



# Jefferson Lab Alignment Group

## Data Transmittal

**TO:** S. Woods, D. Gaskell, G. Smith, J. Dunne, S. Covrig

**DATE:** 22 Jul 2010

**FROM:** Kelly Tremblay

**Checked:** (cjc)

**# :** C1307

**DETAILS:**

data: step2b\hallc\qweak\100721A

The Qweak target cells were surveyed on July 21<sup>st</sup>, 2010. The results are shown below. The ideal for each cell was calculated 606.36 centimeters downstream of the pivot point. The ideal target coordinates and angles in the Cebaf coordinate system (0,0,0 at accelerator center) are shown for reference.

Differences from the ideal positions are shown as dX/dY/dZ. A +dX value indicates the calculated center of the cell is to the beam left of the ideal X coordinate; a +dY is above the ideal Y coordinate; a positive dZ indicates downstream from the ideal Z coordinate.

The dYaw/dPitch/dRoll values are the differences from the ideal values. A positive dYaw is rotated counterclockwise when looked from above; positive dPitch is rotated counterclockwise when looked towards the beam left from beam right; positive dRoll is clockwise about the beam.

Ideal Coordinates / Angles of target						
	X (m)	Y (m)	Z (m)	Yaw °	Pitch °	Roll °
TARGET	-128.31446	99.98834	-393.10324	-142.4832	0.0000	0.0000
As-found Cells						
Cell	dX(mm)	dY(mm)	dZ(mm)	dYaw °	dPitch °	dRoll °
T5 – slot	0.0	-0.1	-37.7	0.0977	-0.0355	0.0410
T5 – Cell	-0.2	-0.9	-37.7	0.0975	-0.0355	0.0407
T7 – slot	0.1	-0.2	-38.0	0.0854	-0.0499	0.0596
T8 – slot	0.2	-0.1	-37.8	0.1097	-0.0413	0.0450
T8 - Cell	0.2	-0.6	-37.8	0.1097	-0.0410	0.0450
T13 - slot	0.1	-0.2	-37.9	0.0644	-0.0444	0.0212
T14 – slot	0.2	-0.2	-37.7	0.0930	-0.0421	0.0404
T15 – slot	0.1	-0.2	-37.7	0.0730	-0.0410	0.0034
T17 – slot	-0.1	-0.1	-37.8	0.0705	-0.0367	-0.0040
T17 – cell	0.0	0.4	-37.8	0.0705	-0.0367	-0.0040
hydrogen	0.1	-0.1	-37.7	0.0070	-0.0020	0.0278