801 32nd Ave.
Brookings, SD 57006
P. 605/697-8500
F. 605/697-8507

Biogenetic Services, Inc.

Fax

To:	Jim Montgomery	**From:**	Arla Bush
Fax:	925/673-0112	**Pages:**	4
Phone:		**Date:**	12/3/2004
Re:	Calibration report	**CC:**	

Dear Mr Montgomery;

Following are the documents you requested. The last isotope we purchased was one mCi in January, 2004. As of September, 2004 it had decayed to a specific activity of 0.00002 mCi I hope these documents will be sufficient to allow decommissioning to proceed.

Thank you.

Sincerely,

Arla L. Bush, Ph.D.

Form #NS Revision 1, 9-8-01

Dose Rate Probe

Qal-Tek Associates
Instrumentation and Professional Services
101 Technology Dr. Idaho Falls, Idaho 83401
(208) 523-5587 FAX (208) 523-6855

DOSE RATE INSTRUMENT

CUSTOMER INFORMATION

Customer:	Biogenetic Services Inc.	Address:	901 32nd Ave			Brookings	SD 57006
Contact:	Arla Bush	ITS #:	S348-02	PO #:	verbal	Phone #:	605-697-8566
Comments:		Date:	7/18/2002			FAX #:	

INSTRUMENT IDENTIFICATION

MFG'R:	Ludlum	MOD #:	Mod 2	S/N:	73847	CAL DATE: 7/17/2002	Next Cal Due: 7/17/2003

PROBE IDENTIFICATION

MFG'R:	Ludlum	MOD #:	44-7	S/N:	11351	CAL DATE: 7/17/2002	Next Cal Due: 7/17/2003

QAL-TEK QA & CALIBRATION PROCEDURE

QAL-TEK Quality Assurance Management Plan (QP-PRO-001) Rev. #2	Procedure #: CP-PRO-208	Revision #1

ENVIRONMENTAL CONDITIONS

Temp.:	24 C	Press.:	25.25 in Hg	% Humidity:	42%	Laboratory Elevation:	4,736 Feet

INSTRUMENT & PROBE RECEIPT CONDITION

Contamination:	☐ Yes ☑ No	Battery Condition:	☑ Pass ☐ Fail	Damage Category:	☑ N/A ☐ 1 ☐ 2 ☐ 3
High Voltage:	☑ OK	Batteries Replaced	☐ Yes ☑ No	Quantity & Type:	

MEASUREMENT & TEST EQUIPMENT

Ludlum Mod. 500-48 Pulser	Cal Due: 2-22-03	Lab Equip #12	Fluke Mod.# 88 IV DVM, sn 73980331	Cal Due 8-16-03
Shepherd Mod. 81-10 sn 9004	Cal Due: 2-22-03	Lab Equip #01	Eberline Mod. MP2 Pulser sn 905	Cal Due 8-16-03

AS FOUND DOSE RATE PROBE TEST RESULTS

Source ID #	Isotope	Scale/ Range	Auto Range	Expected Reading	Observed Reading	Background Reading	Net Reading	Tolerance %	Pass	Fail
pulser		X0.1	☐ Yes	0.25 mR	0.23 mR	0 µR	0.2 mR	20%	P	
pulser		X1	☐ Yes	2.5 mR	2.76 mR	20 µR	2.7 mR	20%	P	
01-500	Cs 137	X1	☐ Yes	25 mR	27.00 mR	20 µR	27.0 mR	20%	P	
01-500	Cs 137	X10	☐ Yes	mR	mR	µR	mR	20%		
01-500			☐ Yes	mR	mR	µR	mR	20%		
01- 110			☐ Yes	mR	mR	µR	mR	20%		

AS LEFT CALIBRATION & TEST MEASUREMENTS

Source ID #	Isotope	Scale/ Range	Auto Range	Expected Reading	Observed Reading	Background Reading	Net Reading	Tolerance %	Pass	Fail
pulser		X0.1	☐ Yes	0.1 mR	0.10 mR	0 µR	0.1 mR	10%	P	
pulser		X0.1	☐ Yes	0.4 mR	0.40 mR	0 µR	0.4 mR	10%	P	
01-500	Cs 137	X1	☐ Yes	1 mR	1.00 mR	20 µR	1.0 mR	10%	P	
01-500	Cs 137	X1	☐ Yes	4 mR	4.20 mR	20 µR	4.2 mR	10%	P	
01-500	Cs 137	X10	☐ Yes	10 mR	10.00 mR	20 µR	10.0 mR	10%	P	
01-500	Cs 137	X10	☐ Yes	40 mR	43.00 mR	20 µR	43.0 mR	10%	P	
			☐ Yes	mR	mR	µR	mR	10%		
			☐ Yes	mR	mR	µR	mR	10%		
			☐ Yes	mR	mR	µR	mR	10%		
			☐ Yes	mR	mR	µR	mR	10%		

POST CALIBRATION OPERATIONAL CHECKS

Reproducibility:	☐ N/A ☑ Pass ☐ Fail	High Voltage:	☑ OK 900	Stability:	☐ N/A ☑ Pass ☐ Fail		
Zero Check:	☐ N/A ☑ Pass ☐ Fail	Geotropism:	☐ N/A ☑ Pass ☐ Fail				

CALIBRATION RESULTS	PASS ☑ FAIL ☐		DATE 7/17/2002
CALIBRATION TECHNICIAN	plh		DATE 7/17/2002
OPERATIONS MANAGER	plh		

QAL-TEK ASSOCIATES, LLC, certify that the above instrument has been calibrated by radioactive standards traceable to the National Institute of Standards and Technology (NIST), or traceable to calibration facilities for 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. Accuracy of the principal radiation sources used in the calibration is greater or equal to the required accuracy of the equipment being calibrated. The QAL-TEK calibration system conforms to ANSI N323-1997. All calibrations are performed in accordance with the customers Purchase Order requirements and the QAL-TEK Quality Assurance Management Program. (QP-PRO-001 Revision 3, 2001) which is

2004 decommissioning, 2004 monthly rad material.xls

Specific Activity calc: (#mCi)*(0.5)^(days past ref./14.3)

NOTE: 365 + current day of yr = day of yr for 2003 receipts

Date Rcd	Ref. Date	Ref. Date-Day of Yr.	Current Day of Yr. 8/31/04	Days past ref.	Amt (mCi)	SA of 1 mCi	Total SA	vial #	
14-Jan	1/17/2004	17	244	227	1	0.00002	0.00002		1323

Total on Hand: 0.00002

12/3/2004

TELEPHONE CONVERSATION RECORD

Date: November 23, 2004

Name of person called or who called you:
Arla Bush
Organization: Biogenetic Services, Inc.

☐ Incoming
✔☐Outgoing

Phone No.: 605-697-8500

Subject: Deficiency Phone Call

Summary: Laboratory close out survey record need to show:

1. Date of last survey instrument calibration, who calibrated and efficiency factor for P-32. Ms. Bush will locate records and fax to me.

2. Date of survey was 9/23/04.

3. Last P-32 purchase (1 mCi) was in January 2004.

Signature of person documenting this conversation:

James L Montgomery \RA\ Date: 11/23/04
James L. Montgomery

ML043380410