

COMPANY SURGEONS

*Dr. Abbott Skinner, Chf. Med. Officer	St. Paul, Minn.
*Dr. Charles T. Eginton, Asst. to Chf. Med. Officer	St. Paul, Minn.
*Dr. F. J. Savage	St. Paul, Minn.
*Dr. Darrell E. Westover	St. Paul, Minn.
Dr. G. D. Brand	St. Paul, Minn.
*Dr. Ernest R. Anderson	Minneapolis, Minn.
*Dr. Victor E. Ekblad	Superior, Wis.
Dr. Milton Finn	Superior, Wis.
Dr. Fred Johnson	Superior, Wis.
Dr. E. G. Stack	Superior, Wis.
Dr. Raymond J. Spurzem	Anoka, Minn.
Dr. Leroy J. Larson	Bagley, Minn.
*Dr. Einar W. Johnson	Bemidji, Minn.
Dr. T. P. Groschupf	Bemidji, Minn.
Dr. Wm. T. Nygren	Braham, Minn.
Dr. W. W. Will	Bertha, Minn.
Dr. G. E. Larson	Cambridge, Minn.
Dr. G. W. Schossow	Ersine, Minn.
Dr. George A. Sather	Fosston, Minn.
Dr. N. F. Musachio	Foley, Minn.
Dr. C. E. Norberg	Cloquet, Minn.
Dr. Gordon C. MacRae	Duluth, Minn.
*Dr. C. H. Coombs	Cass Lake, Minn.
Dr. R. W. Brockway	Grand Rapids, Minn.
*Dr. John B. Evensta	Grand Rapids, Minn.
*Dr. B. S. Adams	Hibbing, Minn.
Dr. Clarence Jacobson	Hibbing, Minn.
Dr. John J. Muller	Hibbing, Minn.
Dr. R. L. Christie	Long Prairie, Minn.
Dr. Paul J. Keith	Milaca, Minn.
Dr. C. S. Bossert	Mora, Minn.
Dr. H. P. Dredge	Sandstone, Minn.
Dr. E. G. Hubin	Sandstone, Minn.
*Dr. H. W. Goehrs	St. Cloud, Minn.
Dr. G. H. Goehrs	St. Cloud, Minn.
Dr. J. F. DuBois	Sauk Centre, Minn.
Dr. Julian F. DuBois, Jr.	Sauk Centre, Minn.
*Dr. John C. Grant	Sauk Centre, Minn.
Dr. E. N. Peterson	Virginia, Minn.
Dr. J. Arnold Malmstrom	Virginia, Minn.
*Dr. Luther F. Davis	Wadena, Minn.
Dr. O. F. Ringle	Walker, Minn.

*Designates also Examining Surgeon.

**OPHTHALMIC SURGEONS
(Eye Doctors)**

Dr. Edward P. Burch	St. Paul, Minn.
Dr. Charles E. Stanford	Minneapolis, Minn.
Dr. Malcolm A. McCannel	Minneapolis, Minn.
Dr. John E. Power	Duluth, Minn.
Dr. T. J. Doyle	Superior, Wis.
Dr. Roger T. Thompson	Superior, Wis.
Dr. W. T. Wenner	St. Cloud, Minn.

- E. G. STACK,
Chief Dispatcher.
- C. W. HAMMER,
Chief Dispatcher.
- R. R. McENARY,
Trainmaster.
- W. R. RICHTER,
Trainmaster.
- W. T. SLOAN,
Trainmaster.
- W. ANDREWS,
Assistant Superintendent.

GREAT NORTHERN RAILWAY COMPANY

MESABI DIVISION

TIME TABLE 70

EFFECTIVE 12:01 A. M.

CENTRAL TIME

Tuesday, September 2, 1958

E. F. OVIATT, Superintendent.

R. N. WHITMAN, General Manager.

A. W. CAMPBELL, General Superintendent Transportation.

Printed in U.S.A.

2 WESTWARD

FIRST SUBDIVISION

EASTWARD

Station Numbers	Car Capacity		SECOND CLASS		FIRST CLASS			Distance from Duluth	Time Table No. 70		Telegraph Cells	Distance from St. Paul	SIGNS	FIRST CLASS			SECOND CL		
	Slings	Other Tracks	411	407	35	19	23		STATIONS					36	24	20	408	412	
			Daily	Daily	Daily Ex. Sunday	Daily	Daily		Daily Ex. Monday	Daily				Daily	Daily	Daily	Daily		
J 139	82				L 7.15Am A 7.21Am	L 4.30Pm A 4.36Pm	L 8.00Am A 8.06Am	2.37	DULUTH BRIDGE SWITCH	DU 159.97 157.60	RKDNXB A 6.48Am L 6.38Am	A 11.58Am L 11.52Am	A 7.45Pm L 7.39Pm						
<p>TRAINS BETWEEN ELEVATOR STATION AND DULUTH TERMINAL DEPOT ARE GOVERNED BY NORTHERN PACIFIC, DULUTH AND SUPERIOR TERMINALS TIME TABLE</p>																			
J 136	Yard	5689			7.40	4.45	8.15	4.22	ELEVATOR STATION	BY	156.74 155.75	RKP WBKO	6.30	11.43	7.30				
J 131		32						8.40	25TH ST. CENTRAL AVE.		154.56 151.57	PX V							
<p>FIRST CLASS TRAINS BETWEEN CENTRAL AVE. TOWER AND DULUTH TERMINAL DEPOT ARE GOVERNED BY NORTHERN PACIFIC, DULUTH AND SUPERIOR TERMINALS TIME TABLE</p>																			
J 130	Yard	297			L 10.30Pm 10.37	L 10.15Pm 10.22	L 7.48Am 7.51	L 4.53Pm 4.56	L 8.23Am 8.26	10.37	DOUBLE TRACK	0.27 CENTRAL AVE. TOWER	SU	151.30	RIDNPKJ	A 6.20Am A 11.33Am	A 7.19Pm A 2.50Am	A 5.33Am	
J 125					10.44	10.29	A 7.54Am	4.59	8.29	13.43	1.70 SAUNDERS	B	149.60	IRDNPKJ	6.17	11.30	7.16	2.45	5.27
J 121	95	7			10.59	10.44			8.36	18.54	3.06 BOYLSTON		146.54	PJ	L 6.13Am	11.27	7.13	2.35	5.20
J 113	127	10			11.13	10.58		5.12	8.44	24.71	5.11 DEHAM		141.43	P		11.19		2.24	5.00
J 109	70	5			11.28	11.13		5.12	8.44	24.71	6.17 FOORD		135.26	P		11.10	7.01	2.12	4.40
J 103	139	3			11.58	11.33		5.23	9.00	36.74	5.28 HOLYOKE		129.98	P		11.03		2.02	4.20
J 99	4				12.06Am	11.38		5.23	9.00	40.65	6.75 NICKERSON	NS	123.23	NP		10.54	6.51	1.50	4.00
J 98	38				12.13	11.43		5.23	9.00	43.18	3.91 DOUQUETTE		119.32	P		10.49			3.36
J 91	110	14			12.25	11.53		5.34	9.18	48.93	5.86 KERRICK	K	116.79	DP		10.44		1.40	3.30
J 82	135	25			12.40	12.05Am		5.41	9.29	57.31	5.75 BRUNO		111.04	P		10.37	6.41	1.30	3.00
J 76	426				1.00	12.25		5.48	9.39	63.17	8.38 ASKOV	RD	102.66	DP		10.27	6.34	1.15	2.30
J 67	23				1.55	1.15		5.48	9.39	71.99	5.86 SANDSTONE	NA	96.80	BDNPT WXIO		10.20	6.28	1.00	2.00Am
J 59	167	6			2.16	1.37		6.07	10.00	80.21	8.82 HINKLEY	H	87.98	DP		10.10		12.05	10.58
GA54	16	4			2.17Am	1.38		6.08	10.01	80.54	0.37 HINKLEY TOWER	HT	87.61	DNPT		10.09	6.15	12.03Am	10.56
GA49	107	32			2.02			6.17	10.14	91.45	7.85 BROOK PARK	BK	79.76	DPI		10.00	6.07	11.39	10.41
GA43	59	35			2.14			6.22	10.21	96.72	0.33 BROOK PARK JOT		79.43	IPJ		9.59	6.06	11.38	10.40Pm
GA40	19				2.21			6.22	10.21	100.15	5.47 HENRIETTE		73.96	P		9.54		11.24	
GA38	30				2.27			6.22	10.21	102.64	5.44 GRABSTON		68.52	P		9.47	5.57	11.09	
GA33	104	123			2.37			6.31	10.37	107.52	5.27 BRAHAM	RA	63.25	DP		9.41	5.52	10.54	
GA27	55				2.49			6.41	10.53	113.17	3.43 STARFIELD		59.82	P		9.36		10.43	
GA21	99	49			3.01			6.41	10.53	119.19	2.49 GRANDY		57.33	P		9.32		10.37	
GA15	20				3.13			6.51	11.00	125.34	4.88 CAMBRIDGE	CG	52.45	DNP		9.25	5.43	10.23	
GA 9	99	13			3.25			6.51	11.05	131.03	5.65 ISANTI	IS	46.80	DP		9.15		10.08	
G 13					3.40Am			6.56Pm	11.11Am	136.99	6.02 BETHEL	BE	40.78	DP		9.07	5.34	9.52	
<p>TRAINS BETWEEN COON CREEK JUNCTION AND NORTHTOWN ARE GOVERNED BY NORTHERN PACIFIC TIME TABLE</p>																			
<p>TRAINS BETWEEN NORTHTOWN AND ST. PAUL ARE GOVERNED BY TWIN CITY TERMINALS TIME TABLE</p>																			
					A 7.45Pm	A 1.59Am		159.97	22.98	ST. PAUL						L 8.00Am	L 4.30Pm		
					3.47	5.25	20.7	2.26	3.11							3.35	3.12	2.26	5.50
					19.0	23.7	20.7	56.3	43.0							23.0	42.8	56.3	23.5
<p>Time Over Subdivision Average Speed Per Hour</p>																			

Westward trains are superior to eastward trains of the same class.
 Train 35's equipment will use freight tracks from Elevator Station to Winter Street, LST&T track Winter Street to Superior Union Depot.
 SEE ADDITIONAL SPECIAL INSTRUCTIONS PAGES 6 THROUGH 15.

WESTWARD

SECOND SUBDIVISION

EASTWARD 3

Station Numbers	Car Capacity		SECOND CLASS		FIRST CLASS		Distance from Duluth	Time Table No. 70		Telegraph Code	SIGNS	FIRST CLASS		SECOND CLASS				
	Slidings	Other Tracks	163		65			35				STATIONS	36		64		162	
			Soo Line		Soo Line			Soo Line					Daily Ex. Monday		Soo Line		Soo Line	
J125					L	7.54Am	13.43				P	A	6.13Am					
Y251	99	2			f	8.02	19.21				P	f	6.04					
Y249						8.07	23.09			S	DNPI		5.58					
							26.93				IP							
Y236	85	10			s	8.22	33.01				DNPI	s	5.41					
Y229		239			s	8.33	38.97			KN	PXR	s	5.29					
Y213	89	81			s	8.58	55.45			BN	JDNFW	s	5.03					
Y200		12			f	9.16	67.90				P	f	4.47					
Y195		64			s	9.24	73.27			OD	DP	s	4.40					
Y178		82			s	9.47	89.83				JDNP	s	4.19					
	200					9.59	98.78			WA	YI	s	4.07					
Y161	96	175				10.09	106.30				PI		3.57					
Y159	92	240			s	10.23	109.34			GU	JYIDNFX	s	3.52					
Y157	48	30				10.28	113.04			GR	DNXP	s	3.43					
											PX							
Y156	123	9			s	10.30	114.23				P	s	3.41					
Y145	135	96				10.45	123.60				DNPX	s	3.30					
Y138	70	16			f	10.54	130.70			RI	P	f	3.20					
Y125	69	22			s	11.10	143.60				DP	s	3.05					
118	123	4			f	11.19	151.15				P	f	2.56					
					L	8.43Am	L	1.39Pm	11.22	153.21								
Y106	Yard	681				9.05	1.57	s	11.38	162.69		JPV	2.53	A	10.20Am			
											BRDNKW	s	2.43		3.05			
Y101		15				9.14	2.04	f	11.44	166.82		KPYD		10.06				
Y 96	69	10				9.24	2.11	f	11.51	172.34		P	f	2.32	9.58			
Y 90	70	191				9.35Am	2.24Pm	f	12.02Pm	177.96		P	f	2.25	9.51			
Y 84	70	10						s	12.10	184.11				L	9.42Am			
															L	2.24Pm		
Y 78		26						s	12.18	190.24								
Y 72	69	27						s	12.26	196.44								
Y 65	75	26						s	12.35	203.14								
Y 58	101	27						f	12.44	210.46								
Y 52	70	23						s	12.52	216.48								
Y 45	70	109						s	1.02	223.50								
Y 37	70	35						s	1.12	231.09								
Y 31	72	37						s	1.22	237.14								
Y 24	71	34						s	1.31	243.79								
Y 17								f	1.41	250.53								
Y 12	70	29						f	1.48	255.17								
A29B	Yard	359						A	2.05Pm	267.62								

TRAINS BETWEEN CROOKSTON YARD AND CROOKSTON ARE GOVERNED BY DAKOTA DIVISION TIME TABLE

				A	2.10Pm	269.60		1.98	CROOKSTON		NBRDKX	L	12.09Am		
		.52	.45		6.16				Time Over Subdivision				6.04	.38	1.06
		28.55	33.0		40.87				Average Speed Per Hour				42.2	39.08	22.5

Westward trains are superior to eastward trains of the same class.
 No. 35 and No. 36 will stop at Warba and will stop on flag at Scanlon, Paupores, Island, Wawina, Blackberry and Burwell.
 SEE ADDITIONAL SPECIAL INSTRUCTIONS PAGES 6 THROUGH 15.

WESTWARD

SEVENTH SUBDIVISION

EASTWARD 5

Station Numbers	Car Capacity		SECOND CLASS		FIRST CLASS			Distance from Brook Park Jct.	Time Table No. 70			Telegraph Calls	Distance from St. Cloud	SIGNS	FIRST CLASS		SECOND CLASS	
	Sidelings	Other Tracks	411	11	3	Effective September 2, 1958			12	4	412							
						STATIONS									Daily	Daily	Daily	
			L 2.17Am						BROOK PARK JCT.	59.69	JPI					A 10.40Pm		
J54	8		2.30				5.06		5.06 QUAMBA	54.63	P					10.25		
J48	59		2.44				11.39		6.33 MORA	48.30	DP					10.10		
J41	89	31	3.02				18.49		7.10 OGILVIE	41.20	DP					9.50		
J34	12		3.18				25.37		6.88 BOCK	34.32	P					9.32		
J28	90	71	3.48				30.59		5.22 MILACA	29.10	BRDPX					9.20		
			3.53				31.23		0.64 MILACA JCT.	28.46	PJX					9.05		
J25	33		4.00				33.88		2.65 FORESTON	25.81	P					8.55		
J18	30		4.13				39.60		5.72 OAKS	20.09	P					8.41		
J17	11		4.20				42.37		2.77 RONNEY	17.32	P					8.33		
J14	89	38	4.26				44.68		2.31 FOLEY	15.01	DP					8.25		
J10	33		4.36				48.98		4.30 PARENT	10.71	P					8.15		
G63	182		5.05			L 7.00Pm	L 10.05Am		8.17 EAST ST. CLOUD	1.54	EA	1.54	DNPIX BKDNW BXYO	A 12.31Pm	A 8.46Pm	7.40		
75	Yard	1501	A 5.20Am			A 7.08Pm	A 10.13Am	59.69	2.77 ST. CLOUD	0.0	DX	0.0		L 12.23Pm	L 8.38Pm	L 7.30Pm		
			3.03			0.08	0.08		Time Over Subdivision							3.10		
			19.6			11.5	11.5		Average Speed Per Hour							11.5		18.8

EIGHTH SUBDIVISION WESTWARD EASTWARD

Station Numbers	Capacity of Tracks	Distance from Alloway	Time Table No. 70			Telegraph Calls	SIGNS
			Effective September 2, 1958				
			STATIONS				
YA 26	9485 ore cars	2.88	Double Track	.....ALLOUEZ.....	BJ	RKPW OYXIB XI
				.....BRIDGE 1.3.....		
J 130	297	4.20		.....SAUNDERS.....	B	JPXDN

TENTH SUBDIVISION WESTWARD EASTWARD

Station Numbers	Car Capacity	Distance from Kelly Lake	Time Table No. 70			Telegraph Calls	SIGNS
			Effective September 2, 1958				
			STATIONS				
YB 25	Yard	1329		.....KELLY LAKE.....	KY	BRKDNP WYXJO DPX
YD 64	14	4.02		.....KEEWATIN.....	KW	
YD 69	90	4.86		.....MOORE.....		PX
YD 74	520	9.59		.....NASHWAUK.....	N	DPX
YD 76	31	11.67		.....KEVIN.....		P
YD 80	375	16.19		.....CALUMET.....	CU	JDPXV
YD 82	5	17.07		.....MARBLE.....	RB	DPX
YD 86	20.58			.....HOLMAN JCT.....		JPI
YD 87	21.60			.....TACONITE JCT.....	NI	JPV
YD 88	56	23.43		.....BOVEY.....	BY	DPX
YD 91	300	26.19		.....CANISTEO.....		PXY
Y 161	96	31.43		.....GUNN.....	GU	JPYDN

NINTH SUBDIVISION WESTWARD EASTWARD

Station Numbers	Car Capacity	Distance from Chisholm	Time Table No. 70			Telegraph Calls	SIGNS
			Effective September 2, 1958				
			STATIONS				
YC 1	50			.....CHISHOLM.....	CM	DPX
		0.52		.....CHISHOLM JCT.....		JV
		1.75		.....D. M. & I. R. Shenango Yd. Jct.....		J
YD 61		2.37		.....ST. CLAIR JCT.....		JV

Westward trains are superior to Eastward trains of the same class on the Seventh, Eighth, Ninth and Tenth Subdivisions.
SEE ADDITIONAL SPECIAL INSTRUCTIONS PAGES 6 THROUGH 15.

SPECIAL INSTRUCTIONS

ALL SUBDIVISIONS

1. SPEED RESTRICTIONS GENERAL.

(a) Where Automatic Block and Interlocking Rules and Signal Indications require movement at RESTRICTED SPEED, such movement must be made prepared to stop short of train, obstruction, or switch not properly lined and on the lookout for broken rail or anything that may require the speed of a train to be reduced; but not exceeding 15 MPH or as much slower as necessary; and where conditions require the movement must be controlled so stop can be made in time to avoid accident.

(b) Maximum permissible speed of passenger, freight and mixed trains will be designated by distinctive reflectorized roadway signs set in an upward angle of 45 degrees. Except as directly affected by speed restrictions prescribed in Item 1—ALL SUBDIVISIONS—and other speed restrictions covered by Item 2 under individual Subdivisions, the 45 degree signs designate zone speed territories and the numerals thereon indicate in miles per hour the maximum permissible speed which will govern until the next zone sign is reached.

When the movement is from a higher to a lower speed zone, the zone sign is located approximately one mile from the point where the lower speed becomes effective. At the end of this one mile is located a reflectorized angular Restricting Sign, yellow background with black stripes, indicating the point where lower speed becomes effective. Lower speed to govern until entire train passes next zone sign.

When the movement is from a lower to a higher speed zone, the 45 degree sign is located at the point where speed may be increased.

In double track territory, when trains or engines are operated against the current of traffic or when one of the tracks is used as single track, in either case if the track being used is not signaled for traffic in the direction of the movement, the maximum permissible speed is, Passenger 59 MPH, Freight 49 MPH. This does not modify Rule 93. Further, trains and engines operating under the above conditions must not exceed the maximum permissible speed prescribed by the 45 degree signs with the current of traffic.

On subdivisions where both passenger and freight trains are operated, the 45 degree sign has two sets of figures, the numerals preceded with the letter "P" apply to passenger trains. The numerals preceded with the letter "F" apply to freight and mixed trains, and to passenger trains when handling freight cars, except cars equipped with steel wheels, air signal and steam heat lines. On subdivisions where normally only freight or mixed trains are operated, the 45 degree sign may have just one set of figures preceded with the letter "F", which applies to all trains.

(c) Speed shown on Speed Limit Plate on engines must not be exceeded.

(d) Diesel engines, light or with caboose only.....	50 MPH
When cabooses are handled in passenger service, trains will not exceed speed of:	
when handling Caboose X-100, X-198 to X-310....	65 MPH
Caboose X-330 to X-749.....	50 MPH
Trains handling, not in actual service, derricks, pile drivers, ditchers, cranes, shovels, Jordan Spreaders, wedge plows, etc., on Main Lines.....	30 MPH
except on 6 degree curves or sharper, and on Branch Lines	15 MPH
Trains handling ore cars or air dump cars loaded with ore or gravel, and scale test cars, on Main Lines except on 6 degree curves or sharper, and on Branch Lines	30 MPH
Unless conditions require a further speed restriction, trains or engines moving against the current of traffic on double track through interlockings.....	20 MPH
Trains or engines moving on main routes actuating points of spring switches	15 MPH
Trains or engines moving in facing point direction at spring switches without facing point lock.....	35 MPH
Trains or engines through No. 20 turnouts at:.....	25 MPH
Saunders	35 MPH
Crossover switches between eastward and westward main tracks.	

Boylston	Crossover switches between eastward and westward main tracks.
Dedham	East and west siding switch.
Askov	East and west siding switch.
Hinckley Tower.....	East and west siding switch.
Brook Park	East and west siding switch.
Brook Park Jct.....	Junction switch to 7th Subdivision.
Grasston	East and west siding switch.
Coon Creek Jct.....	Junction switch to 1st Subdivision.
Coon Creek	Crossover switches between N. P. and G. N. main tracks.
Brookston	Crossover switches between eastward and westward main tracks, Junction switch to 6th Subdivision.
Swan River	End of double track.
Philbin	Junction switch to 4th Subdivision.
Philbin	East and west siding switch.
Trains or engines through No. 15 turnouts at:	25 MPH
Central Ave.	
Tower	Crossover switches between eastward and westward main tracks.
Saunders	Junction switch to 8th Subdivision.
Boylston	Junction switch to 2nd Subdivision.
Bridge 1.3	End of double track.
Bridge 29	East and west switch of gantlet.
Gunn	Junction switch to 2nd Subdivision.
Gunn Yard	Junction switch to 10th Subdivision.

Trains or engines through all other turnouts..... 15 MPH

(e) Open cars loaded with poles, piling, lumber, timber, pipe or other lading which might shift, shall be handled as far as possible in pole trains or local trains. Except at points where it is necessary to classify trains, such cars should be placed as close as possible to the head end of the train but shall not be placed immediately next to Diesel engines, or immediately next to caboose, occupied outfit or passenger cars. These commodities must not be placed in trains at such locations as will conflict with the rules governing the handling of explosives, inflammables or acids.

In double track territory, engineers on trains containing such cars must at all times use extreme care to avoid slack running in or out when passing or being passed by other trains.

On single track, trains containing such cars must be at stop when on siding or adjacent track when meeting or being passed by other trains, except when there are more cars than siding will hold, it is permissible for such train to pull by other train at restricted speed.

2. MOVEMENT OF ENGINES DEAD IN TRAINS.

Diesel and Diesel-Electric engines 2308-2350 must be handled on rear of train.

Switcher and road switcher type Diesel engines G. N. numbers 1 through 232, 600 through 732, and 900 through 903, moving dead in freight trains are to be handled near rear of train and behind helper engines. Where more than one unit is moved such units must be separated by a freight car. When towing multiple unit road type Diesel engines dead in freight trains, not more than four adjacent units are to be towed in a single grouping, separated from the road engine and additional groups by not less than five cars.

Trains handling Diesel and Diesel-Electric engines in tow dead in train will not exceed following speeds:

Engine Number	Maximum Speed
1 to 20, 24 to 29, 75 to 170.....	50 MPH
20 to 24, 29 to 33, 175 to 232, 247 to 249, 253 to 259, 262, 263, 271 to 274, 276 to 279, 307 to 317, 400 to 474, 550 to 598, 600 to 678, 681 to 732, 900 to 903	65 MPH
250, 251, 260, 261, 266 to 270, 275, 280, 281, 350 to 365, 500 to 512, 679, 680	79 MPH
2303 to 2324	50 MPH
2325 to 2350	60 MPH

3. Under Rule 24, engine number only will be displayed in indicators on engines so equipped. This will also apply when engines are operating over Northern Pacific tracks. Between Klamath Falls and Chemult, Southern Pacific Rules will govern.

4. When two or more Diesel engine units are coupled together the numerals and suffix letter, where provided, of the leading unit will be illuminated at all times when in service.

The numerals and suffix letter of trailing units must not be illuminated.

The numerals and suffix letter of the leading unit only will be used in train orders as prescribed by Consolidated Code Rule 206.

5. Air hose on engines must be hooked up in hose fastener when not in use.

6. EMPLOYEES WILL BE GOVERNED AS FOLLOWS ON ENGINES, PASSENGER AND FREIGHT CARS EQUIPPED WITH ROLLER BEARINGS:

Roller bearing failures on cars or engines equipped with roller bearing journal boxes may be due to lack of oil or grease. If the box is not blazing, the oil plug in the cover should be removed and engine or valve oil added. Oil must never be added to a box that is blazing. Grease lubricated roller bearing boxes have grease plugs locked with metal strap which must be cut off with chisel before plug can be removed. After the oil has been added and plug replaced, the train should proceed at reduced speed and care exercised until it is apparent that the box will run cool. If fire develops in roller bearing box on any equipment, it must be closely watched, train moved slowly, and Superintendent notified from first available point of communication, who will prescribe for the movement.

Some engines and cars equipped with roller bearings have heat indicators or stench bombs inserted in the housing of boxes which release a strong pungent odor in the event of excessive journal box temperatures. When this odor is detected, train must be stopped at once and box located. Compare the temperature of this box with the other boxes on the same engine or car, check the oil level, and if there is no evidence of overheating, train may proceed, but if the box is overheating proceed only as instructed in the preceding paragraph.

Cars and engines equipped with roller bearings must not be allowed to stand alone, even on level track, without brakes being adequately applied.

7. COOLING AND STEAM BOILER WATERING FACILITIES FOR DIESEL ENGINES ARE PROVIDED AT THE FOLLOWING INTERMEDIATE STATIONS:

FIRST SUBDIVISION

SANDSTONE:.....Both at Boxes at East & West end depot platform.

SECOND SUBDIVISION

CASS LAKE:.....East & West end depot.

BEMIDJI:.....Both at depot.

THIRD SUBDIVISION

SEBEKA:.....Both at depot.

8. Under Rule 2, watches that have been examined and certified to by a designated inspector must be used by yardmen.
Rule 2A of the Consolidated Code of Operating Rules and General Instructions does not apply to employes of the Great Northern Railway.
9. Brakemen with less than one year of experience should not be used as flagmen except in emergency, and then Superintendent will be notified by wire.
10. When operating snow machines in non-block signal territory no train should be permitted to follow closer than a station apart, when that cannot be done they will be blocked not less than thirty minutes apart.
11. After severe blizzard or dirt storm, employes on first train over road must exercise care to avoid accident caused by striking drift without first having drifts faced with hand shovels, cutting in far enough to get beyond the hard snow and giving a perpendicular wall to strike against instead of slope or wedge-like shape. When operating snow dozer, conductor in charge will ride in the dozer.

On snow and dirt dozers every precaution must be taken to see that cage, flangers and wings clear all obstacles when in service and are properly secured when in through trains, and dozers properly turned. Hand screws must be tightened to raise flanger on dozers as high as possible before making a back-up movement, and must not be released until the dozing work is actually to start. Hand screws holding the cage on dozers must be tightened or chains otherwise fastened except when dozer has air in cylinders and is attended by an employe.

12. Loaded dump cars should not be handled on double track after dark, but if necessary to do so, close watch must be kept by trainmen and if a car dumps its load, train must be stopped and protection afforded on the opposite track.

13. Unless otherwise provided, when passenger trains are operated against current of traffic on double track or through sidings, conductors shall notify Railway Postal Clerks, trains shall stop at points where U. S. Mail is usually picked up and Conductors are responsible for delivery of mail to Postal car.

14. Conductors will report by wire, all flat spots on wheels of passenger cars. Any cars having flat spots on wheels of more than two and one-half inches long must be set out.

15. Engineers finding flat spots on Diesel engines in excess of two and one-half inches will immediately notify Superintendent who will prescribe for their movement.

16. Due to limited overhead clearance at tunnels and structures, employes are warned to keep off top of cars of extreme height and width when handled in trains and yards, except in emergency. In absence of previous advice on such cars, wire proper officer for instructions.

17. The Railway Company is responsible for proper handling of perishable freight on road and at points where Western Fruit Express Company do not maintain representatives. Conductors on trains handling perishable freight will ascertain from way-bills class of service required and light or extinguish heaters and manipulate vents in accordance with current instructions provided for handling perishable freight issued by the National Perishable Freight Committee.

18. Placarded loaded tank cars handled in through freight trains shall not be nearer than 6th car from engine, occupied caboose or passenger car.

Cars placarded "Explosives", "Inflammable", "Corrosive Liquids", or "Poison Gas" handled in through freight trains, local and mixed trains, shall not be nearer than 16th car from engine, occupied caboose or passenger car.

When length of train will not permit handling of cars as prescribed above—ANY PLACARDED CAR, loaded with above commodities—shall be placed near middle of train, but not nearer than 2nd car from engine, occupied caboose or passenger car.

When switching such cars in terminal yards they must be separated from engine by at least one non-placarded car.

When placarded cars described above are handled in freight trains made up in "blocks" or classifications, placarded car or cars shall be placed near middle of the "block" or classification, but not nearer than 6th car from engine, occupied caboose or passenger car.

When such placarded cars are placed in trains they must not be placed next to each other, next to refrigerators equipped with gas-burning heaters, stoves or lanterns, or next to loaded flat cars, or gondola cars containing lading higher than ends of car that is liable to shift.

Carload express shipments of explosives, sealed and placarded, may be handled on passenger trains; LCL shipments may be made in so-called peddler car with messenger in charge when such car is assigned to the handling of express and baggage exclusively.

Terminal or pick-up points enroute must furnish conductor and engineer Form 250 showing consecutively location in train of all cars placarded "Explosives". At points other than terminals where crews change, notice will be transferred from crew to crew.

Employees will be guided by further instructions governing handling of loaded tank cars, Explosives, Inflammables, Corrosive Liquids, and Poison Gas found in I.C.C. Regulations and Consolidated Code Rules 726(C) and 808.

19. In Automatic Block Signal Territory, the absence of the lunar light on a spring switch signal, Rule 501 E, page 114, of the Consolidated Code, will not be regarded as an imperfectly displayed signal, as prescribed by Rule 27, when the Automatic Block Signal governing movement over such switch indicates "Proceed". This does not modify Rule D-524.
20. The normal position of a spring switch with facing point lock is identified by a color light type signal displaying a "lunar white" light for train or engine movements in a trailing point direction and for movements in facing point direction when conditions require.

The normal position of a spring switch without facing point lock is identified by a triangular yellow target on switch stand with letter "S" in black, and "lunar white" light in switch lamp in place of green light displayed in both directions through or over the switch.

Trains departing from stations, either from siding or main track in trailing point movement actuating points of spring switches, a member of crew must observe indication of governing signal in opposite direction after rear end of train has passed through switch to ascertain if switch points return to normal position. If this signal indicates Stop and no immediate train movement or other cause is evident, report the fact to Superintendent from first available point of communication.

During and immediately following snow storms or violent wind storms, spring switches must be operated by hand and relined in normal position before heading out through switch in trailing point movement, actuating switch points, to insure switch is in proper operating condition.

INDICATORS AT SPRING SWITCHES.

Spring switch indicators consisting of a red and yellow light unit or a single yellow light unit (all units normally dark) mounted on an iron mast is located at the clearance point of a siding. The switch-key-controller mounted on the mast must be operated by a member of the crew who, together with engineer, must observe and be governed by its indication before fouling main track or making movement from siding to main track through a spring switch in automatic signal territory, unless the movement is made immediately after an opposing train has passed the switch, and Automatic Signal at leaving end of siding indicates "Proceed".

If Indicator displays a yellow light when switch-key-controller is operated, train or engine movement to main track may be made immediately in accordance with train rights and operating rules. Display of yellow light must continue until leading wheels have passed clearance point.

If Indicator does not display a yellow light when switch-key-controller is operated, train or engine movement to main track may be made in accordance with train rights and operating rules, after operating spring switch by hand; waiting three minutes and taking every precaution to provide proper protection.

To operate Switch Indicator, insert switch key in controller and turn clockwise toward "R", hold a few seconds, and remove key. If yellow light is displayed and intended movement is not made, insert switch key in controller and turn counter-clockwise toward "N" to restore signal system to normal condition to avoid delay to trains on main track.

Switch-key-controller must never be operated toward "N" after having been operated toward "R" if intended movement to main track is to be made.

21. Facing point locks on hand operated switches are indicated by a six-inch yellow stripe painted on target staff. Be positive locking device is restored to normal position after using. A running switch must not be made through this type switch.
22. DRAGGING EQUIPMENT DETECTOR INDICATOR consists of a single white light unit (normally dark) with circular background mounted on signal or other mast. When white light is

displayed, train must be stopped and inspected for dragging equipment. Notify Superintendent from first available point of communication.

23. Rule 204 (A) prescribes that copies of train orders will be furnished the rear trainman, such orders will only be furnished on trains designated.

Nos. 3, 4, 7, 8, 9, 10, 27, 28, 31, 32 and sections thereof; also, extra passenger train whether operated as a section of regular train or as a passenger extra.

24. OSCILLATING EMERGENCY RED HEADLIGHT will be immediately displayed by day or night when a train is disabled or stopped suddenly by an emergency application of air brakes or when engineer and conductor find it necessary to stop train due to some defect which might cause accident, over-running clearance point at meeting and waiting points, end of double track or junction.

Engineer of an approaching train observing display of emergency red headlight must stop before passing and be governed by conditions existing. If operating on adjacent track, ascertain and if safe for passage, then proceed at restricted speed until train is passed.

OSCILLATING EMERGENCY RED REAR END LIGHT is of two types—Automatic Control-Portable Manual Control—and except as otherwise provided, must be displayed by day or night each time train stops or is running at speed less than 18 MPH. Automatic Control type automatically functions in this manner. However, when train running at speed above 18 MPH and moving under circumstances in which it might be overtaken by another train or engine and during foggy and stormy weather, light may be operated manually with emergency switch and employees to afford other protection prescribed by rule.

THE USE OF EMERGENCY RED HEADLIGHT AND REAR END LIGHT DOES NOT IN ANY WAY RELIEVE ENGINE-MEN AND TRAINMEN FROM RESPONSIBILITY OF COMPLYING WITH RULES 99 AND 102.

Emergency red rear end light must be extinguished under the following conditions:

When standing at initial and final terminal of run.

When train is being switched from rear.

When train is in the clear on siding.

When operating in double track, or two or more main track territory, where another train is approaching from the rear on an adjacent main track, but not until it is known such train is not on same track.

Portable light must be removed before coupling to rear of such car.

Oscillating white light on engines will be displayed in addition to standard headlight governed by Rules 17 and 17(B). In case of headlight failure it can be used as emergency headlight or as a focus light by push button control if desired.

Enginemen and trainmen on trains and engines equipped with oscillating emergency red lights must familiarize themselves with the operation of the lights.

25. Rule D-97 is in effect on this division.

26. Before picking up cars of peeled pulpwood from industry at any station, conductor must examine lading; if lading is not protected with woven wire to prevent sliding out on sides, or, when wire is not available, with board and stakes, then car must not be moved from industry. The fact must be promptly reported by wire to the Superintendent.

27. Whistle Signals for Routes at Junctions and Interlockings:

Routes	Whistles
Main Track	2 short, 1 long
Diverging route	2 long
Siding	4 short
Against current of traffic	1 long, 1 short

28. Rule 19, Figures 2 to 9 inclusive, and Rule 19B are supplemented as follows:

When the rear car of a passenger train is equipped with built-electric markers, or when the rear unit of an engine, moving

light, is equipped with electric signal lamps, they must be lighted by day and by night to be considered as markers. The requirement for showing green to the front, or direction of movement, and green to the side will not apply.

The built-in electric markers, or electric signal lamps used as markers, must not be extinguished until the train has arrived at the final terminal of run, or is in the clear of the main track at the terminal and switch closed.

FIRST SUBDIVISION

(Main Line)

1. MAXIMUM PERMISSIBLE SPEED FOR TRAINS.

Between	Passenger	Freight
Central Ave. Tower and Boylston	75 MPH	50 MPH
Boylston and Foxboro	60 MPH	40 MPH
Foxboro and Coon Creek Jct.	79 MPH	50 MPH

2. SPEED RESTRICTIONS.

Duluth Terminal Bridge to G.N. Rices Point and G.N. connection to Seventh Ave. freight house, trains and engines at restricted speed not exceeding	20 MPH
Bridge 14.2, Boylston	Passenger 35 MPH
	Freight 10 MPH
Long lead, west end Sandstone Yard.....	15 MPH

3. TRAIN REGISTER EXCEPTIONS.

All trains register by ticket at Central Ave. Tower, Saunders, and Coon Creek Jct.

Eastward freight trains will throw off register check at Saunders giving all information called for in train register except arrival and tie up.

4. CLEARANCE PROVISIONS AND EXCEPTIONS RULE 83(B).

(a) At Boylston, Brook Park Jct., trains for which these points are initial stations may proceed on authority of clearance under which such trains arrive and at Brook Park Jct. providing the governing signal permits entrance to CTC territory.

(b) Mesabi Division clearance received by first class trains and passenger extras at Minneapolis, and by other trains at Minneapolis Jct., will clear train at Coon Creek Jct. when train order signal indicates proceed.

5. RESTRICTED CLEARANCES.

Superior, bents under Fifteenth St. viaduct will not clear man on side of car or engine.

6. Second class and extra trains will use double track with the current of traffic without train orders or clearance between 25th Street, Superior, and Central Avenue Tower where they will receive train orders or clearance.

7. Hinckley, automatic block signal 72.1 governing westward trains, is located on left hand side of main track about 500 feet west of depot.

8. SPEED TEST BOARDS.

Engineers shall test speed of their trains passing following point as compared with Speed Table:

Westward, between MP 76 and MP 77 approximately 4 miles west of Hinckley Tower.

Eastward, between MP 77 and MP 76 approximately 3 miles east of Brook Park.

9. CROSSOVERS ON DOUBLE TRACK.

Facing Point	Trailing Point
Saunders, east crossover	Central Ave.
Boylston	Saunders, at tower.
	Boylston

10. SPRING SWITCHES WITH FACING POINT LOCK.

Dedham, east and west siding switch.
Nickerson, east and west siding switch.
Askov, east and west siding switch.
Grasston, east and west siding switch.
Cambridge, east and west siding switch.
Bethel, east and west siding switch.

Normal position is for main track.

11. SPRING SWITCHES WITHOUT FACING POINT LOCK.

Superior, east switch of Eastward and Westward incoming tracks.
Normal position is for incoming tracks and all other roundhouse lead switches, when not in use, must be left lined for roundhouse lead.

Elevator "X", east and west of car unloader on unloading track.
Normal position of switch west of unloader is for unloading track.

Normal position of switch east of unloader is for runaround track.

12. DRAGGING EQUIPMENT DETECTOR INDICATOR.

Eastward trains on Signal 15.6 between Boylston and Dedham.
Westward trains on Signal 61.1 between Askov and Sandstone.

13. MANUAL INTERLOCKINGS.

Central Ave. Tower N. P. Ry, crossing
Coon Creek Jct. junction with N. P. Ry.

14. MANUAL INTERLOCKINGS WITH DUAL CONTROL SWITCHES.

Sandstone east and west yard switch

15. AUTOMATIC INTERLOCKINGS.

Superior
73rd St., MS&P&SSM. RR. Crossing

16. Crossings as herein shown at the following stations are equipped with automatic signals and switch-key-controllers. When engines or cars are standing in circuit but crossing not fouled, signals must be cleared for highway traffic by operating controllers. When crossing is to be fouled, controllers must first be operated to set signals at stop position against highway traffic.

Sandstone, State Highway No. 123 crossing, 8350 ft. west of depot.
Henriette, State Aid Road No. 2 crossing just east of depot.
Braham, Rush City Road crossing, 1400 ft. east of depot.
Bethel, State Aid Road No. 8 crossing, 2000 ft. west of depot.

17. INSTRUCTIONS GOVERNING OPERATION OF TRAINS AND ENGINES WITHIN CENTRALIZED TRAFFIC CONTROL SYSTEM.

CTC extends between eastward home signal Brook Park Jct. and westward home signal Hinckley Tower.

Hinckley Tower is the control station for the CTC under control of operator under the supervision of train dispatcher, Superior.

Controlled sidings are located at: Brook Park, Hinckley Tower. Brook Park, industry switch east of depot leading from siding is hand operated and equipped with electric lock.

CTC extends between eastward home signals Boylston and westward home signals Saunders.

Saunders Tower is the control station for the CTC under control of operator under supervision of train dispatcher, Superior. There are no call lights at Boylston or Saunders. Trains receiving a stop indication at Boylston or Saunders should immediately contact Saunders Tower by phone or radio.

Main track switches within CTC equipped with electric locks are governed by Rule 283.

SECOND SUBDIVISION (Main Line)

1. MAXIMUM PERMISSIBLE SPEED FOR TRAINS.

Between	Passenger	Freight
Boylston and Mirbat	50 MPH	40 MPH
Mirbat and Crookston Yard	59 MPH	45 MPH

2. SPEED RESTRICTIONS.

Between Home Signals of Interlockings at: 20 MPH
 Bridge 29, westward.
 Bemidji.
 Erskine.
 Crookston Yard.

Cass Lake, on all tracks over footwalk crossing located just east of coaling station 8 MPH
 Whistle signal must be sounded as prescribed by rule. Crossing must be cut immediately. When this crossing is blocked by coupling up train, trainmen must remain at the crossing to prevent pedestrians from crawling through the cars. Cass Lake, all trains will run at restricted speed between Cass Lake depot and home signal located 6500 ft. east of depot.

3. TRAIN REGISTER EXCEPTIONS.

Cloquet, register for trains 35 and 36 only.
 Trains originating and terminating at Crookston Yard will register at Crookston Depot.

4. CLEARANCE PROVISIONS AND EXCEPTIONS RULE 83(B).

At Boylston, trains for which this point is initial station may proceed on authority of clearance under which such trains arrive.
 All trains must obtain a clearance at Cass Lake.
 Mesabi Division clearance received at Crookston will clear train at Crookston Yard.

5. Double track extends between Boylston and Swan River, except gantlet over Bridge 29, which is governed by interlocking signals.
6. At Bemidji, Soo Line trains will enter and leave Great Northern main track at a hand-operated switch located 2300 feet east of Bemidji Depot.

7. SPEED TEST BOARDS.

Engineers shall test speed of their trains passing following point as compared with Speed Table:
 Westward, between MP 86 and MP 87 approximately 4 1/2 miles west of Island.
 Eastward, between MP 87 and MP 86 approximately 2 miles east of Wawina.
 Eastward, between MP 86 and MP 87 approximately 2 miles east of Wilton.
 Westward, between MP 87 and MP 86 approximately 3 miles west of Bemidji.

8. Cloquet, derails located near east end storage tracks Nos. 1 and 2 are not provided with derail signs.
 Cloquet, when setting out cars on either end of No. 1 track be sure cars are shoved down far enough to clear N. P. Ry. cross-overs.
 Cloquet, cars left on G.N. tracks must not be closer than 60 ft. each way from 10th Street crossing east of depot.

9. Brookston, special signal consisting of horn and yellow light is located north of westward main track just west of coaling station to inform crews of eastward ore trains from Casco and Gunn lines when carmen have completed inspection and train is in condition to proceed.

Carmen will operate horn and light by means of push button located on telegraph pole about 300 feet west of block signal 58.8 in accordance with the following code:

- (a) One blast of horn and one flash of yellow light indicates train will not proceed until further instructed.
 (b) Two blasts of horn and two flashes of yellow light indicate train from Gunn Line may proceed.
 (c) Three blasts of horn and three flashes of yellow light indicate train from Casco Line may proceed.

10. Swan River, train orders and messages delivered by hoop eastward trains will be delivered from the south or right hand side.

11. Philbin, siding must be used by eastward trains, unless otherwise authorized by train order.

12. Crossings as herein shown at the following stations are equipped with automatic signals and switch-key-controllers. When engines or cars are standing in circuit but crossing not fouled, signals must be cleared for highway traffic by operating controllers. When crossing is to be fouled, controllers must first be operated to set signals at stop position against highway traffic.

Carlton, 3rd Street, 1500 ft. east of Carlton interlocking.
 Cloquet, Market Street, west of depot; Arch Street, west of depot; Northwest Paper Mill crossing, one mile east of depot. Switch-key-controller on signal case, Arch Street, will clear Griswold Signals at Broadway and Arch Street, as well as crossing gates at Market Street.

Swan River, Highway No. 65, one-half mile west of depot.
 Grand Rapids, Pokegama Avenue, first crossing east of depot; First Avenue West, first crossing west of depot. Controller for First Avenue West crossing located on depot.

Cohasset, State Highway No. 6 crossing, about 800 ft. west of depot.

Minnesota Power & Light Spur, State Highway No. 6, west of Cohasset.

Bemidji, Highway No. 71 crossing, about 1500 ft. east of Bemidji Interlocking crossing.

Bagley, Highway No. 92 crossing, just east of depot.

Lengby, Till Avenue crossing, just west of depot.

Industry track does not include automatic protection and all impending train and engine movements over this crossing must be flagged by trainman on the ground.

McIntosh, Cleveland Avenue crossing, about 200 ft. east of depot.

All train movements made over the southerly industry track by switch crews or train crews shall be preceded by a member of the train or switch crew on the crossing to warn highway traffic of the impending train movement over the crossing.

Dugdale, Highway No. 32 crossing, 275 ft. east of spur switch.
 Deer River, South Street, just east of depot.

13. Grand Rapids, when setting out cars, eastward freight trains will stop and leave train west of west switch; westward trains will stop east of the first public crossing.

14. International Refinery, Alford, while switching, do not handle cars over drip pans with brakes set as sparks from brakes create a fire hazard.
 Account close clearance on old spur, do not put cars beyond 500 ft. from east derail.

Cabooses with fires in stoves not permitted on any of the plant tracks and crews working in the vicinity will refrain from smoking.

Tail hose located in telephone booth must be used on end of cuts shoved to Old No. 1 and Old No. 2 tracks with air coupled into it so that trainmen taking position on rear car of cut being shoved can control the movement over crossing immediately ahead of the unloading rack, as well as being able to stop cut of cars short of end of these two spur tracks.

15. CROSSOVERS ON DOUBLE TRACK.

Facing Point
 State Line, west crossover
 Carlton, east crossover
 Cloquet, west crossover
 Brookston, east crossover
 Brookston, 1 mile west of
 Swan River, east crossover

Trailing Point
 State Line, east crossover
 Alford
 Carlton, west crossover
 Cloquet, east crossover
 Flint Pit
 Brookston, west crossover
 Mirbat
 Floodwood
 Swan River, west crossover

SPRING SWITCHES WITH FACING POINT LOCK.

Brookston, east switch of crossover between main tracks.
 Normal position is for main track.
 west switch of crossover between main tracks.
 Normal position is for crossover.
 switch leading to Casco Line (6th Subdivision) from westward main track.
 Normal position is for main track.
 Swan River, end of double track.
 Normal position is for eastward main track.
 Philbin, east siding switch.
 Normal position is for main track.
 west siding switch.
 Normal position is for siding.
 Cass Lake, east yard switch.
 Normal position is for main track.

Instructions governing operation of spring switches at Brookston:
 Switch, Casco Line to storage track, is a hand operated switch. Normal position is for storage track. Reversing this switch for movement to Second Subdivision causes automatic block signals on both main tracks to indicate stop. Switch must not be lined for Second Subdivision while movement is being made between signals 57.9 and 58.0.

Block signal 58.0 located just west of the Casco line switch, between the Casco line and westward main track, governs eastward trains from Casco Line across westward main track, through the crossover, and the eastward main track.

Block signal 58.0 will display an approach indication within a few seconds after Casco Line—storage track switch is reversed for movement to Second Subdivision provided spring switches are in proper condition for movement to eastward main track and there is no conflicting train movement in the block on eastward or westward main tracks. If there is a conflicting movement approaching on either main track, the approach indication on signal 58.0 will not be displayed until a time interval of approximately two minutes has elapsed.

17. SPRING SWITCHES WITHOUT FACING POINT LOCK.

Cass Lake, west crossover switch to roundhouse lead
 incoming roundhouse track
 outgoing roundhouse track
 Normal position is for tracks named.

18. DRAGGING EQUIPMENT DETECTOR INDICATOR.

Eastward trains, on signal 30.2 approximately one mile west of Bridge 29.
 Westward trains on Signal 28.1 approximately 1 mile east of Bridge 29.

19. MANUAL INTERLOCKINGS.

State Line Tower N. P. Ry. crossing
 Carlton N. P. Ry. crossing
 Erskine MStP&SSM. RR. crossing
 Tilden Jct. N. P. Ry. crossing

20. MANUAL INTERLOCKINGS WITH DUAL CONTROL SWITCHES.

Swan Rivercrossover and junction with 4th Subdivision
 Gunnjunction with 10th Subdivision

21. AUTOMATIC INTERLOCKINGS.

Crookston Yard, 2.37 miles east of.....N. P. Ry. crossing
 BemidjiN. P. Ry. crossing
 Bridge 29gantlet
 Philbineast and west siding switch

Bridge 29:

Release for westward route on westward track is located in release box at eastward home signal.

Release for eastward route on eastward track is located in release box at westward home signal.

Cranks for hand operation of smashboards are attached by chains to the mechanism.

If train moving against the current of traffic is stopped by dwarf signal, trainman will operate release located in release box nearest the dwarf signal, and if signal does not indicate proceed when release returns to normal position, trainman may flag train through gantlet making certain that smashboard at opposite end of gantlet is in the reverse position.

Philbin:

Interlockings at the east and west siding spring switches operate automatically for all movements, except westward movements to the siding at the east switch, and eastward movements to the main track at the west switch, which require hand operation of spring switch. Eastward trains on siding take preference over eastward trains on main track approaching east switch, and westward trains on main track take preference over westward trains on siding approaching west switch. For further information see instructions posted in push button boxes, located at eastward home signal at east switch, and at westward home signal at west switch.

22. SWITCH INDICATOR.

Cloquet, Switch Indicators, each consisting of a yellow light unit (normally dark) and a switch-key-controller mounted on an iron mast, located near the east and west yard switch and both ends of crossovers between main tracks at east and west end of the yard, must be operated by a member of the crew, who, together with the engineer, must observe and be governed by their indications before lining switches, fouling main track, or making crossover movement from one main track to the other.

Alford, Switch Indicators, each consisting of a yellow light unit (normally dark) and a switch-key-controller mounted on an iron mast, located at west crossover switch and at the clearance point of the spur switch, must be operated by a member of the crew, who, together with the engineer, must observe and be governed by their indications before lining switches, fouling main track, or making crossover movement from one main track to the other. See further instructions posted on iron masts.

23. CTC extends between westward color-light type interlocking signal 1 1/4 miles west of Schley and eastward color-light type interlocking signal located 1000 feet east of east switch at Cass Lake. Hand throw switches at Soo Jct. and Webster Spur, M.P. 158.5, are electrically locked. Instructions for their operation are located in the lock cases at the switches.

Telephones for communication with the control operator are located at the east end of CTC section and at the spring switch, east end of Cass Lake Yard, 1000 feet west of west end of CTC section. Westward Soo Line trains will call the operator at Cass Lake on phone for authority to enter G.N. main line. The following will govern in case of failure of communications: Soo Line crew will unlock switch and attempt to line for their movement. If switch will line and signal clears, this will be their authority to leave Soo Jct., and proceed to Cass Lake.

THIRD SUBDIVISION

(Park Rapids Line)

1. MAXIMUM PERMISSIBLE SPEED FOR TRAINS.

	Diesel or Diesel-Electric
Between	Passenger Freight
Park Rapids Jct. and Cass Lake.....	35 MPH 30 MPH

2. SPEED RESTRICTIONS.

Between Home Signals of Interlockings at: 20 MPH
 Park Rapids Jct.
 Wadena.

3. TRAIN REGISTER EXCEPTIONS.

Register of regular trains at Sauk Centre will cover their arrival at Park Rapids Jct.
 All Third Subdivision trains will register at Sauk Centre.

4. **CLEARANCE PROVISIONS AND EXCEPTIONS RULE 83(B).**
Mesabi Division clearance received at Sauk Centre will clear train at Park Rapids Jct.
5. Cass Lake, normal position south wye switch is for east leg of wye.
6. **AUTOMATIC INTERLOCKINGS.**
Park Rapids Jct., 0.52 miles west of N. P. Ry. crossing
Wadena, 0.28 miles west of N. P. Ry. crossing
7. Crossings as herein shown at the following stations are equipped with automatic signals and switch-key-controllers. When engines or cars are standing in circuit but crossing not fouled, signals must be cleared for highway traffic by operating controllers. When crossing is to be fouled, controllers must first be operated to set signals at stop position against highway traffic.
Park Rapids, Highway No. 34 crossing, 975 ft. west of depot.

FOURTH SUBDIVISION

(Swan River—Virginia Line)

1. **MAXIMUM PERMISSIBLE SPEED FOR TRAINS.**
- | Between | Passenger | Freight |
|-----------------------------|-----------|---------|
| Swan River and Emmert | 45 MPH | 35 MPH |
| Emmert and Virginia | 35 MPH | 30 MPH |
2. **SPEED RESTRICTIONS.**
All trains and engines will approach mining spurs at restricted speed.
Between Home Signals of Interlockings at: 20 MPH
Swan River, westward.
Hibbing.
North Mitchell.
Emmert Tower.
Virginia, D. W. & P., Virmount Tower.
D. W. & P., Crescent Ave.
3. **CLEARANCE PROVISIONS AND EXCEPTIONS RULE 83(B).**
At North Mitchell, Ruby Jct., trains for which these points are initial stations may proceed without a clearance.
4. Double track extends between Kelly Lake and Emmert Tower. Trains or engines moving in this territory must keep to the left unless otherwise provided.
Trains and engines will run with the current of traffic between Kelly Lake and Emmert Tower without train orders or clearance.
5. Between Emmert Tower and DM&IR. Jct. east of Scranton, G. N. double track will be used jointly by DM&IR. trains. G. N. rules and special instructions will govern.
6. Hibbing, push button controls located on Griswold Signals at First, Third and Fifth Avenues east for manual control of crossing signals. Instructions covering use of push buttons are posted inside of box. Switch-key-controller located on north side of depot controls signals at Third Avenue east for Westward movements. When a train or engine making westward movement on westward main track is stopped between Fifth and Third Avenues east, and will not foul Third Avenue East, crossing signals may be set clear for highway traffic by inserting switch key in controller and turn to right. After signals have been set clear, they may be changed to indicate "Stop" for highway traffic by inserting switch key in controller and turn to left.
7. Crossings as herein shown at the following stations are equipped with automatic signals and switch-key-controllers. When engines or cars are standing in circuit but crossing not fouled, signals must be cleared for highway traffic by operating controllers. When crossing is to be fouled, controllers must first be operated to set signals at stop position against highway traffic.
Virginia, Highway No. 53 crossing, 6th Avenue West, leading to Columbia Mine.
Trains must not exceed a speed of 10 MPH through the approach circuits of this crossing.
8. Between Wilpen Jct. and St. Clair Jct., and between Buhl and Dormer Jct., DM&IR. trains will use G.N. main track jointly and be governed by G.N. rules and special instructions. Normal position of switches at Wilpen Jct., St. Clair Jct., and Dormer Jct., is for G.N. 4th Subdivision.
9. Susquehanna Shaft, necessary to shove all empties under the head frame, which will not clear a man on top or side of ore car. Crews must stop before shoving under the head frame and brakemen will walk by the shaft to a point where they can give signals in shoving empties onto the tail tracks.
When placing empties for shaft loading, fill the north tail track through the crossover first, as an engine will not go over this crossover. Then fill the south tail track. When placing empties for screener loading, fill the south tail track first, then the north tail track as an engine cannot move through the crossover into the south screener tail track.
10. Virginia, trains and engines must stop before passing over crossing U. S. Highway No. 53 leading to depot, and a member of crew on ground at the crossing will protect movement.
11. Virginia, trains or engines going beyond "Stop" sign at Columbia Mine must stop and examine clearance between cars under direct loading pocket and runaround track.
12. Train and engine movements from main line on new Hull Crusher Spur over Kelly Lake road crossing must be protected by a member of the crew due to restricted view approaching this crossing.
13. **CROSSOVERS ON DOUBLE TRACK.**
- | Facing Point | Trailing Point |
|--------------|-------------------------|
| Hull Crusher | Mahoning |
| Ruby Jct. | Agnew |
| | Scranton |
| | Hibbing, east crossover |
| | Hibbing, west crossover |
| | North Mitchell |
14. **SPRING SWITCHES WITHOUT FACING POINT LOCK.**
Kelly Lake, west switch transfer cinder pit track,
Normal position is for mallet cinder pit track.
roundhouse wye tracks.
Normal position east switch is for mallet cinder pit track,
south switch is for east leg of wye,
west switch is for west leg of wye.
15. **MANUAL INTERLOCKINGS.**
Hibbing, 0.58 miles west of Scranton
Emmert Tower D. M. & I. R. Ry. crossing
16. **MANUAL INTERLOCKINGS WITH DUAL CONTROL SWITCHES.**
Swan River crossover and junction with 2nd Subdivision.
Hibbing, 0.29 miles west of D. M. & I. R. Ry. Jct.
North Mitchell D. M. & I. R. Ry. Jct.
17. **AUTOMATIC INTERLOCKINGS.**
Virginia, 0.47 miles west of D. W. & P. Ry. crossing
1.20 miles west of D. W. & P. Ry. crossing
18. **SWITCH INDICATORS.**
Kelly Lake, 1.84 miles east of, at Morton Mine Spur,
Kelly Lake, 2.28 miles east of, at Agnew-Hull Rust Mine Spur,
Hibbing, 0.34 miles west of, at DM&IR. Ry. Scrap Iron Spur,
Hibbing, 0.31 miles west of, at west switch of G.N. Ry. Industry Track.
Indicator, consisting of a single yellow light unit (normally dark) and a switch-key-controller, mounted on an iron mast located at the clearance point of the turnout, must be operated by a member of the crew who is to line the switch, and who, together with the engineer, must observe and be governed by indication before fouling the main track or lining the main track switch. See further instructions posted on iron mast.

FIFTH SUBDIVISION

(Princeton Line)

1. **MAXIMUM PERMISSIBLE SPEED FOR TRAINS.**
Between Elk River and Milaca Jct.

Freight	20 MPH
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2. **SPEED RESTRICTIONS.**
Between Home Signals of Interlocking at Elk River.... 20 MPH
3. **CLEARANCE PROVISIONS AND EXCEPTIONS RULE 83(B).**
(a) Mesabi Division clearance received at Elk River will clear train at N. P. Ry. Jct.
(b) At Milaca Jct., trains for which this point is initial station may proceed on authority of clearance under which such trains arrive.
4. **SEMI-AUTOMATIC INTERLOCKINGS.**
Elk River, 0.74 miles west of N. P. Ry. Jct.
Complete instructions for operation of interlocking are located at "Release" box.

SIXTH SUBDIVISION

(Casco Line)

1. **MAXIMUM PERMISSIBLE SPEED FOR TRAINS.**
Between Brookston and Kelly Lake

Passenger	45 MPH	Freight	35 MPH
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Bridge 59.3 and Curve 1.50 miles west of Brookston

15 MPH	15 MPH
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2. **AUTOMATIC INTERLOCKINGS.**
Riley, 0.59 miles east of D. M. & I. R. Ry. crossing
3. **DRAGGING EQUIPMENT DETECTOR INDICATOR.**
Eastward Trains, on iron mast approximately 6400 feet east of Signal 61.4.
4. All eastward trains on Casco Line, before coming out on Second Subdivision at Brookston, will call Dispatcher on telephone and find out location of westward trains.

SEVENTH SUBDIVISION

(Milaca Line)

1. **MAXIMUM PERMISSIBLE SPEED FOR TRAINS.**
Between Brook Park Jct. and East St. Cloud

Passenger	50 MPH	Freight	40 MPH
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2. **SPEED RESTRICTIONS.**
Bridge 46.3, Mora 20 MPH
Bridge 54.2, Quamba 20 MPH
Between Home Signals of Interlockings at: 20 MPH
Brook Park Jct.
East St. Cloud.
3. **TRAIN REGISTER EXCEPTIONS.**
Milaca, register only for trains originating and terminating.
4. **CLEARANCE PROVISIONS AND EXCEPTIONS RULE 83(B).**
(a) At Brook Park Jct., trains for which this point is initial station may proceed on authority of clearance under which such trains arrive.
(b) At Milaca Jct., trains for which this point is initial station may proceed on authority of clearance under which such trains arrive.
(c) Trains originating at East St. Cloud may proceed without a clearance.

5. Crossings as herein shown at the following stations are equipped with automatic signals and switch-key-controllers. When engines or cars are standing in circuit but crossing not fouled, signals must be cleared for highway traffic by operating controllers. When crossing is to be fouled, controllers must first be operated to set signals at stop position against highway traffic. Mora, first crossing west of depot; and Highway No. 65, 2066 ft. east of depot.
Milaca, first crossing west of depot.
East St. Cloud, U.S. Highway No. 10 crossing.
6. At St. Cloud, eastward freight trains must know before leaving there that route is clear at N. P. Ry. crossing, East St. Cloud.
7. **MANUAL INTERLOCKINGS.**
East St. Cloud N. P. Ry. crossing

EIGHTH SUBDIVISION

(Allouez Line)

1. **MAXIMUM PERMISSIBLE SPEED FOR TRAINS.**
Between Saunders and Allouez

Freight	15 MPH
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2. **SPEED RESTRICTIONS.**
Between Allouez and Saunders, all trains and engines will be governed by Rule 93.
3. Extra trains will use double track with current of traffic between Allouez and east end Bridge 1.3, and also single track between east end Bridge 1.3 and Saunders without train orders or clearance where they will receive train orders or clearance.
4. Allouez Ore Docks, when doubling two tracks of empty cars, first pull track with the most cars down to clear then double the shorter track to it.
When coupling up a track of cars on the dock and there are cars on the outer end, set sufficient hand brakes, not less than two, on outer cars to hold slack before coupling into them.
5. Allouez Ore Dock No. 4, engines moving on Tracks 1 and 2 or 3 and 4 must stop and know there is sufficient side clearance before passing each other.
6. **SPRING SWITCHES WITHOUT FACING POINT LOCK.**
Allouez, Roundhouse wye tracks,
Normal position west switch is for west leg of wye,
north switch is for east leg of wye,
east switch is for north coal chute track.
7. **MANUAL INTERLOCKINGS WITH DUAL CONTROL SWITCHES.**
Bridge 1.3 End of double track.

NINTH SUBDIVISION

(Chisholm Line)

1. **SPEED RESTRICTIONS.**
All trains and engines will approach mining spurs at restricted speed.
2. Between Chisholm Jct. and G. N. depot Chisholm, trains and engines will be governed by Rule 93.
3. Between St. Clair Jct. and Chisholm Jct., main track will be used jointly by G. N. and DM&IR. Rys. and authority for train movements is controlled by DM&IR. Ry. and DM&IR rules will govern. Eastward G. N. trains will secure clearance and orders from Operator at Emmert who must obtain authority from DM&IR. before issuing.
Westward G. N. trains will secure clearance and orders from G. N. Operator at Chisholm who must obtain authority from DM&IR. before issuing.

TENTH SUBDIVISION

(Gunn Line)

1. MAXIMUM PERMISSIBLE SPEED FOR TRAINS.

Between	Passenger	Freight
Kelly Lake and Gunn	45 MPH	35 MPH

2. SPEED RESTRICTIONS.

All trains and engines will approach mining spurs at restricted speed.

Between Home Signals of Interlockings at	20 MPH
Hill Annex Spur.	
Majorca Mine Spur.	

3. Between Calumet and Oil Spur, located 1.47 miles west of Bovey, main track will be used jointly by G.N. and DM&IR. Rys. and authority for train movements is controlled by G.N. Ry. and G.N. rules and Special Instructions will govern.

4. St. Paul Mine Spur, Third Avenue, Keewatin, trains will not exceed a speed of 12 MPH through the approach circuits of the signal system covering crossing signals for Highway No. 169.

5. Harrison Mine Spur, Nashwauk, trains will not exceed a speed of 12 MPH northbound into the mine or 6 MPH southbound out of the mine through the approach circuits of the signal system covering crossing signals for Highway No. 169 crossing.

6. Telephone in service at Buckeye, Canisteo and Danube Mines switch. Crews coming from Buckeye, Canisteo and Danube Mines will communicate with the dispatcher and know that way is clear on the main track before proceeding with train down the descending grade on both legs of the wye.

7. Block signal located at Mesabi Chief Mine spur normally displays indication, Rule 501AA and governs movements from spur to main track; after lining switch, if no conflicting movement is evident on main track, movement may be made in accordance with signal indication after complying with Rule 513.

8. SPRING SWITCHES WITH FACING POINT LOCK.

Nashwauk, west north storage track switch.
west south storage track switch.

Calumet, west new yard switch.

Canisteo, west new yard switch.
Normal position is for main track.

9. SPRING SWITCHES WITHOUT FACING POINT LOCK.

Kelly Lake, west wye switch,
Normal position is for 10th Subdivision.

10. SEMI-AUTOMATIC INTERLOCKINGS.

Calumet, 0.60 miles east of	Hill Annex Spur
Calumet, 0.73 miles east of	Majorca Mine Spur

Complete instructions for operation of electric lock and gates at semi-automatic interlockings are located at "Release" boxes.

11. SWITCH INDICATORS.

St. Paul Mine Spur
Hawkins Mine Spur
O'Brien Mine Spur
Patrick Mine Spur
Calumet, west old yard switch

Indicators, consisting of a single yellow light unit (normally dark) and a switch-key-controller, mounted on an iron mast located at the clearance point of the turnout, must be operated by a member of the crew who is to line the switch, and who together with the engineer, must observe and be governed by its indication before fouling the main track or lining the main track switch. The west old yard switch at Calumet is equipped with push button control rather than switch-key-control.

See further instructions posted on iron mast at each point.

12. Crossings as herein shown at the following stations are equipped with automatic signals and switch-key-controllers. When engines or cars are standing in circuit but crossing not fouled, signals must be cleared for highway traffic by operating controllers. When crossing is to be fouled, controllers must first be operated to set signals at stop position against highway traffic. Keewatin, St. Paul Mine Spur, 3rd Avenue, Highway No. 169. Harrison Mine Spur, Highway No. 169, one mile west of Nashwauk.

13. INSTRUCTIONS GOVERNING OPERATION OF TRAINS AND ENGINES WITHIN CENTRALIZED TRAFFIC CONTROL SYSTEM.

CTC extends between westward home signal just west of west wye switch Kelly Lake and eastward home signal just east of east siding switch Moore.

Kelly Lake is the control station for the CTC under control of the train dispatcher.

Main track switches within CTC equipped with electric locks are governed by Rule 283.

WATCH INSPECTORS

Yano Bros., 1121 Tower Avenue	Superior, Wis.
Marcus Co., 728 Tower Avenue	Superior, Wis.
Cedar Jewelry, 1213 Tower Avenue	Superior, Wis.
Herbert B. Christensen, Inc., 144 E. 5th Street.....	St. Paul, Minn.
Olson Jewelry Co., 211 East Hennepin Avenue	Minneapolis, Minn.
Oscar P. Gustafson Co., 410 Nicollet Avenue.....	Minneapolis, Minn.
Pomerleau & Son, 227 East Hennepin Avenue.....	Minneapolis, Minn.
K. K. Thompson	Cass Lake, Minn.
Barker Jewelry, 217 Third Street	Bemidji, Minn.
Paul E. Teske	Hibbing, Minn.
Geary Jewelry Co.	Hibbing, Minn.
Randall's Jewelry & Gift Store	Grand Rapids, Minn.
Weber Jewelry & Music Co., 714 St. Germain Street	St. Cloud, Minn.

Name	Location	Car Capacity	Switch Opens	Name	Location	Car Capacity	Switch Opens
First Subdivision				Third Subdivision			
Rural Coop. Power Ass'n Spur	2.42 miles east of Cambridge.	6	E	Land O'Lakes Creamery Spur	0.58 miles west of Sebeka . . .	19	W
Second Subdivision				Peters Meat Products Spur	0.40 miles west of Long Prairie	10	W
International Refineries	Alford	45	E	Redwood Rendering Co.	1.61 miles east of Long Prairie	35	E
Lindsay Pit	1.69 miles west of Carlton	70	E	Midland Co-op. Spur	1.68 miles west of Long Prairie	5	E
Flint Pit	2.33 miles east of Brookston	120	E	Fourth Subdivision			
Hartley's Spur	0.98 miles west of Floodwood	3	E	Coal Spur	2.47 miles east of Buhl	3	E
Davis Oil Spur	1.21 miles west of Grand Rapids	4	E	Service Station Inc. Spur	0.90 miles east of Hibbing	4	E
Cohasset Mill & Lumber Co.	0.37 miles east of Cohasset	9	E	Oil Track	1.42 miles east of Hibbing	18	E & W
Minn. Power and Light Spur	0.98 miles west of Cohasset	106	E	Douglas Shop Spur	2.18 miles east of Emmert	9	W
Chippewa Wood Processing Spur	0.13 miles east of Deer River	16	W	Wacootah Storage Track	3.67 miles west of Virginia	55	E & W
Webster Lumber Co.	5.26 miles west of Schley	17	W	Seventh Subdivision			
Airport Spur	2.25 miles west of Bemidji	19	W	R. E. A. Oil Spur	0.5 miles east of Milaca	3	W
Benoit Pit	3.61 miles west of Benoit	157	W	Kanabec Hdwe. Co. Spur	1.0 miles east of Mora	5	W
Paupores	7.86 miles west of Brookston on eastward track	3	E	Tenth Subdivision			
Wawina	12.90 miles west of Floodwood on eastward track	11	E	Keewatin Saw Mill Spur	1.92 miles west of Kelly Lake	14	E
Warba	4.92 miles west of Swan River	7	W	Mid-Range Builders Supply	0.15 miles east of Nashauk	7	W
Blackberry	2.99 miles west of Philbin	6	E	Minn. Power & Light Spur	1.09 miles east of Nashauk	15	E
Dugdale	0.90 miles east of Tilden Jct.	12	W	Ryan and Gibbs Spur	0.93 miles east of Kevin	29	W
Burwell	7.06 miles west of Benoit	38	E & W	Oil Spur	1.19 miles east of Canisteo	35	W

Mine Spurs

Name	Location	Switch Opens
Stevenson, Lamberton, Mahoning Concentrate, Warren	0.53 miles east of Kelly Lake	W
Mahoning, Smith, N. Uno, Mahoning Grp IV, So. Agnew, Carmi	0.72 miles east of Kelly Lake	W
Hull Crusher	1.80 miles east of Kelly Lake	W
Morton	1.98 miles east of Kelly Lake	E
No. Agnew	2.22 miles east of Kelly Lake	W
Scranton, Alworth	2.42 miles west of North Mitchell	W
Esquehanna, Weggum, Boeing	0.03 miles west of North Mitchell	E
Lebb, Albany, Longyear, Bradford	0.81 miles east of North Mitchell	E
Dunwoody	0.99 miles east of Emmert	W
Chataco	0.74 miles west of Chisholm	W
Elbern	2.87 miles west of Buhl	W
Judson, Michael	1.35 miles west of Buhl	W
Grant	1.22 miles west of Buhl	W
North Shiras	0.78 miles east of Buhl	E
Margaret	0.96 miles east of Buhl	E
Wanless	1.38 miles east of Buhl	E
Kinney, Atkins, Wade	0.50 miles west of Elliott Siding	E
Wacootah	3.31 miles west of Virginia	E
Hanna B, Pilot	2.64 miles west of Virginia	E
Enterprise	0.83 miles west of Virginia	E
Columbia	0.47 miles west of Virginia	W
Bennett-Russell, Carlz	2.57 miles west of Kelly Lake	E
St. Paul	0.25 miles east of Keewatin	E
Sargent Shaft, Sargent Open Pit, St. Paul Washer	0.34 miles east of Moore	E
Chieftan	0.35 miles west of Moore	W
Mesabi Chief Washer, Aromac, Perry, Mississippi	1.17 miles west of Moore	W
O'Brien	1.57 miles east of Nashauk	W
Hawkins Fines	0.37 miles east of Nashauk	E
York, Galbraith	0.15 miles east of Nashauk	W
Hawkins (MacKilican)	0.13 miles east of Nashauk	E
Harrison	0.78 miles west of Nashauk	W
Patrick C, Kevin-Patrick, Patrick Fines	2.26 miles west of Nashauk	W
Majorca, Draper Annex, Barbara	0.73 miles east of Calumet	W
Hill Annex Washer	0.60 miles east of Calumet	E
Hill Annex Fines, Hill Trumbull Washer	0.69 miles east of Calumet	E
Hill Spur	0.37 miles west of Calumet	E
Rhude Media Spur	0.57 miles east of Holman Jct	E
Arcturas	0.25 miles east of Holman Jct	W
Holman	Taconite Jct	W
Holman Lean Ore	1.82 miles east of Bovey	E
Hunner	0.83 miles west of Bovey	E
Canisteo, Buckeye, Danube	Canisteo	E & W
East Hill	0.20 miles west of Canisteo	E
Isle	1.60 miles west of Canisteo	W
Greenway	2.42 miles west of Canisteo	W
Tloga	0.24 miles east of Seyton	W

SPEED TABLE

Time Min.	Per Mile Sec.	Miles Per Hour	Time Min.	Per Mile Sec.	Miles Per Hour
			1	12	50.0
			1	14	48.6
			1	16	47.4
			1	18	46.2
			1	20	45.0
			1	22	43.9
			1	24	42.9
			1	26	41.9
			1	28	40.9
			1	30	40.0
			1	33	38.7
			1	36	37.5
			1	39	36.4
			1	42	35.3
			1	45	34.3
			1	50	32.7
			1	55	31.3
			2	—	30.0
			2	10	27.7
			2	20	25.7
			2	30	24.0
			2	40	22.5
			3	—	20.0
			3	8	17.1
			4	—	15.0
			5	—	12.0
			6	—	10.0
			7	—	8.6
			8	—	7.5
			9	—	6.7
			10	—	6.0