



Instrument Field Response Check Log

1. Instrument Information<sup>1</sup>

Ratemeter: Make/Model: Ludlum 2741-2 Serial No. 806098 Cal. Due Date: 9/1/16  
 Detector I: Make/Model: Ludlum 44-10 Serial No. PR112642  
 Bicron MicroRem Meter: Serial No. \_\_\_\_\_ Cal. Due Date: \_\_\_\_\_

2. Check Source Information:

Source 1 Isotope: Th-232 Serial No.: 111 Activity: <sup>9E</sup>60.01 units: uCi Assay Date: 12/20/10  
 Response Acceptance Range (+/-20%): uRem/hr +20% \_\_\_\_\_ uRem/hr -20% \_\_\_\_\_ net cpm + 20% 53798 net cpm -20% 35866  
 Source 2 Isotope: Cs-137 Serial No.: 119E23-12 Activity: 0.02 units: uCi Assay Date: NA  
 Response Acceptance Range (+/-20%): uRem/hr +20% \_\_\_\_\_ uRem/hr -20% \_\_\_\_\_ net cpm + 20% 13273 net cpm -20% 8849

3. Technician/Worker Performing Checks:

Name: J. Edwards Title: RCT Date: 10/15/15 Time: 1354

4. Site or Location:

Site/Job: Area 3.1 Location Description: Cornfield  
 GPS Coordinates (when required): X-Coord: N 42°28'54.9" Y-Coord: W 078°40'39.7"

Instrument Field Response <sup>2</sup>					Use Acceptance Criteria					Remarks
Meter	Bkg Cnt Time	Bkg Counts (cpm) or uRem/hr	Source Cnt Time	Source Response (gross cpm or uRem/hr)	+/- 20% source gross cpm or uRem/hr (Y/N)	Inst. Calib. current (Y/N)	Battery Check (Y/N)	Time Of check	Ambient Temp. (°F)	Initials and Comments (add'l info: inst. Condition, etc.)
Ratemeter	1 min	9293 cpm	1 min	11597 cpm	Y	Y	Y	1400	64.4	Cs-137 DE
Ratemeter			1 min	47539 cpm	Y	Y	Y	1408	64.1	Th-232 DE
Ratemeter										
Ratemeter										
Bicron	NA		NA							
Bicron	NA		NA							
Bicron	NA		NA							
Bicron	NA		NA							

- Instrument designated check source is listed on calibration sticker. Record check source response (net cpm) prior to field deployment for all check sources being used.
- Source and Background count rate should be determined from the average of three static counts at the same location. Repeat counts should be within 20%. If count rate diverges significantly, perform additional counts to evaluate instrument stability



Instrument Field Response Check Log

1. Instrument Information<sup>1</sup>

Ratemeter: Make/Model: Ludlum 2241-2 Serial No. 206098 Cal. Due Date: 9/1/16  
 Detector 1: Make/Model: Ludlum 44-10 Serial No. PE112642  
 Bicron MicroRem Meter: Serial No. \_\_\_\_\_ Cal. Due Date: \_\_\_\_\_

2. Check Source Information:

Source 1 Isotope: Cs-137 Serial No.: 119E23-12 Activity: 0.02 units: µCi Assay Date: NA  
 Response Acceptance Range (+/-20%): uRem/hr +20% \_\_\_\_\_ uRem/hr -20% \_\_\_\_\_ net cpm + 20% 8313275 net cpm -20% 8849  
 Source 2 Isotope: Th-232 Serial No.: 111 Activity: CO.1 units: µCi Assay Date: 10/30/10  
 Response Acceptance Range (+/-20%): uRem/hr +20% \_\_\_\_\_ uRem/hr -20% \_\_\_\_\_ net cpm + 20% 53798 net cpm -20% 35866

3. Technician/Worker Performing Checks:

Name: J. Edwards Title: RCT Date: 10/15/15 Time: 1640

4. Site or Location:

Site/Job: Area 3.1 Location Description: Cornfield  
 GPS Coordinates (when required): X-Coord: N42°28'54.9" Y-Coord: W078°40'39.7"

Instrument Field Response <sup>2</sup>					Use Acceptance Criteria				Remarks	
Meter	Bkg Cnt Time	Bkg Counts (cpm) or uRem/hr	Source Cnt Time	Source Response (gross cpm or uRem/hr)	+/- 20% source gross cpm or uRem/hr (Y/N)	Inst. Calib. current (Y/N)	Battery Check (Y/N)	Time Of check	Ambient Temp. (°F)	Initials and Comments (add'l info: inst. Condition, etc.)
Ratemeter	1 min	9761 cpm	1 min	11888 cpm	Y	Y	Y	1645	56.3	Cs-137 JE
Ratemeter			1 min	47818 cpm	Y	Y	Y	1650	55.9	Th-232 JE
Ratemeter										
Ratemeter										
Bicron	NA		NA							
Bicron	NA		NA							
Bicron	NA		NA							
Bicron	NA		NA							

- Instrument designated check source is listed on calibration sticker. Record check source response (net cpm) prior to field deployment for all check sources being used.
- Source and Background count rate should be determined from the average of three static counts at the same location. Repeat counts should be within 20%. If count rate diverges significantly, perform additional counts to evaluate instrument stability



Instrument Field Response Check Log

1. Instrument Information<sup>1</sup>

Ratemeter: Make/Model: Ludlum 2241-2 Serial No. 206098 Cal. Due Date: 9/1/16  
 Detector 1: Make/Model: Ludlum 44-10 Serial No. PR112612  
 Bicron MicroRem Meter: Serial No. \_\_\_\_\_ Cal. Due Date: \_\_\_\_\_

2. Check Source Information:

Source 1 Isotope: Th-232 Serial No.: 111 Activity: CO-1 units: uCi Assay Date: 12/30/10  
 Response Acceptance Range (+/-20%): uRem/hr +20% \_\_\_\_\_ uRem/hr -20% \_\_\_\_\_ net cpm + 20% 53798 net cpm -20% 35866  
 Source 2 Isotope: Cs-137 Serial No.: 119E23-12 Activity: 0.02 units: uCi Assay Date: NA  
 Response Acceptance Range (+/-20%): uRem/hr +20% \_\_\_\_\_ uRem/hr -20% \_\_\_\_\_ net cpm + 20% 13273 net cpm -20% 8849

3. Technician/Worker Performing Checks:

Name: J. Edwards Title: RCT Date: 10/16/15 Time: 1000

4. Site or Location: Site/Job: Area 3.1 Location Description: cornfield  
 GPS Coordinates (when required): X-Coord: N 42° 29' 54.9" Y-Coord: W 078° 40' 39.7"

Instrument Field Response <sup>2</sup>					Use Acceptance Criteria					Remarks
Meter	Bkg Cnt Time	Bkg Counts (cpm) or uRem/hr	Source Cnt Time	Source Response (gross cpm or uRem/hr)	+/- 20% source gross cpm or uRem/hr (Y/N)	Inst. Calib. current (Y/N)	Battery Check (Y/N)	Time Of check	Ambient Temp. (°F)	Initials and Comments (add'l info: inst. Condition, etc.)
Ratemeter	1 min	9563 cpm	1 min	46041 cpm	Y	Y	Y	1005	51.0	Th-232 JE
Ratemeter			1 min	11526	Y	Y	Y	1010	51.2	Cs-137 JE
Ratemeter										
Ratemeter										
Bicron	NA		NA							
Bicron	NA		NA							
Bicron	NA		NA							
Bicron	NA		NA							

1. Instrument designated check source is listed on calibration sticker. Record check source response (net cpm) prior to field deployment for all check sources being used.  
 2. Source and Background count rate should be determined from the average of three static counts at the same location. Repeat counts should be within 20%. If count rate diverges significantly, perform additional counts to evaluate instrument stability



Instrument Field Response Check Log

1. Instrument Information<sup>1</sup>

Ratemeter: Make/Model: Ludlum 2241-2 Serial No. 206098 Cal. Due Date: 9/1/16  
 Detector 1: Make/Model: Ludlum 44-10 Serial No. PR112642  
 Bicron MicroRem Meter: Serial No. \_\_\_\_\_ Cal. Due Date: \_\_\_\_\_

2. Check Source Information:

Source 1 Isotope: Th-232 Serial No.: 111 Activity: 0.1 units: µCi Assay Date: 12/30/10  
 Response Acceptance Range (+/-20%): uRem/hr +20% \_\_\_\_\_ uRem/hr -20% \_\_\_\_\_ net cpm + 20% 53798 net cpm -20% 35866  
 Source 2 Isotope: Cs-137 Serial No.: 119E23-12 Activity: 0.02 units: µCi Assay Date: NA  
 Response Acceptance Range (+/-20%): uRem/hr +20% \_\_\_\_\_ uRem/hr -20% \_\_\_\_\_ net cpm + 20% 13273 net cpm -20% 8849

3. Technician/Worker Performing Checks:

Name: J. Edwards Title: RCT Date: 10/16/15 Time: 1304

4. Site or Location:

Site/Job: Area 3.1 Location Description: Cornfield  
 GPS Coordinates (when required): X-Coord: N 42°28'54.9" Y-Coord: W 078°40'39.7"

Instrument Field Response <sup>2</sup>					Use Acceptance Criteria					Remarks
Meter	Bkg Cnt Time	Bkg Counts (cpm) or uRem/hr	Source Cnt Time	Source Response (gross cpm or uRem/hr)	+/- 20% source gross cpm or uRem/hr (Y/N)	Inst. Calib. current (Y/N)	Battery Check (Y/N)	Time Of check	Ambient Temp. (°F)	Initials and Comments (add'l info: inst. Condition, etc.)
Ratemeter	1 min	9176	1 min	45890	Y	Y	Y	1308	59.0	Th-232 DE
Ratemeter			1 min	11145	Y	Y	Y	1311	59.0	Cs-137 DE
Ratemeter										
Ratemeter										
Bicron	NA		NA							
Bicron	NA		NA							
Bicron	NA		NA							
Bicron	NA		NA							

- Instrument designated check source is listed on calibration sticker. Record check source response (net cpm) prior to field deployment for all check sources being used.
- Source and Background count rate should be determined from the average of three static counts at the same location. Repeat counts should be within 20%. If count rate diverges significantly, perform additional counts to evaluate instrument stability



Instrument Field Response Check Log

1. Instrument Information<sup>1</sup>

Ratemeter: Make/Model: Ludlum 2241-2 Serial No. 206098 Cal. Due Date: 9/1/16  
 Detector 1: Make/Model: Ludlum 44-10 Serial No. PR112642  
 Bicron MicroRem Meter: Serial No. \_\_\_\_\_ Cal. Due Date: \_\_\_\_\_

2. Check Source Information:

Source 1 Isotope: TR-232 Serial No.: 111 Activity: COI units: NCI Assay Date: 12/30/10  
 Response Acceptance Range (+/-20%): uRem/hr +20% \_\_\_\_\_ uRem/hr -20% \_\_\_\_\_ net cpm + 20% 53798 net cpm -20% 35866  
 Source 2 Isotope: Cs-137 Serial No.: 119E23-12 Activity: 0.02 units: NCI Assay Date: NA  
 Response Acceptance Range (+/-20%): uRem/hr +20% \_\_\_\_\_ uRem/hr -20% \_\_\_\_\_ net cpm + 20% 13273 net cpm -20% 8849

3. Technician/Worker Performing Checks:

Name: J. Edwards Title: RCT Date: 10/16/15 Time: 1628

4. Site or Location:

Site/Job: Area 3.1 Location Description: corn field  
 GPS Coordinates (when required): X-Coord: N 42° 28' 54.9" Y-Coord: W 078° 40' 39.7"

Instrument Field Response <sup>2</sup>					Use Acceptance Criteria				Remarks	
Meter	Bkg Cnt Time	Bkg Counts (cpm) or uRem/hr	Source Cnt Time	Source Response (gross cpm or uRem/hr)	+/- 20% source gross cpm or uRem/hr (Y/N)	Inst. Calib. current (Y/N)	Battery Check (Y/N)	Time Of check	Ambient Temp. (°F)	Initials and Comments (add'l Info: inst. Condition, etc.)
Ratemeter	1 min	9218	1 min	42357 cpm	Y	Y	Y	1632	53.7	TR-232 JE
Ratemeter			1 min	11197 cpm	Y	Y	Y	1637	53.5	Cs-137 JE
Ratemeter										
Ratemeter										
Bicron	NA		NA							
Bicron	NA		NA							
Bicron	NA		NA							
Bicron	NA		NA							

- Instrument designated check source is listed on calibration sticker. Record check source response (net cpm) prior to field deployment for all check sources being used.
- Source and Background count rate should be determined from the average of three static counts at the same location. Repeat counts should be within 20%. If count rate diverges significantly, perform additional counts to evaluate instrument stability



Instrument Field Response Check Log

1. Instrument Information<sup>1</sup>

Ratemeter: Make/Model: Ludlum 2241-2 Serial No. 206098 Cal. Due Date: 9/1/16  
 Detector 1: Make/Model: Ludlum 44-10 Serial No. PR12642  
 Bicron MicroRem Meter: Serial No. \_\_\_\_\_ Cal. Due Date: \_\_\_\_\_

2. Check Source Information:

Source 1 Isotope: Th-232 Serial No.: 111 Activity: 40.1 units: µCi Assay Date: 12/30/10  
 Response Acceptance Range (+/-20%): uRem/hr +20% \_\_\_\_\_ uRem/hr -20% \_\_\_\_\_ net cpm + 20% 53798 net cpm -20% 35866  
 Source 2 Isotope: Cs-137 Serial No.: 119E23-12 Activity: 0.02 units: µCi Assay Date: NA  
 Response Acceptance Range (+/-20%): uRem/hr +20% \_\_\_\_\_ uRem/hr -20% \_\_\_\_\_ net cpm + 20% 13273 net cpm -20% 8849

3. Technician/Worker Performing Checks:

Name: Jonathan Edwards Title: RCT Date: 10/19/15<sup>06</sup> Time: 0925

4. Site or Location: Site/Job: Area 3.1 Location Description: Cornfield  
 GPS Coordinates (when required): X-Coord: N 42° 28' 34.9" Y-Coord: W 078° 40' 39.7"

Instrument Field Response <sup>2</sup>					Use Acceptance Criteria				Remarks	
Meter	Bkg Cnt Time	Bkg Counts (cpm) or uRem/hr	Source Cnt Time	Source Response (gross cpm or uRem/hr)	+/- 20% source gross cpm or uRem/hr (Y/N)	Inst. Calib. current (Y/N)	Battery Check (Y/N)	Time Of check	Ambient Temp. (°F)	Initials and Comments (add'l Info: inst. Condition, etc.)
Ratemeter	1 min	9600 cpm	1 min	46426 cpm	Y	Y	Y	0932	36.5	Th-232 JE
Ratemeter			1 min	11509 cpm	Y	Y	Y	0940	36.1	Cs-137 JE
Ratemeter										
Ratemeter										
Bicron	NA		NA							
Bicron	NA		NA							
Bicron	NA		NA							
Bicron	NA		NA							

1. Instrument designated check source is listed on calibration sticker. Record check source response (net cpm) prior to field deployment for all check sources being used.  
 2. Source and Background count rate should be determined from the average of three static counts at the same location. Repeat counts should be within 20%. If count rate diverges significantly, perform additional counts to evaluate instrument stability

**Instrument Field Response Check Log**

**1. Instrument Information<sup>1</sup>**

Ratemeter: Make/Model: Ludlum 2241-2 Serial No. 206098 Cal. Due Date: 7/1/16  
 Detector 1: Make/Model: Ludlum 44-10 Serial No. PR12642  
 Bicron MicroRem Meter: Serial No. \_\_\_\_\_ Cal. Due Date: \_\_\_\_\_

**2. Check Source Information:**

Source 1 Isotope: Th-232 Serial No.: 111 Activity: 40.1 units: µCi Assay Date: 12/30/10  
 Response Acceptance Range (+/-20%): uRem/hr +20% \_\_\_\_\_ uRem/hr -20% \_\_\_\_\_ net cpm + 20% 53798 net cpm -20% 35806  
 Source 2 Isotope: Cs-137 Serial No.: 119E3-12 Activity: 0.02 units: µCi Assay Date: NA  
 Response Acceptance Range (+/-20%): uRem/hr +20% \_\_\_\_\_ uRem/hr -20% \_\_\_\_\_ net cpm + 20% 13273 net cpm -20% 8849

**3. Technician/Worker Performing Checks:**

Name: Jonathan Edwards Title: RCT Date: 10/9/15 Time: 1125

**4. Site or Location:**

Site/Job: Area 3.1 Location Description: Cornfield  
 GPS Coordinates (when required): X-Coord: N 42° 28' 54.9" Y-Coord: W 078° 40' 39.7"

Instrument Field Response <sup>2</sup>					Use Acceptance Criteria					Remarks
Meter	Bkg Cnt Time	Bkg Counts (cpm) or uRem/hr	Source Cnt Time	Source Response (gross cpm or uRem/hr)	+/- 20% source gross cpm or uRem/hr (Y/N)	Inst. Calib. current (Y/N)	Battery Check (Y/N)	Time Of check	Ambient Temp. (°F)	Initials and Comments (add'l info: inst. Condition, etc.)
Ratemeter	1 min	9264 cpm	1 min	45989 cpm	Y	Y	Y	1132	46.5	Th-232 JE
Ratemeter			1 min	11244 cpm	Y	Y	-Y	1138	47.8	Cs-137 JE
Ratemeter										
Ratemeter										
Bicron	NA		NA							
Bicron	NA		NA							
Bicron	NA		NA							
Bicron	NA		NA							

1. Instrument designated check source is listed on calibration sticker. Record check source response (net cpm) prior to field deployment for all check sources being used.  
 2. Source and Background count rate should be determined from the average of three static counts at the same location. Repeat counts should be within 20%. If count rate diverges significantly, perform additional counts to evaluate instrument stability



Instrument Field Response Check Log

1. Instrument Information<sup>1</sup>

Ratemeter: Make/Model: Ludlum 2241-2 Serial No. 206098 Cal. Due Date: 9/1/16  
 Detector 1: Make/Model: Ludlum 44-10 Serial No. PR256142  
 Bicron MicroRem Meter: Serial No. B378A Cal. Due Date: 12/17/15

2. Check Source Information:

Source 1 Isotope: Th-232 Serial No.: 111 Activity: 40.1 units: µCi Assay Date: 12/30/10  
 Response Acceptance Range (+/-20%): uRem/hr +20% \_\_\_\_\_ uRem/hr -20% \_\_\_\_\_ net cpm + 20% 53798 net cpm -20% 35866  
 Source 2 Isotope: Cs-137 Serial No.: 119E23-12 Activity: 0.02 units: µCi Assay Date: NA  
 Response Acceptance Range (+/-20%): uRem/hr +20% \_\_\_\_\_ uRem/hr -20% \_\_\_\_\_ net cpm + 20% 13273 net cpm -20% 8849

3. Technician/Worker Performing Checks:

Name: J. Edwards Title: RCT Date: 10/20/15 Time: 0917

4. Site or Location:

Site/Job: Area 3 I Location Description: Cornfield  
 GPS Coordinates (when required): X-Coord: N 42° 28' 54.9" Y-Coord: W 078° 40' 39.7"

Instrument Field Response <sup>2</sup>					Use Acceptance Criteria				Remarks	
Meter	Bkg Cnt Time	Bkg Counts (cpm) or uRem/hr	Source Cnt Time	Source Response (gross cpm or uRem/hr)	+/- 20% source gross cpm or uRem/hr (Y/N)	Inst. Calib. current (Y/N)	Battery Check (Y/N)	Time Of check	Ambient Temp. (°F)	Initials and Comments (add'l Info: inst. Condition, etc.)
Ratemeter	1 min	9683 cpm	1 min	45161 cpm	Y	Y	Y	0924	57.0	Th-232 JE
Ratemeter			1 min	11559 cpm	Y	Y	Y	0933	57.6	Cs-137 JE
Ratemeter										
Ratemeter										
Bicron	NA	6 µRem/hr	NA	135 µRem/hr	Y	Y	Y	0938	58.0	JE Th-232
Bicron	NA		NA							
Bicron	NA		NA							
Bicron	NA		NA							

- Instrument designated check source is listed on calibration sticker. Record check source response (net cpm) prior to field deployment for all check sources being used.
- Source and Background count rate should be determined from the average of three static counts at the same location. Repeat counts should be within 20%. If count rate diverges significantly, perform additional counts to evaluate instrument stability





### Instrument Field Response Check Log

**1. Instrument Information<sup>1</sup>**

Ratemeter: Make/Model: Ludlum 2241 Serial No. 196664 Cal. Due Date: 10/15/16  
 Detector 1: Make/Model: Ludlum 44-10 Serial No. PR256142  
 Bicron MicroRem Meter: Serial No. 86936 Cal. Due Date 05/05/16

**2. Check Source Information:**

Source 1 Isotope: Th-232 Serial No.: 111 Activity: 40.1 units: NCI Assay Date: 12/30/10  
 Response Acceptance Range (+/-20%): uRem/hr +20% \_\_\_\_\_ uRem/hr -20% \_\_\_\_\_ net cpm + 20% 53798 net cpm -20% 35866  
 Source 2 Isotope: Cs-137 Serial No.: 119E25-12 Activity: 0.02 units: NCI Assay Date: NA  
 Response Acceptance Range (+/-20%): uRem/hr +20% \_\_\_\_\_ uRem/hr -20% \_\_\_\_\_ net cpm + 20% 13273 net cpm -20% 8849

**3. Technician/Worker Performing Checks:**

Name: J. Edwards Title: RCT Date: 10/20/15 Time: 1320

**4. Site or Location:**

Site/Job: Area 3.1 Location Description: cornfield  
 GPS Coordinates (when required): X-Coord: N42°28'54.9" Y-Coord: W078°40'39.7"

Instrument Field Response <sup>2</sup>					Use Acceptance Criteria				Remarks	
Meter	Bkg Cnt Time	Bkg Counts (cpm) or uRem/hr	Source Cnt Time	Source Response (gross cpm or uRem/hr)	+/- 20% source gross cpm or uRem/hr (Y/N)	Inst. Calib. current (Y/N)	Battery Check (Y/N)	Time Of check	Ambient Temp. (°F)	Initials and Comments (add'l Info: inst. Condition, etc.)
Ratemeter	1 min	8929 cpm	1 min	47627 cpm	Y	Y	Y	1325	66.6	Th-232 JE
Ratemeter			1 min	11016 cpm	Y	Y	Y	1332	66.7	Cs-137 JE
Ratemeter										
Ratemeter										
Bicron	NA	9 uRem/hr	NA	130 uRem/hr	Y	Y	Y	1337	66.9	Th-232 JE
Bicron	NA		NA							Cs-137 JE
Bicron	NA		NA							
Bicron	NA		NA							

1. Instrument designated check source is listed on calibration sticker. Record check source response (net cpm) prior to field deployment for all check sources being used.  
 2. Source and Background count rate should be determined from the average of three static counts at the same location. Repeat counts should be within 20%. If count rate diverges significantly, perform additional counts to evaluate instrument stability

**Instrument Field Response Check Log**

**1. Instrument Information<sup>1</sup>**

Ratemeter: Make/Model: Ludlum 2241 Serial No. 196664 Cal. Due Date: 10/15/16  
 Detector 1: Make/Model: Ludlum 44-10 Serial No. PR256142  
 Bicon MicroRem Meter: Serial No. B693G Cal. Due Date: 05/05/16

**2. Check Source Information:**

Source 1 Isotope: Th-232 Serial No.: 111 Activity: 40.1 units: uCi Assay Date: 12/30/10  
 Response Acceptance Range (+/-20%): uRem/hr +20% \_\_\_\_\_ uRem/hr -20% \_\_\_\_\_ net cpm + 20% 55798 net cpm -20% 35866  
 Source 2 Isotope: Cs-137 Serial No.: 119E23-12 Activity: 6.02 units: uCi Assay Date: NA  
 Response Acceptance Range (+/-20%): uRem/hr +20% \_\_\_\_\_ uRem/hr -20% \_\_\_\_\_ net cpm + 20% 13273 net cpm -20% 8949

**3. Technician/Worker Performing Checks:**

Name: J. Edwards Title: RCT Date: 10/20/15 Time: 1550

**4. Site or Location:**

Site/Job: Area 3.1 Location Description: cornfield  
 GPS Coordinates (when required): X-Coord: N 42° 28' 54.9" Y-Coord: W 078° 40' 39.7"

Instrument Field Response <sup>2</sup>					Use Acceptance Criteria					Remarks
Meter	Bkg Cnt Time	Bkg Counts (cpm) or uRem/hr	Source Cnt Time	Source Response (gross cpm or uRem/hr)	+/- 20% source gross cpm or uRem/hr (Y/N)	Inst. Calib. current (Y/N)	Battery Check (Y/N)	Time Of check	Ambient Temp. (°F)	Initials and Comments (add'l info: inst. Condition, etc.)
Ratemeter	1 min	986 cpm	1 min	48633 cpm	Y	Y	Y	1555	65.5	JE Th-232
Ratemeter			1 min	11398 cpm	Y	Y	Y	1600	65.5	JE Cs-137
Ratemeter										
Ratemeter										
Bicon	NA	6 uRem/hr	NA	125 uRem/hr	Y	Y	Y	1603	65.3	JE Th-232
Bicon	NA		NA							
Bicon	NA		NA							
Bicon	NA		NA							

1. Instrument designated check source is listed on calibration sticker. Record check source response (net cpm) prior to field deployment for all check sources being used.  
 2. Source and Background count rate should be determined from the average of three static counts at the same location. Repeat counts should be within 20%. If count rate diverges significantly, perform additional counts to evaluate instrument stability



### Instrument Field Response Check Log

**1. Instrument Information<sup>1</sup>**

Ratemeter: Make/Model: LUDLUM 2241-2 Serial No. 262737 Cal. Due Date: 9/2/16  
 Detector 1: Make/Model: LUDLUM 44-10 Serial No. PR11127  
 Bicron MicroRem Meter: Serial No. A2244 Cal. Due Date: 8/4/16

**2. Check Source Information:**

Source 1 Isotope: Th232 Serial No.: 116 Activity: <0.1 units: uci Assay Date: 12/30/10  
 Response Acceptance Range (+/-20%): uRem/hr +20% \_\_\_\_\_ uRem/hr -20% \_\_\_\_\_ net cpm + 20% \_\_\_\_\_ net cpm -20% \_\_\_\_\_

Source 2 Isotope: Cs137 Serial No.: 87E13-48 Activity: -0.2 units: uci Assay Date: 1/20/10  
 Response Acceptance Range (+/-20%): uRem/hr +20% \_\_\_\_\_ uRem/hr -20% \_\_\_\_\_ net cpm + 20% \_\_\_\_\_ net cpm -20% \_\_\_\_\_

**3. Technician/Worker Performing Checks:**

Name: STEVE KINSMAN Title: \_\_\_\_\_ Date: 10/21/15 Time: 0900

**4. Site or Location:**

Site/Job: 1 Location Description: \_\_\_\_\_  
 GPS Coordinates (when required): X-Coord: N 42° 27' 48.0" Y-Coord: W 078° 40' 35.2"

Instrument Field Response <sup>2</sup>					Use Acceptance Criteria					Remarks
Meter	Bkg Cnt Time	Bkg Counts (cpm) or uRem/hr	Source Cnt Time	Source Response (gross cpm or uRem/hr)	+/- 20% source gross cpm or uRem/hr (Y/N)	Inst. Calib. current (Y/N)	Battery Check (Y/N)	Time Of check	Ambient Temp. (°F)	Initials and Comments (add'l Info: inst. Condition, etc.)
Ratemeter	1 MIN.	8603	1 MIN.	19804		Y	Y	0900	55.7	Th232
Ratemeter	1 MIN.	8603	1 MIN.	11972		Y	Y	0900	55.7	Cs137
Ratemeter	1 MIN.	8975	1 MIN.	20965		Y	Y	1230	65.1	Th232
Ratemeter	1 MIN.	8975	1 MIN.	12498		Y	Y	1230	65.1	Cs137
Ratemeter	1 MIN.	9007	1 MIN.			Y	Y	1600	66.2	Th232
Ratemeter	1 MIN.	9007	1 MIN.	12443		Y	Y	1600	66.2	Cs137
Bicron	NA	7	NA	17		Y	Y	0900	55.7	
Bicron	NA	7	NA	17		Y	Y	1230	65.1	
Bicron	NA	7	NA	18		Y	Y	1600	66.2	

- Instrument designated check source is listed on calibration sticker. Record check source response (net cpm) prior to field deployment for all check sources being used.
- Source and Background count rate should be determined from the average of three static counts at the same location. Repeat counts should be within 20%. If count rate diverges significantly, perform additional counts to evaluate instrument stability



Instrument Field Response Check Log

1. Instrument Information<sup>1</sup>

Ratemeter: Make/Model: LUOLVM 2241-2 Serial No. 262737 Cal. Due Date: 9/2/16  
 Detector 1: Make/Model: LUOLVM 44-10 Serial No. PR111127  
 Bicron MicroRem Meter: Serial No. A2246 Cal. Due Date: 8/4/16

2. Check Source Information:

Source 1 Isotope: Th 232 Serial No.: 1116 Activity: 0.1 units: uci Assay Date: 12/30/10  
 Response Acceptance Range (+/-20%): uRem/hr +20% \_\_\_\_\_ uRem/hr -20% \_\_\_\_\_ net cpm + 20% \_\_\_\_\_ net cpm -20% \_\_\_\_\_  
 Source 2 Isotope: Cs 137 Serial No.: 87E13-48 Activity: 0.2 units: uci Assay Date: \_\_\_\_\_  
 Response Acceptance Range (+/-20%): uRem/hr +20% \_\_\_\_\_ uRem/hr -20% \_\_\_\_\_ net cpm + 20% \_\_\_\_\_ net cpm -20% \_\_\_\_\_

3. Technician/Worker Performing Checks:

Name: STEVE KINSMAN Title: \_\_\_\_\_ Date: 10/21/15 Time: 0915

4. Site or Location:

Site/Job: 3.1 Location Description: CORN FIELD  
 GPS Coordinates (when required): X-Coord: N 42.48191 Y-Coord: W 078.67772

Instrument Field Response <sup>2</sup>					Use Acceptance Criteria				Remarks	
Meter	Bkg Cnt Time	Bkg Counts (cpm) or uRem/hr	Source Cnt Time	Source Response (gross cpm or uRem/hr)	+/- 20% source gross cpm or uRem/hr (Y/N)	Inst. Calib. current (Y/N)	Battery Check (Y/N)	Time Of check	Ambient Temp. (°F)	Initials and Comments (add'l info: inst. Condition, etc.)
Ratemeter	1MIN	8897	1MIN	20316		Y	Y	0915	58.4	Th 232
Ratemeter	1MIN	8897	1MIN	12485		Y	Y	0915	58.4	Cs 137
Ratemeter	1MIN	9019	1MIN	21199		Y	Y	1300	66.7	Th 232
Ratemeter	1MIN	9019	1MIN	12577		Y	Y	1300	66.7	Cs 137
Ratemeter	1MIN	9024	1MIN	20789		Y	Y	1500	72.3	Th 232
Ratemeter	1MIN	9034	1MIN	12544		Y	Y	1500	72.3	Cs 137
Bicron	NA	7	NA	18		Y	Y	0915	58.4	Th 232
Bicron	NA	7	NA	17		Y	Y	1300	66.7	Th 232
Bicron	NA	7	NA	18		Y	Y	1500	72.3	Th 232

- Instrument designated check source is listed on calibration sticker. Record check source response (net cpm) prior to field deployment for all check sources being used.
- Source and Background count rate should be determined from the average of three static counts at the same location. Repeat counts should be within 20%. If count rate diverges significantly, perform additional counts to evaluate instrument stability



Instrument Field Response Check Log

1. Instrument Information<sup>1</sup>

Ratemeter: Make/Model: Ludlum 2241 Serial No. 196664 Cal. Due Date: 10/15/16  
 Detector 1: Make/Model: Ludlum 44-10 Serial No. PR256142  
 Bicron MicroRem Meter: Serial No. B6936 Cal. Due Date: 05/05/16

2. Check Source Information:

Source 1 Isotope: Th-232 Serial No.: 111 Activity: 40.1 units: uCi Assay Date: 12/30/10  
 Response Acceptance Range (+/-20%): uRem/hr +20% \_\_\_\_\_ uRem/hr -20% \_\_\_\_\_ net cpm + 20% 53798 net cpm -20% 35866

Source 2 Isotope: Cs-137 Serial No.: 119E23-12 Activity: 0.02 units: uCi Assay Date: NA  
 Response Acceptance Range (+/-20%): uRem/hr +20% \_\_\_\_\_ uRem/hr -20% \_\_\_\_\_ net cpm + 20% 13273 net cpm -20% 8849

3. Technician/Worker Performing Checks:

Name: J. Edwards Title: RCT Date: 10/21/15 Time: 0925

4. Site or Location:

Site/Job: Area 3.1 Location Description: cornfield

GPS Coordinates (when required): X-Coord: N 42° 28' 54.9" Y-Coord: W 078° 40' 39.7"

Instrument Field Response <sup>2</sup>					Use Acceptance Criteria					Remarks
Meter	Bkg Cnt Time	Bkg Counts (cpm) or uRem/hr	Source Cnt Time	Source Response (gross cpm or uRem/hr)	+/- 20% source gross cpm or uRem/hr (Y/N)	Inst. Calib. current (Y/N)	Battery Check (Y/N)	Time Of check	Ambient Temp. (°F)	Initials and Comments (add'l info: inst. Condition, etc.)
Ratemeter	1 min	9197 cpm	1 min	47648 cpm		Y	Y	0930	56.4	Th-232 JE
Ratemeter			1 min	10948 cpm	Y	Y	Y	0937	56.3	Cs-137 JE
Ratemeter										
Ratemeter										
Bicron	NA	8 uRem/hr	NA	125 uRem/hr	Y	Y	Y	0955	56.3	Th-232 JE
Bicron	NA		NA							
Bicron	NA		NA							
Bicron	NA		NA							

- Instrument designated check source is listed on calibration sticker. Record check source response (net cpm) prior to field deployment for all check sources being used.
- Source and Background count rate should be determined from the average of three static counts at the same location. Repeat counts should be within 20%. If count rate diverges significantly, perform additional counts to evaluate instrument stability



Instrument Field Response Check Log

1. Instrument Information<sup>1</sup>

Ratemeter: Make/Model: Ludlum Serial No. 196664 Cal. Due Date: 10/15/16  
 Detector 1: Make/Model: Ludlum Serial No. PR256142  
 Bicron MicroRem Meter: Serial No. B6936 Cal. Due Date: 05/05/14

2. Check Source Information:

Source 1 Isotope: Th-232 Serial No.: 111 Activity: 0.1 units: uCi Assay Date: 12/30/10  
 Response Acceptance Range (+/-20%): uRem/hr +20% \_\_\_\_\_ uRem/hr -20% \_\_\_\_\_ net cpm + 20% 53798 net cpm -20% 35866  
 Source 2 Isotope: Cs-137 Serial No.: 119E23-12 Activity: 0.07 units: uCi Assay Date: NA  
 Response Acceptance Range (+/-20%): uRem/hr +20% \_\_\_\_\_ uRem/hr -20% \_\_\_\_\_ net cpm + 20% 13273 net cpm -20% 8849

3. Technician/Worker Performing Checks:

Name: J. Edwards Title: RCT Date: 10/21/15 Time: 071303

4. Site or Location:

Site/Job: Area 3.1 Location Description: cornfield  
 GPS Coordinates (when required): X-Coord: N 42° 28' 54.9" Y-Coord: W 078° 40' 39.7"

Instrument Field Response <sup>2</sup>					Use Acceptance Criteria					Remarks
Meter	Bkg Cnt Time	Bkg Counts (cpm) or uRem/hr	Source Cnt Time	Source Response (gross cpm or uRem/hr)	+/- 20% source gross cpm or uRem/hr (Y/N)	Inst. Calib. current (Y/N)	Battery Check (Y/N)	Time Of check	Ambient Temp. (°F)	Initials and Comments (add'l info: Inst. Condition, etc.)
Ratemeter	1 min	9292 cpm	1 min	47753 cpm	Y	Y	Y	1307	66.7	TH-232 JE
Ratemeter			1 min	11400 cpm	Y	Y	Y	1315	66.3	CS-137 JE
Ratemeter										
Ratemeter										
Bicron	NA	9 uRem/hr	NA	130 uRem/hr	Y	Y	Y	1313	66.3	TH-232 JE
Bicron	NA		NA							
Bicron	NA		NA							
Bicron	NA		NA							

1. Instrument designated check source is listed on calibration sticker. Record check source response (net cpm) prior to field deployment for all check sources being used.  
 2. Source and Background count rate should be determined from the average of three static counts at the same location. Repeat counts should be within 20%. If count rate diverges significantly, perform additional counts to evaluate instrument stability

**Instrument Field Response Check Log**

**1. Instrument Information<sup>1</sup>**

Ratemeter: Make/Model: Ludlum 2241 Serial No. 196664 Cal. Due Date: 10/15/16  
 Detector 1: Make/Model: Ludlum 44-10 Serial No. PR256142  
 Bicron MicroRem Meter: Serial No. B6936 Cal. Due Date: 05/05/16

**2. Check Source Information:**

Source 1 Isotope: Th-232 Serial No.: 111 Activity: CO.1 units: uCi Assay Date: 12/30/10  
 Response Acceptance Range (+/-20%): uRem/hr +20% \_\_\_\_\_ uRem/hr -20% \_\_\_\_\_ net cpm + 20% 53798 net cpm -20% 35866  
 Source 2 Isotope: CS-137 Serial No.: 119F23-12 Activity: 0.02 units: uCi Assay Date: NA  
 Response Acceptance Range (+/-20%): uRem/hr +20% \_\_\_\_\_ uRem/hr -20% \_\_\_\_\_ net cpm + 20% \_\_\_\_\_ net cpm -20% 8849

**3. Technician/Worker Performing Checks:**

Name: J. Edwards Title: RCT Date: 10/1/15 Time: 1534

**4. Site or Location:**

Site/Job: Area 3.1 Location Description: Cornfield  
 GPS Coordinates (when required): X-Coord: N 42° 28' 54.9" Y-Coord: W 078° 40' 39.7"

Instrument Field Response <sup>2</sup>					Use Acceptance Criteria					Remarks
Meter	Bkg Cnt Time	Bkg Counts (cpm) or uRem/hr	Source Cnt Time	Source Response (gross cpm or uRem/hr)	+/- 20% source gross cpm or uRem/hr (Y/N)	Inst. Calib. current (Y/N)	Battery Check (Y/N)	Time Of check	Ambient Temp. (°F)	Initials and Comments (add'l Info: Inst. Condition, etc.)
Ratemeter	1 min	8901 cpm	1 min	48490 cpm	Y	Y	Y	1537	68.1	Th-232 JE
Ratemeter		44490 cpm	1 min	10987 cpm	Y	Y	Y	1544	67.4	CS-137 JE
Ratemeter		DE 10/21/15								
Ratemeter										
Bicron	NA	8 uRem/hr	NA	133 uRem/hr	Y	Y	Y	1540	67.4	Th-232 JE
Bicron	NA		NA							
Bicron	NA		NA							
Bicron	NA		NA							

- Instrument designated check source is listed on calibration sticker. Record check source response (net cpm) prior to field deployment for all check sources being used.
- Source and Background count rate should be determined from the average of three static counts at the same location. Repeat counts should be within 20%. If count rate diverges significantly, perform additional counts to evaluate instrument stability