



U.S. Department
of Transportation
**Pipeline and
Hazardous Materials
Safety Administration**

**IAEA CERTIFICATE OF COMPETENT AUTHORITY
SPECIAL FORM RADIOACTIVE MATERIALS
CERTIFICATE USA/0113/S-96, REVISION 11**

East Building, PHH-23
1200 New Jersey Avenue Southeast
Washington, D.C. 20590

This certifies that the sources described have been demonstrated to meet the regulatory requirements for special form radioactive material as prescribed in the regulations of the International Atomic Energy Agency¹ and the United States of America² for the transport of radioactive material.

1. Source Identification - Schlumberger Model Nos. NSR-F, NSR-D, and NSR-R.
2. Source Description - Cylindrical seal welded double encapsulations with inner capsule made of Type 304 stainless steel. Outer capsule exterior dimensions are 33.0 mm (1.3 in.) in diameter and 107 mm (4.2 in.) in length. Model No. NSR-R outer capsule is made of multi-phase MP35N alloy. Model Nos. NSR-F and NSR-D outer capsules are made of 18% maraging steel (MS) or MP35N alloy. Construction shall be in accordance with attached Drawing Nos. DH407655, Rev. B (NSR-R); H-142108 (NSR-F with MS); H-115686 (NSR-D with MS); H-357068 (NSR-F with MP35N); and H-357074 (NSR-D with MP35N). All Model NSR-F and NSR-D sources manufactured after December 31, 1999 shall be manufactured in accordance with H-357068 and H-357074.
3. Radioactive Contents - All models may contain no more than 1.0 GBq (27 mCi) of Californium-252 in the form of a metal wire or pellets. Alternatively, Model No. NSR-F may contain no more than 0.74 TBq (20 Ci) of Americium-241 in oxide form combined with beryllium and Model No. NSR-D may contain no more than 0.23 TBq (6.3 Ci) of Americium-241 in oxide form combined with beryllium.
4. Quality Assurance - Records of Quality Assurance activities required by Paragraph 310 of the IAEA regulations¹ shall be maintained and made available to the authorized officials for at least three years after the last shipment authorized by this certificate. Consignors in the United States exporting shipments under this certificate shall satisfy the applicable requirements of Subpart H of 10 CFR 71.
5. Expiration Date - This certificate expires on January 31, 2018.

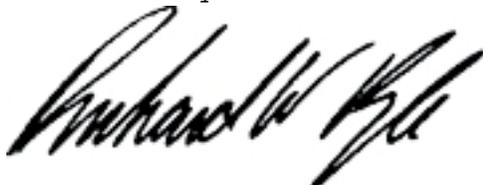
¹ "Regulations for the Safe Transport of Radioactive Material, 1996 Edition (Revised), No. TS-R-1 (ST-1, Revised)," published by the International Atomic Energy Agency (IAEA), Vienna, Austria.

² Title 49, Code of Federal Regulations, Parts 100-199, United States of America.

CERTIFICATE USA/0113/S-96, REVISION 11

This certificate is issued in accordance with paragraph 804 of the IAEA Regulations and Section 173.476 of Title 49 of the Code of Federal Regulations, in response to the November 13, 2012 petition by Schlumberger, Sugar Land, TX, and in consideration of other information on file in this Office.

Certified By:



Feb 22 2013

(DATE)

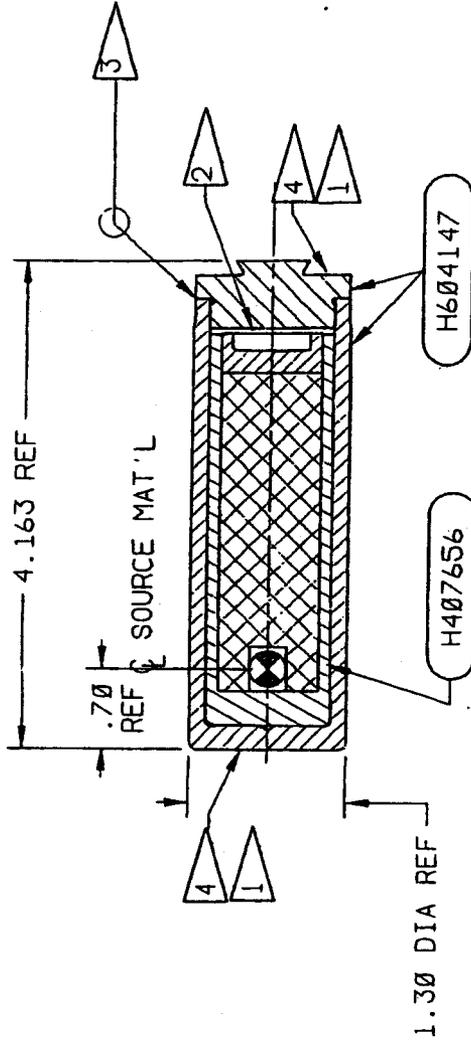
 Dr. Magdy El-Sibaie

Associate Administrator for Hazardous Materials Safety

Revision 11 - Issued to extend the expiration date.

NOTES-

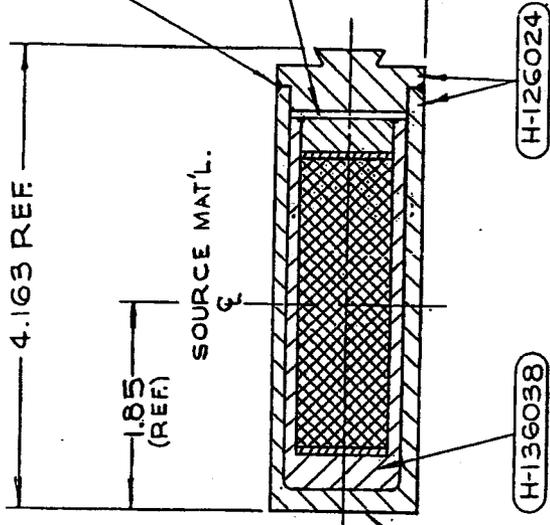
- 1 SERIAL NUMBER AND IDENTIFICATION MARKING TO BE DONE BY SUPPLIER. SERIAL NUMBERING SYSTEM TO BE IN AGREEMENT WITH: EH407651
- 2 SHIM OR FILL THIS SPACE IF NECESSARY TO PERMIT A MAXIMUM GAP OF .005.
- 3 PRESS CLOSURE TIGHT AGAINST CASE BEFORE WELDING.
- 4 MARK IDENTIFICATION "C4252 1.15±.05 X 10⁸ N/SEC" ON EACH END. OTHER MARKING TO BE PER SPECIFICATIONS LISTED ON BILL OF MATERIAL.
- 5 CONSTRUCTION AND INSPECTION PER EH407691



DH407655

FINISH OR TREATMENT		DEF QTY		MATERIAL	
FILE CODE	NSR-R	SCHLUMBERGER WELL SERVICES		NSR-R NEUTRON SOURCE,	
UNLESS OTHERWISE SPECIFIED		A DIVISION OF SCHLUMBERGER TECHNOLOGY CORPORATION		27 MILLICURIE, CF-252	
TOLERANCE DECIMALS	125	R. E. HOOVER, JR. 20 AUG 85		DH407655	
ANGLES	TIN	R. E. HOOVER, JR. 20 AUG 85		REV. B	
CONCENTRICITY		RIC HOOVER AUG 85		SCALE 1/1	
INSIDE CORNERS IN INCHES		MIKE O-BRIEN 16 MAY 86		DATE JUL 15 1987	
DIMENSIONS IN INCHES		J. S. HALL 16 MAY 86		SHEET 1 OF 1	
REMOVE BURRS & BREAK EDGES		MIKE O-BRIEN 16 MAY 86		DRAWN BY	
.005 MIN - .250 MAX				REV. B	
DIMENSIONS INCLUDE APPLIED FINISHES				SHEET SIZE B	

.DT FILE : 86/04/07 OF DRAWING CELL 'DH407655' OF DATABASE 'USPC0816A' (PDS.AKTIBH/7655.J)



PERMANENT IDENTIFYING MARKS ON EACH END. SEE NOTE #1

NOTES:

- SERIAL NUMBER & IDENTIFICATION MARKING TO BE DONE BY SUPPLIER. SERIAL NUMBERING SYSTEM TO BE APPROVED BY S.W.S.

REMAINED AFTER MACHINING

SEE ENG. SPECS. H-136038

DEVISIONS AND TOLERANCES SHOWN APPLY TO FINISHED PART. ALLOWANCES FOR PLATING TO BE MADE BY MANUFACTURER.

DET QTY MATERIAL SPEC APP. MAT. COMP. & PROCESSES

CONSTRUCTION & INSPECTION PER ENS H-209986 **A**

ENGINEERING APPROVED SUPPLIER: MONSANTO RESEARCH CO. DRYTON, OHIO

NUMEC OR APOLLO, PA.

SOURCE ACTIVITY: **A**
19.99 CURIE MAX. **A**

SOURCE OUTPUT: **A**
4.0 ±0.6 x 10⁷ N/SEC **A**

C	9/19/74	ECN 52900
B	1/27/74	ECN 42573 FEB 3 8/76
A	8/18/73	ECN 3981/4 AUG 2 8/74
N-1	DATE	DESCRIPTION

REVISIONS

PROJECTS **NSR-F**

TOLERANCES UNLESS OTHERWISE SPECIFIED

Ø	±.030	CONCENTRICITY .010 T.I.R.
Ø	±.018	125° V ON ALL MACHINED SURFACES
Ø	±.008	BREAK ALL CORNERS
ANG.	±.5°	.315" MAX. .016" MIN. TR. OR 45°

CS NOT COPY, DISPLAY, OR USE DRAWING WITHOUT AUTHORIZATION - DO NOT SCALE DRAWING

HATAMCCOY APPROVED FOR RELEASE

F.K.D. DES. ENGR. **W. J. ...** PROD. ENGR. **W. J. ...**

DRM:RLS DATE 1-26-68 SCALE FULL

SCHLUMBERGER WELL SERVICES
A Division of Schlumberger Technology Corporation
HOUSTON, TEXAS

NEUTRON SOURCE, **A**
RADIOACTIVE 1/6 CURIE

H-208295
USED ON

ASS'DWG. H-142108

FEB 2 1971 ©

SHEET SIZE 8

NOV 20 1979

MATERIAL
CONSTRUCTION &
INSPECTION PER ENS H-209986

ENGINEERING APPROVED
SUPPLIERS:

MONSANTO RESEARCH CO.
DAYTON, OHIO

OR

NUMEC APOLLO, PA
FIG-1978 ECN 52900
E 14872 MC ECN 19892 FEB 1 81Z
D 2-24-70 N/A ECN 15553
**C 12-28-61 REB SHIM OR FILL THIS SPACE WITH SPRUE WITH 3ST. TO PREVENT...
 ADDED MACHINING AFTER...
 H-126026 WAS H-115687
 H-126024 H-45779**
A 10-15-63 HK ADD ALT. SUPPLIER

REVISIONS	
PROJECT#	DESCRIPTION
115-C	115-D
NLS-MD	NLS-NDINSP-D

TOLERANCES UNLESS OTHERWISE SPECIFIED

1.0	± .000	CONCENTRICITY .010 T.I.R.
1.00	± .018	
1.000	± .008	
ANG. ± 12'		

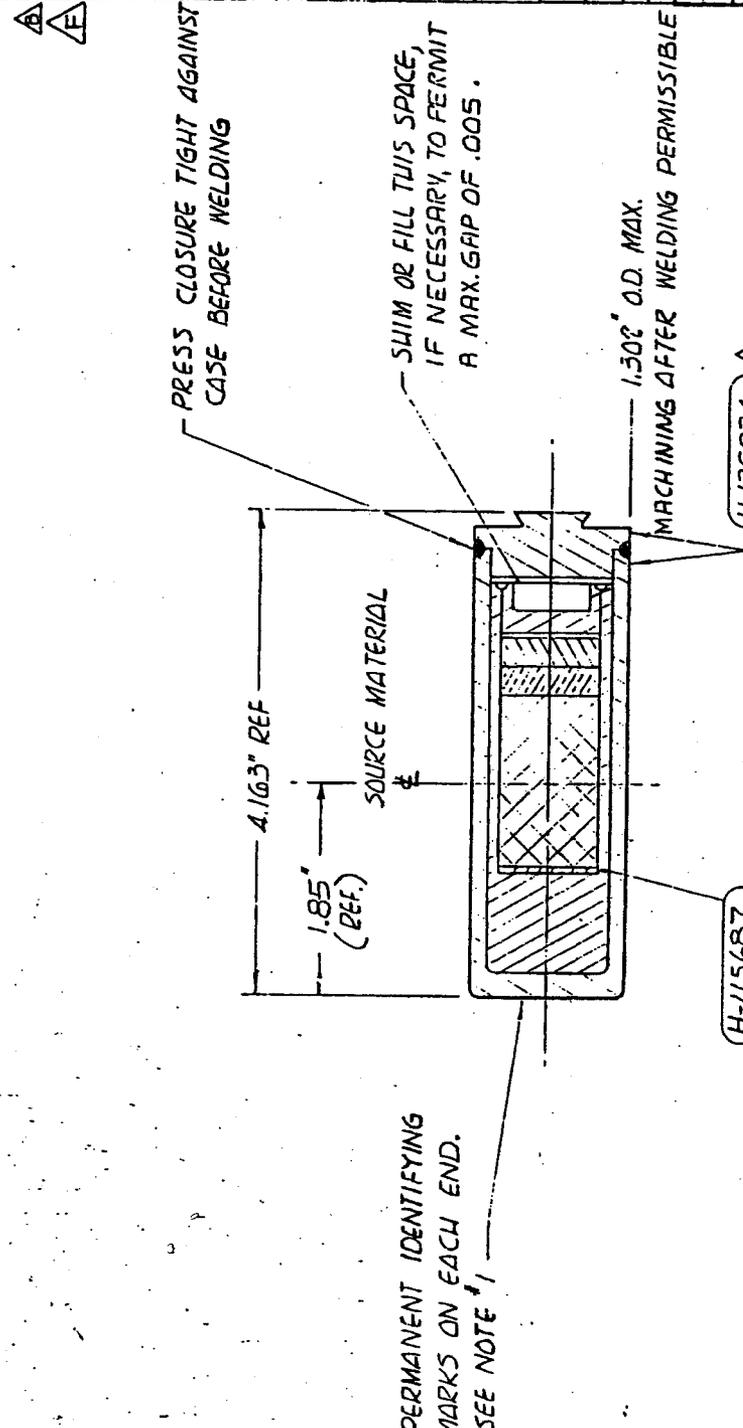
12V ON ALL MACHINED SURFACES
 BREAK ALL CORNERS
 .015 MAX. DIA MIN. (R. OR 45°)
 DO NOT COPY, DISPLAY, OR USE DRAWING WITHOUT AUTHORIZATION - DO NOT SCALE DRAWING

DATA M05EP CRD. V APP. 11/20/79
 DWN. Adnot DATE 5-2-79 SCALE 1/1

SCHLUMBERGER WELL SURVEYING CORP.
 HOUSTON, TEXAS

NEUTRON SOURCE, RADIOACTIVE
Am-Be 5 CURIE

ASSEMBLY DWG. H-115686



H-208286
WHERE USED

NOTES:

- SERIAL NUMBER & IDENTIFICATION MARKING TO BE DONE BY SUPPLIER. SERIAL NUMBERING SYSTEM TO BE APPROVED BY S.N.S. MFG'S IDENTIFICATION MARK PERMISSIBLE.
- SOURCE OUTPUT: $0.9^{+0.1}_{-0.0} \times 10^7$ N/SEC
 MAX ACTIVITY: 7.99 CURIE

NOV 20 1979

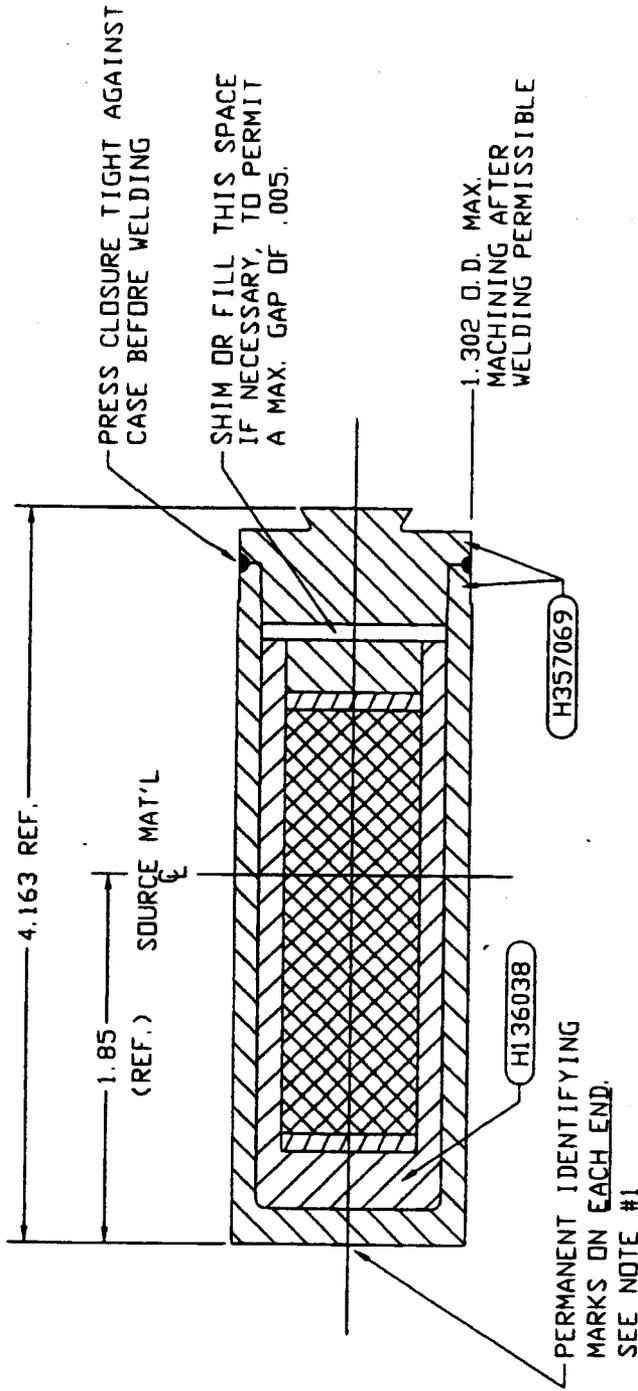
SOURCE ACTIVITY:
19.99 CURIE MAX.

SOURCE OUTPUT:
4.0 $\pm 0.6 \times 10^7$ N/SEC

1. SERIAL NUMBER & IDENTIFICATION MARKING TO BE DONE BY SUPPLIER.
SERIAL NUMBER TO BE SUPPLIED BY OFFICE OF CORPORATION RADIATION SAFTEY OFFICER.

2. SOURCE OF MATERIAL IS STORED NSR-F.

3. INSPECTION AS PER SH209986.



ENGINEERING APPROVED SUPPLIER:

GAMMATRON, INC.
5703 Etheridge
Houston, TX 77087
713-641-3640

FINISH OR TREATMENT		DET	QTY	MATERIAL
FILE CODE UNLESS DIMENSIONS SPECIFIED TOLERANCE SURFACE FINISH	CONFIDENTIAL AND TRADE MARKS USE FOR REPRODUCTION WITHOUT PRIOR WRITTEN APPROVAL FROM SCHLUMBERGER	SCHLUMBERGER WELL SERVICES A DIVISION OF INTELLIGENT TECHNOLOGY CORPORATION		
.X ± .030 .XX ± .015 XXX ± .005	JT MORRISON 1-26-98	NUETRON SOURCE, RADIOACTIVE, RECYCLED		
ANGLES = 45°	J M. BATES 1-26-98	Am-Be		
ROUND CORNERS .010 IN R MAX DIMENSIONS ARE IN INCHES DIMENSIONS ARE UNLESS OTHERWISE SPECIFIED	J M. BATES 1-26-98	H357068		
	J M. BATES 1-26-98	SCALE 2-1		
		SHEET 1		

H357068

NOTES:

- SERIAL NUMBER & IDENTIFICATION MARKING TO BE DONE BY SUPPLIER.
SERIAL NUMBER TO BE SUPPLIED BY OFFICE OF CORPORATION RADIATION SAFETY OFFICER.
- SOURCE OUTPUT: $0.9^{+0.1}_{-0.0} \times 10^7$ N/SEC
MAX ACTIVITY: 7.99 CURIE

3. ALTERNATE PART IS H126024.

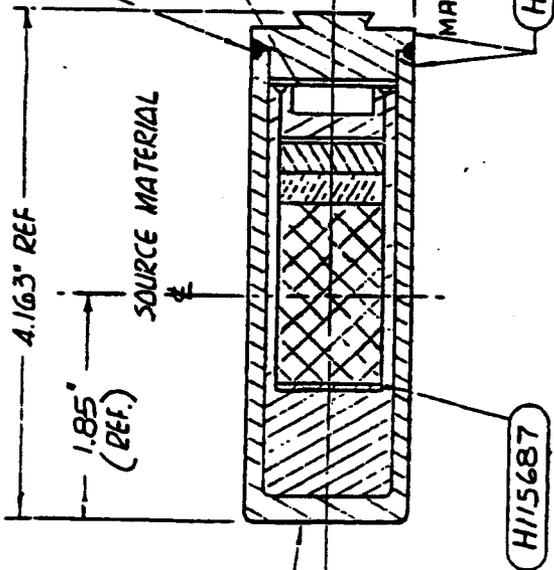
4. SOURCE MATERIAL IS STORED NSR-D.

PERMANENT IDENTIFYING
MARKS ON EACH END.
SEE NOTE 1

PRESS CLOSURE TIGHT AGAINST
CASE BEFORE WELDING

SHIM OR FILL THIS SPACE,
IF NECESSARY, TO PERMIT
A MAX. GAP OF .005.

1.300" O.D. MAX.
MACHINING AFTER WELDING PERMISSIBLE



MATERIAL

CONSTRUCTION &
INSPECTION PER ENS 5H209986

ENGINEERING APPROVED
SUPPLIERS:

GAMMATRON, INC.
5703 Etheridge
Houston, TX 77087
713-641-3640

A	2-9-98	JTM	ECN# N18950
NO	DATE	BY	DESCRIPTION

PROJECTS	NSR-DB
REVISIONS	

TOLERANCES UNLESS OTHERWISE SPECIFIED:	
1.0	2.000
1.00	2.010
1.000	2.000
ANG.	2 1/2°
12V ON ALL MACHINED SURFACES	
BREAK ALL CORNERS, CHAMFER OR 45°	
DIMS MAX. 50% MIN. 10%	

DO NOT COPY, DISPLAY, OR USE DRAWING WITHOUT
AUTHORIZATION - DO NOT SCALE DRAWING

DATA	CRG.	BATES	APP.	BATES
DWN.	JTM	DATE	2-9-98	SCALE
		FULL		

SCHLUMBERGER WELL SURVEYING CORP.
HOUSTON, TEXAS

NEUTRON SOURCE, RADIOACTIVE
(RECYCLED) ^{Am-Be}
5 CURIE

H200286

WHERE USED

ASSEMBLY DWG. H357074



U.S. Department
of Transportation

East Building, PHH-23
1200 New Jersey Avenue SE
Washington, D.C. 20590

**Pipeline and
Hazardous Materials
Safety Administration**

CERTIFICATE NUMBER: USA/0113/S-96, Revision 11

ORIGINAL REGISTRANT(S):

Mr. Timothy McLaughlin
Radiation Safety Officer
Schlumberger
300 Schlumberger Drive
Sugar Land, 77478
USA

Thomas Bracke
RSO
Schlumberger
Princeton Technology Center
20 Wallace Road
Princeton Junction, NJ 08550