



Jefferson Lab Alignment Group

Data Transmittal

TO: M. Bevins, R. Bailes

DATE: 24 Mar 2010

FROM: J. Dahlberg

Checked:

: U1273

DETAILS:

Data: Inspection\12gev\Vacvessel\100323a

Below are the results from the inspection survey carried out on the XB4 dipole vacuum chamber. At each foot in length as marked along the chamber, a circle was measured on the inside edge of the round slot cross section. The coordinates are to the circle center. Although locations are identified in feet, values are in millimeters. For ease of interpretation, a right handed coordinate system was established with the origin at the 0.5 ft end with +Z toward 19.5, and +Y up, perpendicular from the top. As listed below, a best fit circle is constructed for each 14 foot section to determine the optimum section for manufacture. The form is the maximum error on a circle fit.

LOC(Ft)	Z (mm)	X(mm)	Y(mm)	DIA(mm)
0.5	0.0	0.0	0.0	24.6
1.5	305.3	28.7	2.6	24.1
2.5	606.5	57.2	4.3	26.2
3.5	916.5	81.9	4.9	26.7
4.5	1217.7	102.6	5.1	26.5
5.5	1524.3	119.8	4.9	26.8
6.5	1831.2	133.9	4.7	26.6
7.5	2138.1	144.6	4.5	26.8
8.5	2451.2	151.8	3.8	26.7
9.5	2761.4	154.7	3.0	26.6
10.5	3062.2	155.7	1.9	26.7
11.5	3373.5	151.9	1.8	26.2
12.5	3677.3	145.3	2.3	26.8
13.5	3989.5	134.6	2.5	26.6
14.5	4294.6	121.6	2.6	26.8
15.5	4600.0	104.8	3.0	26.8
16.5	4908.2	83.4	3.3	26.5
17.5	5213.0	60.3	4.3	26.6
18.5	5518.3	32.9	4.5	26.8
19.5	5825.6	0.6	4.0	23.8
20.0	5970.5	-13.2	4.1	23.7

PIPE SECTION (Ft)	DIA (mm)	FORM
0.5-14.5	54742.8	2.4
1.5-15.5	54487.0	1.2
2.5-16.5	54694.8	1.0
3.5-17.5	54836.7	0.9
4.5-18.5	54931.0	0.9
5.5-19.5	54610.0	1.3