

G-10 Target

J. R. Sanford

May 1967

Collider Accelerator Department
Brookhaven National Laboratory

U.S. Department of Energy

USDOE Office of Science (SC)

Notice: This technical note has been authored by employees of Brookhaven Science Associates, LLC under Contract No.AT-30-2-GEN-16 with the U.S. Department of Energy. The publisher by accepting the technical note for publication acknowledges that the United States Government retains a non-exclusive, paid-up, irrevocable, world-wide license to publish or reproduce the published form of this technical note, or allow others to do so, for United States Government purposes.

DISCLAIMER

This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, nor any of their contractors, subcontractors, or their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or any third party's use or the results of such use of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof or its contractors or subcontractors. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.

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

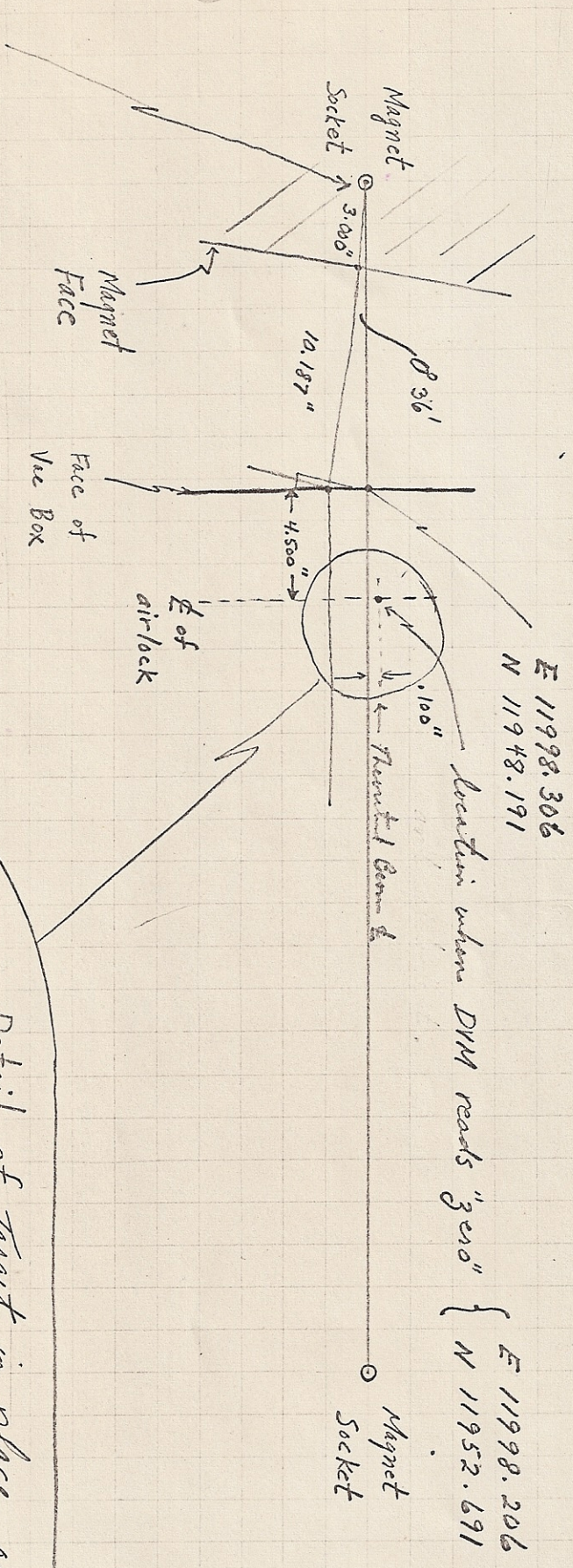
I am attaching a sketch of the G-10 target mechanism and appropriate coordinates. I will briefly summarize the cardinal locations.

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 coordinators 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

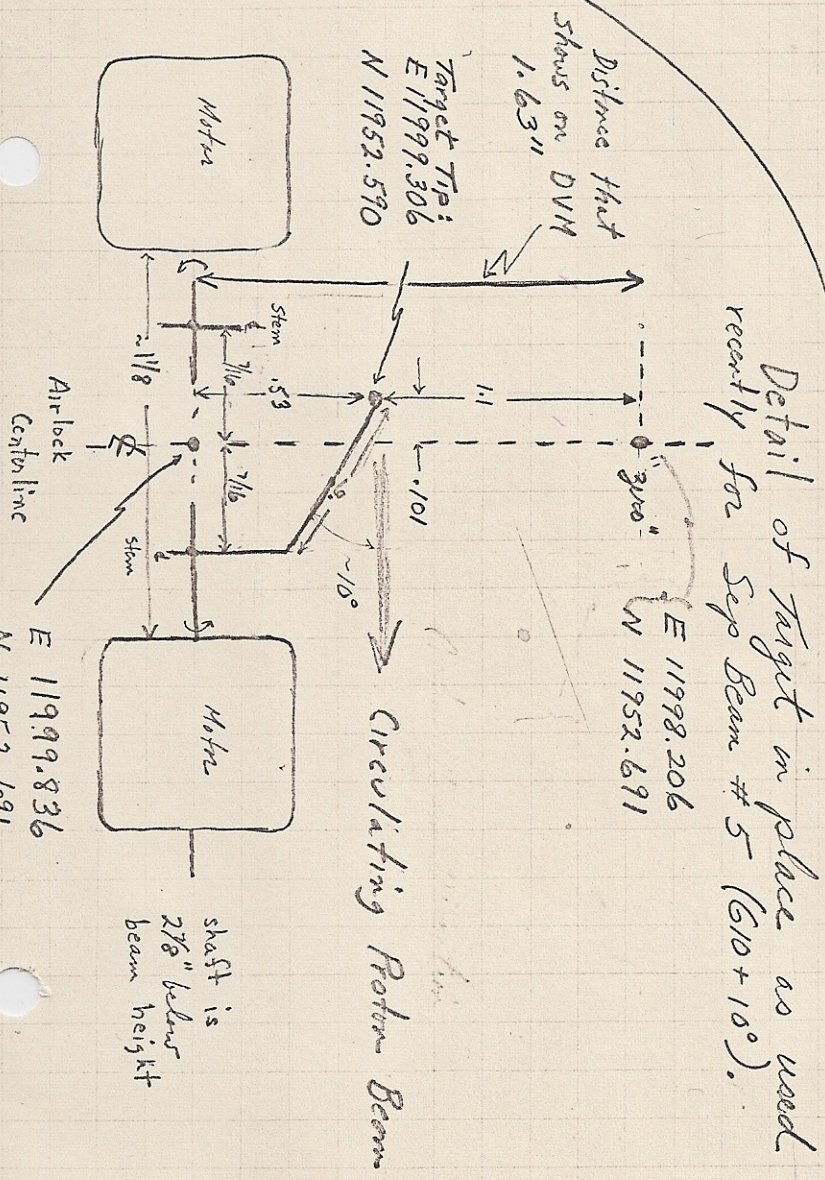


E 11998.306
N 11948.191

E 11998.206
N 11952.691

E 11998.306
N 11935.005

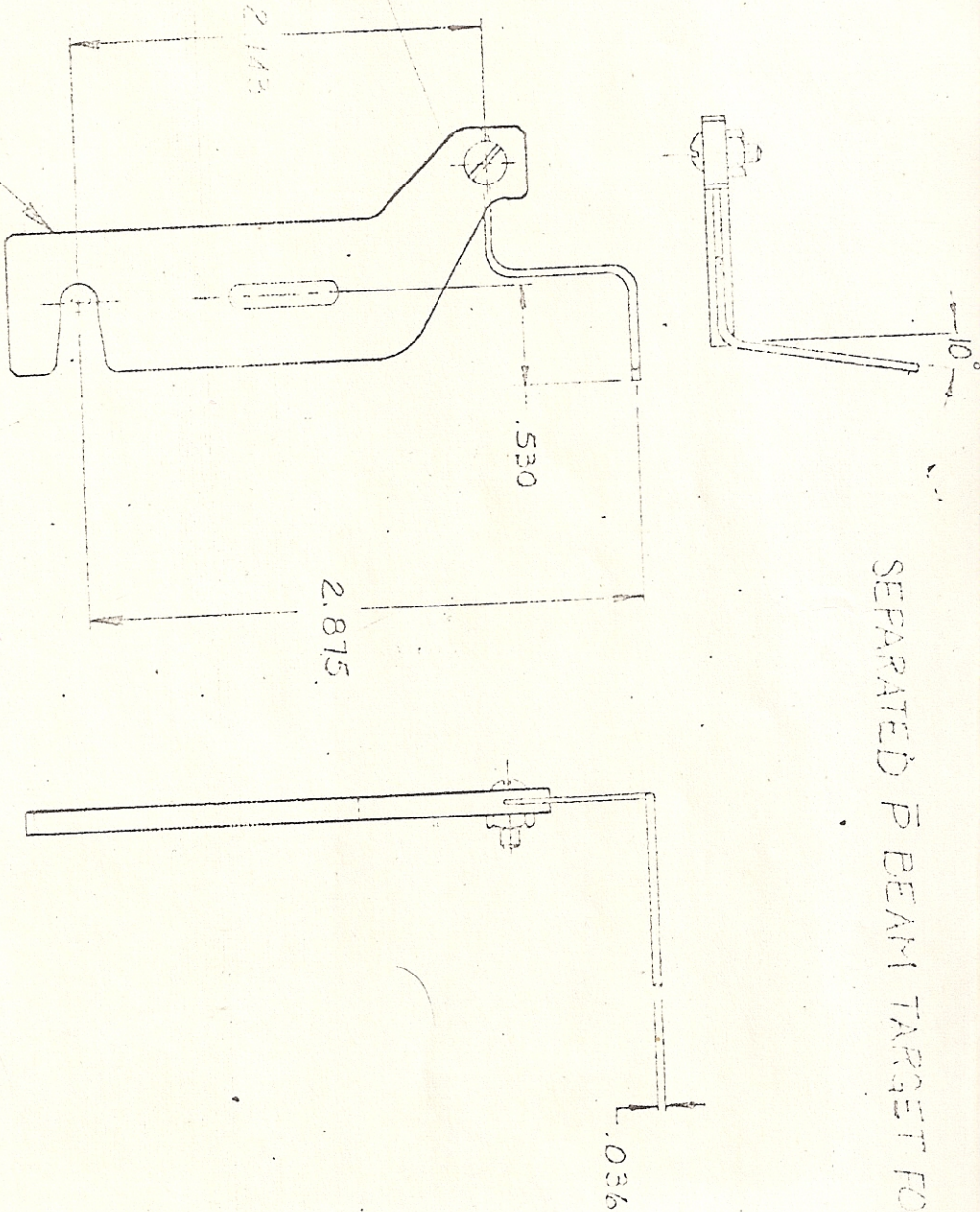
4/12/67
"Target" location to use until further Notice
E 11999.31
N 11952.59



E 11998.206
N 11952.691

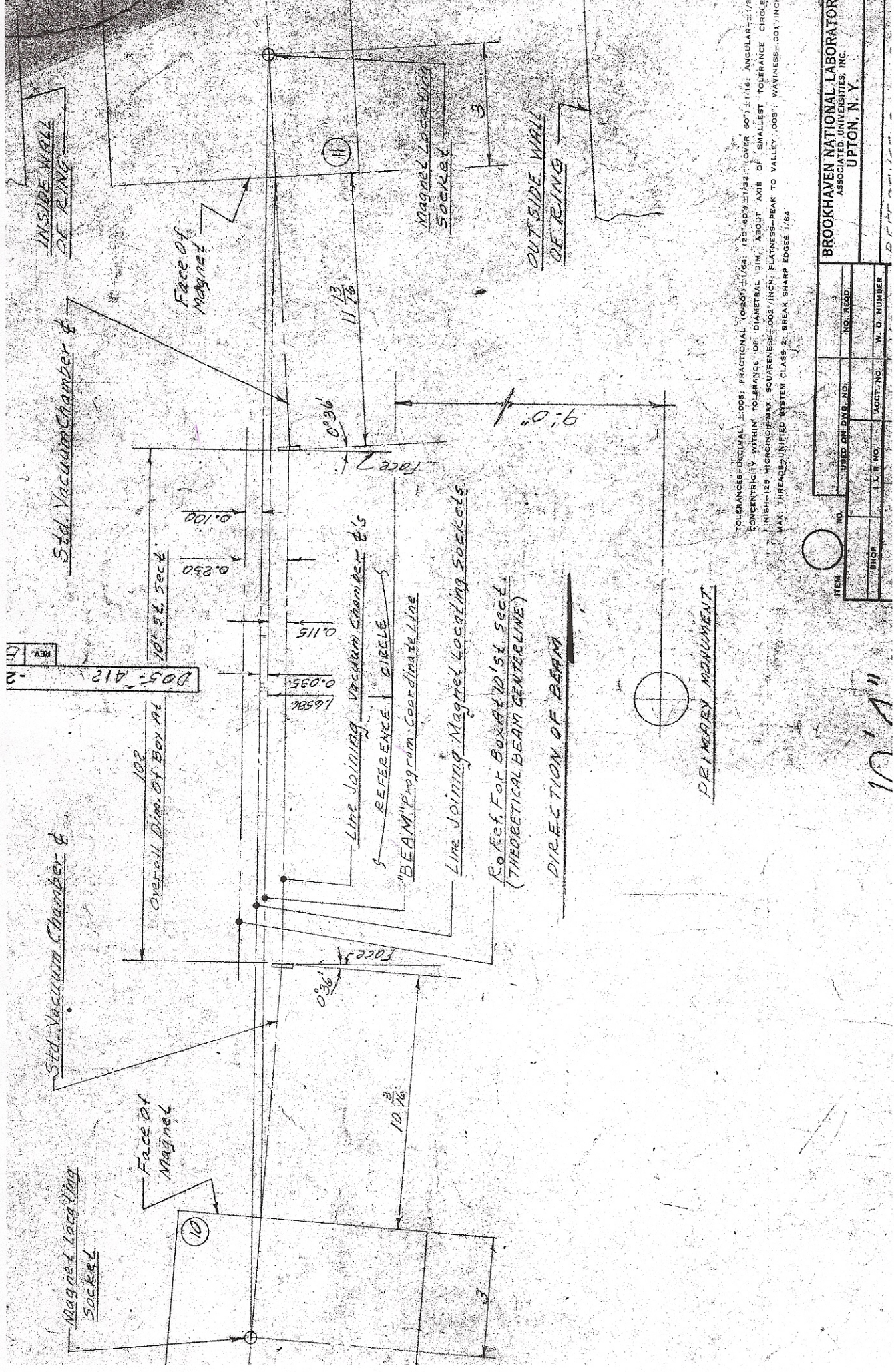
E 11999.836
N 11952.691

SEPARATED P BEAM TARGET FOR G-10



DI-M-2462-3
FOR OPPOSITE RELATIVE
ROTATION, USE APM
NO. DI-M-2462-2

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



TOLERANCES-DECIMAL ±.005; FRACTIONAL (0/32) ±1/64; (1/32-9/32) ±1/32; (OVER 9/32) ±1/16; ANGULAR ±1/2°;
 CONCENTRICITY-WITHIN TOLERANCE OF DIAMETRAL DIM. ABOUT AXIS OF SMALLEST TOLERANCE CIRCLE.
 FINISH-125 MICRON FIN. MAX. SQUARENESS-.002"/INCH; FLATNESS-PEAK TO VALLEY-.005"; WAYNES-001"/INCH
 MAX. THREAD-UNIFIED SYSTEM CLASS 2; BREAK SHARP EDGES 1/64

ITEM NO.	QUANTITY	DESCRIPTION	NO. FILED
10	1	Line Joining Vacuum Chamber &'s	
11	1	Magnet Locating Socket	

17.125

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