

**NUCLEAR
PHARMACY
OF IDAHO, Inc.**

6053 Corporal Lane • Boise, Idaho 83704 • Telephone: (208) 375-1255 Fax: (208) 375-1256

May 3, 1994

Mr. Samuel J. Collins
Director, Division of Radiation Safety and Safeguards
United States Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D.C. 20555

Dear Mr. Collins:

Subject: Reply to a Notice of Violation for NRC Inspection Report 030-32223/94-01 (Notice of Violation)

Violation A. #1 Surveys that may be necessary for the licensee to comply...

In order to determine whether or not our radioactive iodine-131 effluent levels exceed the MPC, we have contracted with Health Physics Northwest to fully evaluate our procedures for stack sampling, sample counting, and determination of effluent concentrations at unrestricted area boundaries. I believe that a reduction in the effluent concentration is necessary, therefore I have ordered a glove box from Mid-American Isotopes. This glove box will enable us to compound radioactive iodine-131 solution and capsules inside of a three (3) layer activated charcoal bed. The glove box will be connected in such a way so that its' effluent is fed into our fume hood stack just above the existing charcoal bed. Both the restricted and non-restricted sampling line will have separate flowmeters. Each line can be set at whatever flow rate is desired. This type of system will avoid the problem of one line being non-operational. Annually, we will send the flowmeters away to be recalibrated.

Additionally, I would like to mention that our long term plan is to design and build a nuclear pharmacy. To this end, we are consulting with Health

9405110086 940503
PDR ADDCK 03032223
PDR

IE07
11

Mr. Samuel J. Collins

May 3, 1994

Page - 2

Physics Northwest to design our radioiodine and radioxenon storage areas from the start in order to avoid any design problems contributing to our effluent problems.

Violation A: #2 Licensee had not made survey to adequately evaluate...

Radiation levels in unrestricted areas immediately adjacent to the facility were not evaluated because we were waiting on our nuclear pharmacy consultant Bill Hladik to arrive on 5 February 1994 to explain to us the new part 20 requirements. Corrective steps have been taken. We have quarterly badges placed at 6055 Corporal Lane North & South as well as 6051 Corporal Lane North & South. These badges will report the total number of millirems each neighboring wall receives. This will then be averaged and annualized. If this is above 100 millirems, we will add additional lead shielding. If this is below 100 millirems, we will discontinue the quarterly badge service. I expect full compliance by the end of November 1994. We will also begin a weekly external radiation survey of the the neighbor's wall. The neighbor's wall should be measuring at or below the general building background, unless radioactivity is being manipulated and exposing the wall. If the walls reading is above the background, we will add additional lead shielding or return the radioactive material to its lead shielding. If below the background, we will take no corrective actions. The weekly survey will now be a test performed each week. Full compliance is expected by November 1994.

Violation B. License condition 13 specifies that sources...

Our sealed sources were wiped for radiocontamination along with a customer's sealed sources in December 1993 and were sent to our consultant. He gave the wipes to Syncor in Albuquerque, New Mexico in order to analyze. Syncor completed our customers wipes and they were returned to us by our consultant on 2/5/94, yet ours were not. Syncor had no explanation for

Mr. Samuel J. Collins

May 3, 1994

Page - 3

this foul-up. Our sources have since been tested; the results are included. Concerning the leak test performed on a sealed source before the source was transferred to another licensee. We received the 238 microcurie Cesium 137 source in September 1991 and used this source for dose calibrator constancy test. We sent a wipe sample away to Gulf Nuclear on 23 December 1991 for analysis. We received the results of the wipe test 20 January 1992. We sent the source to Albuquerque Nuclear on 31 January 92 after receiving the leak test results. Copies of the wipe test results are included.

Violation C: #1 Dose calibrator linearity test performed at...

One of our drivers misfiled the linearity test performed 13 March 1993; a copy is included here.

Violation C: #2 Radioactive materials are stored or used...

Tests were performed to determine whether our fume hood where volatile xenon-133 and iodine-131 are stored was maintained at a net negative pressure. In our license application dated 3 August 1991 #5 'Fume Hood Measured Air Flow', I stated I would commit to a measured, operational airflow rating not less than 100 linear feet per minute, which corresponds to 400 cubic feet per minute at our fume hood face. I stated in #7 that I would be using the Anor Velometer Jr. for these tests. The fume hood measured flow rate at the operator's level has been demonstrated to be at least 100 LFPM, yet there is not a net negative pressure in the radioiodine fume hood storage room. The reason for this violation was that my record-keeping to demonstrate a net negative pressure was never put in place. The corrective action I will take in order to maintain a net negative pressure will be to

Mr. Samuel J. Collins

May 3, 1994

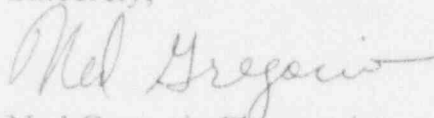
Page - 4

remove the supply vent in the radioiodine storage room. This means no other air will be supplied to this room. A new worksheet will be utilized in order to calculate the radioiodine/radioxenon room's net pressure. Full compliance should be complete by 31 June 1994 in order to contract to have this work done.

Violation C: #3 Requires, in part, that pocket dosimeters...

This was a violation which I should have noticed but did not. The dosimeters have been sent off for recalibration. This will be performed annually.

Sincerely,



Ned Gregorio Pharmacist

cc: Regional Administrator, Region IV, 611 Ryan Plaza Drive, Suite 400,
Arlington, Texas 76011.

MID-AMERICA ISOTOPES, INC.
706 EAST LIBERTY LANE
COLUMBIA MO 65010

April 16, 1994

Nuclear Pharmacy of Idaho
6053 Corporal Lane
Boise ID 83704
Attn: Ned Gregorio

Dear Ned:

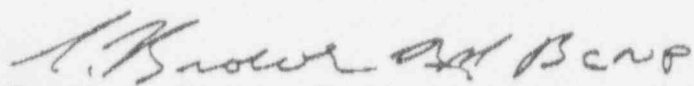
Thank you for your recent order (purchase order no. 116) of our I-131 Glove box. The unit is supplied with two 12 X 12 X 1 activated charcoal filters. As we discussed I will be sending you a third 12 X 12 X 1 activated charcoal filter to be used as a spare or simultaneously with the other two filters if you are exceeding MPC levels. There is no charge for these filters.

The price of the I-131 Glove box as we discussed is \$3150.00 plus delivery. The delivery charge will be the actual freight charge we are assessed. The terms are net 30 days. The delivery is running approximately two to three weeks.

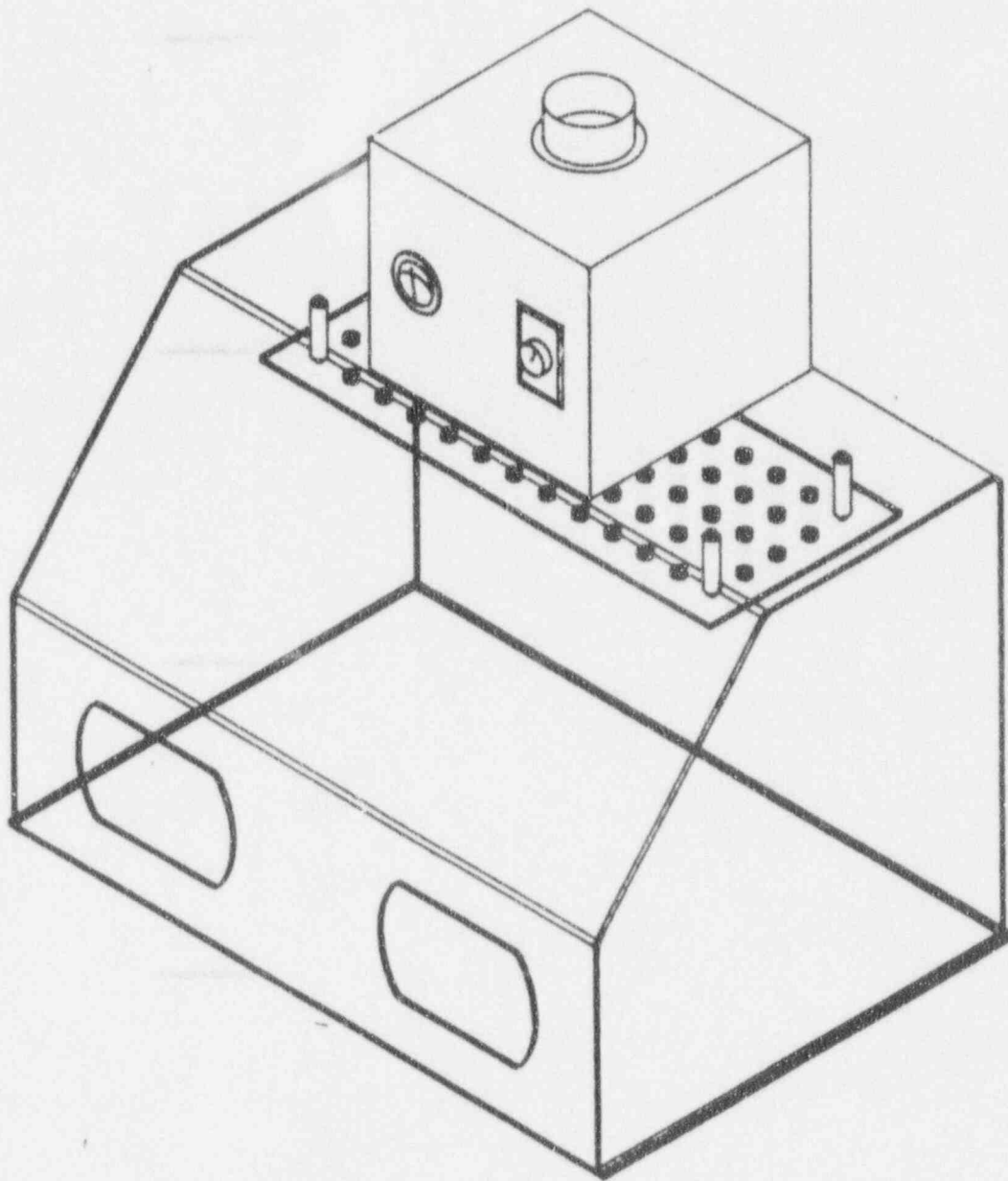
Please find enclosed a diagram of the I-131 Glove box / Fume hood setup. Please call me when you are ready for installation and I will review with your installer the proper procedures for installation.

If you have any questions please give me a call. Thank you.

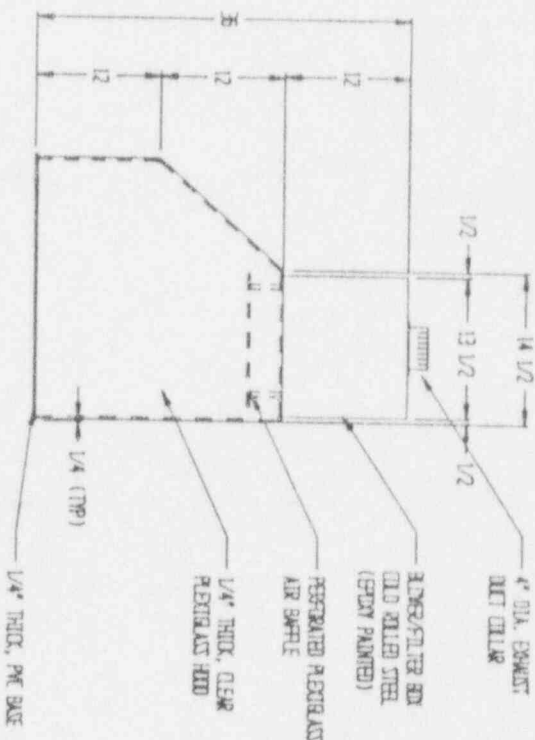
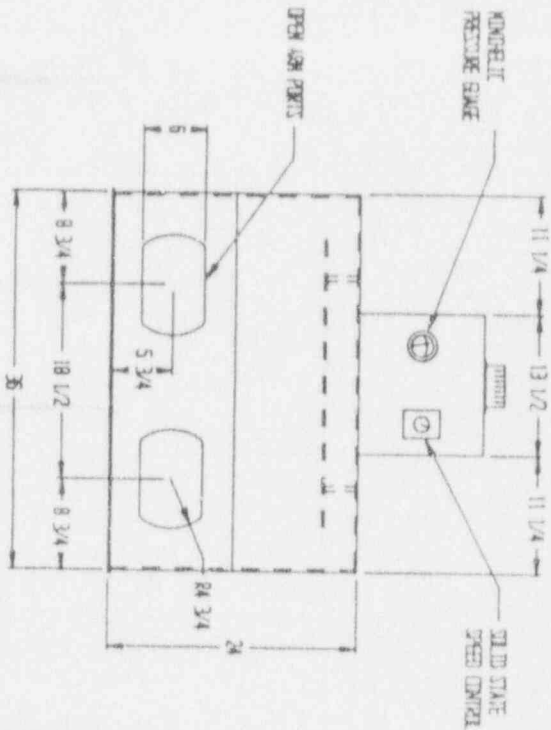
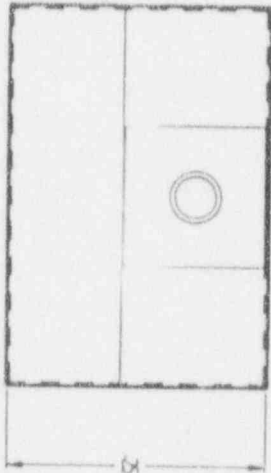
Sincerely,


Scott C. Brower R.Ph., B.C.N.P.

enclosures

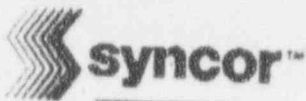


Mid-America Isotopes, Inc.
706 E. Liberty Lane
Ashland, MO 65010



REVISION		
REV	DESCRIPTION	DATE

DRAWING BY		LVB		SCALE		1" = 1'-0"		DATE		2-21-52	
DRAWING NO.		167000BA		SHEET		1		REV			
DRAWING TITLE STANDARD TITLE MID-AMERICA ISOTOPES, INC. 706 E. LIBERTY LANE, ASHLAND, MISSOURI 65010 PLASTIC GLOVE BOX WITH FILTERED EXHAUST						DRAWING NO. 167000BA DATE 2-21-52 SHEET 1					



The National
Pharmaceutical
Service Network

TO: FRANK COMER
FROM: SCOTT C. BROWER R. PH. *AS*
RE: INSTALLATION OF I-131 GLOVE BOX
DATE: JANUARY 19, 1987

AS WE DISCUSSED I HAVE ATTACHED A SKETCH OF HOW THE IODINE GLOVE BOX IS VENTED AND THE AIR MONITORING IS SET UP.

AS SHOWN IN THE DIAGRAM THE IODINE GLOVE BOX VENTS DIRECTLY INTO THE STACK OF THE FUME HOOD AND NOT INTO THE FUME HOOD ITSELF.

AN OPEN-END TYPE CHARCOAL FILTER MONITORS AIR INSIDE THE ROOM WHICH IS CONSIDERED "RESTRICTED". THIS FILTER IS SET ON TOP OF THE IODINE GLOVE BOX WITH THE FILTER DIRECTLY FACING OUT TOWARDS THE DISPENSER

AN IN-LINE CHARCOAL FILTER MONITORS AIR EXPELLED THROUGH THE FUME HOOD STACK. THIS FILTER IS CONSIDERED THE "UNRESTRICTED" AIR SAMPLE. THE "IN-LINE FILTER" TUBING IS TAPPED INTO THE STACK A COUPLE OF INCHES ABOVE THE IODINE GLOVE BOX / FUME HOOD CONNECTION. IF POSSIBLE THIS "IN LINE FILTER" METHOD FOR TAKING "UNRESTRICTED" AIR SAMPLES IS PREFERRED BY THE NRC.

THE VACUUM PUMP WAS INSTALLED UNDER THE CABINET OF THE FUME HOOD. (THIS GREATLY REDUCES THE NOISE) ALSO INSTALLED UNDER HERE IS THE "IN-LINE" FILTER WHICH ALLOWS FOR EASY FILTER CHANGING.

LEAK TEST RESULTS

Licensee Nuclear Pharmacy of Idaho, Inc.
Attention: Ned Gregorio
Address 6053 Corporal Lane
Boise, ID 83704

Telephone 208-375-1255

Sample taken on 4/27/94

Source Manufactured By Dupont

Radioactive Material Ba-133

Activity 283 uCi

Source Model # NES-358

Serial # 358012-037

TEST DATA

Sample Activity <0.0003 uCi

(Activity greater than 0.005 uCi indicates a leaking source)

Date April 29, 1994

Counted By

Steven Wiggem



Health
Physics
Northwest

11535 SW 67th
Tigard, Oregon 97223
(503) 620-6617
(800) 762-8444

LEAK TEST RESULTS

Licensee Nuclear Pharmacy of Idaho, Inc.
Attention: Ned Gregorio
Address 6053 Corporal Lane
Boise, ID 83704

Telephone 208-375-1255

Sample taken on 4/27/94

Source Manufactured By CIS-US

Radioactive Material Cs-137

Activity 172.8 uCi

Source Model #

Serial # 3890/151

TEST DATA

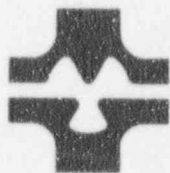
Sample Activity <0.0003 uCi

(Activity greater than 0.005 uCi indicates a leaking source)

Date April 29, 1994

Counted By

Steven Waggam



Health
Physics
Northwest

11535 SW 67th
Tigard, Oregon 97223
(503) 620-6617
(800) 762-8444

LEAK TEST RESULTS

Licensee Nuclear Pharmacy of Idaho, Inc.
Attention: Ned Gregorio

Address 6053 Corporal Lane
Boise, ID 83704

Telephone 208-375-1255

Sample taken on 4/27/94

Source Manufactured By North American Scientific

Radioactive Material Co-57

Activity 5.2 mCi

Source Model #

Serial # A1350

TEST DATA

Sample Activity <0.0003 uCi

(Activity greater than 0.005 uCi indicates a leaking source)

Date April 29, 1994

Counted By

Steven Waggoner



**Health
Physics
Northwest**

11535 SW 67th
Tigard, Oregon 97223
(503) 620-6617
(800) 762-8444

BKGD.	TOTAL CPM	EFF.	CORR. DPM	MICROCURIE CONTAMINATION

Notice: Licensing Regulations for Radiation Control by the States and U. S. NRC stipulate that companies performing their own leak tests must be licensed to do so and a procedure for performing these tests must be approved by the NRC or agreement states. This kit and procedure are approved for use by our own personnel but every company is responsible for obtaining licensing authority approval when any kit is used by their personnel.

Gulf Nuclear, Inc.

202 MEDICAL CENTER BLVD.
 WEBSTER, TEXAS 77598
 (713) 332-3581

MODEL LTK-1 LEAK TEST SERVICE KIT

COMPANY NAME _____

LOCATION _____

DATE 12-23-91

ISOTOPE CS-137 STRENGTH: 228 μCi 2-1-89

REMARKS _____

SOURCE S/N 205-43-35

C E R T I F I C A T E O F L E A K T E S T

NUCLEAR TECHNOLOGIES INTERNATIONAL, INC.

P.O. BOX 13327 ODESSA, TEXAS 79768 (915)563-4127

C E R T I F I C A T E O F L E A K T E S T

CUSTOMER: NUCLEAR PHARMACY OF IDAHO ORDER#:
 6053 CORPORAL LANE
 BOISE, IDAHO 83706

SERIAL NUMBER OF SOURCE: 205-43-35

ISOTOPE: CS-137

ACTIVITY: 238 uCi

MANUFACTURER:

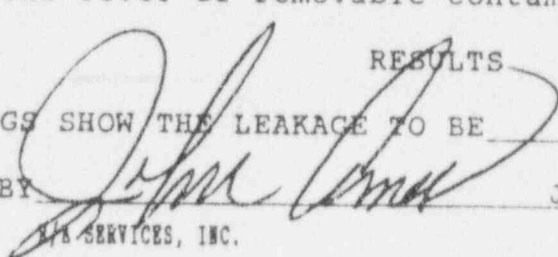
DATE OF TEST: 12/23/91

REMARKS:

This is to certify that the leak test on the indicated source has been counted on the specified date and the results shown accurately represent the level of removable contamination.

RESULTS

OUR FINDINGS SHOW THE LEAKAGE TO BE _____ <.0001uCi

CERTIFIED BY  _____ JOHN AMES DATE: 01/20/92
LTA SERVICES, INC.

(NOTE: Removable contamination equal to or greater than 5.0E-3 microcuries (11,000 dpm) constitutes a leaking source).

NUCLEAR PHARMACY OF IDAHO
6053 CORPORAL LANE,
BOISE, IDAHO 83704

PAGE: 1

HOSPITAL: ALBUQUERQUE NUCLEAR

BILLING DATE: 01/92

DATE	RX NO.	ISOTOPE (& KIT):	PATIENT NAME	ACTIVITY	PRICE
/31/92	2277	CESIUM-137 RESIN	DEPT USE	1.232 HCl	\$0.00
	2278	SHIPPING-FEDERAN/A	DEPT USE	1.0 CHG	\$39.25
			(39.25)		\$39.25
				SUB-TOTAL:	\$39.25
				TAX:	\$0.00
				DELIVERY CHARGES:	\$0.00
				TOTAL:	\$39.25

QUARTERLY DOSE CALIBRATOR LINEARITY TEST RECORD

Location: NPI Qtr: 1st 1993

Date Test Started: 3/13/93 Person Performing Test: Neil Greer

Dose Calibrator Make: CADIZEC

Model: CRC 102 Serial: 10434

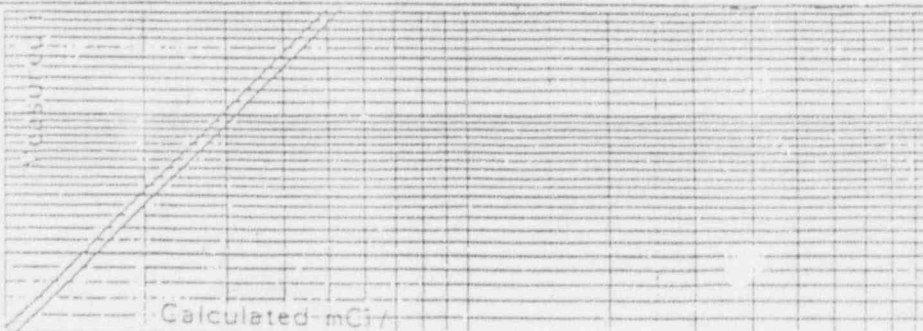
GUIDE FREQ	ACTUAL FREQ	MEAS. NET	CAL. ACTIV.	Act. Dif.	% Error	
(c1) Decay Factor	Decay Factor Time	ACTIV. (b)	(30 hr Meas. Act. X a) (c)	Cal. Act. (b-c) ÷ c (d)		
3/13	.633	1200	31.633	4359.1	4023.7	+8.3
3/13	15.853	1800	15.533	2104.6	2013.9	+4.5
3/14	1.995	1200	1.995	233.6	253.8	-7.9
3/14	1	1500	1	127.2	-	-
3/15	0.126	1200	0.126	17.4	219.160	+8.8
Comments:						

* % Error should be < ± 5.0%

Net Activity = Activity - Bkg.

GUIDE FREQ	ACTUAL FREQ	MEAS. NET	CAL. ACTIV.	Act. Dif.	% Error	
(c1) Decay Factor	Decay Factor Time	ACTIV. (b)	(30 hr Meas. Act. X a) (c)	Cal. Act. (b-c) ÷ c (d)		
3/15	.063	1500	.063	7.81	8.01	-2.5
3/16	.00788	1200	.00788	0.940	1.50	-6.0
3/16	.00394	1800	.00394	0.465	0.501	-7.2
3/17	.000493	1200	.000493	6.0612	0.0627	-2.4
3/17	.000247	1500	.000247	0.0349	0.0314	+10.0
3/18	.000348	1200	.000348	0.0411	0.00443	-7.2
Comments:						

* % Error should be < ± 5.0%



QUARTERLY DOSE CALIBRATOR LINEARITY TEST RECORD

Location: NPI Qtr: 14 19 93
 Date Test Started: 3/13/93 Person Performing Test: Ma O. Beggs
 Dose Calibrator Make: CAPI TEC
 Model: CRC 5 Serial: 50165A

Hr	GUIDE FREQ	ACTUAL FREQ		MEAS. NET ACTIV. (b)	CAL. ACTIV. (30 hr Meas. Act. X a) (c)	Act. Dif. Cal. Act. (b-c) ÷ c (d)	% Error dX100*
	(c1) Decay Factor	Time	Decay Factor				
3/13	0	31.633	1200	31.633	4302.0	396.04	+8.6
3/13	6	15.853	1800	15.853	2090.3	1984.8	+5.3
3/14	24	1.995	1200	1.995	230.8	249.8	-7.6
3/14	30	1	1800	1	125.2	-	-
3/15	48	0.126	1200	0.126	16.9	15.8	+6.3
Comments:							

* % Error should be < ± 5.0%

Net Activity = Activity - Bkg.

Hr	GUIDE FREQ	ACTUAL FREQ		MEAS. NET ACTIV. (b)	CAL. ACTIV. (30 hr Meas. Act. X a) (c)	Act. Dif. Cal. Act. (b-c) ÷ c (d)	% Error dX100*
	(c1) Decay Factor	Time	Decay Factor				
3/15	54	.063	1800	.063	7.55	7.89	-4.3
3/16	72	.00788	1200	.00788	.925	0.986	+6.2
3/16	78	.00394	1800	.00394	.47	.493	-4.7
3/17	96	.000493	1200	.000493	.05855	.06	-5.2
3/17	102	.000247	1800	.000247	.0321	.0304	+3.9
3/18	120	.0000348	1200	.0000348	.00392	.00436	-10.4
Comments:							

* % Error should be < ± 5.0%

