



UNIVERSAL CONSULTANTS, INC.

CONSULTING PHYSICS GROUP

35888 Center Ridge Road, Suite #7
North Ridgeville, Ohio 44039
(440) 327-9432 Fax (440) 327-6280

June 28, 2005

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MS-16

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2005

U.S. NRC Region 1
Commercial & R&D Branch
Division of Nuclear Materials Safety
Mr. Thomas Thompson
465 Allendale Road
King of Prussia, PA 19406-1415

RE: Docket No. 03014938
Control No. 136544
License No. 47-14258-01

Dear Mr. Thompson:

Enclosed please find the additional information for the license renewal for Wheeling Jesuit University.

Items #1 and #2

Byproduct, source and/or special nuclear material	Chemical and/or physical form	Maximum amount that licensee may possess at any one time under this license	Authorized Use
Tc - 99m	Any	500 mCi	Teaching & training of students
Cs - 137	Rod	0.1 uCi	Teaching & training of students
Cs - 137	Rod	0.1 uCi	Teaching & training of students
Cs-137	Rod	0.0.87 uCi	Teaching & training of students
Cs-137	Vial E	212 uCi	Teaching & training of students
Cs - 137	Vial E	213.4 uCi	Teaching & training of students
Cs - 137	Disc		Teaching & training of students
Co - 60	Vial E	51 uCi	Teaching & training of students
Co - 60	Rod	0.1 uCi	Teaching & training of students

136544
NMSS/RGNI MATERIALS-002

Co - 57	Vial	5.41 mCi	Teaching & training of students
Ba - 133	Rod	0.1 uCi	Teaching & training of students
Bi - 210	Disc		Teaching & training of students
Bi - 210	Disc		Teaching & training of students
I -129	Rod	0.1 uCi	Teaching & training of students
Tl - 201 Chloride	Any	100 mCi	Teaching & training of students
Ga - 67 Citrate	Any	10 mCi	Teaching & training of students
U - 238	Disc	1891 CPM	Teaching & training of students

Item #3

Please delete reference to Ms. Donna Mason as an authorized user.

Item #4

A Ludlum Frisker SN#2241 with detector SN PWGM/HP-210T is available along with a Ludlum Model 3, and a Victoreen Model 498. Appropriate data for each of these meters is attached.

If you have any questions please feel free to contact me.

Sincerely,



Vincent A. Gargaro, MS, Medical Physicist
Adjunct Faculty

VAG:mb

Enclosures

SURVEY METER CALIBRATION REPORT

Facility:	Wheeling Jesuit University	Department	Nuclear Medicine
Manufacturer:	Ludlum	Probe Model:	44-7
Meter Model #	3	Probe Serial :	112713
Meter Serial #	113252		

Instrument Checks:	Battery Check:	OK	mR/hr or _____	Ion Chamber	<input type="checkbox"/>
Constancy Check:	Integral check source indicates: <u>0.6</u> mR/hr			GM	<input checked="" type="checkbox"/>
	On x 1 scale with yellow door closed _____ mCi of _____ indicates _____ mR/hr			Nal	<input type="checkbox"/>

CALIBRATION GEOMETRY



Window: Open

☐

Closed

☐

Fixed

☒

Calibration Date	11/18/2004		
Scale Factor	Exp Rate	Filters	mR/hr/CF
x 1000	NA		
x 100	140	.1	140
	35	.1 + .25	35 / 1.0
x 10	14	.1 + .1	14
	3.5	.1 + .1 + .25	3.5 / 1.0
x 1	1.4 @ 162.9 cm	.1	1.4
	.35	.1 + .25	.35 / 1.0
x 0.1	.14	.1 + .1	.14
	.035	.1 + .1 + .25	.035 / 1.0

This survey meter was calibrated to within +/-10% of the calculated value on each range indicated. Ranges not indicated were not calibrated. The calibration was performed by using an NIST traceable source of Cs-137 in a Tech Ops Model 773 calibrator of approximately 5.29 GBq (143 mCi) in accordance with procedures authorized by Ohio License #03225480006 for Universal Consultants, Inc. Maintain this record for inspection by regulatory agencies

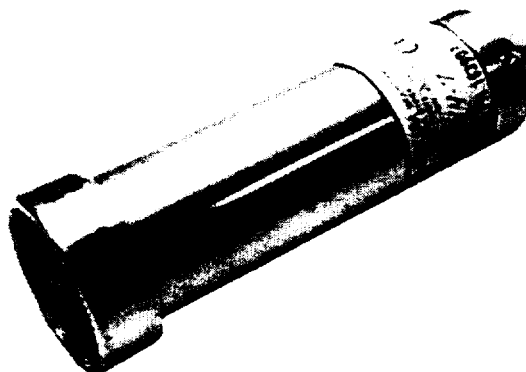
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Vincent A. Gargaro, M.S., Medical Physicist

Model 44-7 End Window Detector

PART NUMBER:47-1536

The Model 44-7 is an end window G-M that can be used with several different instruments including survey meters, scalars, ratemeters, and alarm ratemeters



INDICATED USE: Alpha beta gamma survey; Sample counting

DETECTOR: End window halogen quenched G-M

WINDOW: 1.7 plus or minus 0.3 mg/cm² mica

WINDOW AREA:

Active - 6 cm²

Open - 5 cm²

EFFICIENCY(4pi geometry): Typically 2%-C-14; 10%-Sr-90/Y-90; 7%-Pu-239

SENSITIVITY: Typically 2100 cpm/mR/hr (*¹³⁷Cs gamma*)

ENERGY RESPONSE: Energy dependant

DEAD TIME: Typically 200 microseconds

COMPATIBLE INSTRUMENTS: General purpose survey meters, ratemeters, and scalars

OPERATING VOLTAGE: 900 volts

CONNECTOR: Series "C" (*others available*)

CONSTRUCTION: Anodized aluminum housing

TEMPERATURE RANGE: -4° F(-20° C) to 122° F(50° C)

May be certified for operation from -40° F(-40° C) to 150° F(65° C)

SIZE: 1.8" (4.6 cm) Diameter X 5.8" (14.7 cm)L

WEIGHT: 1 lb (0.5kg)

click on links for :	Instrumentation	Ludlum	Shielding	Sources	Software
Hepa Vacuums	Air Sampling	Accessories	Hoods and Filters	Dosimetry	Specials
Emergency Response	Nuclear Medicine	Radiation Therapy	SEARCH	Home	

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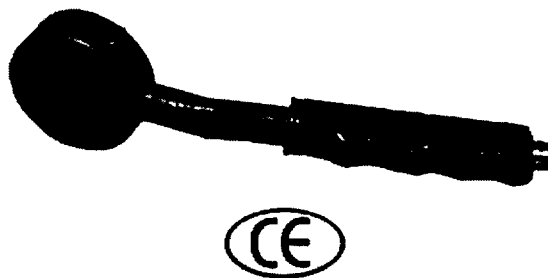
Direct Scientific tel (888) 368 9118 or (310) 589 0601 fax (888) 440-1319

1020 Turnpike St. #9 Canton MA 02021 [Email](#)

Model 44-9 Pancake G-M Detector

PART NUMBER:47-1539

The Model 44-9 is a pancake G-M that can be used with several different instruments including survey meters, scalers, ratemeters, and alarm ratemeters



INDICATED USE: Alpha beta gamma survey; Frisking

DETECTOR: Pancake type halogen quenched G-M

WINDOW: 1.7 plus or minus 0.3 mg/cm² mica

WINDOW AREA:

Active - 15 cm²

Open - 12 cm²

EFFICIENCY(4pi geometry): Typically 5%-C-14; 22%-Sr-90/Y-90; 19%-Tc-99; 32%-P-32; 15%-Pu-239

SENSITIVITY: Typically 3300 cpm/mR/hr (*Cs-137 gamma*)

ENERGY RESPONSE: Energy dependent

DEAD TIME: Typically 80 microseconds

COMPATIBLE INSTRUMENTS: General purpose survey meters, ratemeters, and scalers

OPERATING VOLTAGE: 900 volts

CONNECTOR: Series "C" (*others available*)

CONSTRUCTION: Aluminum housing with beige polyurethane enamel paint

TEMPERATURE RANGE: -4° F(-20° C) to 122° F(50° C)

May be certified for operation from -40° F(-40° C) to 150° F(65° C)

SIZE: 1.8" (4.6 cm)H X 2.7" (6.9 cm)W X 10.7" (27.2 cm)L

WEIGHT: 1 lb (0.5kg)

click on links for :	Instrumentation	Ludlum	Shielding	Sources	Software
Hepa Vacuums	Air Sampling	Accessories	Hoods and Filters	Dosimetry	Specials
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Direct Scientific tel (888) 368 9118 or (310) 589 0601 fax (888) 440-1319

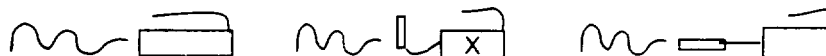
1020 Turnpike St. #9 Canton MA 02021 [Email](#)

Facility:	Wheeling Jesuit University	Department	Nuclear Medicine
Manufacturer:	Victoreen	Probe Model	493-50
Meter Model	498	Probe Serial	405
Meter Serial	332		

Instrument Checks	Battery Check:	OK	mR/hr or _____
Constancy Check:	Integral check source indicates: <u>2.5</u> mR/hr		
	On x 10 scale shield open		
	_____ mCi of _____	indicates	_____ mR/hr

Ion Chamber	<input type="checkbox"/>
GM	<input checked="" type="checkbox"/>
Nal	<input type="checkbox"/>

CALIBRATION GEOMETRY



Window: Open ☐ Closed ☒ Fixed ☐

Calibration Date	5/16/2005		
Scale Factor	Exp Rate	Filters	mR/hr/CF
x 1000	800 @ 20 cm	None	800
	200	0.25	200 / 1.0
x 100	80 @ 68.5 cm	None	80
	20	0.25	20 / 1.0
x 10	8.0	.1	8.0
	2.0	.1 + .25	2.0 / 1.0
x 1	0.8	.1 + .1	0.8
	0.2	.1 + .1 + .25	0.2 / 1.0

This survey meter was calibrated to within +/-10% of the calculated value on each range indicated. Ranges not indicated were not calibrated. The calibration was performed by using an NIST traceable source of Cs-137 in a Tech Ops Model 773 calibrator of approximately 5.29 GBq (143 mCi) in accordance with procedures authorized by Ohio License #03225480006 for Universal Consultants, Inc. Maintain this record for inspection by regulatory agencies

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