

RESTRICTED SPEED

Definition

A speed that will permit stopping within one half the range of vision short of a train, engine, car, stop signal, obstruction, derail or switch not properly lined and looking out for broken rail, but not exceeding 20 MPH.

RULE 13-1

Oral authorization and acknowledgements, between foreman and engineers, for trains to pass red "Conditional Stop" signs, must be worded in the following forms:

FOREMAN'S RESPONSE

THIS IS SP FOREMAN _____
AT MP _____ CALLING SP (TRAIN NO.) _____
(AFTER ENGINEER ANSWERS GIVING PROPER IDENTIFICATION)

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

ENGINEER'S RESPONSE

THIS IS ENGINEER OF SP TRAIN NO. _____
I MAY PROCEED PAST THE
RED CONDITIONAL STOP SIGN AND THROUGH
THE LIMITS OF ORDER NO. _____
BETWEEN MP _____ AND MP _____ AT
_____ MPH*, REPEAT _____ MPH*.

**FOREMAN MUST ACKNOWLEDGE
ENGINEER'S RESPONSE AS FOLLOWS:**

SP TRAIN ORDER NO. _____, BETWEEN
MP _____ AND MP _____, _____ MPH* OK.

*WHERE NO SPEED RESTRICTION IS
REQUIRED, FOREMAN WILL TELL ENGINEER
"AT MAXIMUM AUTHORIZED SPEED".

WHEN FORM Y TRAIN ORDER IS USED IN
MULTIPLE MAIN TRACK TERRITORY WHERE
TRAINS MAY OPERATE IN EITHER DIRECTION,
FOREMAN'S ORAL AUTHORIZATION MUST
INDICATE THE MAIN TRACK ON WHICH MOVE-
MENT IS AUTHORIZED.

Southern Pacific

Transportation Company



TUCSON DIVISION TIMETABLE

16

EFFECTIVE SUNDAY, APRIL 29, 1984
AT 12:01 A.M.
MOUNTAIN STANDARD TIME

W. J. LACY,
Vice President-Transportation.

R. D. BREDENBERG,
General Manager.

J. T. STEWART,
*Superintendent-
Operations Planning and Control.*

J. A. RUGG,
Superintendent.

G. E. MYERS,
Assistant Superintendent.

DIVISION MECHANICAL OFFICER

R. L. ROSS Tucson

TERMINAL SUPERINTENDENT

C. E. BABERS El Paso

ASST. TERMINAL SUPERINTENDENTS

T. A. GIVENS El Paso

L. M. LAWSON El Paso

TRAINMASTERS

G. A. TONCHEFF Tucson

W. H. STIVER Tucson

H. C. HANSEN Lordsburg

R. L. ANGEL Tucumcari

TRAINMASTER AGENT

M. E. MULLINS Phoenix

ASSISTANT TRAINMASTERS

A. CARO Tucson

W. M. WHALEY Phoenix

ASST. TRAINMASTERS — AGENTS

J. H. MAYO Tucson

A. C. TODD El Paso

ROAD FOREMEN OF ENGINES

B. P. CARTALL Tucson

D. L. GREEN Tucson

J. R. EFAW El Paso

J. C. MALONE El Paso

ASST. ROAD FOREMEN OF ENGINES

E. R. RICHMOND Tucson

H. Y. BECKWITH El Paso

J. F. COOK JR. Tucson

CHIEF TRAIN DISPATCHER

H. L. ANDERSON Tucson

SP — AMTRAK

R. E. DOMBROWSKY, Assistant Trainmaster Eugene

L. L. LAPORTE, Trainmaster Oakland

I. YOUNG, JR., Trainmaster Los Angeles

G. M. TODD, Trainmaster Los Angeles

R. B. LUTTON, Trainmaster San Antonio

T. R. MALISH, Trainmaster San Antonio

D. J. LEGLER, Assistant Trainmaster Tucson

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SPEED TABLE

Time Per Mile	Miles Per Hour	Time Per Mile	Miles Per Hour	Time Per Mile	Miles Per Hour
Mins. Sec.		Mins. Sec.		Mins. Sec.	
— 45	80.0	1 08	52.9	1 46	34.0
— 46	78.3	1 10	51.4	1 48	33.3
— 47	76.6	1 12	50.0	1 50	32.7
— 48	75.0	1 14	48.6	1 52	32.1
— 49	73.5	1 16	47.4	1 54	31.6
— 50	72.0	1 18	46.1	1 56	31.0
— 51	70.6	1 20	45.0	1 58	30.5
— 52	69.2	1 22	43.9	2 —	30.0
— 53	67.9	1 24	42.9	2 05	28.8
— 54	66.6	1 26	41.9	2 10	27.7
— 55	65.5	1 28	40.9	2 15	26.7
— 56	64.2	1 30	40.0	2 24	25.0
— 57	63.2	1 32	39.1	2 30	24.0
— 58	62.6	1 34	38.3	2 45	21.8
— 59	61.0	1 36	37.5	3 —	20.0
1 —	60.0	1 38	36.8	3 30	17.1
1 02	58.0	1 40	36.0	4 —	15.0
1 04	56.2	1 42	35.3	5 —	12.0
1 06	54.2	1 44	34.6	6 —	10.0



125
42
—
250
500
—
5250
80
5300 16750
5300
—
14500

461-1217

GILA SUBDIVISION

EAST- WARD	FIRST CLASS	STATIONS		STATION Number	WEST- WARD	FIRST CLASS
2 Psg		Gila Line			1 Psg	
Leave Mon Thur Sat	Mile Post				Arrive Mon Wed Fri	
AM 4.45	732.7	TO-R	YUMA	49095	AM s 3.30	
	737.4		EAST YARD	49099		
	737.5					
	743.7	8388	FORTUNA	50020		
	750.6	8487	KINTER	50040		
	753.5		DOME	50050		
5.23 AM	770.0		WELLTON	50080	2.17 AM	
	776.4	8371	NOAH	52010		
	783.8	8415	COLFRED	52018		
	792.6	8401	MOHAWK	52027		
	792.7					
	800.5	8386	STOVAL	52031		
	811.9	8388	AZTEC	52038		
	819.7	8240	STANWIX	52046		
	830.0	8369	SENTINEL	52056		
	839.9	8392	PIEDRA	52066		
	845.5	8356	THEBA	52072		
	855.7	17014	GILA	52090		
	863.0	8049	BOSQUE	52107		
	863.2					
	870.0	8883	SHAWMUT	52114		
	870.2					
	874.6	8305	ESTRELLA	52119		
	883.7	8330	MOBILE	52128		
	890.0	8359	ENID	52134		
	897.8	8309	MARICOPA	52142		
	907.7	8330	BON	52152		
	918.8	8336	CASA GRANDE	52163		
	928.4	8344	TOLTEC	52174		
9.26 AM	936.7	N-8677 S-8754	PICACHO	52200	10.20 PM	
	944.2	8381	WYMOLA	52209		
	951.4	8337	RED ROCK	52216		
	958.4	8445	NAVISKA	52226		
	966.9	8372	RILLITO	52238		
	974.7	8195	KINO	52251		
	979.3	W-7890	STOCKHAM	52258		
s 10.30 AM	983.9	R	TUCSON	52270	9.40 PM	
	986.6	TO-R	PFE YARD	52280		
Arrive Mon Thur Sat		(253.2)			Leave Sun Tue Thur	
2					1	

ADDITIONAL STATIONS

Mile Post	Station	Station Number	Mile Post	Station	Station Number
746.6	Blaisdell	50030	968.6	Plata	52241
760.2	Liguria No. 1		977.4	Jaynes	52254
	Track	50070	981.2	Petrie	52263
850.3	Smurr	52078			
921.0	Seco	52167			
933.1	Eloy	52179			
953.5	Avra	52221	992.4	Aldona	52312
962.2	Marana	52231	1010.4	Continental	52332
			1034.2	Otero	52357

GILA SUBDIVISION

MAXIMUM AUTHORIZED SPEED FOR TRAINS BETWEEN YUMA AND TUCSON

EASTWARD	PSGR	FRT	WESTWARD	PSGR	FRT
732.1 and 733.0①②	25	25	987.8 and 985.3	35	35
733.0 and 734.5①	25	25	985.3 and 982.7③	35	35
733.0 and 734.5②	50	50	982.7 and 979.4④	50	50
734.5 and 737.6①②	50	50	979.4 and 875.0	70	70
737.6 and 743.2	79	65	875.0 and 866.9	60	60
743.2 and 748.6	70	65	866.9 and 855.8	70	70
748.6 and 753.4	40	40	855.8 Martin Ave.*	55	55
753.4 and 756.2①②	40	40	855.8 and 825.3	70	70
756.2 and 763.0①②	55	55	825.3 and 822.4	60	60
763.0 and 770.7	70	65	822.4 and 794.3	70	70
770.7 and 771.0	50	50	794.3 and 792.5	60	60
771.0 and 792.5	70	65	792.5 and 771.0	70	70
792.5 and 794.3	60	60	771.0 and 770.7	50	50
794.3 and 822.4	70	65	770.7 and 763.0	70	70
822.4 and 825.3	60	60	763.0 and 756.2①②	55	55
825.3 and 855.8	70	65	756.2 and 753.4①②	40	40
855.8 Martin Ave.*	55	55	753.4 and 748.6	40	40
855.8 and 866.9	70	65	748.6 and 743.2	70	70
866.9 and 875.0	60	60	743.2 and 737.6	79	70
875.0 and 979.4	70	65	737.6 and 735.3①	50	50
979.4 and 982.7④	50	50	735.3 and 734.5①	40	40
982.7 and 985.2④	35	35	737.6④ Thru (Turnout)	35	35
985.2 and 985.3④	25	25	737.6 and 734.5②	50	50
985.3 and 987.8	35	35	734.5 and 732.1①②	25	25
AGAINST CURRENT OF TRAFFIC			AGAINST CURRENT OF TRAFFIC PFE		
STOCKHAM — PFE YARD			YARD — STOCKHAM		
979.3 and 985.3	20	20	985.3 and 979.3	20	20

① No. 1 Track ② No. 2 Track ③ East Main Trk ④ West Main Trk
*Rule 10-J speed may be increased when engine passes Martin Ave.

SPEEDS ON OTHER THAN MAIN TRACK:

Remotely controlled turnouts, crossovers and sidings	25
Maricopa siding between M.P. 897.5 and M.P. 897.8	10
PFE Yard: fueling facilities at Westend near roundhouse	
Roundhouse link track, North and Middle fueling tracks, Storage Track 22nd St.	5
Sahuarita: Eastward on AS&R, Pima and	
Anamax mine spurs	20
Eastward on Duval Mine Spur	25
Westward on AS&R, Pima, Anamax and	
Duval mine spurs	15
Exception: Through curves #2 and #3 on Anamax mine spur in both directions	10
All other tracks Gila Subdivision	10

EAST- WARD	STATIONS		WEST- WARD
Mile Post	Nogales Branch		Station Number
986.6	Yd. Lmts. TO-R	PFE YARD	52280
1002.4	Yd. Lmts.	SAHUARITA	52322
1021.1		AMADO	52344
1049.8	Yd. Lmts. TO-R	NOGALES	52370
		(62.9)	

MAXIMUM AUTHORIZED SPEED FOR TRAINS BETWEEN NOGALES BRANCH ALL TRAINS

PFE YARD and NOGALES	25
Exceptions:	Exceptions:
984.2 and 985.1	10
985.1 and 991.4	20
1040.0 and 1040.2	20
	1040.2 Bridge
	1040.2 and 1048.5
	1048.5 and 1049.9

GILA SUBDIVISION

SPECIAL INSTRUCTIONS

RULE 7-C. Yuma and PFE Yard: Freight trains arriving or departing Yuma Yard and Westward trains departing PFE Yard must receive proceed signal (green flag by day, green light by night), or oral authorization from yardmaster or his representative.

RULE 21. Identification of superior trains must be made by eastward trains enroute Phoenix Subdivision between Yuma and Wellton to be applied at Wellton, and by westward trains enroute Phoenix Subdivision between Tucson and Coolidge to be applied at Coolidge.

RULE 82-A. PFE Yard, Yuma: Clearance received on the Gila Subdivision will authorize regular train to assume schedule on the Phoenix Subdivision.

RULE 83. Yuma: Check of train register by eastward trains enroute Phoenix Subdivision will apply at Wellton.

Tucson: Check of train register by westward trains enroute Phoenix Subdivision will apply at Coolidge.

RULE 83-A. At following stations only trains indicated will register:

PFE Yard..... Trains originating or terminating.

RULE 83-B. Tucson: Trains originating and terminating will leave register ticket on prescribed form with messenger.

RULE 93. Location of yard limits:

732.5 Yuma.....	737.4
979.4 Tucson (No. 2 Track).....	993.0
Tucson (No. 1 Track).....	992.1
Tucson (Nogales Br.).....	993.4
998.7 Sahuarita.....	1005.5
1040.0 Nogales.....	1049.9

Nogales: Trains arriving Nogales not exceeding 2000 ft. in length unless otherwise instructed, will trail through spring derail in main track at west end of yard, proceed on main track and stop short of fouling point of crossover from main track to No. 1 yard track, west of Court Street.

RULE 97. Extra trains leaving Interlocking are authorized to operate between MP 985.5 and 987.7 without train order authority.

RULES D-97 and D-251. Will apply as follows:

Between end of CTC, MP 732.5, Yuma and Subway, MP 734.3 and between PFE Yard and Stockham.

RULE 99-C. Will apply on Nogales Branch.

RULE 103. Toltec: Sound detector microphone located on mast 75 feet west of Toltec Road Crossing. Eastward trains stopping west of crossing MP 928.6 on Toltec siding, before starting must sound whistle to lower or keep crossing gates down.

Tucson: Movements over Congress Street crossing, South Yard, must stop at stop sign and wait for green arrow before proceeding across crossing.

Sahuarita: When necessary to cross US-89 on Drill Track to AS&R Mine, and Anamax Mine, MP 999.8, west of Sahuarita during night hours, movements must be preceded by a member of train crew displaying lighted red fusee. Except in an emergency, trains must not stop while on the highway right-of-way. Eastward trains entering the Drill Track to AS&R Mine and Anamax Mine will continue across and clear the highway before stopping for brakeman to board train. Westward trains will stop at the highway right-of-way line and not proceed until main track switch has been lined for continued movement across highway. Switching movements must not be made at main track switch to Drill Track.

RULE 104. Nogales: Spring point derail, facing westward movement, just west of west switch of first yard track north of main track may be trailed through in eastward movement.

RULE D-160. Yuma: Westward signal 7343 adjacent to NO.2 Track displays permanent red aspect. Train or engine may pass this signal without stopping and move against current of traffic after protection has been provided in accordance with provisions of Rule D-160. Movements must be made at Restricted Speed.

GILA SUBDIVISION

RULE: 204. Trains of Gila and Phoenix Subdivisions with same conductor and engineer may be issued train orders on one Subdivision that affects their movement on Gila or Phoenix Subdivision.

RULE: 221. PFE Yard is train-order office only for trains originating only.

Tucson: Trains originating Tucson will receive train orders and clearances from P.F.E. Yard. Train orders and clearances will be carried from P.F.E. Yard to Tucson by messenger and delivered to conductor.

RULE 306. Block signals with "P" plates:

Eastward	Protection	Westward
P-A	Spring switch, east end Colorado River bridge	
	Spring switch, MP 737.5, east end crossover from running track to Track No. 2	P-SA
P-A East End	High Water Detector MP	
Fortuna	745.8 Fortuna Wash	P-7461
P-7480	Collision Detector, Bridge 748.6	P-A West end Kinter
P-A Dome }	Collision detector, Ligurta underpass, MP 760.6	P-7607
No. 1 Track }		
P-7606 }	Collision detector, Ligurta underpass, MP 760.6	P-A MP 768
No. 2 Track }		P-A West end Stoval
P-7988	High Water Detector, Bridge MP 799.0	P-A West end Bosque
P-8608	High Water Detector, Bridge MP 862.0	P-A West end Shawmut
P-8674	High Water Detector, Bridge MP 868.9	P-8807
P-8778	High Water Detector, Bridge MP 878.3	P-A West end Maricopa
P-8948	High Water Detector, Bridge MP 894.9	P-8991
P-A, East end Maricopa	High Water Detector, Bridge MP 899.0	P-A West end Red Rock
P-9488	High Water Detector, Bridge MP 949.3	
P-A	Spring switch, west end westward siding, Stockham	
P-9834	Spring switch, west end cross over, Sixth Ave., Tucson	
P-I Westward Main Track Tucson }	Spring switch, west end of crossover, westward main track to eastward main track, Cherry Avenue	
P-I Eastward Main Track Tucson }	Spring switch, west end of crossover from eastward main track to Nogales lead, Cherry Avenue	
P-I Nogales Lead Tucson }	Spring switch, west end of west lead, Cherry Avenue	
	Spring switch, east end of double track, Cherry Ave.	P-SA East end double track, Cherry Ave.
	Spring switch, east end of crossover from westbound main to eastbound main, Cherry Avenue	P-SA West lead
	East End of crossover from eastward main to east lead	P-SA east lead

RULE 505. Yuma: Main tracks between MP 734.3 and MP 737.5 are designated as follows:

No. 1—North track No. 2—South track

Between MP 734.3 and MP 737.5 trains and engines may use main tracks in either direction, being governed by signal indication.

Signal 7333 governs westward movements through crossover to main track only and will remain dark until crossover switch is open.

Tucson: Westward Signal 9833 on eastward main track governs westward movement through crossover and displays stop indication until east crossover switch is lined for crossover movement to westward main track.

Eastward 2-unit Signal P-9834 top unit governs movements on eastward main track, bottom unit governs movements to Passenger Track.

When westward signal 9835 display stop indication westward freight trains must not pass this signal if there is a westward passenger train in passenger track, except on instructions from yardmaster.

GILA SUBDIVISION

RULE 538. Spring switches equipped with facing point locks are located as follows:

Station	Location	Normal Position
East Yard	East end of crossover from running track to Track No. 2	Track No. 2
Stockham	West end westward siding	Main Track
PFE Yard	End of double track	West Main Track
	Cherry Ave MP 985.5	
PFE Yard	End double track	
	36th STREET MP. 987.8	No. 2 Track

RULE 540. Switch-point indicators

Tucson	West end crossover, Stone Avenue
	West end crossover from passenger tracks

RULE 606. Tucson: Limits extent on westward main track from eastward interlocking signal MP 985.2 to westward interlocking signal end of double track MP 985.5. On eastward main track from eastward interlocking signal MP 985.2 to westward interlocking signal end of double track MP 985.5, and from eastward interlocking signal MP 985.2 on Nogales lead to westward interlocking signal MP 985.4 and to westward interlocking signal on west lead MP 985.4.

Signals are under the control of Operator at PFE Yard.

RULE 705. Indicators located as follows:

Illum.	Letter	Authorizes and requires movement as follows:
W	MP 986.8 Nogales Branch, Westward trains must stop east of Indicator. When flashing white light is displayed train is authorized to proceed to PFE yard, or be governed by oral authority from yardmaster.

RULE 760. CTC in effect on main track and sidings from end of double track, East Yard, MP 737.4 to westward absolute signal at end of double track, Stockham.

Between Wellton and Dome, south track is identified as No. 2 track and north track identified as No. 1 track.

PFE Yard: CTC in effect from MP 987.7 to east end PFE Yard MP 987.9.

Stockham: Eastward movement from main line or siding at the east end Stockham against current of traffic "A" signals governing route will clear green only if first selected by train dispatcher and a special switch key actuator is operated by a member of train crew. Switch key activator is located on west side of signal case on main track signal. Switch key activator is located on short mast beside siding dwarf signal. In addition, before movement against current of traffic, movement must be protected in accordance with provision of Rule D-160 or Rule D-162.

RULE 825. Instructions for applying hand brakes:

Yuma: Freight trains ... Five hand brakes on west end.

East Yard: Freight trains Five hand brakes on west end.

Tucson: Passenger trains — To prevent uncontrolled movement, rail skid must be placed under west end of train and a sufficient number of hand brakes must be applied, but not less than two brakes on west end and two brakes on east end, unless outbound crew takes charge and engine remains attached.

Tucson and PFE Yard:

Freight trains, 1 to 10 cars All hand brakes.

Freight trains, 11 to 20 cars ... 10 hand brakes west end.

Freight trains, 21 to 49 cars ... 10 hand brakes west end,
5 hand brakes east end.

Freight trains, 50 cars or more . 15 hand brakes west end,
10 hand brakes east end.

Hand brakes will not be applied if outgoing crew takes charge of train on arrival, and inbound crew is advised by Yardmaster that engine is not to be detached and no switching is to be performed on the train. Hand brakes will not be applied if switch crew takes charge of train on arrival.

Hand brakes on outbound trains must not be released until engine is coupled to train, air test completed, and blue sign removed.

GILA SUBDIVISION

RULE 827. Location of high and/or wide load, Dragging and/or Derailed Equipment Detectors. MP 740.4, 752.5, 773.2, 780.4, 788.6, 790.0, 796.6, 806.3, 815.6, 825.0, 836.3, 843.1, 852.0, 859.8, 866.4, 873.0, 879.2, 886.4, 893.6, 902.0, 912.5, 922.8, 930.8, 940.7, 947.7, 954.5, 962.7, 971.6 and 976.4.

NOGALES BRANCH: MP 994.5 and 1040.0.

HOT BOX DETECTORS

MP	Type	Direction(s)	MP	Type	Direction(s)
740.2	C	Both	878.7	C	Both
772.7	C	Both	902.0	C	Both
790.0	C	Both	922.0	C	Both
806.3	C	Both	941.4	C	Both
834.9	C	Both	961.7	C	Both
851.3	C	Both	979.4	D*	Eastward

*Readout at PFE Yard.

RULE 827-A. Nogales Branch: Eastward "K" trains will stop at the runaround track at MP 1045 and inspect entire train.

RULE 872. Does not apply PFE Yard, Tucson and Yuma.

AIR BRAKE RULES

RULE 17. Retaining valves must be used on freight trains on descending grades as follows:

Sahuarita: AS&R, Pima, Anamax and Duval mines.

All retainers will be used. Retainers will be used in high pressure position on loaded cars and low pressure or slow direct position on empty cars. Descending movement will not be made unless locomotive has an operative dynamic brake but not more than 15 cars for each four axles of dynamic brake at speed not exceeding 15 MPH.

RULE 24-C. Sahuarita: Before making any switch moves at AS&R, Pima, Anamax or Duval mines, it must be known that air brakes system on each car being handled is fully charged, air hoses coupled between engine and cars and angle cocks properly positioned.

Ten minutes must be allowed to charge air brake system on cars picked up at AS&R, Pima, Anamax and Duval mines before making air brake test. All brakes must be operative on loaded and empty cars before leaving AS&R, Pima, Anamax and Duval mines.

After fully charging air brake system, engineer will make a 20-pound brake pipe reduction, and conductor will see that a member of crew observes each car to see that brakes are properly working, then release brakes and wait five minutes before switch move commences.

RULE 24-F. Will apply as follows:

Casa Grande: To all switching movements on all tracks at AS&R, Sacaton Mill.

Tucson: When making movements either direction between PFE Yard and areas outside PFE Yard but within yard limits.

RULE 33. Sahuarita: AS&R, Pima, Anamax and Duval mines.

Maximum tonnage per operative brake 140½ tons.

RULE 39. Passenger trains departing Yuma eastward will make running air brake test between MP 736.0 and MP 737.0.

Passenger trains departing Tucson westward will make running air brake test on main track between MP 983.43 and 983.00. Passenger trains departing Tucson eastward will make running air brake test on main track between MP 984.34 and MP 984.7.

RULE 65. Maximum Horsepower Per Ton Ratios

APLAA, BSMFF, CHLAT, FLOAT, LACHT, LADAT, LAEPA, LAEST, LAMFT, LASAA, MBSMF, RVKCF, ASLAA, MLLAA-LAKCP-VASAA, BKESP	4.0
AVBAT, AVLAT, BAESY, ESBAT, HOLAT, LAAVT, LAHOT, MPLAT, SRLAT	2.0
All other trains except on Branches	1.5

GILA SUBDIVISION

MISCELLANEOUS

1. Rillito: Cars must not be kicked or dropped into Arizona Portland Cement Spur, and cars must not be left standing on this spur west of insulated joints at east end of circuit actuating highway crossing signals. Chains across crusher spur at each end of pit are secured by snaps to posts, and may be unfastened to move cars to or from pit. Chains must be fastened across track when there is no car spotted over pit.

Derail on crusher spur, located 80 feet east of crusher pit, must not be lined for movement into spur until it is known that track over pit is ready for the movement.

2. Plata: AS&R belt loader on scale. Engine and cars, other than ore cars, must not pass over scale track.

3. Sahuarita: At AS&R plant, spur to Rod & Ball Mill. Cars must not be moved beyond face of building.

4. Ajo: All movements on Ajo interchange tracks must be made in accordance with provisions of Rules 535, 536, and 537 of the Rules and Regulations of the Transportation Department, Southern Pacific Transportation Company.

5. Eloy: Access to industrial development track is eastward move through crossover located at MP 932.3. Trains or engines must not use this track to meet or clear other trains.

PHOENIX SUBDIVISION

EAST- WARD	STATIONS		WEST- WARD
FIRST CLASS			FIRST CLASS
2 Psg			1 Psg
Leave Mon Thur Sat	Mile Post	Phoenix Line	Station Number
AM 5.23	770.0	WELLTON	50080
5.34	780.9	ROLL	51012
5.56	802.5	KOFA	51034
6.16	822.3	HYDER	51053
6.36	841.1	SADDLE	51063
6.47	851.0	GILLESPIE	51068
6.57	861.3	ARLINGTON	51073
7.01	865.7	DIXIE	51078
7.11	875.7	BUCKEY	51088
	889.3	LITCHFIELD JCT.	51110
7.25	889.7	LITCHFIELD	51120
7.29	893.0	CASHION	51123
7.32	895.7	TOLLESON	51126
7.35	898.1	FOWLER	51128
7.43	904.0	23RD. AVE. PHOENIX	51136
s 8.05	906.0	PHOENIX	s 51140
8.08	907.0	TO-R PHOENIX YARD BKYPQ	51160
8.15	911.1	KENDALL	51164
8.20	914.4	TEMPE	51170
8.28	921.8	MESA	51185
8.32	923.6	McQUEEN	51187
8.35	927.0	GILBERT	51205
8.45	937.2	GERMANN	51218
8.56	948.9	MAGMA	51240
9.08	960.7	COOLIDGE	51415
9.26	979.7	PICACHO	52200
AM 936.7			
Arrive Mon Thur Sat		(208.4)	Leave Sun Tue Thur
2			1

RULE 5. Phoenix Yard: Time applies for eastward first-class trains at 6th Street, MP 906.7 and westward first-class trains at 16th Street, MP 907.8.

MAXIMUM AUTHORIZED SPEED FOR TRAINS

BETWEEN WELLTON AND PICACHO					
	PSGR	FRT		PSGR	FRT
770.7 thru X-over	25	25	910.2 and 912.8	60	30
770.7 and 770.8	50	40	912.8 and 913.8	40	30
770.8 and 774.0	60	40	913.8 and 915.3	20	20
774.0 and 813.0	50	40	915.3 and 916.5	30	20
813.0 and 845.8	60	40	916.5 and 920.8	60	40
845.8 and 848.0	50	40	920.8 and 922.0	25	25
848.0 and 889.3	60	40	922.0 and 924.2	50	40
889.3 and 903.0	50	40	924.2 and 957.1	70	55
903.0 and 904.8	30	30	957.1 and 979.3	60	40
904.8 and 907.9	20	20	979.3 and 979.8	25	25
907.9 and 910.2	30	30			

PHOENIX SUBDIVISION

EAST- WARD	STATIONS	WEST- WARD
Mile Post	Chandler Branch	Station Number
923.6	McQUEEN 19.6	51187
943.2	3087 DOCK	51199
	(19.6)	

Tempe Branch

915.3	TEMPE JCT. 2.4	51172
917.7	PETERSON 1.5	51175
919.2	HELENA 3.8	51177
923.0	WEST CHANDLER	51179
	(7.7)	

Litchfield Branch

889.3	LITCHFIELD JCT. 5.4	Y 51110
894.0	LITCHFIELD PARK	51115
	(4.7)	

Hayden Branch

948.9	2100 Yd. Lmts. R MAGMA 10.1	51240
959.0	FLORENCE 28.8	51310
987.8	Yd. Lmts. APB RAY JCT. 12.4	51340
1000.2	Yd. Lmts. TO-R HAYDEN	BKPO 51360
	(51.3)	

MAXIMUM AUTHORIZED SPEED FOR TRAINS

BETWEEN	CHANDLER BRANCH	ALL TRAINS
McQUEEN and DOCK		20

TEMPE BRANCH

TEMPE and WEST CHANDLER	20
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LITCHFIELD BRANCH

LITCHFIELD JCT. and LITCHFIELD PARK	20
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HAYDEN BRANCH

MAGMA and HAYDEN	30
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Exceptions:		Exceptions:	
949.4 and 958.8	20	998.9 and 999.3	20
970.6 and 984.6	20	999.3 and 999.6	10
984.6 and 984.8	10	999.6 and 1001.8	20
984.8 and 988.7	20	1001.8 and 1003.3	10
988.7 and 989.7	25		

SPEED ON OTHER THAN MAIN TRACK:

Phoenix station track and turnout east and west end	15
Arlington (MP 859.3) Palo Verde Power Plant Spur	20
All movements within plant with Engine Bell ringing	5
All other tracks, Phoenix Subdivision	10

ADDITIONAL STATIONS

Mile Post	Station	Station Number	Mile Post	Station	Station Number
Phoenix Line			932.0	Higley	51211
793.0	Growler	51024	938.1	Rittenhouse	51223
812.4	Horn	51044	941.6	Queen Creek	51229
900.4	Pipeola	51130	966.4	Randolph	51421
900.8	Cotpro	51132	Chandler Branch		
902.0	Campo	51134	925.4	Tremaine	51190
909.4	Aristuc	51162	929.3	Chandler	51193
911.8	Tovrea	51166	931.0	Pozo	51195
912.4	Auction	51167	934.3	Serape	51197
912.9	Yeso	51169	Hayden Branch		
917.1	Normal Jct.	51182	1003.5	Winkelman	51380

PHOENIX SUBDIVISION

SPECIAL INSTRUCTIONS

RULE P. Impaired Side Clearances:

MP	Description	MP	Description
778.0	Bridge	976.0 to 977.0	Rock cuts
891.0	Bridge	980.0 to 982.0	Rock cuts
914.0	Bridge	983.5	Rock cut
959.3	Bridge	985.3	Bridge
Hayden Branch		985.5	Rock cut
971.3 to 971.8	Rock cuts	988.3	Rock cut
972.4	Tunnel	988.5	Tunnel
972.5	Bridge	990.0	Tunnel
973.0	Rock cut	992.3	Rock cut
973.1	Rock cut		

RULE 7-C. Phoenix Yard: Freight trains arriving or departing must receive proceed signal (green flag by day, green light by night) or oral authorization from yardmaster or his representative.

RULE 10-H. Exception: On the Litchfield, Tempe and Chandler Branches when a yellow flag is required it will be displayed one-half mile from point of restriction.

FOLLOWING WILL GOVERN:

RULE 82-A/221 HAYDEN. Trains authorized at Phoenix Yard or Hayden enroute Gila Subdivision with same conductor and engineer are thereby authorized on both Phoenix and Gila Subdivisions.

Trains and engines operating between Ray Junction and Winkelman must obtain clearance when assuming duty. Additional clearances will not be required during tour of duty.

RULE 83-A. At following stations only trains indicated will register:

Hayden	Trains operating via Florence.
Magma	Trains to and from Hayden Branch and trains instructed by train order.
Phoenix Yard	Trains originating or terminating.

RULE 93. Location of yard limits:

770.7 Wellton (Phoenix Line)	782.0
894.2 Phoenix	916.1
946.8 Magma	951.0
Magma (Hayden Branch)	950.5
986.8 Ray Jct.	988.7
998.9 Hayden	1004.9

RULE 99-C. Will apply on Hayden Branch.

RULE 103. A member of crew must precede all movements over:

Pipeola:	Crossings within SP Pipe Line reservation.
Phoenix:	Zeb Pearce track No. 118 over Lincoln Street.
Tovrea:	Washington Street.
Tempe:	Dorsey Lane on track No. 1606.

104-A. East switch of station track and west switch of freight lead may be left unattended when lined for other than normal movement when authorized by yardmaster.

RULE 204. (Phoenix Yard) Trains of Gila and Phoenix Subdivisions with same conductor and engineer may be issued train orders on one Subdivision that affect their movement on Gila or Phoenix Subdivision.

RULE S-240. Applies at following locations:

Territory	Register Location
Chandler Branch	Phoenix Yard
Tempe Branch	Phoenix Yard
Litchfield Branch	Phoenix Yard

RULE 306. Block Signals with "P" plates:

Eastward	Protection	Westward
P-7916	High water detector, bridge 792.7	P-7927
P-8048	High water detector, bridge 810.59	P-8125
P-8406	High water detector, bridge 841.3	P-8415
P-8414	High water detectors, bridges 842.8 and 842.9	P-8431
P-8550	High water detector, bridge 857.6	P-8589
P-8662	High water detector, bridge 866.9	P-8673
P-9052	Spring switch, west end passenger lead, Phoenix	
P-9218	Barricade detector for Dead End Streets MP 922.8	P-9231
P-9290	High water detector, bridge 933.7	P-9351
P-9396	High water detector, bridge 941.1	P-9415
P-9756	High water detector, bridge 976.9	P-A, MP 977.1

PHOENIX SUBDIVISION

RULE 505. Phoenix: Crossing—ATSF Wye: If signal indicates "Stop" trains and engines must stop, and if wye is clear of intersecting movement, may then proceed as prescribed by Rule 507, but must provide flag protection on intersecting track unless derail is known to be in derailing position.

Coolidge: Trains moving on main track in either direction between Signal 9623 and Signal 9616 will move by block signal indication which will supersede the superiority of trains.

When Signal 9623 displays stop indication and letter "S" is not displayed, westward trains after stopping must obtain permission from train dispatcher before proceeding under the provisions of Rule 507 or entering the siding.

When Signal 9616 displays stop indication eastward trains after stopping must obtain permission from train dispatcher before proceeding under provisions of Rule 507 or entering the siding.

Main track or siding must not be occupied or fouled except as authorized by signal indication or the train dispatcher.

Eastward trains on siding must obtain train dispatcher's permission before fouling main track to proceed to beginning of CTC regardless of the aspect displayed in eastward absolute signal and after permission obtained from train dispatcher, **Rule 81-A must be complied with before fouling main track.**

RULE 538. Spring switches equipped with facing point locks are located as follows:

Stations	Location	Normal Position
Phoenix	Main track at passenger lead	Freight lead
Hayden	700 feet west of KCC gate. Main track derail	
*Hayden	MP 1001.8	Ore track

*Equipped with switch point indicator.

RULE 540. Hayden Jct.: Switch point indicator MP 1001.8, ore track, will display green indication when switch is in full normal or full reverse position and will display red indication if switch is not properly lined. Trains and engines making trailing movement over this switch may leave switch in position to which forced by trailing movement.

RULE 705. Indicator located as follows:

Illum. Letter	On Signal	Approaching	Authorizes and Requires Movement as follows:
S	9623	East switch Coolidge	Enter siding and remain in siding until authorized by timetable or train order authority to proceed.

RULE 740. Hayden-Ray Jct.: Limits extend between absolute signal MP 988.7 and absolute signal MP 998.9.

RULE 760. C.T.C in effect east end of Coolidge to Picacho.

RULE 821. Hayden Branch: Eastward trains must stop short of STOP sign MP 984.7 and Westward trains must stop short of STOP sign MP 984.8 and be preceded by crew member through Wooley Wash.

High water detector at MP 972.1 Hayden Branch, equipped with revolving red light. Trains must approach structure at MP 972.1 prepared to stop until it is ascertained that structure is safe for passage of trains. Train crew must then notify train dispatcher so that Maintenance of Way personnel can be contacted to re-set high water detector and inspect structure at MP 972.1.

RULE 827. Location of High and/or Wide Load, Dragging and/or Derailed Equipment Detectors: MP775.5, 808.9, 880.0, 899.0, 911.0, 929.0, 954.0, Hayden Branch: 956.9, 970.3, 975.2, 979.8, 982.2, 991.0, 997.8.

High and/or wide load detector located at MP 964.2 Hayden Branch is for eastward trains. Revolving red beacon is mounted on instrument case on south side. If detector is activated, beacon will display a revolving red light. Train must stop and inspect for high and/or wide load or excess Plate "C" car or cars before proceeding. Contact Dispatcher's Office for instructions.

PHOENIX SUBDIVISION

HOT BOX DETECTORS

MP	Type	Direction(s)	MP	Type	Direction(s)
856.5	C	Both	798.0	C	Both
953.0	C	Both			

RULE 872. Will not apply at Phoenix.

AIR BRAKE RULES

RULE 21. Phoenix Yard: Trainmen must not couple air hose on outgoing trains until train is made up and caboose and road engine are on train. Coupling caboose and road engine to train will be considered as an indication that the train is made up and switchmen have completed their work. Switchmen must not perform switching on or couple other cars to a train on which the caboose and road engine have been attached without instructions from the yardmaster who will see that members of the train crew are notified in advance. After train is made up switchmen must not place cars or engines behind or ahead of train in same track.

RULE 24-F. Will apply to all movements Tempe and Chandler Branches.

Where one or more cars are added, air brakes on these cars must apply and release before proceeding.

Inspection of cars previously tested under other air brake rules will not be required.

RULE 65. Maximum Horsepower per ton Ratios:

All trains except on Branches 1.5

MISCELLANEOUS

1. Hayden Branch: Cars bearing "Exceed Plate C" symbol or words "Excess Height" must not be operated between Magma and Hayden.

Crew of eastward train, before leaving Magma, will make visual inspection of their train to insure there are no restricted cars in their train.

2. Hayden: Kennecott Copper Corporation Railroad between Hayden and Hayden Smelters is operated by the Tucson Division, is within Hayden yard limits, S.P. Rules apply.

Kennecott Copper Company has three signal lights governing movement to the main track which are as follows:

1. Hayden Junction.
2. The lower track from ASARCO.
3. The upper track from ASARCO.

Signal indications are: Yellow ... Proceed with Caution.

Red Stop.

When signal system displays a red indication, SP crews will try to locate KCC switch engine on or around main track in front of the smelter. If KCC switch crews cannot be seen working in the vicinity of the smelter, then call the Agent at Hayden, who will report the red signal to the KCC guard shack at the main entrance. When light remains red and Agent has been notified, or crew cannot reach Agent at Hayden, SP may go by red signal preceded by flagman to the point where SP leaves the main track in front of KCC smelter.

Main track in front of KCC smelter shall be that portion from the derail to the ASARCO upper track; also from the derail to ASARCO lower track, also known as the entrance to the bullion hole.

Back-up hose must be used when shoving cars Hayden to Hayden Smelters.

Maximum speed permitted between Hayden and Hayden Smelters is 10 MPH.

LORDSBURG SUBDIVISION

EAST- WARD			WEST- WARD
FIRST CLASS			FIRST CLASS
2 Psg	STATIONS		1 Psg
Leave Mon Thur Sat	Mile Post	Station Number	Arrive Sun Tue Thur
North Line			
AM 10.45	983.9	R TUCSON BKPQ	PM 8.25
	986.6	TO-R PFE YARD BKIPQ	
	994.8	E-6699 WILMOT	
	1022.2	W-6485 MESCAL	
	1023.6	4226	
	1028.2	8099 CHAMISO	
AM s 11.55	1032.5	4.3 BENSON YP	
	1032.6	8429 FENNER	s 7.51
	1035.4	5.2 SIBYL	
	1035.8	9197 TULLY	
	1041.0	8239 TULLY	
	1046.7	15306 DRAGON	
	1047.2	10.0	
	1053.9	8415 COCHISE Y	
	1063.9	8379 WILLCOX P	
	1074.7	8480 RASO	
	1082.6	9947 LUZENA	
	1091.0	8209 BOWIE BKYPQ	
	1098.4	8236 OLGA	
	1106.6	8017 SAN SIMON	
	1114.2	7.6	
	1121.8	8026 VANAR	
	1128.7	10777 STEINS	
	1128.9	4.8	
	1133.7	8324 MONDEL	
	1140.8	7.1	
PM s 1.50	1148.3	8360 GARY	
	1153.0	Yd. Lmts. TO LORDSBURG BKYPQ	
	1159.0	8378 ULMORIS	
	1167.0	8457 LISBON	
	1177.0	8362 SEPAR	
	1188.0	8385 WILNA	
	1198.0	8371 GAGE	
	1208.0	8361 TUNIS	
s 2.40	1208.0	8309 DEMING KPQ	
	1219.5	8352 CARNE	
	1229.0	8359 AKELA	
	1238.0	8376 DONA	
	1248.0	8347 ADEN	
	1259.0	8352 AFTON	
	1269.0	8380 LANARK	
	1279.0	8388 STRAUSS	
	1285.5	9692 LIZARD	
	1289.9	4.4 ANAPRA	
	1317.7	TO-R EL PASO (Tower 196) KIPQ	
s 4.55	1323.3	R EL PASO (Union Depot) BKIP	
PM	1295.9	EL PASO (Cotton Ave.) BKIPQ	
	1297.6		
Arrive Mon Thur Sat	(312.7 Eastward)	(308.5 Westward)	Leave Sun Tue Thur
2			1

LORDSBURG SUBDIVISION

MAXIMUM AUTHORIZED SPEED FOR TRAINS

BETWEEN TUCSON and EL PASO (Tower 196)

EASTWARD	PSGR	FRT	WESTWARD	PSGR	FRT
982.7 and 985.2④	35	35	829.9 and 832.2①	40	40
985.2 and 985.3④	25	25	1293.0 and 1289.9①	40	40
985.3 and 988.4④	35	35	1289.9 and 1284.5	30	25
988.4 and 990.3④	55	55	1284.5 and 1281.2	40	40
990.3 and 1003.9④	70	65	1281.2 and 1279.7	50	50
1003.9 and 1010.4④	25	25	1279.7 and 1249.0	70	70
1010.4 and 1012.5④	40	30	1249.0 and 1244.0	70	70
1012.5 and 1014.0④	30	30	1244.0 and 1218.5	70	70
1014.0 and 1016.8④	40	30	1218.5 and 1202.2	60	60
1016.8 and 1018.1④	30	30	1202.2 and 1171.3	70	70
1018.1 and 1023.1④	40	40	1171.3 and 1170.3	70	70
1023.1 and 1036.8	55	40	1170.3 and 1152.9	70	70
1036.8 and 1052.4	40	40	1152.9 and 1152.3	70	70
1052.4 and 1058.0	60	60	1152.3 and 1149.8	70	70
1058.0 and 1065.7	70	65	1149.8 and 1147.6	30	25
1065.7 and 1069.0	60	50	1147.6 and 1144.5	70	70
1069.0 and 1074.0	70	65	1144.5 and 1140.3	70	70
1074.0 and 1078.0	60	60	1140.3 and 1137.5	70	70
1078.0 and 1092.3	70	65	1137.5 and 1131.0	70	70
1092.3 and 1105.0	70	65	1131.0 and 1128.7	70	70
1105.0 and 1115.0	70	60	1128.7 and 1124.4	30	30
1115.0 and 1121.4	70	65	1124.4 and 1121.4	50	50
1121.4 and 1124.4	50	50	1121.4 and 1115.0	70	70
1124.4 and 1128.7	30	30	1115.0 and 1105.0	70	60
1128.7 and 1131.0	70	65	1105.0 and 1092.3	70	70
1131.0 and 1137.5	70	65	1092.3 and 1078.0	70	70
1137.5 and 1140.3	70	65	1078.0 and 1074.0	60	60
1140.3 and 1144.5	70	65	1074.0 and 1069.0	70	70
1144.5 and 1147.6	70	65	1069.0 and 1065.7	60	50
1147.6 and 1149.8	30	25	1065.7 and 1058.0	70	70
1149.8 and 1152.3	70	65	1058.0 and 1052.4	60	60
1152.3 and 1152.9	70	65	1052.4 and 1036.8	40	40
1152.9 and 1170.3	70	65	1036.8 and 1023.1	55	40
1170.3 and 1171.3	70	65			
1171.3 and 1202.2	70	65	MESCAL		
1202.2 and 1218.5	60	60	1021.7 and 1021.3③	40	40
1218.5 and 1244.0	70	65	1021.3 and 1008.4③	65	65
1244.0 and 1249.0	70	65	1008.4 and 1005.5③	60	60
1249.0 and 1279.7	70	65	1005.5 and 990.3③	70	70
1279.7 and 1281.2	50	50	990.3 and 988.4③	50	50
1281.2 and 1284.5	40	40	988.4 and 987.8③	35	35
1284.5 and 1289.9	30	25	987.8 and 985.4	35	35
			985.4 and 985.2⑤	25	25
			985.2 and 982.7⑤	35	35
ANAPRA			AGAINST CURRENT OF TRAFFIC		
1317.9 and 1320.2②	40	40	MESCAL-TUCSON		
1320.2 and 1320.9②	30	30	1023.1 and 1003.9②	25	25
ICE HOUSE CROSSOVER			1003.9 and 993.0②	49	49
831.6 and 829.9②	30	30	993.0 and 987.8②	20	20
1320.9 and 1322.9③	20	20			
AGAINST CURRENT OF TRAFFIC			TOWER 196-ANAPRA		
TUCSON-MESCAL			829.8 and 831.6②	20	20
987.8 and 992.1①	20	20	ICE HOUSE CROSSOVER		
992.1 and 1021.3①	50	49	1322.9 and 1320.9③	20	20
1021.3 and 1021.7①	35	35	1320.9 and 1319.9②	20	20
ANAPRA-TOWER 196			1319.9 and 1317.7②	25	25
1289.9 and 1291.5①	25	25			
1291.5 and 1293.0①	20	20			
RIO GRANDE RIVER BRIDGE					
832.2 and 829.9①	20	20			

① No. 1 Track ② No. 2 Track ③ No. 3 Track ④ East Main Track ⑤ West Main Track

ADDITIONAL STATIONS

Mile Post	STATION	Station Number	Mile Post	STATION	Station Number
North Line					
1003.3	Vail No. 2 Track	53013	1096.9	Forrest	53175
1012.9	Marsh No. 1 Track	53029	1104.3	Calumet (Yd. Lmts.)	53183
1208.7	Sage	54213	Globe Branch		
1320.9	Icehouse Crossover		1145.6	Pima	53329
Douglas Branch			1176.8	Calva	53349
1039.8	Curtiss	53110	1201.0	San Carlos	53361
1048.2	Fairbank	53118	1213.5	Cutter	53368
1042.4	Land	53112	1219.3	Pinel	53373
1081.2	Naco	53150	1227.3	Burch	53387
1096.7	Paul Spur	53177			

LORDSBURG SUBDIVISION

EAST- WARD Mile Post	STATIONS		WEST- WARD Station Number
	Douglas Branch		
1032.6	Yd. Limits R	BENSON 26.2	Y 53050
1058.8		LEWIS SPRINGS 26.2	53129
1085.0		BISBEE JCT. 22.0	Y 53155
1107.0	Yd. Lmts. TO-R	DOUGLAS (74.4)	BKYPQ 53190

Bisbee Branch			
1085.0	Yard Limits	BISBEE JCT. 3.3	YP 53155
1088.3		1721 CORTA 1.3	53157
1089.6		WARREN 0.9	53162
1090.5		LOWELL 0.2	53163
1090.7		BISBEE (5.7)	53165

Don Luis Branch			
1088.3	Yard Limits	1721 CORTA 1.5	53157
1089.8		DON LUIS 1.0	53159
1090.8		GALENA (2.5)	53160

Globe Branch			
1098.4	Yd. Lmts. TO-R	BOWIE 39.4	BKYPQ 53280
1098.1		SAFFORD 84.0	53322
1137.5	Yd. Limits	GLOBE 10.4	53376
1221.5		TO-R MIAMI (133.8)	BKP 53395

MAXIMUM AUTHORIZED SPEED FOR TRAINS		
BETWEEN	DOUGLAS BRANCH	ALL TRAINS
BENSON and DOUGLAS		40

Exceptions:		Exceptions:	
1032.6 and 1034.0	20	1060.0 and 1071.5	25
1034.0 and 1050.6 (1046.4)	25	1076.0 and 1102.9	25
1053.5 and 1053.8	25	1102.9 and 1106.5	20
		1106.5 and 1108.0	10

BISBEE BRANCH	
BISBEE JCT. and BISBEE	10

DON LUIS BRANCH	
CORTA and GALENA	10

GLOBE BRANCH	
BOWIE and MIAMI	35

Exceptions:		Exceptions:	
1098.1 and 1099.5	20	1220.5 and 1222.6	10
1099.5 and 1210.0	25	1222.6 and 1226.3	20
1210.0 and 1217.5	30	1226.3 and 1227.0	10
1217.5 and 1220.5	25	1227.0 and 1231.9	20

GLOBE BRANCH: Between MP 1099.5 Bowie and MP 1200.4 San Carlos, trains handling empty ore cars SP 341000 to SP 341335 and ATSF 64000 to 64099 must not exceed 20 MPH.

Locomotives of the following classifications must not exceed the speeds shown between mile post locations as listed below.

Class of locomotives	
All 6 Axle locomotives	MP 1098.1 to 1200.4 20 MPH
GF425	MP 1227.4 to 1231.9 10 MPH

LORDSBURG SUBDIVISION

EAST- WARD Mile Post	STATIONS		WEST- WARD Station Number
	Clifton Branch		
1148.3	Yd. Lmts. TO-R	LORDSBURG 18.9	BKYPQ 53470
1146.4		SUMMIT 19.0	54010
1165.3		DUNCAN 2.6	54031
1184.3	380	FOX 18.3	54036
1186.9		GUTHRIE 4.6	54050
1205.2	1120	SOUTH SIDING 6.5	54062
1209.8	ABS	CLIFTON (69.9)	P 54070
1216.3			

MAXIMUM AUTHORIZED SPEED FOR TRAINS

BETWEEN	CLIFTON BRANCH	ALL TRAINS
LORDSBURG and CLIFTON		40

Exceptions:		Exceptions:	
1146.5 and 1147.2	10	1183.2 and 1197.4	20
1147.2 and 1171.5	30	1197.4 and 1216.7	10
1175.0 and 1175.3	20		

SPEED ON OTHER THAN MAIN TRACK:

Remotely controlled turnouts, crossovers and sidings	25
Exception: Mescal, Luzena, Bowie, Gary, Ulmoris, Tunis, Dona	10
Lordsburg: Through No. 1 track	25
Willcox: On all tracks and turnouts except controlled siding	5
Benson: On south house track	5
Curtiss: On all tracks beyond clearance point of main track switch (MP 1039.5) Apache Powder Co.	5
Over track scales	4
Cochise: (MP 1061.66), Arizona Electric Power Coop, Inc.: on tangent track	20
on curved track	10
within plant with bell ringing.	5
Deming: Through crossover between main track and west ATSF yard	10
Douglas Branch: All P.D. Plant track at Calumet; Douglas Yard and slag pit	5
Globe Branch: Trains with 6-axle locomotives in consist thru all turnouts and on tracks other than main track	5
Clifton Yard Tracks	5
Tucson-PFE Yard: on following tracks on and around fueling facilities at west end PFE Yard near Roundhouse: Roundhouse link track, North Fueling Track, Middle Fueling Track, Storage Track-22nd St.	5
All Other Tracks, Lordsburg Subdivision	10

SPECIAL INSTRUCTIONS

RULE P. Impaired side clearance:

MP	Description	MP	Description
1030.7	Wide Ld. Det	Douglas Branch	
1032.5	Bridge	Curtiss-Fairbank: Impaired clearance between MP 1044.7 and MP 1044.8 on south side of curve.	
1036.7	Wide Ld. Det	Clifton Branch	
1215.9	Bridge	1089.9	Tunnel

RULE 7-C. PFE Yard: Freight trains arriving or departing PFE Yard must receive proceed signal (green flag by day, green light by night) or oral authorization from yardmaster or his representative.

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RULE 30. Douglas Branch-Paul Spur: Engine bell must be rung at all times during switching movements within Paul Lime Plant.

RULE 30 and 31. Douglas Branch-Curtiss: Whistle signal must be sounded and bell kept ringing approaching and over all crossings Apache Powder Co. tracks.

RULE 82-A. El Paso: When interlocking signal Tower 47 displays proceed indication for movement to eastward main track, such indication will authorize engines to move from Tower 47 to Alfalfa unit, El Paso Yard.

RULE 83. PFE Yard: There is no superiority of trains between MP 987.7 at 36th St. and MP 985.5 at Cherry Ave.

Lordsburg: There is no superiority of trains between end of CTC, at west switch yard track No. 1 and end of CTC, at east switch yard track No. 1.

RULE 83-A. At following stations only trains indicated will register:

Tucson	Trains originating or terminating.
PFE Yard	
Benson	Trains to and from Douglas Branch.

RULE 83-B. At open train order offices, trains may register by ticket as follows:

El Paso (Tower 196): Trains originating or terminating Alfalfa or Cotton Avenue units.

El Paso (Union Depot): Trains originating or terminating will register by ticket, placing ticket in pneumatic tube receptacle located on station platform.

Tucson (Psgr Station): Trains originating and terminating will leave register ticket on prescribed form with messenger.

RULE 93. Location of yard limits:

979.4	Tucson (No. 2 Track)	993.0
	Tucson (No. 1 Track)	992.1
	Benson (Douglas Br.)	1034.0
	Bisbee Jct. (Don Luis Branch)	End of track
	Bisbee Jct. (Bisbee Branch)	End of track
1102.9	Douglas	1109.1
	Bowie (Globe Br.)	1099.5
1218.7	Globe-Miami	1231.9
1147.6	Lordsburg	1149.8
	Lordsburg (Clifton Br.)	1148.5
1319.9	El Paso (No. 2 Track)	
1291.5	El Paso (No. 1 Track)	
	El Paso (Carrizozo Subdivision)	1300.5
	El Paso (San Antonio Div.)	820.0

RULE 97. Lordsburg: Extra trains leaving CTC are authorized to operate between MP 1147.7 and MP 1149.8 without train order authority.

PFE Yard: Extra trains leaving CTC or Interlocking are authorized to operate between MP 987.7 and MP 985.5 without train order authority.

RULE D-97 and D-251. Will apply as follows:

On No. 1 track and on No. 2 track between PFE Yard and Mescal.

On No. 1 and No. 2 Tracks between Anapra and Icehouse Crossover; on No. 1, No. 2 and No. 3 Tracks between Icehouse Crossover and El Paso (Union Depot); on No. 1 and No. 2 Tracks between El Paso (Union Depot) and El Paso (Cotton Avenue); between Tower 47 and Alfalfa unit, El Paso Yard.

RULE 99-C. Will apply on Douglas, Globe and Clifton Branches.

RULE 103. Lordsburg: Through freight trains arriving Lordsburg will stop for crew change 100 feet short of crossing east of depot. Trains doing switching will avoid blocking this crossing except when absolutely necessary.

Bisbee Branch: Bisbee: All trains must stop and be preceded over crossing by flagman, at the following locations:

Ruppe Ave., MP 1089.4
Center St., MP 1089.6
Cochise Row, MP 1090.1.

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Clifton Branch: Clifton: Crossing at MP 1216.2 is equipped with unit for display of flashing white lights. Display of flashing white lights indicates gates are down.

Globe Branch: Miami: Crew member must proceed all movements over U.S. Highway 60-70 at MP 1231.3.

RULE 104. Derails in main track:

Galena West end Interchange Track

Globe MP 1221.4

Miami MP 1230.6 MP 1231.7

Mescal: Before siding is used, train dispatcher's permission must be obtained, derails lined by hand, then train dispatcher can clear westward signal to enter siding.

RULE D-151.

No. 1 Track (North track at Mescal; South track between Wilmot and PFE Yard) current of traffic westward.

No. 2 Track (South track at Mescal; North track between Wilmot and PFE Yard) current of traffic eastward.

Between Icehouse Crossover, MP 1320.9, and El Paso (Union Depot), three main tracks are designated as follows:

North Track ...	No. 1 Track, current of traffic westward;
Middle Track ..	No. 2 Track, current of traffic eastward;
South Track ...	No. 3 Track

Between El Paso (Union Depot) and El Paso (Cotton Avenue), the two main tracks are designated as follows:

No. 1 Track, North Track.

No. 2 Track, South Track.

RULE 221. PFE Yard, Bowie, and Deming are train-order offices only for trains originating except:

Tucson: Trains originating Tucson will receive train orders and clearances from PFE Yard. Train orders and clearances will be carried from PFE Yard to Tucson by messenger and delivered to Conductor.

RULE 306. Block signals with "P" plates:

Eastward	Protection	Westward
P-I Westward	{ Spring switch, west end of crossover, westward main track to eastward main track, Cherry Avenue	{ P-SA East end double track, Cherry Ave.
Main Track		
Tucson	{ Spring switch, west end of crossover from eastward main track to Nogales lead, Cherry Avenue	{ P-SA West lead
P-I Eastward		
Main Track	{ Spring switch, west end of west lead, Cherry Avenue.	{ P-SA East lead Avenue.
Tucson		
P-I Nogales	{ Spring switch, east end of double track, Cherry Ave.	{ P-SA East lead main track to east lead
Lead Tucson		
P-SA	Spring switch, end double track, PFE Yard, MP 987.7	P-SA East lead
P-10140	Collision detector, underpass, MP 1014.0	
P-A	Spring switch, west end northsiding Mescal	
P-A	East end Fenner High water detector, Bridge MP 1037.4	P-10379
P-A	Collision detector, Luzena underpass, MP 1091.0	P-A
P-10572	High water detector, Bridge 1057.9	P-10601
P-10600	High water detector, Culvert 1060.5	P-10625
P-10862	High water detector, Bridge 1086.9	P-10883
P-A, West end	{ High water detector, Bridge 1106.3, main track and siding	{ P-A East end Olga
Olga		
P-A East end	{ High water detector, Bridge 1115.3	{ P-11157
San Simon		
P-11202	High water detector, Bridges 1121.4 and 1121.5	P-A west end Vanar
P-A, East end	{ High water detector, Bridge 1123.3	{ P-11243
Vanar		
P-11650	High water detector, Bridge 1166.2	P-A West end Separ

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Eastward	Protection	Westward
P-11694.....	{ High water detector, Bridge 1170.6 } { High water detector, Bridge 1170.8 }	...P-11721
P-A East end } Tunis }	High water detector, Bridge 1199.0	...P-12005
P-12112.....	{ High water detector, Bridge 1211.9 } { High water detector, Bridge 1212.9 }	...P-12131
P12132.....	{ High water detector, Bridge 1213.2 } { High water detector, Bridge 1213.3 }	...P-12151
P-12152.....	{ High water detector, Bridge 1215.9 } { High water detector, Bridge 1216.1 }	...P-12173
P-12172.....	High water detector, Bridge 1218.1	...{ P-A West end Carne }
P-A West end } Carne }	High water detector, Bridge 1219.0	...{ P-A East end Carne }
P-12314.....	High water detector, Bridge 1233.6	...P-12337
P-12430.....	High water detector, Culvert 1244.7	...P-12455
P-13188.....	{ No. 2 Track Slide Detector Fence MP 1319.4 to 1319.6 }	
P-13198.....	Fire protection Rio Grande bridge	

RULE 538. Spring switches equipped with facing point locks are located as follows:

Station	Location	Normal Pos.
PFE Yard	End of double track Cherry Ave. MP 985.5	West Main Track
PFE Yard	End of double track 36th St. MP 987.8	No. 2 Track

RULE 606. PFE Yard: Limits extend on westward main track from eastward interlocking signal MP 985.2 to westward interlocking signal end of double track MP 985.5. On eastward main track from eastward interlocking signal MP 985.2 to westward interlocking signal end of double track MP 985.5, and from eastward interlocking signal MP 985.2 on Nogales lead to westward interlocking signal MP 985.4 and to westward interlocking signal on west lead MP 985.4.

Signals are under the control of Operator PFE Yard.

RULE 705. Indicators located as follows:

Illum.	On	Authorizes and Requires
Letter	Signal	Approaching Movement as Follows
S	12060	Deming at west switch, MP 1207.2.

RULE 760. PFE Yard: CTC in effect on main track from MP 987.7 to East end PFE Yard, MP 987.9.

Eastward movement from east lead or from P.F.E. lead at the east end of yard 36th Street, Tucson, against current of traffic "A" signals governing route will clear green only if first selected by the dispatcher and a special switch key activator is operated by a member of train crew.

In addition, before movement against current of traffic, movement must be protected in accordance with provisions of Rule D-160 and Rule D-162.

Mescal-Anapra: CTC in effect on main track and sidings from end of double track Mescal, MP 1023.0, to west switch of No. 1 yard track, Lordsburg, MP 1147.7, and from fouling point at east end No. 1 yard track, Lordsburg, MP 1149.8 to clear point on north main track at Anapra, MP 1290.0.

RULE 812. Deming. Movements over AT&SF tracks will be governed by the Rules and Regulations of the Transportation Department, Southern Pacific Transportation Company, and SP Tucson Division current timetable.

Main track is outside of block system limits, but is within yard limits extending between AT&SF MP 1132.4 and MP 1133.9. No first class trains are authorized.

Movements on main track will be made at restricted speed not exceeding 10 MPH under the authority of Rule 93.

Movements through turnouts, crossovers and yard tracks will be made with caution not exceeding 5 MPH.

RULE 825. Instructions for applying hand brakes:

Tucson: Passenger trains — To prevent uncontrolled movement, rail skid must be placed under west end of train and a sufficient number of hand brakes must be applied, but not less than two hand brakes on west end and two hand brakes on east end, unless outbound crew takes charge and engine remains attached.

LORDSBURG SUBDIVISION

Tucson and PFE Yard:

Freight trains, 1 to 10 cars All hand brakes.
Freight trains, 11 to 20 cars Ten hand brakes west end.
Freight trains, 21 to 49 cars Ten hand brakes west end,
Five hand brakes east end.
Freight trains, 50 cars or more 15 hand brakes west end,
10 hand brakes east end.

Hand brakes will not be applied if outgoing crew takes charge of train on arrival, and inbound crew is advised by yardmaster that engine is not to be detached and no switching to be performed on the train. Hand brakes will not be applied if switch crew takes charge of train on arrival.

Hand brakes on outbound trains must not be released until engine is coupled to train, air test completed, and blue sign removed.

Douglas Branch:

Curtiss: Hand brake must be applied on all cars set out at Apache Powder.

RULE 827. Locations of High and/or Wide Load, Dragging and/or Derailed Equipment Detectors. MP 991.5 (No. 1 & 2 Track), 998.8 (No. 1 Track), 1013.0 (No. 1 Track), 1017.5 (No. 2 Track), 1025.9, 1029.8, 1030.7, 1036.7, 1038.1, 1044.0, 1050.3, 1059.3, 1069.3, 1077.9, 1086.1, 1094.0, 1101.3, 1110.0, 1118.0, 1125.8, 1130.5, 1136.9, 1144.9, 1156.2, 1163.1, 1174.3, 1183.4, 1192.2, 1202.3, 1213.1, 1224.2, 1233.5, 1243.0, 1255.1, 1264.0, 1273.0, 1282.2, 1288.7, 1289.2; Douglas Branch: 1049.0, 1082.3; Clifton Branch: 1189.7, 1205.2; Globe Branch: 1133.5, 1166.0, 1219.0.

HOT BOX DETECTORS

MP	Type	Direction(s)	MP	Type	Direction(s)
991.5	D*	West	1152.0	C	Both
1016.4	C	West	1181.2	C	Both
1038.1	C	Both	1224.2	C	Both
1069.3	C	Both	1252.0	C	Both
1102.6	C	Both	1289.3	C**	Both
1126.2	C	Both			

*Readout at PFE Yard.

**Equipped with loose wheel detector and remote readout, located at El Paso Terminal.

Lordsburg: Rolling inspection on both sides of all freight trains will be made by the outbound crew.

RULE 828. Douglas Branch: Placarded cars containing hazardous commodities must not be moved over Douglas Branch between MP 1040 and MP 1090 unless supervised by District Manager.

RULE 872. Will not apply at El Paso, Lordsburg, Tucson, and PFE Yard.

AIR BRAKE RULES

RULE 14. Part A is revised to read:

A. Rule for entraining one helper engine:

- (1) A helper engine consisting of not more than two six-axle locomotives totaling 179,400 pounds tractive effort nor more than two four-axle operating locomotives totaling 135,600 pounds tractive effort or a combination of one four-axle and one six-axle operating locomotive totaling 157,600 pounds tractive effort may be placed behind caboose, to assist a stalled train on an ascending grade.

The helper engine must not exceed:

- a.) 700 amps of power on No. 2 Track between Vail and Mescal;
- b.) 700 amps of power from at least 500 feet before entering, and 150 feet after passing, through any turnout or crossover;
- c.) 800 amps of power between M.P. 1046 (Tully) and M.P. 1052 (Dragoon).

- (2) Except as provided in Item (1) helper engine must be entrained as near as practicable to shove 1/3 and pull 2/3 of tonnage handled by helper engine.

LORDSBURG SUBDIVISION

- (3) Not more than two locomotives (operating or isolated in helper consist) may be placed behind caboose at any time, except may assist in setting out bad order cars or recoupling train.

RULE 17. Retaining valves must be used on freight trains on descending grades as follows:

Pinal to Burch, Pinal to Cutter, between Clifton and Guthrie, Galena to Corta, Don Luis Branch, Bisbee to Bisbee Jct.

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 axle without retaining valves

Standard Range	Extended Range
375	450

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

RULE 24-F. Will apply as follows: Bisbee Branch, Don Luis Branch, on all tracks at Curtiss Powder Plant, Paul's Spur at Forrest and on unloading trestle at P.D. Smelter at Calumet.

PFE Yard: When making movements in either direction between PFE Yard and areas outside PFE Yard but within yard limits.

RULE 26. Will apply at:

South Siding East and West
Bisbee West

RULE 33. Pinal to Burch, Pinal to Cutter, between South Siding and Guthrie, South Siding and Clifton, Don Luis Branch and Bisbee to Bisbee Jct.

Maximum tonnage per operative brake 80 tons
Except with dynamic brake in operation, not more than 15 cars for each four axle of dynamic brake; speed not exceeding 15 MPH and all retaining valves on loaded cars in high pressure position 140½ tons

Insufficient dynamic brake capacity or failure of dynamic brake which results in exceeding these tonnages per axle, is to be considered as operating without dynamic brake.

Should dynamic brake failure occur on one or more locomotives resulting in insufficient dynamic brake capacity, trains must stop and all retaining valves turned up. Train may then proceed not exceeding 15 MPH if, in the judgment of the conductor and engineer, it is safe to do so.

Restrictive grades:

Westward	MP	to	MP	MPH
Fairbank-Benson	1046.4	—	1032.7	25
Globe-Cutter	1217.5	—	1213.5	20

RULE 38. Applies at El Paso.

RULE 39. Tucson: Eastward trains will make running air brake test on main track between MP 984.34 and MP 984.7.

RULE 65. Maximum Horsepower per ton Ratios:

APLAA, BSMFF, CHLAT, FLOAT, LACHT, LADAT,	
LAEPA, LAEST, LAMFT, LASAA, MBSMF, ASLAA,	
MLLAA, LAKCP, YASAA, BKESP	4.0
AVBAT, AVLAT, BAESY, ESBAT, HOLAT, LAAVT,	
LAHOT, MPLAT, SRLAT	2.5
All other trains except on Branches	2.0

MISCELLANEOUS

Paul Spur: Paul Lime Plant. Gate is located on east end of first building approximately 500 feet west of the derail.

Prior to any switching movement into Paul Lime Plant, gate must be secured with latch in open position and red light located on wall of building must be illuminated. If red light does not illuminate after securing gate in open position, switching movement must not be made into plant beyond the gate until member of crew has contacted supervisor in charge of Paul Lime Plant, who must assure SP crew members that it is safe to make the switching movement.

After switching movement is complete, gate must be closed.

EL PASO TERMINAL

SPECIAL INSTRUCTIONS

RULE 7-C. Freight trains must not enter receiving tracks unless proceed signal (green flag by day, green light by night), or on oral instructions from yardmaster or his representative.

RULE 26. El Paso: When authorized by roundhouse foreman, a hostler, hostler helper, or switchman working position of diesel shop-herder is permitted to remove and replace blue signal and unlock and lock Mechanical Department lock at any entrance switch into the locomotive maintenance facility tracks.

RULE 93. Location of yard limits:

1319.9	El Paso	
1291.5	El Paso (No. 1 Track)	
	El Paso (Carrizozo Subdivision)	1300.5
	El Paso (San Antonio Div.)	820.0
1301.5	Fort Bliss-Tobin	1308.0

RULE 98. Railroad crossings at grade not interlocked.

Joint SP Santa Fe Levee Track crossing Santa Fe connection to International Bridge located 387 feet North of the center of the Santa Fe International Bridge. Stop signs are located on both sides of the Santa Fe connection to the International Bridge. Movements over this crossing may be made after stopping and flagman has preceded the movement.

RULE 103. Automatic crossing warning device on No. 3 track at Globe Mills is not connected with industry track.

Crew member must precede all movements over:

Globe Mill — Road crossing over industry track.
Fort Bliss Drill — Airport Road.

RULE 306. Block Signals with "P" plates:

Eastward	Protection	Westward
P-8232	Barricade Detector for Dead End Streets	P-8231 P-8233

RULE 505. Westward trains or engines stopped by Signal 8231 must actuate push button, wait 45 seconds and if signal does not display a proceed indication, may proceed under the provisions of Rule 507.

Westward trains or engines leaving Alfalfa unit from drill track and stopped by signal 8233, provided no westward movement is approaching on Westward Track, may actuate push button and, if after waiting 2 minutes and 50 seconds, signal does not display a proceed indication, may proceed under the provisions of Rule 507 after first complying with Rule 81-A.

When signal 8226 displays stop indication an eastward train or engine to enter Alfalfa unit at this location, after stopping, may proceed at restricted speed if proceed signal received from yardman, (green flag by day, green light by night) or oral authorization from yardmaster or his representative which will indicate protection on Westward Track has been provided in the directions necessary to safeguard movement.

RULE 538. Spring switches equipped with switch-point indicator are located as follows:

Station	Location	Normal Position
Tower 47 } El Paso }	No. 6 Lead to Tucumcari Connection	Tucumcari Conn.
Tower 47 } El Paso }	West End Crossover 3 and 6 Diesel Shop Track	Track 3

RULE 606. El Paso (Union Depot) Tower 196: Limits on track Nos. 1 and 2 extend from eastward interlocking signals located opposite signal 8299 at MP 1295.4 to westward interlocking signals at MP 1297.4. Limits on track No. 3 extends between interlocking signal at MP 1296.1 east end Union Depot yard and interlocking signal at MP 1296.6 Campbell Street overpass.

Interlocking signal governing westward movement against current of traffic from depot Tracks 11 and 12, interlocking signal,

EL PASO TERMINAL

governing westward movement against current of traffic on eastward track, also interlocking signal, governing westward movement against current of traffic over No. 11 crossover reverse. These signals will display green aspect only if first selected by the tower 196 operator and a special switch key activator is operated by a member of train crew. Switch key activator is located on short mast beside these signals. **In addition, before movement against current of traffic, protection must be provided in accordance with Rule D-160.**

Tower 47: Limits on track Nos. 1 and 2 extend from eastward interlocking signals at MP 1297.4 east end of trainway to westward interlocking signals at MP 1298.2 just west of San Marcial Street and on the Carrizozo subdivision to absolute signal at MP 1297.8.

The following interlocking signals will display green aspect for movement against current traffic on No. 1 track only when route is selected by Tower 47 operator and special switch key activator is operated by a member of train crew:

- from No. 2 track over crossover No. 3 to No. 1.
- from Dead Main over crossover No. 3 to No. 1.
- from Track 31 over crossover No. 3 to No. 1.
- from (D) Yard over crossover No. 3 to No. 1.
- from diesel house track over crossover No. 3 to No. 1.
- for movement on No. 1.

In addition, before movement against current of traffic, protection must be provided in accordance with Rule D-160.

Tidwell Alley and Azar Nut: Limits extend from eastward interlocking signal at MP 1298.0 on MoPac Main to westward interlocking signals at MP 1298.2 on MoPac Main and River track. On Tidwell Alley track from eastward interlocking signals MP 1298.1 to westward interlocking signals MP 1298.1. On Azar Nut track from eastward interlocking signals MP 1298.0 to westward interlocking signals MP 1298.1.

MoPac Yard: Limits extend from eastward interlocking signals MP 1298.4 to westward interlocking signals MP 1298.

MoPac Main Lead & Hussman Spur: Limits extend from westward interlocking signal MP 1297.9 on MoPac Main to eastward interlocking signal MP 1298.0. On Hussman Spur from westward interlocking signal MP 1297.9 to eastward interlocking signal MP 1298.0.

Dwarf signal governing movements from Tracks 203 or 206 does not indicate position of inside switch 206, observance of points must be made to assure proper line-up for movement.

RULE 760. CTC in effect on main track between MP 1297.8 (east limit Tower 47), El Paso, and MP 1302.2 (west end siding), Planeport.

RULE 812. The El Paso Terminal is under the jurisdiction of the Superintendent of the Tucson Division.

RULE 825. Unless relieved of responsibility by yardmaster, crews of freight trains or transfer cuts arriving in a unit of El Paso Terminal with 15 or more cars will apply five hand brakes on west end and five hand brakes on east end.

Hand brakes on outbound trains must not be released until engine and caboose are coupled to train, and if it is known that air is through train.

Sufficient hand brakes must be applied on all trains arriving Union Depot and not less than two hand brakes at any time on the east end of the train. Any employee releasing any of these brakes must first apply as many others to replace them.

EL PASO TERMINAL

AIR BRAKE RULES

RULE 21. Refer to All Subdivisions.

RULE 24-F. Will apply as follows:

El Paso: Direct movements between:

Planeport and Cotton Avenue Yard,
Slag pit and Cotton Avenue Yard,
Chamizal Yard and Cotton Avenue Yard,
Cotton Avenue Yard and Alfalfa Yard,
Rod Mill Refinery and Alfalfa Yard,
Phelps Dodge Refinery and Alfalfa Yard,
Standard Oil Refinery and Alfalfa Yard,
Chevron Asphalt and Alfalfa Yard,

All tracks in Zone No. 10 and Alfalfa Yard, when there are no set-outs or pick-ups enroute.

RULE 38. Will apply at El Paso.

RULE 39. Passenger trains departing El Paso Union Station westward will make running air brake test on track between MP 829.9 and MP 830.5. Passenger trains departing El Paso Union Station eastward will make running air brake test on main track between MP 828.5 and MP 828.0.

MISCELLANEOUS

1.	SPEED RESTRICTIONS ON MAIN TRACK	Not Exceeding MPH
	West Limits Tower 196,	
	MP 829.9 and MP 829.2	20
	MP 829.2 and MP 828.5	10
	MP 828.5 and MP 827.7	20
	MP 827.7 Slip Switch (East Main Track)	10
	MP 827.7 and MP 826.9	20
	MP 826.9 and 820.0 Psgr.	30
	MP 826.9 and 820.0 Frgt.	25
	Dallas Street MP 827.7 and east limits Tower 47 (Carrizozo Subdivision), MP 1297.8	10
	Against current of Traffic Tower 47 — Alfalfa Yard	
	MP 827.7 and MP 820.0	20
	Against current of Traffic Alfalfa Yard — Tower 47	
	MP 820.0 and MP 827.7	20
2.	SPEED ON OTHER THAN MAIN TRACK	
	Industry tracks, repair, store and material tracks, shop yard, Diesel service facility tracks, and over Track Scales in Cotton Ave. and Chamizal Yard	5
	On and off Turn Table diesel facility	3
	All Missouri Pacific Tracks	10
	All other tracks, El Paso Terminal	10

3. OPERATIONS OVER MISSOURI PACIFIC TRACKS

Movements over Missouri Pacific Tracks between Tower 47 and/or in Missouri Pacific Yard will be governed by the Rules and Regulations of the Transportation Department of The Southern Pacific Transportation Company.

CARRIZOZO SUBDIVISION

EAST- WARD	STATIONS		WEST- WARD
Mile Post	East Line		Station Number
1295.9	R	EL PASO (Union Depot) BKIP	54297
1297.6	TO-R	EL PASO (Cotton Ave.) BKIPYQ	55005
1297.6		TOWER 47 IQ	55042
1301.5		FORT BLISS P	55070
1302.3	8726 Yd. Lmts. TO	PLANEPORT P	55080
1316.1	9000	NEWMAN P	55117
1332.1	5013	DESERT P	55133
1345.0	9100	OROGRADE P	55147
1366.0	4604	DUNES P	55169
1378.2	5359	OMLEE P	55185
1382.8	9426 Yd. Lmts. TO	ALAMOGORDO PQ	55200
1412.9	9000	THREE RIVERS P	55235
1432.8	5318	POLLY P	55260
1439.9	10400 Yd. Lmts. TO-R	CARRIZOZO P	55300
1446.9	5073	ROBSAPT P	55309
1463.5	9000	ANCHO P	55327
1482.5	9000	GALLINAS P	55347
1490.9	4911	CORONA P	55351
1511.0	9000	DURAN P	55380
1525.4	9000 Yd. Lmts. TO	VAUGHN PQ	55400
1533.3	5148	LEONCITO P	55419
1547.2	4985	PASTURA P	55433
1558.5	5026	ARABELLA P	55445
1568.3	5605 Yd. Lmts. TO	SANTA ROSA P	55500
1577.4	9200	LOS TANOS P	55521
1585.8	4821	CUERVO P	55532
1594.7	4970	NEWKIRK P	55541
1600.3	9000	SIMMONS P	55548
1606.7	4948	MONTOKA P	55554
1615.5	5380	PALOMAS P	55563
1621.9	4927	HARGIS P	55574
1627.4	Yd. Lmts. TO-R	TUCUMCARI BKYPQ	55580
		(331.5)	

MAXIMUM AUTHORIZED SPEED FOR TRAINS

BETWEEN ALL TRAINS

TOWER 47 AND TUCUMCARI 70

Exceptions:

1297.6 and 1297.8	10	1528.6 and 1531.8	50
1297.8 and 1302.5	25	1531.8 and 1555.0	55
1378.8 and 1449.0	60	1555.0 and 1561.8	40
1449.0 and 1492.0	40	1561.8 and 1597.8	55
1492.0 and 1514.1	55	1597.8 and 1626.0	40
1514.1 and 1519.9	40	1626.0 and 1628.15	25
1519.9 and 1528.6	55		

SPEED ON OTHER THAN MAIN TRACK:

Sidings, Orogrande, Alamogordo, Carrizozo (track 1), Gallinas, Duran and Simmons 20

Tucumcari... No. 2 track departing to main track via east or west lead 30

From main track No. 20 Turnout, to west lead to No. 2 track 30

From main track No. 20 Turnout, to east lead No. 2 track 20

All other Tracks, Carrizozo Subdivision 10

CARRIZOZO SUBDIVISION

ADDITIONAL STATIONS

Mile Post	STATION	Station Number	Mile Post	STATION	Station Number
1306.4	Tobin	55105	1312.6	Bunsen	55111
1307.5	Tobin Safeway	55105			

SPECIAL INSTRUCTIONS

RULE 83-B. Conductors of trains terminating at Alfalfa unit of El Paso yard must leave register ticket with waybills.

RULE 93. Location of yard limits:

1319.9	El Paso (No. 2 Track)	
1291.5	El Paso (No. 1 Track)	
	El Paso (Carrizozo Subdivision)	1300.5
	El Paso (San Antonio Div.)	820.0
1301.5	Fort Bliss-Tobin	1308.0
1381.1	Alamogordo	1385.1
1436.22	Carrizozo	1441.9
1620.0	Tucumcari	1629.2

RULE 221. El Paso (Cotton Ave.) is a train order office for eastward trains operating on the Carrizozo Subdivision.

Unit for display of flashing light installed at the following locations:

Station	Location	Direction
Vaughn	On mast of Signal 15247	Eastward

RULE 306. Block Signals with "P" plates.

Eastward	Protection	Westward
P-A	Barricade Detector for dead end Streets MP 1298.2	P-12989
P-SA	Spring switch, west end siding, Planeport	
P-12988	Barricade detector for dead end streets at MP 1300.2 and MP 1300.4	P-13037
	Spring switch, east end siding, Orogrande	P-13461
P-13468	High water detector, bridge 1349.6	P-13497
P-13738	High water detector, bridge 1374.2	P-13763
P-13788	High water detector, bridge 1379.0	P-13805
P-13838	High water detector, bridge 1384.4	P-13853
P-13804	High water detector, bridge 1381.5	P-13819
P-13886	High water detector, bridge 1389.1	P-13901
P-13922	High water detector, bridge 1393.4	P-13943
P-13972	High water detector, bridge 1399.2	P-13993
P-13994	High water detector, bridge 1399.6	P-14017
P-14068	High water detector, bridge 1407.2	P-14097
P-14096	High water detector, bridge 1409.8	P-14117
P-14118	Spring switch west end of Three Rivers	P-14119
P-14364	High water detector, arch 1436.8	P-14379
P-14381		
P-14382	Spring switch, west end siding, Carrizozo	
P-14383	High water detector, arch 1436.8	
P-14403	Spring switch, east end siding, Carrizozo	
P-14540	High water detector, bridge 1454.0	P-14559
P-14788	High water detector, arch 1479.9	P-14805
P-14900	Spring switch, west end siding, Corona	
	Spring switch, east end siding, Corona	P-14911
P-15070	High water detector, bridge 1508.1	P-15091
	Spring switch east end of Duran	P-15125
P-15106	Spring switch west end of Duran	
P-15246	Spring switch west end of Vaughn	
	Spring switch, east end siding, Vaughn	P-15265
P-15578	Spring switch, west end siding, Arabela	
	Spring switch, east end siding, Arabela	P-15589
P-15616	High water detector, bridge 1561.7	P-15621
P-15616	Fire detector, bridge 1561.7	P-15621
P-15682	Spring switch, west end siding, Santa Rosa	
	Spring switch, east end siding, Santa Rosa	P-15693
	Spring switch, east end siding, Los Tanos	P-15781
	Spring switch, east end siding, Montoya	P-16073
P-15838	High water detector, bridge 1584.0	P-15855
P-15956	High water detector, bridge 1595.8	P-15969
P-16040	High water detector, bridge 1605.9	P-16063
P-16000	Spring switch west end of Simmons	
P-16072	High water detector, bridge 1607.4	P-16087
P-16172	High water detector, bridge 1618.4	P-16197
P-16232	High water detector, bridge 1623.3	P-16249
P-16260	Spring switch, west end yard track, Tucumcari	

RULE 505. Unless otherwise instructed, eastward trains arriving Tucumcari will use Main Track and westward trains arriving Tucumcari will use track No. 2.

Trains moving on main track in either direction will move between Southern Pacific MP 1626 and SSW MP 637 by block signal indications, which indications will supersede the superiority of trains.

West end Vaughn siding signal protection is provided for movement from an adjacent track to main track. Push buttons and

CARRIZOZO SUBDIVISION

lights are installed with time release feature to clear signals on one track when the control circuit on the other is occupied.

Train in main track to allow train on siding to pass may clear signal on siding by pressing button in box mounted on siding signal mast. Wait until time release of 4 minutes and 11 seconds has functioned after which signal should display proceed indication if block is clear.

RULE 538. Spring switches equipped with facing point locks are located as follows:

Station	Location	Normal Position
Planeport	West end siding	Main track
Orogrande	East end siding	Main track
Three Rivers	West end siding	Main track
Carrizozo	West end siding	Main track
Carrizozo	East end siding	Main track
Corona	West end siding	Main track
Duran	East end siding	Main line
Duran	West end siding	Main line
Vaughn	West end siding	Main line
Vaughn	East end siding	Main track
Arabella	West end siding	Main track
Arabella	East end siding	Main track
Santa Rosa	West end siding	Main track
Santa Rosa	East end siding	Main track
Los Tanos	West end siding	Main track
Los Tanos	East end siding	Main track
Simmons	West end siding	Main track
Simmons	East end siding	Main track
Montoya	East end siding	Main track
Tucumcari	West end yard track	Main track
Tucumcari	East end yard track	Main track

RULE 540. Switch-point indicators:

*Carrizozo	East end of No. 2 track
*Carrizozo	West end of No. 2 track

* Switch point indicator will display green aspect when switch is in normal or reverse position and will display red indication if switch is not properly lined. Trains and engines making trailing movement over this switch may leave switch in position to which forced by trailing movement.

RULE 705. Indicators located as follows:

Illum. Letter	On Signal	Approaching	Authorizes and Requires Movement as follows:
M	13022	Planeport	Proceed to east end siding.
S	13022	Planeport	Enter siding.
M	13039	Planeport	Proceed to west end siding.
S	13039	Planeport	Enter siding.
M	P14382	Carrizozo	Proceed on main track.
S1	P14382	Carrizozo	Proceed to east end of siding.
S2	P14382	Carrizozo	Proceed to east end No. 2 track.
M	P14403	Carrizozo	Proceed on main track.
S1	P14403	Carrizozo	Proceed to west end of siding.
S2	P14403	Carrizozo	Proceed to west end No. 2 track.

Rule 827. Location of High and/or Wide Load, Dragging and/or Derailed Equipment Detectors: MP 1305.9, 1321.2, 1327.2, 1355.5, 1380.4, 1398.8, 1428.5, 1457.6, 1476.5, 1502.6, 1551.4.

Location of Loose Wheel Detector: 1305.9

If white light is observed flashing, train must be brought to a stop and El Paso Tower yardmaster contacted to the type of indication and location of indication in train.

HOT BOX DETECTORS

MP	Type	Direction(s)	MP	Type	Direction(s)
1305.9	D*	West	1445.6	C	Both
1305.9	C	Both	1476.5	C	Both
1327.2	C	Both	1530.3	C	Both
1355.5	C	Both	1563.4	C	Both
1380.4	C	Both	1589.6	C	Both
1407.2	C	Both	1622.6	D**	East

*Readout at El Paso Yard

**Readout at Tucumcari Yard.

RULE 872. Will not apply at Tucumcari, Carrizozo and El Paso:

AIR BRAKE RULES

RULE 65. Maximum Horsepower Per Ton Ratios:

CHLAT, BSMFF, ASLAA, MLLAA, LAEST, LAKCP,	
LACHT, WCKCJ	4.0
WCASY, WCESJ, KCLAY	2.5
All other trains	2.0

MISCELLANEOUS

Trains without helpers must not exceed 11,000 tons and 12,000 feet except Tucumcari to Gallinas must not exceed 9,000 tons.

ALL SUBDIVISIONS

ADDITIONS, MODIFICATIONS, REVISIONS and DELETIONS To The RULES AND REGULATIONS Of The

TRANSPORTATION DEPARTMENT

DEFINITIONS

Definition of RESTRICTED SPEED is revised to read:

Restricted Speed. A speed that will permit stopping within one-half the range of vision short of a train, engine, car, stop signal, obstruction, derail or switch not properly lined and looking out for broken rail, but not exceeding 20 MPH.

Definition of WITH CAUTION is deleted in its entirety.

RULE A. The following paragraph is added:

Trainmen and Enginemen must have a copy of the Safe Work Practices booklet dated February 1984 available while on duty and must adhere to the safe work practices described in the booklet.

RULE N. Third paragraph is revised to read.

Employees must not go between moving equipment except when using the end platform on a locomotive, caboose or when applying or releasing a handbrake. Never step on the uncoupling lever or place any part of your body between coupler horn and end sill.

The following paragraph is added:

When necessary to climb through standing equipment, employees may, when practicable, cross only through those cars equipped with end platforms or over the body of an empty flat car. Crossing between moving equipment is prohibited except when using the end platform of a locomotive or caboose.

RULE O. Sixth paragraph is revised to read:

Employees are prohibited from getting on a moving conventional flat car. When getting on a moving car other than a caboose, or a car that is last in a cut, you must board the leading end. It is permissible to board either end of a locomotive, caboose or a car that is last in a cut.

RULE P. Third paragraph is revised to read:

Employees are forbidden to take position, either seated or standing on hand rails of a locomotive.

RULE S-17 is deleted in its entirety.

RULE S-90. The following paragraph is added:

At meeting points, the train holding the main track must stop short of the point where time applies, unless the train to be met is clear of the main track and switch is properly lined. An extinguished headlight is not an indication that a train is clear of the main track.

RULE 105. Second and third paragraphs are revised to read:

Movements from main track into sidings or other tracks except controlled sidings, must be made at RESTRICTED SPEED and, when practicable, stop must not again be made until train is clear of main track.

Movements on any track other than main track or controlled siding must be made at RESTRICTED SPEED.

RULE 110. New rule is added:

When a train is instructed by the train dispatcher in words "BETWEEN (Milepost) AND (Milepost) BE GOVERNED BY RULE 110," movement between specific milepost locations must be made not exceeding 10 MPH.

Train Order Form H. Last paragraph on Page 108 is revised to read:

When necessary to authorize two or more work extras within the same limits or portion of limits, and it is desired that protection between work extras be provided by the conductors and engineers of the work extras named, following example will be used, and all movements within the same or portion of the limits of work order must be made at RESTRICTED SPEED. A thorough understanding between the conductors and engineers is required.

ALL SUBDIVISIONS

ADDITIONS, MODIFICATIONS, REVISIONS AND DELETIONS

To The RULES AND REGULATIONS Of The

TRANSPORTATION DEPARTMENT

RULE S-242. Is revised to read:

When a train has been registered into Staff System Territory and it is necessary to authorize a second train into the territory, it will be done as follows:

- After the engineer and conductor, if any, of the second train have been advised of the location of the first train, the second train may enter the territory without registering.
- Movement of the second train must be made at **RESTRICTED SPEED**.
- The first train may not be moved until coupled to the second train.
- The conductor(s) will see that the first train is registered out when the trains have left Staff System Territory.

RULE 765. Fourth paragraph is revised to read:

Trains or engines granted work limits and clock time limit may occupy main track or controlled siding and move in either direction within such limits at **RESTRICTED SPEED**, and without protection by flagman. They may pass **AUTOMATIC BLOCK SIGNALS** displaying stop indication without stopping.

RULE 822. Third paragraph is revised to read:

If necessary to make change or repairs to couplers, all employees who might move cars or cause cars to be moved must be advised of work to be done. **CARS MUST BE SEPARATED NOT LESS THAN 50 FEET** to reduce possibility of injury.

RULE 822-B. First paragraph is revised to read:

Before opening angle cock to an uncoupled air hose, grasp hose on glad hand clear of vent port, brace glad hand firmly against leg just above the knee and turn face away from glad hand.

RULE 834. Is revised to read:

If a train's makeup and length permit:

- An open-top car with a load that could possibly shift beyond the ends of the car must not be placed next to an engine, caboose or loaded multi-level car.
- A loaded open-top car containing loose particles that could possibly be blown onto adjacent cars must not be placed immediately ahead of a caboose, helper engine or loaded multi-level car.
- A loaded multi-level car must not be placed closer than the fifth car behind the engine.

A.B. RULE 61.A.4. First paragraph is revised to read:

Starting Back-Up Movement:

To avoid excessive buff forces when backing, do not exceed the throttle position in relation to the number of axles of power indicated in the following table:

Maximum throttle Position	Number of Axle of Power
8	12 or less
6	14
5	16
4	18
3	20

(Maximum number of axle of power that may be used is 20)

SPECIAL INSTRUCTIONS

RULE A. Current Rules and Regulations of the Transportation Department were effective October 31, 1976.

Pages 2 and 3 of current Rules and Regulations of the Transportation Department have been reprinted effective October 30, 1983, and list all revised pages. Each employee whose duties are prescribed by these Rules is required to have revised pages 2 and 3 effective October 30, 1983, along with all other revised pages listed inserted in proper numerical order in his/her Book of Rules.

RULES 1 and 3. Pacific Standard Time may be obtained from San Francisco, 1827 or Mountain Standard Time from Tucson, 2328.

ALL SUBDIVISIONS

RULE S-72. Westward regular trains are superior to eastward regular trains of the same class.

RULE 103. Trains or engines when standing or switching must not block traffic on street or road crossings for a period exceeding 15 minutes, except in cases of unavoidable accident.

In the event of any uncontrolled blockage involving more than one grade crossing and a peace officer is on the scene, primary consideration shall be given to the clearing of that crossing which, in the peace officer's judgment, will result in minimum delay to vehicular traffic.

Train or engine blocking a public crossing shall immediately take all reasonable steps, consistent with the safe operation of such train or engine, to clear the crossing upon receiving information from a peace officer, member of any fire department, or operator of an emergency vehicle, that emergency circumstances require the clearing of the crossing.

In the event of any uncontrolled blocking not otherwise provided for in this rule, crossing shall be cleared with reasonable dispatch.

- When during normal train operations at night it becomes necessary to block a public grade crossing with standing railroad cars, and the crossing does not have automatically controlled crossing signals, fusees shall, as soon as possible, be placed in the center of the roadway on both sides of the track at not less than ten (10) feet from the railroad car or cars to warn motorists that the crossing is occupied.
- Detached railroad cars containing explosive or hazardous material shall not be left standing on any grade crossing during normal train operations.

RULE 505. Where signal protection is provided for movements from an adjacent track to main track, push buttons and lights are installed in box near each of the two signals, with time-release feature to clear signals on one track when the control circuit on the other track is occupied.

Train on main track to allow train on siding to pass may clear signal on siding by pressing button bearing number of signal on siding. Train on siding to allow train on main track to pass should not pass **APPROACH CIRCUIT** sign, but when necessary to do so, may clear signal in main track by pressing button bearing number of signal on main track.

Further instructions posted inside push-button box.

RULE 827. Where high and/or wide load, dragging and/or derailed equipment detectors are installed as listed under subdivisions, revolving red light will be mounted on hot box detector house, on post or relay case adjacent to detector and will be normally dark. When detector is activated, the revolving red light will be displayed. Train must be stopped and a walking inspection made of entire train.

When a revolving red light is observed prior to engine passing detector location, train may proceed without stopping for inspection. Report must be made to train dispatcher promptly.

HOT BOX DETECTORS

Each hot box detector has a white light continuously illuminated on track side of detector instrument house. When a hot bearing is detected, the white light will start flashing. When flashing light is observed, train must be stopped per A.B. Rule 5.D. and inspection made to locate hot bearing(s).

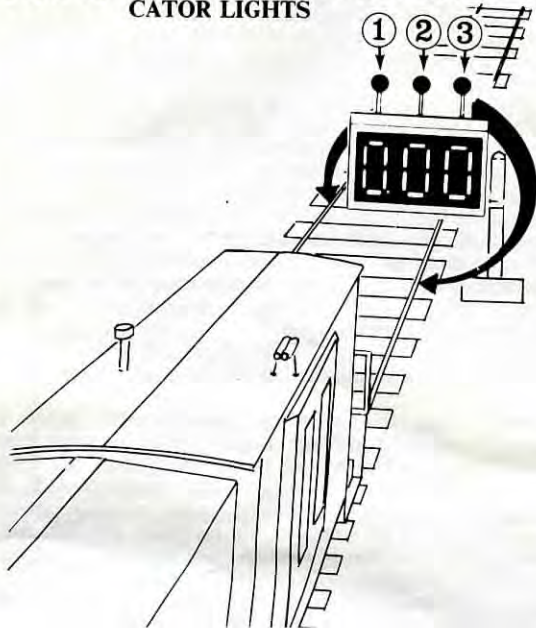
The absence of a white light continuously illuminated on the track side of detector instrument house is an indication detector may be inoperative. Under such circumstances, train must be stopped and all bearings inspected except under the following conditions:

- If employees other than members of crew make a rolling inspection (train speed not to exceed 20 MPH) on both sides.
- If the monitor display board on a Type C detector displays "000" after train has passed scanner location.
- If personnel at location of recorder of a Type D detector advises it is safe to proceed to terminal.

The absence of a white light must be promptly reported to train dispatcher. To avoid unnecessary delay to trains passing an inoperative hot box detector, train dispatcher may authorize such trains to make the required walking inspection or rolling inspection at another location provided it is no more than 10 miles in advance of or beyond detector site.

ALL SUBDIVISIONS

TYPE C. NUMERICAL DISPLAY BOARD WITH INDICATOR LIGHTS



The diagram depicts a Type C hot box detector's monitor display board and indicator lights as it would be viewed looking back after rear of train has passed detector site. The indicator lights identified ①②③ are normally dark, but when a hot bearing is detected, lights ① (right side) or ③ (left side) will immediately display a flashing white light to identify the side of train on which the hot bearing was detected.

When an additional hot bearing is detected, the center indicator light ② will also commence flashing. To assist in locating hot bearing, the detector will count the number of axles from the first hot bearing detected to the rear of train. Two seconds after train has passed the detector, the numerical board will illuminate and display the accumulated axle count for 90 seconds.

The following are examples of displays as would be viewed looking back from rear of train and the corresponding required train inspection:

DISPLAY	REQUIRED INSPECTION
	No inspection required
	Inspect for one hot bearing on the 234th axle from rear of train on side indicated. If hot bearing is not located, all bearings of car indicated as well as five cars ahead and behind must be inspected on BOTH SIDES.
	Inspect for two or more hot bearings from rear of train to and including the 095th axle on indicated side. If two or more hot bearings are not located, inspect all bearings from rear of train to and including five cars ahead of indicated axle on BOTH SIDES.
	Inspect for two or more hot bearings from rear of train to and including the 153rd axle on BOTH SIDES. If hot bearing is not found on indicated axle, inspect all bearings on car indicated as well as five cars ahead on BOTH SIDES.
	Inspect for hot bearing on each side of the 126th axle from rear of train. If hot bearings are not located on indicated axle, all bearings of car indicated as well as five cars ahead and behind must be inspected on BOTH SIDES.

(continued on pg 37)

SWITCHING RESTRICTIONS

THE FOLLOWING CARS MUST NOT BE:
CUT OFF IN MOTION, NOR BE
IMPACTED BY CARS ROLLING UNDER
THEIR OWN MOMENTUM

ANY CAR PLACARDED
EXPLOSIVES A OR POISON GAS



OR

A TOFC OR COFC VEHICLE
DISPLAYING ANY PLACARD

OR

TANK CAR LOAD OF FLAMMABLE GAS

USE THE NUMBERED
PLACARDS TO DISTINGUISH TANK
CARS PLACARDED FLAMMABLE GAS
FROM FLAMMABLE FROM COMBUSTIBLE



NUMBER 2
FLAMMABLE GAS



NUMBER 3
FLAMMABLE LIQUID

USE BOTTOM WHITE TRIANGLE
TO IDENTIFY COMBUSTIBLE PLACARDS
NO SWITCHING RESTRICTIONS APPLY



Position in train of placarded cars containing hazardous materials

NOTE: Cars with same placards may be placed next to each other.

Shippers may use either words or numbers on placards. Numbers shown are samples. Other numbers may appear on placards.

HOW TO USE THIS CHART:

To determine where a placarded car can be placed in a train follow these steps:

- Determine the type of placard applied to the car.
- Determine the type of car.
- Follow vertically down the chart and note which lines apply.
- The symbol X indicates the wording at the side that applies.

See footnotes for explanation.

RESTRICTIONS

Must not be nearer than the sixth car from the engine, occupied caboose or passenger car. If total number of cars in train does not permit, must be placed as near the middle of train as possible but not nearer than the second car from the engine, occupied caboose or passenger car.

MUST NOT BE NEXT TO:

Engine, occupied caboose or passenger car	X	X	X	X	X
Car occupied by guard or escort	X(1)	X(1)		X(1)	
Loaded plain flat car	X	X		X	
Loaded bulkhead flat car	X(2)	X(2)		X(2)	
Loaded TOFC/COFC flat car	X(3)	X		X(4)	
Fiat Car loaded with vehicles	X	X		X(5)	
Open top car with shiftable load	X(2)	X(2)		X(2)	
Car with internal combustion engine in operation. Car with any heating apparatus or any lighted stove, heater or lantern	X	X		X	
Car placarded EXPLOSIVES A		X	X	X	X
Car placarded POISON GAS	X		X	X	X
Car placarded RADIOACTIVE	X	X		X	X
Any loaded placarded car (other than COMBUSTIBLE or same placard)	X	X	X		

(1) A placarded rail car must be next to and ahead of any car occupied by the guards or technical escorts accompanying this car. However, if a car occupied by guards or technical escorts is equipped with a lighted heater or stove, it must be the fourth car behind any car placarded EXPLOSIVES A.

(2) Restriction applies only when any of the lading protrudes beyond the car ends or when any of the lading extending above the car ends is liable to shift so as to protrude beyond the car ends.

(3) Cars placarded EXPLOSIVES A may be placed next to each other.

(4) Restriction applies only to loaded flatbed or opentop trucks and trailers and to loaded trucks and trailers without securely closed doors.

(5) Restriction does NOT apply to a car loaded with vehicles secured by a device designed for that purpose and permanently installed on the car and of a type generally accepted for handling in interchange between railroads.

Loaded cars placarded:



Loaded cars placarded:



Loaded cars placarded:



Loaded tank cars placarded:



Empty tank cars placarded:



Loaded cars other than tank cars placarded:



Loaded cars placarded:



NO RESTRICTIONS

HAZARDOUS MATERIAL

IN CASE OF ACCIDENT, your safety is the first consideration. If you suspect hazardous material may be involved in a derailment, do the following IF IT IS SAFE TO DO SO:

- A. DETERMINE STATUS OF ALL CREW MEMBERS.
- B. RESCUE INJURED, remove them to a safe area, call for assistance.
- C. IF FIRE OR VAPOR CLOUDS are visible, evacuate to ½ mile upwind of vapor cloud or fire. Before evacuating take all paperwork such as waybills, consist and emergency response information with you.
- D. NOTIFY the Chief Dispatcher by the quickest means possible. If Rail communications fail or is not available, call long distance collect — (512) 224-3538
Tell him:
 - (1) Your name and title.
 - (2) Train identification symbol.
 - (3) Specific location of the incident (station, milepost location, nearest street or highway crossing).
 - (4) If you need fire or medical response.
- E. IF NO FIRE OR VAPOR CLOUDS are apparent,
 - (1) EXTINGUISH smoking materials and caboose stove. Do not smoke in the vicinity of a hazardous material incident. Do not ignite fuses.
 - (2) CHECK the train consist to determine what cars and commodities may be involved and where they are located on the train.
 - (3) INSPECT the train to determine the condition of cars involved. Use a buddy system if possible. Tell crew members what products may be involved and what risk they may pose. Approach from upwind (wind at your back) or uphill side. Go no nearer than absolutely necessary to assess the condition of the cars. Use your eyes, ears and nose to detect any fire, vapor or gas clouds, smoke, leak or unusual smells or noises. If you detect these conditions, DO NOT GO NEAR THE CARS, evacuate all crew members to a safe distance.
- F. PROVIDE the Chief Dispatcher with as much of the following information as possible after you have inspected the train.
 - (1) Initial and number of cars involved.
 - (2) Location of hazardous material in derailment.
 - (3) Condition of each car. Upright or turned over, intact; punctured or leaking; on fire or near fire; producing a vapor or gas cloud; unusual odor or unusual noise.
 - (4) Location of people, property, or public systems (roads, power lines, hospitals, etc.) which could be subject to damage.
 - (5) Location of nearby stream, river, pond, lake or other body of water.
 - (6) Location of access roads.
 - (7) Any other information that will help the dispatcher understand the situation.
- G. WARN people to stay away from the emergency area.
- H. IDENTIFY yourselves to responding police or fire personnel. GIVE them your train mass profile graph including hazardous consist and hazardous commodities printout. HELP them determine which cars and products are derailed or damaged. The conductor may provide waybill data, but should retain the waybills for delivery to a responding operating officer.
- I. REMAIN at the scene at a safe distance until relieved by a railroad Operating Officer.

ALL SUBDIVISIONS

TYPE D. REMOTE READOUT AT TERMINAL

When white light is flashing on instrument house, train must be stopped per A.B. Rule 5.D. and crew member must contact personnel at location of recorder to determine location of hot bearing to be inspected. If hot bearing is not located, all bearings of car indicated as well as five cars ahead and behind must be inspected on both sides.

Personnel at recorder may authorize train to proceed to terminal without making inspection.

TYPE E. RADIO READOUT (TALKER)

A type E detector may be equipped to inspect for hot boxes and dragging equipment.

A detector is equipped with a talking alarm system which verbally reports the type and location of defects to crew by radio.

When movement over detector begins, the system should transmit the following message one time:

"S. P. Detector. (Mile Post location), checking (Eastward/westward train)."

The reception of this message by the crew indicates that system is operational.

When defects are detected during movement, the system will transmit a defect message at the time of detection, and the white light will begin to flash. This message will indicate the type and location of defect(s). Example of message transmitted at the time of detection:

"S.P. detector (milepost) inspecting (Eastward/Westward) train on (East/West/#1/#2) track Hot Box axle 210 on fireman's side (Transmitted one time) Transmission over."

When defect message is received, train must be stopped per A. B. Rule 5.D. If train has cleared the detector by at least 200 feet, the end-of-train message will be transmitted and crew must inspect the train for the indicated defect(s). Example of end-of-train message:

"S.P. detector (milepost) inspecting (Eastward/Westward) train on (East/West/#1/#2) track. (number) defects — count from front of train.

First hot box, axle 210 on fireman's side.

Second hot box, axle 243 on engineer's side.

First dragging equipment near axle 305.

(Transmitted two times to insure that information is copied correctly.)

Transmission over."

Inspect for hot bearing at the reported axle location. If hot bearing is not located, all bearings of the car indicated as well as five (5) cars ahead and behind must be inspected on both sides.

When dragging equipment is reported, inspect for defect on the car indicated. If defect is not located, inspect the five (5) cars ahead and behind the car indicated.

If more than six (6) defects are detected, or an integrity failure occurs, the system will transmit the following message:

"S.P. detector (milepost) inspecting (Eastward/Westward) train on (East/West/#1/#2) track.

Detector malfunction, inspect entire train.

(Transmitted one time)

Transmission over."

In the event that train is stopped before clearing the detector, crew must inspect the entire train for the type(s) of defects normally detected by that detector.

When train has passed detector with no defects found, the system will transmit the following message:

"S.P. detector (milepost) inspecting (Eastward/Westward) train on (East/West/#1/#2) track.

No defect.

Transmission over."

Trains must be stopped and the entire train inspected for hot bearings and dragging equipment when:

1. Verbal information is not received or understood after train clears detector site.

ALL SUBDIVISIONS

2. System has transmitted the "no defect" message, but white light is flashing.
3. System has transmitted the "detector malfunction — check entire train" message.
The white light is out or flashing before the engine reaches the detector, except for the following conditions:
 - A. If valid end-of-train radio message is received.
 - B. If employes other than members of crew make a rolling inspection (train not to exceed 20 MPH) on both sides.
 - C. If person at location of recorder of a type D/E detector receives a tape without any defects. He may authorize train to proceed to terminal.

G. DRAGGING/DERAILED EQUIPMENT DETECTOR — RADIO READOUT (TALKER).

Detector is equipped with a talking alarm system which verbally reports the location of defects to the crew by radio.

When movement over detector begins, the system should transmit the following message at one time:

"S.P. detector (milepost) inspecting train on (East/West/#1/#2) track."

The reception of this message by the crew indicates that the system is operational. If an integrity failure occurs, the system will transmit the following message:

"Detector malfunction — inspect entire train."

When defects are detected during movement, the system will transmit a defect message at the time of the detection. This message will indicate the type of defect or defects. Example of message transmitted at time of detection:

"S.P. detector (milepost) inspecting train on (East/West/#1/#2) track.

Dragging equipment."

(Transmitted one time).

When defect message is received, train must be stopped per A. B. Rule 5.D. If train has cleared the detector by at least 200 feet, the end-of-train message will be transmitted and crew must inspect the train for the indicated defect(s). Example of end-of-train message:

"S.P. detector (milepost) inspecting train on (East/West/#1/#2) track.

Dragging equipment.

(Transmitted two times to insure that information is copied correctly)

Transmission over."

If more than six (6) defects are detected or an integrity failure occurs, the system will transmit the following message:

"S.P. detector (milepost) inspecting train on (East/West/#1/#2) track.

Detector Malfunction.

(Transmitted one time)

Transmission over."

In the event that train is stopped before clearing the detector, crew must inspect the entire train for derailed cars.

When train has passed detector with no defects found, the system will transmit the following message:

"S.P. detector (milepost) inspecting train on (East/West/#1/#2) track.

No defect.

(Transmitted one time)

Transmission over."

Trains must be stopped and the entire train inspected for derailed cars when:

1. Verbal information is not received or not understood after train clears detector site by approximately 200 feet.
2. System has transmitted the "detector malfunction — inspect entire train" message.

Track identification will not be provided at detectors located in single track territory.

ALL SUBDIVISIONS

CHECKING FOR JOURNALS SUSPECTED OF OVER-HEATING

Crew members must have in their possession a tempilstik, if available, when making ANY walking inspection of train.

Passenger cars with bearings located behind the wheels (Amfleet equipment) will not permit the use of tempilstik. Hot bearing on these cars will be indicated by strong odor (stink) from built-in heat indicator.

When a roller bearing car experiences two hot box detector actuations and overheated journal cannot be found, car must be set out. Connecting crew, if any, must be notified by incoming crew of any roller bearing car experiencing a hot box actuation and car was not set out.

LOOSE WHEEL DETECTORS

If indication is for loose wheel, all wheels and journals must be inspected on car indicated as well as five cars ahead and behind.

CONTINUOUS WELDED RAIL (CWR) TRAINS

A box car or high-side gondola car must be positioned on each end of CWR train as a buffer car during all movement except preparatory to and during unloading or loading.

When making walking inspection of a CWR train carrying a full or partial load, the following items must be inspected:

- a. Check for undesired movement of rail. The tops of rails are painted adjacent to the tie-down rack on the tie-down car which is located near center of train. Paint marks on each tier of rail must be in line; otherwise, this is an indication of an undesired movement of rail.
- b. Check each rail end to make certain it overhangs the last supporting roller by at least 12 feet and is no closer than 12 feet from the next empty roller. Rails are marked 12 feet from each end.

When any of these conditions are not as required, train must not be moved until train dispatcher has been notified and further instructions are received.

TRAINS HANDLING LOADED TOFC CARS

Whenever a standing, walking or rolling inspection is made of a train, crew members must observe closely loaded TOFC cars for possible shifted load in trailers. If a trailer is observed leaning due to a possible shifted load, or if lading is found protruding or bulging from within trailer, the car carrying the trailer must be set out at the first available track.

AIR BRAKE RULES

RULE 9. The following series of cars are equipped with empty-load brake system which has semi-automatic change-over feature:

SSW 75700-75799	SP 354000-354749	SP 491000-491059
SSW 78500-78599	SP 463500-464899	SP 492000-492039
SP 333500-334605	SP 467500-467549	SP 500604
SP 337500-337599	SP 480000-480193	SP 590000-590099
SP 345000-345699		

The following series of cars are equipped with empty-load brake system which has fully automatic change-over feature:

SP 323000-323239	SP 354750-355299	SP 481000-481149
SP 329310-329359	SP 463337	SP 590100-590131
SP 329620-329629	SP 463486	SP 595500-595624
SP 337600-337699	SP 464900-467049	

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RULE 14. Maximum tonnage to be handled behind engines with helpers entrained:

TERRITORY	*Road Engine	Helper Engine
Tucson-Lordsburg	6,500	5,525
Yuma-Tucson	8,500	7,225
Lordsburg-Mescal	7,500	6,375

*Not including portion of tonnage being shoved by helper engine.

Union Pacific (UP) locomotives have been modified so that if an emergency application of brakes is initiated from any source other than the engineers brake valve, there will be a 20 second delay before power or dynamic brake is cut off. They are not to be used as a controlling locomotive on a helper or light engine.

RULE 24. Will apply at PFE Yard, (Only on trains to or from the San Antonio Div.) El Paso (Only on trains to or from the Kansas City Div.)

RULE 24-E. Will apply at Yuma.

RULE 24-G. Will apply at Yuma, Phoenix, Lordsburg, Carrizozo, Tucumcari, PFE Yard (Only on trains to or from the Kansas City Div.) El Paso (Only on trains to or from the San Antonio Div.) and at Hayden to HYTUD when departing crew is assured by arriving crew that initial air brake test has been made.

RULE 33. Unless otherwise restricted trains may operate at maximum speed permitted provided:

1. Tons per axle of operative dynamic brake does not exceed 350 tons; and
2. Total cars in train, tons per operative brake and the number of mechanical refrigerator cars (TOPS CODE "RML" or "RM") meet the requirements of the following table:

TONS PER OPERATIVE BRAKE FOR ENTIRE TRAIN				
	80 + to 85	85 + to 90	90 + to 95	95 + to 100
Total Length of Train in Cars	# of Mech Reefer Cars Required	# of Mech Reefer Cars Required	# of Mech Reefer Cars Required	# of Mech Reefer Cars Required
40 or less	None	None	None	None
41-45	None	None	None	3
46-50	None	None	4	8
51-55	None	5	10	16
56-60	7	14	26	32
61-65	14	28	35	43
66-70	30	38	45	53
71-75	39	48	55	63
76-80	48	56	64	72
81-85	58	66	74	82
86-90	67	76	85	
91-95	77	86		
96-100	87			

Trains that do not qualify under the above table may operate at speed specified in following table not exceeding maximum speed permitted symbol provided:

1. Tons per axle of operative dynamic brake does not exceed 500 tons; and
2. Total cars in train, and tons per operative brake meet the requirements of the following table:

Number Of Cars In Train	TONS PER OPERATIVE BRAKE			
	80 + to 85	85 + to 90	90 + to 95	95 + to 100
1 to 40	speed sign	speed sign	speed sign	speed sign
	speed	speed	speed	speed
41 to 45	speed sign	speed sign	speed sign	speed sign
	speed	speed	speed	-5 MPH
46 to 50	speed sign	speed sign	speed sign	speed sign
	speed	speed	-5 MPH	-10 MPH
51 to 55	speed sign	speed sign	speed sign	speed sign
	speed	-5 MPH	-10 MPH	-15 MPH
56 to 60	speed sign	speed sign	speed sign	speed sign
	-5 MPH	-10 MPH	-15 MPH	-20 MPH
61 to 65	speed sign	speed sign	speed sign	
	-10 MPH	-15 MPH	-20 MPH	
66 to 70	speed sign	speed sign		
	-15 MPH	-20 MPH		
71 to 75	speed sign			
	-20 MPH			

(The above two tables are only to be used to compute allowed speeds above 45 MPH.)

RULE 39. AMTRAK trains having locomotives numbers 700-724 (GP630-A) must not perform running air brake test

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while locomotives are passing through curves, over turnouts or while train is moving through turnout.

RULE 49. Section B will not apply at Yuma, Tucson, PFE Yard, Nogales, Phoenix, Douglas, Lordsburg, El Paso, Carrizozo and Tucumcari.

RULE 65 A. 1. A freight train may operate at the highest speed authorized by any of the following:

- a. Speed designated on clearance.
- b. Speed authorized orally or by train order from the train dispatcher
- c. Light engine with operative dynamic brake is authorized to operate at passenger train speed. Light engine without dynamic brake in operation must run at freight train speed not to exceed 55 MPH.

Items a. b. or c. exempt trains from fuel conservation speed but do not supersede other applicable speed restrictions.

A.B. Rule 65 A.2. A train may operate at the highest horsepower per ton ratio authorized by any of the following provisions:

- a. HPPT ratio designated in Timetable under each individual subdivision-A.B. Rule 65
- b. HPPT ratio designated on clearance
- c. HPPT ratio authorized orally from the train dispatcher.

RULE 67. Union Pacific Locomotives are being equipped with Vapor Power Setter fuel savers. They operate in a manner similar to the Select-A-Power fuel savers.

When engine consist is made up of U.P. locomotives, the Vapor Power Setter fuel savers are to be used if equipped.

The following outlines the operation of the Power Setter.

A. There are two types of Vapor Power Setter fuel savers used on Union Pacific locomotives, either Power Setter I or Power Setter II. Either device on the lead locomotive will operate the other device on a trailing locomotive. No special setup is required for either device, though some Power Setters are activated by an "on-off" switch located either on the face of the control box or on the control stand.

B. Power Setter II operation:

1. The Power Setter II is mounted on top of the control stand. When all of the available power is not needed to maintain train speed, the Power Setter II should be activated by placing the switch usually marked "Power Setter" in the "up" position (this switch is in the vicinity of the "generator field switch"). This switch may be "up" or "down" on trailing locomotives. On some locomotives this switch may be disconnected or eliminated and the device is activated when the throttle is advanced beyond "IDLE". When the device is activated, a zero will appear in the digital indicator window.
2. By depressing and releasing the "OFF LINE" or yellow button, the first trailing locomotive equipped with a Power Setter will reduce to "RUN 1" and a "1" will appear in the indicator window. Depressing the "OFF LINE" button a second time will reduce the power of the second trailing locomotive equipped and a "2" will appear in the indicator window. Up to five equipped trailing locomotives can be reduced to "RUN 1".
3. If speed falls below maximum authorized, as many locomotives as needed should be returned to the throttle position of the lead locomotive by depressing the "ON LINE" or blue button. Each time this button is depressed, one equipped trailing locomotive is returned to the throttle position of the lead locomotive, starting from the last locomotive that was reduced to "RUN 1" and moving forward. The indicator window will show the number of locomotives remaining at reduced power.
4. When the lead locomotive controls are placed in dynamic brake, all locomotives set up to operate in dynamic will function even if those locomotives have their Power Setter fuel saver devices activated.

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However, unlike the Select-A-Power, upon returning to power from dynamic brake, the locomotives will NOT return to a reduced power condition as all locomotives are reset when going out of power.

5. If there are locomotives in the consist not equipped with an operable Power Setter, these locomotives will not be affected in any way by the use of this equipment.

C. Power Setter I is essentially the same as Power Setter II except:

1. The control box may be mounted above the front window.
2. An "on-off" switch may be located on the face of the control stand.
3. The "OFF LINE" and "ON LINE" buttons may be on the face of the control stand.
4. Light Emitting Diodes numbered zero through five replace the digital indicator window.

D. Mixing of Power Setter and Select-A-Power Equipment:

1. If the controlling locomotive of a consist is equipped with Power Setter and the trailing locomotives in the consist are a mixture of Power Setter and Select-A-Power, the Power Setter CAN be utilized and the Select-A-Power locomotives will perform as non-equipped locomotives.
2. If the controlling locomotive of a consist is equipped with Select-A-Power and any on-line trailing locomotive is equipped with Power Setter, DO NOT utilize the Select-A-Power as that will cause all Power Setter locomotives to reduce to "RUN 1".

MISCELLANEOUS

1. When moving against current of traffic, or when movement is not protected by block signals, speed of passenger trains and light engines must not exceed 59 MPH and speed of freight trains must not exceed 49 MPH, nor may speed exceed that applying to normal operation.

2. SPEED RESTRICTIONS FOR LOCOMOTIVES:

LOCOMOTIVE NUMBER	MAX- IMUM SPEED	CLAS- SIFICA- TION	DYN BRK	STARTING TRACTION EFFORT	WGT 000
SP-SSW					
1000-1002	70	AS600	SF	102,000	408
@1010-1013	65	ES400		65,250	261
@1100	65	ES408		51,750	207
@1105-1127	65	ES408	ST	58,250	233
@1191-1199	65	ES409		59,250	237
@1300-1337	65	ES410		61,750	247
1500-1542	70	ES615	ST	82,500	330
@1600-1611	70	GS400	EF	70,000	280
@2250-2316	65	ES412		62,250	249
@2450-2759	65	ES415		65,250	261
2868-2899	70	ES418	ST	63,250	253
2961-2970	70	ES620	ET	97,500	390
2971-2976	50	ES620	EF	104,000	416
3100-3101	70	GS425	SF	67,000	268
3102-3109	70	ES625		95,500	390
3118-3135	25	AS628		97,750	391
3148-3153	25	AS630		101,000	404
3186-3196	70	EP418	ST	65,000	260
3197-3199	70	EP430	EF	70,000	280
3200-3209	70	EP636	ET	102,500	410
3301-3886	70	EF418	ST	63,250	253
4050-4153	70	EF420	ST	65,250	261
4160	70	EF420	ET	65,750	263
4200-4249	70	EF420	ET	66,500	266
4300-4451	70	EF618	ST	90,000	360
4800-4844	70	EF420	EF	69,250	277
5002-5017	70	EF423	ST	66,000	264
5100-5114	70	GF423	EF	66,500	266
5300-5325	70	EF623	ET	104,250	417
6300-6681	70	EF425	ET	66,500	266
6901-6921	70	EF625	ET	97,500	390
7030-7033	70	SF428	SF	70,000	280
@7200-7201	70	EF435	EF	69,500	278
@7230-7231	70	EF435	EF	69,500	278

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LOCOMOTIVE NUMBER	MAX- IMUM SPEED	CLAS- SIFICA- TION	DYN BRK	STARTING TRACTION EFFORT	WGT 000
7300-7399	70	EF630	EF	102,750	411
7400-7599	70	EF632	EF	98,500	394
7600-7607	70	EF430	ET	67,560	278
7608-7677	70	EF430	EF	69,500	278
7770-7883	70	GF430	EF	70,000	280
7900-7929	70	GF630	EF	104,750	419
7930-7936	70	GF630	ET	104,750	419
@7940-7961	70	EF430	EF	69,500	278
#8230-8299	70	EF630	EF	97,750	391
#8300-8341	70	EF630	EF	102,500	410
#8350-8391	70	EF630	EF	102,500	410
#8489-8573	70	EF630	EF	102,500	410
8585-8599	70	GF633	EF	104,750	419
8600-8687	70	GF633	ET	104,750	419
8688-8796	70	GF633	ET	104,750	419
8800-9156	70	EF636	ET	103,500	414
#9157-9404	70	EF636	EF	102,750	411
#9500-9504	70	EF642	ET	103,250	413
AMTRAK					
200-360	79	EP430A		63,500	254
361-390	79	EP430A		64,750	259
700-724	79	GP630A		96,500	386
ATSF					
@2700-2784	70	EF423		65,750	263
@2800-2961	70	EF425		66,500	266
@3000-3074	70	EF420		66,250	265
@3100-3174	70	EF420		66,250	265
@3200-3284	70	EF423		65,750	263
@3300-3460	70	EF425		66,500	266
3500-3560	70	EF420		65,750	263
3600-3705	70	EF423		66,000	264
3800-3839	70	EF435		79,500	265
4000-4019	70	EF623		98,000	392
@4500-4579	70	EF624		95,750	383
@4600-4679	70	EF626		96,750	387
5000-5019	70	EF630		98,000	392
#5020-5194	70	EF630		97,500	390
#5200-5213	70	EF636		97,000	388
5300-5489	70	EF636		98,000	392
5490-5499	70	EF636		98,000	392
5500-5624	70	EF636		98,000	392
5625-5714	70	EF636		98,000	392
5900-5939	70	EF636-A		98,750	395
5940-5948	70	EF636-A		103,000	412
5950-5989	70	EF636-A		98,750	395
5990-5988	70	EF636-A		103,000	412
6300-6348	70	GF423		65,750	263
6350-6404	70	GF423		66,000	264
7484-7499	70	GF436		69,250	277
7500-7519	70	GF623		98,750	395
@7900-7909	70	GF628		99,000	396
8010-8152	70	GF630		103,000	412
8500-8524	70	GF633		98,000	392
8700-8799	70	GF636		98,000	392
UP					
1-50	65	EF636		98,250	393
60-65	65	SF636		101,500	406
2400-2539	70	GF630		98,250	393
2810-2959	70	GF630		97,750	391
3000-3122	70	EF630		98,250	393
3123-3808	70	EF630		97,500	390
9000-9005	70	EF435		82,500	275
BN					
@602-761	70	EF415		62,750	251
@766-853	70	EF418		62,500	250
@1350-1365	70	EF414		60,750	243
1375-1399	65	EF415		64,500	258
1400-1499	70	EF418		64,250	257
@1524-1673	70	EF415		63,500	254
@1700-1980	70	EF418		64,750	259
@1990-1997	70	EF418		62,000	248
2001-2071	70	EF420		65,250	261
2072-2154	70	EF420		66,750	267
2200-2254	70	EF423		65,250	261
2255-2369	65	EF420		66,800	267
2500-2582	70	EF425		65,500	262
3000-3064	70	EF430		68,750	275
3100-3109	70	EF435		68,250	275
5000-5199	70	GF630		103,250	413

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LOCOMOTIVE NUMBER	MAX- IMUM SPEED	CLAS- SIFICA- TION	DYN BRK	STARTING TRACTIVE EFFORT	WGT 000
5200-5208	70	GF623		92,500	370
5210-5233	65	GF425		66,800	267
5300-5394	70	GF630		104,000	416
5400-5429	70	GF425		67,750	271
5450-5465	70	GF428		68,750	275
5470-5484	70	GF430		68,750	275
5485-5492	65	GF430		68,800	275
5500-5599	70	GF630		104,250	417
5600-5641	70	GF625		98,000	392
5650-5677	70	GF628		98,000	392
5700-5765	70	GF633		102,750	411
5770-5799	65	GF430		67,000	278
5800-5944	70	GF630		104,000	416
@6000-6059	70	EF615		86,000	344
@6100-6206	70	EF618		86,500	346
@6240-6255	70	EF624		86,500	346
6260-6263	65	EF620		97,750	391
6300-6324	70	EF630		95,500	382
6325-6385	50	EF630		96,500	386
#6394-6399	70	EF630		92,750	371
6400-6567	70	EF636		98,500	394
6592-6599	70	EF636		99,000	396
6600-6645	70	EF636		96,750	387
6650-6696	65	EF636		95,300	381
6700-6799	50	EF630		104,250	417
6800-6807	70	EF630		104,250	417
6808-7053	50	EF630		104,250	417
7054-7291	70	EF630		104,750	419
7800-7899	50	EF630		104,250	417
7900-7940	70	EF630		103,750	415
8000-8099	50	EF630		103,750	415
8100-8181	65	EF630		103,750	415
9900-9925	70	EP624		56,000	224
MOPAC					
2009-2334	70	EF420		65,750	263
2600-2616	70	EF420		65,750	263
#3090-3321	70	EF630		98,000	392
3500-3529	70	EF435		83,400	278
4500-4684	70	GF423		67,500	266
#6000-6073	70	EF630		98,000	392
MILW					
146-157	70	EF630	ST	92,575	370
158-161	70	EF630	ST	92,575	370
164-165	70	EF630	ST	92,575	370
DRGW					
3001-3028	70	EF423		65,500	262
3029-3050	70	EF425		65,500	262
3051-3130	70	EF430		70,000	280
5315-5340	70	EF636		98,000	392
5341-5385	50	EF630		98,000	392
5386-5413	70	EF630		98,000	392

* May be handled isolated in multiple, dead in multiple, or dead in train at maximum speed of 70 MPH.

Equipped with HTC trucks and truck snubbers.

Enginemen must specifically look for defects in shock absorber on locomotives equipped with HTC trucks.

What to do in case defect is noted:

1. Reduce train speed to not exceeding 50 MPH.

2. Notify train dispatcher of defective condition.

3. Report defect on Form CS 2326 for correction.

① RCE Master.

② RCE Remote.

③ Mother.

④ Mate.

@ Locomotives not equipped with alignment control couplers.

A locomotive that is NOT listed in these tables must NEVER be operated or handled in a train unless it is specifically authorized by train dispatcher. Authorization must include the speed.

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3.	SPEED RESTRICTIONS WITH CERTAIN EQUIPMENT	MAIN TRACKS OTHER THAN BRANCHES	MAIN TRACKS ON BRANCHES
Scale test cars			
WO-2, SPMW 5868, SSW 99203 (must be handled next to caboose)			
K&J pedestal or center hinged air-dump cars, loaded or empty (except SPMW-5100 to 5289)		30	30
Relief outfits with steam derrick		35*	25*
Relief outfit SPMW 7130 and SPMW 7140 must not be operated east of MP 972.37 on Hayden Branch, nor east of MP 1088.9 on Douglas Branch		45*	25*
Locomotive Crane-Piledrivers			
SPMW 4027, 4028, 4029, 4088, 4091, 5437, 5479, 5595, 5852, 5870, 5874, 5899, 6601, 6602, 6603, 6604, 8000, 8002, 8003, 8004, SSWMW 96404 and 96405:			
With boom in place, either end forward ①		25*	15*
With boom disconnected, heavy end forward		40	25
With boom disconnected and removable counterweight properly positioned, either end forward		20*	15*
Steam pile driver SPMW 4053		40	25
Jordan Spreaders:		35	25*
Moving backward		25	20
Moving forward		35	35
System Steel Gang Outfit Train			
SPMW 5010 through 5022			
SPMW 6260 through 6263			
SPMW 6742		30	30

*On curves where authorized speed is more than 15 MPH speed must be reduced to 5 MPH less than speed permitted.

① When moving in train with boom in place, operator must be on board.

Unless specifically authorized, all relief outfit cranes, locomotives cranes and pile drivers must not operate over routes having maximum load limits of less than 263,000 lbs. and must observe all restrictions applying to cars weighing over 210,000 lbs.

4.	OTHER SPEED RESTRICTIONS	MPH
Trains handling hazardous material listed in Rule 827-A		55
Engines operated from other than lead locomotive in direction of movement		20
Trains handling loaded bulkhead flat cars weighing less than 64 tons		45
Trains handling loaded bulkhead flat cars weighing 64 tons or more		65
Trains handling empty bulkhead flat cars		45
Trains handling empty, specially equipped gondola cars (TOPS car kind code "GP")		45
Trains handling empty anode flat cars; TOPS car kind code "FA"		45
Trains handling pipe loaded on 89 ft. flat cars		55
Trains handling empty PC 598500-598999 and CR 598500-598999		45
Loaded Continuous Welded Rail (CWR) Trains		45
Trains handling empties, except cabooses and Business cars		55
Trains handling over 120 cars		55

5. PLACEMENT OF RESTRICTED CARS IN TRAIN WITH OR WITHOUT HELPER:

A. Cars measuring less than 42 feet in length must not be coupled to a car longer than 73 feet in length. This restriction will not apply to rear 20 cars of train.

Empty tank cars measuring less than 35 feet in length must be entrained in rear 20 cars of train.

B. When the tonnage of any train excluding engines exceeds 4,000 tons, the weight of each of the first five cars behind engine must weigh 50 tons or more.

This restriction will not apply:

1. When there are less than 20 loaded cars in train.

2. When there are not 5 loaded cars in train weighing 50 tons or more.

Westward Hayden Local, from Hayden to Magma; If available, first five cars behind engine must weigh 85 tons or more regardless of tonnage.

ALL SUBDIVISIONS

- C. When the tonnage of any train excluding engines exceeds 9,000 tons, all cars in the head 40% of total train tonnage must weigh 50 tons or more.
- D. It is the responsibility of Yardmasters and Conductors to take into consideration the overall distribution of tonnage when making up or changing consist of train. The following are requirements governing train makeup.
1. Train consisting of predominantly empty cars will have any block of 10 or more cars which have an average weight of 100 tons or more entrained near the head end.
 2. Train makeup requirements will prevail when they conflict with outstanding blocking instructions unless authorized by Division Officer or Chief Dispatcher.
 3. Train Mass Profile Graph should be used to monitor train makeup when available.
 4. When in doubt as to proper distribution of train tonnage, Yardmaster or Conductor will contact Division Officer or Chief Dispatcher for instructions.
- E. Cabooses are not to be moved other than at rear of train, unless specifically authorized, except when handling a few cars in local or road switcher service.
- F. **DOUBLE-STACK ARTICULATED CARS (ID5):**
1. They are to be positioned on headend of train when loaded.
 2. They are to be considered the equivalent of three (3) cars when:
 - a. Train tonnage requires cars on head end of train to weigh 50 tons or more;
 - b. Considering maximum load limit.
 3. Series SP513302 to SP513343 are to be considered the equivalent of five cars and SP513301 the equivalent of three cars when:
 - a. Determining tons per operative brake;
 - b. Determining proper position in train of cars.
- G. **IMPACT CARS** (car kind "IP" which may be followed by numeral indicating number of articulated units comprising the car)
1. An IMPACK car must not be moved in a train unless either all units of the car are loaded with trailers or all units of the car have no trailers.
 2. Empty IMPACK cars are to be entrained at the rear of the train.
 3. Loaded IMPACK cars must be placed as near to the headend of the train as practicable, and behind any loaded double-stack articulated cars. Cars entrained ahead of loaded IMPACK cars must weigh 40 tons or more.
 4. Helpers must be placed ahead of any empty IMPACK cars.
 5. Loaded IMPACK cars must be moved in trains with tonnages behind the loaded IMPACK cars not exceeding the following:
- | Location | Without Helper | With Helper |
|--|----------------|-------------|
| Tucson-Lordsburg (Eastward and Westward) | 6500 | 8000 |
| All Other Locations | 8000 | 8000 |
6. On trains with loaded IMPACK cars entrained, no more than 18 axles of dynamic braking are to be used on headend of train.
 7. Four unit cars are to be considered the equivalent of two cars, and eight unit cars are to be considered the equivalent of four cars when:
 - (a) considering the maximum load limit,
 - (b) determining tons per operative brake, and
 - (c) determining proper position in train of cars.
 8. The requirement to have cars weighing 50 tons or more entrained on the headend of a train will not apply to loaded IMPACK cars.

ALL SUBDIVISIONS

H. **SINGLE AXLE INTERMODAL CARS** (car kind "IO" which may be followed by numeral indicating number of articulated units comprising the car)

Cars TTFX 60000-60097 must be entrained at the rear of the train. Any helper engine must be entrained ahead of these cars.

I. Any loads having idler car(s) must be entrained:

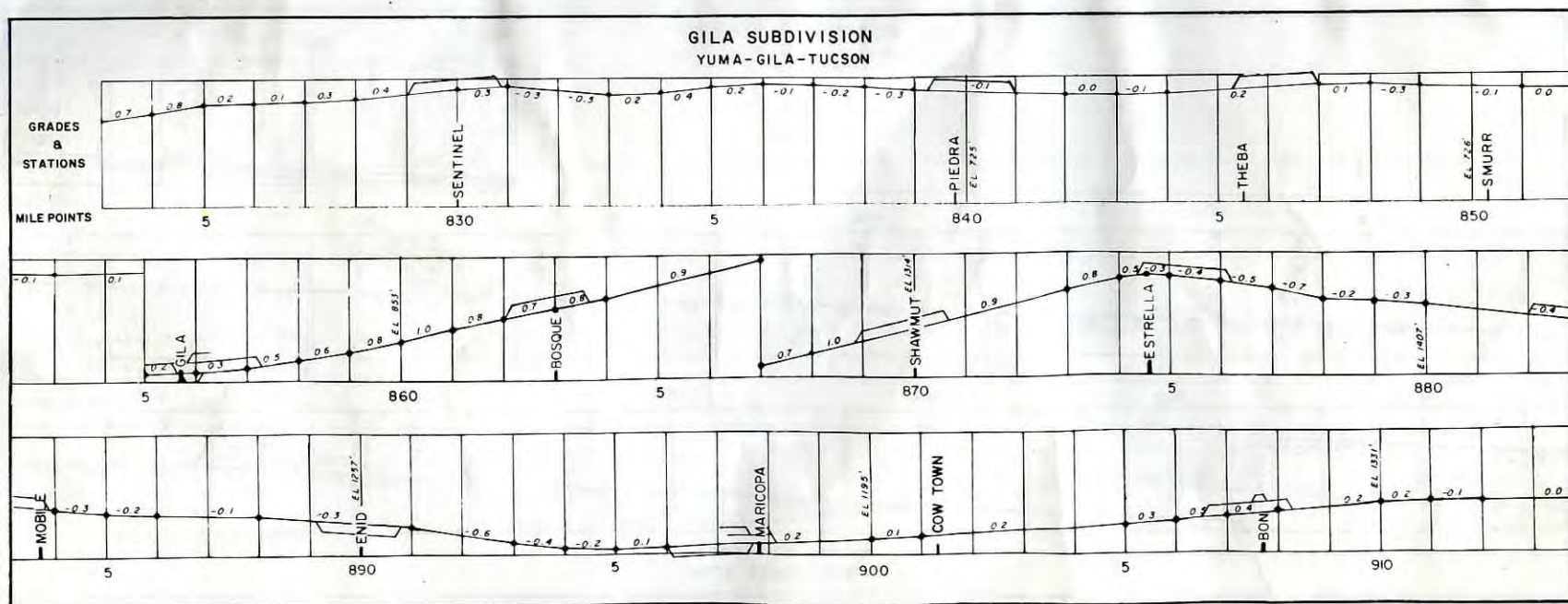
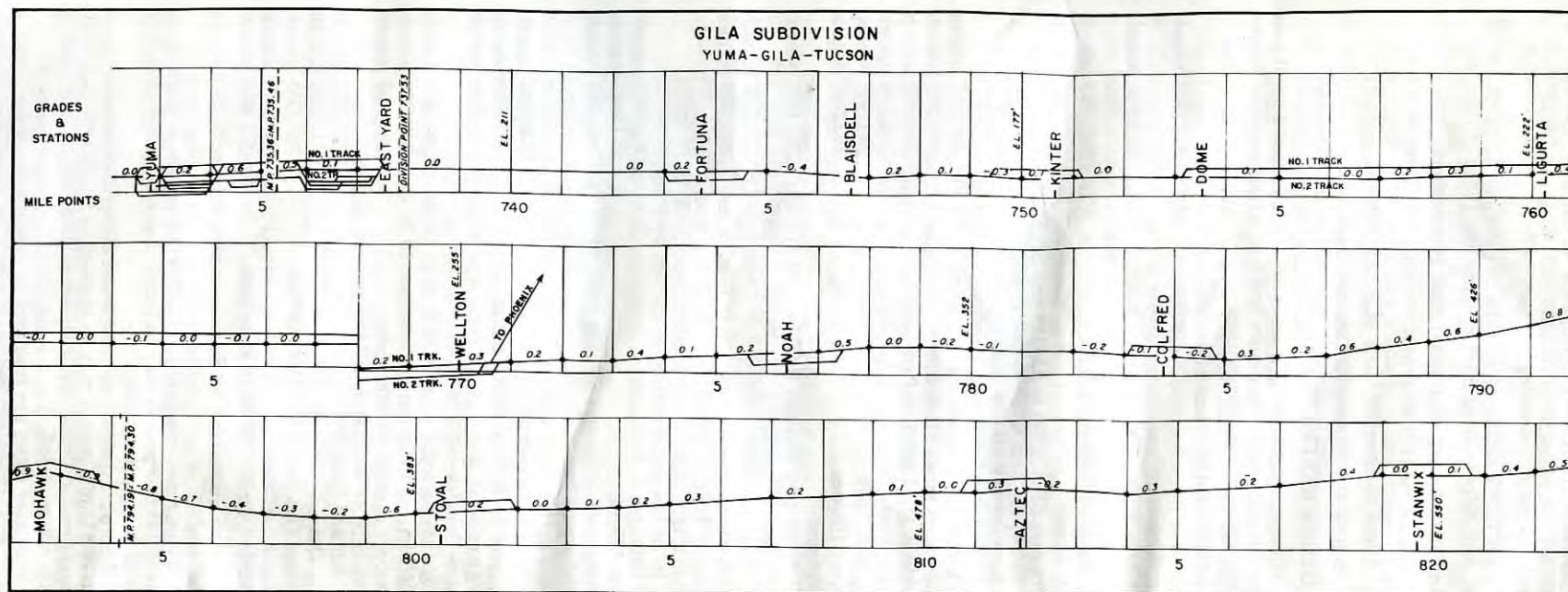
- a. Within the rear 4000 tons of train.
- b. Ahead of any solid block of empty cars.
- c. Behind any intrained helper engines.

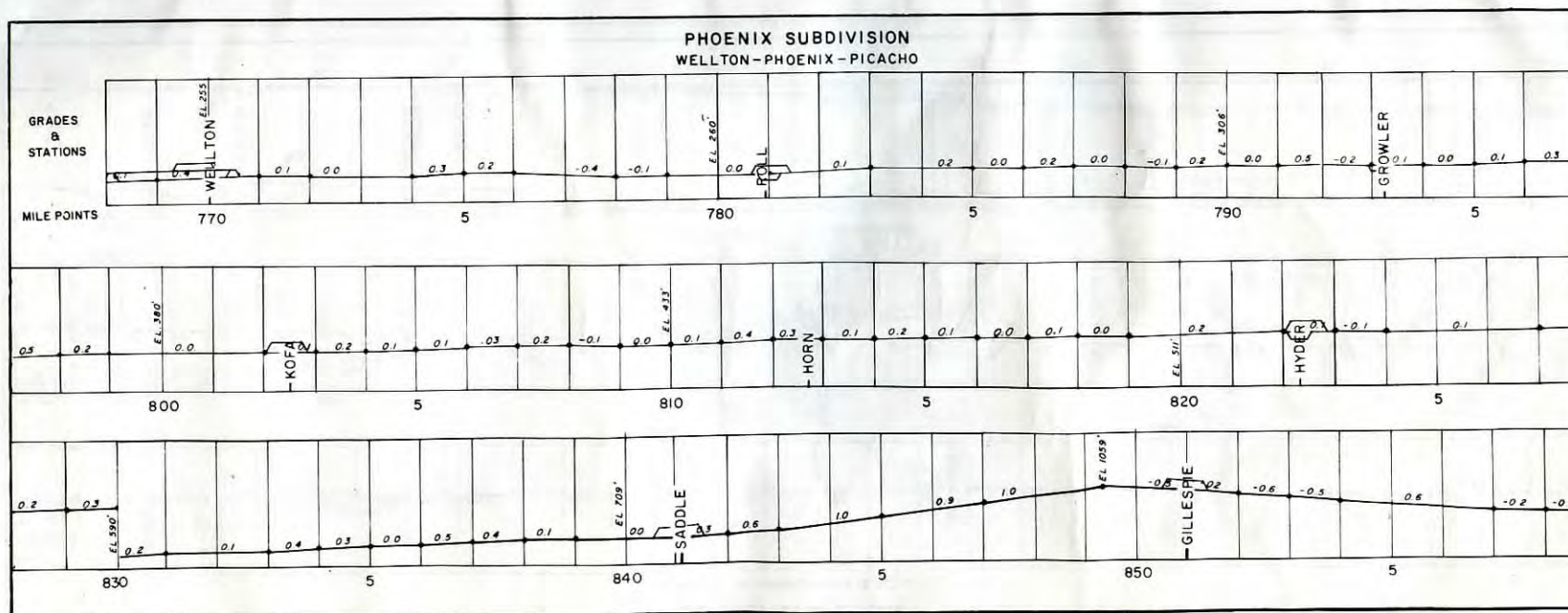
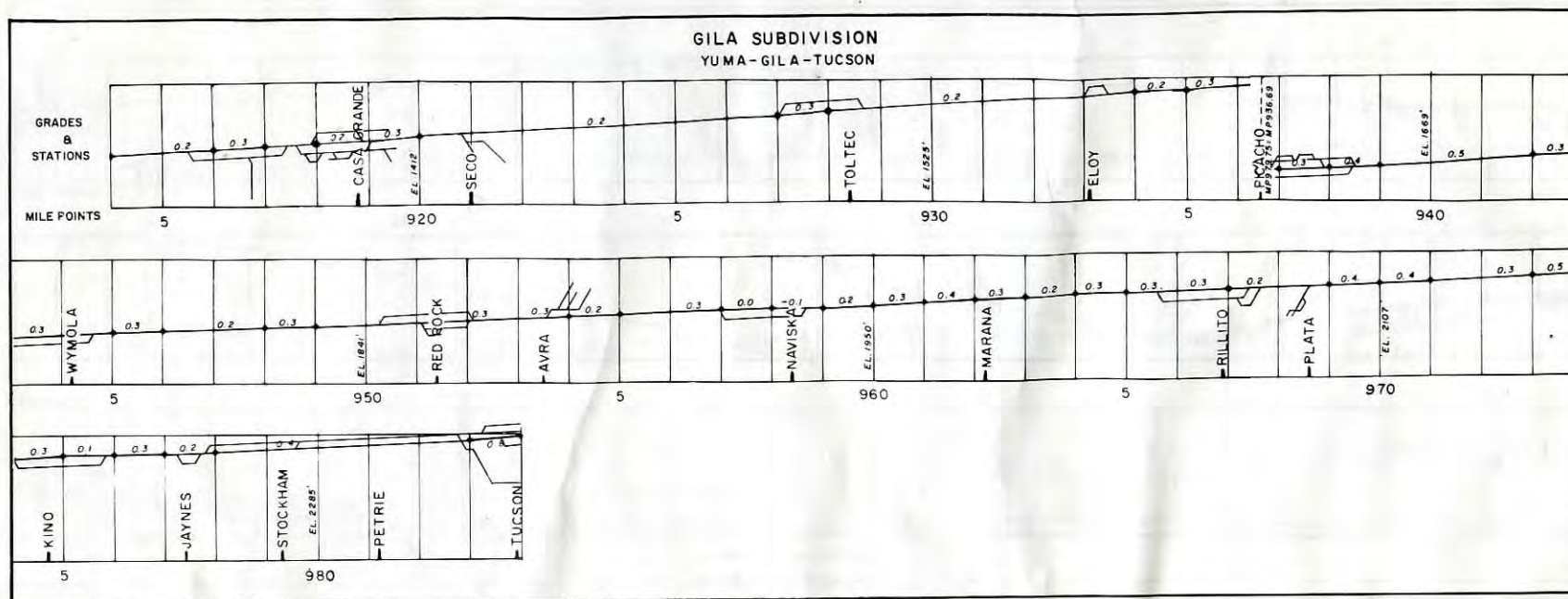
6. OTHER RESTRICTION.

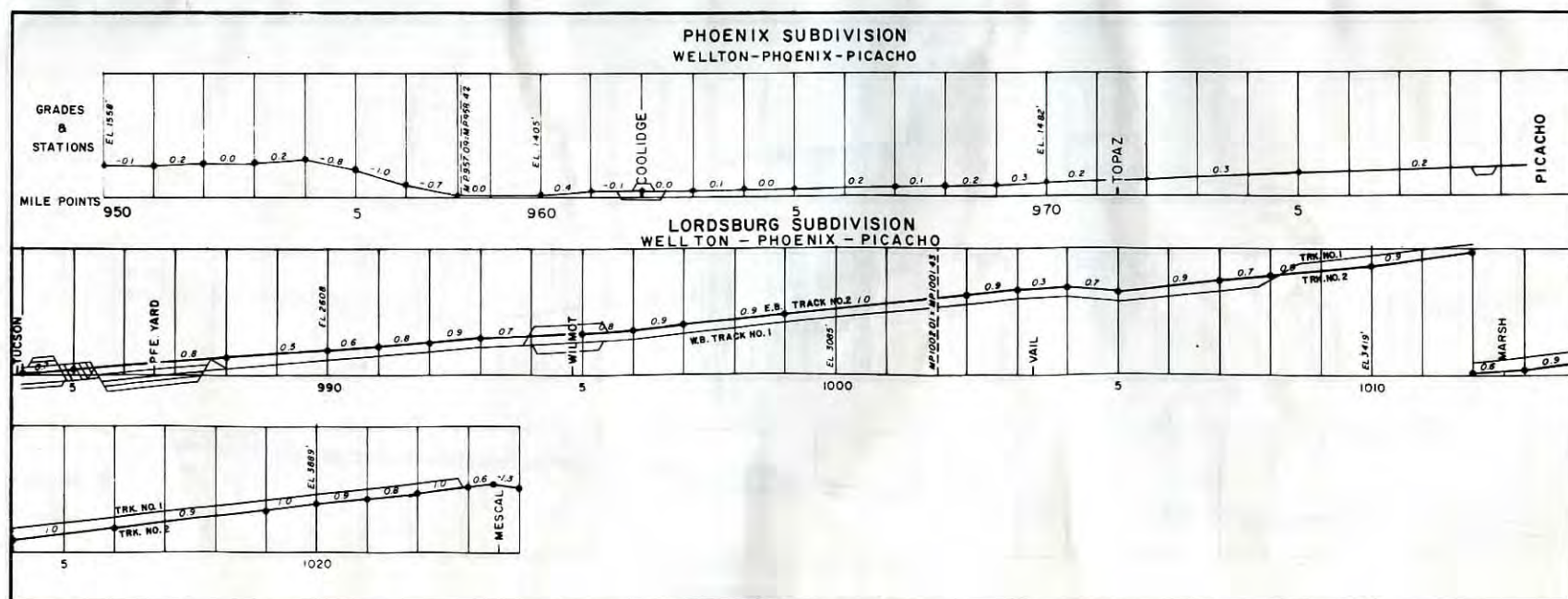
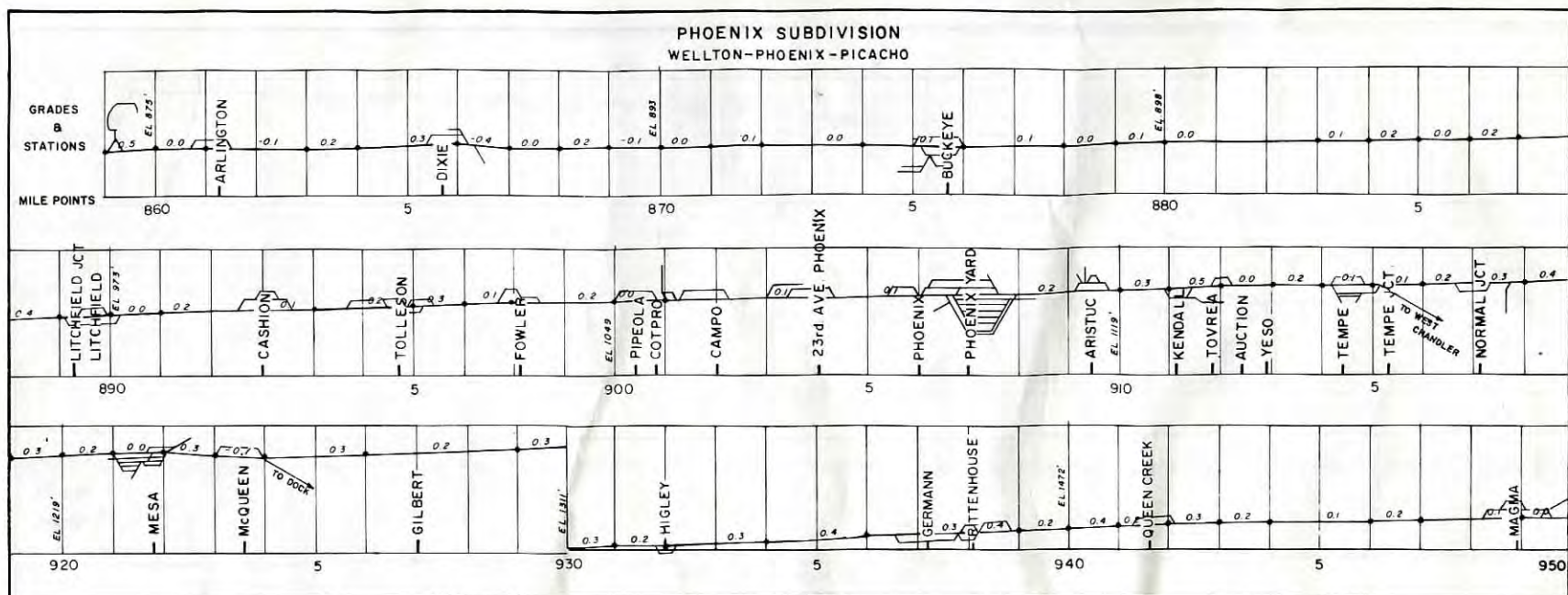
Maximum tonnage of a train must not exceed 11,000 tons except for unit trains. Maximum length of a train must not exceed 12,000 feet excluding locomotives.

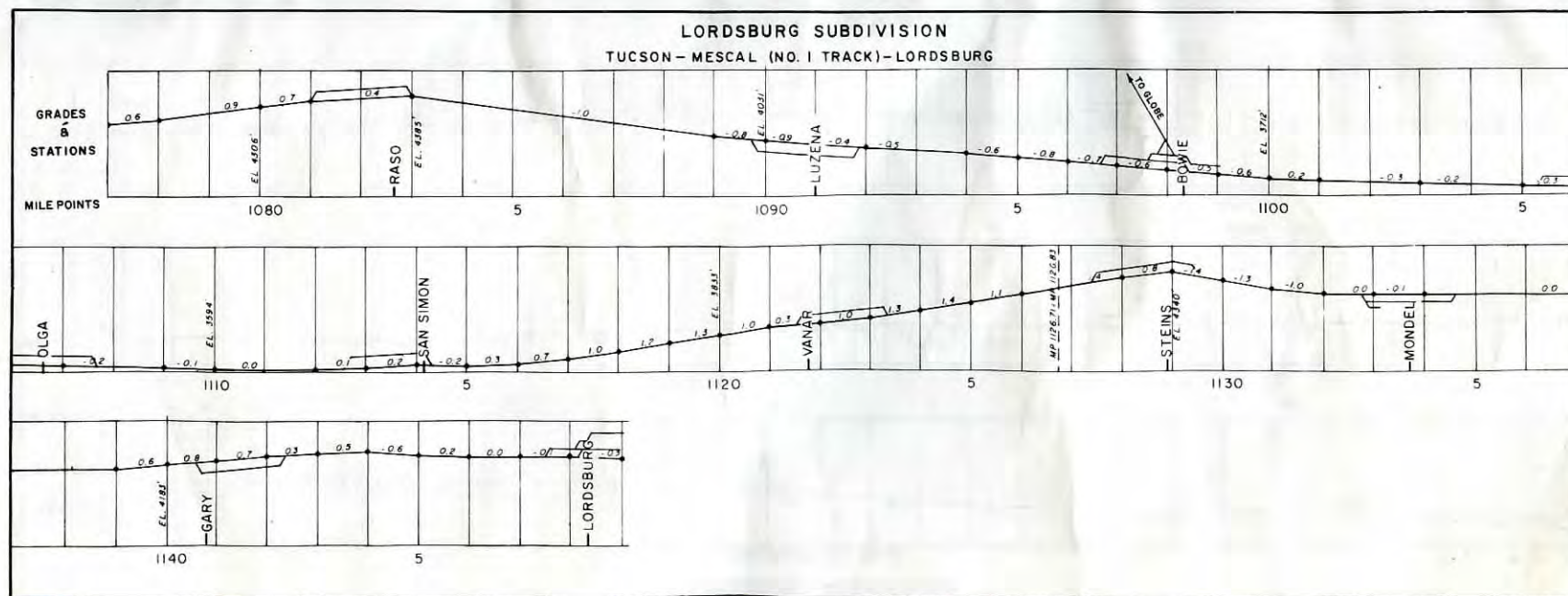
7. LOAD LIMIT: (car and contents):

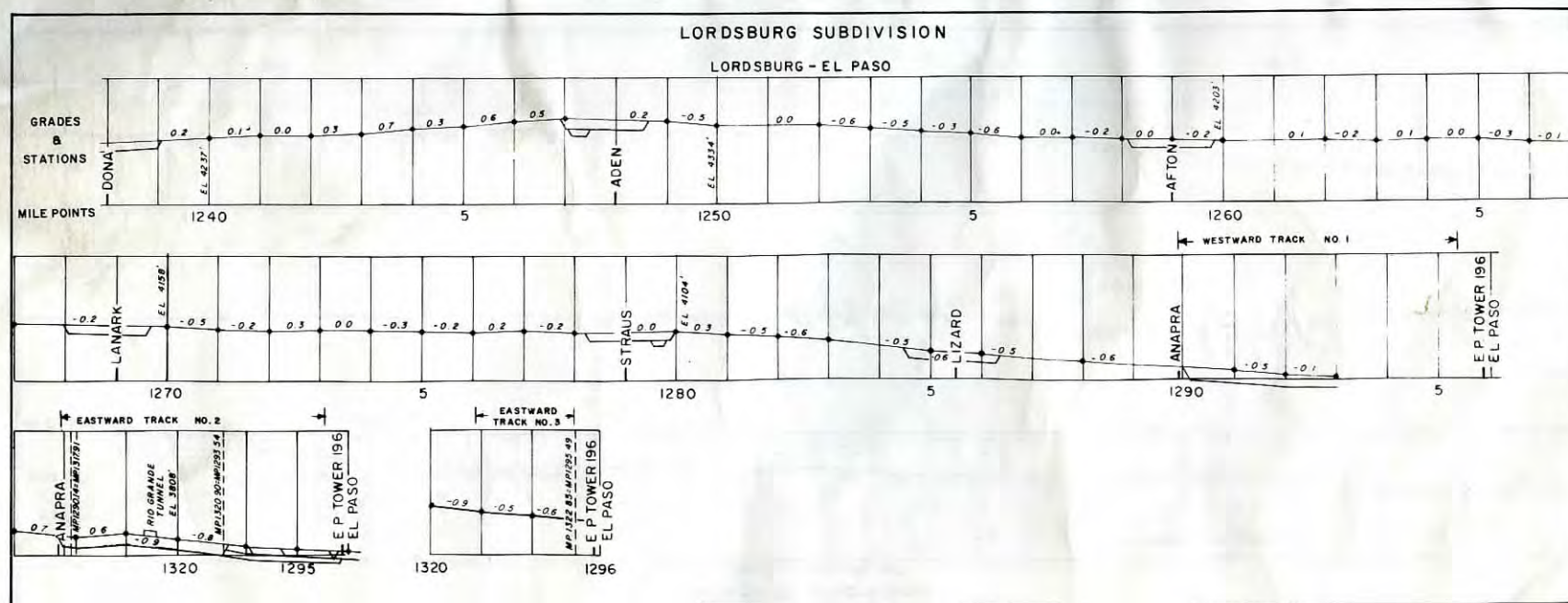
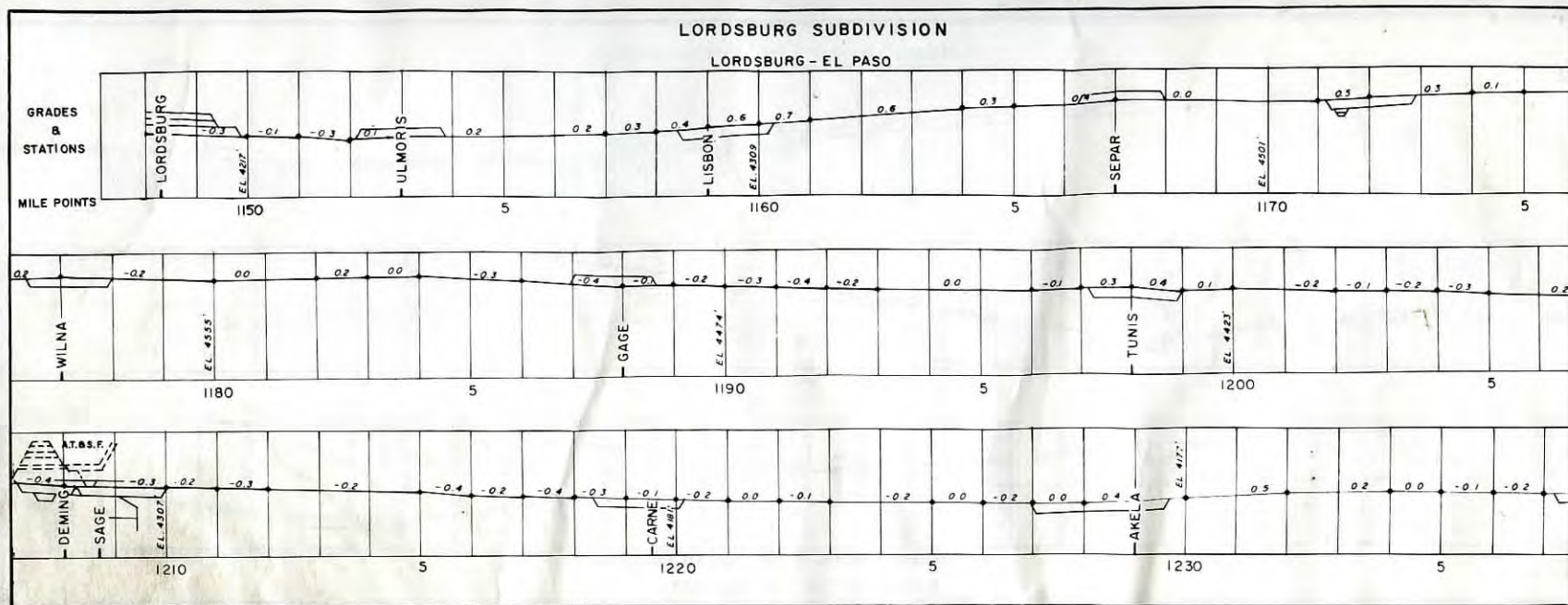
Other than Branches	315,000 pounds
Exceptions:	
El Paso-Tucumcari	263,000 pounds
Branches	
PFE Yard — Nogales	263,000 pounds
Exceptions:	
Ore cars SP 333500 to 334399 and SP 341000 to 341400 and ATSF 64000 to 64099 between MP 1004.8 and PFE Yard including AS&R spur, Anamax, Pima and Duval mines Sahuarita	281,000 pounds
Hopper cars series SP 464000	281,000 pounds
Litchfield Jct.-Litchfield Park	240,000 pounds
Tempe-West Chandler	240,000 pounds
McQueen-Dock	263,000 pounds
Magma-Hayden	263,000 pounds
Exceptions:	
KCC ore cars between Ray Jct. and Hayden	281,000 pounds
Ore cars SP 341000 to 341400 and ATSF 64000 to 64099	281,000 pounds
Cars having truck centers 30 ft. 0 in. or less	240,000 pounds
Except: UTLX, GATX, and ACFX sulphuric acid tank cars having truck centers 30 ft. 0 in. or less are permitted to operate with load limit	263,000 pounds
Bowie-Miami,	281,000 pounds
except Air dump cars SPMW 6400-6439	263,000 pounds
Lordsburg-Clifton	
Cars having truck centers:	
24 ft. 0 in. and less	240,000 pounds
Over 24 ft. 0 in. to 30 ft. 0 in.	263,000 pounds
Over 30 ft. 0 in.	281,000 pounds
Benson-Douglas	
Cars having truck centers 30 ft. 0 in. or more	281,000 pounds
Cars having truck centers less than 30 ft. 0 in.	240,000 pounds
Hopper cars SP 464000 series	281,000 pounds
Ore cars SP 467500 to 467549 between Bisbee Jct. and Douglas	281,000 pounds
Corta-Galena,	240,000 pounds
except Ore cars SP 467500-467549	281,000 pounds
Bisbee Jct.-Bisbee,	240,000 pounds
except Ore cars SP 467500-467549	281,000 pounds
Unless authorized by Superintendent, heavier loads will not be handled.	
Where maximum load limit is 263,000 pounds or more, gross loads of 395,000 pounds may be handled on 6 axle cars when load limit of car is not exceeded.	
Where maximum load limit is 263,000 pounds or more, gross loads of 526,000 pounds may be handled on 8 axle tank cars, with a maximum of 3 tank cars coupled together, when load limit of cars is not exceeded.	
8. Passenger trains are restricted to movements on main tracks, sidings and designated receiving tracks at Passenger Stations. Movement on any other tracks must be authorized by Chief Train Dispatcher.	

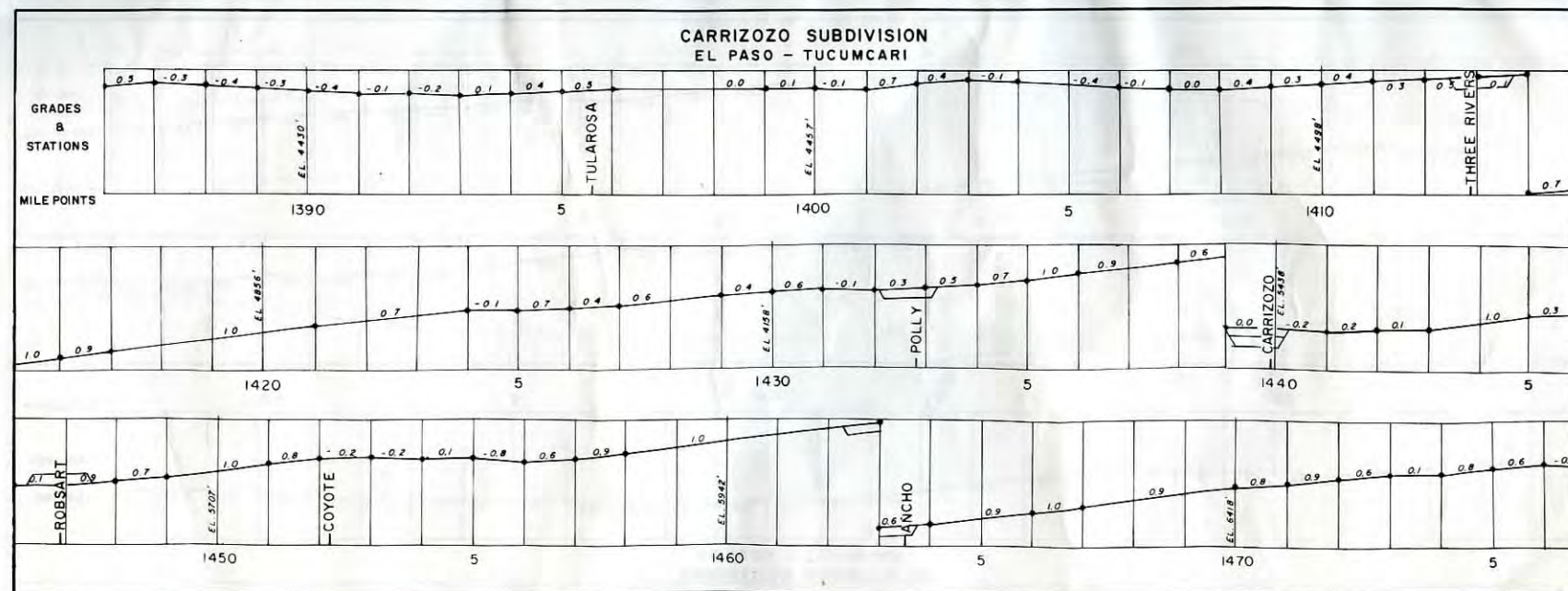
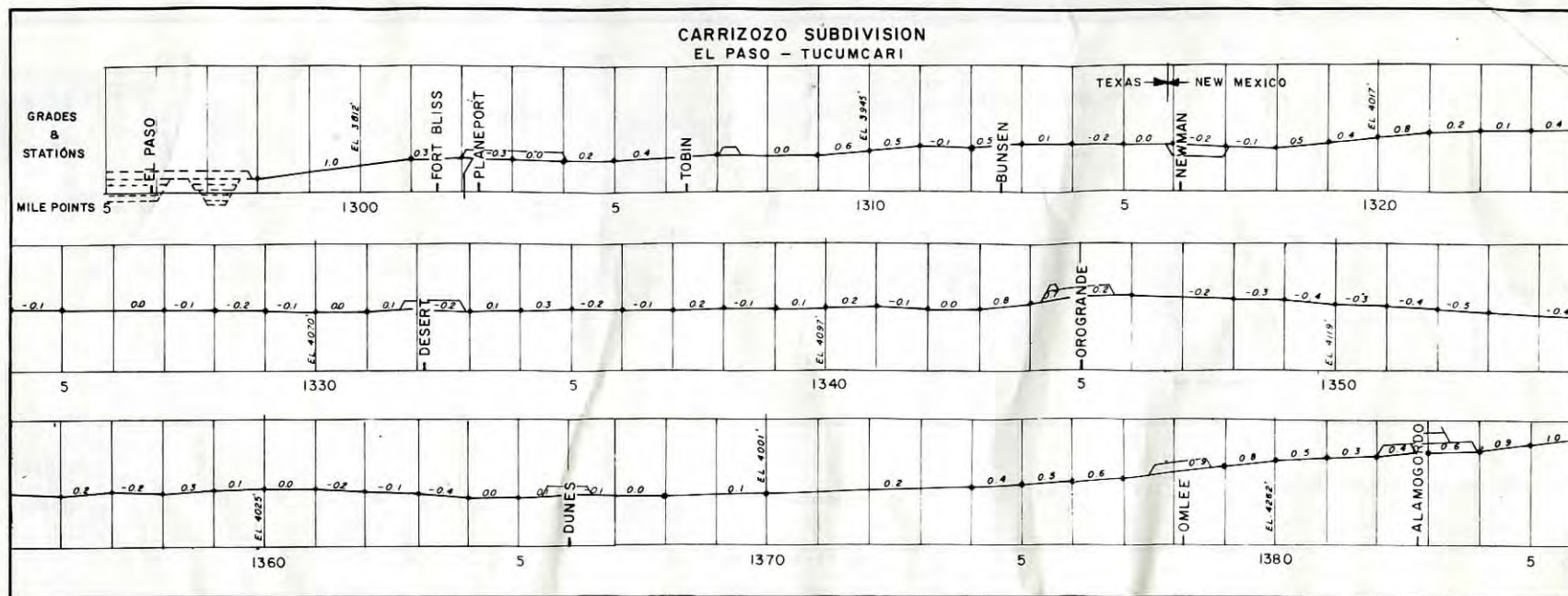


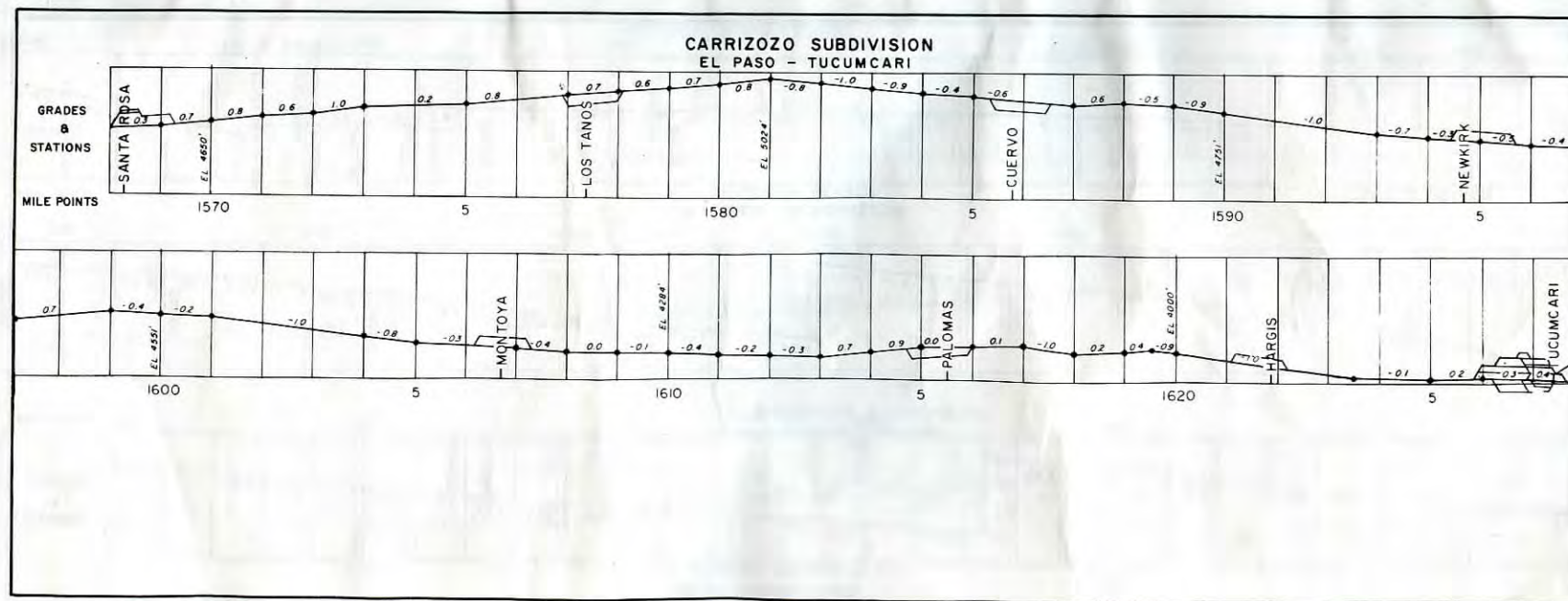


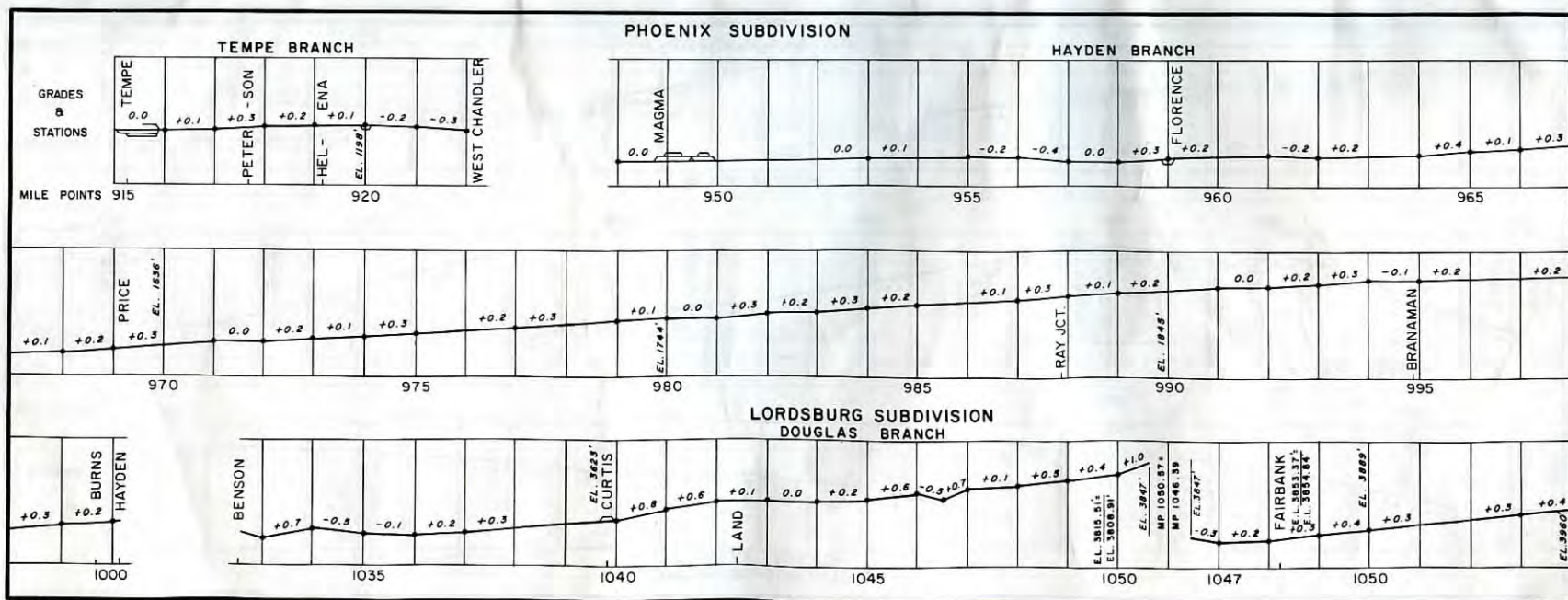


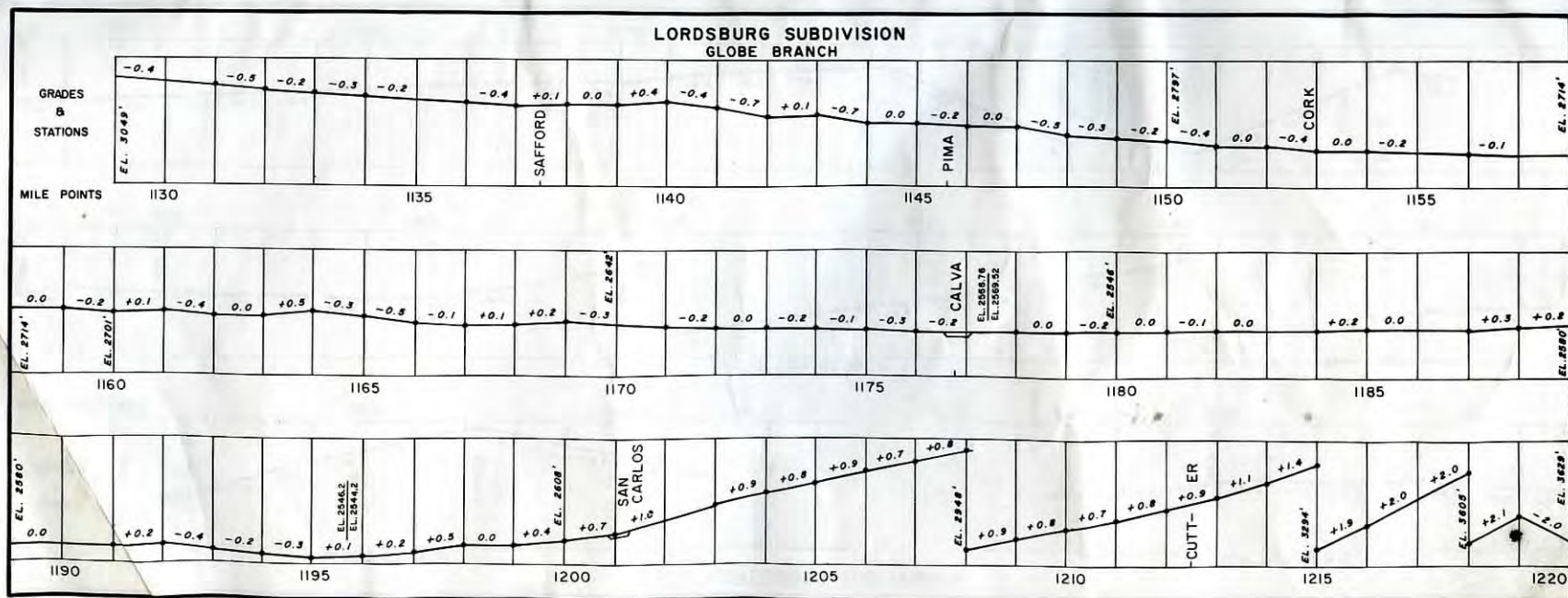
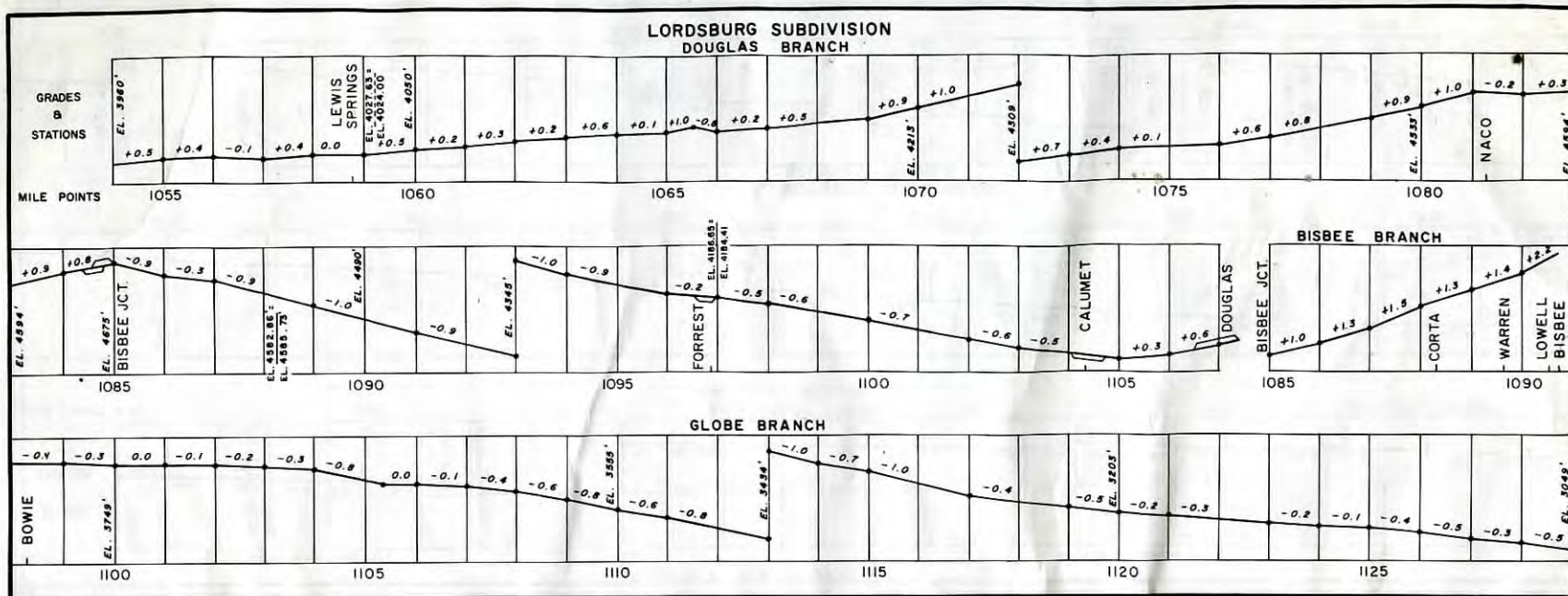


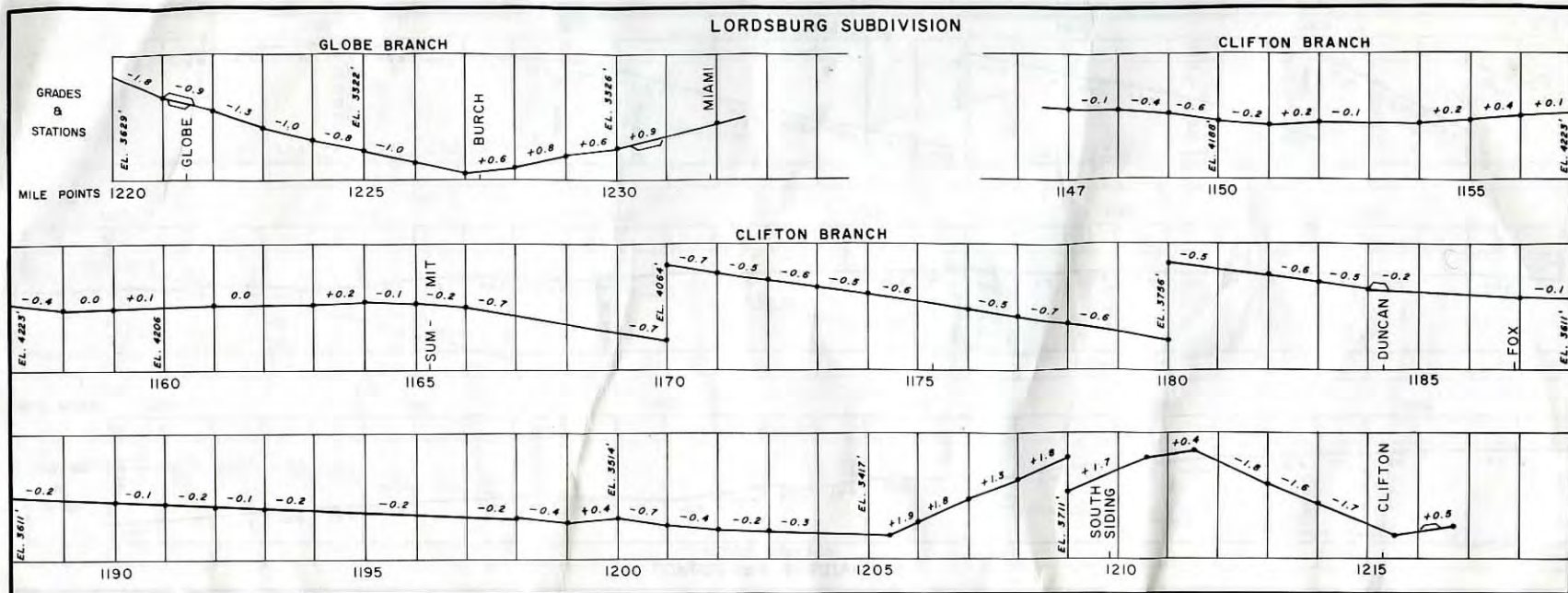




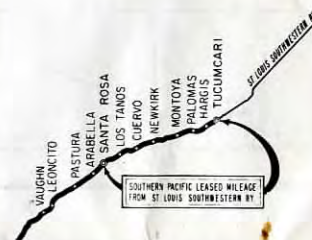








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TUCSON DIVISION

REV. TO OCT. 1, 1982