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REGISTRY OF RADIOACTIVE SEALED SOURCES AND DEVICES

SAFETY EVALUATION OF DEVICE

NO: CA615D101S DATE: December 9, 1982 PAGE 1 of 4

DEVICE TYPE: Gas Chromatograph

MODEL: SP7100

MANUFACTURER/DISTRIBUTOR:

Spectra-Physics
3333 North First Street
San Jose, CA 95134

SEALED SOURCE MODEL DESIGNATION:

U. S. Radium LAB 784
New England Nuclear NER-004
Amersham/Searle NBC

ISOTOPE: Nickel-63 MAXIMUM ACTIVITY: 2 X 20 millicuries each.

LEAK TEST FREQUENCY: 6 months

PRINCIPAL USE: Ion Generators, Chromatography

CUSTOM DEVICE: _____YES X NO

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DESCRIPTION:

The Model SP7100 gas chromatograph incorporates one or two Tracor, Inc. Model 115500 electron capture detector (ECD) cell(s). The ECD(s) are modified by Tracor, Inc. for suitable mounting on the unit. A thermocouple is present which limits the maximum temperature to 350° C. A platinum sensor monitors the actual temperature of the ECD, and a CRT readout is provided.

LABELING:

The ECD is labeled with a metal label with the standard radiation symbol, activity, isotope, date, manufacturer, and serial number.

DIAGRAM:

See Figures 1 and 2.

CONDITIONS OF NORMAL USE:

The device is to be used solely for the chromatographic detection of substances. It is used in industrial, academic, medical, and government laboratories.

PROTOTYPE TESTING:

Not applicable.

EXTERNAL RADIATION LEVELS:

Not applicable.

QUALITY ASSURANCE AND CONTROL:

The manufacturer provides a current leak test record for each detector cell, a copy of which is shipped with each device. During assembly, the temperature controls are tested by operating the unit at various settings and observing thermal stability. The upper limit control switch is also tested for operation prior to shipment.

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DEVICE TYPE: Gas chromatograph

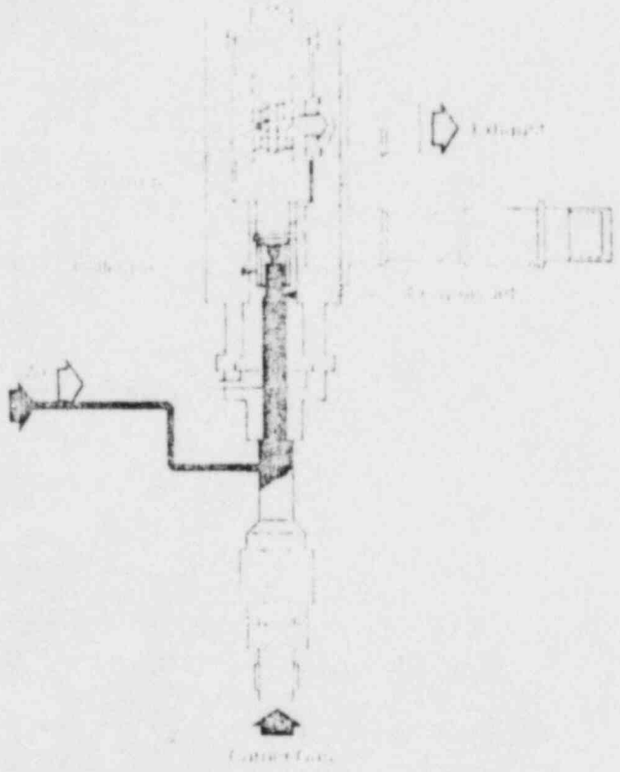

Figure 1: Electron Capture Detector (ECD)

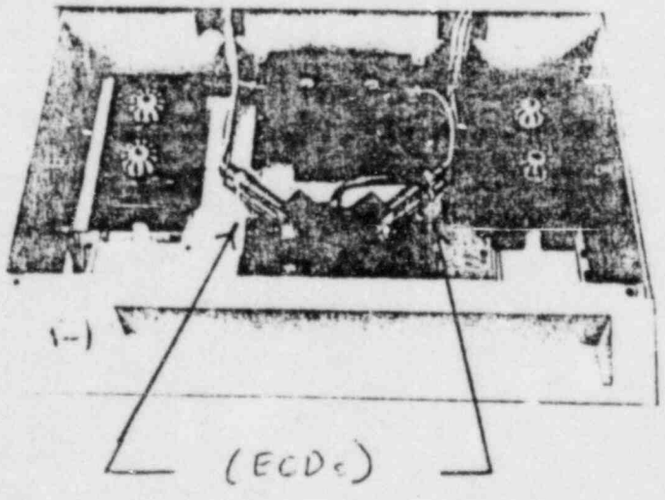

Figure 2: Gas chromatograph unit showing dual electron capture detectors

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LIMITATIONS AND/OR OTHER CONSIDERATION OF USE:

A. The device may be used by specific licensees of NRC or Agreement States.

B. The ECD of the device shall be leak tested every six months. These tests shall be capable of detecting 0.005 microcuries of removable contamination.

C. The manufacturer provides the licensee with an operating manual which includes specific instructions for leak testing, source replacement, source disposal and emergency procedures.

SAFETY ANALYSIS SUMMARY:

Based on our review of the information contained in the references listed below, we conclude that the Model SP7100 can be safely operated by personnel who have reviewed the operating manual and who have an acceptable radiation safety program as required for a specific license.

REFERENCES:

This Certificate of Registration is based on information and test data contained in the following supporting documents which are hereby incorporated by reference and made a part of this registry document:

1. Spectra-Physics letters with attachments dated August 6, 1982 and September 10, 1982.
2. Spectra-Pnysics letters with attachments dated October 7, 1982, and November 1, 1982.
3. Spectra-Physics letter with attached quality assurance procedures and operating manual, dated November 16, 1982.

DATE 12/9/82 REVIEWED BY [signature]

DATE 12/9/82 CONCURRED BY [signature]

California Department of Health Services