL INSTRUCTIONS**

**RULE 33.** Hipass to Jacumba, and MP 106.71 to Coyote Wells:

Maximum tonnage per operative brake . . . . . 80 tons

**EXCEPT** with dynamic brake and pressure maintaining system of braking in operation with not more than 15 cars for each four axles of dynamic brake; with speed not exceeding 15 MPH and with all retaining valves on loaded cars in high pressure position . . . . . 100 tons

Should dynamic brake failure occur while handling in excess of 80 tons per operative brake, train may proceed at speed not exceeding 15 MPH if in judgement of conductor and engineer it is safe to do so, and provided retaining valves are used as prescribed by Air Brake Rule 17.

Restrictive grades are as follows:

| EASTWARD  |              |               | WESTWARD  |              |               |
|-----------|--------------|---------------|-----------|--------------|---------------|
| (Sta.) MP | to (Sta.) MP | Maximum Speed | (Sta.) MP | to (Sta.) MP | Maximum Speed |
| 84.5      | 122.5        | 20            | 84.5      | K-33.9       | 25            |

**MISCELLANEOUS**

**1. Helper Service:**

When helper engine is shoving on ascending grade throttle must be reduced as train speed reduces, then throttle regulated so that amperage will be approximately the same as indicated before train speed reduction.

Empty 85-foot-long or longer equipment must be entrained 10 or more cars behind road engine and 10 or more cars ahead of helper engine in territories where grade is 1.8 percent or over and curvature is 10 degrees or more. A flat with one van or one container either loaded or empty will be considered as an empty.

These instructions apply between Hipass and Coyote Wells.

**2.** AS 415, AF 420, ES 412, and ES 415 class locomotives are not equipped with alignment control couplers. To minimize the possibility of jackknifing action, the following will apply:

1. When only AS 415, AF 420, ES 412 and ES 415 units are used in engine consist, not more than two units may be on the line when making a reverse movement with cars or train and must be located adjacent to the train.
2. When operating with mixed engine consist, where dynamic brake is required, not more than two AS 415, AF 420 and ES 415 units will be used.
  - A. If one unit is used, it will be placed as the second unit.
  - B. If two units are used, units must be placed as the second and third units in consist.
  - C. A road unit must be coupled against the train.
  - D. If necessary to make a reverse move with cars or train, lead unit must be isolated.
3. ES 412 class unit will not be used in mixed consist per item 2 account not equipped with #24 MU wire.
4. If necessary to operate with more than two AS 415, AF 420, ES 412 and ES 415 class units in consist (including pick up of units from outlying points), these units must be placed in the lead. Under these conditions, if reverse move is made with cars or train, all units ahead of the two rear units in these classes will be isolated.
5. AS 415, AF 420, ES 412 and ES 415 class units must not be used in swing or cut-in helper service. No more than two of these units can be used as helper on rear end of train behind or immediately ahead of caboose.
6. Extreme caution must be used during dynamic braking or when making reverse moves to prevent jackknifing and track damage.

**3.** Load limit (car and contents) . . . . . 263,000 pounds  
**EXCEPT**

Between El Centro and Seeley . . . . . \*\*281,000 pounds

\*\*Gross weight of 281,000 pounds applies to uniformly loaded four-axle cars with minimum axle spacing of 5 ft 10 in. and

minimum distance 37 ft. 0 in. between truck centers; also with wheels more than 38 in. in diameter.

Coronado Branch, 24th St. to MP 7, and

Salt Works to MP 12.00 . . . . . 199,000 pounds

Unless authorized by Superintendent, heavier loads must not be handled.

4. Engines operated with engineer in other than lead unit in direction of movement, must not exceed 20 MPH when approaching highway or street crossing at grade, subject to further restrictions imposed by local conditions.

ENGINE units of more than four axles will not be permitted to operate unless authorized by Superintendent.

5. Employees of the SD&AERy., while performing service on tracks of the SPCo. at El Centro, are under jurisdiction of the SPCo. officers and will be governed by Rules and Regulations of the Transportation Department, timetable and bulletins of the SPCo.

**SPEED RESTRICTIONS FOR ENGINES:** Maximum speed shown below is subject to further restriction applicable to certain territories as shown in Speed Restrictions for Trains:

Nominal classifications are descriptive of the engines as follows:

1st letter . . . . . Builder: A Alco; B BLH; E EMD; F Fairbanks-Morse; G GE

2nd letter . . . . . Type of service: F Freight; P Passenger; S Switcher

1st number . . . . . Number of axles

2nd and 3rd numbers . . . . . Horsepower (100)

Last letter . . . . . Style of unit: A Car body type with control cab. B No control cab. No letter indicated road switcher type

**MAXIMUM SPEED FOR ENGINES  
LENGTH OF DIESEL UNITS  
(Between Pulling Face of Couplers)**

| Classification                      | Maximum Speed Except # | Length (feet) |
|-------------------------------------|------------------------|---------------|
| ES406 . . . . .                     | 45                     | 45            |
| AS407 . . . . .                     | 60                     | 45            |
| ES408 . . . . .                     | 65                     | 45            |
| ES408B . . . . .                    | 65                     | 45            |
| ES409 . . . . .                     | 65                     | 45            |
| AS409 . . . . .                     | 60                     | 46            |
| AS410 . . . . .                     | 60                     | 46            |
| BS410 . . . . .                     | 60                     | 49            |
| ES410 . . . . .                     | 60                     | 45            |
| BS412 . . . . .                     | 60                     | 46            |
| ES412 . . . . .                     | 60                     | 45            |
| FS412 . . . . .                     | 60                     | 50            |
| EF415A . . . . .                    | 70                     | 51            |
| EF415B . . . . .                    | 70                     | 50            |
| EF418 . . . . .                     | 70                     | 57            |
| EP418 . . . . .                     | 79                     | 57            |
| AF420 . . . . .                     | 70                     | 58            |
| EF420 . . . . .                     | 70                     | 57            |
| EF423 . . . . .                     | 70                     | 57            |
| EF425 . . . . .                     | 70                     | 57            |
| EF430 . . . . .                     | 70                     | 60            |
| GF425 . . . . .                     | 70                     | 61            |
| Any locomotive not listed . . . . . | 35                     |               |

#When operated in multiple unit control, on head end of train or running light and engineer is in other than the leading control cab in direction of movement, speed must not exceed 30 MPH. "A" type units (indicated by letter "A" following classification numerals) operating in reverse as lead unit in direction of movement must not exceed 30 MPH.

Diesel engines weighing 100,000 pounds or more moving dead in train will be placed first behind engine handling train; diesel engines weighing less than 100,000 pounds must be placed near rear of train.

| Maximum Speed Permitted with Certain Equipment  | MPH Main Tracks Other Than Branches | MPH Main Tracks on Branches |
|---|-------------------------------------|-----------------------------|
| Double of triple loads.....   | ..                                  | 25                          |
| Scale test cars.....  | 40                                  | 30                          |
| Steel pile-drivers.....   | 40*                                 | 30*                         |
| K&J, pedestal or center-hinged air-dump cars (except SPM-W 5100 to 5289 loaded or empty)..... | 35*                                 | 25*                         |
| Locomotive cranes:  |                                     |                             |
| With boom disconnected, heavy end forward.....  | 35*                                 | 25*                         |
| With boom disconnected, light end forward.....  | 20*                                 | 15                          |
| With boom in place, either end forward.....   | 25*                                 | 15                          |

\*These speeds must not be exceeded, and on curves where authorized speed is more than 15 MPH speed must be reduced to 5 MPH less than shown in timetable and on speed signs.

Light engines on descending grades without dynamic brakes in operation must not exceed speed shown for freight and mixed trains.

Dead or disabled engines listed in timetable which requires movement at reduced speed must not be handled in train until train-order designating maximum speed is issued.

Engines handled dead must not exceed speed shown in table.

**INTERNATIONAL BOUNDARY**

Trains approaching gate at International Boundary, San Ysidro, will sound one long blast of whistle to inform Government Officials of their presence. If prompt response is not gained after whistle blast, an employe will go at once to Government Headquarters and request service.

Trains will stop before crossing International Boundary line at San Ysidro. Trains in both directions when not accompanied by Customs Immigration Rider will stop at Campo. Trains in both directions will stop at Tecate. Trains must not cross International Boundary line without first notifying Customs and Immigration Officers and obtaining necessary permission from them.

Westward trains coming into Tijuana, when not accompanied by rider, will proceed without stopping to Boundary line for inspection by Officers of the Mexican Government, after which cars for Tijuana may be set out and necessary switching performed.

To permit Immigration and Customs inspection of trains while entering the United States, eastward trains departing Campo, and westward trains departing San Ysidro, must not exceed 5 MPH until rear of train passes station and proceed signal is given from caboos. Conductor will watch for signal from station force in case necessary to bring train to a stop.

Westward trains will stop with caboos clearing crossing west of international gate San Ysidro and will proceed only after released by Border Patrol officer in charge of inspection or in the event no Border Patrol inspection is made, by Telegraph operator on duty. This release will be given to Conductor only.

**LOCATION OF OVERHEAD AND SIDE STRUCTURES NOT STANDARD CLEARANCE**

- San Diego: Citrus Soap Co. spur: Pipes on outside of building.
- “ Fire hydrant on Fourth Ave., at K St.
- “ Fire hydrant, power poles and street lights along east curb line of Fifth Ave.

Tecate: Pipe and counter weights on Malt Plant track. Plaster at NW corner of Malt building on Brewery spur will not clear man on side of car, and pipes over track 30 ft. from east end will not clear man on top of car. Overhead wires will not clear man on top of car.

“ Brewery spur: Overhead pipes on east 30 ft., and wooden platform on east 100 ft.

Plaster City: Account reduced side clearance, Track 1, employes are forbidden to ride on side of cars while moving on this track. Scale track must not be used between east switch and derail or sign west of scale. Switch and derail secured with U.S.G.Co. lock. Do not enter U.S.G.Co. Track 4 when gypsum chute is in loading position.

**INSTRUCTIONS IN CASE OF FIRE**

**1. FIRE FIGHTING EQUIPMENT:**

- (a) Five gallon fire extinguishers are located at following points:
 

|                       |                        |
|-----------------------|------------------------|
| East end Tunnel 4     | West end Tunnel 14     |
| West end Tunnel 5     | West end Tunnel 15     |
| West end Bridge 97.68 | West end Tunnel 16     |
| East end Tunnel 6     | East end Tunnel 17     |
| Both ends Tunnel 8    | West end Tunnel 18     |
| West end Tunnel 9     | West end Bridge 104.01 |
| West end Tunnel 10    | West end Bridge 104.37 |
| West end Tunnel 11    | West end Tunnel 19     |
| West end Tunnel 12    | West end Tunnel 20     |
| East end Tunnel 13    | West end Tunnel 21     |

**Note:**—Fire extinguishers at tunnels are located just inside tunnel portals.

(b) Tank Car MW-1001:

Tank Car MW-1001 with 10,000 gallons of water is kept first out at Tunnel 15 spur. A pump is mounted on deck over top of tank which can be operated by air from train line; 300 feet of fire hose on a reel; and a tool box containing fire-fighting tools and fittings. Car is equipped with headlights on each end, and extension cord is kept in tool box. Cord may be plugged into outlets on engine or into any light socket by replacing bulb with screw socket. Air line to pump is fitted with hose connection at each end of car, so that pump can be operated from either end of engine or train. A length of hose and fittings are kept in tool box to make connections. When pump is being run from train line, automatic brake valve on engine should be held in Full Release position, and engine speed increased to increase volume of air.

**2. INSTRUCTIONS:**

(a) Trains discovering a fire should immediately call operator so equipment can be dispatched to fire. If engine is equipped with fire fighting facilities, every effort should be made to extinguish the fire with the equipment on the engine. If it is evident that fire cannot be put out with equipment at hand and it is possible to reach tank car at Tunnel 15 spur, get that car and return to the fire. Tank car should be picked up so that it will be headed into the fire ahead of engine or train. Stake and pinch bar are included with tools on deck of tank car. Tunnels and bridges in some places are located so close together that a fire may spread to another structure. While it might not be possible to extinguish the fire in one structure, equipment should stand by to prevent fire from spreading.

Employes will use their best judgment in meeting an emergency and act in the safest and quickest way to meet the conditions.

(b) Tank Car MW-1001 must always be left, filled and first out at Tunnel 15 spur.

## SPECIAL INSTRUCTIONS

**SPEED RESTRICTIONS FOR TRAINS:** Maximum speed of trains in territory shown below is subject to further restrictions applicable to engines in the train as shown in **SPEED RESTRICTIONS FOR ENGINES, MAXIMUM SPEED PERMITTED WITH CERTAIN EQUIPMENT, and OTHER MAXIMUM SPEEDS** appearing on pages 6 and 7 of Special Instructions. Speed must be further reduced as prescribed by speed signs, except as specifically authorized by Special Instructions herein, or by time-table bulletin.

All trains must run carefully during and after heavy storms, particularly when the track is apt to be affected. When fog, storms or other conditions obscure track or signals, speed of trains must be so reduced as to permit strict observance of signals and **INSURE SAFETY, REGARDLESS OF TIME.**

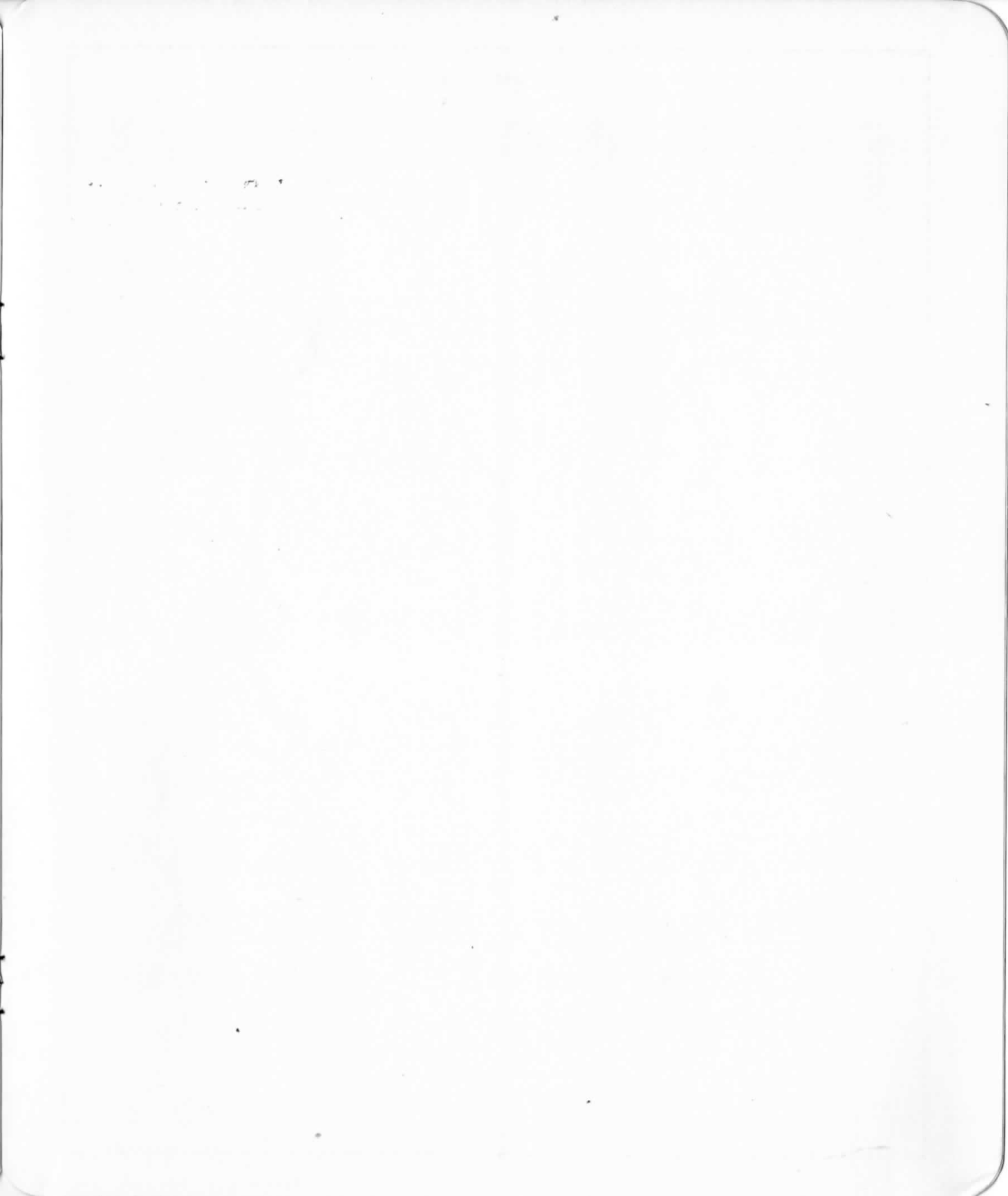
| TERRITORY   |       | FREIGHT AND MIXED AND LIGHT ENGINES | TERRITORY   |        | FREIGHT AND MIXED AND LIGHT ENGINES |
|---|-------|-------------------------------------|---|--------|-------------------------------------|
| MP  | MP    |                                     | MP  | MP     |                                     |
| EASTWARD, SAN DIEGO TO EL CENTRO:                       |       |                                     | WESTWARD, EL CENTRO TO SAN DIEGO:                       |        |                                     |
| 1.10 to 3.00  | 3.00  | 10                                  | 147.84 to 147.53 (wye switch)                           | 147.53 | 10                                  |
| 3.00 to 5.00  | 5.00  | 20                                  | 147.53 to 122.50  | 122.50 | 30                                  |
| 5.00 to 14.00   | 14.00 | 30                                  | 122.50 to 106.56  | 106.56 | 25                                  |
| 14.00 to 14.42  | 14.42 | 20                                  | 106.56 to 99.10   | 99.10  | 20                                  |
| 14.42 to 15.57 (KP 0.00)                                | 15.57 | 30                                  | 99.10 to 98.67  | 98.67  | 10                                  |
|   |       |                                     | 98.67 to 96.61  | 96.61  | 20                                  |
|   |       |                                     | 96.61 to 92.90  | 92.90  | 30                                  |
|   |       |                                     | 92.90 to 84.50  | 84.50  | 25                                  |
|   |       |                                     | 84.50 to 82.07  | 82.07  | 30                                  |
|   |       |                                     | 82.07 to 81.79  | 81.79  | 25                                  |
|   |       |                                     | 81.79 to 76.77  | 76.77  | 30                                  |
|   |       |                                     | 76.77 to 76.09  | 76.09  | 25                                  |
|   |       |                                     |   |        |                                     |
|   |       |                                     | 76.09 to 73.95  | 73.95  | 30                                  |
|   |       |                                     | 73.95 to 73.75  | 73.75  | 25                                  |
|   |       |                                     | 73.75 to 70.75  | 70.75  | 30                                  |
|   |       |                                     | 70.75 to 70.41  | 70.41  | 25                                  |
|   |       |                                     | 70.41 to 65.58  | 65.58  | 30                                  |
|   |       |                                     | 65.58 to 60.36  | 60.36  | 25                                  |
|   |       |                                     | 60.36 to 59.94 (KP 71.41)                               | 59.94  | 30                                  |
|   |       |                                     |   |        |                                     |
|   |       |                                     | KP  | KP     |                                     |
|   |       |                                     | 71.41 to 67.64  | 67.64  | 30                                  |
|   |       |                                     | 67.64 to 66.59  | 66.59  | 25                                  |
|   |       |                                     | 66.59 to 41.70  | 41.70  | 30                                  |
|   |       |                                     | 41.70 to 40.69  | 40.69  | 20                                  |
|   |       |                                     | 40.69 to 33.90  | 33.90  | 30                                  |
|   |       |                                     | 33.90 to 17.97  | 17.97  | 35                                  |
|   |       |                                     | 17.97 to 16.00  | 16.00  | 20                                  |
|   |       |                                     | 16.00 to 10.00  | 10.00  | 30                                  |
|   |       |                                     | 10.00 to 0.00 (MP 15.57)                                | 0.00   | 20                                  |
|   |       |                                     |   |        |                                     |
|   |       |                                     | MP  | MP     |                                     |
|   |       |                                     | 15.57 to 14.42  | 14.42  | 30                                  |
|   |       |                                     | 14.42 to 14.00  | 14.00  | 20                                  |
|   |       |                                     | 14.00 to 5.00   | 5.00   | 30                                  |
|   |       |                                     | 5.00 to 3.00  | 3.00   | 20                                  |
|   |       |                                     | 3.00 to 1.10  | 1.10   | 10                                  |
|   |       |                                     |   |        |                                     |
| EASTWARD, TWELFTH ST. NATIONAL CITY TO MP 12.00, except |       |                                     | WESTWARD, MP 12.00 TO TWELFTH ST. NATIONAL CITY, except |        |                                     |
| 4.77 to 6.02  | 6.02  | 12                                  | 6.02 to 4.77  | 4.77   | 12                                  |
|   |       | 10                                  |   |        | 10                                  |
| EASTWARD, SAN DIEGO TO EL CAJON:                        |       |                                     | WESTWARD, EL CAJON TO SAN DIEGO:                        |        |                                     |
| 1.10 to 3.60 (Francis St.), except                      | 3.60  | 10                                  | 16.80 to 13.00  | 13.00  | 20                                  |
| over 43th, 14th, 28th & 32nd Sts.                       | 14.00 | 5                                   | 13.00 to 10.20 (Broadway)                               | 10.20  | 10                                  |
| 3.60 to 10.20 (Broadway)                                | 10.20 | 25                                  | 10.20 to 3.60 (Francis St.)                             | 3.60   | 20                                  |
| 10.20 to 13.00  | 13.00 | 10                                  | 3.69 to 1.10 except                                     | 1.10   | 10                                  |
| 13.00 to 16.80  | 16.80 | 20                                  | over 32nd, 30th, 28th, 14th & 13th Sts.                 | 13.00  | 5                                   |

## SPEED RESTRICTIONS FOR OTHER THAN MAIN TRACK

With Caution  
Not Exceeding MPH

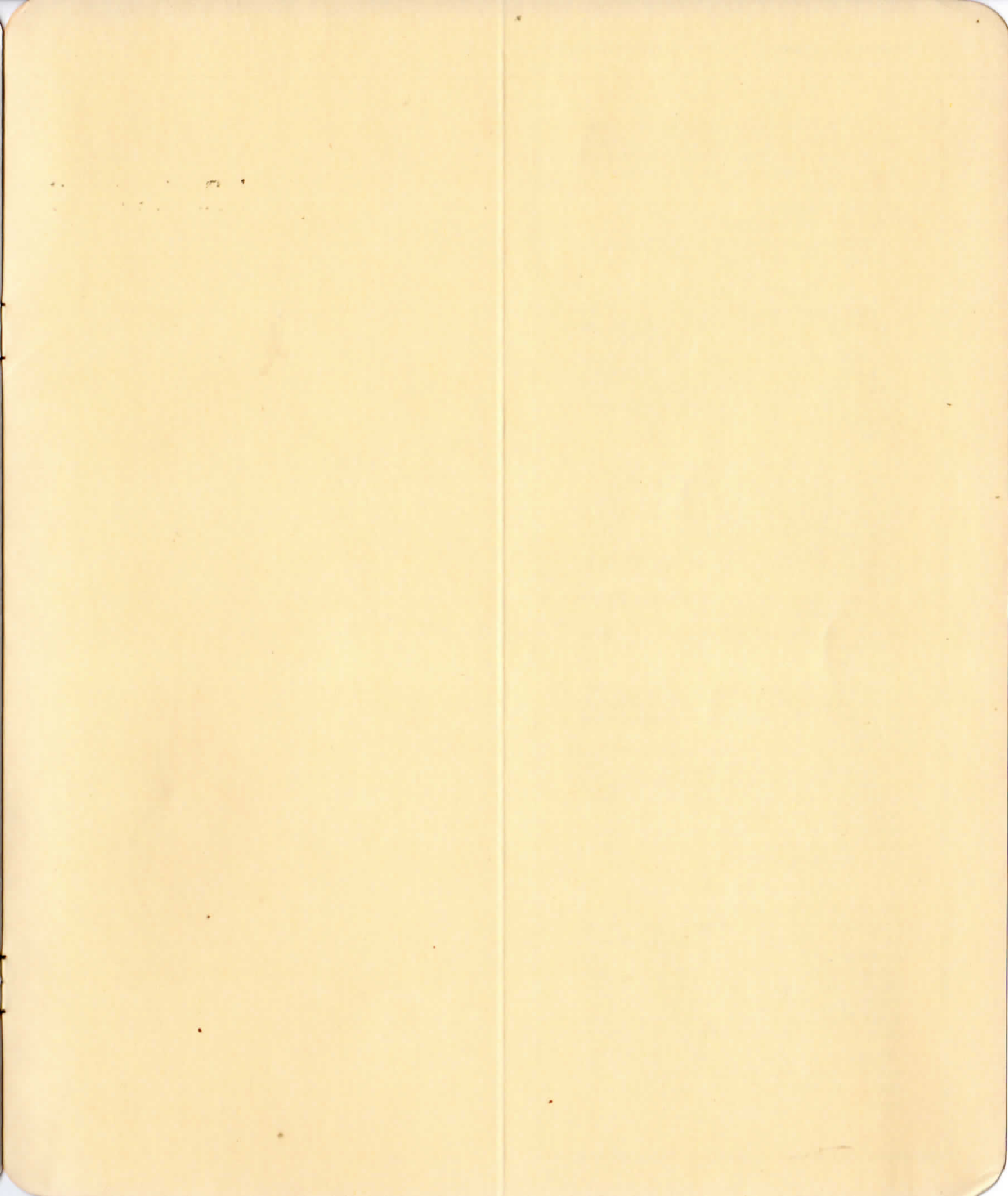
|   |    |
|---|----|
| Through sidings, yard and other tracks, crossovers and turnouts, except | 10 |
| LA MESA BRANCH: El Cajon Drill Track east of Main Street                | 6  |





SPECIAL INS SCHEDULE

| Description of Property   | Quantity | Value | Remarks |
|---|----------|-------|---------|
| <p>1. Automobile</p> <p>2. Furniture</p> <p>3. Jewelry</p> <p>4. Cash</p> <p>5. Bonds</p> <p>6. Stocks</p> <p>7. Real Estate</p> <p>8. Life Insurance</p> <p>9. Pensions</p> <p>10. Other</p> |          |       |         |
|   |          |       |         |
|   |          |       |         |
|   |          |       |         |





RULE 10-I

Oral authorization and acknowledgments between Foremen and Engineers for trains to pass "Red Conditional Stop" signs must be worded in the following forms:

SDAE FOREMAN . . . AT MP . . . .  
CALLING SDAE (Train No.) . . . .

(After train answers giving his identification): (i.e.) SDAE Train . . . .

Foreman's Response

"THIS IS SDAE FOREMAN . . . . IN CHARGE OF THE WORK BETWEEN MP . . . . AND MP . . . . SDAE TRAIN ORDER NO. . . . . WE ARE IN THE CLEAR AND YOU MAY PROCEED PAST THE RED CONDITIONAL STOP SIGN AND THROUGH THE LIMITS OF ORDER AT . . . . MPH, REPEAT . . . . MPH"\*

Engineer's Response

"THIS IS ENGINEER SDAE TRAIN . . . . I MAY PROCEED PAST THE RED CONDITIONAL STOP SIGN AND THROUGH THE LIMITS OF ORDER NO. . . . . BETWEEN MP . . . . AND MP . . . . . AT (Speed). REPEAT (Speed) MILES PER HOUR."

Foreman must acknowledge Engineer's response as follows:

SDAE TRAIN ORDER NO. . . . . , BETWEEN MP . . . . AND MP . . . . . MPH OK."

\*When no speed restriction account above Form "Y" Train Order, tell train engineer "At Maximum Authorized Speed."

"Foreman's oral authorization for train to pass 'Red Conditional Stop' sign in multiple main track territory on which trains may be authorized to operate in either direction must designate main track on which authority applies, worded in the following form:

FOREMAN'S RESPONSE

THIS IS SDAE FOREMAN . . . . IN CHARGE OF THE WORK BETWEEN MP . . . . AND MP . . . . SDAE TRAIN ORDER NO. . . . . WE ARE IN THE CLEAR OF TRACK . . . . AND YOU MAY PROCEED PAST THE RED CONDITIONAL STOP SIGN ON TRACK . . . . AND THROUGH THE LIMITS OF ORDER AT . . . . MPH, REPEAT . . . . MPH.

"Engineer's response and foreman's acknowledgment must indicate main track on which movement is authorized."