Texas Department of Health

Charles E. Bell, M.D.
Executive Deputy Commissioner

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Radiation Control
(512) 834-6688

July 30, 2001

U.S. Nuclear Regulatory Commission
Attn: Ms. Tracy Kime
Source Containment and Devices Branch
Office of Nuclear Material Safety
and Safeguards
Document Control Desk
P1-37
Washington, D.C. 20555

Re: Amendment of Registry Sheet TX-0586-S-107-S

Dear Ms. Kime,

Enclosed is the amended sealed source sheet TX-0586-S-107-S for International Isotopes, Inc. This sealed source sheet has been amended to allow alternative packaging of the sources in pre-sterilized needle assemblies. We would appreciate you distributing copies of this sheet to the other State Programs and NRC Regions, as appropriate.

Thank you for your cooperation and efforts.

Sincerely,

for David B Fogle, Chief
Industrial Licensing Program
Division of Licensing, Registration
and Standards
Bureau of Radiation Control

Enclosure: a/s

NMSS 12
1/1

REGISTRY OF RADIOACTIVE SEALED SOURCES AND DEVICES
SAFETY EVALUATION OF SOURCE
AMENDED IN ENTIRETY

NO.: TX0586S107S DATE: July 30, 2001

DEVICE TYPE: Well Logging Source

MODEL: NSR-F (H-142108 or H-357068)

DISTRIBUTOR: Schlumberger Technology Corporation
300 Schlumberger Drive
Sugar Land, TX 77478
(281) 285-8775

MANUFACTURER: Gammatron, Inc.
5703 Ethridge Drive
Houston, Texas 77087

ISOTOPE: Americium-241 MAXIMUM ACTIVITY: 20 Ci (0.74 TBq)

LEAK TEST FREQUENCY: 6 months

PRINCIPAL USE: (F) Well Logging

CUSTOM DEVICE: _____ YES __X__ NO

CUSTOM USER:

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DEVICE TYPE: Well Logging Source

DESCRIPTION: The Model (NSR-F) pressure vessel assembly contains a sealed source that is 1.3" in diameter and 4.163" in length. The source material consists of americium oxide and berylium powders which are mixed and pelletized. These pellets are then encapsulated by welding into an inner capsule of 304 stainless steel and an outer capsule of 18 percent Ni maraging steel (H-142108) or MP35N stainless steel (H-357068). The source capsule is welded inside an associated pressure vessel assembly 1.67" in diameter and 7.81" in length. This assembly is carried to the field in a transport container and attached to a logging tool as part of a logging system. The source is designed to produce neutrons which are directed into the rock formations surrounding the wellbore to measure the hydrogen content of the fluids in the formation.

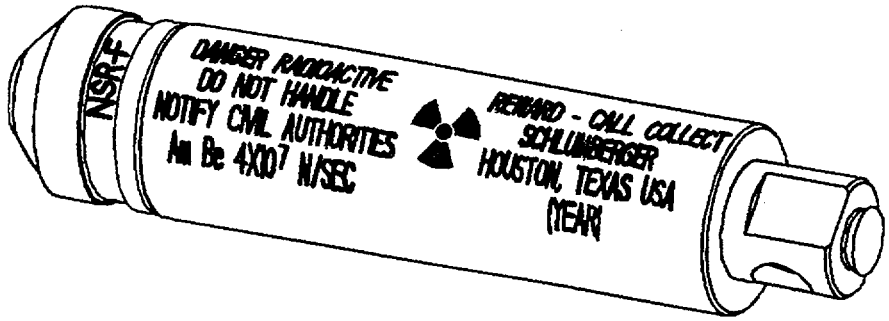
CONDITIONS OF NORMAL USE: Normally the source and its logging system are designed to operate in temparatures of 200°C and pressures of 20,000 psi. However, testing has demonstrated that these systems can operate up to 260°C and 25,000 psi.

PROTOTYPE TESTING: The licensee used ISO 2919 as the standard for testing these sources. The source was classified as E66525. This is the same classification under the ANSI standard. Original prototype testing (08/10/89) only tested the sources to a temperature of 600°C. Current testing (03/06/98) demonstrates that the sources can withstand up to 800°C. Both the older sources and current sources meet ANSI standards for well logging sources.

EXTERNAL RADIATION LEVELS: Radiation levels were determined by use of a Bonner Sphere, with the maximum activity in the source. The radiation level at 82 inches was 10 mRem/hour. This includes the gamma component.

QUALITY ASSURANCE AND CONTROL: The manufacturer has an established ISO 9001 QA/QC program to maintain minimum standards for the manufacture of the sources. This program is also used during acceptance testing of the sealed sources.

LABELING: The pressure vessel has a label similar to the one shown below, etched into the side of the pressure vessel. This label has the company name, "DANGER - RADIOACTIVE", "DO NOT HANDLE", NOTIFY CIVIL AUTHORITIES" and "REWARD - CALL COLLECT", radionuclide, neutron flux,year source was made, and the conventional radiation trefoil. In a depressed band near one end of the pressure vessel, the model number (NSR-F) and the serial number are etched. Other information, such as activity and date of assay, are recorded on a label attached to the transport container.



REGISTRY OF RADIOACTIVE SEALED SOURCES AND DEVICES
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DEVICE TYPE: Well Logging Source

DIAGRAM: See attachments.

LIMITATIONS AND/OR OTHER CONSIDERATIONS OF USE:

1. This source shall be distributed only to specifically licensed Schlumberger Companies.
2. Handling, storage, use, transfer and disposal should be determined by the licensing authority in accordance with its rules on wireline services.
3. This source should be leak tested at six month intervals.
4. **The following table of sources may be transferred to persons specifically licensed by the NRC, an Agreement State or a Licensing State.**

Sealed Source Serial Number											
116	481	1093	1276	1370	1486	1557	1628	2187	2280	2666	3113
127	489	1117	1283	1371	1487	1564	1629	2191	2298	3013	3114
136	502	1133	1284	1373	1488	1565	1633	2193	2366	3014	3115
143	504	1137	1286	1378	1490	1567	1634	2200	2388	3015	3150
148	507	1138	1302	1380	1492	1570	1637	2204	2399	3016	3151
165	520	1141	1306	1385	1499	1573	1658	2206	2402	3092	3152
175	532	1147	1307	1392	1500	1575	1675	2212	2410	3098	3153
190	553	1150	1309	1398	1501	1581	1686	2214	2417	3100	3154
229	554	1166	1311	1401	1503	1582	2006	2218	2424	3101	3155
293	563	1167	1314	1440	1506	1591	2018	2223	2439	3102	3156
304	571	1182	1316	1458	1510	1602	2038	2226	2457	3103	3157
311	606	1183	1317	1463	1513	1608	2066	2229	2471	3104	3158
315	626	1222	1319	1465	1516	1610	2068	2231	2480	3105	3159
349	632	1247	1322	1467	1543	1611	2084	2234	2486	3106	3160
352	635	1251	1323	1470	1545	1613	2086	2246	2494	3107	3161
394	680	1256	1328	1471	1547	1616	2140	2249	2511	3108	3162
405	1046	1261	1331	1482	1549	1618	2144	2250	2512	3109	3163
421	1057	1267	1340	1483	1551	1619	2147	2256	2514	3110	3164
424	1071	1272	1358	1484	1552	1621	2178	2260	2607	3111	3165
425	1074	1274	1363	1485	1556	1625	2181	2269	2608	3112	

SAFETY ANALYSIS SUMMARY: Review of the information provided by Schlumberger Technology Corporation indicates that the design and construction of this source exceeds the ANSI classification for well logging sources. Because of the general environment of the sealed source when in use, the source should maintain its integrity during all applicable conditions.

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DEVICE TYPE: Well Logging Source

REFERENCES: This summary was prepared with the aid of Schlumberger Technology Corporation letters dated May 7, 1998, August 11, 1998, October 19, 1998 and December 3, 1998 and all associated drawings, documents and procedures.

Administratively amended July 30, 2001 based on Agency letter dated June 25, 2001.

ISSUING AGENCY: Bureau of Radiation Control
Texas Department of Health

Date: July 30, 2001 Reviewer: _____
David B. Fogle

Date: July 30, 2001 Concurrence: _____
Pete H. Myers

REGISTRY OF RADIOACTIVE SEALED SOURCES AND DEVICES
SAFETY EVALUATION OF DEVICE

NO.: TX0586S107S DATE: July 30, 2001 ATTACHMENT 1

DIAGRAM: