

SOUTHERN PACIFIC COMPANY

PACIFIC LINES

TIME TABLE

FOR THE

TUCSON DIVISION

113



To Take Effect Sunday, March 8, 1942, at 12:01 A. M.

MOUNTAIN STANDARD TIME

For the government and information of employes only.

L. B. McDONALD,
General Manager

C. F. DONNATIN,
Assistant General Manager

W. B. KIRKLAND,
Superintendent of Transportation

H. R. HUGHES,
Superintendent

WELLTON SUBDIVISION

EASTWARD

WESTWARD

Main time table grid with columns for Second Class (846, 902, 844, 842), First Class (2, 4, 370, 44, 6), and Third Class (841, 901). Includes station names like Yuma, Wellton, Phoenix, and various freight/limited service indicators.

Summary table with 10 columns corresponding to train classes, showing arrival times and average speeds.

Summary table with 6 columns corresponding to train classes, showing arrival times and average speeds.

Vertical text stamp: THE GOVERNMENT AND LABORERS OF EMPLOYERS

Table with 5 columns: Train, At, Receive or Discharge, To (or beyond), From (or beyond). Includes stations like Any Station, Wellton, Hyder, Buckeye, Litchfield.

Table with 2 columns: Station Name, Mileage (MP). Lists stations like Granite Spur, Yano, Harqua, Hassayampa, Palo Verde, Norton.

Table with 5 columns: Train, At, Receive or Discharge, To (or beyond), From (or beyond). Includes stations like Any Station, Buckeye, Tucson, Phx. Line St'ns & El Paso.

PICACHO SUBDIVISION

EASTWARD

WESTWARD

Capacity of sidings in car lengths	SECOND CLASS					FIRST CLASS					Distance from San Francisco	Time Table No. 113 March 8, 1942	Distance from Tucson	FIRST CLASS					SECOND CLASS	THIRD CLASS
	904	856	854	852	2	30	4	370	44	6				1	3	29	43	5	843	903
	Freight	Freight	Freight	Freight	Sunset Limited	Arizona Limited	Golden State Limited	A. O. N.	Californian	Argonaut				Sunset Limited	Golden State Limited	Arizona Limited	Californian	Argonaut	Freight	Freight
Phoenix Yard	Leave Daily	Leave Daily	Leave Daily	Leave Daily	Leave Daily	Leave Daily	Leave Daily	Leave Daily	Leave Daily	Leave Daily	STATIONS	Arrive Daily	Arrive Daily	Arrive Daily	Arrive Daily	Arrive Daily	Arrive Daily			
BKWP					10.05 PM	6.00 PM	8.35 AM		8.00 AM		R PHOENIX									
BKWO TYP	9.30 PM				10.08	6.03	8.38	8.08 AM	8.03		1.0 TO-R PHOENIX YARD	s 9.15 AM	s 11.25 AM	s 8.40 PM	s 9.00 PM					
20 Spur P	9.42				10.15		8.45	8.16	8.10		4.1 KENDALL		9.10	11.22	8.35	8.55	11.55 PM			
19 Spur P											0.7 TOVREA		9.02		8.27	8.47	11.40			
79 YP	9.52				f 10.22	6.15	f 8.52	8.23	8.17		2.6 TO TEMPE	f 8.52	11.09	s 8.21	s 8.41		11.25			
P											0.9 TEMPE JOT.									
P	10.02				10.28		8.58	8.29	8.23		1.8 NORMAL JOT.		8.46		8.13	8.34	11.10			
Yard Limits 75 WYP	10.15				s 10.38	6.27	s 9.08	8.38	8.33		4.7 TO MESA	s 8.33	10.56	s 8.05	s 8.26		10.45 10.15			
81 P	10.22				10.42		9.12	8.42	8.37		1.8 McQUEEN		8.27		7.59	8.19	9.45			
22 P											1.8 TREMAINE									
40 P	10.27				10.47		9.15	8.48	8.42		0.7 FALFA		8.23		7.55	8.15	9.33			
80 P	10.36				f 10.54	6.40	s 9.22	8.54	8.49		3.2 TO OHANDLER	f 8.18	10.40	7.50	s 8.10		9.25			
43 Spur P											1.7 POZO									
76 P	10.45				11.01		9.29	9.01	8.56		3.3 SERAPE		8.10	10.33	7.40	8.02	9.17			
67 P	10.56				11.06		9.34	9.08	9.01		4.7 SANTAN		8.05	10.33	7.40	8.02	9.17			
67 P	11.05				11.11	6.56	9.39	9.13	9.06		4.2 DOCK		8.00	10.23	7.30	7.52	9.09			
14 Spur P											4.9 OLBERG						9.02			
75 P	11.22				11.22	7.07	9.50	9.24	9.17		5.1 BLACKWATER		7.49	10.12	7.19	7.40	8.46			
118 YP	11.33				11.27	7.12	9.55	9.29	9.22		5.0 POSTON		7.44		7.12	7.35	8.38			
73 WP	11.52 PM				f 11.35	7.16	s 10.03	9.43	9.32		3.8 TO COOLIDGE	s 7.39	10.03	7.05	s 7.30		8.30			
32 P						7.21		9.58			4.4 RANDOLPH									
67 P	12.10 AM				11.47		10.18	10.04	9.53		5.0 TOPAZ		7.28	9.53	6.54	7.13	8.11			
P											3.8 PEAK									
94 E89 WOYP	12.28	7.40 PM	10.45 AM	3.25 AM	11.59 PM	7.36	10.32	10.16	10.03	9.10 AM	4.5 TO PICACHO	4.45 AM	7.18	9.43	6.43	f 7.02	4.30 PM 7.57			
72 P	12.38	7.50	10.55	3.35	12.05 AM		10.38	10.21	10.08	9.17	4.0 OCATILLA	4.41	7.13		6.38	6.56	4.23 7.50			
90 P	12.47	7.59	11.04	3.44	12.09	7.43	10.42	10.25	10.12	9.23	3.5 WYMOLA	4.37	7.09	9.35	6.34	6.52	4.17 7.43			
71 P	12.55	8.07	11.11	3.51	12.13		10.46	10.29	10.16	9.31	3.7 MONTROSE	4.33	7.05	9.31	6.30	6.48	4.11 7.36			
W78 E78 WP	1.04	8.16	11.18	3.58	12.18	7.50	10.51	10.33	10.20	f 9.39	3.5 TO RED ROOK	4.29	7.01	9.27	6.26	f 6.44	4.05 7.30			
67 P	1.09	8.21	11.23	4.03	12.21		10.54	10.36	10.23	9.43	2.9 AVRA	4.26	6.58		6.23	6.39	4.00 7.25			
78 P	1.16	8.28	11.30	4.10	12.25	7.57	10.59	10.40	10.27	9.48	4.1 NAVISKA	4.21	6.53	9.20	6.18	6.34	3.53 7.18			
69 P	1.22	8.34	11.36	4.16	12.29		11.04	10.44	10.31	f 9.54	3.8 MARANA	4.16	6.49		6.14	f 6.29	3.47 7.12			
94 P	1.27	8.39	11.41	4.21	12.32		11.07	10.47	10.34	9.58	2.4 ROSKRUGE	4.13	6.46		6.11	6.24	3.43 7.08			
164 WP	1.32	8.44	11.46	4.26	12.35	8.05	11.10	10.50	10.37	10.02	2.3 RILLITO	4.10	6.43	9.12	6.08	f 6.21	3.39 7.04			
93 P	1.38	8.50	11.52	4.32	12.39		11.14	10.53	10.40	10.07	3.0 SABINO	4.07	6.40		6.05	6.16	3.34 6.59			
78 P	1.43	8.55	11.57 AM	4.37	12.42	8.10	11.17	10.56	10.43	f 10.13	2.2 COORTARO	4.04	6.37	9.07	6.02	f 6.13	3.30 6.55			
93 P	1.48	9.00	12.02 PM	4.42	12.45		11.20	10.59	10.46	10.17	2.6 KINO	4.00	6.34		5.59	6.09	3.26 6.51			
W78 E78 P	1.53	9.05	12.07	4.47	12.48		11.23	11.02	10.49	10.22	2.7 JAYNES	3.57	6.31		5.56	6.06	3.21 6.46			
P	1.59	9.11	12.13	4.53	12.52	8.19	11.27	11.06	10.53	10.27	3.8 STOCKHAM	3.53	6.27	8.58	5.52	6.02	3.14 6.39			
Tucson Yard BKWFITYP	2.10 AM	9.25 PM	12.25 PM	5.05 AM	s 1.00 AM	s 8.25 PM	s 11.35 AM	11.15 AM	s 11.00 AM	s 10.35 AM	2.7 TO-R TUCSON	3.45 AM	6.20 AM	8.52 AM	5.45 PM	5.55 PM	3.05 PM 6.30 PM			
	Arrive Daily	Arrive Daily	Arrive Daily	Arrive Daily	Arrive Daily	Arrive Daily	Arrive Daily	Arrive Daily	Arrive Daily	Arrive Daily	(120.9)	Leave Daily	Leave Daily	Leave Daily	Leave Daily	Leave Daily	Leave Daily			

(4.40) 25.69 (1.45) 26.97 (1.40) 28.32 (1.40) 28.32 (2.55) 41.45 (2.25) 50.03 (3.00) 40.30 (3.07) 38.47 (3.00) 40.30 (1.25) 33.32 Time over District Average Speed per Hour (1.00) 47.20 (2.55) 41.45 (2.33) 47.41 (2.55) 41.45 (3.05) 39.21 (1.25) 33.32 (5.25) 22.13

RULE S-72. Westward trains are superior to trains of the same class in the opposite direction, except No. 30 is superior to all westward trains and Nos. 4, 44 and 370 are superior to No. 1.
RULES 86, 87 and 93. Second and inferior class trains, extra trains and engines must clear the time of No. 29 and No. 30 not less than ten minutes.
 Inferior trains must be clear of main track and insulated joints at meeting and passing points for No. 29 and No. 30.
RULE 206 (A). Unless otherwise instructed, crews arriving Phoenix on eastward first-class trains, will assume same schedule at Phoenix and these trains and No. 30 proceed to Phoenix Yard without clearance.
RULE 221. Trains terminating at Phoenix need not obtain clearance at Phoenix Yard.
 Second main track between east end Phoenix Yard and east switch Kendall, may be used by freight trains when authorized by train order. Single track rules apply.
RULE 5. At Picacho schedule time and train orders apply at junction switch.

No. 44 reduce speed sufficiently, stopping if necessary to permit exchange of first class and working mail at Tempe, Mesa, Chandler and Coolidge.

Train	At	Receive or Discharge	To (or beyond)	From (or beyond)
6	Rillito, Jaynes	Receive Discharge Revenue	Any Station	Any Station
44	Any Station	Discharge	Any Station	Yuma
44	Tempe, Mesa	Receive	East of El Paso	
4	Chandler, Coolidge	Discharge		Ph's Line Stn's
30	Any Station	Receive	Kansas City	

Train	At	Receive or Discharge	To (or beyond)	From (or beyond)
1	Any Station Tucson to Picacho	Receive	Gila Line Stations	
1	inc., except Jaynes, Rillito	Receive Revenue	Any Station	
29	Jaynes, Rillito	Discharge		Kansas City
43	Chandler	Discharge Revenue		East of El Paso
43	Any Station	Receive Revenue	San Diego	
5	Coolidge, Chandler	Receive Discharge	Phoenix Line Stations	El Paso

WELLTON SUBDIVISION

EASTWARD

WESTWARD

Capacity of sidings in car lengths	EASTWARD						Distance from San Francisco	Time Table No. 113 March 8, 1942	Distance from Gila	WESTWARD					
	SECOND CLASS			FIRST CLASS						FIRST CLASS			SECOND CLASS		
		846 Freight	844 Freight	842 Freight						6 Argonaut	1 Sunset Limited				841 Freight
		Leave Daily	Leave Daily	Leave Daily			Leave Daily		Arrive Daily			Arrive Daily			
68 WIP		6.05 PM	9.35 AM	2.30 AM			4.40 AM	770.0	TO WELLTON 3.1	85.7	f	9.00 AM		12.30 AM	
69 P		6.13	9.43	2.38			4.46	773.1	ASHER 3.3	82.6		8.54		12.22	
63 P		6.19	9.49	2.44			f 4.50	776.4	TAONA 3.7	79.3	f	8.49		12.16	
69 P		6.25	9.55	2.50			4.55	780.1	Gael 3.7	75.6		8.44		12.09	
63 P		6.31	10.01	2.56			5.00	783.8	COLFRED 4.8	71.9		8.39		12.02 AM	
67 P		6.39	10.09	3.04			5.06	788.6	PEMBROKE 4.0	67.1		8.33		11.54 PM	
W79 E67 P		6.50	10.20	3.15			f 5.13	792.6	TO MOHAWK 3.3	63.1	f	8.28		11.47	
63 P		6.56	10.26	3.21			5.18	795.9	KIM 4.6	59.8		8.20		11.37	
64 P		7.04	10.34	3.29			5.24	800.5	STOVAL 5.7	55.2		8.14		11.29	
94 P		7.14	10.44	3.39			f 5.31	806.2	MUSINA 5.7	49.5	f	8.07		11.20	
63 WP		7.24	10.54	3.49			f 5.40	811.9	AZTEC 3.9	43.8	f	7.59		11.09	
94 P		7.30	11.00	3.55			5.45	815.8	MUGGINS 3.9	39.9		7.53		10.54	
63 P		7.37	11.07	4.02			5.49	819.7	STANWIX 2.3	36.0		7.49		10.47	
68 P		7.41	11.11	4.06			5.52	822.0	LAVA 4.1	33.7		7.46		10.43	
W76 E72 WOP		8.05	11.35	4.30			f 6.04	826.1	TO SENTINEL 3.5	29.6	s	7.40		10.35	
76 P		8.15	11.45	4.40			6.09	829.6	TRIGO 3.5	26.1		7.30		10.29	
61 P		8.22	11.52 AM	4.47			6.14	833.1	TARTRON 6.8	22.6		7.26		10.23	
65 P		8.33	12.03 PM	4.58			6.23	839.9	PIEDRA 5.6	15.8		7.17		10.12	
64 P		8.42	12.12	5.07			f 6.30	845.5	THEBA 4.8	10.2	f	7.10		10.03	
63 P		8.50	12.20	5.15			6.36	850.3	SMURR 5.4	5.4		7.04		9.55	
Yard Limits BKWOTYP		9.00 PM	12.30 PM	5.25 AM			s 6.45 AM	855.7	TO-R GILA (85.7)	0.0		6.55 AM		9.45 PM	
		Arrive Daily	Arrive Daily	Arrive Daily			Arrive Daily					Leave Daily		Leave Daily	

(2.55) 29.38 (2.55) 29.38 (2.55) 29.38 (2.05) 41.14 (2.05) 41.14 (2.45) 31.16
 Time over District
 Average Speed per Hour

WELLTON SUBDIVISION

YUMA VALLEY RAILROAD

SPECIAL INSTRUCTIONS

Capacity of sidings in car lengths	EASTWARD	Distance from San Francisco	Time Table No. 113 March 8, 1942		Distance from Litchfield Park	WESTWARD
			Litchfield Branch			
			STATIONS			
74 YP		889.7	LITCHFIELD 5.0	5.0		
30-16-17 Spurs		894.7	LITCHFIELD PARK (5.0)	0.0		

Capacity of sidings in car lengths	EASTWARD	Distance from Yuma	Time Table No. 113 March 8, 1942		Distance from Gadsden	WESTWARD
			STATIONS			
			Yuma Yard P				0.0	R YUMA 1.0	21.0
20		1.0	U.S.R.S. 2.0	20.0		
25 Spur		3.0	LUDY 5.5	18.0		
23		8.5	WILLETTS 1.7	12.5		
8 Spur		10.2	SPILLWAY 4.8	10.8		
25		15.0	SOMERTON 6.0	6.0		
		21.0	GADSDEN (21.0)	0.0		

Southern Pacific Company Rules and Regulations of the Transportation Department, Air Brake Rules, and Special Instructions in Tucson Division Time Table govern on Yuma Valley Railroad.

Trains will not exceed speed 15 MPH except must not exceed 8 MPH over trestle at U.S.R.S.

Impaired side clearance at Spillway Spur, MP 10.25.

At Yuma, normal position of junction switch will be for S.P. yard tracks.

RULE 93: Yard limits are established at Yuma.

U.S.R.S. yard, Yuma, and Ludy siding must not be used.

Track out service and must not be used east of MP 16 (Somerton).

RULE 5. At Gila schedule time and train orders for first class trains apply at passenger station.

ADDITIONAL FLAG STOPS TO RECEIVE OR DISCHARGE PASSENGERS				
Train	At	Receive or Discharge	To (or beyond)	From (or beyond)
1 6	Piedra Piedra	Receive Revenue Receive Discharge Revenue	Any Station Any Station	Any Station

PICACHO SUBDIVISION

PICACHO SUBDIVISION

EASTWARD				Time Table No. 113 March 8, 1942		WESTWARD			
Capacity of sidings in car lengths	SECOND CLASS			FIRST CLASS	Distance from San Francisco	STATIONS	Distance from Picacho	FIRST CLASS	SECOND CLASS
	856	854	852	6				1	843
	Freight	Freight	Freight	Argonaut				Sunset Limited	Freight
	Leave Daily	Leave Daily	Leave Daily	Leave Daily				Arrive Daily	Arrive Daily
Yard Limits BKWOTYP	4.30 PM	7.40 AM	12.20 AM	6.55 AM	855.7	TO-R GILA 3.4	81.8	s 6.45 AM	7.15 PM
62 P	4.39	7.49	12.29	7.02	859.1	COLEDON 6.0	78.4	6.38	7.05
74 P	4.55	8.05	12.45	7.12	865.1	BOSQUE 4.0	72.4	6.30	6.54
62 P	5.07	8.17	12.57	7.19	869.1	OOAPOS 2.7	68.4	6.24	6.46
73 P	5.17	8.27	1.07	7.24	871.8	SHAWMUT 2.8	65.7	6.20	6.41
72 YP	5.30	8.40	1.20	f 7.30	874.6	TO ESTRELLA 4.8	62.9	f 6.16	6.36
64 P	5.39	8.49	1.29	7.36	879.4	BUCHAN 4.3	58.1	6.09	6.27
63 P	5.47	8.57	1.37	f 7.43	883.7	MOBILE 4.7	53.8	f 6.03	6.19
62 P	5.55	9.05	1.45	7.50	888.4	ENID 4.4	49.1	5.56	6.11
63 P	6.03	9.13	1.53	7.55	892.8	HEATON 5.0	44.7	5.50	6.03
146 WP	6.25	9.35	2.15	f 8.05	897.8	TO MARIKOOPA 5.1	39.7	s 5.43	5.50
61 P	6.35	9.45	2.25	8.13	902.9	LIRIM 4.8	34.6	5.31	5.27
70 P	6.45	9.53	2.33	8.20	907.7	BON 4.8	29.8	5.26	5.19
63 P	6.55	10.01	2.41	8.27	912.5	NUNEZ 6.3	25.0	5.21	5.11
Yard Limits 88 WP	7.07	10.12	2.52	s 8.40	918.8	TO CASA GRANDE 2.2	18.7	s 5.13	5.01
13 Spur					921.0	SECO 2.7	16.5		
61 P	7.16	10.21	3.01	8.47	923.7	ARIZOLA 4.7	13.8	5.05	4.53
63 P	7.24	10.29	3.09	8.54	928.4	TOLTEC 4.7	9.1	4.59	4.45
74 P	7.32	10.37	3.17	f 9.03	933.1	ELOY 4.4	4.4	f 4.52	4.37
94 WOYP E89	7.40 PM	10.45 AM	3.25 AM	f 9.10 AM	937.5	TO PICACHO 81.8	0.0	4.45 AM	4.30 PM
	Arrive Daily	Arrive Daily	Arrive Daily	Arrive Daily				Leave Daily	Leave Daily
	(3.10) 25.83	(3.05) 26.53	(3.05) 26.53	(2.15) 36.36		Time over district.....		(2.00) 40.90	(2.45) 29.68
						Average speed per hour.....			

EASTWARD		Time Table No. 113 March 8, 1942		WESTWARD	
Capacity of sidings in car lengths	Distance from San Francisco	Christmas Branch		Distance from Christmas	STATIONS
		STATIONS	STATIONS		
81 P	923.6	McQUEEN 3.4	86.9		
72 P	927.0	TO GILBERT 5.0	83.5		
26	932.0	HIGLEY 3.0	78.5		
9	935.6	GERMANN 2.5	74.9		
18 P	938.1	BITTENHOUSE 3.5	72.4		
54 P	941.6	QUEEN CREEK 3.2	68.9		
45 P	949.8	MAGMA 9.2	60.7		
27 WP	959.0	TO FLORENCE 9.3	51.5		
6 Spur	968.8	DIVERSION 0.7	42.2		
26 P	969.0	PRICE 6.2	41.5		
26 P	975.2	COCHRAN 7.9	35.3		
23 P	983.1	ZELLWEGER 1.5	27.4		
5 Spur	984.6	WOOLEY 3.2	25.9		
Yd Limits P	987.8	TO-R RAY JUNCTION 7.1	22.7		
29	994.9	BRANAMAN 4.3	15.6		
Yard Limits	Y	999.2	BURNS WYE 0.5	11.3	
		999.7	BURNS 0.5	10.8	
28	1000.2	TO-R HAYDEN JOT. 1.9	10.3		
BWOP	1002.1	TO HAYDEN 1.4	8.4		
14 KP	1003.5	WINKELMAN 1.2	7.0		
8 Spur	1004.7	ROCK QUARRY 2.3	5.8		
	1007.0	FINNEY 2.4	3.5		
2 Spur	1009.4	RUDO 1.1	1.1		
41	1010.5	CHRISTMAS	0.0		
		(86.9)			

ADDITIONAL STATIONS
Barr M.P. 961.8

RULE 5. At Gila schedule time and train orders for first class trains apply at passenger station.

At Picacho schedule time and train orders apply at junction switch.

At Hayden Jct. when train-order office is open, signal governs movement of trains and engines between Christmas Branch junction switch (1584 feet east of Hayden Jct.) and Hayden Jct. train-order office. Movements between these points are authorized by signal being placed in proceed position after being called for by one long, one short and one long sound of whistle. When train-order office is closed, movements may be made between these points "With Caution" if intervening track is seen to be clear.

Normal position Christmas Branch junction switch is for Kennecott Copper Corporation Railroad. Westward trains and engines via Kennecott Copper Corporation Railroad, and via Christmas Branch, must stop to clear Christmas Branch junction switch before proceeding as authorized above.

RULE 99 must be complied with between Christmas Branch junction switch and Ray Consolidated derail on Kennecott Copper Corporation Railroad.

ADDITIONAL FLAG STOPS TO RECEIVE OR DISCHARGE PASSENGERS				
Train	At	Receive or Discharge	To (or beyond)	From (or beyond)
1 6	Toltec, Bon, Bosque Bosque, Bon, Toltec	Receive Revenue Receive Discharge Revenue	Any Station Any Station	Any Station

EASTWARD		PICACHO SUBDIVISION		WESTWARD	
Capacity of sidings in car lengths	Distance from San Francisco	Time Table No. 113 March 8, 1942		Distance from Normal Jct.	STATIONS
		STATIONS	STATIONS		
79 YP	914.4	TO TEMPE 1.0	2.1		
75 13} Spurs	915.4	CREAMERY 1.1	1.1		
	916.5	NORMAL JOT. (2.1)	0.0		

EASTWARD		PICACHO SUBDIVISION		WESTWARD	
Capacity of sidings in car lengths	Distance from San Francisco	Time Table No. 113 March 8, 1942		Distance from West Chandler	STATIONS
		STATIONS	STATIONS		
P	915.8	TEMPE JOT. 2.4	7.7		
20	917.7	PETERSON 2.4	5.3		
48	920.1	HELENA 2.9	2.9		
	923.0	WEST CHANDLER (7.7)	0.0		

EASTWARD

PICACHO SUBDIVISION

WESTWARD

EASTWARD

BOWIE SUBDIVISION

WESTWARD

Capacity of sidings in car lengths	SECOND CLASS		FIRST CLASS		Distance from San Francisco	Time Table No. 113		Distance from Nogales	FIRST CLASS		THIRD CLASS	
	870		378			March 8, 1942			379		871	
	Freight		Mexican Express			Nogales Branch			Mexican Express		Freight	
Tucson Yard	Lv. Tuesday, Friday		Leave Daily Ex. Sunday			STATIONS			Arrive Daily Ex. Sunday		Arrive Tues., Friday	
	BKWFYTP	6.00AM	11.40AM	983.9		TO-R TUCSON	TO-R TUCSON		65.9	s 4.35PM	5.40 PM	
						VIA SHOP YARD	T. & N. R. R. JCT.	65.1				
	P	6.15	11.50AM	986.5	SOUTH LINE CROSSING	SOUTH LINE CROSSING	62.9	4.25	5.24			
55	P	6.35	12.02PM	988.8	XAVIER		56.0	4.13	5.07			
62	P	7.00	f 12.17	1002.4	SAHUARITA		47.4	f 3.58	4.45			
12 Spur	P		f	1010.4	CONTINENTAL		39.4	f				
18 Spur	P			1012.1	MORALES		37.7					
56	P	7.40	12.41	1016.3	CANOA		33.5	3.34	4.10			
57	P	7.55	s 12.51	1021.1	AMADO	TO	28.7	s 3.25	3.57			
56	P	8.05	12.59	1025.6	CHAVEZ		24.2	3.16	3.42			
			f	1028.1	SOTOS CROSSING		21.7	f				
57	P	8.30	f 1.14	1034.2	OTERO		15.6	f 3.01	3.20			
89 Spur	P	8.50	1.24	1040.1	CALABASAS		9.7	2.51	3.05			
Nogales Yard BKWFTP		9.30AM	s 1.45PM	1049.8	NOGALES	TO-R	0.0	2.30PM	2.40PM			
		Arrive Tues., Friday	Arrive Daily Ex. Sunday		(65.9)			Leave Daily Ex. Sunday	Leave Tues., Friday			

(3.30) 18.83

(2.05) 31.44

Time over District Average Speed per Hour

(2.05) 31.44

(3.00) 21.97

Rule S-72 Exception, No. 378 is superior to No. 379.

Passenger trains use shop yard route, Tucson yard. Freight trains use T. & N. R. R. Jct. route, Tucson yard.

Capacity of sidings in car lengths	SECOND CLASS		FIRST CLASS		Distance from San Francisco	Time Table No. 113		Distance from Live Oak	FIRST CLASS		SECOND CLASS	
	884		382			March 8, 1942			381		883	
	Local Freight		Motor			Globe Branch			Motor		Local Freight	
Yard Limits	Leave Daily Ex. Monday		Leave Daily			STATIONS			Arrive Daily		Arrive Daily Ex. Sunday	
	BKWFYTP	8.00AM	3.05PM	1098.4		TO-R BOWIE	136.4		s 1.00PM	4.55PM		
50	P	8.25	3.22	1107.4	ESCALA	126.9	12.36	4.33				
13	P	8.50	f 3.38	1117.8	TANQUE	116.5	f 12.17	4.07				
42	P	9.05	3.49	1125.1	HAECKEL	109.2	12.04PM	3.49				
38	P	9.25	s 4.02	1132.6	SOLOMON	101.7	s 11.52AM	3.18				
21 Spur				1135.3	LONE STAR	99.0						
Yard Limits WP		10.20	s 4.15	1137.5	SAFFORD	96.8	s 11.40	2.40				
34	P	10.35	s 4.25	1140.6	THATCHER	93.7	s 11.28	1.15				
				1143.1	CENTRAL	91.2						
28	P	10.55	s 4.36	1145.6	PIMA	88.7	s 11.18	1.00				
62	P	11.14	4.40	1146.7	DUBLIN	87.6	11.14	12.50				
				1148.9	GLENBAR	85.4						
59	P	11.45AM	f 4.51	1153.0	CORK	81.3	f 11.04	12.30				
				1154.8	ASHURST	79.5						
59	P	12.10PM	s 5.04	1159.3	FT. THOMAS	75.0	s 10.53	12.10PM				
17	WP	12.25	f 5.13	1164.2	GERONIMO	70.1	f 10.43	11.50AM				
54	P	12.40	f 5.24	1170.1	BYLAS	64.2	f 10.31	11.35				
52	P	12.57	f 5.36	1176.8	CALVA	57.5	f 10.19	11.20				
53	P	1.15	5.48	1183.7	NACHES	50.6	10.07	11.05				
52	P	1.40	6.04	1191.0	DILI	43.8	9.51	10.40				
	P		f	1197.3	PERIDOT	37.0	f					
				1197.2	PERIDOT	37.0						
52	WP	2.10	s 6.25	1201.0	SAN CARLOS	33.2	s 9.30	10.10				
20 Spur	P			1207.8	BEPPY	26.4						
43	P	2.50	f 6.52	1213.5	CUTTER	20.7	f 9.06	9.40				
20	P	3.10	7.08	1219.3	PINAL	14.9	8.54	9.23				
Yd. Limits BKWOTP		3.20PM	s 7.15PM	1221.5	GLOBE	12.7	8.45AM	9.10AM				
13	P			1226.2	RADIUM	8.0						
3 Spur				1227.3	BURCH	6.9						
9 Spur				1230.2	CLAYPOOL	4.0						
Yard Limits WYP				1231.9	MIAMI	2.3						
27				1233.0	INSPIRATION JCT.	1.2						
14				1234.2	LIVE OAK	0.0						
		Arrive Daily Ex. Monday	Arrive Daily		(136.4)		Leave Daily	Leave Daily Ex. Sunday				

(7.20) 16.87

(4.10) 29.69

Time over District Average Speed per Hour

(4.15) 29.11

(7.45) 15.96

EASTWARD

BOWIE SUBDIVISION

WESTWARD

Capacity of sidings in car lengths	SECOND CLASS						FIRST CLASS					Distance from San Francisco	Time Table No. 113 March 8, 1942	Distance from Lordsburg	FIRST CLASS		SECOND CLASS	
	866	964	864	962	862	960	30	4	44	6	2				43	1	845	
	Freight	Freight	Freight	Freight	Freight	Freight	Arizona Limited	Golden State Limited	Californian	Argonaut	Sunset Limited				Californian	Sunset Limited	Freight	
	Leave Daily	Leave Daily	Leave Daily	Leave Daily	Leave Daily	Leave Daily	Leave Daily	Leave Daily	Leave Daily	Leave Daily	Leave Daily				Arrive Daily	Arrive Daily	Arrive Daily	
Tucson Yard	5.45 PM	4.05 PM	8.40 AM	7.45 AM	1.45 AM	12.01 AM	8.33 PM	11.50 AM	11.15 AM	11.05 AM	1.20 AM	983.9	TO-R TUCSON					
BKW FTYP												984.7	0.8 T. & N. R. R. JOT.					
4 Spur	5.58	4.20	8.53	8.00	1.58	12.15	8.41	11.59 AM	11.24	11.14	1.30	987.7	3.0 POLVO					
13 Spur P												990.7	3.0 WILMOT					
63 P	6.13	4.40	9.08	8.20	2.13	12.35	8.48	12.10 PM	11.34	11.25	1.41	998.8	3.1 RANKIN					
P												998.6	3.8 ESMOND					
63 P	6.35	5.05	9.30	8.45	2.35	1.00	8.59	12.26	11.50 AM	f 11.41	1.57	1008.3	4.7 VAIL					
79 WP	6.57	5.40	9.52	9.20	2.57	1.35	9.15	12.43	12.07 PM	f 11.59 AM	2.14	1012.6	9.3 PANTANO					
N94 S85 CIYP	7.30	6.20 PM	10.25	10.01 AM	3.30	2.15 AM	9.33 PM	1.02 PM	12.27 PM	f 12.20 PM	2.33	1023.6	11.0 TO-R MESCAL	124.7	f 4.30 PM	2.30 AM		2.20 PM
77 P	7.40		10.35		3.40							1028.2	4.6 OHAMISO	120.1	4.20	2.20		2.05
E118 Yd.Lmts. W70 KWOP	8.00		10.57		4.00							1032.6	4.3 TO BENSON	115.7	s 4.08	s 2.07		1.42
62 P	8.12		11.09		4.12							1035.8	3.2 FENNER	112.5	3.57	1.57		1.33
83 P	8.23		11.20		4.23							1038.5	2.7 OURVO	109.8	3.51	1.51		1.26
75 WP	8.34		11.32		4.34							1041.0	2.5 SIBYL	107.3	f 3.45	1.45		1.18
63 P	8.43		11.41		4.43							1043.9	2.9 TULLY	104.4	3.41	1.41		1.10
63 P	8.52		11.50		4.52							1047.3	3.4 OCHOA	101.0	3.35	1.35		12.57
65 P	9.01		11.59 AM		5.01							1050.8	3.5 LANCHA	97.5	3.29	1.29		12.48
E 65 W65 YP	9.14		12.12 PM		5.14							1053.9	3 TO DRAGOON	94.4	s 3.24	1.25		12.40
81 P	9.24		12.22		5.24							1058.3	3.4 MANZORO	90.0	3.15	1.17		12.22
90 P	9.33		12.32		5.33							1063.9	5.7 TO COCHISE	84.4	f 3.06	1.09		12.09 PM
64 P	9.42		12.41		5.42							1069.6	3.1 HADO	78.7	2.57	1.01		11.57 AM
68 WP	9.51		12.50		5.51							1074.7	4.7 TO WILLCOX	73.6	s 2.50	12.55		11.48
61 P	10.01		1.00		6.01							1079.4	3.2 DRURY	68.9	2.39	12.48		11.39
99 P	10.13		1.12		6.13							1082.6	5.1 RASO	65.7	f 2.35	12.44		11.33
64 P	10.22		1.21		6.22							1087.7	3.3 ALRICH	60.6	2.25	12.35		11.18
64 P	10.28		1.27		6.28							1091.0	3.5 LUZENA	57.3	2.15	12.28		11.08
63 P	10.34		1.33		6.34							1094.5	3.9 OHOLLA	58.8	2.08	12.23		11.01
Yard Limits BKWFYP	10.55		1.53		6.55							1098.4	4.2 TO-R BOWIE	49.9	s 2.00	s 12.15		10.51
64 P	11.04		2.01		7.04							1102.6	4.0 HOLT	45.7	1.41	12.01 AM		10.37
63 P	11.11		2.08		7.11							1106.6	3.6 OLGA	41.7	f 1.36	11.56 PM		10.31
63 P	11.18		2.14		7.18							1110.2	4.0 KARRO	38.1	1.31	11.51		10.25
63 BKWFYP	11.25		2.20		7.25							1114.2	3.4 TO SAN SIMON	34.1	s 1.26	11.46		10.19
64 P	11.42		2.34		7.39							1117.6	4.2 BAWTRY	30.7	1.20	11.42		10.13
74 P	11.54 PM		2.46		7.51							1121.8	4.2 VANAR	26.5	1.15	11.37		10.06
70 P	12.04 AM		2.55		8.00							1125.0	3.2 OAVOT	23.3	1.10	11.32		10.00
E66 W69 YP	12.25		3.15		8.20							1128.9	3.9 TO STEINS	19.4	f 1.02	11.24		9.50
62 P	12.32		3.22		8.27							1132.7	3.8 MONDEL	15.6	12.55	11.17		9.36
63 P	12.39		3.29		8.34							1136.5	4.3 OONRAD	11.8	12.50	11.12		9.29
62 P	12.47		3.37		8.42							1140.8	4.3 GARY	7.5	f 12.44	11.06		9.21
63 P	12.54		3.44		8.49							1143.9	3.1 PYRA	4.4	12.39	11.02		9.15
Yard Limits BKWFYP	1.05 AM		3.55 PM		9.00 AM							1148.3	4.4 TO-R LORDSBURG	0.0	12.32 PM	10.55 PM		9.05 AM
	Arrive Daily	Arrive Daily	Arrive Daily	Arrive Daily	Arrive Daily	Arrive Daily	Arrive Daily	Arrive Daily	Arrive Daily	Arrive Daily	Arrive Daily		(184.4)		Leave Daily	Leave Daily		Leave Daily

.....Time over District..... (3.58) (3.35) (5.15)
Average Speed per Hour..... 31.44 34.80 23.76

RULES 86, 87 and 93. Second and inferior class trains, extra trains and engines must clear the time of No. 30 not less than ten minutes.
 Inferior trains must be clear of main track and insulated joints at passing points for No. 30.
 Westward trains will use track No. 1, Rio Grande Division, Mescal to Tucson, and eastward trains will use track No. 2, Tucson Division, Tucson to Mescal, unless otherwise directed by train order.

ADDITIONAL FLAG STOPS TO RECEIVE OR DISCHARGE PASSENGERS				
Train	At	Receive or Discharge	To (or beyond)	From (or beyond)
1	Any Station	Discharge		East of El Paso
2	Willcox	Discharge		Phoenix Line Stations
6	Sibyl	Rec. Dis. (Rev.)	Any Station	Any Station
4	Mescal	Receive Discharge	Any Station	Any Station

SPECIAL INSTRUCTIONS

**RULE 2.** Watch Inspectors:

S. A. Pope, Manager of Time Service..... 65 Market St., San Francisco
 Yuma..... Wm. Baird
 Yuma..... J. H. Huber
 Phoenix..... H. H. Howard
 Winkelman..... J. C. Williams, Sr.
 Tucson..... Greenwald & Adams
 Tucson..... H. L. Tucker
 Nogales..... E. M. Mather
 Lordsburg..... H. H. Conder
 Globe..... J. G. Cubitto
 Miami..... J. G. Cubitto, Jr.

RULES 10 (G) and 10 (H). On tracks No. 1 and No. 2 between Tucson and Polvo, signals will be placed on left of track in direction of movement.

RULE 14. Other engine whistle signals:

For diverging route, 0 — 0.
 For siding, 0 — 0.

RULE 14 (d). As specified below, ——— 0 sounds of whistle will be indication that flagman may return from west as prescribed by Rule 99:

Phoenix Yard—Kendall, Trains on Second Main Track.
 Normal Jct., Trains on Creamery Branch.
 Picacho, Trains on Phoenix Line.

RULE 14 (e). As specified below, ——— sounds of whistle will be indication that flagman may return from east as prescribed by Rule 99:

Wellton, Trains on Phoenix Line.
 Litchfield, Trains on Litchfield Branch.
 Kendall—Phoenix Yard, Trains on Second Main Track.
 Tempe, Trains on Creamery Branch.
 Tempe Jct., Trains on Tempe Branch.
 McQueen, Trains on Christmas Branch.
 T. & N. R. R. Jct., Trains on Nogales Branch.
 Mescal, Trains on Rio Grande Division.
 Bowie, Trains on Globe Branch.

RULE 14 (k). Also sound signal when passing rear of train, to be acknowledged by trainmen by signal 12 (c).

RULE 14 (l). When sounding warning signal 14 (l) approaching grade crossings, Arizona State law requires that steam whistle be used if engine is so equipped.

RULE 17. Mars Signal Light on engines shall be used when engine is moving at night, and in foggy or stormy weather. It must be dimmed or extinguished approaching passenger stations, and at other points as prescribed by rules. For identification purposes must be dimmed.

RULE 17 (C). For identification purposes, headlights may be dimmed when passing the head end and rear end of trains on adjoining tracks, except when nearing street or highway crossings.

RULE 21 (C). At Phoenix, Gila and Tucson, incoming engines may display indicators until arrival at roundhouse.

RULE 28. In double track territory signals will be placed to right of track according to direction of movement of train to be flagged. Trains in opposite direction will not be required to observe signals so placed.

RULES 72 and 73. Second class and extra trains may move irrespective of time table superiority Phoenix to Phoenix Yard when moving with the current of traffic.

RULE S-72. Westward trains are superior to trains of the same class in the opposite direction, except as shown on Pages 3 and 6.

RULE 83. Identification of trains may be made on double track between Yuma and East Yard; Dome and Wellton; Stockham and Tucson; Phoenix and Phoenix Yard; to be applied at end of double track; and on second main track between Phoenix Yard and Kendall, to be applied at Kendall. Trains approaching each other between these stations must reduce speed sufficiently to permit identification and Rule 14 (k) will apply.

RULE 83 (A). At the following stations, only the trains indicated will register.

Phoenix—First class trains.
 Mescal—All trains.
 Bowie—All trains.

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

Phoenix Yard..... First class trains
 Mescal..... All trains
 Bowie..... All trains except on Globe Branch
 Tucson—Engineers of light engines from east will leave register ticket with engine dispatcher for delivery to operator for registration.

RULE 83 (E). A train may check the register against an extra when authorized by train order in the following form: "... may check register at ... against Extra ... on order No. ...". A train so authorized to check the register must also register.

An extra when instructed by train order in the following form: "Extra ... register at ... on order No. ..." will register, and place this order number and date in column captioned "Signals."

RULE 93. Second and third paragraphs of Rule 93 apply to all tracks within yard limits.

Yard limits in which the provisions of Rule 93 will apply are established at the following points:

	West	East
Yuma.....	MP 731.50	MP 737.80
Phoenix.....	MP 900.96	MP 908.79
Mesa.....	MP 920.45	MP 923.23
Ray Jct.....	MP 986.84	MP 988.72
Hayden Jct.....	MP 998.80	MP 1004.90
Gila.....	MP 854.20	MP 857.70
Casa Grande.....	MP 917.00	MP 920.33
Tucson.....	MP 981.96	MP 989.00 (Track 2)
		MP 988.09 (Track 1)
		MP 987.42 (Nog. Br.)
		MP 990.37 (So. Line)
Nogales.....	MP 1046.37	MP 1049.89
Benson.....	MP 1031.60	MP 1034.01
Bowie.....	MP 1097.10	MP 1100.00
Bowie—Globe Branch.....		MP 1099.50
Lordsburg.....	MP 1147.19	MP 1151.38
Safford.....	MP 1136.65	MP 1138.34
Globe.....	MP 1218.70	MP 1223.22
Miami.....	MP 1229.82	MP 1234.20

Comply with third paragraph Rule 93 within portions of main track not protected by automatic block signals which are located and described as follows:

Phoenix—Union Station and main track, between "Block System Limit" sign opposite dwarf signal 9059 and "Block System Limit" sign at MP 906.2 on westward main track and dwarf signal 9064 on eastward main track.

Tucson—Passenger tracks Nos. 1, 2 and 3. Eastward between "End of block" sign at MP 983.6 and dwarf light Signal 9838. Westward between "End of block" sign opposite dwarf light Signal 9838 and home Signal 9835.

RULE 97. Extra trains must not run via Creamery Branch unless train order so specifies.

RULE D-97 (A). Will apply between Phoenix and Phoenix Yard.

RULE 98. At South Line Crossing.—Gate equipped with red signal, normal position across South Line track. Before changing position of gate and making movement on South Line track, protect in each direction on Nogales Branch as per Rule 99.

RULE 99. When roadway machines (ditchers, pile drivers, power shovels, crane and derrick cars) are operated on double track or on tracks immediately adjacent to the main track, or off track adjacent to main tracks, boom or other parts of the machine must not be operated to foul main track, without proper flag protection. Such equipment must be at rest and clear of main tracks when trains are passing.

Flag protection must be provided on adjacent main tracks which closely parallel track on which ballast or other material is being loaded or unloaded. Operations must be stopped when trains on main track are passing.

In territory where head free rail is laid, unless torpedoes with spring clamps are used, duplicate torpedoes must be placed on the opposite rail so as to afford maximum protection.

Head free rail is rail on which the square corners on under side of head are beveled up to about 60 degrees slope to within approximately one-half inch of top of rail.

RULE 103 (A). A flagman must precede all movements over:

Yuma, 1st, 2nd, 3rd and 4th Sts.
 Tovrea, Washington St.
 Tempe (Creamery Branch), Mill Ave. and 8th St.
 Tucson, West Congress St.
 Nogales, Court and Park Sts.
 Globe, Hackney St. and eastward over Murphy St.
 Miami, Latham Blvd. and Adonis Ave.

In general, highway crossing signals are so designed that they will not operate for trains or engines making a reverse movement after having passed over the crossing. Trains or engines making such reverse movements must protect the crossing unless it is known that signals are operating.

RULE 103 (B). Back-up hose must be used when making back-up movements with cars, between Hayden Jct. and Hayden Mills, and between North and South yards and/or P. F. E. yard, Tucson.

RULE 104. NORMAL POSITION OF SWITCHES AT THE END OF DOUBLE TRACK AND AT JUNCTIONS:

East Yard..... Spring switch end double track, for trains entering the double track.
 Dome..... Spring switch at end of double track, for trains entering double track.
 Phoenix..... Spring switch at west end freight lead and main track, for main track.
 West end of double track, for westward main track.
 Phoenix Yard.... Spring switch at east end double track, for trains entering the double track.
 Picacho..... Operators will handle switches near train-order office for movements to and from Phoenix Line and both sidings.
 Stockham..... Spring switch end double track, for trains entering the double track.

DERAILS IN MAIN TRACK:

Litchfield Park, 320 feet west of east end of track.
 Christmas, 250 feet east of west switch.
 Nogales, 221 feet west of west switch, may be trailed through by eastward trains.
 South Line Crossing, 165 feet east on South Line.

RULE 105. FOLLOWING TRACKS ARE DESIGNATED FOR USE AS SIDINGS:

Fowler..... Track north of main track.
 Mesa..... Track south of main track.
 Ray Junction... Track south of main track.
 Mohawk..... First track north of main track, for eastward trains.
 Second track north of main track, for westward trains.
 Sentinel..... Track north of main track, for westward trains.
 Track south of main track, for eastward trains.
 Picacho..... Track south of main track, for eastward trains from Gila Line only.
 Track north of main track, for eastward and westward trains.
 Red Rock..... Track north of main track, for eastward trains.
 Track south of main track, for westward trains.
 Jaynes..... Track north of main track, for westward trains.
 Track south of main track, for eastward trains.
 Benson..... Track north of main track, for eastward trains.
 Track south of main track, for westward trains.
 Dragoon..... Track north of main track, for westward trains.
 Track south of main track, for eastward trains.
 Bowie..... Track north of main track, from west switch to switch just east of station building, for eastward trains.
 Track north of main track, from east switch to switch just east of station building, for westward trains.
 Steins..... First track north of main track, for westward trains.
 Second track north of main track, for eastward trains.

San Carlos..... Track north of main track.
 Abbreviations used for sidings: "E" for Eastward, "W" for Westward, "M" for Middle, "N" for North, "S" for South.

RULE 221. Trains must obtain clearance before leaving Tempe to or from Creamery Branch, and at Bowie and Miami.

Trains must obtain clearance at Phoenix Yard, except westward trains terminating at Phoenix.

Trains originating at Phoenix must obtain clearance before leaving Phoenix Yard.

RULE 824. INSTRUCTIONS FOR SETTING HAND BRAKES:

YUMA

Freight Trains.....Four brakes on east end.

PHOENIX

Freight Trains.....(Two brakes on west end.
(Two brakes on east end.

TUCSON

Passenger Trains.....(Two brakes on west end.
(Two brakes on east end.

Freight Trains.....(Fifteen brakes on west end.
(Ten brakes on east end.

TUCSON—P.F.E. YARD

Each cut of cars.....Seven brakes on west end.

S. P. tracks Nos. 1, 2, and 3.....Fifteen brakes on west end.

Hand brakes on passenger trains are to be set after engine is spotted for taking oil. If necessary to detach engine after these hand brakes have been released, employe before detaching engine must see that sufficient hand brakes have again been set.

Hand brakes on freight trains must be securely set after train or cut has stopped, unless yardmen immediately take charge and yard engine is coupled to cars. Any employe releasing any of these brakes must set as many others to replace them.

RULE 825. Outfit cars must not be left next to oil or gasoline loading or unloading locations; warehouses; lumber yards or other buildings.

RULE 834. Tank cars, or open-top cars loaded with rail, pipe, structural steel, lumber, poles or mounted wheels, when such lading projects above sides and end walls of car, must not be placed in train next to cab of cab-in-front type AC class engines.

RULE 836. Cars moved from one station to another ahead of engine on descending grade must be chained to the engine. Switching movement on descending grades must be protected by a derail. When practicable engine must be kept on descending grade end of cars.

When necessary to move cars ahead of engine 20 MPH must not be exceeded.

RULE 833. Engines under steam must not be stored or left unattended on tracks that are not protected by derails against entry to main track. When chains or blocking available wheels must be blocked.

AUTOMATIC BLOCK SYSTEM

RULE 509. When making a reverse movement on main track after moving out of siding or other track, in block system limits, train or engine will, unless movement be completed beyond the governing signal, proceed as if signal be in stop position.

The following block signals equipped with triangular number plate displaying the letter "P" have included in their control limits some special protective device. When these signals indicate "stop," in addition to complying with Rule 509, careful inspection must be made of the track or structure, as indicated below, and it must be known that they are safe for passage of trains before proceeding:

Signal	Protects	Location
P-7372	Spring Switch.....	End of double track, East Yard
P-7375	" " " " " " " " " " " "	" " " " " " " " " " " "
P-7532	" " " " " " " " " " " "	End of double track, Dome
P-7535	" " " " " " " " " " " "	" " " " " " " " " " " "
P-9052	" " " " " " " " " " " "	West end of freight lead, Phoenix
P-9075	" " " " " " " " " " " "	East end of double track, Phoenix Yard
P-9810	" " " " " " " " " " " "	End of double track, Stockham
P-9813	" " " " " " " " " " " "	" " " " " " " " " " " "

At Yuma, operation through gantlet track over Colorado River Bridge will be governed by positive block Signals 7320 and 7322 west of bridge, and Signals 7321 and 7323 east of bridge. Speed of eight MPH must not be exceeded until engine has cleared gantlet track. Trains and engines will operate within the above limits, in accordance with positive block signal indications, which supersede the superiority of trains. Second-class and inferior trains and engines must not occupy positive block or overlaps in connection therewith when it is known a first-class train will thereby be delayed.

When signals indicate "stop" and no train or engine in block, send flagman ahead immediately and after flagman has traversed block to opposing signal, proceed with caution.

Signal 7320 governing eastward movement against the current of traffic on westward main track will indicate "proceed" only when train or engine is on approach circuit and push-button opposite signal is pressed.

Signal 7321 governing westward movement against the current of traffic on eastward main track will indicate "proceed" only when train or engine is within 275 feet of signal.

When a train or engine has received a proceed indication from either Signal 7323 or 7321 and is holding the indication by reason of standing within less than 275 feet of signal, the signal may be released and "proceed" indication secured on adjoining track by operating proper push-button located on signal case adjoining Signal 7323 after train it is desired to move has entered approach circuit. Operating push-button 7321-PB will place Signal 7321 at "stop" and clear Signal 7323. Operating push-button 7323-PB will place Signal 7323 at "stop" and clear Signal 7321.

Signal 7322 will not indicate "proceed" until after engine has passed overlap post located 1100 feet west of this signal.

Eastward trains waiting at Colorado for a westward train will remain west of overlap post.

Directions for use and operation of push-buttons located inside push-button box.

Westward trains moving against the current of traffic from crossover at east end of Yuma yard, Signal 7341 will display stop indication, and train will be required to stop before passing signal. If switches are properly lined and route clear, yardman will then signal engineman with green flag by day and green light by night, as authority to proceed against the current of traffic with caution, not exceeding 15 MPH.

If necessary to move a westward passenger train through the freight yard from the east end of yard to passenger station, yardman will verbally inform engineman of this fact and notify him as to track which is to be used. Trains under such conditions must move with caution not exceeding 10 MPH.

At Phoenix, Crossing - A.T. & S.F. Wye.

Signal 9052 governs eastward movements.

Signal 9053, on main track, and

Signal 9055, on freight lead, govern westward movements.

If either of these signals indicates "stop," train or engine, after stopping, and observing wye track to be clear of opposing movements, may proceed in accordance with Rule 509, and in addition must provide flag protection on the intersecting track unless derail thereon is in derailing position.

At Kendall, eastward trains on main track, stop west of Signal 9112 to wait for or meet opposing trains.

Eastward trains on second main track will be governed by position of Signals 9112 and 9113 before entering main track.

Account no overlap on light Signal 9838 located at end of block just east of Tucson yard office, and no overlap on light Signal 9841 located just west of car shop on Nogales Branch, trains and engines moving between these signals, and on passenger track No. 1 between west end of car shed and light Signal 9838, must do so with caution.

On track No. 2 between Tucson and Mescal:

Eastward trains will be governed by Rule 509 applicable to double track.

Westward trains Mescal to Esmond will be governed by Rule 509 applicable to single track.

Westward trains Esmond to Tucson will have no block signal protection after passing Signal 9978.

Between Tucson and Polvo, automatic signals are on the left of the track in the direction of movement.

SPRING SWITCHES

Spring Switches are identified by target on switch stand bearing the letters "SS."

When a block signal in advance of a facing point spring switch indicates "stop," careful examination of switch must be made before passing over it. When making trailing point movement and train is stopped on switch, a reverse movement must not be made, nor the slack taken until the switch has been thrown by hand. When movement has been completed through switch, reverse movement must not be made until point closes.

Running switches are prohibited and sand, blow-off cocks and injectors must not be used or boosters started while engine is standing on or passing over such switches.

These switches located as follows and speed indicated must not be exceeded passing through turnout:

	Signal	MPH
East Yard.....	Trailing eastward..... 7372	25
	Facing westward..... 7375	60
Dome.....	Facing eastward..... 7532	25
	Trailing westward.....	30
Phoenix.....	Main track and west end freight lead:	
	Facing eastward..... 9052	15
	Trailing westward.....	15
Phoenix Yard.....	East end double track:	
	Trailing eastward.....	15
	Facing westward..... 9075	15
Stockham.....	Facing eastward..... 9810	50
	Trailing westward..... 9813	35

RULE 511. Within block signal limits after switches of a crossover are thrown wait three minutes before crossing over unless block signals protecting the movement can be seen to be in stop position not less than one-half mile distant.

RULE 516. Overlap posts located as follows:

23rd Ave. Phoenix.....	Middle of Siding	Eastward trains.
	" " "	Westward trains.
McQueen.....	" " "	Eastward trains.
Roskrige.....	" " "	Eastward trains.
	" " "	Westward trains.
Cortaro.....	" " "	Eastward trains.

INTERLOCKING

WELLTON

Limits extend from two-arm signals on Gila Line and on Phoenix Line 4,000 feet east of station building to light signal on westward track 400 feet west of station building and to two-arm signal on eastward track 1,000 feet west of station building.

The derail at east end of siding is electrically locked, and can be operated by trainmen only when released by signal operator.

Switches and derails to spurs leading from westward main track, just west and east of station building are hand-thrown, but must not be used until permission is secured from signal operator.

TUCSON, SIXTH AVENUE

Limits on westward track extend from dwarf signal at tower to Signal 9835, and on eastward track from dwarf signal opposite Signal 9835 to dwarf signal at tower.

Signals prescribed by Rule 628 may be given from tower.

One long sound of the engine whistle will be signal to Towerman for movement on westward main track with the current of traffic. Whistle signal to be used only when necessary.

MESCAL

Interlocking signals of the Rio Grande Division will display indication in the upper quadrant. Signal arm extended upward parallel to signal mast indicates "proceed."

Limits are between home signals governing east switch of east crossover and west switch of west crossover on Rio Grande Division; and home signals governing east and west switches of sidings on Tucson Division. Switches are controlled by signal operator, except switches leading from north siding to water and outfit spurs; from south siding to both legs of wye and to west end of coal track. Switch and derail east end coal track are hand-thrown but must not be used until permission is secured from signal operator.

Where hand signals, as prescribed by Rule 628, cannot be seen, trains stopped will call the signal operator and secure permission to proceed; also to throw switches by hand in event the remote control appliance is inoperative.

RULE 663 (b). When authority is received by telephone to proceed through the limits of an inoperative interlocking signal, member of the crew must make careful examination of facing point switches before passing over them.

TRAIN INSPECTION

Trains containing carload shipments of T. N. T. bombs, loaded projectiles and other such articles of a highly sensitive nature should be stopped for inspection at intervals of not to exceed 50 miles, provided any car in the train containing articles of this nature is loaded in excess of 65 per cent of its marked capacity.

Engines running light on descending grades must stop for inspection at freight train inspection points.

Freight trains must be inspected at each water stop. When conditions are favorable, and in the judgment of conductor and engineer it is safe to do so, and when additional stops can thereby be avoided, freight trains may run between water stops without stopping for inspection, provided the distance is not over 60 miles, except freight trains and light engines may run between Tucson and Maricopa, and between Aztec and Yuma, for inspection. This does not relieve trainmen, however, from making inspection when stops permit, or whenever it is necessary in the judgment of conductor or engineer. On branch lines distance of 40 miles must not be exceeded, and on descending grade must stop at Cutter on Globe Branch.

Mixed trains, including military trains, made up in part of freight cars equipped with cast iron wheels, shall be required to comply with rules and time-table instructions applying to freight trains as they relate to stopping for train inspection, likewise speed restrictions.

METHOD OF DISPATCHING TRAINS BETWEEN TUCSON AND MESCAL

Dispatching of Mescal Subdivision of Rio Grande Division will be handled by Rio Grande Division, except that portion between Mescal and Tucson on Track No. 1 which will be handled by dispatching force of Tucson Division and which will be operated under double-track rules as westward track in conjunction with Track No. 2 of Bowie Subdivision of Tucson Division as Eastward Track.

Rule D-97 (A) will apply on Tracks No. 1 and No. 2 between Tucson and Mescal, except that extra trains must obtain clearance, or proper train-order signal, or permission from train dispatcher before using either track.

Trains from Bowie Subdivision moving to Mescal Subdivision, and trains on Mescal Subdivision moving through Mescal, with the same conductor and engineer operating through Mescal, may be issued train orders on one subdivision that affect their movements on either, or both subdivisions. Any such train orders issued by one division to a train on the other division must be transmitted to the other division addressed to Dispatcher before complete is given to the order addressed to the train; and such orders must be shown on clearance issued by the division on which train originates.

RULE 83 (B). When a regular train is checked on Bowie or Mescal Subdivision, it will not be necessary to check the register at Mescal against the same train.

RULE 83 (D). Westward trains may leave Mescal without clearance provided train is properly cleared by train-order signal.

RULE 206 (A). Regular trains and sections of schedules authorized on Bowie or Mescal Subdivisions are authorized to assume corresponding schedules or sections of schedules on Bowie or Mescal Subdivisions at Mescal without clearance.

AIR BRAKE RULES

RULE 24. Freight trains may pass

Mescal, Eastward

Estrella, Dragoon and Steins, Westward

Pinal, Eastward and Westward

without stopping for purpose of rear end air test if proceed signal is given from rear by trainmen, after complying with Air Brake Rule 4, and air gage indicates required air brake pressure. Speed approaching summit must not exceed 15 MPH.

If proceed signal is not given or received, train must stop and rear end air test be made.

RULE 33. Retainers will be used on grades of 1.4% to 1.5% on freight trains of less than 110 M's per operative brake when necessary in the judgment of conductor and engineer.

On freight trains averaging 110 M's and over on grades of 1.4% to 1.5% and on all freight trains on grades of 1.5% and over, retainers will be used as follows:

Mescal to Benson.....	1.4%	grade,	One Retainer for each 150 M's
Steins to Mondel.....	1.4%	" " " " " "	150 M's
Steins to Bawtry.....	1.4%	" " " " " "	150 M's
Sibyl to Benson.....	1.4%	" " " " " "	150 M's
Pinal to Globe.....	2%	" " " " " "	120 M's
Globe to Burch.....	2%	" " " " " "	120 M's
Live Oak to Miami.....	3%	" " " " " "	100 M's
Miami to Burch.....	1.4%	" " " " " "	150 M's
Pinal to Cutter.....	2.2%	" " " " " "	120 M's

When retainers are used, stops will be made for inspection and to permit heat of wheels to equalize, as follows:

Eastward: Chamiso

Westward: Fenner

Vanar

Communicating signal will not be used on train No. 370.

RULE 38. Gila—When engine crew and/or train crew is changed on passenger trains, but engine is not changed and no angle cock has been closed except for detaching cars on the rear, rear-end air brake test will be made as follows:

On a passenger train after the brake pipe has been charged to standard pressure, the engineer will apply the brakes with a 10-pound reduction, then signal the trainmen by one sound of the whistle. The angle cock on the rear of the train will then be opened gently, allowing only enough air to escape to cause brake pipe gage hand in cab to fall without making an emergency application, and then closed. When the engineer notes the hand falling he will answer with two sounds of the whistle. The trainman will immediately signal by four sounds of the communicating signal to release the brakes. Engineer will then release the brakes by placing the automatic brake valve handle in release until brake pipe is charged to not less than 5 pounds below standard pressure, slowly return it to running position, then wait until brake pipe pressure has settled and make one short release by moving the handle momentarily to release and back to running position.

This test to be followed by running test in accordance with Rule 39 as soon as speed permits after starting train.

RULE 39. Running air test not required of eastward passenger trains approaching Crossing A. T. & S. F. wye.

Incoming passenger enginemen will leave automatic air brakes set on trains at Tucson, Phoenix and Yuma after final stop has been made.

Outgoing enginemen will release brakes on signal from carmen, this signal to be given only after all switching has been done.

MISCELLANEOUS

1. At Wellton, Aztec, Sentinel, Gila, Casa Grande, Florence, Hayden Jct., Benson, Bowie, and San Simon, water for engine purposes is treated and must not be taken for domestic use except as follows:

Aztec, water rack.

Sentinel, water rack and two columns at east end.

Hayden Jct., by closing valve between treater and water column.

Benson, either of the two columns at station, by first opening switch in box on outside of freight house.

Bowie, notify pumper.

When filling water cars for domestic purposes at Hayden Jct., Benson, or Bowie, after closing valve between treater and water column, fill engine tank to drain line of treated water before filling water cars.

At Aztec, westward freight trains take water when possible and take water at Sentinel only when it will avoid delay west of there.

At Sentinel, eastward freight trains take water and fill water car, and take water at Aztec only when necessary or when it will avoid delay at Sentinel.

At Saddle, emergency water station and should take only enough to reach next water station.

At Maricopa, eastward and westward freight trains take water, and if necessary, fill water car.

At Benson, when business is heavy, westward freight trains, including light engines, take water at columns at station, to avoid shortage in east tank.

At Sibyl, westward identified and other important freight trains may take water if it will avoid stopping at Benson. Other freight trains will not take water except in case of emergency, and then only sufficient to reach next water station.

In all cases where it is necessary to make a short move with heavy freight train to reach water or oil column, including that required to spot second engine of double-headed train, engine must be cut off before spotting at column.

4. One helper as restricted Par. 4(b) and 4(g) may be placed behind caboose if of steel underframe construction and cars ahead of caboose are not rear end cars; helper placed ahead of caboose must be ahead of rear end cars.

In helper service:

- No helper engine will be placed behind wooden underframe cars or cabooses.
 - Engines weighing more than 235,000 pounds on the drivers will not be placed behind steel underframe cabooses.
 - In no case will more than one helper engine be placed behind steel underframe cabooses.
 - When helper engines are used in rear of freight trains, consolidation and lighter class must be placed behind heavier class.
 - Engines must not be cut off or coupled to a train while same is in motion.
- For the purpose of pushing trains out of yards:
- No engine will be placed behind wooden underframe caboose or other wooden frame equipment.
 - Engines weighing more than 235,000 pounds on the drivers will not be placed behind steel underframe cabooses.
 - Air will not be coupled through pusher engine.
 - Yard engines regularly so used will be equipped with Russell-Jordan device to hold the coupler pin from dropping, thus making it unnecessary for employees to uncouple the pusher engine when cutting off.
 - In no case shall the knuckle be removed, or closed, or uncoupling lever temporarily fastened in release position on a pusher engine, as means of preventing coupling being made.
 - Unless local conditions require, it will not be necessary to stop trains to detach pusher engines.

5. At Litchfield, gate at entrance Airplane Spur is locked with Government lock, and to gain entrance it will be necessary for engineer to sound a long and short blast of steam whistle and the watchman on duty will take care of the opening and closing of the gate.

At Litchfield Park, Boswell Spur is protected by gate, which must be kept closed and locked when not in use.

At Tovrea, entrance to Tovrea Packing Co. plant is protected by gates, which must be kept closed and locked when not in use. Look out for rubbish and material alongside tracks around plant.

At Tovrea chute across the ice track at packing plant, located one-half car length south of bumper.

This chute when in normal position, will extend across and about two feet above a car, but will not clear a man on top of car.

When in use will be in slanting position from the second floor of Tovrea plant to auto truck backed across ice track, and when so in use, cars cannot be shoved to bumper.

At Hayden, entrance to Kennecott Copper Corp'n plant is protected by gate, which must be closed and locked at night.

At Coolidge, cars must not be detached in motion to Indian Service spur. Gate at entrance must be kept closed and locked when not in use.

At Tucson, P. F. E. yard, look out for ice and rubbish alongside tracks.

At Willcox, look out for bedding sand between tracks 2 and 3.

7. Capacity of sidings between clearance points is based on an average car length of 49 feet not including engines and caboose.

SPECIAL INSTRUCTIONS

SPEED RESTRICTIONS—(Continued)

Maximum speed of passenger trains must not exceed 50 MPH and freight and mixed trains 35 MPH except as otherwise provided for herein, or by bulletin, train order or "fixed signal".

Pages	TERRITORY	PASSENGER				FREIGHT	Engines Backing	Switch Engines S-SE	LT. ENGINES RUNNING F'WD.			Page	TERRITORY	PASSENGER				FREIGHT	Engines Backing	LIGHT ENGINES RUNNING FORWARD		
		Maximum	Mk 5, 6, 7 8, 9 M 4, 6, 9, 11	Mk 2, 4	SP 1, 2, 3 F 1, 3, 4, 5 C 8, 9, 10	Freight and Mixed Maximum			T 37 Mt 1, 2, 3, 4, 5 P 1, 3, 5, 12	Mk 5, 6, 7 8, 9 M 4, 6, 9, 11 SP 1, 2, 3 F 1, 3, 4, 5 C 8, 9, 10	Mk 2, 4			Maximum	Gas-Electric T-37 Mk 2, 4, 5, 6, 7, 8, 9 M 4, 6, 9, 11 C 8, 9, 10	Freight and Mixed Maximum	Mk 5, 6, 7, 8, 9 M 4, 6, 9, 11 C 8, 9, 10	Mk 2, 4				
4	Wellton, east crossovers.....	25	25	25	25	20	20	20	20	20	20	5	Christmas Branch, except.....	40	30	20	35	30				
4	Wellton, east frogs.....	35	35	35	35	35	30	35	35	30	30	5	M.P. 923.89 - 924.08.....	35	35	25	20	35				
4	Wellton, east interlocking limit - M.P. 772.06.....	50	50	40	45	35	30	45	35	30	30	5	M.P. 924.08 - 955.93.....	40	40	30	20	35				
4	M.P. 772.06 - 772.78.....	60	50	40	45	40	30	45	35	30	30	5	M.P. 955.93 - 956.07.....	35	35	25	20	35				
4	M.P. 772.78 - 792.50.....	65	50	40	45	40	30	45	35	30	30	5	M.P. 956.07 - 964.28.....	40	40	30	20	35				
4	M.P. 792.50 - 794.03.....	30	30	30	30	30	30	30	30	30	30	5	M.P. 964.28 - 964.54.....	30	30	20	20	30				
4	M.P. 794.03 - 795.....	50	50	40	45	35	30	45	35	30	30	5	M.P. 964.54 - 968.79.....	40	40	30	20	35				
4	M.P. 795 - 800.....	65	50	40	45	40	30	45	35	30	30	5	M.P. 968.79 - 972.07.....	30	30	30	20	30				
4	M.P. 800 - 813.....	50	50	40	45	35	30	45	35	30	30	5	M.P. 972.07 - 972.15.....	15	15	15	15	15				
4	M.P. 813 - 817.....	65	50	40	45	40	30	45	35	30	30	5	M.P. 972.15 - 974.12.....	30	30	25	20	30				
4	M.P. 817 - 823.61.....	50	50	40	45	35	30	45	35	30	30	5	M.P. 974.12 - 974.20.....	15	15	15	15	15				
4	M.P. 823.61 - 825.18.....	30	30	30	30	30	30	30	30	30	30	5	M.P. 974.20 - 975.34.....	30	30	30	20	30				
4	M.P. 825.18 - Gila, west switch.....	65	50	40	45	40	30	45	35	30	30	5	M.P. 975.34 - 975.48.....	15	15	15	15	15				
4-5	Gila yard, west and east switches.....	30	30	30	30	30	30	30	30	30	30	5	M.P. 975.48 - 976.21.....	30	30	30	20	30				
5	Gila, east switch - M.P. 866.98.....	65	50	40	45	40	30	45	35	30	30	5	M.P. 976.21 - 976.36.....	20	20	20	20	20				
5	M.P. 866.98 - 867.85.....	50	50	40	45	35	30	45	35	30	30	5	M.P. 976.36 - 980.35.....	30	30	25	20	30				
5	M.P. 867.85 - 870.12.....	30	30	30	30	30	30	30	30	30	30	5	M.P. 980.35 - 980.41.....	15	15	15	15	15				
5	M.P. 870.12 - 874.48.....	50	50	40	45	35	30	45	35	30	30	5	M.P. 980.41 - 980.97.....	30	30	25	20	30				
5	M.P. 874.48 - 886.36.....	65	50	40	45	40	30	45	35	30	30	5	M.P. 980.97 - 981.03.....	25	25	25	20	25				
5	M.P. 886.36 - 898.....	50	50	40	45	35	30	45	35	30	30	5	M.P. 981.03 - 981.70.....	30	30	30	20	30				
5	M.P. 898 - 902.....	65	50	40	45	40	30	45	35	30	30	5	M.P. 981.70 - 981.78.....	25	25	25	20	25				
5	M.P. 902 - Casa Grande, west City Limit.....	60	50	40	45	40	30	45	35	30	30	5	M.P. 981.78 - 983.27.....	30	30	25	20	30				
5	Casa Grande, east City Limit - Picacho.....	60	50	40	45	40	30	45	35	30	30	5	M.P. 983.27 - 987.43.....	25	25	25	20	25				
5												5	Ray Jct. yard, M.P. 987.43 - 988.24.....	15	15	15	15	15				
5												5	M.P. 988.24 - 999.53.....	30	30	25	20	30				
5												5	Hayden Jct. yard, M.P. 999.53 - 1000.64.....	15	15	15	15	15				
5												5	M.P. 1000.64 - Winkelman.....	30	30	25	20	30				
5												5	Winkelman - Christmas.....	15	15	15	15	15				
6	Nogales Branch, except.....	35	.....	25	.....	.....	.....	.....	.....	.....	.....	6	Tucson yd. M.P. 984-986.88.....	20	20	20	20	20
6	Tucson yd. M.P. 984-986.88.....	20	20	20	25	25	25	25	25	25	25	6	M.P. 986.88 - Nogales.....	35	35	25	20	25				
6	M.P. 986.88 - Nogales.....	35	35	30	35	30	30	45	35	30	30	6	Nogales yard limits.....	20	20	20	20	20				
6	Nogales yard limits.....	20	20	20	25	25	25	25	25	25	25											
6	Globe Branch, except.....	40	35	30	30	30	30	45	35	30	30	6	Bowie yard limits.....	30	30	30	30	30				
6	Bowie yard limits.....	30	30	30	30	30	30	40	35	30	30	6	Bowie east yard limit - M.P. 1126.12.....	40	35	30	30	20				
6	Bowie east yard limit - M.P. 1126.12.....	40	35	30	30	30	30	45	35	30	30	6	M.P. 1126.12 - 1126.43.....	30	30	30	30	20				
6	M.P. 1126.12 - 1126.43.....	30	30	30	30	25	25	25	25	25	25	6	M.P. 1126.43 - Safford west yard limit.....	40	35	30	30	20				
6	M.P. 1126.43 - Safford west yard limit.....	40	35	30	30	25	25	25	25	25	25	6	Safford yard limits.....	15	15	15	15	15				
6	Safford yard limits.....	15	15	15	15	15	15	15	15	15	15	6	Safford east yard limit - Pima west city limit.....	40	35	30	30	20				
6	Safford east yard limit - Pima west city limit.....	40	35	30	30	30	30	45	35	30	30	6	Pima east city limit - M.P. 1178.03.....	40	35	30	30	20				
6	Pima east city limit - M.P. 1178.03.....	40	35	30	30	30	30	45	35	30	30	6	M.P. 1178.03 - 1178.17.....	30	30	30	25	20				
6	M.P. 1178.03 - 1178.17.....	30	30	30	30	30	30	45	35	30	30	6	M.P. 1178.17 - 1183.7.....	40	35	30	30	20				
6	M.P. 1178.17 - 1183.7.....	40	35	30	30	30	30	45	35	30	30	6	M.P. 1183.7 - 1195.....	30	30	30	20	20				
6	M.P. 1183.7 - 1195.....	30	30	30	30	30	30	45	35	30	30	6	M.P. 1195 - 1207.01.....	30	30	30	25	20				
6	M.P. 1195 - 1207.01.....	30	30	30	30	30	30	45	35	30	30	6	M.P. 1207.01 - 1217.52.....	40	35	30	30	20				
6	M.P. 1207.01 - 1217.52.....	40	35	30	30	30	30	45	35	30	30	6	M.P. 1217.52 - 1218.78.....	30	30	30	25	20				
6	M.P. 1217.52 - 1218.78.....	30	30	30	30	30	30	45	35	30	30	6	M.P. 1218.78 - 1220.59.....	40	35	30	30	20				
6	M.P. 1218.78 - 1220.59.....	40	35	30	30	30	30	45	35	30	30	6	Globe yard limits, except.. Broad St. Crossing.....	15	15	15	15	15				
6	Globe yard limits, except.. Broad St. Crossing.....	15	15	15	15	15	15	6	6	6	6	6	M.P. 1223.09 - 1231.18.....	20	20	20	20	15				
6	M.P. 1223.09 - 1231.18.....	20	20	20	20	20	20	20	20	20	20	6	Miami yard limits.....	15	15	15	15	15				
6	Miami yard limits.....	15	15	15	15	15	15	15	15	15	15	6	Inspiration Jct. - Live Oak	10	10	10	10	10				

*Passenger trains handled by MT 1-2-3-4-5 class engines maximum speed 30 M.P.H.

SPEED RESTRICTIONS (Continued)

Following engines are cross counter-balanced and are permitted a maximum speed of 75 MPH:

All GS-1, 2, 3. Mt-1, 2, 3, 4, 5. P-12.

P-7, 8, 10; 2461, 2462, 2463, 2464, 2465, 2467, 2469, 2471, 2472, 2473, 2474, 2475, 2476, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491.

Following engines are cross counter-balanced and are permitted a maximum speed of 55 MPH when handling passenger trains:

F-1, 3, 4, 5; 3619, 3625, 3634, 3636, 3652, 3656, 3658, 3665, 3666, 3676, 3677, 3681, 3682, 3685, 3687, 3692, 3706, 3709, 3711, 3716, 3717, 3727, 3728, 3732, 3737, 3742, 3752, 3765.

All AC-4, 5.

All AC-7, 8.

Maximum speed at which engines backing may be operated is 30 MPH, except must not exceed 15 MPH on curves and approaching grade crossings.

GS engines 1, 2, 3 and 4 Class must not exceed 45 MPH running forward light and 30 MPH running backward light.

SPEED OF TRAINS REGULATED BY ORDINANCES THROUGH CITY LIMITS

PAGE	STATION	MPH
2	Yuma over street crossings	5
3	Tempe	20
3	Chandler	20
5	Casa Grande	25
6	Nogales	20
6	Safford	15
6	Pima	15
7	Willcox	30

Speed restrictions for engines are shown in speed restriction table; however, attention is called to the following maximum speeds at which tenders may be operated.

Tenders having water capacity 7,000 gallons or less, except Classes 70-R-1 and 70-SC-1, maximum speed 50 MPH.

Tenders having water capacity in excess of 7,000 gallons, and including Classes 70-R-1 and 70-SC-1, maximum speed of engines.

Maximum speed of disabled engines hauled in train, or running under own steam, must not exceed:

- When pilot removed..... 20 MPH
- When main rod only removed..... 30 MPH
- When side rods only removed..... 30 MPH
- When both main and side rods removed..... 20 MPH
- When hauled in train and all rods are on..... 30 MPH
- SP1, 2 and 3 when inside main rod removed or inoperative..... 30 MPH
- S and SE engines, and all other classes of engines when not equipped with engine trucks..... 20 MPH

When all weight has been removed from any one pair of drivers on an engine, speed must not exceed 20 MPH.

When all weight has been removed from one wheel of any pair drivers on an engine, speed must not exceed 30 MPH.

Engines operated coupled tender to tender must not exceed speed permitted same engines running backwards.

When an engine has broken main axle and is in condition to be moved, engine should be detached from train and run light to next siding, not exceeding eight miles per hour.

If unable to place engine on siding, then it should be left between switches of siding on main track and proper protection be provided.

Trains with passenger equipment handling steel-wheel box cars, commonly known as PMT cars or foreign line steel-wheel box cars equipped for movement in passenger trains or trains consisting wholly of steel-wheel box cars, except those equipped with high speed trucks, must not exceed 60 MPH.

Kennecott Copper Corp'n R. R. between Hayden Jct. and Hayden Mills is operated by the Tucson Division.

Speed of trains must not exceed 15 MPH.

Grade Hayden Mills to Hayden Jct. 2.2%.

Impaired overhead and side clearance at Hayden Mills Smelter.

(Unless otherwise further restricted by time table, slow board, or train order)

PAGE	TYPE OF ENGINE—TERRITORY—STRUCTURE—LOADING, ETC.	M.P.H.
2-3-4	Trains handling wooden pile-drivers; locomotive cranes with boom disconnected and heavy end forward; steam shovels and ditchers, transported on their own wheels; On tangent main tracks.....	35
5-7	except SPMW 4044.....	25
4-5-6	On tangent branch tracks.....	25
All	On all curves.... 5 MPH less than speed authorized. Where slow boards in place 5 MPH less than shown on slow boards, except when speed indicated is 15 MPH or less be governed by slow boards.	
2-3-4-5-7	Trains handling locomotive cranes with boom disconnected and light end forward (must not be handled in this manner except in emergency): On tangent main tracks.....	20
All	On curves and on branch tracks.....	15
2-3-4-5-7	Trains handling locomotive cranes with boom in place, either end forward (to be handled in work trains when practicable): On tangent main tracks.....	25
All	On curves and on branch tracks.....	15
4-5-6	Trains handling steel pile-drivers may make maximum freight train speed. On tangent main tracks.....	35
2-3-4-5-7	On tangent branch tracks.....	25
All	On all curves.... 5 MPH less than speed authorized. Where slow boards in place 5 MPH less than shown on slow boards, except where speed indicated is 15 MPH or less be governed by slow boards.	

LOCATION OF OVERHEAD AND SIDE STRUCTURES NOT STANDARD CLEARANCE
 Employees are warned that it is dangerous to ride on top or sides of cars while passing these points and that they must protect themselves from injury.
 Bulletins may be issued from time to time referring to impaired clearances not listed below.

MILE POST	DESCRIPTION
733.0	Yuma, ice platform..... Side
778.0	Gila River bridge..... Side
891.0	Agua Fria River bridge..... Side
907.0	Phoenix, ice platform..... Side
911.8	Tovrea, meat chute..... Overhead
913.4	Tempe, Water User's spur..... Overhead and Side
914.0	Salt River bridge..... Side
914.4	Tempe, Tempe Milling Co. spur..... Side
921.8	Mesa, Texas Oil Co., Drew's spur and ice platform..... Side
959.3	Gila River bridge..... Side
972.4	Tunnel No. 1 (Christmas Branch)..... Overhead and Side
972.5	Gila River bridge (Christmas Branch)..... Side
975.4	Rock cut (Christmas Branch)..... Side
985.3	Gila River bridge (Christmas Branch)..... Side
987.8	Ray Junction, water tank spout..... Overhead and Side
988.5	Tunnel No. 2 (Christmas Branch)..... Overhead and Side
990.0	Tunnel No. 3 (Christmas Branch)..... Overhead and Side
1003.5	Winkelman, ore bins..... Side
1007.0	Finney, ore chute..... Side
1009.2	Tunnel No. 4 (Christmas Branch)..... Overhead and Side
1029.6	Tucson, ice platform..... Side
1049.8	Tubac, water tank spout..... Overhead and Side
1049.8	Nogales, ice platform..... Side
1058.1	Cienega Creek bridge..... Side
1033.6	San Pedro River bridge..... Side
1114.2	San Simon, water tank spout..... Overhead and Side
1201.0	San Carlos, water tank and spout..... Overhead and Side

SPEED TABLE

SPEED PER HOUR	1 MILE IN MIN. SEC.	SPEED PER HOUR	1 MILE IN MIN. SEC.	SPEED PER HOUR	1 MILE IN MIN. SEC.	SPEED PER HOUR	1 MILE IN MIN. SEC.
6	10.00	25	2.24	39	1.33	53	1.08
8	7.30	26	2.13	40	1.30	54	1.06
10	6.00	27	2.13	41	1.27	55	1.05
12	5.00	28	2.08	42	1.25	56	1.04
15	4.00	29	2.04	43	1.23	57	1.03
16	3.45	30	2.00	44	1.21	58	1.02
17	3.31	31	1.96	45	1.20	59	1.01
18	3.20	32	1.92	46	1.18	60	1.00
19	3.09	33	1.89	47	1.16	61	.99
20	3.00	34	1.85	48	1.15	62	.98
21	2.51	35	1.82	49	1.13	63	.97
22	2.43	36	1.80	50	1.12	64	.96
23	2.36	37	1.77	51	1.10	65	.95
24	2.30	38	1.74	52	1.09		

SURGEONS

LOCATION	NAME	TITLE
San Francisco.....	Dr. C. A. Walker.....	Chief Surgeon and Manager
Yuma.....	Dr. C. S. Powell.....	District Examiner and Surgeon
Yuma.....	Dr. C. W. Cain.....	Asst. District Surgeon
Litchfield.....	Dr. R. L. Penn.....	District Surgeon
Buckeye.....	Dr. G. C. Rubel.....	District Surgeon
Buckeye.....	Dr. V. Jeffery.....	Asst. District Surgeon
Phoenix.....	Dr. H. D. Ketcherside.....	District Examiner and Surgeon
Phoenix.....	Dr. J. E. Drane.....	Asst. District Surgeon
Phoenix.....	Dr. A. M. Tuthill.....	Asst. District Surgeon
Phoenix.....	Dr. N. A. Ross.....	Asst. District Surgeon
Phoenix.....	Dr. D. F. Harbridge.....	Oculist
Phoenix.....	Dr. W. A. Schwartz.....	Aurist
Phoenix.....	Dr. R. F. Palmer.....	Consulting Physician and Surgeon
Tempe.....	Dr. R. J. Stroud.....	District Surgeon
Mesa.....	Dr. W. S. Sharp.....	District Surgeon
Chandler.....	Dr. J. M. Meason.....	District Surgeon
Coolidge.....	Dr. H. E. Pinkerton.....	Emergency Surgeon
Coolidge.....	Dr. G. S. Walker.....	Emergency Surgeon
Gilbert.....	Dr. L. M. Thompkins.....	Emergency Surgeon
Florence.....	Dr. G. E. Huffman.....	District Surgeon
Ray.....	Dr. O. E. Utzinger.....	District Surgeon
Hayden.....	Dr. B. Huestis.....	District Surgeon
Gila.....	Dr. A. Love.....	District Examiner and Surgeon
Casa Grande.....	Dr. E. Redden.....	District Surgeon
Tucson.....	Dr. J. A. Thomas.....	Assistant to Chief Surgeon and Exam.
Tucson.....	Dr. Sanger.....	District Surgeon
Tucson.....	Dr. G. Presson.....	Acting Division Surgeon
Tucson.....	Dr. R. A. Wilson.....	Acting Division Surgeon
Tucson.....	Dr. E. H. Brown.....	Aurist and Oculist
Tucson.....	Dr. T. H. Cates.....	Consulting Aurist and Oculist
Nogales.....	Dr. J. S. Gonzales.....	District Examiner and Surgeon
Nogales.....	Dr. C. S. Smith.....	Oculist and Aurist
Nogales.....	Dr. Z. B. Noon.....	District Surgeon
Benson.....	Dr. A. N. Shoun.....	District Examiner and Surgeon
Willcox.....	Dr. J. C. Wilson.....	District Surgeon
Willcox.....	Dr. B. E. Briscoe.....	District Surgeon
Bowie.....	Dr. F. W. Parrish.....	District Examiner and Surgeon
Lordsburg.....	Dr. C. B. Austin.....	District Surgeon
Safford.....	Dr. J. N. Stratton.....	District Surgeon
Safford.....	Dr. F. W. Butler.....	Asst. District Surgeon
San Carlos.....	Dr. R. D. Cunningham.....	District Surgeon
Globe.....	Dr. C. Gunter.....	District Examiner and Surgeon
Globe.....	Dr. M. Gunter.....	Asst. District Surgeon
Globe.....	Dr. W. A. Holt.....	Consulting Surgeon
Miami.....	Dr. C. M. Cron.....	District Surgeon
Miami.....	Dr. W. B. Watts, Jr.....	Asst. District Surgeon

HOSPITALS

General Hospital.....	San Francisco, Calif.
St. Joseph's Hospital.....	Phoenix, Ariz.
St. Mary's Hospital.....	Tucson, Ariz.

SPECIAL INSTRUCTIONS

AVERAGE TARE WEIGHTS OF PASSENGER TRAIN CARS

CLASS	NOT AIR-CONDITIONED		AIR-CONDITIONED	
	All-Steel	Steel Underframe	All-Steel Cooling Season	All-Steel Heating Season
Baggage—60 ft.	98,070			
“ —66 ft.	127,610			
“ —70 ft.	122,620			
“ —70 ft. (With Auto. End Door)	125,800			
“ —(Dynamo)	98,730			
Baggage & Mail—60 ft.	103,620			
“ “ —69 ft.	124,760			
“ “ —70 ft.	129,140			
“ “ Passenger	108,675	103,590		
Express Refr.—N. P. Ry.		74,000		
“ —A. R. E. No. 40-154		78,000		
“ —“ “ 155-224		89,000		
“ —“ “ 500-506		110,000		
“ —“ “ 1101-1175		85,000		
“ —P. F. E. 500-799		83,000		
Express, Horse	133,050			
Postal	112,120			
Postal Storage—40 ft.	74,530			
“ —60 ft.	105,120			
Assembly (ACW)		168,950	168,950	
Club (ACD)	146,210	122,300	178,200	164,700
Official (NAC)	170,700	155,370		
“ (ACW) Cars 107-123			182,800	182,800
“ (ACW) “ 140-141			195,040	195,040
Chair—60 ft. (ACD)	100,620		138,000	132,000
“ —72 ft. (ACD)			185,000	157,800
“ —72 ft. (ACW)			157,700	157,700
“ —Streamline—Single (ACS)			120,900	104,500
“ —“ —Art. (ACS)			205,400	172,600
“ —74 ft. (ACD)			180,915	173,125
“ —74 ft. (ACW)			197,944	181,600
Coaches—60 ft. (ACD)	98,130		136,100	130,100
“ —70 ft. (ACD)	137,640		157,800	151,000
“ —70 ft. (ACW)	137,640		151,000	151,000
“ —72 ft. (ACD)			164,500	157,400
“ —72 ft. (ACW)			153,500	153,500
“ —73 ft. 6 in. (ACW)			163,000	163,000
“ —73 ft. 6 in. (ACD)			168,500	161,200
“ —72 ft. (Interurban)	120,000			
All-Day Lunch—Chair	105,970			
“ —Coach	103,875			
Cafe-Coach (ACD)		138,600	155,700	149,000#
Cafe-Lounge (ACD)	148,950	161,200	173,500	166,000
“ (ACW)			156,000	156,000
Diner—70 ft.		135,930		
“ —72 ft.	155,330	146,930		
“ —77 ft. (Arch Roof) (ACD)	156,000		170,100	162,700
“ —77 ft. (“ “) (ACW)			162,950	162,950
“ —77 ft. (Clerk Story Roof) (ACW)		165,530	169,450	169,450
“ —77 ft. (“ “) (ACM)			189,581	173,836
“ —79 ft. (NAC)	169,100			
“ —80 ft. (Clerk Story Roof) (ACM)			201,323	184,700
Lounge (ACD)		189,800	181,630	
“ (Arch Roof) (ACD)		167,500	160,300	
“ (“ “) (ACW)		164,980	157,780	
Observation—75 ft. (ACD)	154,400		169,185	161,900
“ —77 ft. (ACD)			194,543	186,166
Pullman-Observation (ACD)	160,800	153,000	177,314	169,200
“ “ Lounge (ACM)	160,800	153,000	192,300	176,300
“ “ “ (ACM)	171,200		194,900	178,900
“ —Bedroom (ACD)	171,200		187,682	179,600
“ —“ (ACD)	167,600		183,920	176,000
“ —“ (ACM)	167,600		195,800	179,800
“ —Sleeper (ACM)	163,100		191,100	175,100
“ —“ (ACD)	163,100		180,075	171,500
“ —Tourist (ACM)	153,000		185,200	169,200
“ —“ (ACD)	153,000		168,663	161,400
Arizona Limited—(7 cars) (ACM)			1,020,800	980,800
Rail, Gas-Electric—400 H.P.	158,400			
“ —600 H.P.	167,200			

#Steel underframe.

CODE:

- NAC—Non-Air Conditioned.
- ACI—Air-Conditioned—Ice.
- ACM—Air-Conditioned—Mechanical.
- ACW—Air-Conditioned—Waukesha.
- ACS—Air-Conditioned—Steam Ejector

RATING OF ENGINES—TUCSON DIVISION

IN M'S OF 1,000 LBS. BACK OF TENDER

Nominal Class	OFFICIAL CLASS	ENGINE NUMBERS	Boiler Pressure	Yuma to East Yard Pembroke to Mohawk Lava to Sentinel	East Yard to Pembroke Mohawk to Lava Sentinel to Gila Maricopa to Tucson Wellton to Saddle 2 M. W. of Gillespie to Picacho	Gila to Estrella Saddle to 2 M. W. of Gillespie	Estrella to Maricopa Tucson to Maricopa Estrella to Kim Mohawk to Blaisdell Fortuna to Yuma Picacho to 2 M. E. of Crag 2 M. W. of Gillespie to Wellton	Maricopa to Estrella Blaisdell to Fortuna 2 M. E. of Crag to 2 M. W. of Gillespie	Kim to Mohawk	McQueen to Christmas	Christmas to McQueen	Tucson to Nogales	Nogales to Tucson
M-4	M-63 20/28 126, 135-S	1617 to 1713	190	2550	2900	1900	4300	2900	2100	3150	3750		
M-6, 8	M-63 21/28 150-S, 159-SF	1721 to 1803, 1823 to 1825	200	3050	3600	2250	5000	3600	2500				
M-9	M-63 21/28 150-S, 162-SF	1804 to 1822, 1826 to 1830, 1836	210	3250	3800	2400	5300	3800	2650	4100	4900		
M-11	M-63 22/28 153-S, 162-SF	1832 to 1835	200	3350	3950	2500	5500	3950	2750	4250	5100		
T-37	T-70 24/26 146-S	2105, 2106	175	3100	3700	2300	5200	3700	2550	3700	4400	2350	3250
P-1, 3, 5	P-77 22/28 141-S	2400 to 2452, 2459, 2460	210	2800	3300	2000	4550	3300	2250				
C-8, 9, 10	C-57 22/30 192-S, 200-SF	2513 to 2599, 2698 to 2860	210	3900	4600	2900	6500	4600	3250	4700	5600	3000	4100
P-12	P-73 26/28 189-SF	3120 to 3129	205	4000	4700	2900	6700	4700	3300				
Mk-2, 4	Mk-57 23 1/2/30 206-S, 230-SF	3201 to 3240	210	4500	5200	3300	7300	5200	3600	5650	6750		
Mk-5, 6	Mk-63 26/28 210-S, 233-SF	3241 to 3277	210	5000	5750	3600	8100	5750	4000	6100	7300		
Mk-7, 8, 9	Mk-63 29/30 247-S, 257-SF	3300 to 3324	205	5500	6350	4000	8900	6350	4500				
F-1	F-63 27 1/2/32 273-S, 282-SF	3600 to 3652	200	5700	6700	4200	9300	6700	4700				
F-3	F-63 29 1/2/32 297-S, 300-SF	3653 to 3667	200	6500	7600	4800	10800	7600	5400				
F-4, 5	F-63 29 1/2/32 306/B-61-SF	3668 to 3769	200	6700	8000	5000	11500	8000	5600				
F-4, 5	F-63 29 1/2/32 306/B-62-SF												
AC-7, 8	AC-63 24 1/2-24 515-SF, 532-SF	4151 to 4204	250	10500	12000	8000	14000	12000	8800				
Mt-1, 3, 4, 5	Mt-73 28/30 246/B-60-SF	4300 to 4376	210	5400	6400	3850	9000	6400	4350				
Mt-2	Mt-73 29/30 262-SF	4385 to 4390	210	5600	6600	4000	9300	6600	4500				
GS-4	GS-80 25 1/2/32 267/B-118-SF	4430 to 4449	300	6000	7000	4300	9700	7000	4800				
SP-1	SP-63 28 1/2-32 316/B-60-SF	5000 to 5048	225	7600	8800	5600	12500	8800	6800				
SP-2, 3	SP-63 28 1/2-32 317/B-61-SF												
Allowance for empty and underloaded cars													
				6	6	6	6	6	6	6	6	6	6
				3	3	3	3	3	3	3	3	3	3
				0	0	0	0	0	0	0	0	0	0

DIVISION MILEAGE

Main Lines

Yuma to Lordsburg	S. P. R. R.	412.60
Tucson to South Yard Junction	E. P. & S. W. R. R.	7.69
	A. E. R. R.	195.88
Wellton to Picacho, via Phoenix	S. P. Co.	13.10
	S. P. R. R.	.03
Total Main Lines		209.01

629.30

Branches

Benson-Fairbank	S. P. R. R. At Benson	7.64
	S. P. Co. McQueen to Winkelman	74.40
Christmas	A. E. R. R. Erman to Christmas	12.26
	K. C. C. Hayden Jct. to Hayden	.32
Creamery	A. E. R. R. At Tempe	.47
	S. P. Co. Tempe to Normal Jct.	1.72
Globe	A. E. R. R. Bowie to Inspiration Jct.	186.14
Litchfield	A. E. R. R. Litchfield to Litchfield Park	4.92
Nogales	S. P. R. R. Tucson to Nogales	65.79
Tempe	A. E. R. R. Tempe Jct. to West Chandler	8.73
Yuma Valley	Yuma Valley R. R. Yuma to Somerton	15.00
Total Branches		320.39
Total		949.69



MAP
OF THE
TUCSON DIVISION
SOUTHERN PACIFIC COMPANY

DECEMBER 1930



Revised Jan 1935