Appendix A

GPS-Based Gamma-Ray Survey Calibration Sheets and Function Check Data

Reuter-Stokes

Calibration Certificate

Reuter-Stokes certifies that the Environmental Radiation Monitor, identified below, has been calibrated for output using the shadow shield technique*, and calibrated with radiation sources traceable to the National Institute of Standards and Technology.

Sensor Type: 100 R/Hr

Serial Number: 07J00KM1

Calibration Date: 6/19/08

Sensitivity: 10.21 mV/μR/h

Brandon Brady 6/23/08

Authorized Signature

*Calibration Procedure: RS-SOP 238.1

Reuter-Stokes

Calibration Data

Sensor Type:	100 R/Hr	Source (CS-137):	BB-400
Serial Number:	07J00KM1	Date of Certification:	12/1/94
Calibration Date:	6/19/08	Exposure Rate at 1 meter:	4.226 mR/h

Customer Name: ENVIRONMENTAL RESTORATION

Sensitivity (Ra-226): 10.21 mV/μR/h

Distance		Exposure Rate	P+S+A	S+A	P	k(CS-137)
Feet	cm	μR/h	V	V	V	mV/μR/h
11.8	359	235.064	3.692	1.264	2.428	10.33
13.8	420	171.114	3.202	1.435	1.768	10.33
15.8	481	129.972	3.173	1.832	1.341	10.31
17.8	542	101.968	3.335	2.283	1.052	10.32

k(CS-137) = 10.32 mv/μR/h

k(Ra-226) = .9892 k(CS-137)

k(Ra-226) = 10.21 mv/μR/h

$\bar{k}$ = 10.32 mv/μR/h

σ = .008 mv/μR/h

$V = \frac{\sigma}{k} =$ 0.074%

By: [signature]

Date: 6/19/08

Reuter-Stokes

RSS-131 FIRMWARE PARAMETERS

S/N 07J00KM1

RAC	2.210E-08
ZLN	0.000E-00
ZMN	4.324E-01
ZHN	-2.127E-03
ZLD	0.000E-00
ZMD	-2.414E-04
ZHD	-6.174E-07
RLN	4.619E+11
RMN	2.231E+09
RHN	1.001E+07
RLV	-1.524E+08
RMV	2.094E+04
RHV	-1.548E+02

Only change in constants is
In the RAC from 2.228E-08

By: _____
Level 2 Nuclear / Electrical Inspector

Date: 4/19/08

Reviewed By: Brandon Bradly 4/22/08
Product Engineer

EBERLINE SERVICES

CERTIFICATE OF CALIBRATION

Gamma Standard

S.O.# 3951
P.O.# N/A

Description of Standard:

Model No. CS-7AS Serial No. 4054-02 Isotope Cs-137

The source of gamma radiation is mounted on a 2.54 cm diameter PLASTIC disc, 3 mm thick and sealed in a PLASTIC RESIN.

Measurement Method:

The gamma ray emission rate was compared with a similar standard, which was calibrated by NIST S/N 2752-91. The comparison of relative gama ray emission rates was accomplished using a high resolution gamma-ray detector (nominal active volume 100 cm^3) and a multichannel pulse height analyzer.

Measurement Result:

The gamma ray activity of the standard on 10-03-2002 was 8.5 μCi.

The uncertainty of the measurement is 5 %, which is the sum of the uncertainty assigned to the NIST reference (2.2 %), random counting error at the 99% confidence level, and the estimated upper limit of systematic errors.

Calibrated by: ART REUST Reviewed by: [signature]

Calibration Technician: [signature] Q.A. Representative: Anthony W. Toth

Calibration Date: 10-03-2002 Reviewed Date: 10-4-02

Analytical Services
7021 Pan American Freeway NE
Albuquerque, New Mexico 87109-4238
(505) 345-3461 Fax (505) 761-5416
Toll Free (866) RAD-LABS (723-5227)
www.eberlineservices.com

Certificate of Calibration

Ratemeter / Scaler Certificate of Calibration

ERG
Environmental Restoration Group, Inc.
8809 Washington St. NE, Suite 150
Albuquerque, NM 87113
(505) 298-4224

Manufacturer: Ludlum Model: 2221r Serial No.: 190171

All Ranges Calibrated Electronically; Ludlum Pulser Generator Serial No.: ☐ 97743 ☑ 201932

This calibration conforms to the requirements and acceptable calibration conditions of ANSI N323A - 1997
NMRCB Registration No. 481-3 • Calibration of Radiation Detection Instruments & Devices

☑ Mechanical ck. ☑ Meter Zeroed ☑ Geotropism ck. ☑ F/S Response ck. ☑ Audio ck.

☑ THR/WIN ck. High Voltage ck.: ☑ 500v ☑ 1000v ☑ 1500v ☑ Battery ck. (min 4.4 vdc)

Threshold Setting: 10 mV

Instrument found within tolerance (+/- 10%) ☑ Yes ☐ No

Reference Calibration Point	Instrument "As Found Reading"	Instrument Meter Reading
400 Kcpm	+/- 10%	400 Kcpm
100 Kcpm	+/- 10%	100 Kcpm
40 Kcpm	+/- 10%	40 Kcpm
10 Kcpm	+/- 10%	10 Kcpm
4 Kcpm	+/- 10%	4 Kcpm
1 Kcpm	+/- 10%	1 Kcpm
400 cpm	+/- 10%	400 cpm
100 cpm	+/- 10%	100 cpm

Reference Calibration Point	Instrument "As Found Reading"	Log Scale Count Rate	Integrated Counts (1-minute count)
400 Kcpm	+/- 10%	400 Kcpm	3998866
40 Kcpm	+/- 10%	40 Kcpm	39888
4 Kcpm	+/- 10%	4 Kcpm	3988
400 cpm	+/- 10%	400 cpm	398

Calibrated By: [signature] Calibration Date: 10-9-07

Calibration Due: 10-9-08

Reviewed By: [signature] Date: 10/9/07

Certificate of Calibration

Ratemeter / Scaler Certificate of Calibration

ERG
Environmental Restoration Group, Inc.
8809 Washington St. NE, Suite 150
Albuquerque, NM 87113
(505) 298-4224

Manufacturer: Ludlum Model: 2221 Serial No.: 117634

All Ranges Calibrated Electronically; Ludlum Pulser Generator Serial No.: ☐ 97743 ☑ 201932

This calibration conforms to the requirements and acceptable calibration conditions of ANSI N323A - 1997.
NMRCB Registration No. 481-3 • Calibration of Radiation Detection Instruments & Devices

☑ Mechanical ck. ☑ Meter Zeroed ☑ Geotropism ck. ☑ F/S Response ck. ☑ Audio ck.

☑ THR/WIN ck. High Voltage ck.: ☑ 500v ☑ 1000v ☑ 1500v ☑ Battery ck. (min 4.4 vdc)

Threshold Setting: 10 mV

Instrument found within tolerance (+/- 10%) ☑ Yes ☐ No

Reference Calibration Point	Instrument "As Found Reading"	Instrument Meter Reading
400 Kcpm	+/- 10%	400 Kcpm
100 Kcpm	+/- 10%	100 Kcpm
40 Kcpm	+/- 10%	40 Kcpm
10 Kcpm	+/- 10%	10 Kcpm
4 Kcpm	+/- 10%	4 Kcpm
1 Kcpm	+/- 10%	1 Kcpm
400 cpm	+/- 10%	400 cpm
100 cpm	+/- 10%	100 cpm

Reference Calibration Point	Instrument "As Found Reading"	Log Scale Count Rate	Integrated Counts (1-minute count)
400 Kcpm	+/- 10%	400 Kcpm	398978
40 Kcpm	+/- 10%	40 Kcpm	39900
4 Kcpm	+/- 10%	4 Kcpm	3990
400 cpm	+/- 10%	400 cpm	399

Calibrated By: [signature] Calibration Date: 9-6-07

Calibration Due: 9-6-08

Reviewed By: [signature] Date: 9-6-07

Certificate of Calibration

Ratemeter / Scaler Certificate of Calibration

ERG
Environmental Restoration Group, Inc.
8809 Washington St. NE, Suite 150
Albuquerque, NM 87113
(505) 298-4224

Manufacturer: Ludlum Model: 2221 Serial No.: 117648

All Ranges Calibrated Electronically; Ludlum Pulser Generator Serial No.: ☐ 97743 ☑ 201932

This calibration conforms to the requirements and acceptable calibration conditions of ANSI N323A - 1997.
NMRCB Registration No. 481-3 • Calibration of Radiation Detection Instruments & Devices

☑ Mechanical ck. ☑ Meter Zeroed ☑ Geotropism ck. ☑ F/S Response ck. ☑ Audio ck.

☑ THR/WIN ck. High Voltage ck.: ☑ 500v ☑ 1000v ☑ 1500v ☑ Battery ck. (min 4.4 vdc)

Threshold Setting: 10 mV

Instrument found within tolerance (+/- 10%) ☑ Yes ☐ No

Reference Calibration Point	Instrument "As Found Reading"	Instrument Meter Reading
400 Kcpm	+/- 10%	400 Kcpm
100 Kcpm	+/- 10%	100 Kcpm
40 Kcpm	+/- 10%	40 Kcpm
10 Kcpm	+/- 10%	10 Kcpm
4 Kcpm	+/- 10%	4 Kcpm
1 Kcpm	+/- 10%	1 Kcpm
400 cpm	+/- 10%	400 cpm
100 cpm	+/- 10%	100 cpm

Reference Calibration Point	Instrument "As Found Reading"	Log Scale Count Rate	Integrated Counts (1-minute count)
400 Kcpm	+/- 10%	400 Kcpm	399233
40 Kcpm	+/- 10%	40 Kcpm	39924
4 Kcpm	+/- 10%	4 Kcpm	3992
400 cpm	+/- 10%	400 cpm	399

Calibrated By: [signature] Calibration Date: 9-5-07

Calibration Due: 9-5-08

Reviewed By: [signature] Date: 9-6-07

Certificate of Calibration

Ratemeter / Scaler Certificate of Calibration

ERG
Environmental Restoration Group, Inc.
8809 Washington St. NE, Suite 150
Albuquerque, NM 87113
(505) 298-4224

Manufacturer: Ludlum Model: 2221r Serial No.: 138377

All Ranges Calibrated Electronically; Ludlum Pulser Generator Serial No.: ☐ 97743 ☑ 201932

This calibration conforms to the requirements and acceptable calibration conditions of ANSI N323A - 1997.
NMRCB Registration No. 481-3 • Calibration of Radiation Detection Instruments & Devices

☑ Mechanical ck. ☑ Meter Zeroed ☑ Geotropism ck. ☑ F/S Response ck. ☑ Audio ck.

☑ THR/WIN ck. High Voltage ck.: ☑ 500v ☑ 1000v ☑ 1500v ☑ Battery ck. (min 4.4 vdc)

Threshold Setting: 10 mV

Instrument found within tolerance (+/- 10%) ☑ Yes ☐ No

Reference Calibration Point	Instrument "As Found Reading"	Instrument Meter Reading
400 Kcpm	400 Kcpm	400 Kcpm
100 Kcpm	100 Kcpm	100 Kcpm
40 Kcpm	40 Kcpm	40 Kcpm
10 Kcpm	10 Kcpm	10 Kcpm
4 Kcpm	4 Kcpm	4 Kcpm
1 Kcpm	1 Kcpm	1 Kcpm
400 cpm	400 cpm	400 cpm
100 cpm	100 cpm	102 cpm

Reference Calibration Point	Instrument "As Found Reading"	Log Scale Count Rate	Integrated Counts (1-minute count)
400 Kcpm	400 Kcpm	400 Kcpm	398495
40 Kcpm	40 Kcpm	40 Kcpm	39859
4 Kcpm	4 Kcpm	4 Kcpm	3987
400 cpm	400 cpm	400 cpm	399

Calibrated By: [signature] Calibration Date: 7-8-08

Calibration Due: 7-8-09

Reviewed By: [signature] Date: 7/9/08

Certificate of Calibration

Ratemeter / Scaler Certificate of Calibration

ERG
Environmental Restoration Group, Inc.
8809 Washington St. NE, Suite 150
Albuquerque, NM 87113
(505) 298-4224

Manufacturer: Ludlum Model: 2221r Serial No.: 149942

All Ranges Calibrated Electronically; Ludlum Pulser Generator Serial No.: ☐ 97743 ☑ 201932

This calibration conforms to the requirements and acceptable calibration conditions of ANSI N323A - 1997.
NMRCB Registration No. 481-3 • Calibration of Radiation Detection Instruments & Devices

☑ Mechanical ck. ☑ Meter Zeroed ☑ Geotropism ck. ☑ F/S Response ck. ☑ Audio ck.

☑ THR/WIN ck. High Voltage ck.: ☑ 500v ☑ 1000v ☑ 1500v ☑ Battery ck. (min 4.4 vdc)

Threshold Setting: 10 mV

Instrument found within tolerance (+/- 10%) ☑ Yes ☐ No

Reference Calibration Point	Instrument "As Found Reading"	Instrument Meter Reading
400 Kcpm	400 Kcpm	400 Kcpm
100 Kcpm	100 Kcpm	100 Kcpm
40 Kcpm	40 Kcpm	40 Kcpm
10 Kcpm	10 Kcpm	10 Kcpm
4 Kcpm	4 Kcpm	4 Kcpm
1 Kcpm	1 Kcpm	1 Kcpm
400 cpm	400 cpm	400 cpm
100 cpm	100 cpm	102 cpm

Reference Calibration Point	Instrument "As Found Reading"	Log Scale Count Rate	Integrated Counts (1-minute count)
400 Kcpm	400 Kcpm	400 Kcpm	397437
40 Kcpm	40 Kcpm	40 Kcpm	39749
4 Kcpm	4 Kcpm	4 Kcpm	3975
400 cpm	400 cpm	400 cpm	398

Calibrated By: [signature] Calibration Date: 7-8-08

Calibration Due: 7-8-09

Reviewed By: [signature] Date: 7/9/08

Certificate of Calibration

Voltage Plateau Form

ERG
Environmental Restoration Group, Inc.
8809 Washington St. NE, Suite 150
Albuquerque, NM 87113
(505) 298-4224

Detector Mfg.: Ludlum Model: 44-10 Serial No.: PR118372

Counter Mfg.: Ludlum Model: 2221r Serial No.: 149942

This calibration conforms to the requirements and acceptable calibration conditions of ANSI N323A - 1997.
NMRCB Registration No. 481-3 • Calibration of Radiation Detection Instruments & Devices

Counter Threshold Setting: 10 mV Cable Length: ☐ 39 inch, ☐ 5 foot, ☑ Other: Curly

Detector geometry to source: ☐ Face, ☑ Side, ☐ Below, ☐ Other:

Distance to source: ☐ Contact, ☑ 6-Inches, ☐ Other:

Gamma Source : ☑ Cs-137 @ 5.7μCi (2/18/08) sn: 4097-03 ☐ Other:

Count Time: 1 Minute

High Voltage	Gross Source Counts	Background Counts
700	22785	
800	48024	
900	67222	
1000	74072	
1050	75152	
1100	77671	10353
1150	78495	10558
1200	78943	

Comments: Recommended Operating High Voltage: 1150 volts

Calibrated By: [signature] Calibration Date: 7-8-08

Calibration Due: 7-8-09

Reviewed By: [signature] Date: 7/9/08

Certificate of Calibration

Voltage Plateau Form

ERG
Environmental Restoration Group, Inc.
8809 Washington St. NE, Suite 150
Albuquerque, NM 87113
(505) 298-4224

Detector Mfg.: Ludlum Model: 44-10 Serial No.: PR198936

Counter Mfg.: Ludlum Model: 2221 Serial No.: 117648

This calibration conforms to the requirements and acceptable calibration conditions of ANSI N323A - 1997.
NMRCB Registration No. 481-3 • Calibration of Radiation Detection Instruments & Devices

Counter Threshold Setting: 10 mV Cable Length: ☐ 39 inch, ☐ 5 foot, ☑ Other: Curly

Detector geometry to source: ☐ Face, ☑ Side, ☐ Below, ☐ Other: _____

Distance to source: ☐ Contact, ☑ 6-Inches, ☐ Other: _____

Gamma Source : ☑ Cs-137 @ 5.81μCi (3/07/07) sn: 4097-03 ☐ Other: _____

Count Time: 1 Minute

High Voltage	Gross Source Counts	Background Counts
700	34348	
800	62611	
900	75761	
1000	80115	
1100	81583	9258
1200	82568	

Comments: Recommended Operating High Voltage: 1100 volts

Calibrated By: _____ Calibration Date: 9-5-07

Calibration Due: 9-5-08

Reviewed By: _____ Date: 9·6·07

Certificate of Calibration

Voltage Plateau Form

ERG
Environmental Restoration Group, Inc.
8809 Washington St. NE, Suite 150
Albuquerque, NM 87113
(505) 298-4224

Detector Mfg.: Ludlum Model: 44-10 Serial No.: PR118372

Counter Mfg.: Ludlum Model: 2221 Serial No.: 117634

This calibration conforms to the requirements and acceptable calibration conditions of ANSI N323A - 1997.
NMRCB Registration No. 481-3 • Calibration of Radiation Detection Instruments & Devices

Counter Threshold Setting: 10 mV Cable Length: ☐ 39 inch, ☐ 5 foot, ☑ Other: Curly

Detector geometry to source: ☐ Face, ☑ Side, ☐ Below, ☐ Other:

Distance to source: ☐ Contact, ☑ 6-Inches, ☐ Other:

Gamma Source :☑Cs-137 @ 5.81μCi (3/07/07) sn: 4097-03 ☐ Other:

Count Time: 1 Minute

High Voltage	Gross Source Counts	Background Counts
700	33013	
800	61587	
900	76444	
1000	81227	
1100	82653	9657
1200	83660	

Comments: Recommended Operating High Voltage: 1100 volts

Calibrated By: Calibration Date: 9-6 07

Calibration Due: 9-6 08

Reviewed By: Date: 9.6.07

Certificate of Calibration

Voltage Plateau Form

ERG
Environmental Restoration Group, Inc.
8809 Washington St. NE, Suite 150
Albuquerque, NM 87113
(505) 298-4224

Detector Mfg.: Ludlum Model: 44-10 Serial No.: PR198936

Counter Mfg.: Ludlum Model: 2221r Serial No.: 138377

This calibration conforms to the requirements and acceptable calibration conditions of ANSI N323A - 1997.
NMRCB Registration No. 481-3 • Calibration of Radiation Detection Instruments & Devices

Counter Threshold Setting: 10 mV Cable Length: ☐ 39 inch, ☐ 5 foot, ☑ Other: Curly

Detector geometry to source: ☐ Face, ☑ Side, ☐ Below, ☐ Other:

Distance to source: ☐ Contact, ☑ 6-Inches, ☐ Other:

Gamma Source : ☑ Cs-137 @ 5.7µCi (2/18/08) sn: 4097-03 ☐ Other:

Count Time: 1 Minute

High Voltage	Gross Source Counts	Background Counts
700	27018	
800	52935	
900	70350	
1000	75558	
1050	76535	
1100	77714	10137
1150	77995	10243
1200	78417	

Comments: Recommended Operating High Voltage: 1150 volts

Calibrated By: [signature] Calibration Date: 7-8-08

Calibration Due: 7-8-09

Reviewed By: [signature] Date: 7/9/08

Certificate of Calibration

Voltage Plateau Form

ERG
Environmental Restoration Group, Inc.
8809 Washington St. NE, Suite 150
Albuquerque, NM 87113
(505) 298-4224

Detector Mfg.: Ludlum Model: 44-10 Serial No.: PR153990

Counter Mfg.: Ludlum Model: 2221 Serial No.: 190171

This calibration conforms to the requirements and acceptable calibration conditions of ANSI N323A - 1997.
NMRCB Registration No. 481-3 • Calibration of Radiation Detection Instruments & Devices

Counter Threshold Setting: 10 mV Cable Length: ☐ 39 inch, ☐ 5 foot, ☑ Other: Curly

Detector geometry to source: ☐ Face, ☑ Side, ☐ Below, ☐ Other:

Distance to source: ☐ Contact, ☑ 6-Inches, ☐ Other:

Gamma Source :☑ Cs-137 @ 5.81μCi (3/07/07) sn: 4097-03 ☐ Other:

Count Time: 1 Minute

High Voltage	Gross Source Counts	Background Counts
700	1058	
800	24638	
900	47539	
1000	68923	
1100	77419	
1150	79281	9781
1200	80757	

Comments: Recommended Operating High Voltage: 1150 volts

Calibrated By: [signature] Calibration Date: 10-9-07

Calibration Due: 10-9-08

Reviewed By: [signature] Date: 10/9/07

Certificate of Calibration

Voltage Plateau Form

ERG
Environmental Restoration Group, Inc.
8809 Washington St. NE, Suite 150
Albuquerque, NM 87113
(505) 298-4224

Detector Mfg.: Ludlum Model: 44-10 Serial No.: PR153990

Counter Mfg.: Ludlum Model: 2221 Serial No.: 190171

This calibration conforms to the requirements and acceptable calibration conditions of ANSI N323A - 1997.
NMRCB Registration No. 481-3 • Calibration of Radiation Detection Instruments & Devices

Counter Threshold Setting: 10 mV Cable Length: ☐ 39 inch, ☐ 5 foot, ☑ Other: Curly

Detector geometry to source: ☐ Face, ☑ Side, ☐ Below, ☐ Other:

Distance to source: ☐ Contact, ☑ 6-Inches, ☐ Other:

Gamma Source :☑Cs-137 @ 5.81μCi (3/07/07) sn: 4097-03 ☐ Other:

Count Time: 1 Minute

High Voltage	Gross Source Counts	Background Counts
700	1058	
800	24638	
900	47539	
1000	68923	
1100	77419	
1150	79281	9781
1200	80757	

Comments: Recommended Operating High Voltage: 1150 volts

Calibrated By: Calibration Date: 10-9-07

Calibration Due: 10-9-08

Reviewed By: Date: 10/9/07

A

Daily Function Check Form

Site: Powertech, SD

Ratemeter: Ludlum 2221 Serial No. 117634 Cal. Due Date 9-6-08

Detector: Ludlum 44-10 Serial No. PR 118372 Cal. Due Date 9-6-08

Source: Cs-137 Activity: 8.5 μCi on 10-3-02 Serial No. 4059-02 Cs-7AS

Distance to Source: 6-in. see notes

Notes:

Date	Time	Battery	High Voltage	Threshold (mv)	Gross Counts (CPM)	Background (CPM)	Net Counts (CPM)	Efficiency (CPM/DPM)	Initials	Location
9/13/07	0700	5.9	1102	100	97668	7912	89756	0.5%	NW	Barn
9/13/07	1710	5.8	1092	98	84131	7860	76271	0.5%	NW	Barn
9/14/07	6:50am	5.9	1108	100	91644	7968	83676	0.5%	DRF	Barn
9/14/07	8:20pm	5.7	1100	100	55681*	8100	47581	0.3%	DRF	Barn
9/15/07	6:35am	5.7	1105	100	66837*	8325	58512	0.4%	DRF	Barn
9/15/07	5:00pm	5.5	1083	97	68549*	8210	60339	0.4%	DRF	Barn
9/17/07	~~7:15am~~ 9:50am DRF	5.7	1102	99	363088**	8920**	354268	2%	DRF	Barn
9/17/07	4:20pm	5.5	1090	99	368305**	8838**	359467	2%	DRF	Barn
9/18/07	7:10am	5.6	1101	100	137052***	9060***	127992	0.7%	DRF	Barn
9/18/07	2:30pm	5.4	1100	99	130824***	8542***	122282	0.7%	DRF	Barn
9/19/07	5:45am	5.7	1106	100	134695	~~7805~~*** -8241 DRF 9/19/07	126454	0.7%	DRF	Barn
—	—	—	—	—	—	—	—	—	—	—

Reviewed By: [signature] Date: 12/02/08

* Detector was raised by ~2" due to the mount on the ATV lifting during survey on 9/14/07.

** Function check jig used (source-detector distance of ~2")

*** Detector was placed on the ground (source-detector distance of 6" center-to-center)

(A)

Daily Function Check Form

Site: Powertech, SD

Ratemeter: Ludlum 2221 Serial No. PR118372 Cal. Due Date 9-6-08

Detector: Ludlum 44-10 Serial No. 117634 Cal. Due Date 9-6-08

Source: Cs-137 Activity: 8.5 μCi on 10-3-02 Serial No. 4059-02 Cs-7A5

Distance to Source 6-in. see notes

Notes:

Date	Time	Battery	High Voltage	Threshold (mv)	Gross Counts (CPM)	Background (CPM)	Net Counts (CPM)	Efficiency (CPM/DPM)	Initials	Location
9/19/07	5:35pm	5.4	1096	98	136365	8394	127971	0.7%	DRF	Barn
9/20/07	6:15am	5.5	1103	100	136370	8382	127988	0.7%	DRF	barn
9/20/07	5:15pm	5.4	1078	97	131286	8210	123076	0.7%	DRF	Barn
9/21/07	7:10am	5.6	1102	99	136577	8422	128155	0.7%	DRF	Barn
9/21/07	4:20pm	5.3	1091	98	134782	8112	126670	0.7%	DRF	Barn
9/25/07	7:50am	5.5	1107	100	135603	8512	127091	0.7%	DRF	Barn
9/25/07	1745	5.4	1095	99	126887	8282	118605	0.7%	NW	Barn
9/26/07 NW ~~9/25/07~~	0700	5.5	1106	100	133522	8903	124619	0.7%	NW	Barn
9/26/07	4:40pm	5.4	1096	98	135688	8143	127545	0.7%	DRF	Barn
9/27/02	0616	5.5	1107	100	137172	9263	127909	0.7%	NW	Barn
9/27/07	3:15pm	5.3	1089	99	132525	8267	124258	0.7%	DRF	Barn
—	—	—	—	—	—	—	—	—	—	—

Reviewed By: [signature] Date: 12/08/

(B)

Daily Function Check Form

Site: Powertech, SD

Ratemeter: Ludlum 2221 Serial No. 117648 Cal. Due Date 9-6-08

Detector: Ludlum 44-10 Serial No. PR198936 Cal. Due Date 9-6-08

Source: Cs-137 Activity: 8.5 μCi on 10-3-02 Serial No. 4054-07 CS-7A1

Distance to Source: 6-in. see notes

Notes:

Date	Time	Battery	High Voltage	Threshold (mv)	Gross Counts (CPM)	Background (CPM)	Net Counts (CPM)	Efficiency (CPM/DPM)	Initials	Location
9/13/07	0700	5.3	1104	102	105016	7486	97530	0.6%	NW	Barn
9/13/07	1710	5.3	1092	101	116576	7627	108949	0.7%		
9/14/07	6:50am	5.3	1108	101	116036	7785	108251	0.7%	DRF	Barn
9/14/07	8:30pm	5.3	1098	101	103725	7742	95983	0.6%	DRF	Barn
9/15/07	6:35am	5.3	1104	101	95925	8086	87839	0.5%	DRF	Barn
9/15/07	5:50pm	5.2	1088	100	102852	7904	94948	0.6%	DRF	Barn
9/17/07	5:15am	5.3	1102	100	292273*	8350*	283923	2%	DRF	Barn
9/17/07	4:20pm	5.2	1092	100	302007*	8154*	293853	2%	DRF	Barn
9/18/07	6:45am	5.8	1101	100	133803**	8418**	125385	0.7%	DRF	Barn
9/18/07	2:30pm	5.6	1102	101	131142**	8147**	122995	0.7%	DRF	Barn
9/19/07	5:45am	5.6	1107	100	~~134695~~**	~~8241~~**	123954	0.7%	DRF	Barn
—	—	—	—	—	131759 DRF 9/19/07	7805 DRF 9/19/07	—	—	—	—

Reviewed By: [signature] Date: 12/01/08

*Check done on function check jig (distance to source of 2½")

**Check done by setting detector on the ground (distance to source of 6" center-to-center)

1

(B)

Daily Function Check Form

Site: Powertech, SD

Ratemeter: 2221 (Ludlum)
Serial No. 117648
Cal. Due Date: 9-6-08

Detector: Ludlum 44-10
Serial No. PR198936
Cal. Due Date: 9-6-08

Source: Cs-137
Activity: 8.5 µCi on 10-3-02
Serial No. 4054-02 CS-7AS

Distance to Source: 6-in

Notes:

Date	Time	Battery	High Voltage	Threshold (mv)	Gross Counts (CPM) DRF 9/20/07	Background (CPM)	Net Counts (CPM)	Efficiency (CPM/DPM)	Initials	Location
9/19/07	5:35 pm	5.4	1096	100	132023	7849	124174	0.7%	DRF	Barn
9/20/07	6:15 am	5.5	1103	100	135383	7894	127489	0.7%	DRF	Barn
9/20/07	5:15 pm	5.3	1088	99	131307	7677	123630	0.7%	DRF	Barn
9/21/07	7:10 am	5.4	1104	100	137336	8011	129325	0.7%	DRF	Barn
9/21/07	1902	5.2	1097	100	126207	7676	118531	0.7%	NW	Barn
9/25/07	7:50 am	5.4	1110	101	132611	8052	124559	0.7%	DRF	Barn
9/25/07	17:36	5.2	1099	100	~~127714~~ 131076 NW	7914	123162	0.7%	NW	Barn
9/25/07	0705	5.3	1107	101	132784	8447	124337	0.7%	NW	Barn
9/27/07	0622	5.3	1107	100	133717	8681	125036	0.7%	NW	Barn
9/27/07	6:16 pm	5.2	1098	100	134674	7814	126860	0.7%	DRF	Barn
9/28/07	0755	5.3	1106	101	130787	8242	122545	0.7%	NW	Barn
9/28/07	1037	5.2	1101	100	129316	8110	121206	0.7%	NW	Barn

Reviewed By: [signature]

Date: 12/01/08

#1

Daily Function Check Form

Site: Dewey Burdock

Ratemeter: LUDLUM 2221
Detector: 44-10
Source: Cs-137
Distance to Source: 6-in (jig)

Serial No. 149942 Cal. Due Date 7-8-09
Serial No. PR118372 ~~128377~~ NW Cal. Due Date 7-8-09
Activity: 8.5 μCi 10-3-02 Serial No. 4054-02
Acceptance Range 82660 to 84723

Notes:

Date	Time	Battery	High Voltage	Threshold	Gross Counts (CPM)	Background (CPM)	Net Counts (CPM)	Efficiency (CPM/DPM)	Initials	Location
7/14/08	1042	5.5	1142	101	92278	8055	84223	0.005	NW	Elbow Cage Rd
					91566	8154	83412			
					91851	8211	83640			
					91751	8138	83613			
					91742	7882	83910			
					91184	8141	83043			
					91781	8017	83764			
					91595	8161	83434			
					91975	8167	83808			
					92129	8061	84068			
7/14/08	1712	5.3	1083	97	90998	7672	83326			
7/15/08	0753	5.5	1129	100	90010	7955	82055			
7/15/08	1423	5.3	1081	96	91301	7444	83857			
7/16/08	0736	5.7	1162	103	93043	7899	85144			
7/16/08	1524	5.3	1092	98	90511	7781	82730			
7/17/08	1202	5.5	1126	100	93565	7500	86065			
7/17/08	1946	5.4	1115	100	93121	7414	82707			
7/18/08	0838	5.6	1154	102	89584	7084	82500			

Reviewed By: [signature]

Date: 12/02/08

ERG Form 2.07A

#1

Daily Function Check Form

Site: Dewey Burdock

Ratemeter: Ludlum 2221

Detector: 44-10

Source: Cs-137

Distance to Source: 6-in. (jig)

Serial No. 149942 / PR118372 Cal. Due Date 7-8-09

Serial No. ~~138377~~ NW Cal. Due Date 7-8-09

Activity: 8.5 μCi, 10-3-02 Serial No.

Acceptance Range 82660 to 84723

Notes:

Date	Time	Battery	High Voltage	Threshold	Gross Counts (CPM)	Background (CPM)	Net Counts (CPM)	Efficiency (CPM/DPM)	Initials	Location
7-19-08	0758	5.5	1153	102	96860	6592	90268	0.005	NW	Elbow Canyon Rd
7-19-08	1441	5.4	1132	100	90159	7287	82872	↓	↓	↓

Reviewed By: [signature]

Date: 12/02/08

ERG Form 2.07A

#2

Daily Function Check Form

Site: Dewey Burdock

Ratemeter: Ludlum 2221
Serial No. 138377 Cal. Due Date 7-8-09

Detector: 44-10
Serial No. PR 198936 Cal. Due Date 7-8-09

Source: Cs-137
Activity: 8.5 μCi, 10-3-02 Serial No. 4054-02

Distance to Source: 6-in (jig)
Acceptance Range 80 190 to 84083

Notes:

Date	Time	Battery	High Voltage	Threshold	Gross Counts (CPM)	Background (CPM)	Net Counts (CPM)	Efficiency (CPM/DPM)	Initials	Location
7/14/08	1035	5.8	1148	100	90596	7106	83490	0.005	NW	ELBOW CANYON RD
					89803	7021	82782			
					90015	7466	82549			
					89675	7456	82219			
					89520	7393	82127			
					89607	7697	81910			
					89010	7488	81522			
					89102	7522	81580			
					89350	7633	81717			
					89152	7685	81467			
	1712	5.7	1140	99	90957	7200	83757			
7/15/08	0751	5.7	1143	98	89384	7394	81990			
7/15/08	1423	5.7	1139	98	89870	7143	82727			
7/16/08	0737	5.7	1145	98	89462	7337	82125			
7/16/08	1526	5.5	1141	98	89532	7386	82146			
7/17/08	1203	5.6	1143	98	90804	6841	83963			
7/17/08	1946	5.4	1142	98	91557	6685	84872			
7/18/08	0841	5.5	1145	98	87936	6384	81552			

Reviewed By: [signature]

Date: 12/02/08

ERG Form 2.07A

(#2)

Daily Function Check Form

Site: Dewey Burdock

Ratemeter: Ludlum 2221 Serial No. 138377 Cal. Due Date 7-8-09

Detector: Ludlum 44-10 Serial No. PR 198 936 Cal. Due Date 7-8-09

Source: Cs-137 Activity: 8.5 μCi, 10-3-02 Serial No. 4054-02

Distance to Source: 6-in. (jig) Acceptance Range 80190 to 84083

Notes:

Date	Time	Battery	High Voltage	Threshold	Gross Counts (CPM)	Background (CPM)	Net Counts (CPM)	Efficiency (CPM/DPM)	Initials	Location
7/19/08	0758	5.4	1146	99	94840	6360	88480	0.005	NW	ELBOW CANYON RD
7/19/08	1440	5.4	1143	98	90961	6712	84249	0.005	NW	

Reviewed By: [signature] Date: 12/02/08

ERG Form 2.07A