

October 23, 2009

Office of FSMEMP U.S. Nuclear Regulatory Commission Washington, DC 20555-001

RE: Initial Notification # 45406 [per 10 CFR 30.50(b)(2)(i)]

Dear Sir or Madam,

This letter is a follow-up to the initial notification provided by Advance Gauging to your agency on October 2<sup>nd</sup>, 2009, regarding the results of a sealed source leak test.

We were notified by Advance Gauging on October 2<sup>nd</sup>, 2009, that our Am-241 source located inside a nuclear gauge (Gamma Instruments, Inc. (now out of business), model GR100, serial number 941-001) had removable contamination. NuPro Steel, LLC immediately removed the nuclear gauge from service as a precautionary measure.

While we are still pursuing the final disposition of the source, we felt it is appropriate that we provide your agency with an update. There has been no change regarding the safe conditions associated with the locked-out nuclear gauge since the initial notification by Advance Gauging to Mr. Bill Huffman at the N.R.C. Operations Center on October 2<sup>nd</sup>.

We are currently working with Chase Environmental Group to develop a strategic plan to manage the safe recovery and subsequent final disposition of the source contained inside the nuclear gauge.

If you have any questions, please call me at 765-361-2659.

Sincerely,

David A. Sulc Radaition Safety Officer NuPro Steel, LLC.

Enclosure: (5) Leak test results for Gauge #941-001 (1) Email correspondence to the NRC of event notification (from Advance Gauging).

FSME12

	U.S. and Mexico S	ource Manufacturer Source Model	: GAM : GR	100						
	Send all kits and requests to:		<u></u>	<u></u>						
	SUNTRAC Services, Inc. Advanced Gauging Technologies, L.L.C. 8430 Estates Court Plain City, OH 43064-8015 (614) 873-6691									
	ATTN: SIT-KIT		EXTE	RNAL						
	CAUTION: Conduct a survey on the outside of each reading over 0.5 mR/hr at contact with the	n package placed in e envelope or packa	the U.S. Mails ge shall not b	s. Any e mailed.						
	LEAK TEST INVENTOR	(/REPORT FORI	V							
	Company Name: NUPRO STEEL, LLC		STEVE #	SIRK						
	Address: P.O. Box 907 City: CRAWFORD	osville State: IN	_ Zip Code: _	47933						
	Isotope: Am 241	Activity:	1000	mCi						
	Source Serial No: NIA	Leak Te	est Date: <u>8/</u>	4/09						
<i></i>	Device Serial No: 941-00	7								
	Smear Taken By: Athn Fearm	ig								
	DO NOT WRITE BELC	OW THIS LINE								
	This is to certify that the above described smear/sw indication of source leakage.	vab has been assayo	ed at our facili	ities for						
	Our findings show the leakage to be:	ALPHA BETA-( .0001 200	<u>βAMMA</u> ,=⇒/ μC	i (Wet)						
	Certified By:	LDate:	8 , 31 ,	07						
	(Texas Radioactive License No. L0306	)2)								

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Revisions: November 1993 SSI-02

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U.S. and Mexico

Source Manufacturer: <u>GAMMA</u> Source Model: <u>GRIOO</u>

Send all kits and requests to:

### SUNTRAC Services, Inc. Advanced Gauging Technologies, L.L.C. 8430 Estates Court Plain City, OH 43064-8015 (614) 873-6691

ATTN: SIT-KIT

INTERNAL

CAUTION: Conduct a survey on the outside of each package placed in the U.S. Mails. Any reading over 0.5 mR/hr at contact with the envelope or package shall not be mailed.

#### LEAK TEST INVENTORY/REPORT FORM

Company Name:	NUPRO	STEEL L.L.C.		STEVE KI	RK
Address: <u>P.o. Bo</u>	× 907	City: CRAWFORDS	ivilue State:	Zip Code:	47933
Isotope:	Am 24	1	Activity:	1000	mCi
Source Serial No:		NIR	Leak	Test Date: 🍂	4/09
Device Serial No		941-001			
Smear Taken By: .	John	- Fearing	}		
	D		THIS LINE		

This is to certify that the above described smear/swab has been assayed at our facilities for indication of source leakage.

·.;

Our findings show the leakage to be:

ALPHA	BETA-GAMMA	
0.0125	0.0015	µCi (Wet)

\_\_\_ Date: 8

Certified By:

and

SUNTRAC Services, Inc. Representative (Texas Radioactive License No. L03062)

Revisions: November 1993 SSI-02

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### SEALED SOURCE LEAK TEST CERTIFICATE

	Nupro Steel, LLc	Attn: Suntrac
· ·	PO Box 907	phone:
	Crawfordsville, IN 47933	code: 742

-	SOURCE INFORMATION			1997 - 19
Isotope	Americium 241			
Source Serial Number	941-001-Internal	*		
Activity	1000 mCi			
Make & Model	Gamma Industries			
Device Number	N/A			
Wiped by	John Fearing Date of	fWipe	08/04/2009	n n Star in



The above source wipe has been assayed to determine source leakage. Regulations define a source as leaking when an appropriate wipe test has removed 0.005 uCi or more of activity.

Microcurie conversion is DPM / 2.2 X106

all sources are simultaneously checked for alpha and beta-gamma activity

September 3, 2009 Date of Assay 9246.001 NSS assay No.

Greg Fox

Assayed by

NSS 2437 Bay Area Blvd., #297 Houston, TX 77058 (Texas License L04339)

Form-D





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### **RSA Laboratories**

A Division of Radiation Safety Associates

# Sample Documentation and

report of results

Company Name: Radiosotive Materials License #: NUPRO Steel, LLC Not indicated		
Company Address: P. O. Box 907 Crawfordsville, IN 47933		
Person to be contacted: John Fearing	Phone:	Fax:

For the source being leak tested:

Source Manufacturer:	Source Model No.:
Gamma	GB 100
Person performing wipe test:	Source Serial No.:
How often must this Leak Test be performed?	Date Leak Test Performed:
6 Months	9/10/2009
Source Isotope:	Source Quantity:
Am-241	1000 mCi

Return these samples, and this data sheet in an envelope or package marked LEAK TEST ENCLOSED to:

RSA Laboratories 21 Pendleton Drive, P.O. Box 61 Hebron, CT 06248

If you have any questions about how to perform this sample procedure, call RSA Laboratories at (860) 228-0721.

Hebron, CT

### SEALED SOURCE LEAK TEST CERTIFICATION

This is to certify that a leak test performed on the above-named source indicates the presence of <0.005 µCi of total removable radioactivity.

		SAMPLE	ANALYSIS	KESULTS		
Isotope	Total CPM	BG CPM	Eff (%)	dpm	Activity (uCi)	MDA (uCi)
Alpha	0.57	0.27	27.29%	<3.23	<1.45E-06	1.45E-06
Beta/Gamma	1.43	0.53	40.80%	<2.66	<1.20E-06	1.20E-06
Am-241	Gamma Spec	Gamma Spec	Gamma Spec	Gamma Spec	<1.02E-05	1.02E-05

### OAN ON TO ANTAT MOTO DESCRIPTION

Person Performing the A	nalysis:	Date of Analysis:	09/24/2009
Signature:	CA		R\$A ID # : 26485
Analysis performed by:	RSA Laboratories 21 Pendleton Drive		

NRC License No.: 06-30007-01

### W-100 Leak Test Kit



## RSA Laboratories

foty Associates Sample

# Sample Documentation and report of results

Company Name: NUPRO Steel, LLC	ty Name: Radioactive Materials License #: D Steel, LLC Not indicated		
Company Address: P. O. Box 907 Crawfordsville, IN 47933			
Person to be contacted: John Fearing	Phone:	Fax:	

For the source being leak tested:

Source Manufacturer:	Source Model No.:
Gamma	GR100
Person performing wipe test:	Source Serial No.:
John Fearing	941-001-B (CAPSULE)
How often must this Leak Test be performed?	Date Leak Test Performed:
«company name»	9/10/2009
Source Isotope:	Source Quantity:
Am-241	1000 mCi

Return these samples, and this data sheet in an envelope or package marked LEAK TEST ENCLOSED to:

RSA Laboratories 21 Pendleton Drive, P.O. Box 61 Hebron, CT 06248

If you have any questions about how to perform this sample procedure, call RSA Laboratories at (860) 228-0721.

### SEALED SOURCE LEAK TEST CERTIFICATION

This is to certify that a leak test performed on the above-named source indicates the presence of  $<0.005 \ \mu$ Ci of total removable radioactivity.

Isotope	Total CPM	BG CPM	Eff (%)	dpm	Activity	MDA (uCi)
Alpha	1011.29	0.27	27.29%	3704.72	1.67E-03	1.45E-06
Beta/Gamma	241.96	0.53	40.80%	591.74	2.67E-04	1.20E-06
Am-241	Gamma Spec	Gamma Spec	Gamma Spec	Gamma Spec	3.43E-03	1.26E-05

#### SAMPLE ANALYSIS RESULTS

Person Performing the Analysis:	Date of Analysis:	09/24/2009
Jay R. Dockendorff		
Signature:	$\mathcal{D}$	RSA ID # : 26486

Analysis performed by:

RSA Laboratories 21 Pendleton Drive Hebron, CT NRC Licenso No.: 06-30007-01



### Sample Documentation and report of results

New West Land	I A COURLO		
Company Name:	Radioactive Materials License #:		
NUPRO Steel, LLC	Not indicated		
Company Address:			
P. O. Box 907			
Crawfordsville, IN 47933			
Person to be contacted:	Phone:	Fax:	
John Fearing			

**RSA Laboratories** 

A Division of Radiation Safety Associates

For the source being leak tested:

Source Manufacturer:	Source Model No.:		
Gamma	GR100		
Person performing wipe test:	Source Serial No.:		
John Fearing	941-001-C (CAPSOLE)		
How often must this Leak Test be performed?	Date Leak Test Performed:		
6 Months	9/10/2009		
Source Isotope:	Source Quantity:		
Am-241	1000 mCi		

Return these samples, and this data sheet in an envelope or package marked LEAK TEST ENCLOSED to:

RSA Laboratories 21 Pendleton Drive, P.O. Box 61 Hebron, CT 06248

If you have any questions about how to perform this sample procedure, call RSA Laboratories at (860) 228-0721.

#### SEALED SOURCE LEAK TEST CERTIFICATION

This is to certify that a leak test performed on the above-named source indicates the presence of  $<0.005 \ \mu$ Ci of total removable radioactivity.

SAMPLE ANALYSIS RESULTS						
Isotope	Total CPM	BG CPM	Eff (%)	dpm	Activity (uCi)	MDA (uCi)
Alpha	2093.14	0.27	27.29%	7669.02	3.45E-03	1.45E-06
Beta/Gamma	112.62	0.53	40.80%	274.73	1.24E-04	1.20E-06
Am-241	Gamma Spec	Gamma Spec	Gamma Spec	Gamma Spec	3.38E-03	1.13E-05

Person Performing the Analysis:	Date of Analysis:	09/24/2009
Jay R. Dockendorff		
Signature:		RSA ID # : 26487

Analysis performed by:

RSA Laboratories 21 Pendleton Drive Hebron, CT NRC License No.: 06-30007-01



"Scott Cook" <ScottC@AdvGauging.com> 10/02/2009 03:11 PM To <dsulc@ns-ind.com>

cc bcc

Subject FW: Event Notification #45406

From: Scott Cook [mailto:ScottC@AdvGauging.com] Sent: Friday, October 02, 2009 2:28 PM To: 'hoo.hoc@nrc.gov' Cc: 'David.sulc@nucor.com'; 'Steve.kirk@nucor.com'; 'SWinters@ChaseEnv.com' Subject: Event Notification #45406

Dear Sirs,

I spoke with Bill Huffman at the N.R.C. Operations Center earlier today and filed the following report via telephone.

Our company performs semi-annual leak tests on sealed sources for customers all over North America. Our contact information is:

Advanced Gauging Technologies, L.L.C. 8430 Estates Court Plain City, Ohio 43064-8015 (614) 873-6691

Recently, our laboratory reported abnormal results for a leak test that was performed for this customer:

NuPro Steel, L.L.C. P.O. Box #907 Crawfordsville, Indiana 47933 (765) 362-3110

The contaminated device is a one Curie Am241 sealed source capsule, which is secured inside a source head device. The capsule manufacturer and serial number are unknown. The source head was manufactured by Gamma Instruments, Inc. (now out of business), model GR100, serial number 941-001.

The normal leak test procedure for this device is to wipe the external areas of the source head, especially at the gasket mating surfaces. Our company normally performs this service on a semi-annual basis for this customer. In fact, we have done several thousand such tests over the last decade and have never before seen a contaminated source.

On a recent service visit to this location, we partially disassembled the source head device to inspect the electrical components inside. Our field service engineers are trained to do a supplemental leak test directly on the source capsule any time the source device is disassembled, so two separate leak tests were done at this time. The leak test performed

directly on the capsule showed contamination, and the external leak test did not.

There was no contamination detected on the exterior of the source head device. Therefore, there are no personnel or public safety or health issues with regard to the internal contamination. However, it is impossible to know whether this source was contaminated when it was originally assembled, or if it started leaking at some point in the last few years. For this reason, we feel it would be prudent to take the following actions:

1. Move the GR100 C-frame off sheet, so that it will not be damaged by passing steel.

2. Power the GR100 thickness gauge down.

3. Inside the electronics cabinet, lock out the shutter by turning the keyswitch to the SHUTTER CLOSED position.

4. Evaluate the possibilities of source disposal and replacement, and process accordingly.

I will fax copies of the leak test results to (301) 816-5151 shortly.

Scott A. Cook, President RDVANCED GRUGING a TECHNOLOGIES, LLC. O QUALITY INDUSTRIAL INSTRUMENTATION phone: 22 (614) 873-6691 (x101) **(614) 873-6770** fax: email: ScottC@AdvGauging.com web: www.AdvGauging.com