



# Jefferson Lab Alignment Group

## Data Transmittal

**TO:** R. Carlini, W. Falk, S. Wood, D. Gaskell

**DATE:** 07 May 2010

**FROM:** Kelly Tremblay

**Checked:** (cjc)

**# :** C1283

**DETAILS:**

data: step2b\hallc\qweak\100506a & 100506b

The QTOR magnet coils were re-surveyed May 6<sup>th</sup>, 2010. This survey was to verify that the position of the coils had not changed substantially from the results in memo C1274 (March 23<sup>rd</sup>, 2010 data). Sixty fiducialized points on the 8 coils were surveyed during the current May survey, with 7 or 8 points being observed per coil. A seven parameter transformation (with 46 common points) was used to compare the March to May data. The transformation resulted in a standard deviation of less than 100 microns. The results indicate there is no substantial moment in coils between epochs.

A calculation was also performed to see if the coils had moved within their carriers. This calculation was only performed for coils 2 and 9. Distances between the fiducials on the coils and fiducials on the carriers were compared from the May survey to the original JLAB fiducialization (ideal), and to the original Bates data. The data below shows the distance differences between the various epochs. For coil #2, two points (2CID / 2CIU) on the coils were observable. For coil #9, only one point (9CID) was observable. Results are in millimeters.

Coil 2	Ideal minus May delta		May to Bates delta		Ideal to Bates Delta	
	2CID	2CIU	2CID	2CIU	2CID	2CIU
point on coil/holder						
QTC02L1	-0.40	-0.22				
QTC02L2	-0.22	-0.09				
QTC02L3	-0.05	-0.14				
QTC02SD	-0.12	-0.15	-0.46	-0.48	0.33	0.12
QTC02SM	-0.20	-0.08	-0.32	-0.28	0.12	0.20
QTC02SU	-0.33	-0.22	-0.33	-0.21	0.00	0.33

Coil 9	All distance deltas are to 9CID		
Point	Ideal minus May	May to Bates	Ideal to Bates
QTC09R1	-0.27		
QTC09R2	-0.26		
QTC09R3	-0.23		
QTC09SD	-0.27	0.73	0.46
QTC09SM	-0.27	0.84	0.57
QTC09SU	-0.36	0.85	0.49