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2/7/88

REGISTRY OF RADIOACTIVE SEALED SOURCES AND DEVICES
SAFETY EVALUATION OF SEALED SOURCES

NO : TX333S102S DATE: February 08, 1988 PAGE 1 OF 3

SEALED SOURCE TYPE : Well Logging or Neutron Source

MODEL (b)(2)

MANUFACTURER/DISTRIBUTOR: Gulf Nuclear, Inc.
202 Medical Center Boulevard
Webster, Texas 77598

MANUFACTURER/DISTRIBUTOR:

ISOTOPE: Am-241 MAXIMUM ACTIVITY: (b)(2)

LEAK TEST FREQUENCY 6 months

PRINCIPAL USE: Oil Well Logging

CUSTOM SOURCE: _____ YES __X__ NO

CUSTOM USER:

8/17

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SEALED SOURCE TYPE: Well Logging or Neutron Source

DESCRIPTION: The source is cylindrical in shape and varies from 0.75 to 1.25 inches in diameter and from 1.5 to 3.125 inches in length. The americium oxide is doubly encapsulated in stainless steel. The inner capsule has a minimum wall thickness of 0.015 inches and the outer capsule has a thickness o 0.060 inches. the capsule is sealed by TIG welding.

LABELING:

DIAGRAM:

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CONDITIONS OF NORMAL USE : The Gulf Nuclear Model (b)(2) sealed source is designed as a source of neutrons for neutron well logging. As such, this source will be exposed to pressures approaching 20,000 lbs./in.^{5} and temperatures up to 1000 degrees fahrenheit. Because the source is designed to exceed these specifications, it may be installed either inside the logging tool or on the outside of the tool.

PROTOTYPE TESTING : No records were available which describe prototype testing.

EXTERNAL RADIATION LEVELS: The radiation levels fo 1 curie of americium 241(Be) in this source are typically 42 mRem/hr at 1 foot for neutrons an 6.4 mRem/hr and 1 oot. The highest neutron output for this source is 1 x 10^f n-cm2/sec with a loading of (b)(2)

QUALITY ASSURANCE AND CONTROL :Each source is tested to ANSI standards and will meet the classification of ANSI 77~56522.

SAFETY ANALYSIS SUMMARY: Users of this source must be qualified logging professionals. Because this source must installed into a logging tool before each use and removed from that tool after use, some risk of exposure is present. However, if used by a trained professional, exposures will remain within acceptable limits.

REFERENCES : This summary was prepared with the aid of Gulf Nuclear letters dated November 3, 1971, November 24, 1971, December 2, 1971 and August 8, 1972 and all associated drawings, documents and procedures.

DATE: February 08 1988 REVIEWED BY: eHs

DATE: February 08, 1988 REVIEWED BY: Joseph G. Klinger

ISSUING AGENCY: Texas Department of Health
Bureau of Radiation Control

NOTE This device sheet has been rewritten to document the change in activity from (b)(2) and to document the proper model number.