

Mott Target Ladder for Commissioning

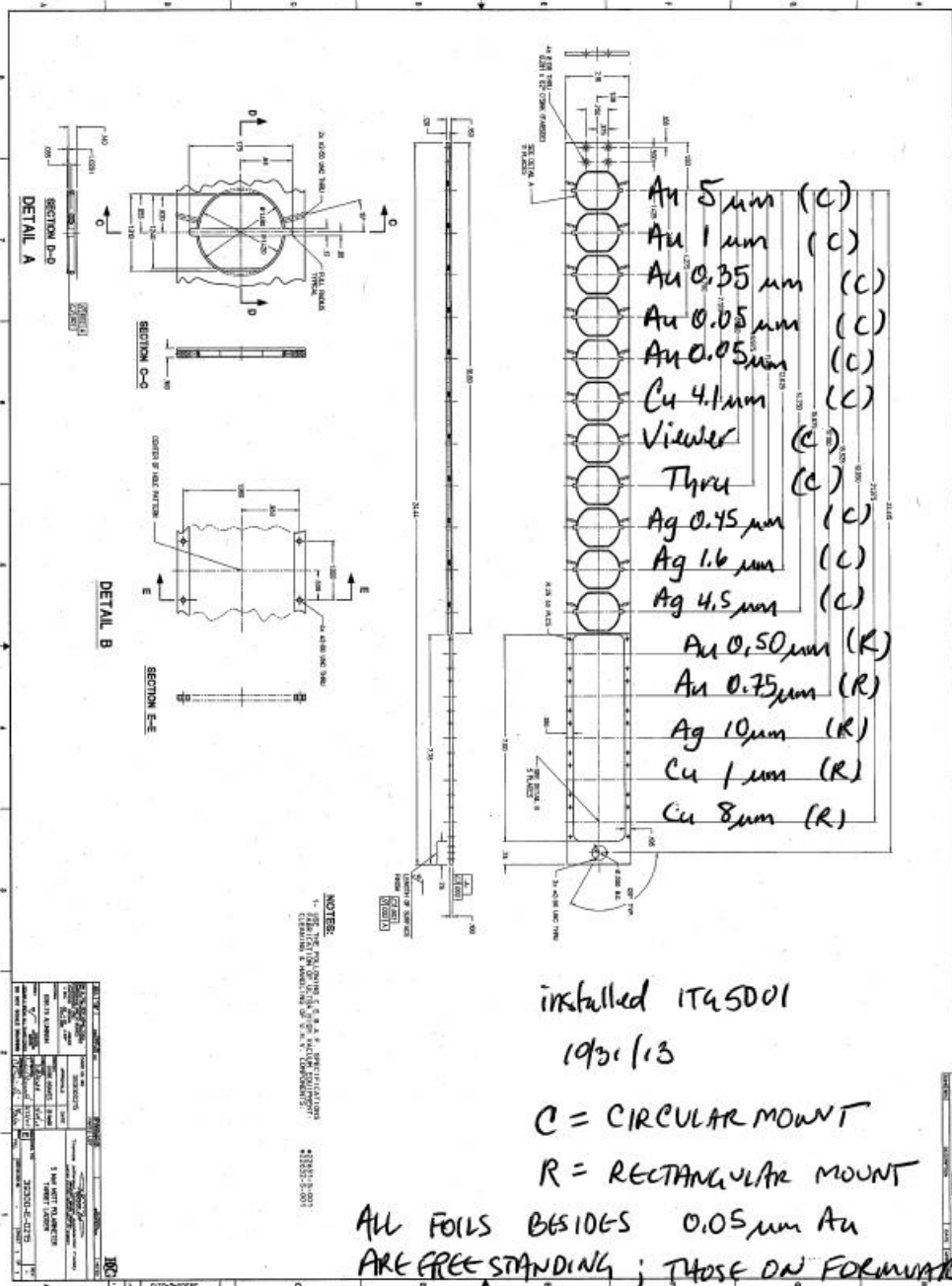
Mott Team Meeting

J. Grames

November 20, 2013

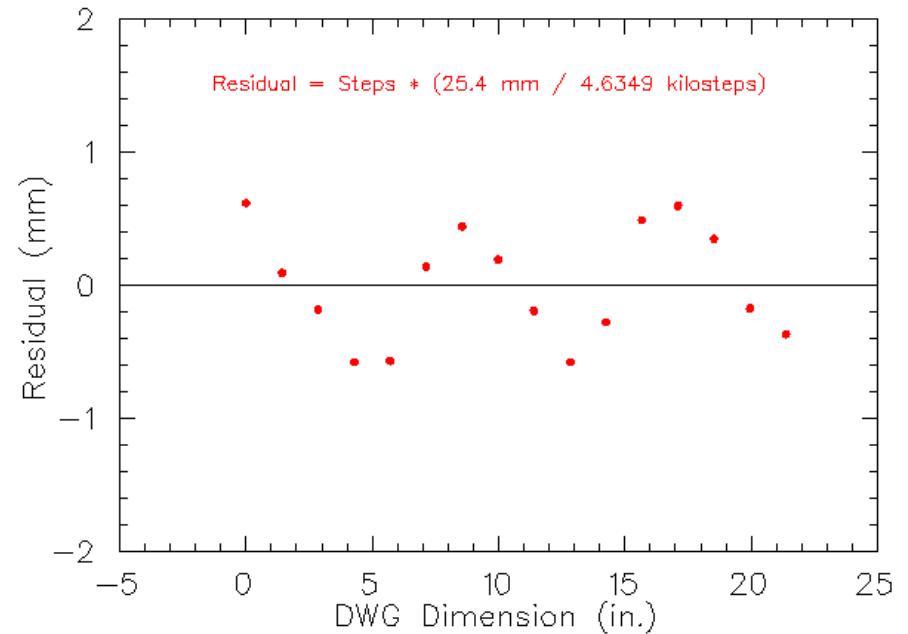
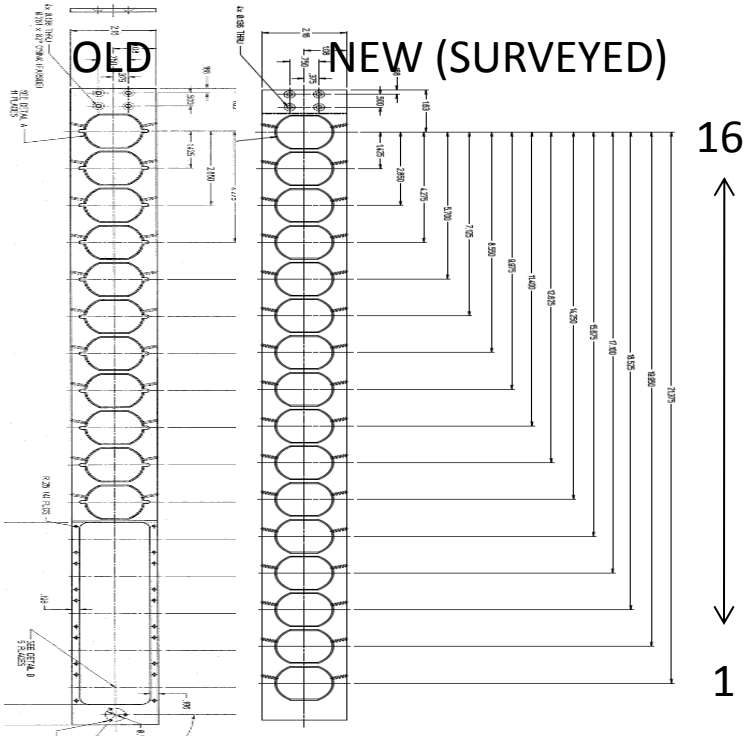
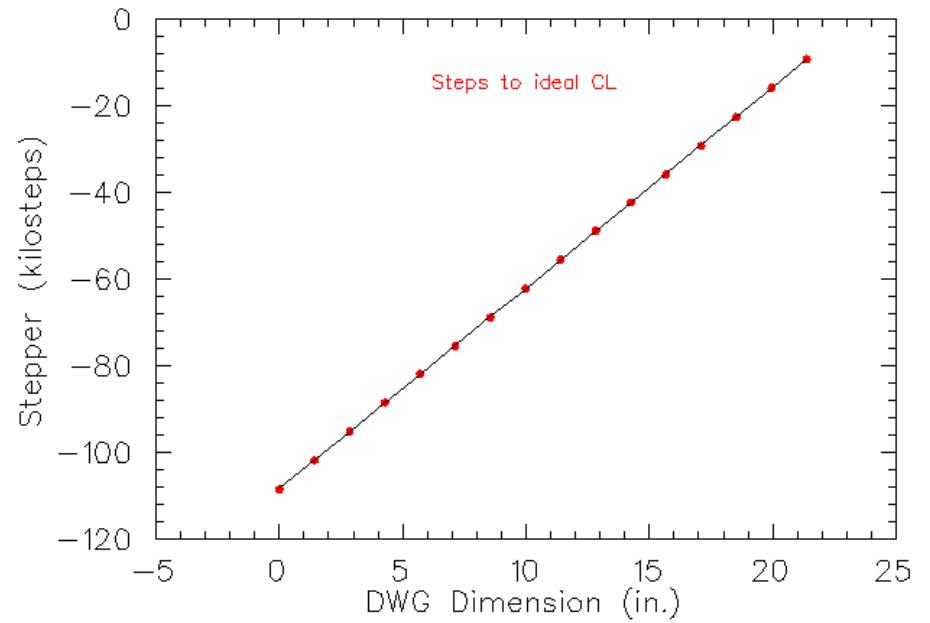


Downstream Face



! Ideal = 7.90" = Chamber CL to target port flange

POS	STEPS SURVEY-DT-1527 (#)	DWG 39300-E-0215-REVA (inches)
16	-108535	0.000
15	-101835	1.425
14	-95180	2.850
13	-88503	4.275
12	-81900	5.700
11	-75425	7.125
10	-68875	8.550
9	-62225	9.975
8	-55550	11.400
7	-48875	12.825
6	-42325	14.250
5	-35860	15.675
4	-29275	17.100
3	-22625	18.525
2	-15925	19.950
1	-9285	21.375



Jefferson Lab Alignment Group

Data Transmittal

TO: J.Grames

DATE: 13 Nov 2013

FROM: Chris Gould

Checked:

: L1527

DETAILS:

M:\align\DATA\Step2B\INJ\131031B

Below are the results of the recent Mott Can and Ladder survey. Locations for the can are reported in CEBAF coordinates and in a beam following system where positive Z is downstream, positive Y is up and a positive X is to the beam left. Locations for the ladder are reported relative to CEBAF coordinates, beam following and relative to the MOTT Can. Yaw angles are given relative to ideal and are reported in degrees. A positive Yaw angle is counter-clockwise from above, a positive pitch angle is counter-clockwise from the beam right side and a positive roll angle is clockwise looking downstream. The step count for the ideal position of each target is also given where target 1 is the bottom most target and 16 is the top most target. It should also be noted that while fiducializing the target ladder 6 degrees of backlash in the yaw direction was observed.

	CEBAF COORDS (M)			BEAM FOLLOWING(mm)			dYaw	dPitch	dRoll			
	Z	X	Y	Z	X	Y						
TARGET CAN	-241.11774	81.05479	99.99963	-3.652	-0.29	-0.367	0.0	0.0	-0.1			
	CEBAF COORDS (M)			BEAM FOLLOWING(mm)			dYaw	dPitch	dRoll	RELATIVE TO MOTT CAN(mm)		
	Z	X	Y	Z	X	Y				Z	X	Y
TARGET LADDER	-241.11786	81.05602	99.999813	-3.514	0.938	-0.187	-0.4	0.1	0.2	0.11	1.25	0.2

Ladder is +0.2 mm high relative to Mott can, so all targets need to be inserted 0.2 mm further.

This translates into $(4.6349 \text{ kilosteps} / 25.4 \text{ mm}) * 0.2 \text{ mm} = 36 \text{ steps}$

Note 1: This means stepper changes from X to X-36

Note 2: error on linear fit is 38 steps

Target Ladder Expert Values Updated

COMM Health: Motor **NO_ALARM** **Mott Ladder** Related

Foil Select

Current steps: **0 steps** If the current step count is 0, the unit may have lost power. Reset the position from Motor Expert screen or rehome from Mott Expert.

Motor Current: **0.00 amps**

	Mount Type	Foil Desc	Saved Pos	
Home	Home:	n/a	Fully retracted	-250 steps
	Foil 1:	Rectangular	Cu: 8 um	-9321 steps
	Foil 2:	Rectangular	Cu: 1 um	-15961 steps
	Foil 3:	Rectangular	Ag: 10 um	-22661 steps
	Foil 4:	Rectangular	Au: 0.75 um	-29311 steps
	Foil 5:	Rectangular	Au: 0.50 um	-35896 steps
	Foil 6:	Circular	Ag: 4.5 um	-42361 steps
	Foil 7:	Circular	Ag: 1.6 um	-48911 steps
	Foil 8:	Circular	Ag: 0.45 um	-55586 steps
	Foil 9:	Circular	Thru	-62261 steps
	Foil 10:	Circular	Viewer	-68911 steps
	Foil 11:	Circular	Cu: 4.1 um	-75461 steps
	Foil 12:	Circular	Au: 0.05 um	-81936 steps
	Foil 13:	Circular	Au: 0.05 um	-88539 steps
	Foil 14:	Circular	Au: 0.35 um	-95216 steps
	Foil 15:	Circular	Au: 1 um	-101871 steps
	Foil 16:	Circular	Au: 5 um	-108571 steps

Status: **Lost COMM to STAC5**

ABORT

(wmoore, 2013-10-09)

FSD Bit Tested (Motion = Fault)

/cs/opshome/edm/fsd/ISD01012.edl

INJ01_2 (IN01B08-26-18-C1) (24 Volt Card)

UM	S	R	G	F	I	
						Watchdog Timer - INJ01_2
						45 Mev in Line Dump (ICN) ***
						Mott Target Ladder (EGG)

Fault Trip Reset

*** Hrdw always active (mask ignored)

Mask Set