



# Jefferson Lab Alignment Group

## Data Transmittal

**TO:** J.Hogan, D. Fazenbaker, J. Fischer

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**FROM:** Kelly Tremblay

**Checked:** (cjc)

**# :** P1447

**DETAILS:**

data: inspection\12gev\test\_lab\_rails\120423a

Two Thompson Rail assemblies were checked in the vertical direction in the 12 Gev test lab addition (April 23<sup>rd</sup>, 2012). The rails are described as the west rail and east rail based on site north. Rail WR1 is the most westerly rail, with WR2/WR3 being the top rails and WR4 being the lower rail. Similarly, ER1 is the most westerly rail of the east rail, ER2/ER3 the top rails and ER4 the most easterly rail. See the field sketch attached at the end.

The top rails WR2/WR3 were on average 7.0026 inches above rails WR1/WR4. Rails ER2/ER3 were on average, 7.0001 inches above ER1/ER4. The ‘\_0’ point is at the south end of each rail with observations taken every foot on the west rail, and approximately every 16” on the east rail.

Differences are shown from the zero point of the instrument for the lower rails and from the averages for the upper rails. The differences are 1/1000 of an inch. Measurements are accurate to 25 microns (1/1000”).

West Rails					
Lower rails				Upper rails	
point	1/1000"	point	1/1000"	point	1/1000"
WR1_0	0.0	WR4_0	0.4	WR2_0	-7.7
WR1_1	-0.4	WR4_1	-3.5	WR2_2	-1.1
WR1_2	2.4	WR4_2	1.2	WR2_4	-0.7
WR1_3	1.6	WR4_3	3.9	WR2_6	2.5
WR1_4	3.1	WR4_4	6.7	WR2_8	2.9
WR1_5	1.2	WR4_5	4.7	WR2_10	5.6
WR1_6	2.4	WR4_6	7.9	WR2_12	5.6
WR1_7	3.1	WR4_7	5.9	WR2_14	5.2
WR1_8	6.7	WR4_8	6.7	WR2_16	-1.1
WR1_9	6.7	WR4_9	4.7	WR2_18	3.3
WR1_10	4.3	WR4_10	2.0	WR2_20	5.6
WR1_11	0.4	WR4_11	0.8	WR2_22	6.8
WR1_12	0.4	WR4_12	5.5	WR2_24	7.6
WR1_13	0.0	WR4_13	3.9	WR2_26	9.6
WR1_14	-0.4	WR4_14	8.7		
WR1_15	-0.4	WR4_15	4.3		
WR1_16	0.0	WR4_16	6.3		
WR1_17	2.4	WR4_17	6.3	WR3_0	-9.7
WR1_18	7.1	WR4_18	8.3	WR3_2	-8.9
WR1_19	8.3	WR4_19	9.4	WR3_4	-5.4
WR1_20	7.1	WR4_20	10.2	WR3_6	-1.1
WR1_21	6.3	WR4_21	10.2	WR3_8	-5.4

Lower rails (west)				Upper rails	
point	1/1000"	point	1/1000"	point	1/1000"
WR1_22	10.6	WR4_22	11.8	WR3_10	-3.0
WR1_23	5.5	WR4_23	10.2	WR3_12	-7.0
WR1_24	9.1	WR4_24	9.8	WR3_14	-5.4
WR1_25	7.9	WR4_25	7.5	WR3_16	-4.6
WR1_26	9.4	WR4_26	9.1	WR3_18	-3.4
WR1_27	7.9	WR4_27	6.7	WR3_20	-0.3
WR1_28	6.3	WR4_28	8.3	WR3_22	1.3
WR1_29	5.5	WR4_29	8.7	WR3_24	2.9
WR1_30	6.3	WR4_30	5.9	WR3_26	5.6

### East Rails

Lower rails				Upper rails	
point	1/1000"	point	1/1000"	point	1/1000"
ER1_0	0.0	ER4_0	-3.1	ER2_0	-3.2
ER1_1	-2.8	ER4_1	-5.5	ER2_2	-3.6
ER1_2	-1.2	ER4_2	-2.4	ER2_4	-0.1
ER1_3	-3.1	ER4_3	-5.5	ER2_6	1.9
ER1_4	-2.4	ER4_4	-5.5	ER2_8	-1.3
ER1_5	-0.8	ER4_5	-7.1	ER2_10	3.8
ER1_6	-0.4	ER4_6	-6.3	ER2_12	1.5
ER1_7	-2.0	ER4_7	-5.9	ER2_14	1.1
ER1_8	-0.8	ER4_8	-3.9	ER2_16	-0.5
ER1_9	-2.0	ER4_9	-3.1	ER2_18	4.6
ER1_10	-1.6	ER4_10	0.4	ER2_20	-0.5
ER1_11	-2.0	ER4_11	-3.5	ER2_22	1.5
ER1_12	-3.5	ER4_12	-1.6	ER2_24	4.6
ER1_13	-6.3	ER4_13	-3.5		
ER1_14	-1.2	ER4_14	-4.7	ER3_0	-3.6
ER1_15	-4.3	ER4_15	-4.7	ER3_2	0.3
ER1_16	-3.5	ER4_16	-1.2	ER3_4	-2.8
ER1_17	-4.3	ER4_17	-3.9	ER3_6	-0.5
ER1_18	-3.1	ER4_18	-0.8	ER3_8	-1.3
ER1_19	0.8	ER4_19	-3.9	ER3_10	3.1
ER1_20	0.8	ER4_20	-5.1	ER3_12	3.5
ER1_21	1.6	ER4_21	-6.3	ER3_14	4.2
ER1_22	1.2	ER4_22	-5.5	ER3_16	-2.1
ER1_23	-0.4	ER4_23	-6.3	ER3_18	-6.8
ER1_24	-2.4	ER4_24	-5.9	ER3_20	-0.5
ER1_25	-0.4	ER4_25	-2.4	ER3_22	-0.9
ER1_26	-2.4	ER4_26	-1.6	ER3_24	0.3
ER1_27	0.4	ER1_0	-1.2	ER3_26	-2.8

