



October 13, 2008

Jim Miller, RSO
Sabia, Inc.
7944 Convoy Ct.
San Diego, CA 92111

RE: Free Release Surveys

Dear Mr. Miller:

This letter is a response to concerns raised by Dr. Katanic at NRC Region IV regarding background values used to free release certain materials and equipment at Sabia's facility. With the additional surveying of previously identified materials and equipment potentially impacted by the variable background, we feel confident we have adequately addressed the concern of proper release of these items.

On October 3, 2008, Philotechnics sent a Health Physics Technician to Sabia's warehouse in Idaho Falls, Idaho to re-survey items which previously had qualified for free release but the NRC raised concerns regarding potential use of a non-conservative background resulting in a large variability in the static readings. For the follow up survey, an area with consistent backgrounds was established inside the warehouse and the background value for the hand-held survey meter was determined by taking ten 1-minute counts and averaging them. Each item surveyed received a 100% scan over its available surface area and a static count was taken at the location of the highest reading from the scan. The average background count was subtracted from the gross count to give net counts in CPM/100 cm². This value was then divided by the efficiency of the hand-held counter to give a value in DPM/100 cm². Wipe samples were taken by applying moderate pressure to the filter paper and wiping an area of approximately 100 cm² on each item. Each wipe was counted on a planchet counter for one minute.

Of the 83 items identified with potentially non-conservative backgrounds, Sabia's staff was able to locate 55, or approximately 66%. These items were brought to the designated area and 31 items from Bay 3 and 24 items from Bay 4 were re-surveyed. Our re-survey efforts resulted in 100% of the items passing the free release criteria of 1,000 DPM/100

cm² for fixed contamination and 200 DPM/100 cm² for removable contamination. The static values of the items re-surveyed ranged from -155 DPM/100 cm² to 622 DPM/100 cm² and the removable values ranged from -22 DPM/100 cm² to 50 DPM/100 cm². Although we could not survey 100% of the items in question, the data from the 55 items surveyed (zero failures) supports the original data set and provides confidence the 28 items which were unable to be located did meet the free release criteria as initially stated.

Attached are the signed free release survey report and calibration certificates for the hand-held survey meter and planchet counter. Please do not hesitate to call if you have any comments or questions.

Sincerely,

A handwritten signature in black ink that reads "Robert Trimble". The signature is written in a cursive, flowing style.

Robert Trimble
Sr. Health Physicist
Philotechnics, Ltd.

Sabia Inc.

Free Release Survey Package

Building: Sabia Warehouse	Survey Unit: N/A	Page 1 of 3
Survey Unit Description: Free release re-survey of materials and equipment in Bays 3 & 4		
Survey Type (Check One): <input type="checkbox"/> Characterization <input checked="" type="checkbox"/> Free Release Survey <input type="checkbox"/> Final Status		
Survey Completed By: Pat McCloskey <i>PM</i>		Date Completed: 10/3/2008
Survey Completed By:		Date Completed:

Beta

Inst. #1	Inst. Type: 2350-1	Inst. S/N 203461	Cal Due: 5/8/2009	MDC 372	BKG (cpm)
	Probe Type: IBP19DD	Probe S/N K102	Inst. Eff. 40.95%	Count Time 1 min.	1030.4

Beta

Inst. #2	Inst. Type: 3030E	Inst. S/N 251428	Cal Due: 7/30/2009	MDC 79	BKG (cpm)
	Probe Type: 43-10-1	Probe S/N PR268009	Inst. Eff. 41.30%	Count Time 1 min.	40.2

Inst. #3	Inst. Type:	Inst. S/N	Cal Due:	MDC	BKG (cpm)
	Probe Type:	Probe S/N	Inst. Eff.	Count Time	

Inst. #4	Inst. Type:	Inst. S/N	Cal Due:	MDC	BKG (cpm)
	Probe Type:	Probe S/N	Inst. Eff.	Count Time	

Inst. #5	Inst. Type:	Inst. S/N	Cal Due:	MDC	BKG (cpm)
	Probe Type:	Probe S/N	Inst. Eff.	Count Time	

Inst. #6	Inst. Type:	Inst. S/N	Cal Due:	MDC	BKG (cpm)
	Probe Type:	Probe S/N	Inst. Eff.	Count Time	

Comments:

100% scan survey was performed on each item.

Upon passing scan survey, a static count and removable wipe were taken at the location of highest activity.

If scan survey was indistinguishable from background a random static and wipe location were selected.

Reviewed By: <i>Bill Quinn</i>	Date: 10-6-08
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Sabia Inc.
Free Release Survey Package

Building: Sabia's Warehouse	Survey Unit: N/A	Page 2 of 3
Survey Unit Description: Free release re-survey of materials and equipment in Bays 3 & 4		
Survey Type: <input type="checkbox"/> Characterization <input checked="" type="checkbox"/> Free Release Survey <input type="checkbox"/> Final Status		
Survey Completed By: Pat McCloskey <i>PM</i>	Date: 10/3/2008	
Survey Completed By:	Date:	

Inventory I.D. & Description		Static Measurement Survey Results		Removable Activity	
		Gross Beta Counts cpm/100cm ²	Net Beta Activity dpm/100cm ²	CPM Beta cpm/100cm ²	DPM Beta dpm/100cm ²
3-0141	Poly Molding	1128	238	44	9
4-0178	Sterilite TXU BLIND 6, 7 TXU-1, TXU-2, 28464-064	1158	312	56	38
4-0093	Sterilite 28254-10, 28464-019 28464-30, 28464-31, 28464-51	1079	119	40	0
4-0098	Sterilite 28464-006, 28464-023 28254-029, 28254-006, 28254-	1100	170	52	29
4-0090	Sterilite C11-12, P2-4	1134	253	50	24
4-0078	Standard #3	1090	146	41	2
4-0076	Standard #1	1067	89	50	24
4-0106	Standards #5	967	-155	31	-22
4-0107	Standards #6	1030	-1	47	16
3-0395	Bismouth Wheel	1020	-25	46	14
3-0292	Pieces of Lead	1105	182	43	7
3-0262	Box of Graphite	1052	53	44	9
3-0267	Pieces of Graphite	1000	-74	39	-3
3-0059	Empty 55 Gallon Drum	1022	-21	41	2
4-0194	Box of Round Tubing	1151	295	41	2
4-0134	Box of Round Tubing	977	-130	54	33
4-0135	Box of Round Tubing	998	-79	40	0
3-0408	Purple Chair	1198	409	52	29
3-0290	(4) Brass Cylinders	1224	473	41	2
3-0352	Lead Sheet	1181	368	42	4
4-0171	Sterilite TXU-027, TXU-026 TXU-036, 28464-032, 28464-035	1155	304	33	-17
4-0175	Sterilite TXU-4, TXU-16 TXU-17, TXU-14, TXU-24	1085	133	48	19
4-0181	Sterilite TXU BLIND 9, 12, 21 TXU BLIND 24, 29	1271	588	36	-10
4-0092	Sterilite 28464-026, 28464-033, 28464-034, 28464-053, 28254-	1018	-30	44	9
4-0094	Sterilite 28254-009, F8, P8, D10 BBM#3	1250	536	47	16
4-0095	Sterilite P5, F2B-018, C2A-041, 28464-014, 28464-039	1216	453	42	4
4-0096	Sterilite 28254-014, 28254-038 28464-038, 28464-054, 28464	1170	341	53	31
4-0097	Sterilite BBM-5, BBM-8-9, 28464-017, 28464-046	1251	539	50	24
4-0083	Sterilite D4, D12, F7, P9, P11	1285	622	43	7
4-0091	Sterilite 28254-013, 28464-004, 28464-011, 28464-012, 28464	1275	597	45	12

Reviewed By: <i>Bob Quinn</i>	Date: 10-6-08
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GRIFFIN INSTRUMENTS



CALIBRATION CERTIFICATE FOR

2350-1

SERIAL#

203461

Owner: PHILOTECHNICS

DATE: 05/08/08

LOCATION:

Griffin Inst

TECH: Joanne Glenn

DATE LAST CAL EXPIRES:

Reason For Calibration:

Due For Calibration

Repair (See Remarks)

Other (See Remarks)

Due and Repair (See Remarks)

NIST TRACEABLE EQUIPMENT USED DURING CALIBRATION

MODEL: M-500

SERIAL #: 114512

CAL. DUE: 12/20/08

MODEL:

SERIAL #:

CAL DUE:

Fast/Slow Switch working properly

Audio Response

Geotropism

CABLE LENGTH 39"

CONDITION: Sat

AF MECHANICAL ZERO: 0

AL MECHANICAL ZERO: 0

NEW BATTERIES: Yes No

BATTERY CHECK: 6.3 V

HV RANGE 400 - 1500 VOLTS

N/A Sat Unsat

HV

AS FOUND HV

AS LEFT HV

500 V:

500

A.F.

1250 V: 1000 V for 177s

1250

A.F.

2000 V: 1500 V for 177s

2000

A.F.

AF INPUT SENSITIVITY (mV):

13

AL INPUT SENSITIVITY (mV):

40

SCALER

SCALE RATE CPM AS FOUND % ERROR AS LEFT % ERROR AS FOUND % ERROR AS LEFT % ERROR

x.1 or x1	100								
	250	250	0.0%	A.F.		250	0.0%	A.F.	
	400								
x1 or x10	1000								
	2500	2502	0.1%	A.F.					
	4000								
x10 or x100	10K		K						
	25K	25.019	K	0.1%	A.F.				
	40K		K						
x100 or x1000	100K		K						
	250K	250.19	K	0.1%	A.F.				
	400K		K						

Is the As Found Data Within 20% of the Set Point?:

Yes

No

REMARKS: Scaler instrument only.

Does Instrument Meet Final Acceptance Criteria?:

Yes

No

Calibration Sticker Attached?:

Yes

No

Date Instrument is Due For Next Calibration:

05/08/09

Performed/Reviewed by:

Joanne Glenn

Date: 5/8/2008

Entered by:

[Signature] Initials



CALIBRATION CERTIFICATE FOR IBP19DD PROBE # K102

Owner: PHILOTECHNICS

DATE: 06/04/08 LOCATION: Griffin Inst
TECH: Joanne Glenn DATE LAST CAL EXPIRES: 03/10/09

REASON FOR CALIBRATION:

Due For Calibration Repair (See Remarks) Other (See Remarks) Due and Repair

CABLE LENGTH: 5' INPUT SENSITIVITY: 35 mV

NIST TRACEABLE EQUIPMENT AND STANDARDS USED DURING CALIBRATION

MODEL: 2350-1 SERIAL #: 203461 CAL. DUE: 05/08/09
MODEL: SERIAL #: CAL. DUE:

NIST TRACEABLE SOURCES USED

SOURCE #: 2695-00 SOURCE #: PX 725
ISOTOPE: Tc99 Ni ISOTOPE: C14
ACTIVITY(dpm): 18400 ACTIVITY: 48,780 dpm
ASSAY DATE: 03/01/00 ASSAY DATE: 01/21/08

Condition: Sat Unsat Efficiency from last cal.: Pu: Tc Ni: 31.80%
Th: C-14: 9.75%

HV Vernier

Setpoints from last cal.: 750 N/A

<u>Source</u>	<u>Alpha Response CPM</u>	<u>Beta Response CPM</u>	
Background:		546	
Pu-239:			A-B XTLK:
Tc-99 Ni:		6374	B-A XTLK:
As Found Efficiencies Pu, Tc:		31.67%	50.68%
Th-230 / C-14	/	4988	/ 9.11%
Background:			23.80%
Pu-239:			A-B XTLK:
Tc-99 Ni:			B-A XTLK:
As Left Efficiencies Pu, Tc: (Used for repairs)			
Th-230 / C-14	/		/

Is as found efficiency within 20% of the efficiency from the last cal? Yes No (See Remarks)

Note: If the as found data is within 10% of the last calibration and the B-A Xtalk is <1% and the A-B Xtalk is <10%, then the technician may N/A the plateau section and go directly to remarks.



PROBE #: K102

Date: 06/04/08

PLATEAU AND SET POINT DATA

HV / Vernier:	Tc-99 Source Response (CPM):			Pu-239 Source Response (CPM):			Background (CPM):		Net A to B Xtalk: <10%	B to A Xtalk: <1%
	A ch.	B ch.	Net Eff.	A ch.	B ch.	Net Eff.	A ch.	B ch.		
600		350	1.6%					63		
650		1948	9.6%					185		
700		5145	26.0%					359		
750		6374	31.7%					546		

HV / Vernier	Alpha / Beta Bkg (cpm)		546			
	Pu-239	Tc-99 Ni	Tc-99 SS	Th-230	C-14	Sr-90
750	CPM:		8072		4988	4642
	<i>4 pi AL Efficiencies:</i>		<i>20.18%</i>		<i>9.11%</i>	<i>40.95%</i>
	<i>2 pi AL Efficiencies:</i>		<i>32.30%</i>		<i>23.80%</i>	<i>58.57%</i>

Other NIST sources: Th-230 Source #99TH470-1815 4/11/06 30,000 dpm Pu-239 Source #2696-00 7/18/06 18,500dpm
Tc-99 on Stainless Steel Source #99TC470-1814 8/3/99 37,300 dpm, Sr90 Source #2697-00 3/1/00 12,200 dpm

REMARKS: Client replaced samrt detector w/MHV. Calibrated w/2350-1 #203461. Cal due 5/8/09 to match box.

Does Instrument Meet Final Acceptance Criteria?: Yes No
Calibration Sticker Attached?: Yes No
Date Instrument is Due For Next Calibration: **05/08/09**

Performed/Reviewed by: *Jeanne Glenn* Date: 6/4/2008 Entered by: *JG* Initials

2 pi efficiencies denoted in italics.

Calibrations performed to ANSI N323A-1997 standards.



Designer and Manufacturer
of
Scientific and Industrial
Instruments

CERTIFICATE OF CALIBRATION

LUDLUM MEASUREMENTS, INC.
POST OFFICE BOX 810 PH. 325-235-5494
501 OAK STREET FAX NO. 325-235-4672
SWEETWATER, TEXAS 79556, U.S.A.

CUSTOMER PHILOTECHNICS LTD ORDER NO. 20113382

Mfg. Ludlum Measurements, Inc. Model 3030E Serial No. 251428

Mfg. Ludlum Measurements, Inc. Model 43-10-1 Serial No. PR 268809

Cal. Date 30-Jul-08 Cal Due Date 30-Jul-09 Cal. Interval 1 Year

Check mark applies to applicable instr. and/or detector IAW mfg. spec. T. 73 °F RH 49 % Alt 694.8 mm Hg

New Instrument Instrument Received Within Toler. +10% 10-20% Out of Tol. Requiring Repair Other-See comments

Mechanical ck. Window Operation

Audio ck.

Alpha Sensitivity 120 mV Beta Sensitivity 4 mV Beta Window 50 mV

Calibrated in accordance with LMI SOP 14.8 rev 12/05/89.

Instrument Volt Set 700 V High Voltage set with detector connected.

HV Readout (2 points) Ref./Inst. 500 / 501 V Ref./Inst. 1200 / 1197 V

(EEPROM Settings)

Instrument in DPM mode.

(PC) Count Time: 1.0

QC mode turned OFF.

Alpha Alarm: 999999 cpm

Firmware version: 39013 N21

Beta Alarm: 999999 cpm

Overload set at 1/4 turn past OFF.

Alpha/Beta Alarm: 999999 cpm

Battery voltage measured at 13.49 Vdc.

Calibration Due Date: 7/30/2009

C-14 Efficiency = 7.4 % (4 pi) Net

LOC (Loss of Count) time = 30 minutes (default)

Alpha Channel Digital Readout	REFERENCE CAL POINT	INSTRUMENT RECEIVED	INSTRUMENT METER READING*
	<u>400K cpm</u>		<u>39999 (0)</u>
	<u>40K cpm</u>		<u>3999 (0)</u>
	<u>4K cpm</u>		<u>399 (0)</u>
	<u>400 cpm</u>		<u>40 (0)</u>
	<u>40 cpm</u>		<u>4 (0)</u>

Beta/Gamma Channel Digital Readout	REFERENCE CAL POINT	INSTRUMENT RECEIVED	INSTRUMENT METER READING*
	<u>400K cpm</u>		<u>39999 (0)</u>
	<u>40K cpm</u>		<u>3999 (0)</u>
	<u>4K cpm</u>		<u>400 (0)</u>
	<u>400 cpm</u>		<u>40 (0)</u>
	<u>40 cpm</u>		<u>4 (0)</u>

*Uncertainty within ± 10% C.F. within ± 20%

(0) indicates 0.1 minute count

COMMENTS:

At 700 volts, 10 minute background count ≈ 2 cpm (alpha) and 470 cpm (beta)

Ludlum Measurements, Inc. certifies that the above instrument has been calibrated by standards traceable to the National Institute of Standards and Technology, or to the calibration facilities of other international Standards Organization members, or have been derived from accepted values of natural physical constants or have been derived by the ratio type of calibration techniques. The calibration system conforms to the requirements of ANSI/NCSL Z540-1-1994 and ANSI N323-1978. State of Texas Calibration License No. LO-1963

Reference Instruments and/or Sources:

Alpha S/N Pu239 #4337 Beta S/N Tc99 #635/83 Other _____

m 500 S/N 38120 Oscilloscope S/N _____ Multimeter S/N 84260131

Calibrated By: Diana De Roco Date 30-Jul-08

Reviewed By: Diana De Roco Date 30 Jul 08

Ludlum Measurements, Inc.
 Model 3030 Plateau Data

7/30/2008
 9:54:56 AM

Header 1: John Q Public
 Header 2: Serial#251428
 Header 3: Det.#PR268009
 Header 4: Room 7 EastWall
 Header 5: More Comments?
 Header 6: More Comments?

Calibration Due Date: 7/30/2009

Model 3030 Date: 7/30/2008
 Model 3030 Time: 10:34:27 AM

User PC Time: 1.0

Alpha Isotope: Pu239
 Alpha Source Size (dpm): 30900
 Alpha Source Size (µCi): 0.013918919

Beta Isotope: Tc99
 Beta Source Size (dpm): 22900
 Beta Source Size (µCi): 0.010315315

Starting High Voltage: 600
 Starting High Voltage: 800
 High Voltage Increment: 25

Plateau Count Mode: SCALER
 Source Count Time (min): 0.1
 Background Count Time (min): 1.0

HV	Source (Beta)	ALPHA			CrossTalk	Source (Alpha)	BETA			Crosstalk
		Background	Eff				Background	Eff		
600	12227 (206)	0	39.6%	1.4%	7197 (10)	29	31.3%	0.1%		
625	12330 (267)	0	39.9%	1.9%	8139 (12)	33	35.4%	0.1%		
650	12434 (348)	0	40.2%	2.4%	8748 (11)	50	38.0%	0.1%		
675	12431 (343)	0	40.2%	2.4%	9392 (14)	46	40.8%	0.1%		
700	12302 (331)	0	39.8%	2.3%	9503 (14)	42	41.3%	0.1%		
725	12317 (316)	1	39.9%	2.1%	9018 (12)	55	39.1%	0.1%		
750	12518 (268)	1	40.5%	1.7%	7923 (14)	52	34.4%	0.2%		
775	12457 (328)	2	40.3%	2.2%	6951 (96)	59	30.1%	1.4%		
800	12427 (443)	3	40.2%	2.8%	6330 (606)	89	27.3%	9.7%		

Ludlum Measurements, Inc.

Model 3030 MDA Calculation Data

SN: 251428

7/30/2008
9:35:12 AM

Alpha Background(cpm): 0.0
Beta Background(cpm): 42.0

Alpha Efficiency %: 39.8
Beta Efficiency %: 41.3

Confidence Level: 95%

Count Time	Alpha MDA(dpm)	Beta MDA(dpm)
0.1	68.1	236.8
0.5	13.6	102.5
1.0	6.8	79.6
2.0	3.4	66.5
5.0	1.4	57.9
10.0	0.7	54.8
60.0	0.1	52.2
PC (1.0)	6.8	79.6