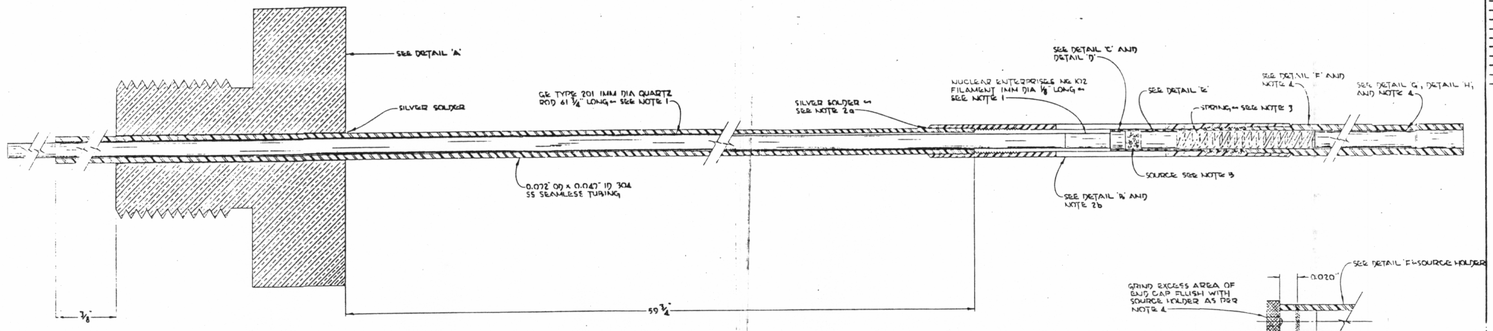
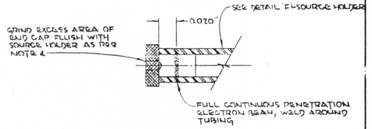
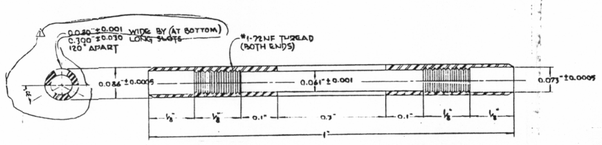
INDEX 'Y'				FINAL ASSY.
DWG NO.	ITM	QTY	MATERIAL	DESCRIPTION

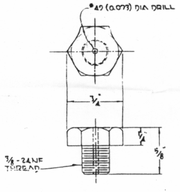


PROBE AND SOURCE HOLDER ASSEMBLY
SCALE: 10 "=1"

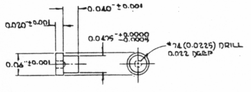




DETAIL 'B' — SOURCE COUPLER AND CENTERING GUIDE
SCALE: 10"=1"
MAT'L: 304 SS TUBING
SEE NOTE 2a AND 2b

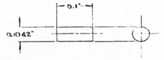


DETAIL 'A'
SCALE: 2"=1"
MAT'L: BRASS

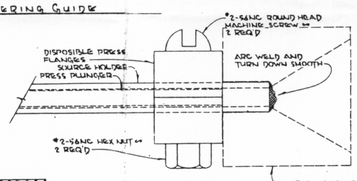


DETAIL 'C' — FRONT END CAP
SCALE: 10"=1"
MAT'L: 304 SS

DETAIL 'D'
N.T.S
SEE NOTE 4

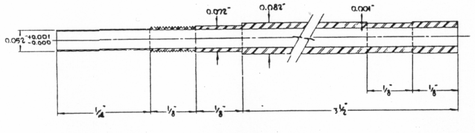


DETAIL 'E' — SPRING BLOCK
SCALE: 10"=1"
MAT'L: 304 SS

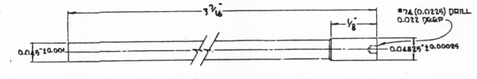


DETAIL 'H'
N.T.S
SEE NOTE 4

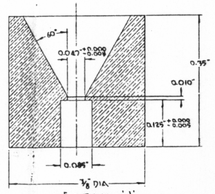
DETAIL 'I' — DISPOSIBLE PRESS FLANGE
SCALE: 2"=1"
MAT'L: BRASS 2 REQ'D



DETAIL 'F' — SOURCE HOLDER
SCALE: 10"=1"
MAT'L: 304 SS TUBING



DETAIL 'G' — PRESS PLUNGER
SCALE: 10"=1"
MAT'L: 304 SS



DETAIL 'J'
SOURCE LOADING FUNNEL
SCALE: 10"=1"
MAT'L: BRASS

NOTES

1. a) Both ends of the Quartz Rod are to have a No. 4 finish.

   b) Quartz Rod and Filament are covered with a rolled tube made from two layers of 0.001 Aluminum foil approximately ½" long. Crimp the end of aluminum foil over the Filament after it is rolled.

   c) Quartz Rod is coupled to the Filament using Dow Corning DC 200 silicone grease having 10⁶ centistoke viscosity.

   d) After assembly the Quartz Rod and Filament are to be leak checked.

   e) The Quartz Rod is very brittle and extreme care must be taken while welding and during installation.

2. a) Use a No. 1-72NF thread as per ** to determine the heat thread fit on the coupler. Silver solder opposite end to the 304 SS tubing ** as shown in assembly drawing.

   b) The Filament and Source must be as near the center of the slots in the coupler as possible.

3. The Spring is 0.005" piano wire and is wound on a 0.032" mandrel and should be 3/4" long uncompressed.

4. a) Insert Front End Cap (Detail 'C') into Source Holder Outside Tube (Detail 'F'), weld End Cap into place as shown by Detail 'D' by full continuous penetration electron beam, weld around the tubing.

   b) Leak check, Cap and Source Holder after weld, for less than 5×10^{-8} cc atmosphere helium leak test.

   c) Grind off chamfered screw (Detail 'B') after leak test and recheck for leaks. Do not use if measurable leaks above 5×10^{-8} cc atmosphere are detected.

   d) Place disposable press flanges (Detail 'I') on Source Holder as shown (Detail 'F'). Insert Source Holder in one of the flanges (small flange). Install Source Holder Plunger (Detail 'G'). Spring (See Item 3) and press flanges (small flange) (Detail 'I'). The press flanges are to be used only to support the holder and is pressure will be applied against the tube wall (Detail 'F').

   e) After the assembly is pressed into place, Arc Weld the plunger and holder as shown in Detail 'H' and turn down smooth. The whole Source Holder Assembly may now be screwed into the flanges.

5. Source Characteristics:

   a) At ** days, decay at 25°C, expressed in mR/hr mesh, output after compensation equivalent to 2.5 ** or microcuries/mR/hr at 1 cm distance (attenuated by wall of the receptacle. Appr. allowable total activity 30 mc.

REFERENCE DRAWINGS
B-I-26708 DRAWING LIST

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As per TELEPHONE INSTRUCTIONS FROM LICE 10/14/66

NO.	REVISION	BY	DATE
A	CHANGED SLOT SIZE (BEES WAX)	T.K.B.	10-14-66

DRAWN	[illegible]	3-24-66	
TRACED	[illegible]	4-1-66	
CHECKED	[illegible]	4-1-66	
ENGINEER	[illegible]	4-1-66	
PROJECT ENGR.	[illegible]	4-1-66	

UNION CARBIDE NUCLEAR COMPANY DIVISION OF UNION CARBIDE CORPORATION

Y-12 PLANT OAK RIDGE, TENN.

BETA BACK SCATTER

PROBE ASSEMBLY

SIZE	CODE IDENT. NO.	DRAWING NO.	REV.
D	95496	E-I-54431	A

SCALE AS NOTED | WEIGHT | SHEET 1 OF 1

DISPOSITIONED

D-1

7.7