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G-10 Target

J. R. Sanford

May 1967

Collider Accelerator Department

Brookhaven National Laboratory

U.S. Department of Energy

USDOE Office of Science (SC)

DISCLAIMER

Accelerator Department
BROOKHAVEN NATIONAL LABORATORY
Associated Universities, Inc.
Upton, L.I., N.Y.

EP & S DIVISION TECHNICAL NOTE

No. 5

J.R. Sanford

May 18, 1967

G-10 TARGET

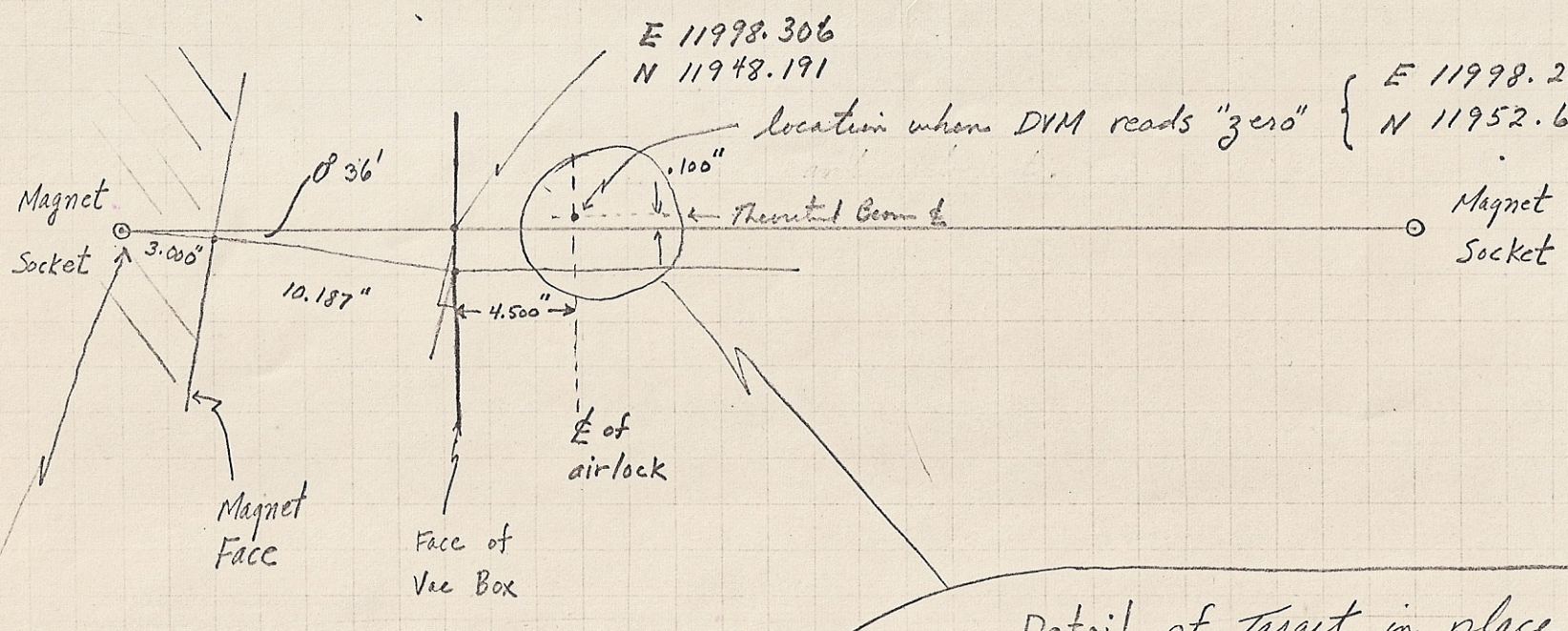
I am attaching a sketch of the G-10 target mechanism and appropriate coordinates. I will briefly summarize the cardinal locations.

The theoretical beam centerline is .100" inside of a line joining magnet sockets. The airlock centerline intersects that theoretical beam centerline 17.686" downstream from the socket on the G-10 magnet. The coordinates of this intersection point are E 11998.206, N. 11952.691.

The motor that is used is downstream from the airlock centerline, and the blade flips from the outside. The plane of rotation of the center of the stem is 7/16" downstream from the above intersection point. The radial position of the motor shaft centerline with respect to the theoretical beam centerline is read out on a digital voltmeter in the MCR and it is calibrated to read "zero" at the above intersection point (i.e. .100" inside of magnet socket line).

The specific Be wire target currently used at G-10 is bent in three dimensions and is attached to a stem. The motor shaft is usually at + 1.63" (as read on DVM) and the tip of the target is .53" inward. Therefore the proton beam first strikes the target at +1.1". The co-ordinators of this interaction point at the tip of the target are E 11999.31 and N 11952.59. Let this be defined as the target location until further notice.

J. Sanford 4/12/67

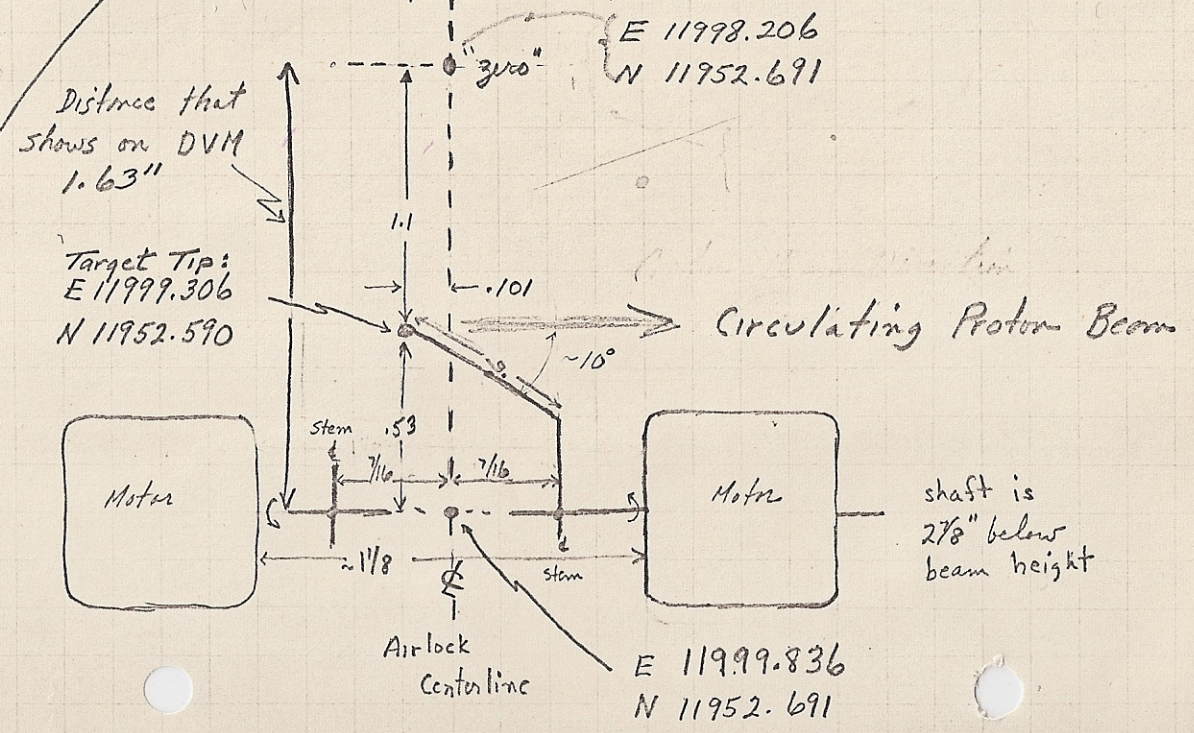


E 11998.306
N 11935.005

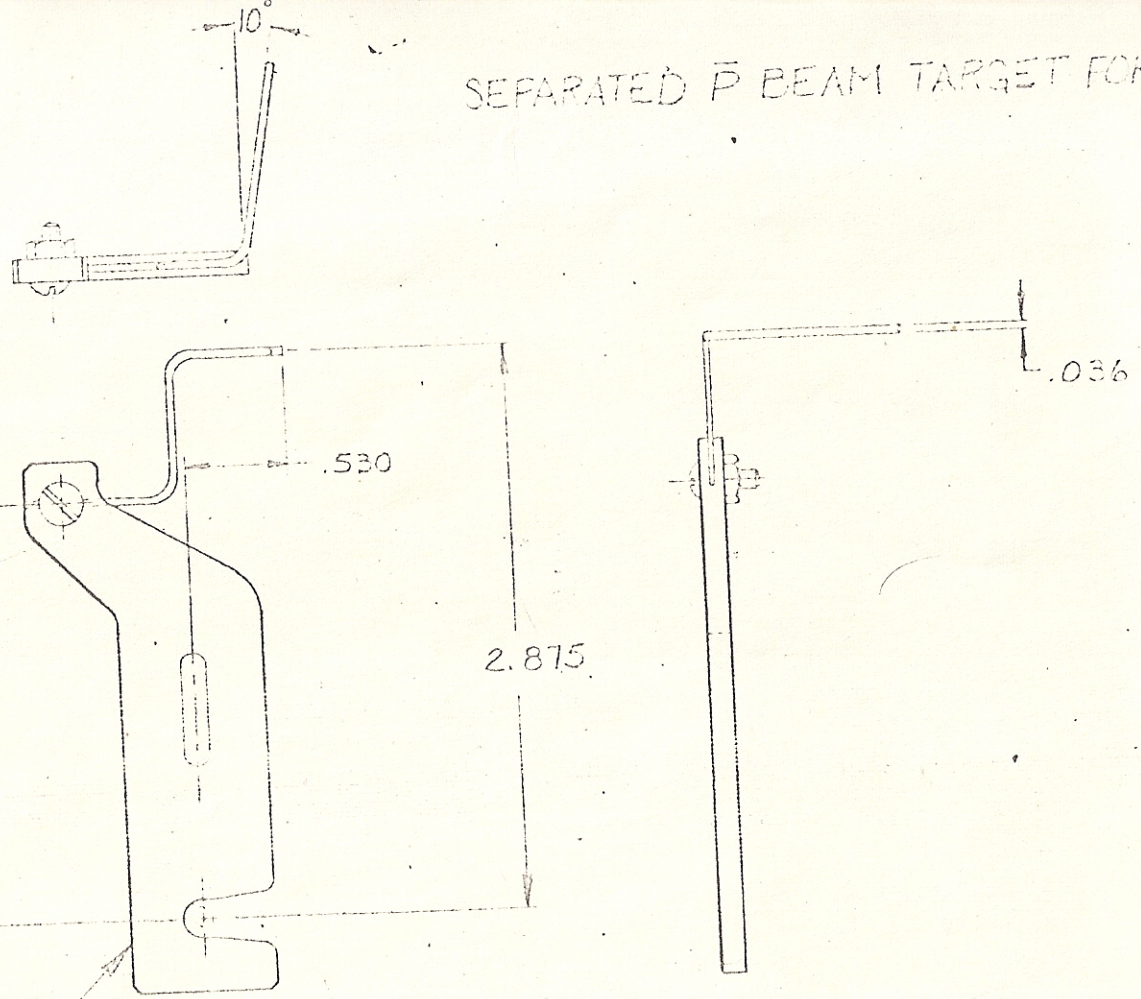
4/12/67
"Target" Location to Use Until further Notice

E 11999.31
N 11952.59

Detail of Target in place as used recently for Sep Beam #5 (610+10°).

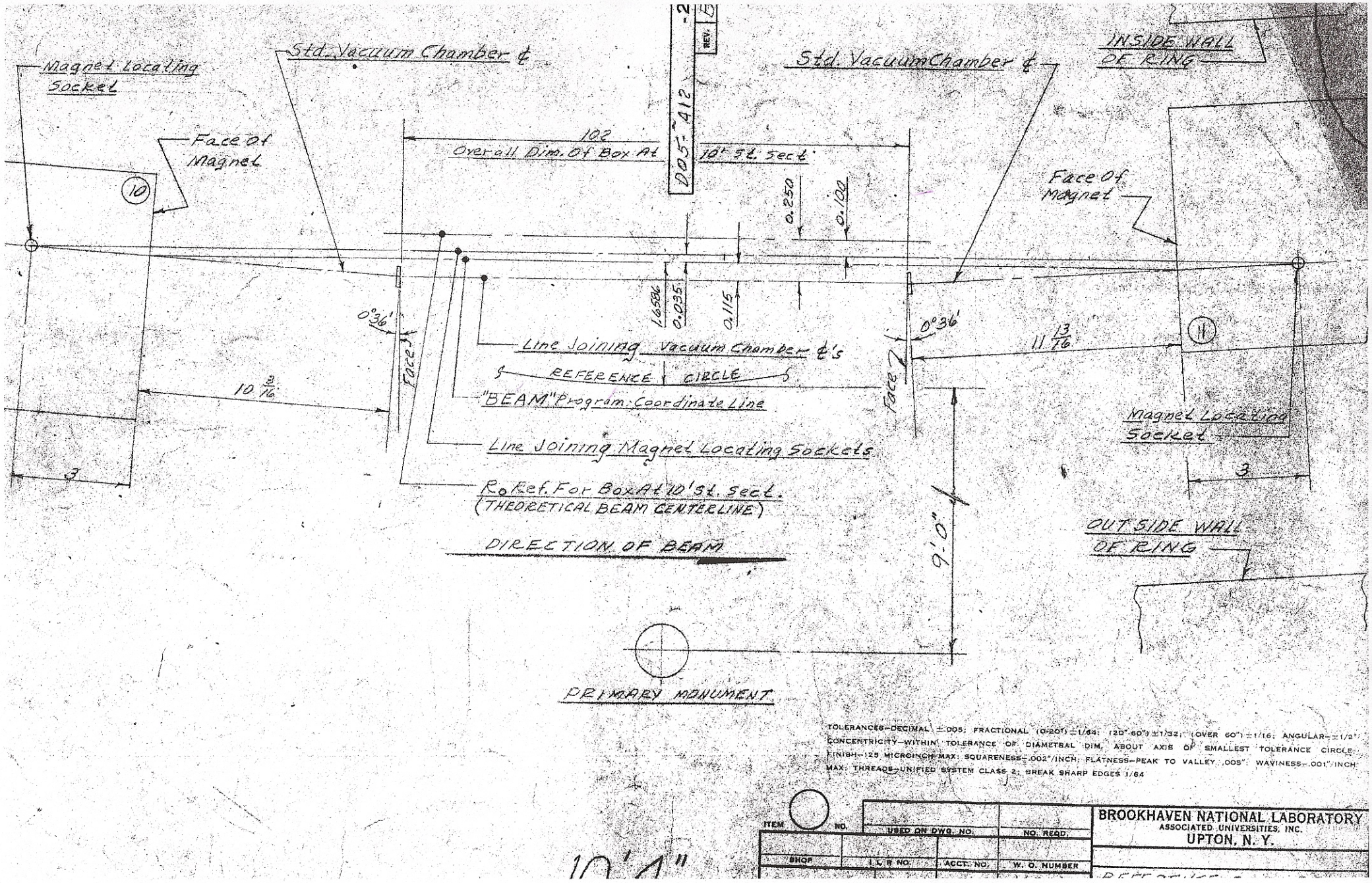


SEPARATED $\bar{P}$ BEAM TARGET FOR G-10



D11-M-2462-3
FOR OPPOSITE RELATIVE
ROTATION, USE ARM
NO. D11-M-2463-2

TARGET MATERIAL: Be WIRE
NOTE: LENGTH OF WIRE TO BE
DETERMINED BY EXPERIMENTER



TOLERANCES—DECIMAL ±.005; FRACTIONAL (0-20") ±1/64; (20"-60") ±1/32; (OVER 60") ±1/16; ANGULAR—±1/2°; CONCENTRICITY—WITHIN TOLERANCE OF DIAMETRAL DIM. ABOUT AXIS OF SMALLEST TOLERANCE CIRCLE. FINISH—125 MICROINCH MAX; SQUARENESS—.002"/INCH; FLATNESS—PEAK TO VALLEY .005"; WAVINESS—.001"/INCH MAX; THREADS—UNIFIED SYSTEM CLASS 2; BREAK SHARP EDGES 1/64

ITEM NO.	USED ON DWG. NO.	NO. REQD.
SHOP	I. V. R NO.	ACCT. NO.	W. O. NUMBER

BROOKHAVEN NATIONAL LABORATORY
ASSOCIATED UNIVERSITIES, INC.
UPTON, N. Y.

10'11"