

M & L Testing Equipment (1995) Inc. 31 Dundas St. E. (Hwy #5) Dundas, ON L9H 7H8 905-689-7327 800-263-9244 Fax: 905-689-3978 *e-mail: info@mltest.com*

CERTIFICATE of LEAK TESTING For Sealed Radioactive Sources

This is to certify that the sealed sources possessed by the licencee as listed below have been leak tested by the sampling and measuring methods indicated. The measured leakage, if any, is less than the allowable regulatory limit of 200 Bq set by the Canadian Nuclear Safety Commission. Please retain this proof of testing for a minimum of three years.

Licencee Information

Licencee: HOTWELL CANADA LTD. Business Address: 516 Moraine Rd. NE Calgary, Alberta T2A 2P2

CNSC Licence No.: Contact Person: Phone/Fax No.:

Action to be taken

13678 HERMANN KRAMER (403) 852-3477

Leak Testing Services Information

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	SAMPLER	MEASURER		
Contact name:	Rob Roche	Rob Roche		
Company Name:	M&L Testing Equipment (1995) Inc	M&L Testing Equipment (1995) Inc		
Nuclear Gauge / Serial No.	NEEI 71-1 / 127			
Isotope / Quantity	Am-241Be / 111GBq			
Counts measured in cpm	0			
Counting Efficiency	0.3			
Activity in Bq	0			
Counting Date	10/30/2009			

Dry Wipe Sampling - A dry Q-tip was brought into direct contact with the source holder and different parts of the source housing interfaces. Each Q-tip was then returned to its numbered tube, and held for counting. (Refer to procedure M&L LTSP-06)

NIL

Ludium 3030E Counting System - each sample was measured for alpha and beta activity on a dual channel Ludium 3030E counting system. The lower limit of detection is 5 Bq for alpha and beta radiation. The measuring efficiencies are available in M&L Measuring Procedure LTMP-06.

Action to be taken: Sources which meet the CNSC criterion of < 200 Bq leakage remain in service. Any source which fails to meet this criterion will be taken out of service, placed in secure storage, and retested to determine actual leakage. Leaking sources are reported to the CNSC and disposed if deemed beyond repair.

Certified By:

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Date: October 30, 2009



ALARA Consultants Inc. 9556-27 Avenue Edmonton, AB T6N 1B2 Tel (780) 944-2557 Fax (780) 944-2558 www.alaraconsultants.com

SEALED RADIOACTIVE SOURCE LEAK TEST MEASUREMENT CERTIFICATE

LICENSEE INFORMATION

Company Name:	Hotwell Canada	CNSC Licence #:	13678-2-11.2
Contact Person:	Rodney Kleim	Telphone Number:	403-852-3477
Address:	516 Moraine Rd. N.E. Calgary, AB T2A 2P2	Fax Number:	(403)247-3482

MEASUREMENT PARAMETERS

RadioIsoto	ope Measurement Method	Equipment Description:	Calibration Date	Verification Date	Detection efficiency (%)	Background Count (CPM)	*S-B min (CPM)
Am241B	e Gamma Counter	Packard Cobra	1 May 2011	5 May 2011	35	127	28

NOTE: *S-Bmin refers to the minimum number of counts above background that have to be detected in order for the NET CPM value (below) to be considered significant at the 95% confidence level.

MEASUREMENT RESULTS Gamma Industries NB-HP 256 Am241Be

Sample Date	Kit#	Source ID:	Radioisotope	Gross CPM	Net CPM	Bq Value	Conclusion of Leak Test
27 Apr 2011	256	256	Am241Be	126	-1	Background	< CNSC criterion of 200 Bq

COMMENTS/ACTIONS

All leak test sample measurements were less than the CNSC leak test criterion of 200 Becquerels. No action required.

Measurement Date: 5 May 2011

Next Leak Test Due: May 05, 2012

Measurer Name: Deryck Burgess

Signature:

Deryck Burgess

Note: The licensee shall retain this certificate, sampling certificate and the sealed source inventory record for a minimum of 3 yrs.



CNSC Licence No.:

Action to be taken

Contact Person: Phone/Fax No.: *M & L Testing Equipment (1995) Inc.* 31 Dundas St. E. (Hwy #5) Dundas, ON L9H 7H8 905-689-7327 800-263-9244 Fax: 905-689-3978 *e-mail: info@mltest.com*

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Licencee Information

Licencee: HOTWELL CANADA LTD. Business Address: 516 Moraine Rd. NE Calgary, Alberta T2A 2P2

> 13678 HERMANN KRAMER (403) 852-3477

Leak Testing Services Information

	SAMPLER	MEASURER
Contact name:	Rob Roche	Rob Roche
Company Name:	M&L Testing Equipment (1995) Inc	M&L Testing Equipment (1995) Inc
Nuclear Gauge / Serial No.	GI - NB-	HP / 256
Isotope / Quantity	Am-241Be / 112.48GBq	
Counts measured in cpm	0	
Counting Efficiency	0.3	
Activity in Bq	0	
Counting Date	10/30/2009	

Dry Wipe Sampling - A dry Q-tip was brought into direct contact with the source holder and different parts of the source housing interfaces. Each Q-tip was then returned to its numbered tube, and held for counting. (Refer to procedure M&L LTSP-06)

NIL

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Action to be taken: Sources which meet the CNSC criterion of < 200 Bq leakage remain in service. Any source which fails to meet this criterion will be taken out of service, placed in secure storage, and retested to determine actual leakage. Leaking sources are reported to the CNSC and disposed if deemed beyond repair.

Certified By:

Date: October 30, 2009



ALARA Consultants Inc. 9556-27 Avenue Edmonton, AB T6N 1B2 Tel (780) 944-2557 Fax (780) 944-2558 www.alaraconsultants.com

SEALED RADIOACTIVE SOURCE LEAK TEST MEASUREMENT CERTIFICATE

LICENSEE INFORMATION

Company Name:	Hotwell Canada	CNSC Licence #:	13678-2-11.2
Contact Person:	Rodney Kleim	Telphone Number:	403-852-3477
Address:	516 Moraine Rd. N.E. Calgary, AB T2A 2P2	Fax Number:	(403)247-3482

MEASUREMENT PARAMETERS

								L
Radioisotope	Measurement Method	Equipment Description:	Calibration Date	Verification Date	Detection efficiency (%)	Background Count (CPM)	*S-B min (CPM)	
Am241Be	Gamma Counter	Packard Cobra	1 May 2011	5 May 2011	35	127	28	l

NOTE: *S-Bmin refers to the minimum number of counts above background that have to be detected in order for the NET CPM value (below) to be considered significant at the 95% confidence level.

MEASUREMENT RESULTS Gulf Nuclear 71-1 127 Am241Be

Sample Date Kit#	Source ID:	Radioisotope	Gross CPM	Net CPM	Bq Value	Conclusion of Leak Test
27 Apr 2011 127	127	Am241Be	118	-9	Background	< CNSC criterion of 200 Bq

COMMENTS/ACTIONS

All leak test sample measurements wer	e less than the CNSC leak test criterion of 200 Bec	puerels. No action required.

Measurement Date: 5 May 2011

Next Leak Test Due: May 05, 2012

Measurer Name: Deryck Burgess

Signature: Denyck Bungees.

Applied Health Physics, Inc.

2986 Industrial Blvd., Bethel Park, Pa 15102 Phone: (412) 835-9555 Fax: (412) 835-9559 E-Mail address: ahp.inc@comcast.net - Web Page address: WWW.APPLIEDHEALTHPHYSICS.COM

Mark V Leak Test Certificate

This certificate shall not be reproduced except in full, without the written approval of Applied Health Physics, Inc.

Device Information

Device Serial Number:	NB-256	Source Serial Number:	NB-256
Device Manufacturer:	Roke Technologies	Source Manufacturer:	Gamma Industries
Device Model:	МСТ	Source Model:	NB (HP)
Device Type: Other	Make:	Location:	
Radioisotope: AM-241Be	Activity: 3 Ci (111 GBq)		

Leak Test Information

Leak Test Performed by: Jason Booher	Leak Test Performed on:	10/28/2010
Leak Test Specimen Number: A-026410	Leak Test Analysis Date:	11/1/2010
Leak Test Analysis Performed by: C. Barto		
Leak Test Results Indicate an Activity of: <pre>< 0.005 uCi</pre>		

Notification

The analysis of this leak test sample was provided by Applied Health Physics, Inc. Pennsylvania Department of Environmental Protection License Number PA-0228A. In the event this specimen indicates leakage and or contamination in excess of 0.005 microcuries, Applied Health Physics, Inc. will notify you promptly by telephone; at such time you will need to take the appropriate actions required by the governing regulatory agency.

Client Information

Horizontal Wireline Services, LLC			Contact:	Joe Sites
2900 Jacks Run Road			Phone:	(972) 951-8725
			Contact:	
			Phone:	
White Oak	РА	15131		

This certificate is an essential record and should be maintained for inspection by the regulatory agency.

Next LT Due <u>4/28/2011</u>

127, 256

SHIPPER'S DECLARATION FOR DANGEROUS GOODS 873678845476 Shipper: Air Waybill No.-8685-7855-9277-Horizontal Wireline Services, LLC 2900 Jacks Run Road Page 1 of 1 Page(s) White Oak, PA 15131 Shipper's Reference Number: HWS-0211-1 (optional) Consignee: Roke / Hotwell Services 516 Moraine Road, NE Calgary Alberta, Canada T2A 2P2 Attention: Hermann Kramer Telephone: 403-852-3477 WARNING Two completed and signed copies of this Declaration must be handed to the operator. Failure to comply in all respects with the applicable Dangerous Goods Regulations may be in breach of the applicable law, subject to legal penalties. TRANSPORT DETAILS This Declaration must not, in any circumstances, be completed and/or signed This shipment is within the limitations prescribed for Airport of Departure by a consolidator, a forwarder or an IATA cargo agent. (delete non-applicable): CARGO AIRCRAFT ONLY Airport of Destination: Shipment type (delete non-applicable): RADIOACTIVE NATURE AND QUANTITY OF DANGEROUS GOODS **Dangerous Goods Identification** Class or Packing Division Packing Quantity and type of packing Authorization UN or ID Instructions Proper Shipping Name (Subsidiary Group No. Risk) Special Form Am-241 111.000 GBq III-Yellow UN3332 Radioactive material, Type A package, special 7 Certificate: form - RQ T.I. = 6.5 USA/0114/S-96 Rev.7 L = 36 cm W = 36 cm H = 36 cm Solid/Metal 111.000 GBa UN3332 Radioactive material, Type A package, special 7 Am-241 **III-Yellow** Special Form Certificate: form - RQ T.I. = 6.5USA/0166/S-96 Rev.10 L = 36 cm W = 36 cm H = 36 cm Solid/Metal Additional Handling Information: 1. This shipment may be carried on passenger aircraft outside U.S. jurisdiction. 2. Shipment prepared in accordance with 49CFR 171.23 and 171.24. 3. ERG Code 7L 4. 24 Hour Emergency Response Telephone Number: Applied Health Physics, Inc. 1-800-332-6648 5. Package I.D. #: RHS-0211-1 , Seal #(s): 001387 ; Package I.D. #: RHS-0211-2 , Seal #(s): 001138 Name / Title of Signatory TAMARA DELME R- ADMIN I hereby declare that the contents of this consignment are fully and accurately described above by the proper Place and Date shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper White Oak PA USA condition for transport according to applicable international and national governmental regulations. I declare Signature (see warning above) that all of the applicable air transport requirements have been met.



Hotwell Canada Ltd. 516 Moraine Rd NE Calgary Alberta T2A 2P2 April 22, 2010

Attention: RSO

Re: Device Transfer

To Whom it May Concern,

This letter is to acknowledge that Horizontal Wireline Services, LLC has taken possession of the following radioactive material as of April 16, 2010 under the terms and conditions of the Pennsylvania Department of Environmental Protection (PADEP) License # PA-1405:

<u>Manufacturer</u>	Model	<u>Serial Number</u>	Isotope	<u>Activity</u>
Gulf Nuclear	71-1	71-1-127	Am-241Be	3 Ci
Gamma Industries	NB(HP)	NB256	Am-241Be	3 Ci

The material was formally possessed by Hotwell Services located in Delmont, PA. Pennsylvania Department of Environmental Protection (PADEP) License # PA-1091

If you have any questions in regards to the transfer of the above described material, please contact our office at 403 202 3877.

Best regards,

Hermann Kramer

Hotwell Canada Prosident

Destination Applied Health Physics, Inc. Address 2986 Industrial Blvd.

State

City Bethel Park

Contact Anthony Hull

55 m er 1 621

Zip Code 1 (412) 835-9555

15102

PA

Phone

pplied HEALTH PHYSICS, Inc.

1 1

Record # HS-0310-1 Page 1 of 1

Dato 3/24/10

	2986 Indus	lrial Blvd. Belhel	Park, PA 15102 (412) 835-9555	
	Total For Ea	ch Class	Reportable Qty	Proper Shipping Name & Hazard Class	1D Number
Generator Holwell Services	# OF Packages	Weight (Lbs)	If Applicable	(Per 49 CFR 172.101)	
Address 2315 Route 66				Radioactive material, excepted	7 UN2910
City Delmont State PA Zip Code	15626			package-limited quantity of material	7 012510
Contact Andrew Kachonik Phone 412-260-33	27			Radioactive material, excepted	7 UN2911
Shipment # HS-0310-1				package-instruments or articles	1 5112511
				Radioactive material, Type A Package non-	7 UN2915
				special form, non fissile or fissile-excepted	7 012313
Carrier Applied Health Physics, Inc.	- 02	100 1	Pmr241	Radioactive material, Type A package,	7 UN3332
Address 2986 Industrial Blvd.	- ax			special form non fissile or fissile-excepted	7 013552
City Bethel Park State PA Zip Code	15102				
Contact Anthony Hull Phone (412) 835-9	3555				

24 Hour Emergency Contact; (412) 835-9555 or 1-800-332-8648

Radioactive Material Transfer Record and Receipt

					Nauloacuve materia	al francier		- <u>a</u> <u>a</u> a	110001						
Container	Container	Container	Container	Physical			Activity	Special	Source	· Surfa	C8	Radiation	Lovels		
Number	Туре	Volume	Weight	Form	Description of Package	Radionuculide	Bq	Nuclear	Material			Disposal	Transport	DOT Label	49 CFR
		(Cubic Ft)	(lbs)				MBq	Material	(kilograms)	DPM	/CM ²	Container	Index	172.4	03
							GBq	(grams)		Alpha			(1 Meter)		
HS-032410-1	7A	2.67	50	Solid	(1) D.O.T. Type 7A Poly Transport Shield	Am-241Be	111	N/A	N/A	Ø	ø	YMA/ C	Small	Radioactive-	Ħ
**					containing the following for license									Radioaclive-	
					Iransfer.									Radioactive-	
					(1) Gulf Nuclear Model GNG-5									Radioactive-	
					Serial Number NB256									Radioactive-	
				<u> </u>										Radioactive-	
HS-032410-2	7A	2.67	50-	Solid	(1) D.O.T. Type 7A Poly Transport Shield	Am-241Be	111	N/A	N/A	φo	1 1	Prick (Goldf.	Radioactive-	Π
					containing the following for license									Radioactive-	
					transfer:									Radioactive-	
					(1) Gulf Nuclear Model 71-1									Radioactive-	
					Serial Number 71-1-127									Radloactive-	
														Radioactive-	
														Radioactive-	
		5.347	las -				222	N/A	N/A						

This is to cartify that the herein-named materials are properly classified, packaged, marked and labeled, and are In

proper condition for transportation according to the applicable regulations of the Department of Transportation .

~/ ş∕ Dale AHP Representitive Signatur Title 3 Generato Representitive Signature

Survey Instrument Information

Manufacturer: Bickow Model: 2000 BKG: Serial Number: B_1370 Callbration Due Date: 7/20/10 0.02 min/

Revision: 1/2007

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CERTIFICATE OF TRANSFER

HOTWELL CANADA LTD. located at 516 Moraine Road N.E. Calgary, Alberta T2A 2P2 is the owner of the following listed nuclear substances as special form sealed sources:

MANUFACTURER/	RADIOISOTOPE(S) /	SOURCE
MODEL / NUMBER	NOMINAL SOURCE	SERIAL
OF SOURCES	ACTIVITY	NUMBER(S)

Gulf Nuclear (NEEI) / 71-1 / 1 Americium-241/Be: 111 GBq. Gamma Ind. / NB(HP) / 1 Americium-241/Be: 111 GBq. 71-1-127 256

Hotwell Canada Ltd. operates under Canadian Nuclear Substances and Radiation Devices License Number 13678, which allows for the possession, use, export and transfer of nuclear substances and radiation devices.

Hotwell Canada Ltd has transferred the above listed special form sealed sources to Hotwell Services, Inc. located at 2315 Route 66 N. Delmont, Pennsylvania 15626, for the purpose of well logging on May 12, 2009. Hotwell Services, Inc. operates in the United States under NRC License Number 42-31298-01 and Pennsylvania DEP Radioactive Material License Number PA-109, which both allow for the import, possession, use and transfer of the above listed special form sealed sources.

For: HOTWELL CANADA LTD.

Dated: May 12, 2009

JPNN

Hermann Kramer PEng. President

Tel (403) 247 3480 Fax (403) 247 3482

WWW.HOTWELL.CA

Shipper Hotwell Canada Ltd. 516 Moraine Rd. NE Calgary, Alberta					Air Waybill No. 9563 9114 2532 0412 Page 1 of 1 Pages					
T2A 2 Consig				[504	pper's Reference Number				
	ll Services Inc. Route 66 N.					Fed	577			
Delmo	nt, Pennsylvania									
15626							Express	3		
	mpleted and signed co ded to the operator	pies of this Dec	laration mus	st	V	ARNING				
TRANS	PORT DETAILS					ailure to comply in all res				
limitation	oment is within the ns prescribed for: non applicable)	Airport of Dep	arture gary		Dangerous Goods Regulations may be in breach of the applicable law, subject to legal penalties.					
	ENGER CARGO AIRCRAFT AFT ONLY									
Airport	of Destination:	Delmor	nt		Shipment type: (delete non-applicable)					
NAT	URE AND QUANTI	TY OF DANG	EROUS G	OODS	;					
	Dangerous Goods	Identification								
UN or ID No.	Proper Shippi	Proper Shipping Name		Pack- ing Group		Quantity and type of packaging	Packing Inst.	Authorization		
UN 3332	Radioactive Mate Type A Package, Form, Non-fissile Fissile Excepted	Special	7			Am-241/Be, Solid 2 x Type A Packages 2 x 111.0 GBq.	TI: 2x3.0	SP. Form Cert. Attached: USA/0114/S-96 Rev. 7 USA/0166/S-96 Rev. 10		
This sh Emer I he acc clas resp Inte	onal Handling Informat ipment is packed in ac gency Telephone Nu reby declare that the d urately described abo saffied, packaged, mar pects in proper condit rnational and Nationat of the applicable air traditionation	cordance with I mber contents of thi ve by the prop ked and labell ion for transpo I Governmenta	s consignn er shipping ed/placarde ort accordin al Regulatio	nent ar g name ed, and ng to a ons. I d	e ful , and l are pplic ecla	d are Hermann Kramer, in all Place and Date cable Calgary, May 12, 2 re that	atory President	se of emergency.		

INTENDED FOR USE IN OR INCIDENT TO RESEARCH, MEDICAL DIAGNOSIS, OR TREATMENT.