

# Executive Summary

Date **12/6/2017**  
 Customer **SWI**  
 RR Supervisor **Mark Smith**

Holland Unit **TTS484**  
 Supervisor **Jesse Renville**  
 E-mail address [REDACTED]m  
 Cell [REDACTED]

## Test Log

Track Info	Track Code	From	To	Total Miles	Total Red	Total Orange	Total Yellow	Red Defect Miles
<b>LAKWOOD</b>								
<b>LAKWOOD</b>								
MT1	MAIN	21.20	10.69	10.51	0	0	0	0.00
MT1	MAIN	10.69	4.63	6.06	0	0	0	0.00
MT2	MAIN	10.69	6.92	3.77	0	0	0	0.00

Total Miles Tested :	20.34
Total Hours Tested :	3.50 hrs
Total Customer Delay:	4.50 hrs
Total Holland Delay:	0.00 hrs

## Next Day Testing Plan

Date	12/06/2017	Start Time	07:00:00 PM
Subdivision	LAKWOOD	Pilot	Mark Smith
Track	MT1	Pilot Phone	(509) 939-5372
Starting MP	4.63		
Note	Unit will meet at crossing on MT1 at MP 4.63		

\* The calculation for Total Miles assume all miles are 5280 feet which may differ from actual distance between milepost(s) tested.

# Holland TrackSTAR Daily Report

Unit: TTS484    Cust #:800520  
 Date: Wednesday, December 6, 2017  
 Division:  
 From Station:    MP 21.3

Customer:    SWI  
 Road Master:    Lantz Chris  
 Subdivision:    LAKEWOOD  
 To Station:    MP 4

Start Location:    Lakewood, WA  
 Tie Up Location:    Lakewood, WA  
 Pilot(s):    Mark Smith  
 Work Order:    10869  
 Customer Signature:

Arrive Time:    21:00  
 Depart Time:    05:00  
 Billable Hours:    8.00

Activity	Hours	Delay	Hours	LDD Cant	Left	Right
A	Crew	0.00	E1	Load Axle	0.00	Protractor 0 0
B	Train	2.25	E2	Host Sys	0.00	LDD Cant #s 0 0
C	Dispatcher	0.00	E3	Geo/Prof Sys	0.00	IM INI #s 0 0
D	M.O.W	0.00	E4	Laser Cam	0.00	New INI #s 0 0
F	Verify Tag	0.00	E5	Truck	0.00	Calc Cants 0 0
G	Other	1.00	E6	Hi-Rail	0.00	Inertial Debias
H	Briefing	0.50	E7	Encoder	0.00	Static Rail Gap
I	Start/Shut	0.75	E8	HACS Sys	0.00	Roll Yaw Lat Vert
J	Travel	0.00	E9	Get Set	0.00	Left 0.021
	Total Hours	4.50	E10	Hoses / Cables	0.00	Right 0.007
K	Weekend	0.00	E11	Shop Mtce	0.00	Mobilization
L	Dead Head	0.00	E12	Field Mtce	0.00	Utilization
M	Admin	0.00	E13	HolCo Crew	0.00	Start Time 00:00
			E14	Weather	0.00	End Time 00:00
				Total Hours	0.00	Hours Tested 3.50

Customer Received:  Job Briefing     Electronic Copy     Customer Survey  
 Test Reports     Hard Copy     Customer Survey Audit  
 Form B Only     KM Test

Operator Signature:    Driver Initials:   
 Unit Phone: 8

Gage & Xlvi Calc				Today's Weather		
	New	Old	Diff	Condition	Temp	
UNLD	-0.76	-0.75	-0.010	Start	Clear	32
LDD	-0.77	-0.76	-0.010	Mid	Clear	30
X-L	0.01	-0.03	0.040	End	Clear	30

Lat / Vert		Defect Report Summary		Mid Day Verification	
DV	PV	Lat	Lat / V	Urgent	0
14	14	9	0.6429	Priority	0

Defect Type	Location	Defect #	Measurement
Gage			0.00
CrossLevel			0.00
Curvature			0.00

Time From	Time To	Delay Code	Delay Time	Test Time	From Mile	To Mile	Total Miles	Test Dir	Test Class	Track Identifier	Track Type	ID	Urgent Defects	Priority Defects	Description
21:00	21:30	H	0.50												Crew Briefing
21:30	23:45	B	2.25												Train Delay
23:45	00:15	I	0.50												Set On, Calibrate
00:15	02:15			2.00	21.20	10.69	10.51	N	3	MAIN TRACK 1	MAIN	2153	0	0	Test MT1, Slow Test Speed Due to Ice on Rail
02:15	02:30			0.25	10.69	6.92	3.77	N	3	MAIN TRACK 2	MAIN	2154	0	0	Test MT2
02:30	03:45			1.25	10.69	4.63	6.06	N	3	MAIN TRACK 1	MAIN	2156	0	0	Hyrail to 10.69, Test MT1
03:45	04:00	I	0.25												Set Off, Paperwork
04:00	05:00	G	1.00												Contractual Hours

# HOLLAND TRACK TESTING SERVICES - RED DEFECTS REPORT

Vehicle:  
Client:  
Subdivision: LAKEWOOD

Direction:

Units:

Test Date:  
RR Personnel:

Track: MT1

Defect Num	Worst Loc.(MP)	Track Info	R/Y	Defect Name	Max	Len (ft)	Track Class	Safe (MPH) P/F	LM+FT	Gauge (in)	Start Latitude	Start Longitude	Crv
------------	----------------	------------	-----	-------------	-----	----------	-------------	----------------	-------	------------	----------------	-----------------	-----

**No Exceptions Detected**

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Post To End of Territory Defect Parameter Summary for ALL Tracks

**No Exceptions Detected**

# Holland



## TrackSTAR®

**Client:**  
SWI

**Subdivision**  
LAKEWOOD

**Track**  
MT1

**Track Information:**  
MAIN TRACK 1

### Notes on Reports

#### Strip Charts

Test Header Information is available on the top of the page

Mile Post/Track information is available on the bottom of the page

Channel information and scale values available on the left

#### Exception Reports

Red Defect  
Yellow Defect

#### Benchmark Legend

SW - switch  
FR - Frog  
CR - Curve  
RX - Road Crossing  
SG - Signal  
JT - Joints

#### Truck Unit:

TTS484

Office: (708) 672-2300  
Unit: 815-4737

Email:  
TTS484@hollandco.com

### Legend for Event Markings on bottom of Strip Chart Page

	Mile Post		Crossing		Frog		Switch		Diamond		Signal
	Posted Speed		End Manual Speed		Begin Manual Speed		Exit Tunnel		Enter Tunnel		OverPass
	Jointed Rail		Welded Rail		Enter Bridge		Exit Bridge		Station		warning

Client : SWI

Subdivision:LAKEWOOD

Rail Personnel: Lantz Chris

Track Info : MAIN TRACK 1

Track Class : 3

Passenger Speed : 42

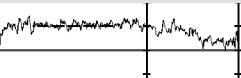
Freight Speed : 35

Test Date : 12/06/2017 00:39:25

21.10 21.0  
(0528)(0000)

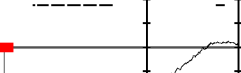
LOADED  
GAGE  
TICK MARK: 1/2"

Wide+  
Tight-



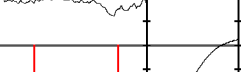
XLEVEL  
TICK MARK: 1"

RLow+  
LLow-



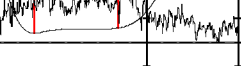
CURVATURE  
TICK MARK: 1D

Right+  
Left-



LOADED  
L CANT  
TICK MARK: 1dg.

F -  
G +



LOADED  
R CANT  
TICK MARK: 1dg.

G +  
F -



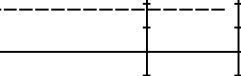
LEFT  
SURFACE 62  
TICK MARK: 1"

High+  
Low-



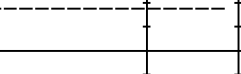
RIGHT  
SURFACE 62  
TICK MARK: 1"

High+  
Low-



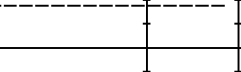
LEFT  
ALIGN 62  
TICK MARK: 1"

Right+  
Left-



RIGHT  
ALIGN 62  
TICK MARK: 1"

Right+  
Left-



0001

13

Holland Track Testing Services - ARIES Strip Chart Report

Truck Unit : TTS484

Pg : 2

Client : SWI

Subdivision:LAKEWOOD

Rail Personnel: Lantz Chris

Track Info : MAIN TRACK 1

Track Class : 3

Passenger Speed : 42

Freight Speed : 35

Test Date : 12/06/2017 00:39:25

21.0	20.90	20.80	20.70	20.60	20.50	20.0
(0000)	(4752)	(4224)	(3696)	(3168)	(2640)	(0000)

LOADED GAGE  
TICK MARK: 1/2"



XLEVEL



CURVATURE



TICK MARK: 1D

LOADED L CANT  
TICK MARK: 1dg.



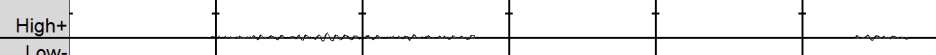
LOADED R CANT  
TICK MARK: 1dg.



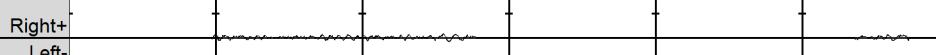
LEFT SURFACE 62  
TICK MARK: 1"



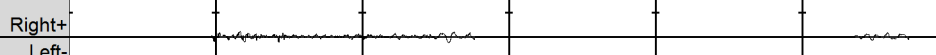
RIGHT SURFACE 62  
TICK MARK: 1"



LEFT ALIGN 62  
TICK MARK: 1"



RIGHT ALIGN 62  
TICK MARK: 1"



13



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Holland Track Testing Services - ARIES Strip Chart Report

Truck Unit : TTS484

Pg : 3

Client : SWI

Subdivision:LAKEWOOD

Rail Personnel: Lantz Chris

Track Info : MAIN TRACK 1

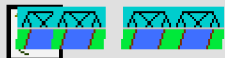
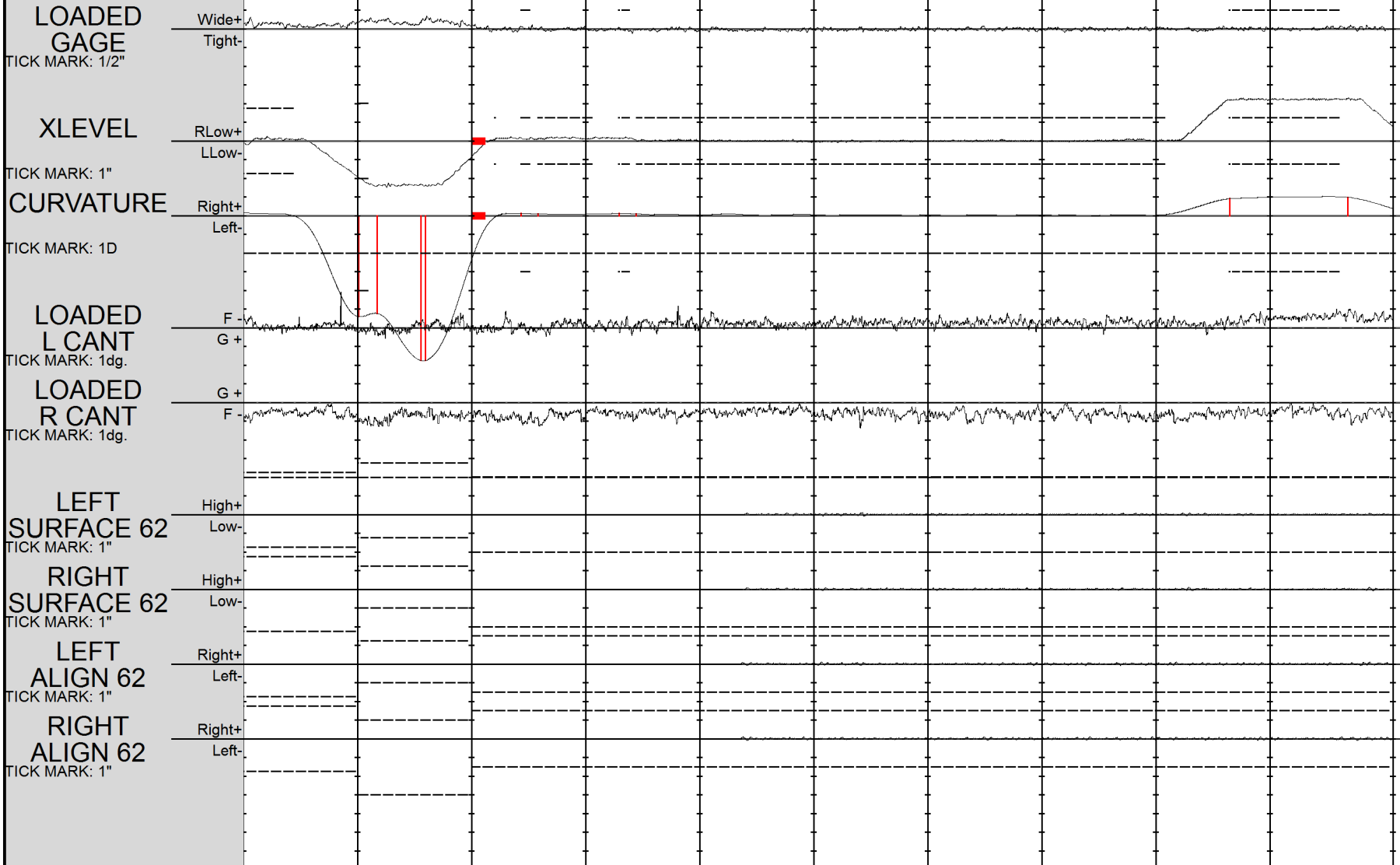
Track Class : 4

Passenger Speed : 79

Freight Speed : 40

Test Date : 12/06/2017 00:39:25

20.0	19.90	19.80	19.70	19.60	19.50	19.40	19.30	19.20	19.10	19.0
(0000)	(4752)	(4224)	(3696)	(3168)	(2640)	(2112)	(1584)	(1056)	(0528)	(0000)



0005  
 0002  
 0003  
 0004



Holland Track Testing Services - ARIES Strip Chart Report

Truck Unit : TTS484

Pg : 4

Client : SWI

Subdivision:LAKEWOOD

Rail Personnel: Lantz Chris

Track Info : MAIN TRACK 1

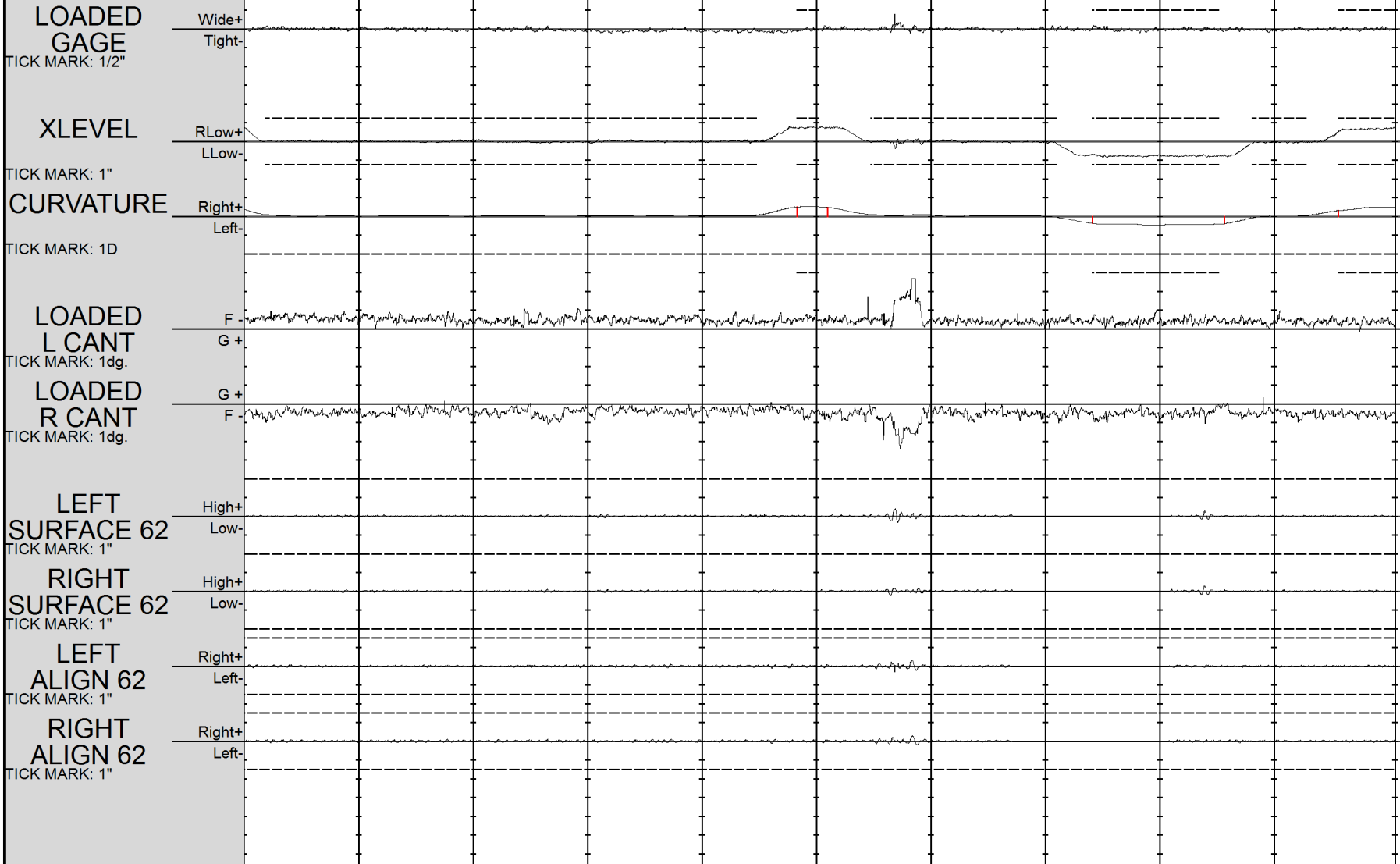
Track Class : 4

Passenger Speed : 79

Freight Speed : 40

Test Date : 12/06/2017 00:39:25

19.0	18.90	18.80	18.70	18.60	18.50	18.40	18.30	18.20	18.10	18.0
(0000)	(4752)	(4224)	(3696)	(3168)	(2640)	(2112)	(1584)	(1056)	(0528)	(0000)



13



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Holland Track Testing Services - ARIES Strip Chart Report

Truck Unit : TTS484

Pg : 5

Client : SWI

Subdivision: LAKEWOOD

Rail Personnel: Lantz Chris

Track Info : MAIN TRACK 1

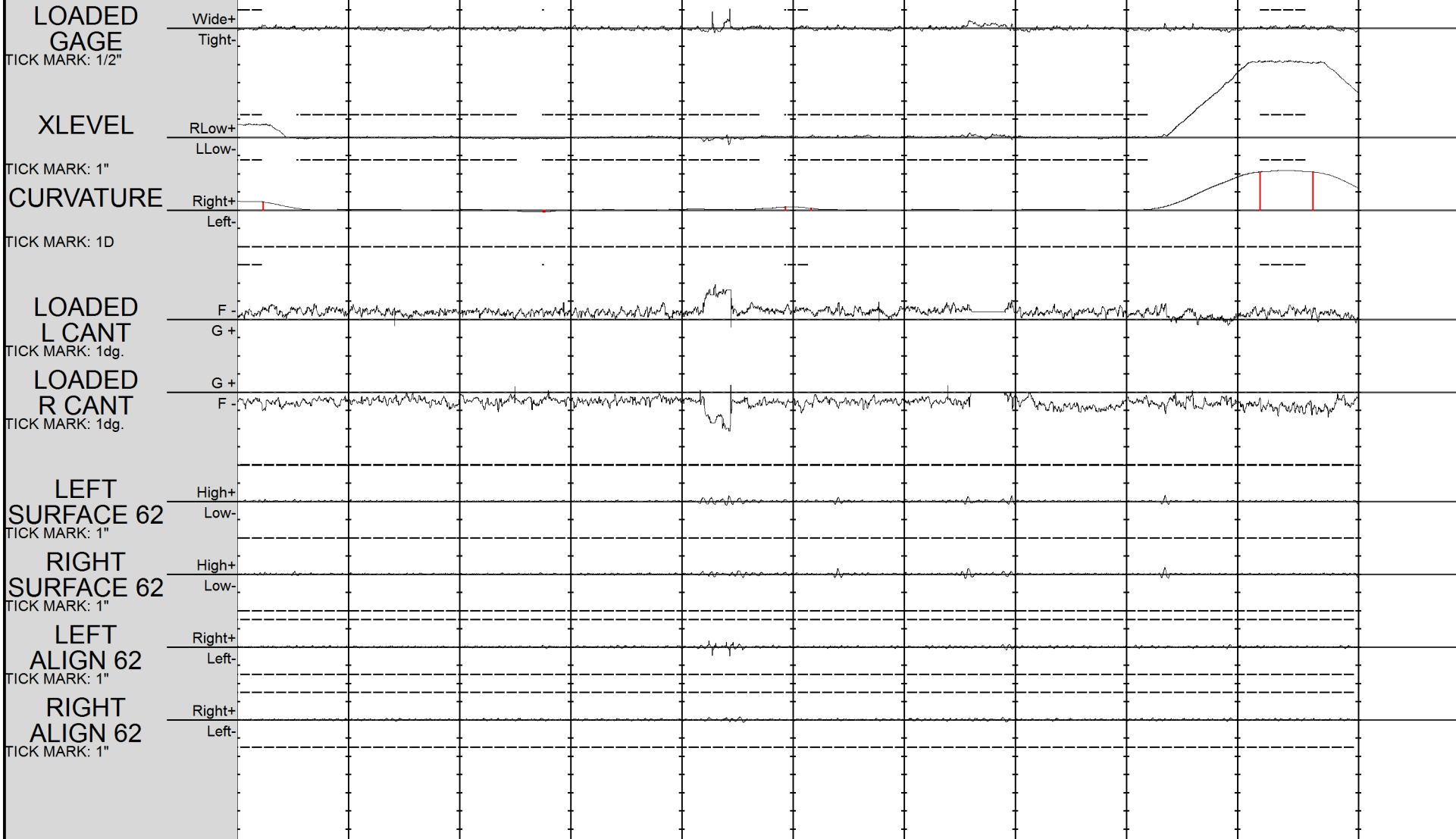
Track Class : 4

Passenger Speed : 68

Freight Speed : 40

Test Date : 12/06/2017 00:39:25

18.0	17.90	17.80	17.70	17.60	17.50	17.40	17.30	17.20	17.10	17.0
(0000)	(4752)	(4224)	(3696)	(3168)	(2640)	(2112)	(1584)	(1056)	(0528)	(0000)



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13

Holland Track Testing Services - ARIES Strip Chart Report

Truck Unit : TTS484

Pg : 6

Client : SWI

Subdivision:LAKEWOOD

Rail Personnel: Lantz Chris

Track Info : MAIN TRACK 1

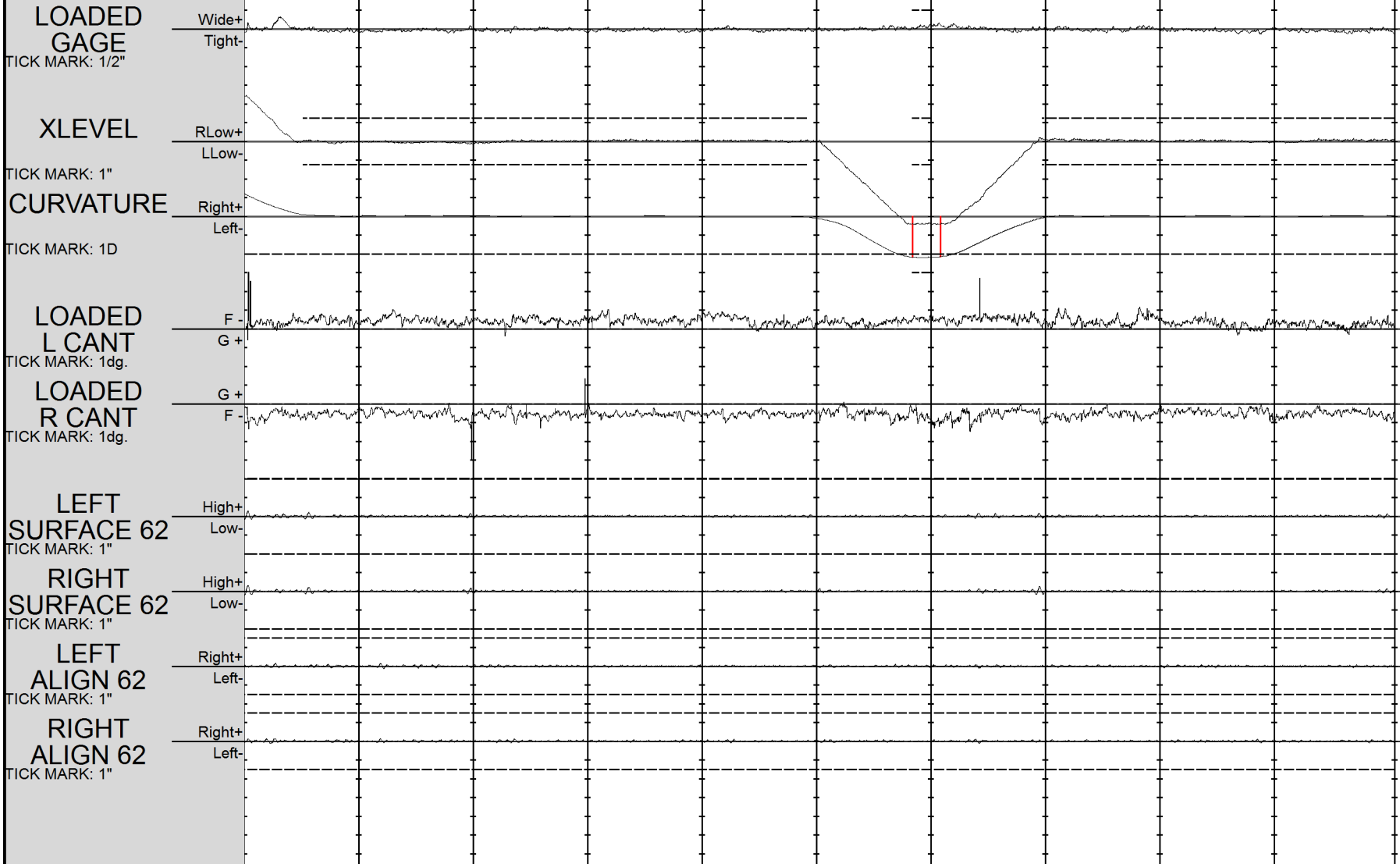
Track Class : 4

Passenger Speed : 79

Freight Speed : 40

Test Date : 12/06/2017 00:39:25

17.0	16.90	16.80	16.70	16.60	16.50	16.40	16.30	16.20	16.10	16.0
(0000)	(4752)	(4224)	(3696)	(3168)	(2640)	(2112)	(1584)	(1056)	(0528)	(0000)



Holland Track Testing Services - ARIES Strip Chart Report

Truck Unit : TTS484

Pg : 7

Client : SWI

Subdivision:LAKEWOOD

Rail Personnel: Lantz Chris

Track Info : MAIN TRACK 1

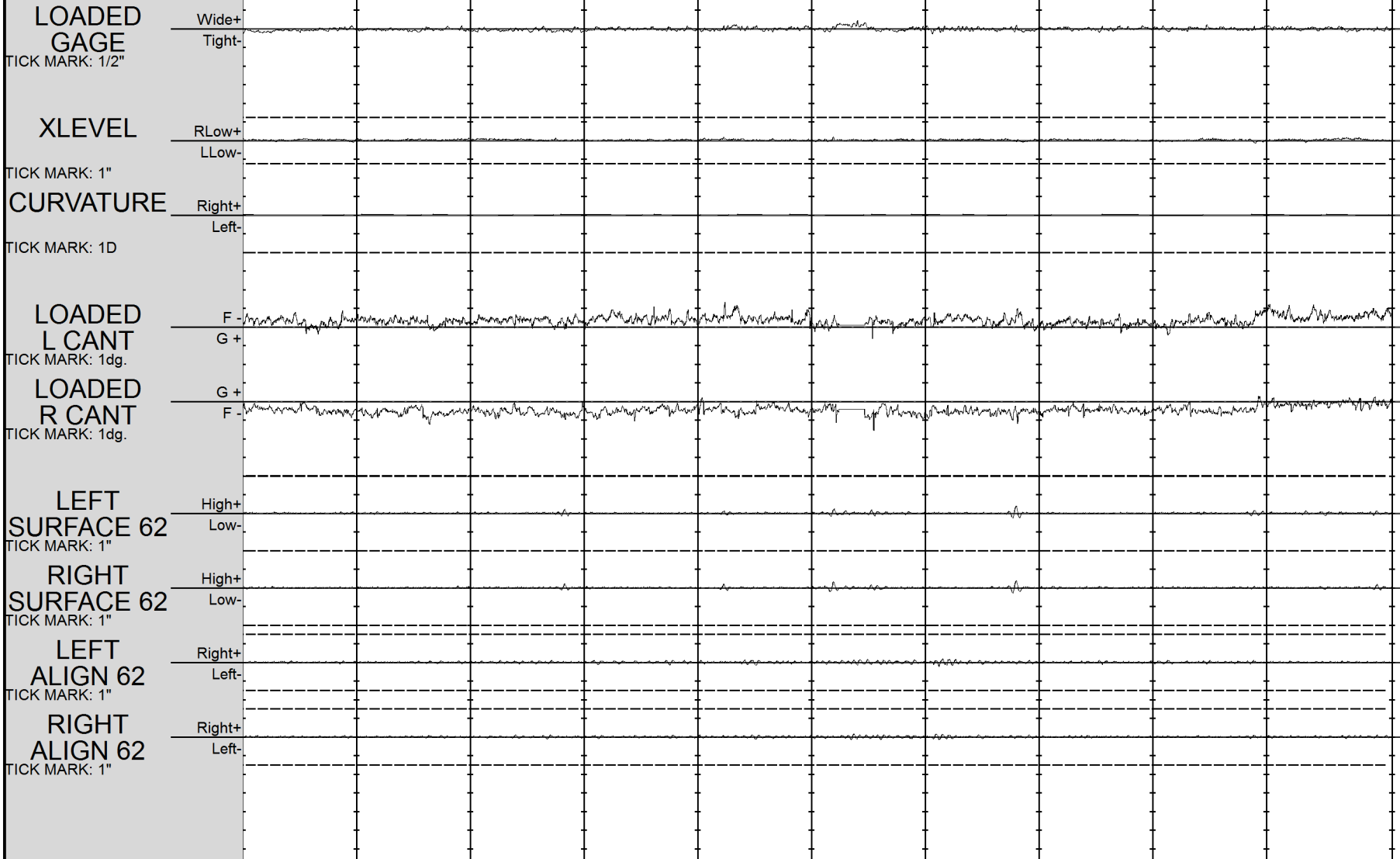
Track Class : 4

Passenger Speed : 79

Freight Speed : 40

Test Date : 12/06/2017 00:39:25

16.0	15.90	15.80	15.70	15.60	15.50	15.40	15.30	15.20	15.10	15.0
(0000)	(4752)	(4224)	(3696)	(3168)	(2640)	(2112)	(1584)	(1056)	(0528)	(0000)



Holland Track Testing Services - ARIES Strip Chart Report

Truck Unit : TTS484

Pg : 8

Client : SWI

Subdivision: LAKEWOOD

Rail Personnel: Lantz Chris

Track Info : MAIN TRACK 1

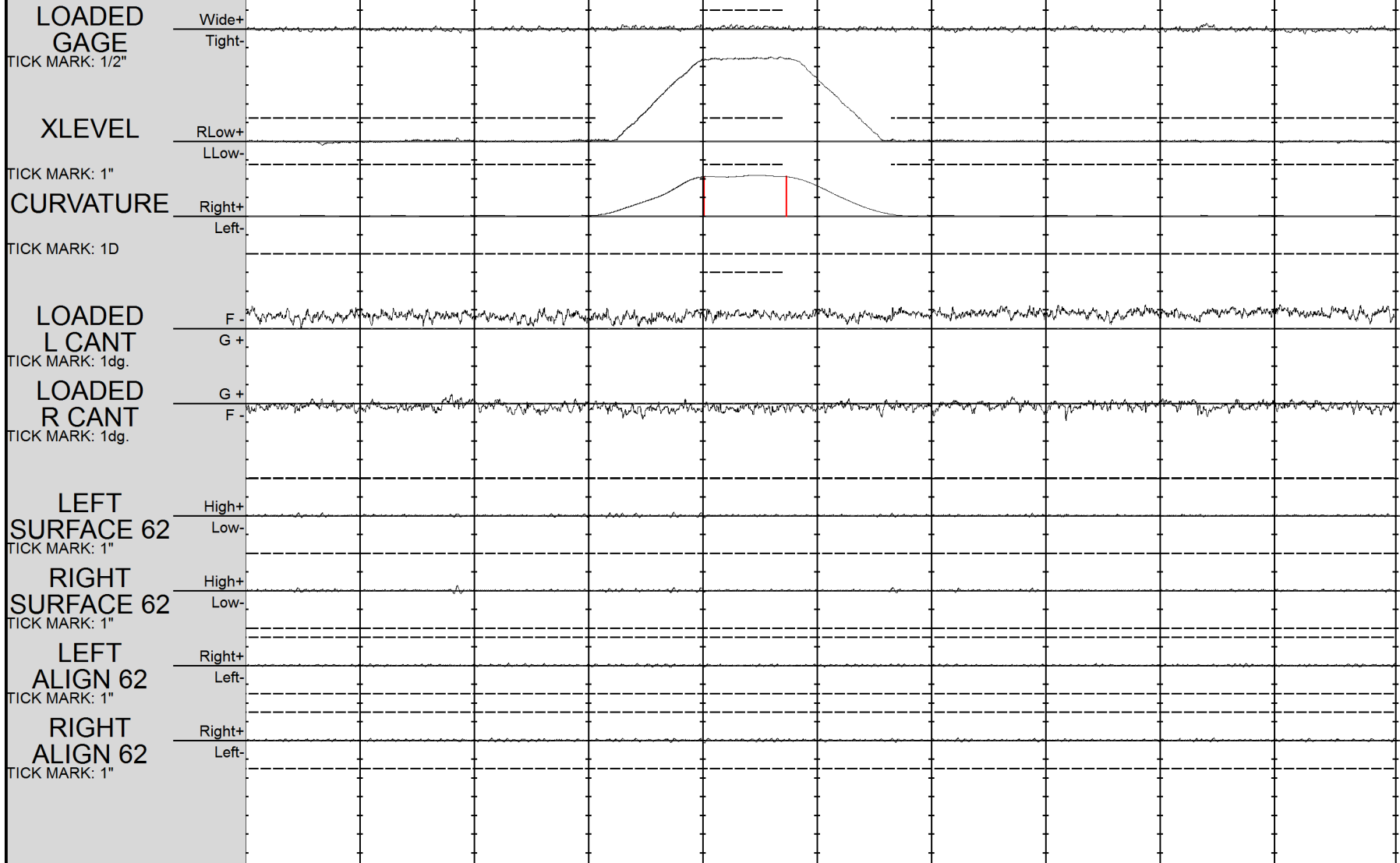
Track Class : 4

Passenger Speed : 79

Freight Speed : 40

Test Date : 12/06/2017 00:39:25

15.0	14.90	14.80	14.70	14.60	14.50	14.40	14.30	14.20	14.10	14.0
(0000)	(4752)	(4224)	(3696)	(3168)	(2640)	(2112)	(1584)	(1056)	(0528)	(0000)



Holland Track Testing Services - ARIES Strip Chart Report

Truck Unit : TTS484

Pg : 9

Client : SWI

Subdivision: LAKEWOOD

Rail Personnel: Lantz Chris

Track Info : MAIN TRACK 1

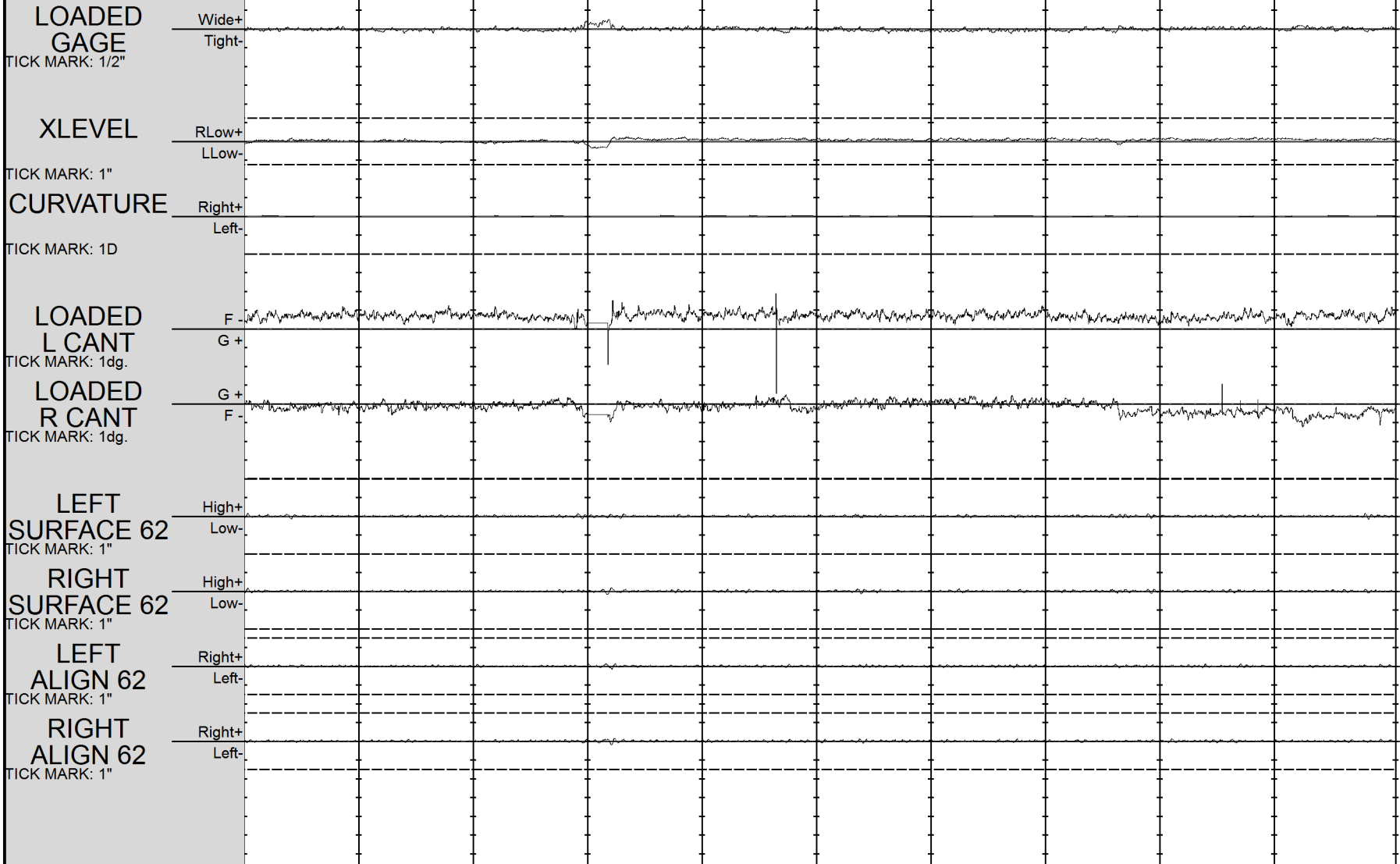
Track Class : 4

Passenger Speed : 79

Freight Speed : 40

Test Date : 12/06/2017 00:39:25

14.0	13.90	13.80	13.70	13.60	13.50	13.40	13.30	13.20	13.10	13.0
(0000)	(4752)	(4224)	(3696)	(3168)	(2640)	(2112)	(1584)	(1056)	(0528)	(0000)



13



13

Holland Track Testing Services - ARIES Strip Chart Report

Truck Unit : TTS484

Pg : 10

Client : SWI

Subdivision: LAKEWOOD

Rail Personnel: Lantz Chris

Track Info : MAIN TRACK 1

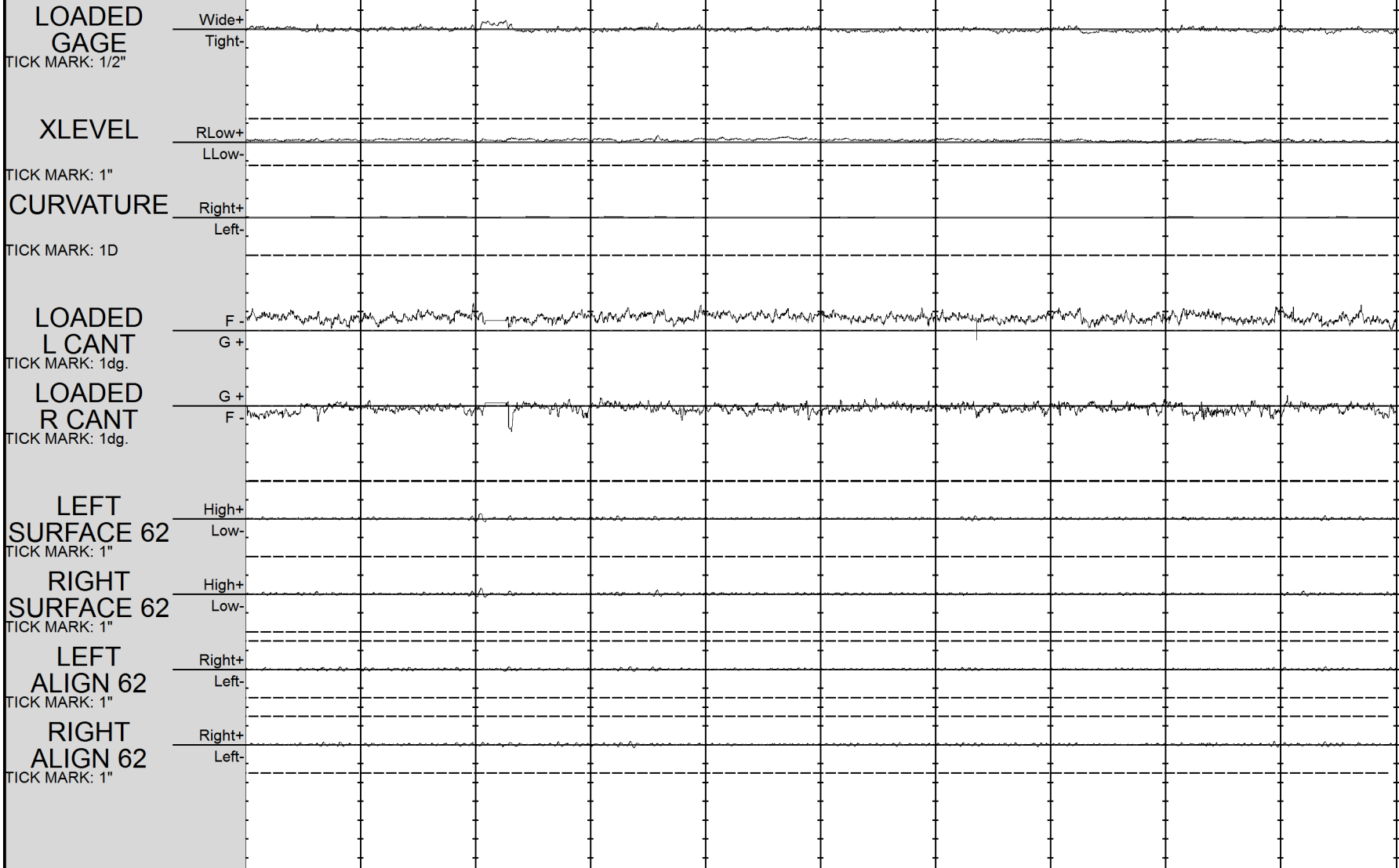
Track Class : 4

Passenger Speed : 79

Freight Speed : 40

Test Date : 12/06/2017 00:39:25

13.0	12.90	12.80	12.70	12.60	12.50	12.40	12.30	12.20	12.10	12.0
(0000)	(4752)	(4224)	(3696)	(3168)	(2640)	(2112)	(1584)	(1056)	(0528)	(0000)



13



13

Holland Track Testing Services - ARIES Strip Chart Report

Truck Unit : TTS484

Pg : 11

Client : SWI

Subdivision:LAKEWOOD

Rail Personnel: Lantz Chris

Track Info : MAIN TRACK 1

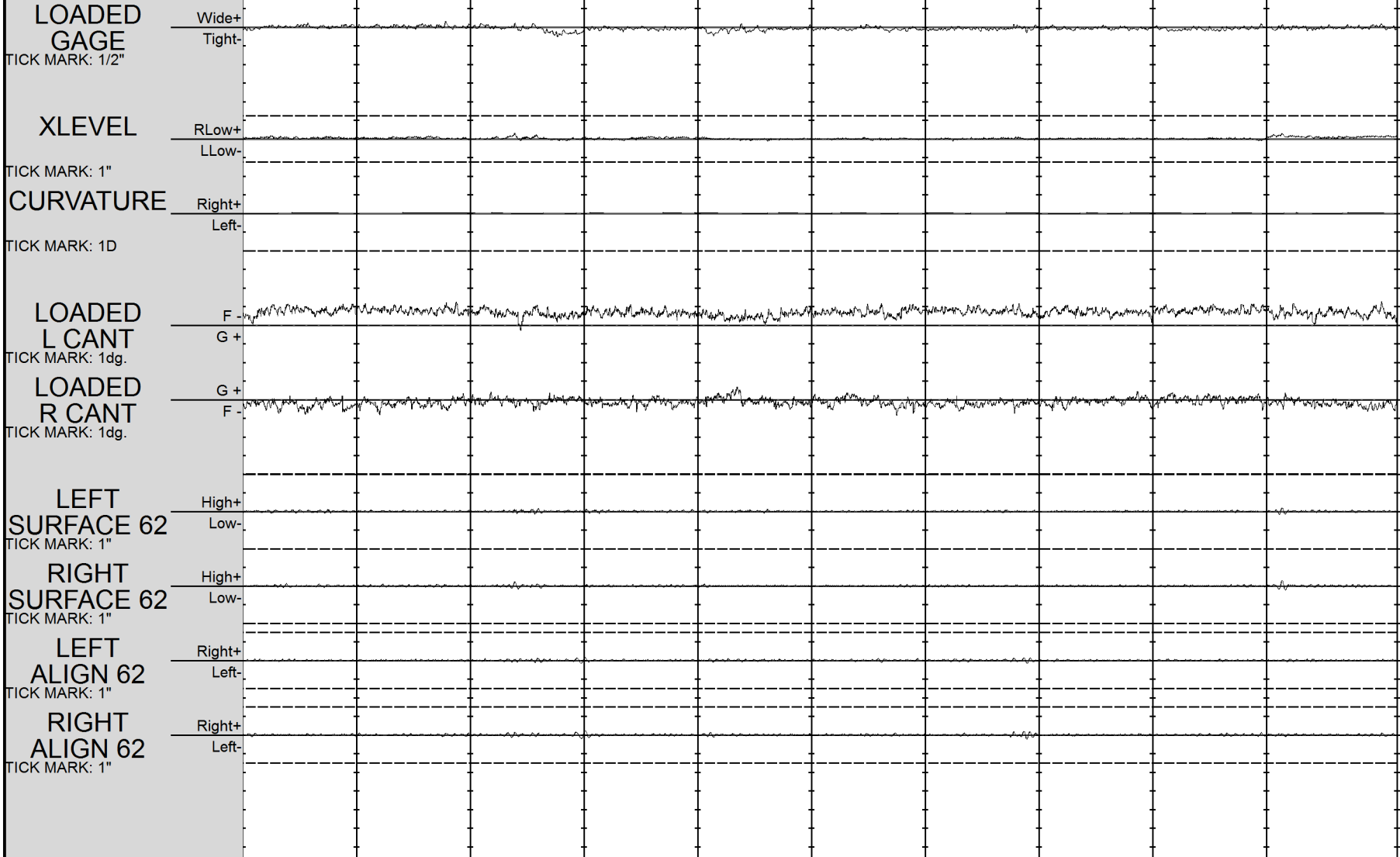
Track Class : 4

Passenger Speed : 79

Freight Speed : 40

Test Date : 12/06/2017 00:39:25

12.0	11.90	11.80	11.70	11.60	11.50	11.40	11.30	11.20	11.10	11.0
(0000)	(4752)	(4224)	(3696)	(3168)	(2640)	(2112)	(1584)	(1056)	(0528)	(0000)



Client : SWI

Subdivision:LAKEWOOD

Rail Personnel: Lantz Chris

Track Info : MAIN TRACK 1

Track Class : 4

Passenger Speed : 79

Freight Speed : 40

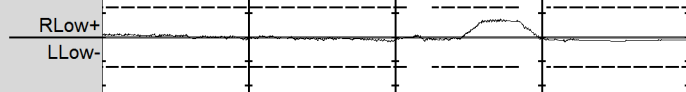
Test Date : 12/06/2017 00:39:25

11.0	10.90	10.80	10.70	10.60
(0000)	(4752)	(4224)	(3696)	(3168)

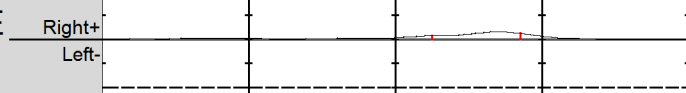
LOADED GAGE  
TICK MARK: 1/2"



XLEVEL  
TICK MARK: 1"



CURVATURE  
TICK MARK: 1D



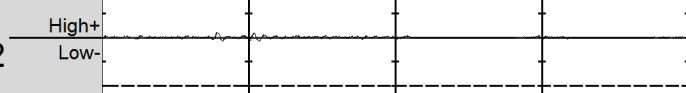
LOADED L CANT  
TICK MARK: 1dg.



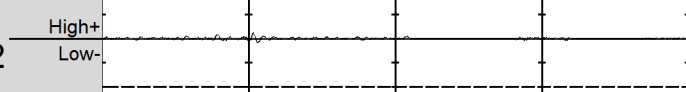
LOADED R CANT  
TICK MARK: 1dg.



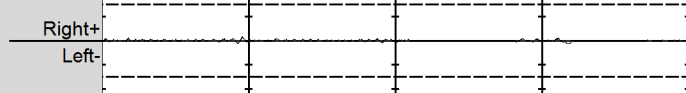
LEFT SURFACE 62  
TICK MARK: 1"



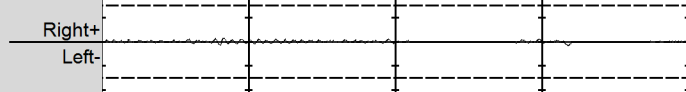
RIGHT SURFACE 62  
TICK MARK: 1"



LEFT ALIGN 62  
TICK MARK: 1"



RIGHT ALIGN 62  
TICK MARK: 1"





# HOLLAND TRACK TESTING SERVICES - RED DEFECTS REPORT

Vehicle: TTS484

Direction: N

Units: Miles

Test Date: 12/6/2017 12:39:25AM

Client: SWI

RR Personnel: Lantz Chris

Subdivision: LAKEWOOD

Track: MT1

Defect Num	Worst Loc.(MP)	Track Info	R/Y	Defect Name	Max	Len (ft)	Track Class	Safe (MPH) P/F	LM+FT	Gauge (in)	Start Latitude	Start Longitude	Crv
------------	----------------	------------	-----	-------------	-----	----------	-------------	----------------	-------	------------	----------------	-----------------	-----

**No Exceptions Detected**

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Post 21.200 To 10.690 End of Territory Defect Parameter Summary for ALL Tracks

**No Exceptions Detected**

# HOLLAND TRACK TESTING SERVICES - RED REPAIRS REPORT

Vehicle: TTS484

Direction: N

Units: Miles

Test Date: 12/6/2017 12:39:25AM

Client: SWI

RR Personnel: Lantz Chris

Subdivision: LAKEWOOD

Track: MT1

Defect Num	Worst Loc.(MP)	Track Info	R/Y	Defect Name	Max	Len (ft)	Track Class	Safe (MPH) P/F	LM+FT	Gauge (in)	Start Latitude	Start Longitude	Curve
------------	----------------	------------	-----	-------------	-----	----------	-------------	----------------	-------	------------	----------------	-----------------	-------

**No Exceptions Detected**

-----  
Post 21.200 To 10.690 End of Territory Defect Parameter Summary for ALL Tracks

**No Exceptions Detected**

# HOLLAND TRACK TESTING SERVICE - YELLOW DEFECTS REPORT

Vehicle: TTS484

Direction: N

Units: Miles

Test Date: 12/6/2017 12:39:25AM

Client: SWI

RR Personnel: Lantz Chris

Subdivision: LAKEWOOD

Track: MT1

Defect Num	Worst Loc. (MP)	Track Info	R/Y	Defect Name	Max	Len (ft)	Track Class	Safe (MPH) P/F	LM+FT	Gauge (in)	Start Latitude	Start Longitude	Crv
------------	-----------------	------------	-----	-------------	-----	----------	-------------	----------------	-------	------------	----------------	-----------------	-----

**No Exceptions Detected**

-----  
Post 21.200 To 10.690 End of Territory Defect Parameter Summary for ALL Tracks

**No Exceptions Detected**

### HOLLAND TRACK TESTING SERVICES - Curve Summary Report

Vehicle: TTS484

Direction: N

Units: Miles

Test Date: 12/6/2017 12:39:25AM

Client: SWI

RR Personnel: Lantz Chris

Subdivision: LAKEWOOD

Track: MT1

Start MP	End MP	Track Type	Dir	Curvature Avg (deg)	Elevation Avg (in)	Total Length (ft)	Spiral IN (ft)	Curve Body (ft)	Spiral OUT (ft)	Tight Gauge (ft) 1/4"	Wide Gauge(ft)				Track Class	Freight		PASS	
											1/4"	1/2"	3/4"	1"		Spd	Max	Spd	Max
21.20	21.05	MAIN	L	5.47	2.23	778	121	302	355	0	81	0	0	0	3	35	36	35	39
21.04	20.88	MAIN	R	2.96	0.82	679	299	128	252	0	93	0	0	0	3	35	42	35	48
20.59	20.41	MAIN	R	6.75	3.23	941	363	178	400	0	599	0	0	0	3	35	36	35	39
19.95	19.88	MAIN	L	5.31	2.15	359	275	84	0	0	0	0	0	0	2	25	36	30	40
19.88	19.78	MAIN	L	7.52	2.37	546	203	22	321	0	6	0	0	0	2	25	31	30	34
19.77	19.74	MAIN	R	0.11	0.12	157	78	79	0	0	0	0	0	0	4	40	194	79	223
19.69	19.66	MAIN	R	0.11	0.11	157	78	79	0	0	0	0	0	0	4	40	197	79	227
19.19	18.98	MAIN	R	0.98	2.21	1123	269	548	306	0	0	0	0	0	4	40	85	79	93
18.55	18.45	MAIN	R	0.50	0.72	506	162	142	202	0	0	0	0	0	4	40	102	79	114
18.29	18.12	MAIN	L	0.43	0.78	880	144	609	127	0	0	0	0	0	4	40	108	75	122
18.06	17.95	MAIN	R	0.44	0.64	653	108	383	162	0	0	0	0	0	4	40	103	75	116
17.74	17.72	MAIN	L	0.09	0.07	86	78	8	0	0	0	0	0	0	4	40	220	75	253
17.52	17.48	MAIN	R	0.14	0.02	201	78	123	0	0	0	0	0	0	4	40	165	75	191
17.17	16.95	MAIN	R	2.13	4.14	1227	490	252	485	0	11	0	0	0	4	40	68	68	73
16.50	16.30	MAIN	L	2.17	4.38	1050	452	129	469	0	0	0	0	0	4	40	69	68	74
14.69	14.44	MAIN	R	2.12	4.39	1330	463	382	485	0	0	0	0	0	4	40	70	70	74
10.79	10.70	MAIN	R	0.22	0.31	492	78	317	97	0	0	0	0	0	4	40	136	79	154

# Exception Report For Automated Inspection of Track Constructed with Concrete Ties

Vehicle: TTS484

Direction: N

Units: Miles

Test Date: 12/6/2017 12:39:25AM

Client: SWI

RR Personnel: Lantz Chris

Subdivision: LAKEWOOD

Track: MT1

Defect Num	Worst Loc. (MP)	Track Info	R/Y	Defect Name	Max	Len (ft)	Track Class	LM+FT	Gauge (in)	Start Latitude	Start Longitude	Crv
<b>No Exceptions Detected</b>												

-----  
Post 21.200 To 10.690 End of Territory Defect Parameter Summary for ALL Tracks

**No Exceptions Detected**

*This test complies with and meets all of the requirements of FRA 213.234 for the "Automated Inspection of Track Constructed with Concrete Ties". The rail cant defects listed above on this report may represent "Rail Seat Deterioration" in the tie. The defects listed should be validated to determine if any "Rail Seat Deterioration" is evident in the rail seat area of the tie.*

*This report shall serve as evidence that a "Automated Inspection of Track Constructed with Concrete Ties" was performed on the date indicated above.*

### HOLLAND TRACK TESTING SERVICES - Curve Speeds Report

Vehicle: TTS484

Direction: N

Units: Miles

Test Date: 12/6/17 12:39 am

Client: SWI

RR Personnel: Lantz Chris

Subdivision: LAKEWOOD

Track: MT1

Start MP	End MP	Track	Dir	F1		P1		P2	
				Spd	Max	Spd	Max	Spd	Max
21.200	21.053	MAIN	L	35	36	35	39	42	45
21.042	20.876	MAIN	R	35	42	35	48	42	57
20.587	20.409	MAIN	R	35	36	35	39	42	44
19.951	19.883	MAIN	L	25	36	30	40	30	46
19.883	19.780	MAIN	L	25	31	30	34	30	39
19.772	19.742	MAIN	R	40	194	79	223	79	272
19.686	19.656	MAIN	R	40	197	79	227	79	276
19.187	18.982	MAIN	R	40	85	79	93	79	107
18.548	18.452	MAIN	R	40	102	79	114	79	137
18.286	18.120	MAIN	L	40	108	75	122	79	145
18.065	17.947	MAIN	R	40	103	75	116	79	139
17.740	17.724	MAIN	L	40	220	75	253	79	310
17.522	17.484	MAIN	R	40	165	75	191	79	234
17.173	16.949	MAIN	R	40	68	68	73	79	82
16.502	16.303	MAIN	L	40	69	68	74	79	82
14.687	14.435	MAIN	R	40	70	70	74	79	83
10.790	10.697	MAIN	R	40	136	79	154	79	184

# Holland



## TrackSTAR®

**Client:**  
SWI

**Subdivision**  
LAKEWOOD

**Track**  
MT1

**Track Information:**  
MAIN TRACK 1

**Notes on Reports**

**Strip Charts**

Test Header Information is available on the top of the page

Mile Post/Track information is available on the bottom of the page

Channel information and scale values available on the left

**Exception Reports**

Red Defect  
Yellow Defect

**Benchmark Legend**

SW - switch  
FR - Frog  
CR - Curve  
RX - Road Crossing  
SG - Signal  
JT - Joints

**Truck Unit:**

TTS484

Office: (708) 672-2300  
Unit: 815-4737

Email:  
TTS484@hollandco.com

**Legend for Event Markings on bottom of Strip Chart Page**



Mile Post



Crossing



Frog



Switch



Diamond



Signal



Posted Speed



End Manual Speed



Begin Manual Speed



Exit Tunnel



Enter Tunnel



OverPass



Jointed Rail



Welded Rail



Enter Bridge



Exit Bridge



Station



warning

Holland Track Testing Services - ARIES Strip Chart Report

Truck Unit : TTS484

Pg : 1

Client : SWI

Subdivision: LAKEWOOD

Rail Personnel: Lantz Chris

Track Info : MAIN TRACK 1

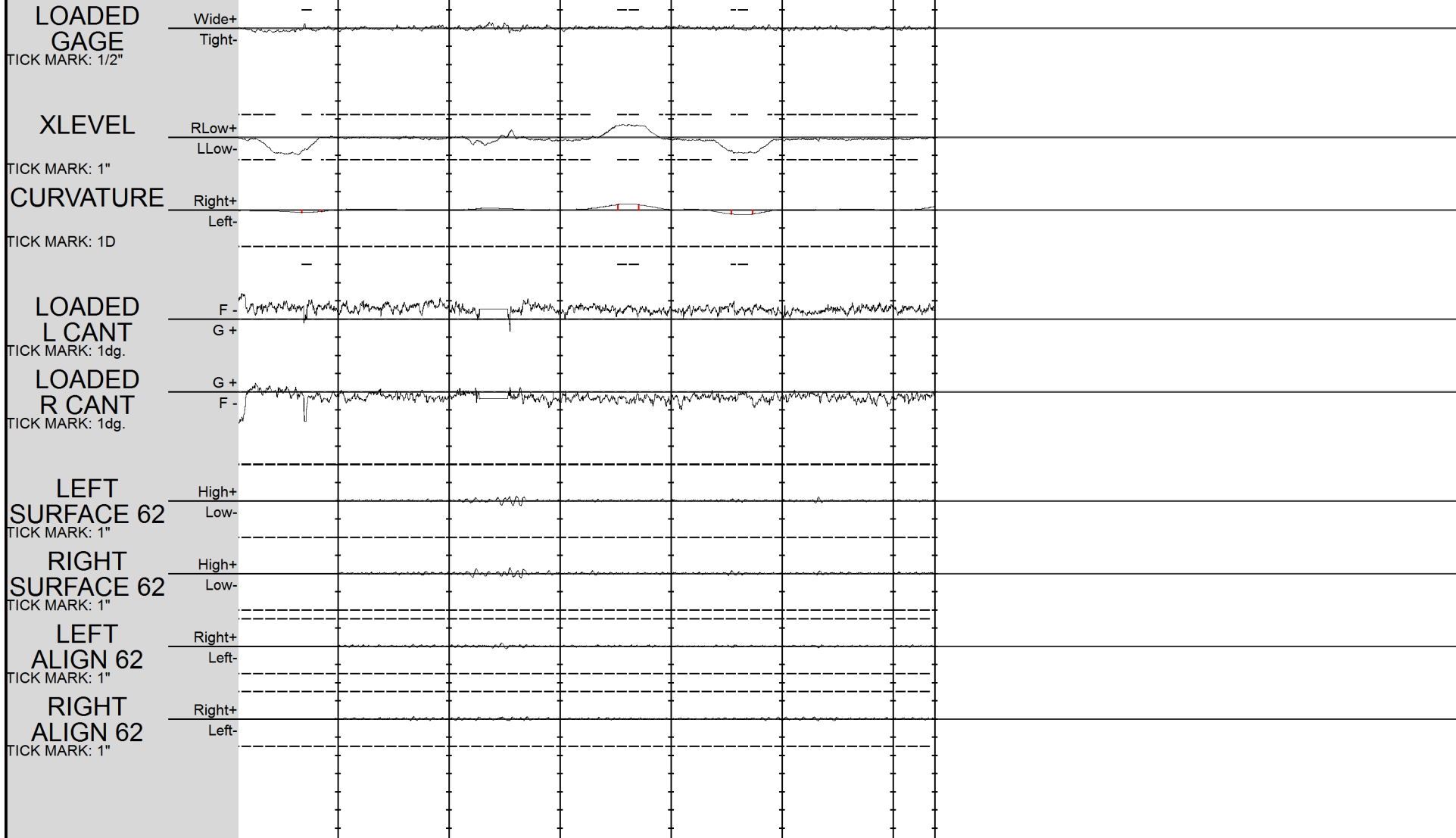
Track Class : 4

Passenger Speed : 60

Freight Speed : 40

Test Date : 12/06/2017 03:09:15

10.60	10.50	10.40	10.30	10.20	10.10	0.0
(3168)	(2640)	(2112)	(1584)	(1056)	(0528)	(0000)







Client : SWI

Subdivision:LAKEWOOD

Rail Personnel: Lantz Chris

Track Info : MAIN TRACK 1

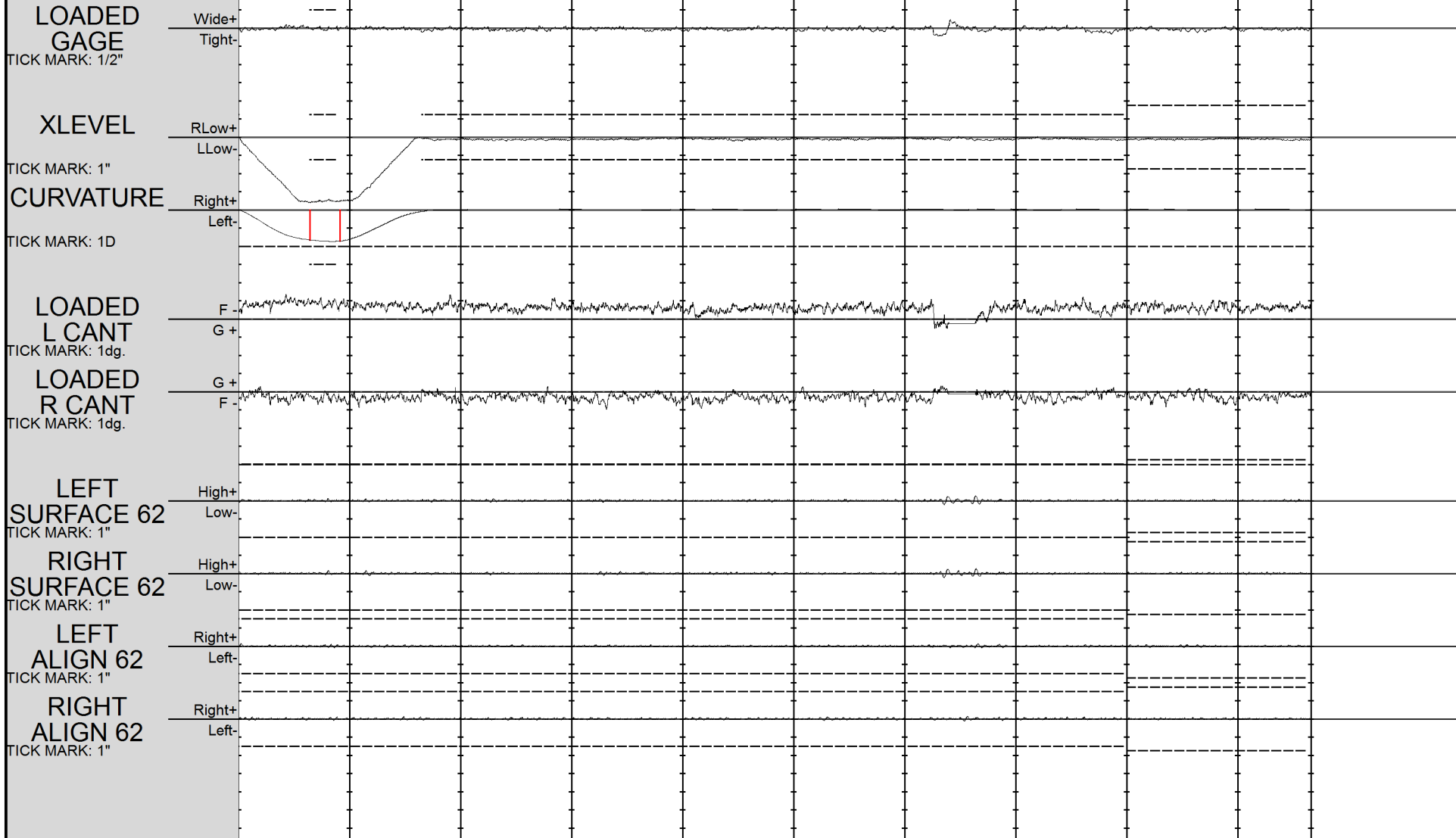
Track Class : 4

Passenger Speed : 60

Freight Speed : 40

Test Date : 12/06/2017 03:09:15

9.0	8.90	8.80	8.70	8.60	8.50	8.40	8.30	8.20	8.10	8.0
(0000)	(4752)	(4224)	(3696)	(3168)	(2640)	(2112)	(1584)	(1056)	(0528)	(0000)



Holland Track Testing Services - ARIES Strip Chart Report

Truck Unit : TTS484

Pg : 4

Client : SWI

Subdivision: LAKEWOOD

Rail Personnel: Lantz Chris

Track Info : MAIN TRACK 1

Track Class : 4

Passenger Speed : 60

Freight Speed : 40

Test Date : 12/06/2017 03:09:15

8.0 (0000) 7.90 (4752) 7.80 (4224) 7.70 (3696) 7.60 (3168) 7.50 (2640) 7.40 (2112) 7.30 (1584) 7.20 (1056) 7.10 (0528) 7.0 (0000)



Holland Track Testing Services - ARIES Strip Chart Report

Truck Unit : TTS484

Pg : 5

Client : SWI

Subdivision: LAKEWOOD

Rail Personnel: Lantz Chris

Track Info : MAIN TRACK 1

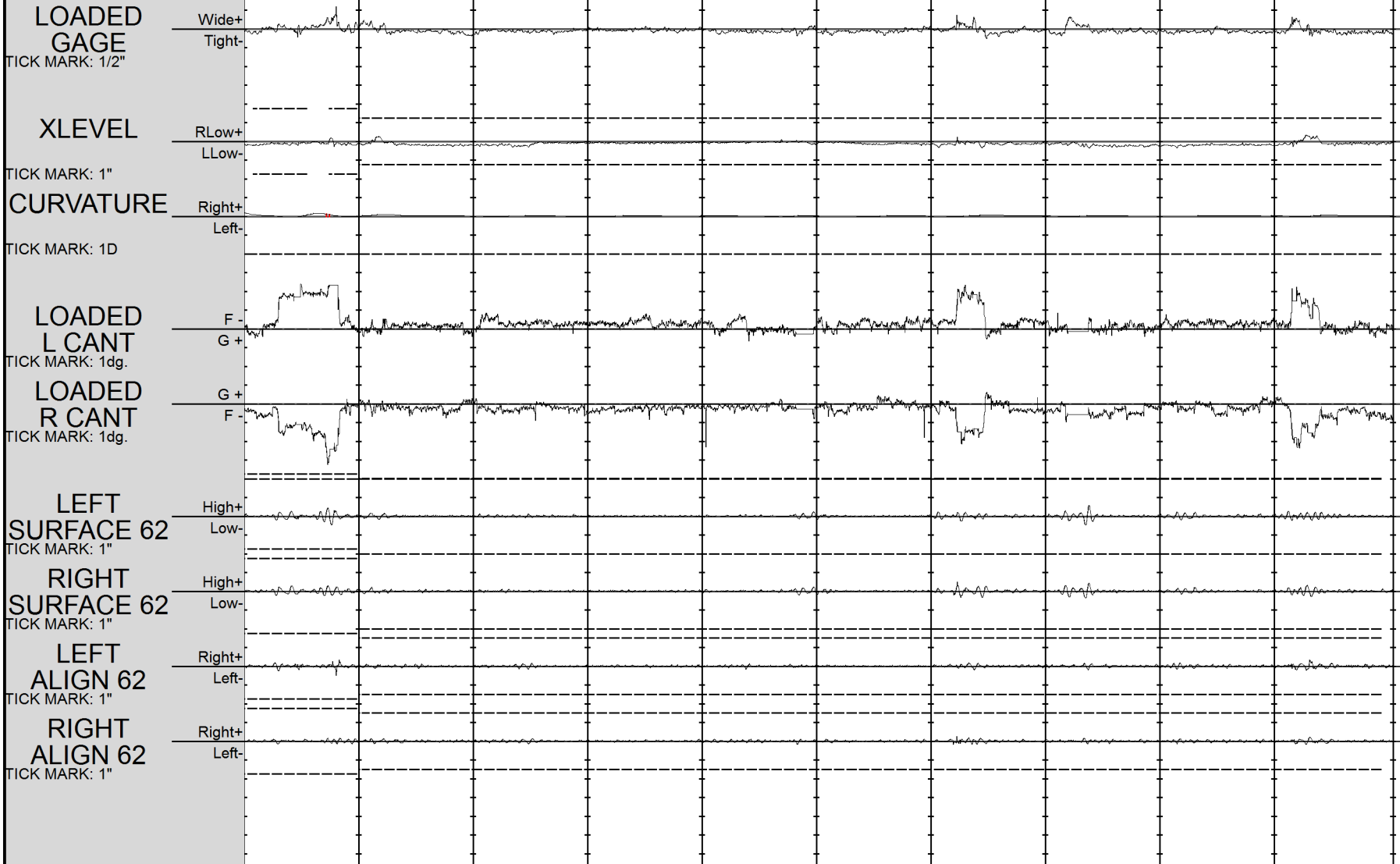
Track Class : 4

Passenger Speed : 60

Freight Speed : 40

Test Date : 12/06/2017 03:09:15

7.0	6.90	6.80	6.70	6.60	6.50	6.40	6.30	6.20	6.10	6.0
(0000)	(4752)	(4224)	(3696)	(3168)	(2640)	(2112)	(1584)	(1056)	(0528)	(0000)



Holland Track Testing Services - ARIES Strip Chart Report

Truck Unit : TTS484

Pg : 6

Client : SWI

Subdivision: LAKEWOOD

Rail Personnel: Lantz Chris

Track Info : MAIN TRACK 1

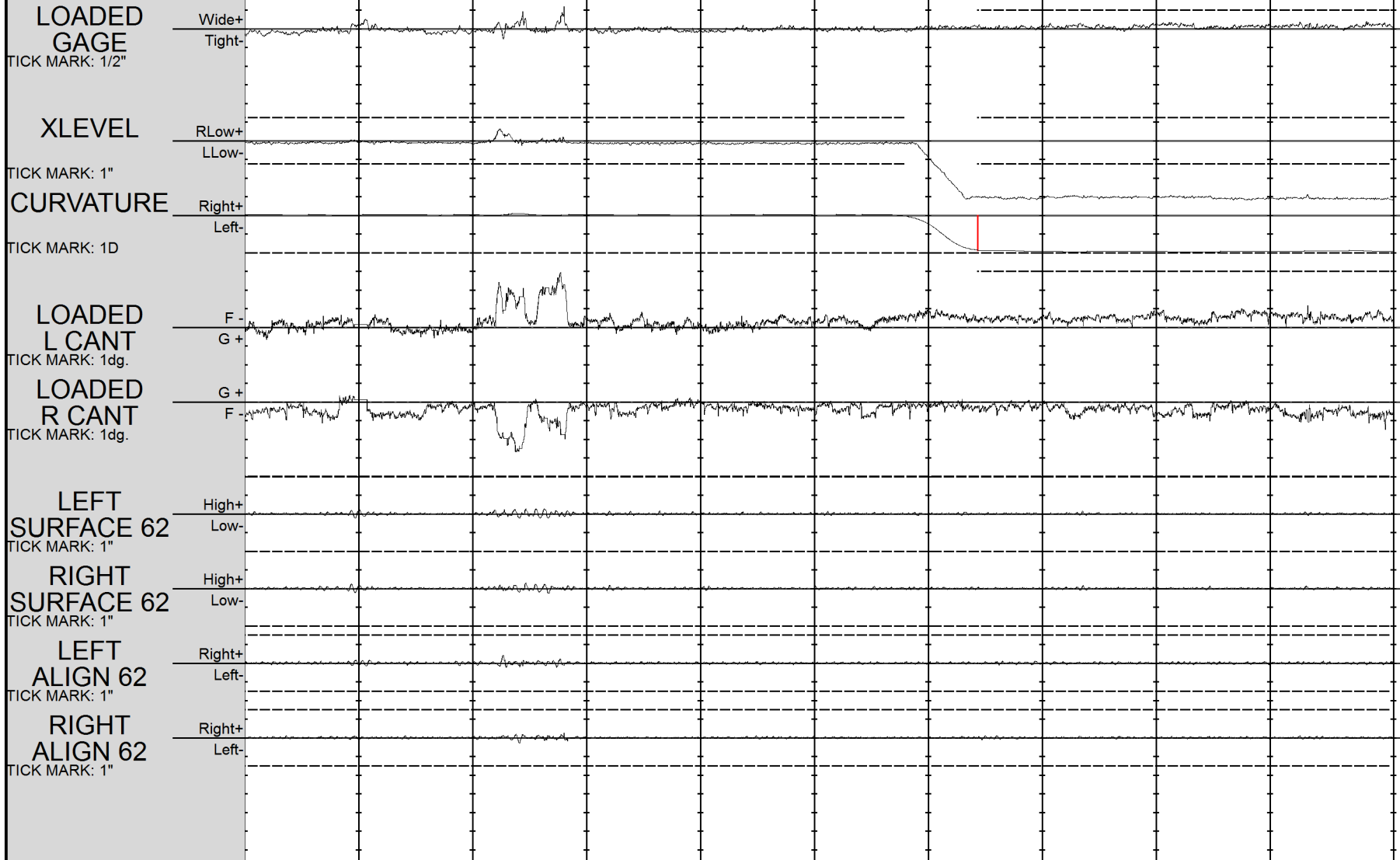
Track Class : 4

Passenger Speed : 60

Freight Speed : 40

Test Date : 12/06/2017 03:09:15

6.0 (0000) 5.90 (4752) 5.80 (4224) 5.70 (3696) 5.60 (3168) 5.50 (2640) 5.40 (2112) 5.30 (1584) 5.20 (1056) 5.10 (0528) 5.0 (0000)



Holland Track Testing Services - ARIES Strip Chart Report

Truck Unit : TTS484

Pg : 7

Client : SWI

Subdivision:LAKEWOOD

Rail Personnel: Lantz Chris

Track Info : MAIN TRACK 1

Track Class : 4

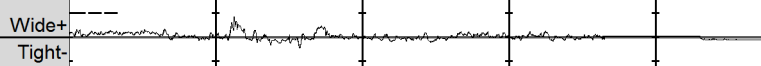
Passenger Speed : 60

Freight Speed : 40

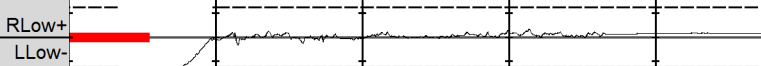
Test Date : 12/06/2017 03:09:15

5.0	4.90	4.80	4.70	4.60
(0000)	(4752)	(4224)	(3696)	(3168)

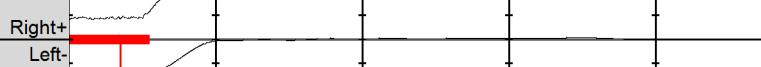
LOADED GAGE  
TICK MARK: 1/2"



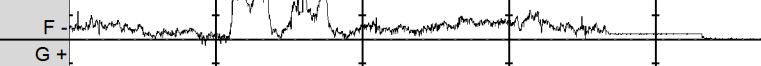
XLEVEL  
TICK MARK: 1"



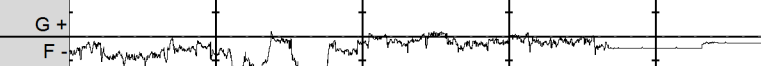
CURVATURE  
TICK MARK: 1D



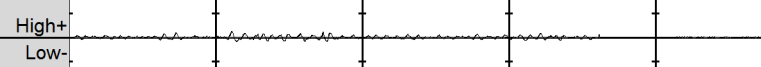
LOADED L CANT  
TICK MARK: 1dg.



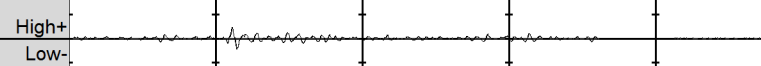
LOADED R CANT  
TICK MARK: 1dg.



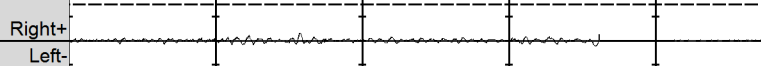
LEFT SURFACE 62  
TICK MARK: 1"



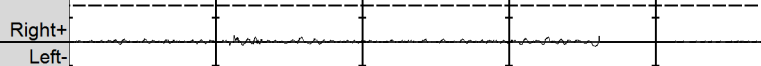
RIGHT SURFACE 62  
TICK MARK: 1"



LEFT ALIGN 62  
TICK MARK: 1"



RIGHT ALIGN 62  
TICK MARK: 1"



13 0013  
0014

# HOLLAND TRACK TESTING SERVICES - RED DEFECTS REPORT

Vehicle: TTS484

Direction: N

Units: Miles

Test Date: 12/6/2017 3:09:15AM

Client: SWI

RR Personnel: Lantz Chris

Subdivision: LAKEWOOD

Track: MT1

Defect Num	Worst Loc. (MP)	Track Info	R/Y	Defect Name	Max	Len (ft)	Track Class	Safe (MPH) P/F	LM+FT	Gauge (in)	Start Latitude	Start Longitude	Crv
------------	-----------------	------------	-----	-------------	-----	----------	-------------	----------------	-------	------------	----------------	-----------------	-----

**No Exceptions Detected**

-----  
Post 10.689 To 4.630 End of Territory Defect Parameter Summary for ALL Tracks

**No Exceptions Detected**

# HOLLAND TRACK TESTING SERVICES - RED REPAIRS REPORT

Vehicle: TTS484

Direction: N

Units: Miles

Test Date: 12/6/2017 3:09:15AM

Client: SWI

RR Personnel: Lantz Chris

Subdivision: LAKEWOOD

Track: MT1

Defect Num	Worst Loc.(MP)	Track Info	R/Y	Defect Name	Max	Len (ft)	Track Class	Safe (MPH) P/F	LM+FT	Gauge (in)	Start Latitude	Start Longitude	Curve
------------	----------------	------------	-----	-------------	-----	----------	-------------	----------------	-------	------------	----------------	-----------------	-------

**No Exceptions Detected**

-----  
Post 10.689 To 4.630 End of Territory Defect Parameter Summary for ALL Tracks

**No Exceptions Detected**



# HOLLAND TRACK TESTING SERVICE - YELLOW DEFECTS REPORT

Vehicle: TTS484

Direction: N

Units: Miles

Test Date: 12/6/2017 3:09:15AM

Client: SWI

RR Personnel: Lantz Chris

Subdivision: LAKEWOOD

Track: MT1

Defect Num	Worst Loc. (MP)	Track Info	R/Y	Defect Name	Max	Len (ft)	Track Class	Safe (MPH) P/F	LM+FT	Gauge (in)	Start Latitude	Start Longitude	Crv
------------	-----------------	------------	-----	-------------	-----	----------	-------------	----------------	-------	------------	----------------	-----------------	-----

**No Exceptions Detected**

-----  
Post 10.689 To 4.630 End of Territory Defect Parameter Summary for ALL Tracks

**No Exceptions Detected**

### HOLLAND TRACK TESTING SERVICES - Curve Summary Report

Vehicle: TTS484

Direction: N

Units: Miles

Test Date: 12/6/2017 3:09:15AM

Client: SWI

RR Personnel: Lantz Chris

Subdivision: LAKEWOOD

Track: MT1

Start MP	End MP	Track Type	Dir	Curvature Avg (deg)	Elevation Avg (in)	Total Length (ft)	Spiral IN (ft)	Curve Body (ft)	Spiral OUT (ft)	Tight Gauge (ft) 1/4"	Wide Gauge(ft)				Track Class	Freight		PASS	
											1/4"	1/2"	3/4"	1"		Spd	Max	Spd	Max
10.65	10.62	MAIN	L	0.12	0.44	171	78	93	0	0	0	0	0	0	4	40	199	79	225
10.37	10.31	MAIN	R	0.28	0.59	307	108	100	99	0	0	0	0	0	4	40	134	79	151
10.26	10.21	MAIN	L	0.23	0.79	252	78	103	71	0	0	0	0	0	4	40	152	79	171
10.07	9.58	MAIN	R	2.49	5.27	2255	505	1249	501	0	0	0	0	0	4	40	68	79	72 *
9.34	9.33	MAIN	R	0.09	0.05	87	78	9	0	0	0	0	0	0	4	40	209	79	242
9.05	9.03	MAIN	L	0.07	0.04	84	78	6	0	0	0	0	0	0	4	40	242	79	279
9.00	8.83	MAIN	L	1.70	3.52	852	317	143	392	0	0	0	0	0	4	40	73	79	79
7.56	7.34	MAIN	R	0.50	1.33	1167	177	990	0	0	0	0	0	0	3	30	108	60	120
7.34	7.27	MAIN	R	0.58	1.22	354	83	38	233	8	0	0	1	0	3	30	101	60	112
7.24	6.99	MAIN	R	0.77	1.31	1609	206	1173	230	5	0	0	0	0	3	30	86	60	96
6.94	6.93	MAIN	R	0.09	0.07	92	78	14	0	0	0	0	0	0	3	30	210	60	243
5.42	4.90	MAIN	L	1.93	3.07	2760	312	2113	335	0	0	0	0	0	4	40	66	79	71 *

# Exception Report For Automated Inspection of Track Constructed with Concrete Ties

Vehicle: TTS484

Direction: N

Units: Miles

Test Date: 12/6/2017 3:09:15AM

Client: SWI

RR Personnel: Lantz Chris

Subdivision: LAKEWOOD

Track: MT1

Defect Num	Worst Loc. (MP)	Track Info	R/Y	Defect Name	Max	Len (ft)	Track Class	LM+FT	Gauge (in)	Start Latitude	Start Longitude	Crv
------------	-----------------	------------	-----	-------------	-----	----------	-------------	-------	------------	----------------	-----------------	-----

**No Exceptions Detected**

-----  
Post 10.689 To 4.630 End of Territory Defect Parameter Summary for ALL Tracks

**No Exceptions Detected**

*This test complies with and meets all of the requirements of FRA 213.234 for the "Automated Inspection of Track Constructed with Concrete Ties". The rail cant defects listed above on this report may represent "Rail Seat Deterioration" in the tie. The defects listed should be validated to determine if any "Rail Seat Deterioration" is evident in the rail seat area of the tie.*

*This report shall serve as evidence that a "Automated Inspection of Track Constructed with Concrete Ties" was performed on the date indicated above.*

### HOLLAND TRACK TESTING SERVICES - Curve Speeds Report

Vehicle: TTS484

Direction: N

Units: Miles

Test Date: 12/6/17 3:09 am

Client: SWI

RR Personnel: Lantz Chris

Subdivision: LAKEWOOD

Track: MT1

Start MP	End MP	Track	Dir	F1		P1		P2	
				Spd	Max	Spd	Max	Spd	Max
10.648	10.615	MAIN	L	40	199	79	225	79	269
10.369	10.311	MAIN	R	40	134	79	151	79	181
10.261	10.213	MAIN	L	40	152	79	171	79	203
10.070	9.580	MAIN	R	40	68	79	72	79	79
9.342	9.326	MAIN	R	40	209	79	242	79	298
9.050	9.034	MAIN	L	40	242	79	279	79	341
8.996	8.835	MAIN	L	40	73	79	79	79	88
7.559	7.338	MAIN	R	30	108	60	120	79	141
7.338	7.271	MAIN	R	30	101	60	112	79	132
7.238	6.992	MAIN	R	30	86	60	96	79	113
6.943	6.926	MAIN	R	30	210	60	243	79	298
5.416	4.902	MAIN	L	40	66	79	71	79	80

# Holland



## TrackSTAR®

**Client:**

SWI

**Subdivision**

LAKEWOOD

**Track**

MT2

**Track Information:**

MAIN TRACK 2

**Notes on Reports**

**Strip Charts**

Test Header Information is available on the top of the page

Mile Post/Track information is available on the bottom of the page

Channel information and scale values available on the left

**Exception Reports**

Red Defect

Yellow Defect

**Benchmark Legend**

SW - switch

FR - Frog

CR - Curve

RX - Road Crossing

SG - Signal

JT - Joints

**Truck Unit:**

TTS484

Office: (708) 672-2300

Unit: 815-4737

Email:

TTS484@hollandco.com

**Legend for Event Markings on bottom of Strip Chart Page**



Mile Post



Crossing



Frog



Switch



Diamond



Signal



Posted Speed



End Manual Speed



Begin Manual Speed



Exit Tunnel



Enter Tunnel



OverPass



Jointed Rail



Welded Rail



Enter Bridge



Exit Bridge



Station



warning

Holland Track Testing Services - ARIES Strip Chart Report

Truck Unit : TTS484

Pg : 1

Client : SWI

Subdivision: LAKEWOOD

Rail Personnel: Lantz Chris

Track Info : MAIN TRACK 2

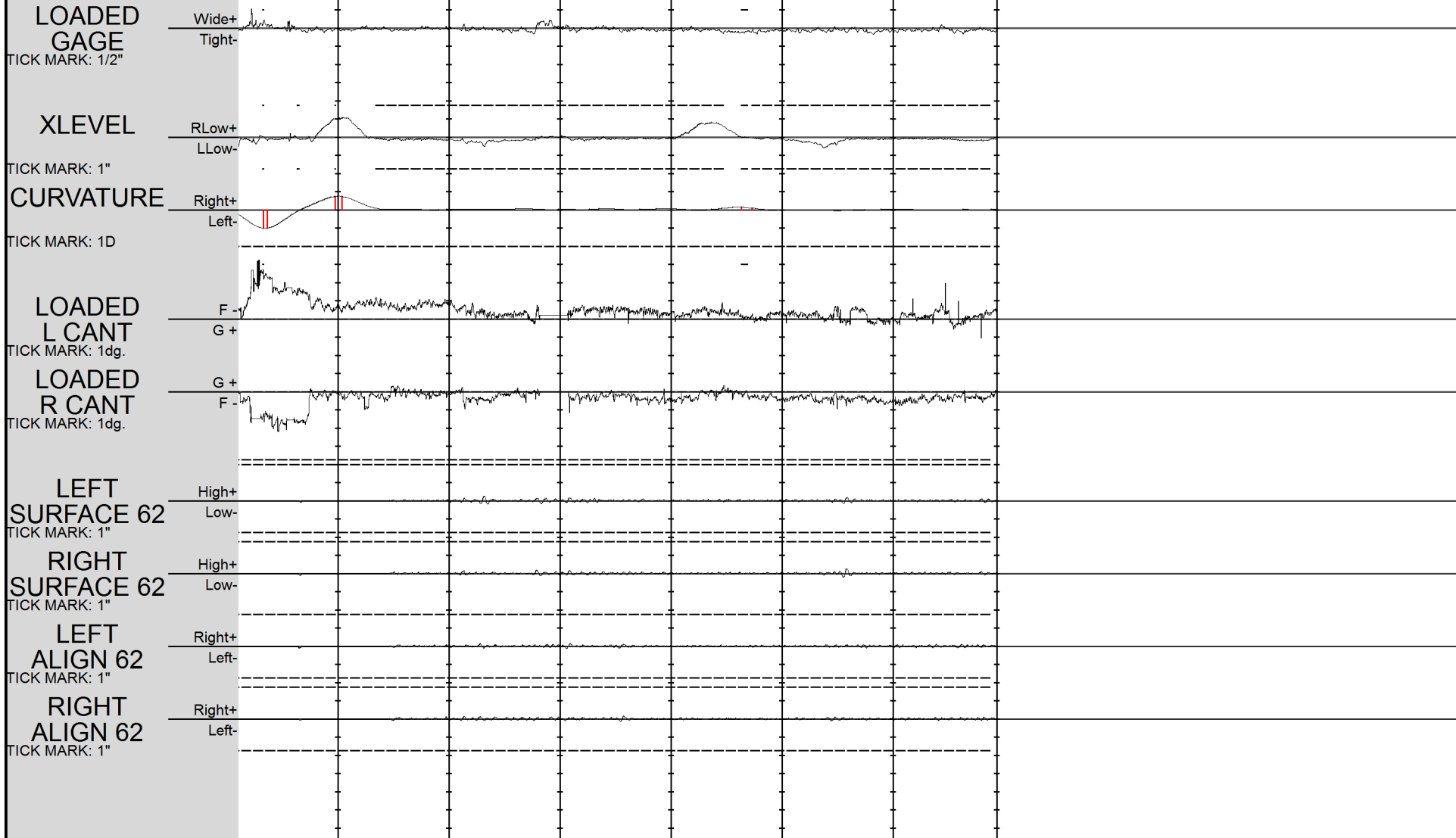
Track Class : 2

Passenger Speed : 60

Freight Speed : 25

Test Date : 12/06/2017 02:15:06

10.60	10.50	10.40	10.30	10.20	10.10	10.0
(3168)	(2640)	(2112)	(1584)	(1056)	(0528)	(0000)



0001



13

Holland Track Testing Services - ARIES Strip Chart Report

Truck Unit : TTS484

Pg : 2

Client : SWI

Subdivision: LAKEWOOD

Rail Personnel: Lantz Chris

Track Info : MAIN TRACK 2

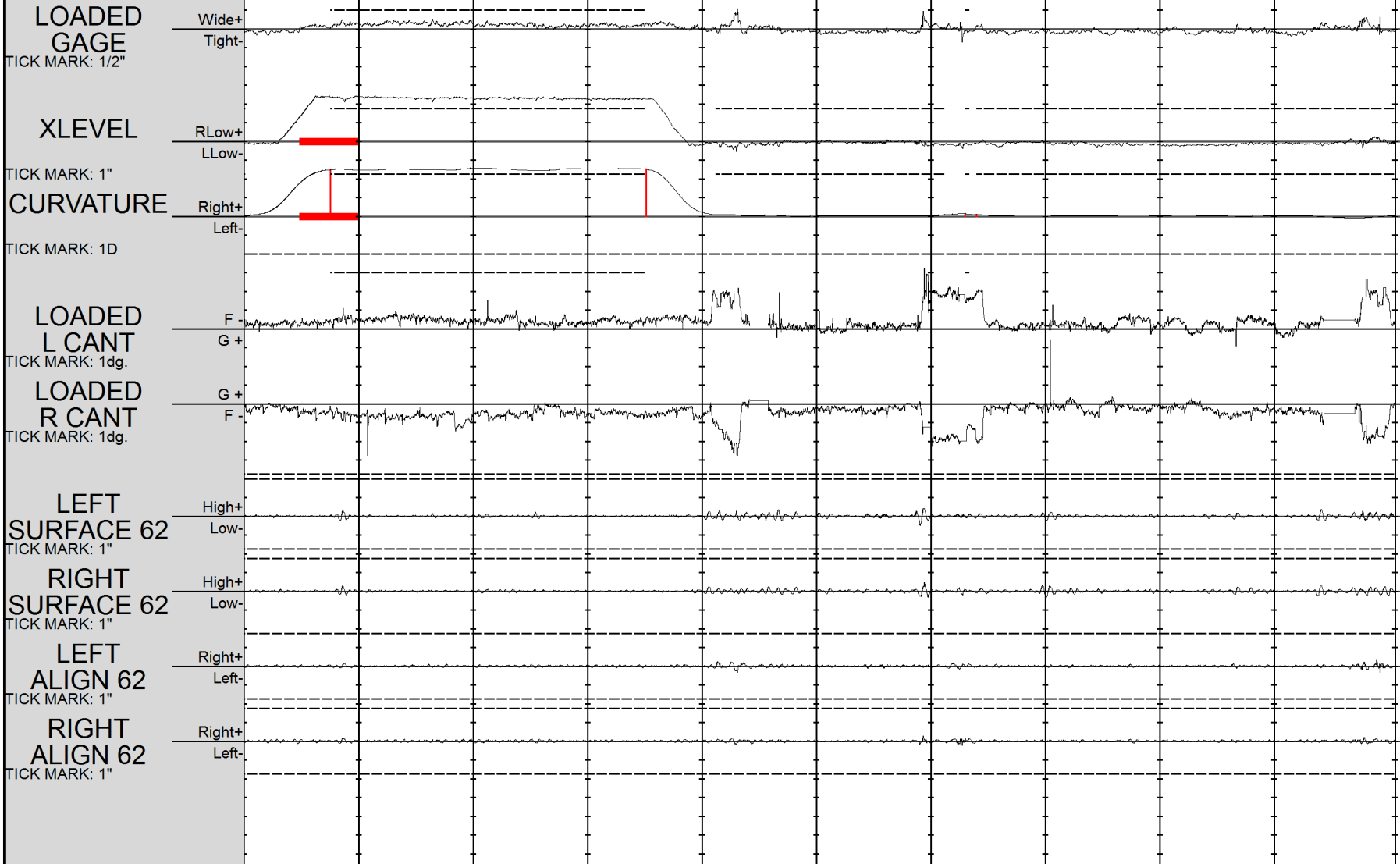
Track Class : 2

Passenger Speed : 55

Freight Speed : 25

Test Date : 12/06/2017 02:15:06

10.0	9.90	9.80	9.70	9.60	9.50	9.40	9.30	9.20	9.10	9.0
(0000)	(4752)	(4224)	(3696)	(3168)	(2640)	(2112)	(1584)	(1056)	(0528)	(0000)



Holland Track Testing Services - ARIES Strip Chart Report

Truck Unit : TTS484

Pg : 3

Client : SWI

Subdivision: LAKEWOOD

Rail Personnel: Lantz Chris

Track Info : MAIN TRACK 2

Track Class : 4

Passenger Speed : 60

Freight Speed : 40

Test Date : 12/06/2017 02:15:06

9.0	8.90	8.80	8.70	8.60	8.50	8.40	8.30	8.20	8.10	8.0
(0000)	(4752)	(4224)	(3696)	(3168)	(2640)	(2112)	(1584)	(1056)	(0528)	(0000)

LOADED GAGE  
TICK MARK: 1/2"

Wide+  
Tight-

XLEVEL  
TICK MARK: 1"  
CURVATURE  
TICK MARK: 1D

RLow+  
LLow-  
Right+  
Left-

LOADED L CANT  
TICK MARK: 1dg.  
LOADED R CANT  
TICK MARK: 1dg.

F -  
G +  
G +  
F -

LEFT SURFACE 62  
TICK MARK: 1"

High+  
Low-

RIGHT SURFACE 62  
TICK MARK: 1"

High+  
Low-

LEFT ALIGN 62  
TICK MARK: 1"

Right+  
Left-

RIGHT ALIGN 62  
TICK MARK: 1"

Right+  
Left-

13



13



Holland Track Testing Services - ARIES Strip Chart Report

Truck Unit : TTS484

Pg : 4

Client : SWI

Subdivision: LAKEWOOD

Rail Personnel: Lantz Chris

Track Info : MAIN TRACK 2

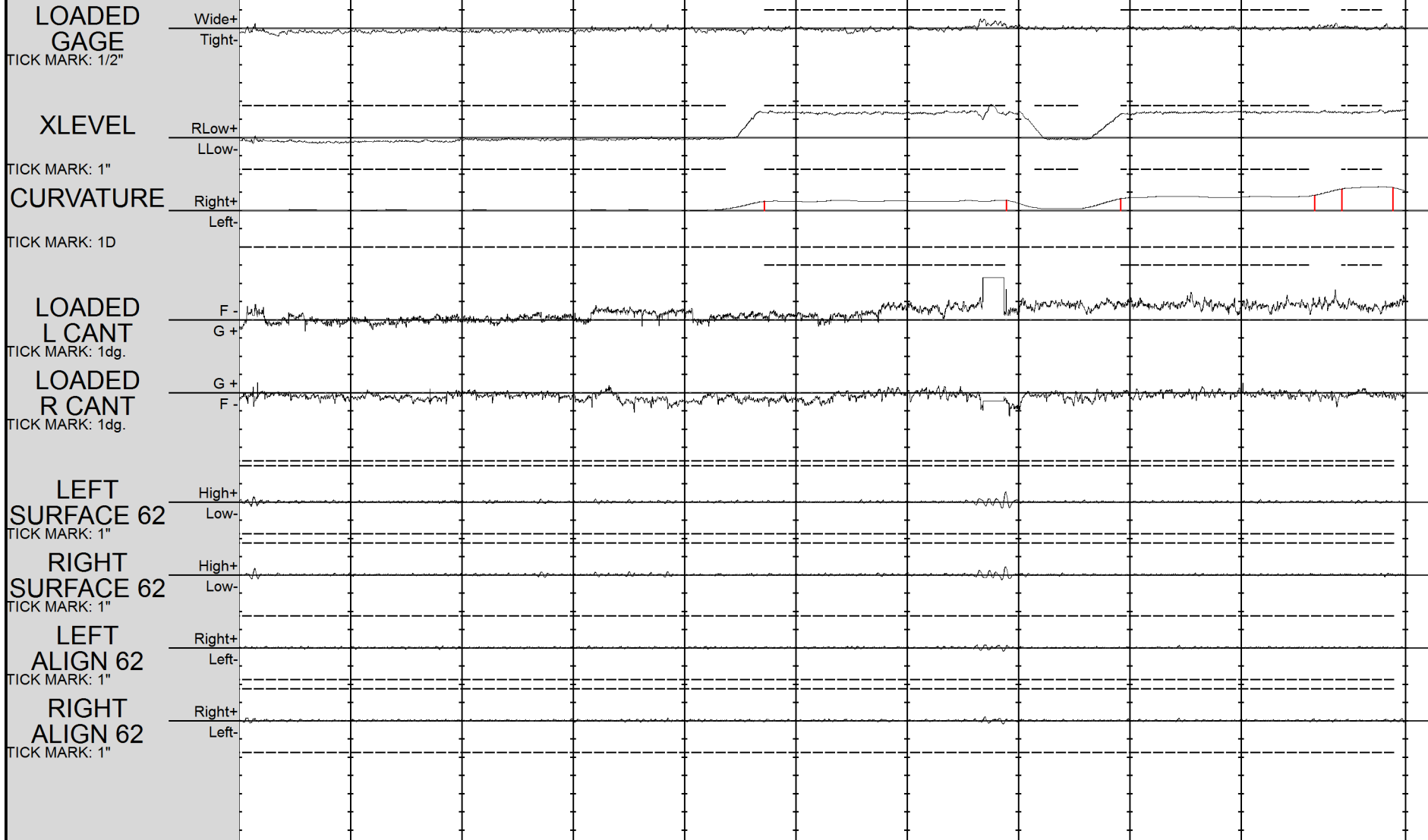
Track Class : 4

Passenger Speed : 60

Freight Speed : 40

Test Date : 12/06/2017 02:15:06

8.0	7.90	7.80	7.70	7.60	7.50	7.40	7.30	7.20	7.10	7.0
(0000)	(4752)	(4224)	(3696)	(3168)	(2640)	(2112)	(1584)	(1056)	(0528)	(0000)



13



13

Client : SWI

Subdivision:LAKEWOOD

Rail Personnel: Lantz Chris

Track Info : MAIN TRACK 2

Track Class : 1

Passenger Speed : 0

Freight Speed : 0

Test Date : 12/06/2017 02:15:06

7.0 6.90  
(0000) (4752)

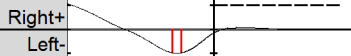
LOADED GAGE  
TICK MARK: 1/2"



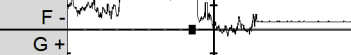
XLEVEL  
TICK MARK: 1"



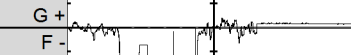
CURVATURE  
TICK MARK: 1D



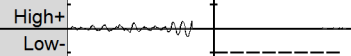
LOADED L CANT  
TICK MARK: 1dg.



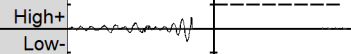
LOADED R CANT  
TICK MARK: 1dg.



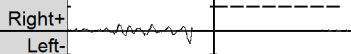
LEFT SURFACE 62  
TICK MARK: 1"



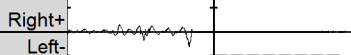
RIGHT SURFACE 62  
TICK MARK: 1"



LEFT ALIGN 62  
TICK MARK: 1"



RIGHT ALIGN 62  
TICK MARK: 1"



13 0005  
0006

# HOLLAND TRACK TESTING SERVICES - RED DEFECTS REPORT

Vehicle: TTS484

Direction: N

Units: Miles

Test Date: 12/6/2017 2:15:06AM

Client: SWI

RR Personnel: Lantz Chris

Subdivision: LAKEWOOD

Track: MT2

Defect Num	Worst Loc. (MP)	Track Info	R/Y	Defect Name	Max	Len (ft)	Track Class	Safe (MPH) P/F	LM+FT	Gauge (in)	Start Latitude	Start Longitude	Crv
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**No Exceptions Detected**

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Post 10.689 To 6.920 End of Territory Defect Parameter Summary for ALL Tracks

**No Exceptions Detected**

# HOLLAND TRACK TESTING SERVICES - RED REPAIRS REPORT

Vehicle: TTS484

Direction: N

Units: Miles

Test Date: 12/6/2017 2:15:06AM

Client: SWI

RR Personnel: Lantz Chris

Subdivision: LAKEWOOD

Track: MT2

Defect Num	Worst Loc.(MP)	Track Info	R/Y	Defect Name	Max	Len (ft)	Track Class	Safe (MPH) P/F	LM+FT	Gauge (in)	Start Latitude	Start Longitude	Curve
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**No Exceptions Detected**

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Post 10.689 To 6.920 End of Territory Defect Parameter Summary for ALL Tracks

**No Exceptions Detected**

# HOLLAND TRACK TESTING SERVICE - YELLOW DEFECTS REPORT

Vehicle: TTS484

Direction: N

Units: Miles

Test Date: 12/6/2017 2:15:06AM

Client: SWI

RR Personnel: Lantz Chris

Subdivision: LAKEWOOD

Track: MT2

Defect Num	Worst Loc. (MP)	Track Info	R/Y	Defect Name	Max	Len (ft)	Track Class	Safe (MPH) P/F	LM+FT	Gauge (in)	Start Latitude	Start Longitude	Crv
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**No Exceptions Detected**

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Post 10.689 To 6.920 End of Territory Defect Parameter Summary for ALL Tracks

**No Exceptions Detected**

### HOLLAND TRACK TESTING SERVICES - Curve Summary Report

Vehicle: TTS484

Direction: N

Units: Miles

Test Date: 12/6/2017 2:15:06AM

Client: SWI

RR Personnel: Lantz Chris

Subdivision: LAKEWOOD

Track: MT2

Start MP	End MP	Track Type	Dir	Curvature Avg (deg)	Elevation Avg (in)	Total Length (ft)	Spiral IN (ft)	Curve Body (ft)	Spiral OUT (ft)	Tight Gauge (ft) 1/4"	Wide Gauge(ft)				Track Class	Freight		PASS	
											1/4"	1/2"	3/4"	1"		Spd	Max	Spd	Max
10.69	10.64	MAIN	L	0.88	0.13	278	117	19	142	0	4	0	0	7	3	25	71	60	81
10.63	10.57	MAIN	R	0.66	0.87	339	146	34	159	0	0	0	0	0	3	25	91	60	102
10.25	10.23	MAIN	R	0.11	0.03	129	78	51	0	0	0	0	0	0	3	25	194	60	223
9.99	9.59	MAIN	R	2.51	2.29	2118	340	1456	322	12	0	0	0	0	3	25	54	60	59 *
9.39	9.36	MAIN	R	0.11	0.14	131	78	53	0	0	1	0	0	5	3	25	187	60	217
8.99	8.84	MAIN	L	1.72	3.42	789	301	159	329	0	0	0	0	0	3	25	72	60	77
7.56	7.29	MAIN	R	0.51	1.35	1451	169	1149	133	5	0	2	2	0	3	30	107	60	119
7.24	7.03	MAIN	R	0.73	1.36	1078	159	919	0	0	0	0	0	0	3	30	86	60	95
7.03	6.97	MAIN	R	1.24	1.39	605	128	243	234	0	0	0	0	0	3	30	70	60	77
6.96	6.90	MAIN	L	0.87	0.11	292	143	32	117	0	3	1	0	1	3	30	71	60	81

## Exception Report For Automated Inspection of Track Constructed with Concrete Ties

Vehicle: TTS484	Direction: N	Units: Miles	Test Date: 12/6/2017 2:15:06AM
Client: SWI			RR Personnel: Lantz Chris
Subdivision: LAKEWOOD	Track: MT2		

Defect Num	Worst Loc. (MP)	Track Info	R/Y	Defect Name	Max	Len (ft)	Track Class	LM+FT	Gauge (in)	Start Latitude	Start Longitude	Crv
<b>No Exceptions Detected</b>												

-----  
 Post 10.689 To 6.920 End of Territory Defect Parameter Summary for ALL Tracks

**No Exceptions Detected**

*This test complies with and meets all of the requirements of FRA 213.234 for the "Automated Inspection of Track Constructed with Concrete Ties". The rail cant defects listed above on this report may represent "Rail Seat Deterioration" in the tie. The defects listed should be validated to determine if any "Rail Seat Deterioration" is evident in the rail seat area of the tie.*

*This report shall serve as evidence that a "Automated Inspection of Track Constructed with Concrete Ties" was performed on the date indicated above.*

### HOLLAND TRACK TESTING SERVICES - Curve Speeds Report

Vehicle: TTS484

Direction: N

Units: Miles

Test Date: 12/6/17 2:15 am

Client: SWI

RR Personnel: Lantz Chris

Subdivision: LAKEWOOD

Track: MT2

Start MP	End MP	Track	Dir	F1		P1		P2	
				Spd	Max	Spd	Max	Spd	Max
10.690	10.637	MAIN	L	25	71	60	81	79	99
10.630	10.566	MAIN	R	25	91	60	102	79	121
10.252	10.227	MAIN	R	25	194	60	223	79	272
9.989	9.588	MAIN	R	25	54	60	59	79	67
9.385	9.360	MAIN	R	25	187	60	217	79	268
8.992	8.843	MAIN	L	25	72	60	77	79	87
7.560	7.286	MAIN	R	30	107	60	119	79	139
7.238	7.034	MAIN	R	30	86	60	95	60	111
7.034	6.967	MAIN	R	30	70	60	77	60	91
6.955	6.900	MAIN	L	30	71	60	81	60	99